

| 1<br>Longitude $\odot$<br>Years | 2<br>0° - 30° | 3<br>30° - 60° | 4<br>60° - 90° | 5<br>90° - 120° | 6<br>120° - 150° | 7<br>150° - 180° | 8<br>180° - 210° | 9<br>210° - 240° | 10<br>240° - 270° | 11<br>270° - 300° | 12<br>300° - 330° | 13<br>330° - 360° |
|---------------------------------|---------------|----------------|----------------|-----------------|------------------|------------------|------------------|------------------|-------------------|-------------------|-------------------|-------------------|
| -3000                           | 1,375603E+22  | 1,745536E+22   | 1,966410E+22   | 1,966383E+22    | 1,745464E+22     | 1,375515E+22     | 9,596560E+21     | 6,093318E+21     | 4,144101E+21      | 4,144273E+21      | 6,093721E+21      | 9,596906E+21      |
| -2999                           | 1,375513E+22  | 1,745403E+22   | 1,966289E+22   | 1,966346E+22    | 1,745502E+22     | 1,375585E+22     | 9,597297E+21     | 6,093897E+21     | 4,144447E+21      | 4,144373E+21      | 6,093637E+21      | 9,596779E+21      |
| -2998                           | 1,375525E+22  | 1,745463E+22   | 1,966331E+22   | 1,966334E+22    | 1,745474E+22     | 1,375558E+22     | 9,597149E+21     | 6,093965E+21     | 4,144689E+21      | 4,144745E+21      | 6,094211E+21      | 9,597574E+21      |
| -2997                           | 1,375580E+22  | 1,745458E+22   | 1,966286E+22   | 1,966263E+22    | 1,745411E+22     | 1,375531E+22     | 9,597114E+21     | 6,094031E+21     | 4,144842E+21      | 4,144899E+21      | 6,094088E+21      | 9,596986E+21      |
| -2996                           | 1,375491E+22  | 1,745356E+22   | 1,966216E+22   | 1,966237E+22    | 1,745408E+22     | 1,375554E+22     | 9,597653E+21     | 6,094668E+21     | 4,145344E+21      | 4,145208E+21      | 6,094274E+21      | 9,597196E+21      |
| -2995                           | 1,375546E+22  | 1,745442E+22   | 1,966271E+22   | 1,966244E+22    | 1,745370E+22     | 1,375488E+22     | 9,597089E+21     | 6,094448E+21     | 4,145443E+21      | 4,145560E+21      | 6,094827E+21      | 9,597668E+21      |
| -2994                           | 1,375533E+22  | 1,745368E+22   | 1,966185E+22   | 1,966194E+22    | 1,745376E+22     | 1,375522E+22     | 9,597354E+21     | 6,094589E+21     | 4,145538E+21      | 4,14557E+21       | 6,094566E+21      | 9,597111E+21      |
| -2993                           | 1,375470E+22  | 1,745338E+22   | 1,966202E+22   | 1,966212E+22    | 1,745383E+22     | 1,375533E+22     | 9,597584E+21     | 6,094838E+21     | 4,145700E+21      | 4,145653E+21      | 6,094794E+21      | 9,597773E+21      |
| -2992                           | 1,375579E+22  | 1,745428E+22   | 1,966237E+22   | 1,966211E+22    | 1,745353E+22     | 1,375485E+22     | 9,597053E+21     | 6,094415E+21     | 4,145493E+21      | 4,145667E+21      | 6,094869E+21      | 9,597564E+21      |
| -2991                           | 1,375514E+22  | 1,745337E+22   | 1,966153E+22   | 1,966185E+22    | 1,745391E+22     | 1,375552E+22     | 9,597662E+21     | 6,094750E+21     | 4,145518E+21      | 4,145400E+21      | 6,094361E+21      | 9,597012E+21      |
| -2990                           | 1,375493E+22  | 1,745397E+22   | 1,966251E+22   | 1,966243E+22    | 1,745403E+22     | 1,375538E+22     | 9,597482E+21     | 6,094642E+21     | 4,145452E+21      | 4,145393E+21      | 6,094571E+21      | 9,597633E+21      |
| -2989                           | 1,375567E+22  | 1,745433E+22   | 1,966265E+22   | 1,966246E+22    | 1,745386E+22     | 1,375507E+22     | 9,597069E+21     | 6,094214E+21     | 4,145136E+21      | 4,145201E+21      | 6,094309E+21      | 9,597023E+21      |
| -2988                           | 1,375478E+22  | 1,745335E+22   | 1,966201E+22   | 1,966250E+22    | 1,745432E+22     | 1,375561E+22     | 9,597517E+21     | 6,094441E+21     | 4,145096E+21      | 4,144971E+21      | 6,094087E+21      | 9,597027E+21      |
| -2987                           | 1,375527E+22  | 1,745443E+22   | 1,966299E+22   | 1,966293E+22    | 1,745427E+22     | 1,375522E+22     | 9,597009E+21     | 6,093992E+21     | 4,144788E+21      | 4,144875E+21      | 6,094333E+21      | 9,597617E+21      |
| -2986                           | 1,375566E+22  | 1,745429E+22   | 1,966265E+22   | 1,966270E+22    | 1,745431E+22     | 1,375541E+22     | 9,597041E+21     | 6,093805E+21     | 4,144514E+21      | 4,144539E+21      | 6,093788E+21      | 9,596867E+21      |
| -2985                           | 1,375505E+22  | 1,745411E+22   | 1,966295E+22   | 1,966303E+22    | 1,745449E+22     | 1,375559E+22     | 9,597295E+21     | 6,094007E+21     | 4,144540E+21      | 4,144425E+21      | 6,093735E+21      | 9,597175E+21      |
| -2984                           | 1,375599E+22  | 1,745527E+22   | 1,966375E+22   | 1,966336E+22    | 1,745428E+22     | 1,375501E+22     | 9,596662E+21     | 6,093555E+21     | 4,144362E+21      | 4,144505E+21      | 6,093943E+21      | 9,597139E+21      |
| -2983                           | 1,375539E+22  | 1,745437E+22   | 1,966290E+22   | 1,966306E+22    | 1,745460E+22     | 1,375554E+22     | 9,597105E+21     | 6,093816E+21     | 4,144444E+21      | 4,144394E+21      | 6,093606E+21      | 9,596626E+21      |
| -2982                           | 1,375488E+22  | 1,745433E+22   | 1,966336E+22   | 1,966345E+22    | 1,745478E+22     | 1,375559E+22     | 9,597176E+21     | 6,093989E+21     | 4,144655E+21      | 4,144617E+21      | 6,093972E+21      | 9,597385E+21      |
| -2981                           | 1,375582E+22  | 1,745475E+22   | 1,966329E+22   | 1,966316E+22    | 1,745435E+22     | 1,375519E+22     | 9,596835E+21     | 6,093767E+21     | 4,144644E+21      | 4,144791E+21      | 6,094117E+21      | 9,597135E+21      |
| -2980                           | 1,375509E+22  | 1,745360E+22   | 1,966204E+22   | 1,966247E+22    | 1,745435E+22     | 1,375565E+22     | 9,597497E+21     | 6,094360E+21     | 4,145022E+21      | 4,144932E+21      | 6,094063E+21      | 9,596975E+21      |
| -2979                           | 1,375515E+22  | 1,745426E+22   | 1,966271E+22   | 1,966253E+22    | 1,745400E+22     | 1,375526E+22     | 9,597328E+21     | 6,094456E+21     | 4,145277E+21      | 4,145297E+21      | 6,094584E+21      | 9,597680E+21      |
| -2978                           | 1,375560E+22  | 1,745411E+22   | 1,966225E+22   | 1,966201E+22    | 1,745361E+22     | 1,375506E+22     | 9,597243E+21     | 6,094488E+21     | 4,145460E+21      | 4,145529E+21      | 6,094560E+21      | 9,597107E+21      |
| -2977                           | 1,375466E+22  | 1,745318E+22   | 1,966171E+22   | 1,966185E+22    | 1,745365E+22     | 1,375528E+22     | 9,597669E+21     | 6,094991E+21     | 4,145856E+21      | 4,145762E+21      | 6,094735E+21      | 9,597415E+21      |
| -2976                           | 1,375533E+22  | 1,745400E+22   | 1,966219E+22   | 1,966196E+22    | 1,745341E+22     | 1,375478E+22     | 9,597158E+21     | 6,094723E+21     | 4,145902E+21      | 4,146083E+21      | 6,095256E+21      | 9,597863E+21      |
| -2975                           | 1,375519E+22  | 1,745319E+22   | 1,966115E+22   | 1,966128E+22    | 1,745338E+22     | 1,375515E+22     | 9,597545E+21     | 6,094965E+21     | 4,146007E+21      | 4,146033E+21      | 6,094958E+21      | 9,597328E+21      |
| -2974                           | 1,375463E+22  | 1,745296E+22   | 1,966135E+22   | 1,966158E+22    | 1,745362E+22     | 1,375534E+22     | 9,597798E+21     | 6,095227E+21     | 4,146160E+21      | 4,146068E+21      | 6,095047E+21      | 9,597833E+21      |
| -2973                           | 1,375568E+22  | 1,745397E+22   | 1,966187E+22   | 1,966158E+22    | 1,745323E+22     | 1,375486E+22     | 9,597323E+21     | 6,094853E+21     | 4,145981E+21      | 4,146089E+21      | 6,095127E+21      | 9,597612E+21      |
| -2972                           | 1,375497E+22  | 1,745302E+22   | 1,966103E+22   | 1,966121E+22    | 1,745337E+22     | 1,375527E+22     | 9,597774E+21     | 6,095124E+21     | 4,146006E+21      | 4,145885E+21      | 6,094725E+21      | 9,597105E+21      |
| -2971                           | 1,375465E+22  | 1,745344E+22   | 1,966200E+22   | 1,966194E+22    | 1,745358E+22     | 1,375513E+22     | 9,597559E+21     | 6,094963E+21     | 4,145880E+21      | 4,145837E+21      | 6,094928E+21      | 9,597778E+21      |
| -2970                           | 1,375548E+22  | 1,745378E+22   | 1,966199E+22   | 1,966193E+22    | 1,745358E+22     | 1,375499E+22     | 9,597162E+21     | 6,094484E+21     | 4,145532E+21      | 4,145647E+21      | 6,094710E+21      | 9,597243E+21      |
| -2969                           | 1,375475E+22  | 1,745310E+22   | 1,966153E+22   | 1,966188E+22    | 1,745389E+22     | 1,375544E+22     | 9,597552E+21     | 6,094634E+21     | 4,145390E+21      | 4,145291E+21      | 6,094365E+21      | 9,597236E+21      |
| -2968                           | 1,375538E+22  | 1,745431E+22   | 1,966261E+22   | 1,966241E+22    | 1,745388E+22     | 1,375508E+22     | 9,597074E+21     | 6,094214E+21     | 4,145112E+21      | 4,145204E+21      | 6,094540E+21      | 9,597652E+21      |
| -2967                           | 1,375560E+22  | 1,745412E+22   | 1,966230E+22   | 1,966216E+22    | 1,745384E+22     | 1,375520E+22     | 9,597159E+21     | 6,094148E+21     | 4,144935E+21      | 4,144928E+21      | 6,094042E+21      | 9,596890E+21      |
| -2966                           | 1,375483E+22  | 1,745374E+22   | 1,966258E+22   | 1,966277E+22    | 1,745432E+22     | 1,375547E+22     | 9,597394E+21     | 6,094347E+21     | 4,144999E+21      | 4,144861E+21      | 6,093999E+21      | 9,597163E+21      |
| -2965                           | 1,375569E+22  | 1,745479E+22   | 1,966327E+22   | 1,966305E+22    | 1,745417E+22     | 1,375504E+22     | 9,596849E+21     | 6,093935E+21     | 4,144853E+21      | 4,144987E+21      | 6,094314E+21      | 9,597279E+21      |

| 1                 | 2            | 3            | 4            | 5            | 6            | 7            | 8            | 9            | 10           | 11           | 12           | 13           |
|-------------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|
| Longitude $\odot$ | 0° - 30°     | 30° - 60°    | 60° - 90°    | 90° - 120°   | 120° - 150°  | 150° - 180°  | 180° - 210°  | 210° - 240°  | 240° - 270°  | 270° - 300°  | 300° - 330°  | 330° - 360°  |
| Years             |              |              |              |              |              |              |              |              |              |              |              |              |
| -2964             | 1,375518E+22 | 1,745383E+22 | 1,966220E+22 | 1,966236E+22 | 1,745417E+22 | 1,375543E+22 | 9,597260E+21 | 6,094187E+21 | 4,144952E+21 | 4,144936E+21 | 6,094076E+21 | 9,596875E+21 |
| -2963             | 1,375472E+22 | 1,745375E+22 | 1,966262E+22 | 1,966273E+22 | 1,745426E+22 | 1,375546E+22 | 9,597409E+21 | 6,094419E+21 | 4,145165E+21 | 4,145128E+21 | 6,094369E+21 | 9,597578E+21 |
| -2962             | 1,375574E+22 | 1,745426E+22 | 1,966249E+22 | 1,966237E+22 | 1,745388E+22 | 1,375510E+22 | 9,597071E+21 | 6,094237E+21 | 4,145221E+21 | 4,145364E+21 | 6,094543E+21 | 9,597275E+21 |
| -2961             | 1,375499E+22 | 1,745337E+22 | 1,966155E+22 | 1,966169E+22 | 1,745369E+22 | 1,375537E+22 | 9,597612E+21 | 6,094774E+21 | 4,145576E+21 | 4,145482E+21 | 6,094466E+21 | 9,597121E+21 |
| -2960             | 1,375503E+22 | 1,745391E+22 | 1,966224E+22 | 1,966198E+22 | 1,745348E+22 | 1,375497E+22 | 9,597380E+21 | 6,094833E+21 | 4,145853E+21 | 4,145903E+21 | 6,095025E+21 | 9,597781E+21 |
| -2959             | 1,375533E+22 | 1,745353E+22 | 1,966155E+22 | 1,966137E+22 | 1,745314E+22 | 1,375482E+22 | 9,597336E+21 | 6,094898E+21 | 4,146041E+21 | 4,146142E+21 | 6,095081E+21 | 9,597358E+21 |
| -2958             | 1,375448E+22 | 1,745256E+22 | 1,966096E+22 | 1,966133E+22 | 1,745343E+22 | 1,375522E+22 | 9,597798E+21 | 6,095350E+21 | 4,146367E+21 | 4,146291E+21 | 6,095157E+21 | 9,597641E+21 |
| -2957             | 1,375526E+22 | 1,745354E+22 | 1,966150E+22 | 1,966135E+22 | 1,745311E+22 | 1,375482E+22 | 9,597423E+21 | 6,095138E+21 | 4,146387E+21 | 4,146541E+21 | 6,095612E+21 | 9,598066E+21 |
| -2956             | 1,375518E+22 | 1,745290E+22 | 1,966052E+22 | 1,966048E+22 | 1,745281E+22 | 1,375499E+22 | 9,597740E+21 | 6,095375E+21 | 4,146502E+21 | 4,146501E+21 | 6,095296E+21 | 9,597451E+21 |
| -2955             | 1,375452E+22 | 1,745266E+22 | 1,966094E+22 | 1,966101E+22 | 1,745306E+22 | 1,375514E+22 | 9,597992E+21 | 6,095642E+21 | 4,146641E+21 | 4,146509E+21 | 6,095314E+21 | 9,597823E+21 |
| -2954             | 1,375543E+22 | 1,745352E+22 | 1,966136E+22 | 1,966115E+22 | 1,745292E+22 | 1,375473E+22 | 9,597458E+21 | 6,095222E+21 | 4,146466E+21 | 4,146577E+21 | 6,095476E+21 | 9,597639E+21 |
| -2953             | 1,375472E+22 | 1,745268E+22 | 1,966062E+22 | 1,966077E+22 | 1,745303E+22 | 1,375510E+22 | 9,597799E+21 | 6,095361E+21 | 4,146377E+21 | 4,146293E+21 | 6,095080E+21 | 9,597289E+21 |
| -2952             | 1,375455E+22 | 1,745304E+22 | 1,966151E+22 | 1,966148E+22 | 1,745328E+22 | 1,375502E+22 | 9,597596E+21 | 6,095161E+21 | 4,146213E+21 | 4,146217E+21 | 6,095241E+21 | 9,597915E+21 |
| -2951             | 1,375537E+22 | 1,745333E+22 | 1,966134E+22 | 1,966131E+22 | 1,745317E+22 | 1,375487E+22 | 9,597300E+21 | 6,094779E+21 | 4,145888E+21 | 4,146005E+21 | 6,095022E+21 | 9,597430E+21 |
| -2950             | 1,375475E+22 | 1,745279E+22 | 1,966102E+22 | 1,966143E+22 | 1,745363E+22 | 1,375535E+22 | 9,597676E+21 | 6,094931E+21 | 4,145759E+21 | 4,145628E+21 | 6,094572E+21 | 9,597277E+21 |
| -2949             | 1,375531E+22 | 1,745412E+22 | 1,966228E+22 | 1,966198E+22 | 1,745355E+22 | 1,375501E+22 | 9,597262E+21 | 6,094582E+21 | 4,145543E+21 | 4,145590E+21 | 6,094793E+21 | 9,597691E+21 |
| -2948             | 1,375542E+22 | 1,745380E+22 | 1,966190E+22 | 1,966165E+22 | 1,745336E+22 | 1,375494E+22 | 9,597221E+21 | 6,094487E+21 | 4,145414E+21 | 4,145420E+21 | 6,094428E+21 | 9,597005E+21 |
| -2947             | 1,375459E+22 | 1,745322E+22 | 1,966206E+22 | 1,966231E+22 | 1,745393E+22 | 1,375530E+22 | 9,597500E+21 | 6,094682E+21 | 4,145464E+21 | 4,145350E+21 | 6,094386E+21 | 9,597295E+21 |
| -2946             | 1,375547E+22 | 1,745418E+22 | 1,966253E+22 | 1,966248E+22 | 1,745391E+22 | 1,375503E+22 | 9,597029E+21 | 6,094293E+21 | 4,145338E+21 | 4,145508E+21 | 6,094748E+21 | 9,597476E+21 |
| -2945             | 1,375511E+22 | 1,745349E+22 | 1,966159E+22 | 1,966164E+22 | 1,745367E+22 | 1,375529E+22 | 9,597402E+21 | 6,094524E+21 | 4,145395E+21 | 4,145396E+21 | 6,094459E+21 | 9,597104E+21 |
| -2944             | 1,375474E+22 | 1,745343E+22 | 1,966204E+22 | 1,966203E+22 | 1,745373E+22 | 1,375529E+22 | 9,597552E+21 | 6,094799E+21 | 4,145672E+21 | 4,145629E+21 | 6,094709E+21 | 9,597637E+21 |
| -2943             | 1,375556E+22 | 1,745385E+22 | 1,966189E+22 | 1,966165E+22 | 1,745327E+22 | 1,375486E+22 | 9,597251E+21 | 6,094709E+21 | 4,145810E+21 | 4,145937E+21 | 6,094973E+21 | 9,597403E+21 |
| -2942             | 1,375477E+22 | 1,745284E+22 | 1,966096E+22 | 1,966123E+22 | 1,745335E+22 | 1,375517E+22 | 9,597713E+21 | 6,095190E+21 | 4,146159E+21 | 4,146065E+21 | 6,094883E+21 | 9,597228E+21 |
| -2941             | 1,375481E+22 | 1,745340E+22 | 1,966162E+22 | 1,966144E+22 | 1,745318E+22 | 1,375492E+22 | 9,597567E+21 | 6,095262E+21 | 4,146418E+21 | 4,146475E+21 | 6,095505E+21 | 9,598025E+21 |
| -2940             | 1,375521E+22 | 1,745302E+22 | 1,966082E+22 | 1,966062E+22 | 1,745261E+22 | 1,375465E+22 | 9,597484E+21 | 6,095299E+21 | 4,146587E+21 | 4,146713E+21 | 6,095577E+21 | 9,597649E+21 |
| -2939             | 1,375441E+22 | 1,745207E+22 | 1,966026E+22 | 1,966063E+22 | 1,745292E+22 | 1,375510E+22 | 9,598036E+21 | 6,095777E+21 | 4,146871E+21 | 4,146779E+21 | 6,095516E+21 | 9,597788E+21 |
| -2938             | 1,375519E+22 | 1,745317E+22 | 1,966086E+22 | 1,966069E+22 | 1,745272E+22 | 1,375478E+22 | 9,597686E+21 | 6,095601E+21 | 4,146928E+21 | 4,147049E+21 | 6,095955E+21 | 9,598115E+21 |
| -2937             | 1,375505E+22 | 1,745271E+22 | 1,966016E+22 | 1,965988E+22 | 1,745224E+22 | 1,375475E+22 | 9,597866E+21 | 6,095751E+21 | 4,146983E+21 | 4,146966E+21 | 6,095616E+21 | 9,597505E+21 |
| -2936             | 1,375430E+22 | 1,745224E+22 | 1,966051E+22 | 1,966060E+22 | 1,745269E+22 | 1,375492E+22 | 9,598033E+21 | 6,095958E+21 | 4,147117E+21 | 4,147003E+21 | 6,095657E+21 | 9,597830E+21 |
| -2935             | 1,375508E+22 | 1,745290E+22 | 1,966070E+22 | 1,966061E+22 | 1,745257E+22 | 1,375458E+22 | 9,597540E+21 | 6,095540E+21 | 4,146917E+21 | 4,147055E+21 | 6,095899E+21 | 9,597844E+21 |
| -2934             | 1,375454E+22 | 1,745207E+22 | 1,965990E+22 | 1,966028E+22 | 1,745280E+22 | 1,375502E+22 | 9,597883E+21 | 6,095621E+21 | 4,146749E+21 | 4,146677E+21 | 6,095392E+21 | 9,597471E+21 |
| -2933             | 1,375455E+22 | 1,745271E+22 | 1,966090E+22 | 1,966091E+22 | 1,745296E+22 | 1,375500E+22 | 9,597790E+21 | 6,095477E+21 | 4,146569E+21 | 4,146548E+21 | 6,095516E+21 | 9,598093E+21 |
| -2932             | 1,375541E+22 | 1,745314E+22 | 1,966086E+22 | 1,966062E+22 | 1,745259E+22 | 1,375462E+22 | 9,597399E+21 | 6,095096E+21 | 4,146283E+21 | 4,146377E+21 | 6,095300E+21 | 9,597542E+21 |
| -2931             | 1,375468E+22 | 1,745258E+22 | 1,966073E+22 | 1,966100E+22 | 1,745314E+22 | 1,375513E+22 | 9,597789E+21 | 6,095243E+21 | 4,146156E+21 | 4,146010E+21 | 6,094818E+21 | 9,597280E+21 |
| -2930             | 1,375510E+22 | 1,745376E+22 | 1,966190E+22 | 1,966169E+22 | 1,745334E+22 | 1,375492E+22 | 9,597368E+21 | 6,094896E+21 | 4,145983E+21 | 4,146049E+21 | 6,095137E+21 | 9,597730E+21 |
| -2929             | 1,375521E+22 | 1,745351E+22 | 1,966154E+22 | 1,966126E+22 | 1,745307E+22 | 1,375482E+22 | 9,597269E+21 | 6,094725E+21 | 4,145790E+21 | 4,145843E+21 | 6,094804E+21 | 9,597203E+21 |

| 1                 | 2            | 3            | 4            | 5            | 6            | 7            | 8            | 9            | 10           | 11           | 12           | 13           |
|-------------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|
| Longitude $\odot$ | 0° - 30°     | 30° - 60°    | 60° - 90°    | 90° - 120°   | 120° - 150°  | 150° - 180°  | 180° - 210°  | 210° - 240°  | 240° - 270°  | 270° - 300°  | 300° - 330°  | 330° - 360°  |
| Years             |              |              |              |              |              |              |              |              |              |              |              |              |
| -2928             | 1,375449E+22 | 1,745278E+22 | 1,966151E+22 | 1,966186E+22 | 1,745366E+22 | 1,375524E+22 | 9,597605E+21 | 6,094964E+21 | 4,145879E+21 | 4,145795E+21 | 6,094735E+21 | 9,597414E+21 |
| -2927             | 1,375531E+22 | 1,745365E+22 | 1,966176E+22 | 1,966178E+22 | 1,745349E+22 | 1,375496E+22 | 9,597260E+21 | 6,094711E+21 | 4,145824E+21 | 4,145977E+21 | 6,095126E+21 | 9,597664E+21 |
| -2926             | 1,375504E+22 | 1,745305E+22 | 1,966091E+22 | 1,966103E+22 | 1,745327E+22 | 1,375517E+22 | 9,597614E+21 | 6,094971E+21 | 4,145930E+21 | 4,145887E+21 | 6,094785E+21 | 9,597183E+21 |
| -2925             | 1,375462E+22 | 1,745309E+22 | 1,966149E+22 | 1,966139E+22 | 1,745322E+22 | 1,375514E+22 | 9,597793E+21 | 6,095302E+21 | 4,146264E+21 | 4,146185E+21 | 6,095126E+21 | 9,597754E+21 |
| -2924             | 1,375531E+22 | 1,745336E+22 | 1,966125E+22 | 1,966094E+22 | 1,745264E+22 | 1,375451E+22 | 9,597339E+21 | 6,095158E+21 | 4,146435E+21 | 4,146582E+21 | 6,095512E+21 | 9,597642E+21 |
| -2923             | 1,375458E+22 | 1,745228E+22 | 1,966027E+22 | 1,966057E+22 | 1,745284E+22 | 1,375495E+22 | 9,597832E+21 | 6,095579E+21 | 4,146721E+21 | 4,146665E+21 | 6,095380E+21 | 9,597467E+21 |
| -2922             | 1,375468E+22 | 1,745284E+22 | 1,966082E+22 | 1,966076E+22 | 1,745280E+22 | 1,375484E+22 | 9,597747E+21 | 6,095664E+21 | 4,146965E+21 | 4,147047E+21 | 6,095966E+21 | 9,598232E+21 |
| -2921             | 1,375519E+22 | 1,745277E+22 | 1,966025E+22 | 1,965991E+22 | 1,745209E+22 | 1,375447E+22 | 9,597625E+21 | 6,095666E+21 | 4,147065E+21 | 4,147188E+21 | 6,095945E+21 | 9,597839E+21 |
| -2920             | 1,375442E+22 | 1,745183E+22 | 1,965978E+22 | 1,966005E+22 | 1,745244E+22 | 1,375492E+22 | 9,598166E+21 | 6,096172E+21 | 4,147387E+21 | 4,147260E+21 | 6,095800E+21 | 9,597747E+21 |
| -2919             | 1,375488E+22 | 1,745270E+22 | 1,966032E+22 | 1,966014E+22 | 1,745227E+22 | 1,375461E+22 | 9,597876E+21 | 6,096054E+21 | 4,147474E+21 | 4,147564E+21 | 6,096314E+21 | 9,598162E+21 |
| -2918             | 1,375472E+22 | 1,745210E+22 | 1,965959E+22 | 1,965957E+22 | 1,745204E+22 | 1,375464E+22 | 9,597982E+21 | 6,096116E+21 | 4,147477E+21 | 4,147457E+21 | 6,095973E+21 | 9,597583E+21 |
| -2917             | 1,375405E+22 | 1,745170E+22 | 1,965984E+22 | 1,966009E+22 | 1,745243E+22 | 1,375491E+22 | 9,598214E+21 | 6,096301E+21 | 4,147552E+21 | 4,147453E+21 | 6,096069E+21 | 9,598051E+21 |
| -2916             | 1,375492E+22 | 1,745239E+22 | 1,965995E+22 | 1,965988E+22 | 1,745207E+22 | 1,375440E+22 | 9,597646E+21 | 6,095842E+21 | 4,147325E+21 | 4,147489E+21 | 6,096306E+21 | 9,598139E+21 |
| -2915             | 1,375457E+22 | 1,745174E+22 | 1,965928E+22 | 1,965960E+22 | 1,745230E+22 | 1,375486E+22 | 9,598020E+21 | 6,095911E+21 | 4,147114E+21 | 4,147036E+21 | 6,095665E+21 | 9,597614E+21 |
| -2914             | 1,375458E+22 | 1,745254E+22 | 1,966043E+22 | 1,966035E+22 | 1,745255E+22 | 1,375487E+22 | 9,597931E+21 | 6,095807E+21 | 4,146979E+21 | 4,146936E+21 | 6,095774E+21 | 9,598129E+21 |
| -2913             | 1,375535E+22 | 1,745313E+22 | 1,966069E+22 | 1,966023E+22 | 1,745211E+22 | 1,375434E+22 | 9,597425E+21 | 6,095360E+21 | 4,146657E+21 | 4,146751E+21 | 6,095572E+21 | 9,597621E+21 |
| -2912             | 1,375454E+22 | 1,745229E+22 | 1,966045E+22 | 1,966077E+22 | 1,745289E+22 | 1,375492E+22 | 9,597774E+21 | 6,095492E+21 | 4,146559E+21 | 4,146428E+21 | 6,095115E+21 | 9,597287E+21 |
| -2911             | 1,375477E+22 | 1,745320E+22 | 1,966131E+22 | 1,966127E+22 | 1,745312E+22 | 1,375487E+22 | 9,597502E+21 | 6,095209E+21 | 4,146402E+21 | 4,146487E+21 | 6,095514E+21 | 9,597908E+21 |
| -2910             | 1,375503E+22 | 1,745293E+22 | 1,966085E+22 | 1,966083E+22 | 1,745288E+22 | 1,375482E+22 | 9,597448E+21 | 6,095049E+21 | 4,146201E+21 | 4,146249E+21 | 6,095111E+21 | 9,597347E+21 |
| -2909             | 1,375444E+22 | 1,745241E+22 | 1,966080E+22 | 1,966119E+22 | 1,745330E+22 | 1,375525E+22 | 9,597894E+21 | 6,095398E+21 | 4,146346E+21 | 4,146225E+21 | 6,095074E+21 | 9,597561E+21 |
| -2908             | 1,375519E+22 | 1,745330E+22 | 1,966111E+22 | 1,966097E+22 | 1,745282E+22 | 1,375470E+22 | 9,597434E+21 | 6,095173E+21 | 4,146387E+21 | 4,146505E+21 | 6,095518E+21 | 9,597811E+21 |
| -2907             | 1,375488E+22 | 1,745264E+22 | 1,966035E+22 | 1,966037E+22 | 1,745265E+22 | 1,375489E+22 | 9,597757E+21 | 6,095409E+21 | 4,146507E+21 | 4,146454E+21 | 6,095186E+21 | 9,597272E+21 |
| -2906             | 1,375439E+22 | 1,745263E+22 | 1,966088E+22 | 1,966085E+22 | 1,745282E+22 | 1,375494E+22 | 9,597907E+21 | 6,095727E+21 | 4,146863E+21 | 4,146810E+21 | 6,095619E+21 | 9,597915E+21 |
| -2905             | 1,375515E+22 | 1,745301E+22 | 1,966069E+22 | 1,966032E+22 | 1,745214E+22 | 1,375428E+22 | 9,597389E+21 | 6,095486E+21 | 4,146941E+21 | 4,147138E+21 | 6,096003E+21 | 9,597932E+21 |
| -2904             | 1,375451E+22 | 1,745183E+22 | 1,965964E+22 | 1,966001E+22 | 1,745244E+22 | 1,375480E+22 | 9,597925E+21 | 6,095931E+21 | 4,147231E+21 | 4,147191E+21 | 6,095781E+21 | 9,597618E+21 |
| -2903             | 1,375453E+22 | 1,745235E+22 | 1,966007E+22 | 1,966007E+22 | 1,745240E+22 | 1,375477E+22 | 9,597991E+21 | 6,096123E+21 | 4,147509E+21 | 4,147565E+21 | 6,096354E+21 | 9,598389E+21 |
| -2902             | 1,375505E+22 | 1,745232E+22 | 1,965963E+22 | 1,965938E+22 | 1,745173E+22 | 1,375439E+22 | 9,597854E+21 | 6,096131E+21 | 4,147623E+21 | 4,147695E+21 | 6,096256E+21 | 9,597863E+21 |
| -2901             | 1,375420E+22 | 1,745143E+22 | 1,965922E+22 | 1,965950E+22 | 1,745205E+22 | 1,375483E+22 | 9,598419E+21 | 6,096662E+21 | 4,147957E+21 | 4,147801E+21 | 6,096209E+21 | 9,597830E+21 |
| -2900             | 1,375452E+22 | 1,745209E+22 | 1,965960E+22 | 1,965947E+22 | 1,745175E+22 | 1,375434E+22 | 9,597970E+21 | 6,096464E+21 | 4,148037E+21 | 4,148138E+21 | 6,096794E+21 | 9,598387E+21 |
| -2899             | 1,375451E+22 | 1,745148E+22 | 1,965881E+22 | 1,965886E+22 | 1,745158E+22 | 1,375448E+22 | 9,598097E+21 | 6,096436E+21 | 4,147937E+21 | 4,147951E+21 | 6,096397E+21 | 9,597825E+21 |
| -2898             | 1,375399E+22 | 1,745125E+22 | 1,965909E+22 | 1,965939E+22 | 1,745202E+22 | 1,375480E+22 | 9,598351E+21 | 6,096613E+21 | 4,147968E+21 | 4,147888E+21 | 6,096432E+21 | 9,598260E+21 |
| -2897             | 1,375501E+22 | 1,745231E+22 | 1,965949E+22 | 1,965921E+22 | 1,745152E+22 | 1,375416E+22 | 9,597700E+21 | 6,096088E+21 | 4,147658E+21 | 4,147823E+21 | 6,096572E+21 | 9,598322E+21 |
| -2896             | 1,375465E+22 | 1,745171E+22 | 1,965905E+22 | 1,965920E+22 | 1,745189E+22 | 1,375462E+22 | 9,598026E+21 | 6,096164E+21 | 4,147480E+21 | 4,147374E+21 | 6,095847E+21 | 9,597569E+21 |
| -2895             | 1,375437E+22 | 1,745228E+22 | 1,966014E+22 | 1,966005E+22 | 1,745228E+22 | 1,375472E+22 | 9,598022E+21 | 6,096114E+21 | 4,147379E+21 | 4,147317E+21 | 6,096031E+21 | 9,598153E+21 |
| -2894             | 1,375509E+22 | 1,745269E+22 | 1,966034E+22 | 1,966014E+22 | 1,745209E+22 | 1,375430E+22 | 9,597514E+21 | 6,095636E+21 | 4,147041E+21 | 4,147129E+21 | 6,095831E+21 | 9,597662E+21 |
| -2893             | 1,375432E+22 | 1,745187E+22 | 1,965993E+22 | 1,966042E+22 | 1,745278E+22 | 1,375501E+22 | 9,597996E+21 | 6,095823E+21 | 4,146948E+21 | 4,146827E+21 | 6,095473E+21 | 9,597443E+21 |

| 1<br>Longitude ☉<br>Years | 2<br>0° - 30° | 3<br>30° - 60° | 4<br>60° - 90° | 5<br>90° - 120° | 6<br>120° - 150° | 7<br>150° - 180° | 8<br>180° - 210° | 9<br>210° - 240° | 10<br>240° - 270° | 11<br>270° - 300° | 12<br>300° - 330° | 13<br>330° - 360° |
|---------------------------|---------------|----------------|----------------|-----------------|------------------|------------------|------------------|------------------|-------------------|-------------------|-------------------|-------------------|
| -2892                     | 1,375451E+22  | 1,745262E+22   | 1,966057E+22   | 1,966061E+22    | 1,745271E+22     | 1,375478E+22     | 9,597694E+21     | 6,095584E+21     | 4,146854E+21      | 4,146932E+21      | 6,095888E+21      | 9,598132E+21      |
| -2891                     | 1,375497E+22  | 1,745251E+22   | 1,966012E+22   | 1,966006E+22    | 1,745239E+22     | 1,375473E+22     | 9,597679E+21     | 6,095451E+21     | 4,146682E+21      | 4,146711E+21      | 6,095448E+21      | 9,597485E+21      |
| -2890                     | 1,375437E+22  | 1,745211E+22   | 1,966016E+22   | 1,966041E+22    | 1,745274E+22     | 1,375507E+22     | 9,598086E+21     | 6,095848E+21     | 4,146907E+21      | 4,146766E+21      | 6,095447E+21      | 9,597642E+21      |
| -2889                     | 1,375505E+22  | 1,745308E+22   | 1,966066E+22   | 1,966033E+22    | 1,745218E+22     | 1,375432E+22     | 9,597463E+21     | 6,095540E+21     | 4,146925E+21      | 4,147063E+21      | 6,095962E+21      | 9,598014E+21      |
| -2888                     | 1,375474E+22  | 1,745225E+22   | 1,965984E+22   | 1,965989E+22    | 1,745221E+22     | 1,375454E+22     | 9,597695E+21     | 6,095733E+21     | 4,147058E+21      | 4,147037E+21      | 6,095637E+21      | 9,597420E+21      |
| -2887                     | 1,375412E+22  | 1,745203E+22   | 1,966012E+22   | 1,966023E+22    | 1,745246E+22     | 1,375480E+22     | 9,598010E+21     | 6,096091E+21     | 4,147393E+21      | 4,147372E+21      | 6,096103E+21      | 9,598194E+21      |
| -2886                     | 1,375503E+22  | 1,745244E+22   | 1,965998E+22   | 1,965982E+22    | 1,745187E+22     | 1,375422E+22     | 9,597575E+21     | 6,095876E+21     | 4,147444E+21      | 4,147632E+21      | 6,096370E+21      | 9,598111E+21      |
| -2885                     | 1,375447E+22  | 1,745150E+22   | 1,965898E+22   | 1,965933E+22    | 1,745205E+22     | 1,375480E+22     | 9,598237E+21     | 6,096419E+21     | 4,147766E+21      | 4,147691E+21      | 6,096159E+21      | 9,597731E+21      |
| -2884                     | 1,375429E+22  | 1,745191E+22   | 1,965942E+22   | 1,965932E+22    | 1,745180E+22     | 1,375457E+22     | 9,598218E+21     | 6,096633E+21     | 4,148122E+21      | 4,148133E+21      | 6,096744E+21      | 9,598488E+21      |
| -2883                     | 1,375481E+22  | 1,745183E+22   | 1,965900E+22   | 1,965872E+22    | 1,745124E+22     | 1,375423E+22     | 9,598047E+21     | 6,096586E+21     | 4,148214E+21      | 4,148279E+21      | 6,096666E+21      | 9,597941E+21      |
| -2882                     | 1,375393E+22  | 1,745089E+22   | 1,965849E+22   | 1,965887E+22    | 1,745168E+22     | 1,375471E+22     | 9,598569E+21     | 6,097073E+21     | 4,148521E+21      | 4,148387E+21      | 6,096672E+21      | 9,598004E+21      |
| -2881                     | 1,375435E+22  | 1,745169E+22   | 1,965895E+22   | 1,965879E+22    | 1,745125E+22     | 1,375412E+22     | 9,598022E+21     | 6,096752E+21     | 4,148474E+21      | 4,148615E+21      | 6,097229E+21      | 9,598704E+21      |
| -2880                     | 1,375453E+22  | 1,745113E+22   | 1,965821E+22   | 1,965827E+22    | 1,745115E+22     | 1,375425E+22     | 9,598119E+21     | 6,096711E+21     | 4,148342E+21      | 4,148356E+21      | 6,096703E+21      | 9,597978E+21      |
| -2879                     | 1,375394E+22  | 1,745096E+22   | 1,965854E+22   | 1,965879E+22    | 1,745162E+22     | 1,375467E+22     | 9,598493E+21     | 6,096946E+21     | 4,148369E+21      | 4,148264E+21      | 6,096707E+21      | 9,598387E+21      |
| -2878                     | 1,375494E+22  | 1,745209E+22   | 1,965920E+22   | 1,965891E+22    | 1,745123E+22     | 1,375404E+22     | 9,597836E+21     | 6,096416E+21     | 4,148059E+21      | 4,148177E+21      | 6,096763E+21      | 9,598293E+21      |
| -2877                     | 1,375448E+22  | 1,745150E+22   | 1,965881E+22   | 1,965895E+22    | 1,745167E+22     | 1,375456E+22     | 9,598195E+21     | 6,096512E+21     | 4,147894E+21      | 4,147781E+21      | 6,096155E+21      | 9,597598E+21      |
| -2876                     | 1,375401E+22  | 1,745175E+22   | 1,965962E+22   | 1,965964E+22    | 1,745200E+22     | 1,375458E+22     | 9,598104E+21     | 6,096431E+21     | 4,147825E+21      | 4,147774E+21      | 6,096397E+21      | 9,598310E+21      |
| -2875                     | 1,375487E+22  | 1,745211E+22   | 1,965962E+22   | 1,965955E+22    | 1,745182E+22     | 1,375430E+22     | 9,597663E+21     | 6,095923E+21     | 4,147446E+21      | 4,147555E+21      | 6,096172E+21      | 9,597828E+21      |
| -2874                     | 1,375421E+22  | 1,745143E+22   | 1,965917E+22   | 1,965972E+22    | 1,745242E+22     | 1,375497E+22     | 9,598199E+21     | 6,096179E+21     | 4,147387E+21      | 4,147267E+21      | 6,095813E+21      | 9,597618E+21      |
| -2873                     | 1,375451E+22  | 1,745242E+22   | 1,965999E+22   | 1,965984E+22    | 1,745210E+22     | 1,375452E+22     | 9,597789E+21     | 6,095911E+21     | 4,147277E+21      | 4,147347E+21      | 6,096203E+21      | 9,598306E+21      |
| -2872                     | 1,375494E+22  | 1,745229E+22   | 1,965969E+22   | 1,965948E+22    | 1,745183E+22     | 1,375439E+22     | 9,597693E+21     | 6,095795E+21     | 4,147172E+21      | 4,147181E+21      | 6,095752E+21      | 9,597519E+21      |
| -2871                     | 1,375412E+22  | 1,745171E+22   | 1,965969E+22   | 1,965992E+22    | 1,745231E+22     | 1,375483E+22     | 9,598152E+21     | 6,096210E+21     | 4,147423E+21      | 4,147298E+21      | 6,095864E+21      | 9,597797E+21      |
| -2870                     | 1,375482E+22  | 1,745258E+22   | 1,966016E+22   | 1,965998E+22    | 1,745194E+22     | 1,375418E+22     | 9,597541E+21     | 6,095870E+21     | 4,147414E+21      | 4,147574E+21      | 6,096358E+21      | 9,598180E+21      |
| -2869                     | 1,375460E+22  | 1,745183E+22   | 1,965925E+22   | 1,965938E+22    | 1,745196E+22     | 1,375455E+22     | 9,597902E+21     | 6,096110E+21     | 4,147540E+21      | 4,147555E+21      | 6,096099E+21      | 9,597655E+21      |
| -2868                     | 1,375394E+22  | 1,745147E+22   | 1,965933E+22   | 1,965949E+22    | 1,745200E+22     | 1,375468E+22     | 9,598217E+21     | 6,096533E+21     | 4,147943E+21      | 4,147908E+21      | 6,096516E+21      | 9,598422E+21      |
| -2867                     | 1,375497E+22  | 1,745201E+22   | 1,965920E+22   | 1,965899E+22    | 1,745140E+22     | 1,375419E+22     | 9,597857E+21     | 6,096363E+21     | 4,148027E+21      | 4,148179E+21      | 6,096733E+21      | 9,598203E+21      |
| -2866                     | 1,375432E+22  | 1,745114E+22   | 1,965834E+22   | 1,965857E+22    | 1,745152E+22     | 1,375467E+22     | 9,598513E+21     | 6,096965E+21     | 4,148419E+21      | 4,148308E+21      | 6,096571E+21      | 9,597799E+21      |
| -2865                     | 1,375403E+22  | 1,745149E+22   | 1,965886E+22   | 1,965865E+22    | 1,745119E+22     | 1,375425E+22     | 9,598312E+21     | 6,097066E+21     | 4,148717E+21      | 4,148740E+21      | 6,097214E+21      | 9,598670E+21      |
| -2864                     | 1,375459E+22  | 1,745130E+22   | 1,965835E+22   | 1,965814E+22    | 1,745080E+22     | 1,375393E+22     | 9,598048E+21     | 6,096941E+21     | 4,148769E+21      | 4,148857E+21      | 6,097123E+21      | 9,598117E+21      |
| -2863                     | 1,375370E+22  | 1,745029E+22   | 1,965769E+22   | 1,965815E+22    | 1,745126E+22     | 1,375457E+22     | 9,598674E+21     | 6,097405E+21     | 4,148995E+21      | 4,148894E+21      | 6,097117E+21      | 9,598286E+21      |
| -2862                     | 1,375430E+22  | 1,745123E+22   | 1,965833E+22   | 1,965825E+22    | 1,745089E+22     | 1,375401E+22     | 9,598160E+21     | 6,097070E+21     | 4,148880E+21      | 4,149007E+21      | 6,097512E+21      | 9,598863E+21      |
| -2861                     | 1,375458E+22  | 1,745099E+22   | 1,965780E+22   | 1,965775E+22    | 1,745078E+22     | 1,375417E+22     | 9,598313E+21     | 6,097066E+21     | 4,148741E+21      | 4,148735E+21      | 6,096984E+21      | 9,598048E+21      |
| -2860                     | 1,375376E+22  | 1,745065E+22   | 1,965815E+22   | 1,965831E+22    | 1,745117E+22     | 1,375446E+22     | 9,598604E+21     | 6,097305E+21     | 4,148822E+21      | 4,148682E+21      | 6,096976E+21      | 9,598435E+21      |
| -2859                     | 1,375475E+22  | 1,745172E+22   | 1,965879E+22   | 1,965852E+22    | 1,745100E+22     | 1,375399E+22     | 9,597964E+21     | 6,096733E+21     | 4,148493E+21      | 4,148612E+21      | 6,097058E+21      | 9,598316E+21      |
| -2858                     | 1,375422E+22  | 1,745107E+22   | 1,965829E+22   | 1,965851E+22    | 1,745148E+22     | 1,375455E+22     | 9,598340E+21     | 6,096822E+21     | 4,148318E+21      | 4,148228E+21      | 6,096505E+21      | 9,597717E+21      |
| -2857                     | 1,375382E+22  | 1,745131E+22   | 1,965904E+22   | 1,965907E+22    | 1,745163E+22     | 1,375446E+22     | 9,598187E+21     | 6,096674E+21     | 4,148180E+21      | 4,148167E+21      | 6,096743E+21      | 9,598538E+21      |



| 1                 | 2            | 3            | 4            | 5            | 6            | 7            | 8            | 9            | 10           | 11           | 12           | 13           |
|-------------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|
| Longitude $\odot$ | 0° - 30°     | 30° - 60°    | 60° - 90°    | 90° - 120°   | 120° - 150°  | 150° - 180°  | 180° - 210°  | 210° - 240°  | 240° - 270°  | 270° - 300°  | 300° - 330°  | 330° - 360°  |
| Years             |              |              |              |              |              |              |              |              |              |              |              |              |
| -2856             | 1,375484E+22 | 1,745174E+22 | 1,965903E+22 | 1,965897E+22 | 1,745142E+22 | 1,375412E+22 | 9,597719E+21 | 6,096202E+21 | 4,147832E+21 | 4,147934E+21 | 6,096450E+21 | 9,597946E+21 |
| -2855             | 1,375414E+22 | 1,745109E+22 | 1,965854E+22 | 1,965899E+22 | 1,745194E+22 | 1,375483E+22 | 9,598346E+21 | 6,096530E+21 | 4,147820E+21 | 4,147684E+21 | 6,096123E+21 | 9,597754E+21 |
| -2854             | 1,375441E+22 | 1,745210E+22 | 1,965961E+22 | 1,965938E+22 | 1,745167E+22 | 1,375432E+22 | 9,597910E+21 | 6,096274E+21 | 4,147742E+21 | 4,147785E+21 | 6,096484E+21 | 9,598364E+21 |
| -2853             | 1,375480E+22 | 1,745200E+22 | 1,965933E+22 | 1,965907E+22 | 1,745147E+22 | 1,375421E+22 | 9,597809E+21 | 6,096165E+21 | 4,147660E+21 | 4,147699E+21 | 6,096186E+21 | 9,597651E+21 |
| -2852             | 1,375382E+22 | 1,745112E+22 | 1,965905E+22 | 1,965935E+22 | 1,745190E+22 | 1,375461E+22 | 9,598214E+21 | 6,096563E+21 | 4,147949E+21 | 4,147854E+21 | 6,096329E+21 | 9,598046E+21 |
| -2851             | 1,375469E+22 | 1,745203E+22 | 1,965939E+22 | 1,965925E+22 | 1,745158E+22 | 1,375417E+22 | 9,597725E+21 | 6,096237E+21 | 4,147924E+21 | 4,148107E+21 | 6,096775E+21 | 9,598379E+21 |
| -2850             | 1,375453E+22 | 1,745143E+22 | 1,965852E+22 | 1,965861E+22 | 1,745153E+22 | 1,375451E+22 | 9,598169E+21 | 6,096575E+21 | 4,148103E+21 | 4,148102E+21 | 6,096489E+21 | 9,597815E+21 |
| -2849             | 1,375389E+22 | 1,745118E+22 | 1,965872E+22 | 1,965871E+22 | 1,745140E+22 | 1,375447E+22 | 9,598402E+21 | 6,096988E+21 | 4,148512E+21 | 4,148450E+21 | 6,096888E+21 | 9,598541E+21 |
| -2848             | 1,375484E+22 | 1,745166E+22 | 1,965870E+22 | 1,965839E+22 | 1,745087E+22 | 1,375389E+22 | 9,597964E+21 | 6,096833E+21 | 4,148650E+21 | 4,148761E+21 | 6,097105E+21 | 9,598221E+21 |
| -2847             | 1,375398E+22 | 1,745058E+22 | 1,965771E+22 | 1,965798E+22 | 1,745110E+22 | 1,375450E+22 | 9,598665E+21 | 6,097422E+21 | 4,149029E+21 | 4,148929E+21 | 6,097058E+21 | 9,597974E+21 |
| -2846             | 1,375374E+22 | 1,745082E+22 | 1,965822E+22 | 1,965817E+22 | 1,745087E+22 | 1,375414E+22 | 9,598447E+21 | 6,097450E+21 | 4,149246E+21 | 4,149287E+21 | 6,097648E+21 | 9,598861E+21 |
| -2845             | 1,375444E+22 | 1,745080E+22 | 1,965768E+22 | 1,965753E+22 | 1,745045E+22 | 1,375389E+22 | 9,598251E+21 | 6,097313E+21 | 4,149237E+21 | 4,149368E+21 | 6,097596E+21 | 9,598375E+21 |
| -2844             | 1,375358E+22 | 1,744978E+22 | 1,965694E+22 | 1,965740E+22 | 1,745076E+22 | 1,375440E+22 | 9,598820E+21 | 6,097780E+21 | 4,149475E+21 | 4,149367E+21 | 6,097494E+21 | 9,598520E+21 |
| -2843             | 1,375434E+22 | 1,745094E+22 | 1,965770E+22 | 1,965747E+22 | 1,745044E+22 | 1,375395E+22 | 9,598350E+21 | 6,097445E+21 | 4,149348E+21 | 4,149448E+21 | 6,097793E+21 | 9,598911E+21 |
| -2842             | 1,375448E+22 | 1,745078E+22 | 1,965744E+22 | 1,965723E+22 | 1,745036E+22 | 1,375404E+22 | 9,598487E+21 | 6,097465E+21 | 4,149237E+21 | 4,149206E+21 | 6,097289E+21 | 9,598088E+21 |
| -2841             | 1,375359E+22 | 1,745035E+22 | 1,965779E+22 | 1,965789E+22 | 1,745075E+22 | 1,375419E+22 | 9,598618E+21 | 6,097586E+21 | 4,149246E+21 | 4,149127E+21 | 6,097317E+21 | 9,598547E+21 |
| -2840             | 1,375456E+22 | 1,745125E+22 | 1,965828E+22 | 1,965813E+22 | 1,745073E+22 | 1,375379E+22 | 9,597955E+21 | 6,096976E+21 | 4,148881E+21 | 4,149015E+21 | 6,097372E+21 | 9,598416E+21 |
| -2839             | 1,375401E+22 | 1,745054E+22 | 1,965764E+22 | 1,965794E+22 | 1,745118E+22 | 1,375451E+22 | 9,598473E+21 | 6,097085E+21 | 4,148670E+21 | 4,148607E+21 | 6,096844E+21 | 9,597932E+21 |
| -2838             | 1,375375E+22 | 1,745087E+22 | 1,965849E+22 | 1,965855E+22 | 1,745128E+22 | 1,375440E+22 | 9,598351E+21 | 6,096965E+21 | 4,148521E+21 | 4,148487E+21 | 6,096960E+21 | 9,598618E+21 |
| -2837             | 1,375483E+22 | 1,745157E+22 | 1,965864E+22 | 1,965842E+22 | 1,745102E+22 | 1,375403E+22 | 9,597910E+21 | 6,096544E+21 | 4,148219E+21 | 4,148319E+21 | 6,096744E+21 | 9,598002E+21 |
| -2836             | 1,375395E+22 | 1,745074E+22 | 1,965810E+22 | 1,965844E+22 | 1,745142E+22 | 1,375456E+22 | 9,598421E+21 | 6,096887E+21 | 4,148302E+21 | 4,148153E+21 | 6,096454E+21 | 9,597852E+21 |
| -2835             | 1,375427E+22 | 1,745169E+22 | 1,965907E+22 | 1,965885E+22 | 1,745134E+22 | 1,375421E+22 | 9,598010E+21 | 6,096615E+21 | 4,148237E+21 | 4,148297E+21 | 6,096862E+21 | 9,598459E+21 |
| -2834             | 1,375461E+22 | 1,745158E+22 | 1,965879E+22 | 1,965856E+22 | 1,745117E+22 | 1,375414E+22 | 9,597959E+21 | 6,096535E+21 | 4,148172E+21 | 4,148238E+21 | 6,096623E+21 | 9,597861E+21 |
| -2833             | 1,375372E+22 | 1,745068E+22 | 1,965843E+22 | 1,965872E+22 | 1,745144E+22 | 1,375445E+22 | 9,598330E+21 | 6,096901E+21 | 4,148422E+21 | 4,148357E+21 | 6,096750E+21 | 9,598292E+21 |
| -2832             | 1,375467E+22 | 1,745163E+22 | 1,965875E+22 | 1,965862E+22 | 1,745115E+22 | 1,375400E+22 | 9,597875E+21 | 6,096653E+21 | 4,148451E+21 | 4,148606E+21 | 6,097125E+21 | 9,598478E+21 |
| -2831             | 1,375438E+22 | 1,745103E+22 | 1,965788E+22 | 1,965787E+22 | 1,745104E+22 | 1,375442E+22 | 9,598422E+21 | 6,097066E+21 | 4,148694E+21 | 4,148671E+21 | 6,096897E+21 | 9,597927E+21 |
| -2830             | 1,375365E+22 | 1,745067E+22 | 1,965823E+22 | 1,965819E+22 | 1,745094E+22 | 1,375431E+22 | 9,598614E+21 | 6,097481E+21 | 4,149123E+21 | 4,149036E+21 | 6,097283E+21 | 9,598588E+21 |
| -2829             | 1,375456E+22 | 1,745115E+22 | 1,965813E+22 | 1,965787E+22 | 1,745048E+22 | 1,375374E+22 | 9,598137E+21 | 6,097288E+21 | 4,149250E+21 | 4,149403E+21 | 6,097651E+21 | 9,598405E+21 |
| -2828             | 1,375364E+22 | 1,744981E+22 | 1,965681E+22 | 1,965720E+22 | 1,745059E+22 | 1,375427E+22 | 9,598763E+21 | 6,097827E+21 | 4,149615E+21 | 4,149545E+21 | 6,097586E+21 | 9,598290E+21 |
| -2827             | 1,375368E+22 | 1,745023E+22 | 1,965728E+22 | 1,965727E+22 | 1,745040E+22 | 1,375408E+22 | 9,598628E+21 | 6,097832E+21 | 4,149764E+21 | 4,149824E+21 | 6,098082E+21 | 9,599098E+21 |
| -2826             | 1,375447E+22 | 1,745047E+22 | 1,965699E+22 | 1,965673E+22 | 1,744990E+22 | 1,375375E+22 | 9,598456E+21 | 6,097732E+21 | 4,149744E+21 | 4,149853E+21 | 6,097949E+21 | 9,598546E+21 |
| -2825             | 1,375361E+22 | 1,744959E+22 | 1,965648E+22 | 1,965673E+22 | 1,745014E+22 | 1,375411E+22 | 9,598902E+21 | 6,098122E+21 | 4,149930E+21 | 4,149808E+21 | 6,097797E+21 | 9,598615E+21 |
| -2824             | 1,375426E+22 | 1,745073E+22 | 1,965741E+22 | 1,965710E+22 | 1,745002E+22 | 1,375366E+22 | 9,598383E+21 | 6,097778E+21 | 4,149806E+21 | 4,149879E+21 | 6,098063E+21 | 9,598887E+21 |
| -2823             | 1,375419E+22 | 1,745036E+22 | 1,965702E+22 | 1,965688E+22 | 1,745013E+22 | 1,375396E+22 | 9,598584E+21 | 6,097765E+21 | 4,149658E+21 | 4,149646E+21 | 6,097637E+21 | 9,598187E+21 |
| -2822             | 1,375332E+22 | 1,744981E+22 | 1,965735E+22 | 1,965760E+22 | 1,745060E+22 | 1,375419E+22 | 9,598746E+21 | 6,097849E+21 | 4,149599E+21 | 4,149489E+21 | 6,097596E+21 | 9,598632E+21 |
| -2821             | 1,375441E+22 | 1,745084E+22 | 1,965776E+22 | 1,965770E+22 | 1,745051E+22 | 1,375381E+22 | 9,598151E+21 | 6,097263E+21 | 4,149214E+21 | 4,149376E+21 | 6,097697E+21 | 9,598556E+21 |

| 1                 | 2            | 3            | 4            | 5            | 6            | 7            | 8            | 9            | 10           | 11           | 12           | 13           |
|-------------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|
| Longitude $\odot$ | 0° - 30°     | 30° - 60°    | 60° - 90°    | 90° - 120°   | 120° - 150°  | 150° - 180°  | 180° - 210°  | 210° - 240°  | 240° - 270°  | 270° - 300°  | 300° - 330°  | 330° - 360°  |
| Years             |              |              |              |              |              |              |              |              |              |              |              |              |
| -2820             | 1,375386E+22 | 1,745006E+22 | 1,965694E+22 | 1,965726E+22 | 1,745072E+22 | 1,375438E+22 | 9,598636E+21 | 6,097430E+21 | 4,149075E+21 | 4,148987E+21 | 6,097132E+21 | 9,598087E+21 |
| -2819             | 1,375375E+22 | 1,745058E+22 | 1,965786E+22 | 1,965781E+22 | 1,745082E+22 | 1,375433E+22 | 9,598544E+21 | 6,097340E+21 | 4,148974E+21 | 4,148911E+21 | 6,097235E+21 | 9,598636E+21 |
| -2818             | 1,375469E+22 | 1,745131E+22 | 1,965826E+22 | 1,965790E+22 | 1,745053E+22 | 1,375383E+22 | 9,598064E+21 | 6,096952E+21 | 4,148734E+21 | 4,148820E+21 | 6,097105E+21 | 9,598103E+21 |
| -2817             | 1,375380E+22 | 1,745037E+22 | 1,965766E+22 | 1,965797E+22 | 1,745095E+22 | 1,375424E+22 | 9,598399E+21 | 6,097174E+21 | 4,148772E+21 | 4,148670E+21 | 6,096889E+21 | 9,598055E+21 |
| -2816             | 1,375415E+22 | 1,745125E+22 | 1,965851E+22 | 1,965837E+22 | 1,745098E+22 | 1,375397E+22 | 9,598011E+21 | 6,096905E+21 | 4,148694E+21 | 4,148780E+21 | 6,097258E+21 | 9,598630E+21 |
| -2815             | 1,375447E+22 | 1,745110E+22 | 1,965812E+22 | 1,965795E+22 | 1,745082E+22 | 1,375409E+22 | 9,598128E+21 | 6,096880E+21 | 4,148632E+21 | 4,148720E+21 | 6,097035E+21 | 9,598095E+21 |
| -2814             | 1,375365E+22 | 1,745027E+22 | 1,965788E+22 | 1,965817E+22 | 1,745105E+22 | 1,375438E+22 | 9,598559E+21 | 6,097316E+21 | 4,148906E+21 | 4,148808E+21 | 6,097050E+21 | 9,598347E+21 |
| -2813             | 1,375455E+22 | 1,745134E+22 | 1,965828E+22 | 1,965806E+22 | 1,745073E+22 | 1,375392E+22 | 9,598144E+21 | 6,097129E+21 | 4,149001E+21 | 4,149145E+21 | 6,097516E+21 | 9,598523E+21 |
| -2812             | 1,375406E+22 | 1,745045E+22 | 1,965725E+22 | 1,965724E+22 | 1,745050E+22 | 1,375420E+22 | 9,598607E+21 | 6,097565E+21 | 4,149333E+21 | 4,149296E+21 | 6,097362E+21 | 9,598077E+21 |
| -2811             | 1,375343E+22 | 1,745004E+22 | 1,965736E+22 | 1,965743E+22 | 1,745053E+22 | 1,375424E+22 | 9,598797E+21 | 6,097932E+21 | 4,149741E+21 | 4,149674E+21 | 6,097776E+21 | 9,598730E+21 |
| -2810             | 1,375431E+22 | 1,745056E+22 | 1,965734E+22 | 1,965712E+22 | 1,745002E+22 | 1,375364E+22 | 9,598338E+21 | 6,097736E+21 | 4,149841E+21 | 4,150015E+21 | 6,098166E+21 | 9,598703E+21 |
| -2809             | 1,375361E+22 | 1,744933E+22 | 1,965603E+22 | 1,965639E+22 | 1,744996E+22 | 1,375399E+22 | 9,598839E+21 | 6,098180E+21 | 4,150120E+21 | 4,150078E+21 | 6,098041E+21 | 9,598589E+21 |
| -2808             | 1,375375E+22 | 1,744992E+22 | 1,965662E+22 | 1,965654E+22 | 1,744982E+22 | 1,375378E+22 | 9,598715E+21 | 6,098218E+21 | 4,150259E+21 | 4,150287E+21 | 6,098406E+21 | 9,599204E+21 |
| -2807             | 1,375439E+22 | 1,745023E+22 | 1,965653E+22 | 1,965613E+22 | 1,744942E+22 | 1,375359E+22 | 9,598624E+21 | 6,098134E+21 | 4,150243E+21 | 4,150331E+21 | 6,098288E+21 | 9,598630E+21 |
| -2806             | 1,375341E+22 | 1,744926E+22 | 1,965624E+22 | 1,965644E+22 | 1,744979E+22 | 1,375394E+22 | 9,599030E+21 | 6,098488E+21 | 4,150394E+21 | 4,150248E+21 | 6,098080E+21 | 9,598596E+21 |
| -2805             | 1,375398E+22 | 1,745033E+22 | 1,965704E+22 | 1,965683E+22 | 1,744985E+22 | 1,375360E+22 | 9,598519E+21 | 6,098093E+21 | 4,150231E+21 | 4,150341E+21 | 6,098446E+21 | 9,598968E+21 |
| -2804             | 1,375384E+22 | 1,744970E+22 | 1,965631E+22 | 1,965635E+22 | 1,744983E+22 | 1,375388E+22 | 9,598706E+21 | 6,098070E+21 | 4,150078E+21 | 4,150082E+21 | 6,098004E+21 | 9,598396E+21 |
| -2803             | 1,375324E+22 | 1,744928E+22 | 1,965647E+22 | 1,965687E+22 | 1,745029E+22 | 1,375423E+22 | 9,598946E+21 | 6,098168E+21 | 4,149994E+21 | 4,149881E+21 | 6,097893E+21 | 9,598740E+21 |
| -2802             | 1,375434E+22 | 1,745053E+22 | 1,965716E+22 | 1,965703E+22 | 1,745007E+22 | 1,375372E+22 | 9,598364E+21 | 6,097646E+21 | 4,149647E+21 | 4,149767E+21 | 6,097975E+21 | 9,598687E+21 |
| -2801             | 1,375386E+22 | 1,744984E+22 | 1,965649E+22 | 1,965664E+22 | 1,745011E+22 | 1,375404E+22 | 9,598671E+21 | 6,097740E+21 | 4,149499E+21 | 4,149403E+21 | 6,097435E+21 | 9,598199E+21 |
| -2800             | 1,375369E+22 | 1,745036E+22 | 1,965752E+22 | 1,965741E+22 | 1,745034E+22 | 1,375396E+22 | 9,598536E+21 | 6,097652E+21 | 4,149416E+21 | 4,149349E+21 | 6,097553E+21 | 9,598688E+21 |
| -2799             | 1,375447E+22 | 1,745094E+22 | 1,965782E+22 | 1,965752E+22 | 1,745026E+22 | 1,375370E+22 | 9,598128E+21 | 6,097235E+21 | 4,149162E+21 | 4,149290E+21 | 6,097520E+21 | 9,598292E+21 |
| -2798             | 1,375361E+22 | 1,744993E+22 | 1,965725E+22 | 1,965764E+22 | 1,745073E+22 | 1,375418E+22 | 9,598512E+21 | 6,097447E+21 | 4,149157E+21 | 4,149082E+21 | 6,097233E+21 | 9,598216E+21 |
| -2797             | 1,375407E+22 | 1,745090E+22 | 1,965800E+22 | 1,965794E+22 | 1,745075E+22 | 1,375399E+22 | 9,598223E+21 | 6,097239E+21 | 4,149107E+21 | 4,149221E+21 | 6,097632E+21 | 9,598784E+21 |
| -2796             | 1,375432E+22 | 1,745060E+22 | 1,965736E+22 | 1,965723E+22 | 1,745036E+22 | 1,375399E+22 | 9,598354E+21 | 6,097326E+21 | 4,149161E+21 | 4,149212E+21 | 6,097387E+21 | 9,598236E+21 |
| -2795             | 1,375358E+22 | 1,744986E+22 | 1,965711E+22 | 1,965737E+22 | 1,745059E+22 | 1,375434E+22 | 9,598839E+21 | 6,097832E+21 | 4,149521E+21 | 4,149381E+21 | 6,097423E+21 | 9,598359E+21 |
| -2794             | 1,375425E+22 | 1,745087E+22 | 1,965769E+22 | 1,965742E+22 | 1,745019E+22 | 1,375372E+22 | 9,598373E+21 | 6,097676E+21 | 4,149674E+21 | 4,149788E+21 | 6,097987E+21 | 9,598674E+21 |
| -2793             | 1,375381E+22 | 1,744982E+22 | 1,965646E+22 | 1,965651E+22 | 1,744989E+22 | 1,375384E+22 | 9,598650E+21 | 6,097979E+21 | 4,149947E+21 | 4,149949E+21 | 6,097914E+21 | 9,598357E+21 |
| -2792             | 1,375330E+22 | 1,744948E+22 | 1,965653E+22 | 1,965665E+22 | 1,744995E+22 | 1,375392E+22 | 9,598857E+21 | 6,098318E+21 | 4,150294E+21 | 4,150252E+21 | 6,098262E+21 | 9,598978E+21 |
| -2791             | 1,375422E+22 | 1,745009E+22 | 1,965654E+22 | 1,965631E+22 | 1,744949E+22 | 1,375348E+22 | 9,598503E+21 | 6,098126E+21 | 4,150356E+21 | 4,150545E+21 | 6,098612E+21 | 9,598962E+21 |
| -2790             | 1,375358E+22 | 1,744905E+22 | 1,965556E+22 | 1,965579E+22 | 1,744947E+22 | 1,375382E+22 | 9,598995E+21 | 6,098566E+21 | 4,150598E+21 | 4,150523E+21 | 6,098334E+21 | 9,598660E+21 |
| -2789             | 1,375367E+22 | 1,744975E+22 | 1,965632E+22 | 1,965614E+22 | 1,744945E+22 | 1,375363E+22 | 9,598882E+21 | 6,098610E+21 | 4,150754E+21 | 4,150772E+21 | 6,098736E+21 | 9,599210E+21 |
| -2788             | 1,375406E+22 | 1,744973E+22 | 1,965604E+22 | 1,965573E+22 | 1,744908E+22 | 1,375342E+22 | 9,598757E+21 | 6,098541E+21 | 4,150775E+21 | 4,150844E+21 | 6,098651E+21 | 9,598716E+21 |
| -2787             | 1,375317E+22 | 1,744871E+22 | 1,965552E+22 | 1,965594E+22 | 1,744963E+22 | 1,375398E+22 | 9,599212E+21 | 6,098858E+21 | 4,150885E+21 | 4,150747E+21 | 6,098454E+21 | 9,598654E+21 |
| -2786             | 1,375366E+22 | 1,744978E+22 | 1,965640E+22 | 1,965631E+22 | 1,744958E+22 | 1,375362E+22 | 9,598752E+21 | 6,098475E+21 | 4,150690E+21 | 4,150791E+21 | 6,098815E+21 | 9,599183E+21 |
| -2785             | 1,375376E+22 | 1,744920E+22 | 1,965557E+22 | 1,965566E+22 | 1,744936E+22 | 1,375369E+22 | 9,598810E+21 | 6,098373E+21 | 4,150478E+21 | 4,150494E+21 | 6,098355E+21 | 9,598630E+21 |

| 1                 | 2            | 3            | 4            | 5            | 6            | 7            | 8            | 9            | 10           | 11           | 12           | 13           |
|-------------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|
| Longitude $\odot$ | 0° - 30°     | 30° - 60°    | 60° - 90°    | 90° - 120°   | 120° - 150°  | 150° - 180°  | 180° - 210°  | 210° - 240°  | 240° - 270°  | 270° - 300°  | 300° - 330°  | 330° - 360°  |
| Years             |              |              |              |              |              |              |              |              |              |              |              |              |
| -2784             | 1,375330E+22 | 1,744902E+22 | 1,965583E+22 | 1,965615E+22 | 1,744974E+22 | 1,375397E+22 | 9,599038E+21 | 6,098496E+21 | 4,150393E+21 | 4,150255E+21 | 6,098157E+21 | 9,598820E+21 |
| -2783             | 1,375425E+22 | 1,745032E+22 | 1,965673E+22 | 1,965646E+22 | 1,744958E+22 | 1,375353E+22 | 9,598480E+21 | 6,097978E+21 | 4,150075E+21 | 4,150189E+21 | 6,098299E+21 | 9,598807E+21 |
| -2782             | 1,375371E+22 | 1,744962E+22 | 1,965630E+22 | 1,965636E+22 | 1,744974E+22 | 1,375378E+22 | 9,598690E+21 | 6,098014E+21 | 4,149898E+21 | 4,149809E+21 | 6,097740E+21 | 9,598280E+21 |
| -2781             | 1,375352E+22 | 1,745004E+22 | 1,965718E+22 | 1,965716E+22 | 1,745015E+22 | 1,375383E+22 | 9,598569E+21 | 6,097886E+21 | 4,149797E+21 | 4,149787E+21 | 6,097938E+21 | 9,598839E+21 |
| -2780             | 1,375424E+22 | 1,745039E+22 | 1,965717E+22 | 1,965702E+22 | 1,744997E+22 | 1,375361E+22 | 9,598242E+21 | 6,097533E+21 | 4,149574E+21 | 4,149719E+21 | 6,097884E+21 | 9,598534E+21 |
| -2779             | 1,375361E+22 | 1,744951E+22 | 1,965643E+22 | 1,965693E+22 | 1,745043E+22 | 1,375423E+22 | 9,598748E+21 | 6,097820E+21 | 4,149605E+21 | 4,149511E+21 | 6,097530E+21 | 9,598277E+21 |
| -2778             | 1,375391E+22 | 1,745057E+22 | 1,965741E+22 | 1,965728E+22 | 1,745032E+22 | 1,375394E+22 | 9,598521E+21 | 6,097731E+21 | 4,149649E+21 | 4,149694E+21 | 6,097931E+21 | 9,598866E+21 |
| -2777             | 1,375418E+22 | 1,745023E+22 | 1,965679E+22 | 1,965656E+22 | 1,744976E+22 | 1,375369E+22 | 9,598476E+21 | 6,097771E+21 | 4,149745E+21 | 4,149780E+21 | 6,097787E+21 | 9,598347E+21 |
| -2776             | 1,375339E+22 | 1,744942E+22 | 1,965645E+22 | 1,965673E+22 | 1,745003E+22 | 1,375400E+22 | 9,598928E+21 | 6,098283E+21 | 4,150122E+21 | 4,149978E+21 | 6,097868E+21 | 9,598464E+21 |
| -2775             | 1,375393E+22 | 1,745028E+22 | 1,965695E+22 | 1,965678E+22 | 1,744979E+22 | 1,375357E+22 | 9,598504E+21 | 6,098086E+21 | 4,150255E+21 | 4,150408E+21 | 6,098526E+21 | 9,598949E+21 |
| -2774             | 1,375362E+22 | 1,744930E+22 | 1,965585E+22 | 1,965590E+22 | 1,744943E+22 | 1,375366E+22 | 9,598764E+21 | 6,098346E+21 | 4,150458E+21 | 4,150484E+21 | 6,098362E+21 | 9,598604E+21 |
| -2773             | 1,375326E+22 | 1,744911E+22 | 1,965591E+22 | 1,965604E+22 | 1,744953E+22 | 1,375378E+22 | 9,599015E+21 | 6,098691E+21 | 4,150793E+21 | 4,150777E+21 | 6,098691E+21 | 9,599167E+21 |
| -2772             | 1,375409E+22 | 1,744966E+22 | 1,965584E+22 | 1,965556E+22 | 1,744897E+22 | 1,375332E+22 | 9,598702E+21 | 6,098584E+21 | 4,150920E+21 | 4,151075E+21 | 6,098984E+21 | 9,599112E+21 |
| -2771             | 1,375351E+22 | 1,744872E+22 | 1,965492E+22 | 1,965512E+22 | 1,744907E+22 | 1,375375E+22 | 9,599227E+21 | 6,099044E+21 | 4,151190E+21 | 4,151081E+21 | 6,098690E+21 | 9,598655E+21 |
| -2770             | 1,375334E+22 | 1,744931E+22 | 1,965585E+22 | 1,965571E+22 | 1,744912E+22 | 1,375352E+22 | 9,599092E+21 | 6,099091E+21 | 4,151352E+21 | 4,151338E+21 | 6,099143E+21 | 9,599346E+21 |
| -2769             | 1,375381E+22 | 1,744911E+22 | 1,965531E+22 | 1,965516E+22 | 1,744870E+22 | 1,375321E+22 | 9,598809E+21 | 6,098880E+21 | 4,151286E+21 | 4,151388E+21 | 6,099107E+21 | 9,598955E+21 |
| -2768             | 1,375306E+22 | 1,744820E+22 | 1,965472E+22 | 1,965524E+22 | 1,744918E+22 | 1,375379E+22 | 9,599317E+21 | 6,099182E+21 | 4,151312E+21 | 4,151190E+21 | 6,098828E+21 | 9,598851E+21 |
| -2767             | 1,375355E+22 | 1,744935E+22 | 1,965567E+22 | 1,965559E+22 | 1,744914E+22 | 1,375353E+22 | 9,598922E+21 | 6,098799E+21 | 4,151085E+21 | 4,151188E+21 | 6,099145E+21 | 9,599372E+21 |
| -2766             | 1,375371E+22 | 1,744901E+22 | 1,965520E+22 | 1,965510E+22 | 1,744886E+22 | 1,375349E+22 | 9,598914E+21 | 6,098671E+21 | 4,150842E+21 | 4,150830E+21 | 6,098578E+21 | 9,598700E+21 |
| -2765             | 1,375326E+22 | 1,744894E+22 | 1,965563E+22 | 1,965580E+22 | 1,744937E+22 | 1,375376E+22 | 9,599097E+21 | 6,098763E+21 | 4,150774E+21 | 4,150651E+21 | 6,098440E+21 | 9,598857E+21 |
| -2764             | 1,375400E+22 | 1,744993E+22 | 1,965629E+22 | 1,965607E+22 | 1,744926E+22 | 1,375334E+22 | 9,598530E+21 | 6,098272E+21 | 4,150494E+21 | 4,150611E+21 | 6,098616E+21 | 9,598931E+21 |
| -2763             | 1,375357E+22 | 1,744922E+22 | 1,965570E+22 | 1,965593E+22 | 1,744962E+22 | 1,375380E+22 | 9,598806E+21 | 6,098298E+21 | 4,150307E+21 | 4,150233E+21 | 6,098062E+21 | 9,598368E+21 |
| -2762             | 1,375330E+22 | 1,744964E+22 | 1,965668E+22 | 1,965673E+22 | 1,744993E+22 | 1,375384E+22 | 9,598773E+21 | 6,098239E+21 | 4,150224E+21 | 4,150190E+21 | 6,098249E+21 | 9,599036E+21 |
| -2761             | 1,375417E+22 | 1,744993E+22 | 1,965647E+22 | 1,965638E+22 | 1,744954E+22 | 1,375345E+22 | 9,598370E+21 | 6,097882E+21 | 4,150022E+21 | 4,150155E+21 | 6,098209E+21 | 9,598702E+21 |
| -2760             | 1,375359E+22 | 1,744924E+22 | 1,965579E+22 | 1,965620E+22 | 1,744987E+22 | 1,375401E+22 | 9,598933E+21 | 6,098261E+21 | 4,150117E+21 | 4,149985E+21 | 6,097846E+21 | 9,598316E+21 |
| -2759             | 1,375364E+22 | 1,745018E+22 | 1,965687E+22 | 1,965664E+22 | 1,744980E+22 | 1,375377E+22 | 9,598725E+21 | 6,098202E+21 | 4,150237E+21 | 4,150268E+21 | 6,098345E+21 | 9,598954E+21 |
| -2758             | 1,375387E+22 | 1,744978E+22 | 1,965634E+22 | 1,965607E+22 | 1,744930E+22 | 1,375343E+22 | 9,598563E+21 | 6,098178E+21 | 4,150316E+21 | 4,150368E+21 | 6,098245E+21 | 9,598508E+21 |
| -2757             | 1,375317E+22 | 1,744893E+22 | 1,965582E+22 | 1,965617E+22 | 1,744966E+22 | 1,375382E+22 | 9,598987E+21 | 6,098621E+21 | 4,150667E+21 | 4,150591E+21 | 6,098394E+21 | 9,598715E+21 |
| -2756             | 1,375371E+22 | 1,744960E+22 | 1,965603E+22 | 1,965597E+22 | 1,744930E+22 | 1,375341E+22 | 9,598646E+21 | 6,098485E+21 | 4,150805E+21 | 4,150978E+21 | 6,099007E+21 | 9,599278E+21 |
| -2755             | 1,375365E+22 | 1,744887E+22 | 1,965495E+22 | 1,965506E+22 | 1,744900E+22 | 1,375358E+22 | 9,598978E+21 | 6,098788E+21 | 4,151015E+21 | 4,151024E+21 | 6,098748E+21 | 9,598740E+21 |
| -2754             | 1,375315E+22 | 1,744882E+22 | 1,965537E+22 | 1,965538E+22 | 1,744904E+22 | 1,375365E+22 | 9,599266E+21 | 6,099202E+21 | 4,151390E+21 | 4,151308E+21 | 6,099043E+21 | 9,599302E+21 |
| -2753             | 1,375396E+22 | 1,744927E+22 | 1,965530E+22 | 1,965498E+22 | 1,744844E+22 | 1,375305E+22 | 9,598817E+21 | 6,099028E+21 | 4,151516E+21 | 4,151659E+21 | 6,099397E+21 | 9,599229E+21 |
| -2752             | 1,375332E+22 | 1,744831E+22 | 1,965434E+22 | 1,965458E+22 | 1,744864E+22 | 1,375353E+22 | 9,599354E+21 | 6,099464E+21 | 4,151740E+21 | 4,151640E+21 | 6,099109E+21 | 9,598742E+21 |
| -2751             | 1,375299E+22 | 1,744872E+22 | 1,965520E+22 | 1,965516E+22 | 1,744884E+22 | 1,375350E+22 | 9,599273E+21 | 6,099463E+21 | 4,151851E+21 | 4,151867E+21 | 6,099585E+21 | 9,599548E+21 |
| -2750             | 1,375361E+22 | 1,744864E+22 | 1,965475E+22 | 1,965461E+22 | 1,744835E+22 | 1,375312E+22 | 9,598945E+21 | 6,099187E+21 | 4,151691E+21 | 4,151807E+21 | 6,099455E+21 | 9,599161E+21 |
| -2749             | 1,375304E+22 | 1,744788E+22 | 1,965412E+22 | 1,965462E+22 | 1,744881E+22 | 1,375368E+22 | 9,599437E+21 | 6,099465E+21 | 4,151693E+21 | 4,151584E+21 | 6,099130E+21 | 9,598979E+21 |

| 1                 | 2            | 3            | 4            | 5            | 6            | 7            | 8            | 9            | 10           | 11           | 12           | 13           |
|-------------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|
| Longitude $\odot$ | 0° - 30°     | 30° - 60°    | 60° - 90°    | 90° - 120°   | 120° - 150°  | 150° - 180°  | 180° - 210°  | 210° - 240°  | 240° - 270°  | 270° - 300°  | 300° - 330°  | 330° - 360°  |
| Years             |              |              |              |              |              |              |              |              |              |              |              |              |
| -2748             | 1,375344E+22 | 1,744898E+22 | 1,965505E+22 | 1,965488E+22 | 1,744865E+22 | 1,375337E+22 | 9,599074E+21 | 6,099160E+21 | 4,151516E+21 | 4,151582E+21 | 6,099412E+21 | 9,599492E+21 |
| -2747             | 1,375368E+22 | 1,744877E+22 | 1,965472E+22 | 1,965456E+22 | 1,744847E+22 | 1,375333E+22 | 9,599035E+21 | 6,099025E+21 | 4,151295E+21 | 4,151260E+21 | 6,098849E+21 | 9,598688E+21 |
| -2746             | 1,375298E+22 | 1,744859E+22 | 1,965532E+22 | 1,965548E+22 | 1,744908E+22 | 1,375360E+22 | 9,599191E+21 | 6,099102E+21 | 4,151227E+21 | 4,151086E+21 | 6,098771E+21 | 9,599008E+21 |
| -2745             | 1,375382E+22 | 1,744943E+22 | 1,965572E+22 | 1,965560E+22 | 1,744895E+22 | 1,375314E+22 | 9,598530E+21 | 6,098517E+21 | 4,150902E+21 | 4,151059E+21 | 6,098993E+21 | 9,599148E+21 |
| -2744             | 1,375353E+22 | 1,744886E+22 | 1,965506E+22 | 1,965530E+22 | 1,744921E+22 | 1,375366E+22 | 9,598915E+21 | 6,098583E+21 | 4,150679E+21 | 4,150624E+21 | 6,098373E+21 | 9,598507E+21 |
| -2743             | 1,375318E+22 | 1,744926E+22 | 1,965608E+22 | 1,965611E+22 | 1,744958E+22 | 1,375380E+22 | 9,598977E+21 | 6,098593E+21 | 4,150648E+21 | 4,150599E+21 | 6,098539E+21 | 9,599132E+21 |
| -2742             | 1,375404E+22 | 1,744971E+22 | 1,965612E+22 | 1,965584E+22 | 1,744910E+22 | 1,375328E+22 | 9,598513E+21 | 6,098251E+21 | 4,150478E+21 | 4,150579E+21 | 6,098481E+21 | 9,598745E+21 |
| -2741             | 1,375342E+22 | 1,744896E+22 | 1,965543E+22 | 1,965574E+22 | 1,744947E+22 | 1,375382E+22 | 9,599033E+21 | 6,098625E+21 | 4,150637E+21 | 4,150526E+21 | 6,098236E+21 | 9,598379E+21 |
| -2740             | 1,375328E+22 | 1,744953E+22 | 1,965617E+22 | 1,965605E+22 | 1,744941E+22 | 1,375360E+22 | 9,598855E+21 | 6,098617E+21 | 4,150807E+21 | 4,150856E+21 | 6,098815E+21 | 9,599169E+21 |
| -2739             | 1,375369E+22 | 1,744919E+22 | 1,965549E+22 | 1,965537E+22 | 1,744899E+22 | 1,375338E+22 | 9,598734E+21 | 6,098585E+21 | 4,150879E+21 | 4,150962E+21 | 6,098727E+21 | 9,598718E+21 |
| -2738             | 1,375298E+22 | 1,744841E+22 | 1,965512E+22 | 1,965549E+22 | 1,744924E+22 | 1,375372E+22 | 9,599203E+21 | 6,099067E+21 | 4,151227E+21 | 4,151141E+21 | 6,098849E+21 | 9,599037E+21 |
| -2737             | 1,375372E+22 | 1,744912E+22 | 1,965521E+22 | 1,965512E+22 | 1,744871E+22 | 1,375317E+22 | 9,598779E+21 | 6,098912E+21 | 4,151375E+21 | 4,151543E+21 | 6,099435E+21 | 9,599509E+21 |
| -2736             | 1,375370E+22 | 1,744864E+22 | 1,965434E+22 | 1,965424E+22 | 1,744834E+22 | 1,375333E+22 | 9,599170E+21 | 6,099270E+21 | 4,151601E+21 | 4,151585E+21 | 6,099133E+21 | 9,598820E+21 |
| -2735             | 1,375292E+22 | 1,744844E+22 | 1,965489E+22 | 1,965482E+22 | 1,744857E+22 | 1,375348E+22 | 9,599466E+21 | 6,099688E+21 | 4,152007E+21 | 4,151915E+21 | 6,099472E+21 | 9,599379E+21 |
| -2734             | 1,375364E+22 | 1,744881E+22 | 1,965486E+22 | 1,965454E+22 | 1,744808E+22 | 1,375286E+22 | 9,598923E+21 | 6,099426E+21 | 4,152067E+21 | 4,152221E+21 | 6,099830E+21 | 9,599377E+21 |
| -2733             | 1,375310E+22 | 1,744781E+22 | 1,965374E+22 | 1,965406E+22 | 1,744835E+22 | 1,375344E+22 | 9,599459E+21 | 6,099781E+21 | 4,152230E+21 | 4,152182E+21 | 6,099559E+21 | 9,598941E+21 |
| -2732             | 1,375275E+22 | 1,744802E+22 | 1,965430E+22 | 1,965437E+22 | 1,744840E+22 | 1,375343E+22 | 9,599467E+21 | 6,099834E+21 | 4,152314E+21 | 4,152328E+21 | 6,099946E+21 | 9,599756E+21 |
| -2731             | 1,375360E+22 | 1,744822E+22 | 1,965394E+22 | 1,965384E+22 | 1,744795E+22 | 1,375306E+22 | 9,599154E+21 | 6,099577E+21 | 4,152147E+21 | 4,152229E+21 | 6,099731E+21 | 9,599214E+21 |
| -2730             | 1,375292E+22 | 1,744765E+22 | 1,965373E+22 | 1,965406E+22 | 1,744832E+22 | 1,375350E+22 | 9,599604E+21 | 6,099866E+21 | 4,152164E+21 | 4,151991E+21 | 6,099397E+21 | 9,599085E+21 |
| -2729             | 1,375332E+22 | 1,744861E+22 | 1,965459E+22 | 1,965437E+22 | 1,744815E+22 | 1,375305E+22 | 9,599086E+21 | 6,099474E+21 | 4,151977E+21 | 4,152044E+21 | 6,099742E+21 | 9,599595E+21 |
| -2728             | 1,375357E+22 | 1,744847E+22 | 1,965431E+22 | 1,965413E+22 | 1,744809E+22 | 1,375310E+22 | 9,599073E+21 | 6,099301E+21 | 4,151695E+21 | 4,151693E+21 | 6,099198E+21 | 9,598790E+21 |
| -2727             | 1,375275E+22 | 1,744816E+22 | 1,965487E+22 | 1,965510E+22 | 1,744887E+22 | 1,375356E+22 | 9,599301E+21 | 6,099360E+21 | 4,151600E+21 | 4,151499E+21 | 6,099122E+21 | 9,599167E+21 |
| -2726             | 1,375369E+22 | 1,744910E+22 | 1,965532E+22 | 1,965519E+22 | 1,744869E+22 | 1,375308E+22 | 9,598644E+21 | 6,098765E+21 | 4,151233E+21 | 4,151404E+21 | 6,099268E+21 | 9,599297E+21 |
| -2725             | 1,375353E+22 | 1,744863E+22 | 1,965461E+22 | 1,965480E+22 | 1,744892E+22 | 1,375361E+22 | 9,599046E+21 | 6,098861E+21 | 4,151062E+21 | 4,151018E+21 | 6,098650E+21 | 9,598575E+21 |
| -2724             | 1,375299E+22 | 1,744881E+22 | 1,965546E+22 | 1,965544E+22 | 1,744913E+22 | 1,375371E+22 | 9,599194E+21 | 6,099010E+21 | 4,151142E+21 | 4,151060E+21 | 6,098842E+21 | 9,599190E+21 |
| -2723             | 1,375387E+22 | 1,744928E+22 | 1,965553E+22 | 1,965529E+22 | 1,744873E+22 | 1,375315E+22 | 9,598699E+21 | 6,098696E+21 | 4,151042E+21 | 4,151129E+21 | 6,098863E+21 | 9,598793E+21 |
| -2722             | 1,375310E+22 | 1,744843E+22 | 1,965488E+22 | 1,965523E+22 | 1,744909E+22 | 1,375364E+22 | 9,599173E+21 | 6,099060E+21 | 4,151216E+21 | 4,151101E+21 | 6,098713E+21 | 9,598651E+21 |
| -2721             | 1,375313E+22 | 1,744886E+22 | 1,965531E+22 | 1,965526E+22 | 1,744889E+22 | 1,375336E+22 | 9,598920E+21 | 6,098980E+21 | 4,151357E+21 | 4,151452E+21 | 6,099330E+21 | 9,599498E+21 |
| -2720             | 1,375373E+22 | 1,744877E+22 | 1,965469E+22 | 1,965449E+22 | 1,744834E+22 | 1,375315E+22 | 9,598889E+21 | 6,098977E+21 | 4,151390E+21 | 4,151498E+21 | 6,099169E+21 | 9,598942E+21 |
| -2719             | 1,375293E+22 | 1,744806E+22 | 1,965450E+22 | 1,965475E+22 | 1,744871E+22 | 1,375358E+22 | 9,599407E+21 | 6,099503E+21 | 4,151774E+21 | 4,151678E+21 | 6,099238E+21 | 9,599169E+21 |
| -2718             | 1,375364E+22 | 1,744894E+22 | 1,965487E+22 | 1,965455E+22 | 1,744819E+22 | 1,375295E+22 | 9,598925E+21 | 6,099342E+21 | 4,151929E+21 | 4,152074E+21 | 6,099789E+21 | 9,599579E+21 |
| -2717             | 1,375353E+22 | 1,744834E+22 | 1,965397E+22 | 1,965382E+22 | 1,744797E+22 | 1,375315E+22 | 9,599271E+21 | 6,099664E+21 | 4,152179E+21 | 4,152180E+21 | 6,099545E+21 | 9,598867E+21 |
| -2716             | 1,375253E+22 | 1,744773E+22 | 1,965417E+22 | 1,965427E+22 | 1,744828E+22 | 1,375342E+22 | 9,599661E+21 | 6,100132E+21 | 4,152591E+21 | 4,152504E+21 | 6,099922E+21 | 9,599529E+21 |
| -2715             | 1,375341E+22 | 1,744816E+22 | 1,965403E+22 | 1,965391E+22 | 1,744782E+22 | 1,375286E+22 | 9,599151E+21 | 6,099856E+21 | 4,152610E+21 | 4,152768E+21 | 6,100253E+21 | 9,599522E+21 |
| -2714             | 1,375286E+22 | 1,744722E+22 | 1,965301E+22 | 1,965338E+22 | 1,744793E+22 | 1,375338E+22 | 9,599705E+21 | 6,100222E+21 | 4,152740E+21 | 4,152659E+21 | 6,099950E+21 | 9,599203E+21 |
| -2713             | 1,375271E+22 | 1,744749E+22 | 1,965345E+22 | 1,965350E+22 | 1,744780E+22 | 1,375320E+22 | 9,599598E+21 | 6,100221E+21 | 4,152813E+21 | 4,152814E+21 | 6,100307E+21 | 9,599927E+21 |



| 1<br>Longitude $\odot$<br>Years | 2<br>0° - 30° | 3<br>30° - 60° | 4<br>60° - 90° | 5<br>90° - 120° | 6<br>120° - 150° | 7<br>150° - 180° | 8<br>180° - 210° | 9<br>210° - 240° | 10<br>240° - 270° | 11<br>270° - 300° | 12<br>300° - 330° | 13<br>330° - 360° |
|---------------------------------|---------------|----------------|----------------|-----------------|------------------|------------------|------------------|------------------|-------------------|-------------------|-------------------|-------------------|
| -2712                           | 1,375362E+22  | 1,744800E+22   | 1,965339E+22   | 1,965304E+22    | 1,744724E+22     | 1,375277E+22     | 9,599289E+21     | 6,099957E+21     | 4,152619E+21      | 4,152694E+21      | 6,100064E+21      | 9,599279E+21      |
| -2711                           | 1,375273E+22  | 1,744734E+22   | 1,965338E+22   | 1,965363E+22    | 1,744790E+22     | 1,375327E+22     | 9,599671E+21     | 6,100193E+21     | 4,152627E+21      | 4,152473E+21      | 6,099764E+21      | 9,599177E+21      |
| -2710                           | 1,375314E+22  | 1,744832E+22   | 1,965429E+22   | 1,965406E+22    | 1,744786E+22     | 1,375283E+22     | 9,599062E+21     | 6,099697E+21     | 4,152355E+21      | 4,152462E+21      | 6,100096E+21      | 9,599762E+21      |
| -2709                           | 1,375348E+22  | 1,744814E+22   | 1,965390E+22   | 1,965378E+22    | 1,744790E+22     | 1,375302E+22     | 9,599082E+21     | 6,099471E+21     | 4,152025E+21      | 4,152081E+21      | 6,099527E+21      | 9,598952E+21      |
| -2708                           | 1,375262E+22  | 1,744765E+22   | 1,965419E+22   | 1,965452E+22    | 1,744858E+22     | 1,375357E+22     | 9,599489E+21     | 6,099657E+21     | 4,151953E+21      | 4,151845E+21      | 6,099382E+21      | 9,599285E+21      |
| -2707                           | 1,375367E+22  | 1,744876E+22   | 1,965471E+22   | 1,965462E+22    | 1,744840E+22     | 1,375308E+22     | 9,598884E+21     | 6,099144E+21     | 4,151648E+21      | 4,151770E+21      | 6,099480E+21      | 9,599273E+21      |
| -2706                           | 1,375333E+22  | 1,744834E+22   | 1,965426E+22   | 1,965432E+22    | 1,744851E+22     | 1,375351E+22     | 9,599277E+21     | 6,099299E+21     | 4,151555E+21      | 4,151452E+21      | 6,098949E+21      | 9,598672E+21      |
| -2705                           | 1,375279E+22  | 1,744827E+22   | 1,965482E+22   | 1,965483E+22    | 1,744864E+22     | 1,375346E+22     | 9,599286E+21     | 6,099403E+21     | 4,151684E+21      | 4,151612E+21      | 6,099256E+21      | 9,599312E+21      |
| -2704                           | 1,375370E+22  | 1,744883E+22   | 1,965488E+22   | 1,965462E+22    | 1,744822E+22     | 1,375295E+22     | 9,598825E+21     | 6,099071E+21     | 4,151558E+21      | 4,151688E+21      | 6,099341E+21      | 9,598990E+21      |
| -2703                           | 1,375291E+22  | 1,744791E+22   | 1,965423E+22   | 1,965462E+22    | 1,744867E+22     | 1,375351E+22     | 9,599308E+21     | 6,099423E+21     | 4,151728E+21      | 4,151655E+21      | 6,099190E+21      | 9,598904E+21      |
| -2702                           | 1,375309E+22  | 1,744850E+22   | 1,965472E+22   | 1,965461E+22    | 1,744839E+22     | 1,375316E+22     | 9,599029E+21     | 6,099333E+21     | 4,151834E+21      | 4,151941E+21      | 6,099727E+21      | 9,599725E+21      |
| -2701                           | 1,375378E+22  | 1,744856E+22   | 1,965420E+22   | 1,965387E+22    | 1,744788E+22     | 1,375298E+22     | 9,599003E+21     | 6,099351E+21     | 4,151916E+21      | 4,152026E+21      | 6,099543E+21      | 9,599042E+21      |
| -2700                           | 1,375275E+22  | 1,744763E+22   | 1,965390E+22   | 1,965405E+22    | 1,744818E+22     | 1,375344E+22     | 9,599643E+21     | 6,100001E+21     | 4,152380E+21      | 4,152250E+21      | 6,099616E+21      | 9,599208E+21      |
| -2699                           | 1,375336E+22  | 1,744841E+22   | 1,965426E+22   | 1,965406E+22    | 1,744786E+22     | 1,375284E+22     | 9,599154E+21     | 6,099859E+21     | 4,152577E+21      | 4,152698E+21      | 6,100215E+21      | 9,599606E+21      |
| -2698                           | 1,375313E+22  | 1,744769E+22   | 1,965336E+22   | 1,965333E+22    | 1,744767E+22     | 1,375307E+22     | 9,599480E+21     | 6,100151E+21     | 4,152805E+21      | 4,152798E+21      | 6,100058E+21      | 9,599132E+21      |
| -2697                           | 1,375231E+22  | 1,744690E+22   | 1,965312E+22   | 1,965341E+22    | 1,744778E+22     | 1,375327E+22     | 9,599806E+21     | 6,100543E+21     | 4,153165E+21      | 4,153108E+21      | 6,100426E+21      | 9,599801E+21      |
| -2696                           | 1,375337E+22  | 1,744766E+22   | 1,965313E+22   | 1,965295E+22    | 1,744715E+22     | 1,375268E+22     | 9,599361E+21     | 6,100265E+21     | 4,153113E+21      | 4,153280E+21      | 6,100673E+21      | 9,599728E+21      |
| -2695                           | 1,375280E+22  | 1,744687E+22   | 1,965238E+22   | 1,965261E+22    | 1,744734E+22     | 1,375317E+22     | 9,599863E+21     | 6,100622E+21     | 4,153236E+21      | 4,153141E+21      | 6,100302E+21      | 9,599321E+21      |
| -2694                           | 1,375266E+22  | 1,744735E+22   | 1,965312E+22   | 1,965294E+22    | 1,744722E+22     | 1,375288E+22     | 9,599645E+21     | 6,100546E+21     | 4,153258E+21      | 4,153252E+21      | 6,100621E+21      | 9,600017E+21      |
| -2693                           | 1,375354E+22  | 1,744782E+22   | 1,965315E+22   | 1,965275E+22    | 1,744692E+22     | 1,375253E+22     | 9,599261E+21     | 6,100196E+21     | 4,153036E+21      | 4,153146E+21      | 6,100402E+21      | 9,599348E+21      |
| -2692                           | 1,375248E+22  | 1,744685E+22   | 1,965287E+22   | 1,965324E+22    | 1,744769E+22     | 1,375322E+22     | 9,599774E+21     | 6,100463E+21     | 4,153012E+21      | 4,152883E+21      | 6,100099E+21      | 9,599312E+21      |
| -2691                           | 1,375301E+22  | 1,744786E+22   | 1,965373E+22   | 1,965371E+22    | 1,744776E+22     | 1,375289E+22     | 9,599247E+21     | 6,099992E+21     | 4,152721E+21      | 4,152823E+21      | 6,100371E+21      | 9,599851E+21      |
| -2690                           | 1,375333E+22  | 1,744775E+22   | 1,965342E+22   | 1,965338E+22    | 1,744768E+22     | 1,375305E+22     | 9,599315E+21     | 6,099821E+21     | 4,152402E+21      | 4,152412E+21      | 6,099791E+21      | 9,599126E+21      |
| -2689                           | 1,375257E+22  | 1,744720E+22   | 1,965347E+22   | 1,965381E+22    | 1,744812E+22     | 1,375344E+22     | 9,599667E+21     | 6,100032E+21     | 4,152401E+21      | 4,152261E+21      | 6,099662E+21      | 9,599341E+21      |
| -2688                           | 1,375357E+22  | 1,744851E+22   | 1,965422E+22   | 1,965393E+22    | 1,744777E+22     | 1,375287E+22     | 9,599088E+21     | 6,099557E+21     | 4,152134E+21      | 4,152239E+21      | 6,099812E+21      | 9,599297E+21      |
| -2687                           | 1,375304E+22  | 1,744790E+22   | 1,965380E+22   | 1,965386E+22    | 1,744806E+22     | 1,375328E+22     | 9,599388E+21     | 6,099692E+21     | 4,152087E+21      | 4,152002E+21      | 6,099384E+21      | 9,598801E+21      |
| -2686                           | 1,375260E+22  | 1,744787E+22   | 1,965429E+22   | 1,965431E+22    | 1,744821E+22     | 1,375321E+22     | 9,599301E+21     | 6,099701E+21     | 4,152159E+21      | 4,152137E+21      | 6,099722E+21      | 9,599568E+21      |
| -2685                           | 1,375366E+22  | 1,744844E+22   | 1,965426E+22   | 1,965401E+22    | 1,744781E+22     | 1,375277E+22     | 9,598838E+21     | 6,099330E+21     | 4,152008E+21      | 4,152192E+21      | 6,099771E+21      | 9,599220E+21      |
| -2684                           | 1,375283E+22  | 1,744741E+22   | 1,965346E+22   | 1,965388E+22    | 1,744821E+22     | 1,375340E+22     | 9,599485E+21     | 6,099800E+21     | 4,152208E+21      | 4,152131E+21      | 6,099555E+21      | 9,599079E+21      |
| -2683                           | 1,375308E+22  | 1,744818E+22   | 1,965412E+22   | 1,965401E+22    | 1,744798E+22     | 1,375303E+22     | 9,599247E+21     | 6,099793E+21     | 4,152383E+21      | 4,152439E+21      | 6,100039E+21      | 9,599740E+21      |
| -2682                           | 1,375354E+22  | 1,744819E+22   | 1,965380E+22   | 1,965342E+22    | 1,744746E+22     | 1,375284E+22     | 9,599233E+21     | 6,099862E+21     | 4,152525E+21      | 4,152585E+21      | 6,099943E+21      | 9,599162E+21      |
| -2681                           | 1,375247E+22  | 1,744697E+22   | 1,965314E+22   | 1,965342E+22    | 1,744774E+22     | 1,375325E+22     | 9,599802E+21     | 6,100482E+21     | 4,153030E+21      | 4,152909E+21      | 6,100114E+21      | 9,599335E+21      |
| -2680                           | 1,375310E+22  | 1,744782E+22   | 1,965347E+22   | 1,965329E+22    | 1,744734E+22     | 1,375273E+22     | 9,599385E+21     | 6,100318E+21     | 4,153175E+21      | 4,153327E+21      | 6,100736E+21      | 9,599805E+21      |
| -2679                           | 1,375287E+22  | 1,744703E+22   | 1,965254E+22   | 1,965261E+22    | 1,744721E+22     | 1,375298E+22     | 9,599699E+21     | 6,100592E+21     | 4,153375E+21      | 4,153395E+21      | 6,100559E+21      | 9,599392E+21      |
| -2678                           | 1,375228E+22  | 1,744649E+22   | 1,965234E+22   | 1,965259E+22    | 1,744720E+22     | 1,375305E+22     | 9,599933E+21     | 6,100921E+21     | 4,153662E+21      | 4,153611E+21      | 6,100837E+21      | 9,600031E+21      |
| -2677                           | 1,375341E+22  | 1,744744E+22   | 1,965255E+22   | 1,965222E+22    | 1,744659E+22     | 1,375243E+22     | 9,599426E+21     | 6,100610E+21     | 4,153605E+21      | 4,153766E+21      | 6,101021E+21      | 9,599839E+21      |

| 1                 | 2            | 3            | 4            | 5            | 6            | 7            | 8            | 9            | 10           | 11           | 12           | 13           |
|-------------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|
| Longitude $\odot$ | 0° - 30°     | 30° - 60°    | 60° - 90°    | 90° - 120°   | 120° - 150°  | 150° - 180°  | 180° - 210°  | 210° - 240°  | 240° - 270°  | 270° - 300°  | 300° - 330°  | 330° - 360°  |
| Years             |              |              |              |              |              |              |              |              |              |              |              |              |
| -2676             | 1,375266E+22 | 1,744652E+22 | 1,965186E+22 | 1,965199E+22 | 1,744680E+22 | 1,375294E+22 | 9,599998E+21 | 6,101016E+21 | 4,153739E+21 | 4,153625E+21 | 6,100644E+21 | 9,599403E+21 |
| -2675             | 1,375249E+22 | 1,744696E+22 | 1,965270E+22 | 1,965264E+22 | 1,744694E+22 | 1,375270E+22 | 9,599747E+21 | 6,100914E+21 | 4,153744E+21 | 4,153724E+21 | 6,100959E+21 | 9,600068E+21 |
| -2674             | 1,375326E+22 | 1,744737E+22 | 1,965275E+22 | 1,965249E+22 | 1,744676E+22 | 1,375249E+22 | 9,599393E+21 | 6,100522E+21 | 4,153464E+21 | 4,153571E+21 | 6,100777E+21 | 9,599578E+21 |
| -2673             | 1,375235E+22 | 1,744628E+22 | 1,965210E+22 | 1,965263E+22 | 1,744736E+22 | 1,375316E+22 | 9,599908E+21 | 6,100761E+21 | 4,153415E+21 | 4,153299E+21 | 6,100430E+21 | 9,599463E+21 |
| -2672             | 1,375296E+22 | 1,744755E+22 | 1,965310E+22 | 1,965298E+22 | 1,744728E+22 | 1,375284E+22 | 9,599491E+21 | 6,100340E+21 | 4,153106E+21 | 4,153188E+21 | 6,100631E+21 | 9,599912E+21 |
| -2671             | 1,375319E+22 | 1,744747E+22 | 1,965297E+22 | 1,965285E+22 | 1,744726E+22 | 1,375293E+22 | 9,599505E+21 | 6,100204E+21 | 4,152849E+21 | 4,152825E+21 | 6,100058E+21 | 9,599156E+21 |
| -2670             | 1,375245E+22 | 1,744698E+22 | 1,965305E+22 | 1,965331E+22 | 1,744763E+22 | 1,375317E+22 | 9,599727E+21 | 6,100360E+21 | 4,152846E+21 | 4,152701E+21 | 6,099980E+21 | 9,599410E+21 |
| -2669             | 1,375339E+22 | 1,744817E+22 | 1,965382E+22 | 1,965356E+22 | 1,744745E+22 | 1,375264E+22 | 9,599065E+21 | 6,099829E+21 | 4,152590E+21 | 4,152728E+21 | 6,100203E+21 | 9,599424E+21 |
| -2668             | 1,375279E+22 | 1,744734E+22 | 1,965314E+22 | 1,965331E+22 | 1,744771E+22 | 1,375315E+22 | 9,599484E+21 | 6,100003E+21 | 4,152535E+21 | 4,152486E+21 | 6,099809E+21 | 9,599020E+21 |
| -2667             | 1,375248E+22 | 1,744737E+22 | 1,965362E+22 | 1,965380E+22 | 1,744790E+22 | 1,375311E+22 | 9,599457E+21 | 6,100052E+21 | 4,152612E+21 | 4,152593E+21 | 6,100088E+21 | 9,599741E+21 |
| -2666             | 1,375356E+22 | 1,744808E+22 | 1,965370E+22 | 1,965348E+22 | 1,744746E+22 | 1,375270E+22 | 9,599049E+21 | 6,099739E+21 | 4,152488E+21 | 4,152644E+21 | 6,100142E+21 | 9,599456E+21 |
| -2665             | 1,375280E+22 | 1,744699E+22 | 1,965269E+22 | 1,965307E+22 | 1,744764E+22 | 1,375322E+22 | 9,599670E+21 | 6,100253E+21 | 4,152780E+21 | 4,152679E+21 | 6,099932E+21 | 9,599163E+21 |
| -2664             | 1,375293E+22 | 1,744786E+22 | 1,965356E+22 | 1,965329E+22 | 1,744737E+22 | 1,375285E+22 | 9,599494E+21 | 6,100294E+21 | 4,152999E+21 | 4,153038E+21 | 6,100463E+21 | 9,599801E+21 |
| -2663             | 1,375320E+22 | 1,744763E+22 | 1,965321E+22 | 1,965293E+22 | 1,744706E+22 | 1,375265E+22 | 9,599401E+21 | 6,100353E+21 | 4,153181E+21 | 4,153251E+21 | 6,100457E+21 | 9,599326E+21 |
| -2662             | 1,375225E+22 | 1,744641E+22 | 1,965234E+22 | 1,965273E+22 | 1,744728E+22 | 1,375305E+22 | 9,599902E+21 | 6,100880E+21 | 4,153606E+21 | 4,153527E+21 | 6,100648E+21 | 9,599613E+21 |
| -2661             | 1,375297E+22 | 1,744730E+22 | 1,965268E+22 | 1,965254E+22 | 1,744686E+22 | 1,375256E+22 | 9,599473E+21 | 6,100679E+21 | 4,153708E+21 | 4,153885E+21 | 6,101193E+21 | 9,600040E+21 |
| -2660             | 1,375276E+22 | 1,744651E+22 | 1,965168E+22 | 1,965173E+22 | 1,744663E+22 | 1,375282E+22 | 9,599913E+21 | 6,101028E+21 | 4,153902E+21 | 4,153903E+21 | 6,100944E+21 | 9,599570E+21 |
| -2659             | 1,375223E+22 | 1,744618E+22 | 1,965176E+22 | 1,965196E+22 | 1,744669E+22 | 1,375285E+22 | 9,600119E+21 | 6,101371E+21 | 4,154200E+21 | 4,154098E+21 | 6,101147E+21 | 9,600068E+21 |
| -2658             | 1,375321E+22 | 1,744715E+22 | 1,965220E+22 | 1,965183E+22 | 1,744620E+22 | 1,375226E+22 | 9,599580E+21 | 6,101035E+21 | 4,154130E+21 | 4,154257E+21 | 6,101388E+21 | 9,599977E+21 |
| -2657             | 1,375245E+22 | 1,744601E+22 | 1,965123E+22 | 1,965148E+22 | 1,744645E+22 | 1,375275E+22 | 9,600077E+21 | 6,101372E+21 | 4,154252E+21 | 4,154153E+21 | 6,101049E+21 | 9,599536E+21 |
| -2656             | 1,375231E+22 | 1,744657E+22 | 1,965215E+22 | 1,965207E+22 | 1,744659E+22 | 1,375265E+22 | 9,599922E+21 | 6,101242E+21 | 4,154181E+21 | 4,154183E+21 | 6,101338E+21 | 9,600224E+21 |
| -2655             | 1,375305E+22 | 1,744687E+22 | 1,965218E+22 | 1,965206E+22 | 1,744651E+22 | 1,375246E+22 | 9,599577E+21 | 6,100861E+21 | 4,153884E+21 | 4,153992E+21 | 6,101106E+21 | 9,599739E+21 |
| -2654             | 1,375234E+22 | 1,744602E+22 | 1,965150E+22 | 1,965203E+22 | 1,744696E+22 | 1,375303E+22 | 9,600031E+21 | 6,101063E+21 | 4,153794E+21 | 4,153671E+21 | 6,100715E+21 | 9,599586E+21 |
| -2653             | 1,375290E+22 | 1,744736E+22 | 1,965265E+22 | 1,965240E+22 | 1,744684E+22 | 1,375265E+22 | 9,599555E+21 | 6,100642E+21 | 4,153521E+21 | 4,153578E+21 | 6,100873E+21 | 9,599912E+21 |
| -2652             | 1,375293E+22 | 1,744706E+22 | 1,965246E+22 | 1,965230E+22 | 1,744681E+22 | 1,375274E+22 | 9,599637E+21 | 6,100568E+21 | 4,153311E+21 | 4,153278E+21 | 6,100388E+21 | 9,599232E+21 |
| -2651             | 1,375222E+22 | 1,744652E+22 | 1,965255E+22 | 1,965296E+22 | 1,744734E+22 | 1,375297E+22 | 9,599790E+21 | 6,100693E+21 | 4,153314E+21 | 4,153175E+21 | 6,100354E+21 | 9,599539E+21 |
| -2650             | 1,375314E+22 | 1,744768E+22 | 1,965324E+22 | 1,965313E+22 | 1,744719E+22 | 1,375254E+22 | 9,599165E+21 | 6,100137E+21 | 4,153019E+21 | 4,153181E+21 | 6,100634E+21 | 9,599747E+21 |
| -2649             | 1,375274E+22 | 1,744681E+22 | 1,965229E+22 | 1,965254E+22 | 1,744725E+22 | 1,375299E+22 | 9,599587E+21 | 6,100321E+21 | 4,152984E+21 | 4,152959E+21 | 6,100202E+21 | 9,599256E+21 |
| -2648             | 1,375252E+22 | 1,744713E+22 | 1,965299E+22 | 1,965297E+22 | 1,744730E+22 | 1,375297E+22 | 9,599667E+21 | 6,100441E+21 | 4,153081E+21 | 4,153044E+21 | 6,100413E+21 | 9,599849E+21 |
| -2647             | 1,375343E+22 | 1,744780E+22 | 1,965325E+22 | 1,965293E+22 | 1,744699E+22 | 1,375253E+22 | 9,599248E+21 | 6,100197E+21 | 4,153050E+21 | 4,153170E+21 | 6,100479E+21 | 9,599510E+21 |
| -2646             | 1,375266E+22 | 1,744674E+22 | 1,965222E+22 | 1,965253E+22 | 1,744716E+22 | 1,375296E+22 | 9,599777E+21 | 6,100675E+21 | 4,153357E+21 | 4,153259E+21 | 6,100353E+21 | 9,599255E+21 |
| -2645             | 1,375265E+22 | 1,744740E+22 | 1,965301E+22 | 1,965280E+22 | 1,744703E+22 | 1,375267E+22 | 9,599564E+21 | 6,100692E+21 | 4,153592E+21 | 4,153643E+21 | 6,100916E+21 | 9,599920E+21 |
| -2644             | 1,375286E+22 | 1,744694E+22 | 1,965238E+22 | 1,965225E+22 | 1,744670E+22 | 1,375260E+22 | 9,599622E+21 | 6,100803E+21 | 4,153767E+21 | 4,153856E+21 | 6,100960E+21 | 9,599574E+21 |
| -2643             | 1,375208E+22 | 1,744579E+22 | 1,965150E+22 | 1,965206E+22 | 1,744687E+22 | 1,375294E+22 | 9,600133E+21 | 6,101348E+21 | 4,154176E+21 | 4,154078E+21 | 6,101076E+21 | 9,599817E+21 |
| -2642             | 1,375284E+22 | 1,744684E+22 | 1,965195E+22 | 1,965184E+22 | 1,744641E+22 | 1,375245E+22 | 9,599718E+21 | 6,101162E+21 | 4,154267E+21 | 4,154410E+21 | 6,101614E+21 | 9,600287E+21 |
| -2641             | 1,375269E+22 | 1,744607E+22 | 1,965089E+22 | 1,965083E+22 | 1,744595E+22 | 1,375256E+22 | 9,600077E+21 | 6,101504E+21 | 4,154510E+21 | 4,154488E+21 | 6,101353E+21 | 9,599683E+21 |

| 1<br>Longitude $\odot$<br>Years | 2<br>0° - 30° | 3<br>30° - 60° | 4<br>60° - 90° | 5<br>90° - 120° | 6<br>120° - 150° | 7<br>150° - 180° | 8<br>180° - 210° | 9<br>210° - 240° | 10<br>240° - 270° | 11<br>270° - 300° | 12<br>300° - 330° | 13<br>330° - 360° |
|---------------------------------|---------------|----------------|----------------|-----------------|------------------|------------------|------------------|------------------|-------------------|-------------------|-------------------|-------------------|
| -2640                           | 1,375208E+22  | 1,744588E+22   | 1,965126E+22   | 1,965125E+22    | 1,744606E+22     | 1,375260E+22     | 9,600286E+21     | 6,101818E+21     | 4,154785E+21      | 4,154679E+21      | 6,101572E+21      | 9,600166E+21      |
| -2639                           | 1,375291E+22  | 1,744666E+22   | 1,965172E+22   | 1,965144E+22    | 1,744590E+22     | 1,375209E+22     | 9,599682E+21     | 6,101430E+21     | 4,154690E+21      | 4,154835E+21      | 6,101836E+21      | 9,600159E+21      |
| -2638                           | 1,375233E+22  | 1,744561E+22   | 1,965057E+22   | 1,965092E+22    | 1,744611E+22     | 1,375260E+22     | 9,600119E+21     | 6,101643E+21     | 4,154684E+21      | 4,154630E+21      | 6,101462E+21      | 9,599768E+21      |
| -2637                           | 1,375224E+22  | 1,744619E+22   | 1,965155E+22   | 1,965152E+22    | 1,744627E+22     | 1,375254E+22     | 9,599987E+21     | 6,101501E+21     | 4,154562E+21      | 4,154563E+21      | 6,101616E+21      | 9,600348E+21      |
| -2636                           | 1,375294E+22  | 1,744648E+22   | 1,965154E+22   | 1,965141E+22    | 1,744612E+22     | 1,375238E+22     | 9,599767E+21     | 6,101201E+21     | 4,154272E+21      | 4,154349E+21      | 6,101346E+21      | 9,599802E+21      |
| -2635                           | 1,375221E+22  | 1,744572E+22   | 1,965106E+22   | 1,965156E+22    | 1,744657E+22     | 1,375287E+22     | 9,600186E+21     | 6,101425E+21     | 4,154214E+21      | 4,154041E+21      | 6,100934E+21      | 9,599567E+21      |
| -2634                           | 1,375262E+22  | 1,744699E+22   | 1,965230E+22   | 1,965209E+22    | 1,744657E+22     | 1,375252E+22     | 9,599681E+21     | 6,100983E+21     | 4,153947E+21      | 4,153997E+21      | 6,101205E+21      | 9,600041E+21      |
| -2633                           | 1,375270E+22  | 1,744653E+22   | 1,965177E+22   | 1,965171E+22    | 1,744643E+22     | 1,375256E+22     | 9,599696E+21     | 6,100873E+21     | 4,153766E+21      | 4,153766E+21      | 6,100788E+21      | 9,599410E+21      |
| -2632                           | 1,375209E+22  | 1,744614E+22   | 1,965195E+22   | 1,965227E+22    | 1,744690E+22     | 1,375287E+22     | 9,599924E+21     | 6,100987E+21     | 4,153731E+21      | 4,153628E+21      | 6,100746E+21      | 9,599759E+21      |
| -2631                           | 1,375304E+22  | 1,744726E+22   | 1,965267E+22   | 1,965260E+22    | 1,744684E+22     | 1,375244E+22     | 9,599316E+21     | 6,100485E+21     | 4,153468E+21      | 4,153630E+21      | 6,100977E+21      | 9,599955E+21      |
| -2630                           | 1,375283E+22  | 1,744664E+22   | 1,965169E+22   | 1,965185E+22    | 1,744676E+22     | 1,375278E+22     | 9,599680E+21     | 6,100651E+21     | 4,153430E+21      | 4,153405E+21      | 6,100532E+21      | 9,599398E+21      |
| -2629                           | 1,375247E+22  | 1,744696E+22   | 1,965260E+22   | 1,965242E+22    | 1,744683E+22     | 1,375274E+22     | 9,599751E+21     | 6,100821E+21     | 4,153601E+21      | 4,153531E+21      | 6,100711E+21      | 9,599851E+21      |
| -2628                           | 1,375313E+22  | 1,744733E+22   | 1,965274E+22   | 1,965243E+22    | 1,744659E+22     | 1,375237E+22     | 9,599436E+21     | 6,100664E+21     | 4,153643E+21      | 4,153752E+21      | 6,100898E+21      | 9,599595E+21      |
| -2627                           | 1,375232E+22  | 1,744613E+22   | 1,965161E+22   | 1,965210E+22    | 1,744687E+22     | 1,375283E+22     | 9,599946E+21     | 6,101137E+21     | 4,153969E+21      | 4,153872E+21      | 6,100827E+21      | 9,599414E+21      |
| -2626                           | 1,375231E+22  | 1,744671E+22   | 1,965223E+22   | 1,965220E+22    | 1,744674E+22     | 1,375265E+22     | 9,599785E+21     | 6,101138E+21     | 4,154164E+21      | 4,154238E+21      | 6,101435E+21      | 9,600223E+21      |
| -2625                           | 1,375271E+22  | 1,744625E+22   | 1,965131E+22   | 1,965125E+22    | 1,744610E+22     | 1,375245E+22     | 9,599831E+21     | 6,101273E+21     | 4,154371E+21      | 4,154467E+21      | 6,101445E+21      | 9,599835E+21      |
| -2624                           | 1,375207E+22  | 1,744545E+22   | 1,965071E+22   | 1,965103E+22    | 1,744614E+22     | 1,375275E+22     | 9,600363E+21     | 6,101829E+21     | 4,154770E+21      | 4,154651E+21      | 6,101495E+21      | 9,599981E+21      |
| -2623                           | 1,375268E+22  | 1,744644E+22   | 1,965139E+22   | 1,965116E+22    | 1,744583E+22     | 1,375219E+22     | 9,599885E+21     | 6,101652E+21     | 4,154893E+21      | 4,155007E+21      | 6,102014E+21      | 9,600412E+21      |
| -2622                           | 1,375261E+22  | 1,744580E+22   | 1,965038E+22   | 1,965025E+22    | 1,744543E+22     | 1,375224E+22     | 9,600105E+21     | 6,101873E+21     | 4,155066E+21      | 4,155073E+21      | 6,101809E+21      | 9,599851E+21      |
| -2621                           | 1,375191E+22  | 1,744551E+22   | 1,965079E+22   | 1,965080E+22    | 1,744573E+22     | 1,375238E+22     | 9,600280E+21     | 6,102118E+21     | 4,155277E+21      | 4,155193E+21      | 6,101966E+21      | 9,600292E+21      |
| -2620                           | 1,375266E+22  | 1,744609E+22   | 1,965106E+22   | 1,965091E+22    | 1,744565E+22     | 1,375207E+22     | 9,599862E+21     | 6,101769E+21     | 4,155132E+21      | 4,155297E+21      | 6,102216E+21      | 9,600345E+21      |
| -2619                           | 1,375220E+22  | 1,744514E+22   | 1,964999E+22   | 1,965046E+22    | 1,744586E+22     | 1,375257E+22     | 9,600314E+21     | 6,101991E+21     | 4,155093E+21      | 4,155014E+21      | 6,101740E+21      | 9,599876E+21      |
| -2618                           | 1,375210E+22  | 1,744581E+22   | 1,965099E+22   | 1,965099E+22    | 1,744598E+22     | 1,375254E+22     | 9,600215E+21     | 6,101869E+21     | 4,154962E+21      | 4,154929E+21      | 6,101877E+21      | 9,600436E+21      |
| -2617                           | 1,375279E+22  | 1,744607E+22   | 1,965089E+22   | 1,965067E+22    | 1,744558E+22     | 1,375221E+22     | 9,599929E+21     | 6,101591E+21     | 4,154750E+21      | 4,154802E+21      | 6,101646E+21      | 9,599849E+21      |
| -2616                           | 1,375202E+22  | 1,744540E+22   | 1,965060E+22   | 1,965091E+22    | 1,744603E+22     | 1,375266E+22     | 9,600307E+21     | 6,101783E+21     | 4,154690E+21      | 4,154521E+21      | 6,101296E+21      | 9,599663E+21      |
| -2615                           | 1,375235E+22  | 1,744646E+22   | 1,965178E+22   | 1,965166E+22    | 1,744626E+22     | 1,375235E+22     | 9,599750E+21     | 6,101308E+21     | 4,154420E+21      | 4,154494E+21      | 6,101601E+21      | 9,600255E+21      |
| -2614                           | 1,375269E+22  | 1,744619E+22   | 1,965115E+22   | 1,965107E+22    | 1,744601E+22     | 1,375235E+22     | 9,599699E+21     | 6,101098E+21     | 4,154152E+21      | 4,154212E+21      | 6,101191E+21      | 9,599679E+21      |
| -2613                           | 1,375213E+22  | 1,744590E+22   | 1,965145E+22   | 1,965169E+22    | 1,744648E+22     | 1,375267E+22     | 9,599945E+21     | 6,101238E+21     | 4,154110E+21      | 4,154005E+21      | 6,101018E+21      | 9,599876E+21      |
| -2612                           | 1,375297E+22  | 1,744697E+22   | 1,965216E+22   | 1,965201E+22    | 1,744645E+22     | 1,375234E+22     | 9,599501E+21     | 6,100860E+21     | 4,153914E+21      | 4,154046E+21      | 6,101249E+21      | 9,600008E+21      |
| -2611                           | 1,375268E+22  | 1,744635E+22   | 1,965138E+22   | 1,965149E+22    | 1,744641E+22     | 1,375263E+22     | 9,599849E+21     | 6,101070E+21     | 4,153945E+21      | 4,153876E+21      | 6,100821E+21      | 9,599389E+21      |
| -2610                           | 1,375214E+22  | 1,744648E+22   | 1,965218E+22   | 1,965211E+22    | 1,744663E+22     | 1,375270E+22     | 9,599952E+21     | 6,101258E+21     | 4,154150E+21      | 4,154083E+21      | 6,101132E+21      | 9,599958E+21      |
| -2609                           | 1,375279E+22  | 1,744662E+22   | 1,965190E+22   | 1,965173E+22    | 1,744621E+22     | 1,375228E+22     | 9,599623E+21     | 6,101117E+21     | 4,154254E+21      | 4,154390E+21      | 6,101414E+21      | 9,599805E+21      |
| -2608                           | 1,375210E+22  | 1,744554E+22   | 1,965077E+22   | 1,965119E+22    | 1,744634E+22     | 1,375278E+22     | 9,600200E+21     | 6,101599E+21     | 4,154564E+21      | 4,154491E+21      | 6,101347E+21      | 9,599690E+21      |
| -2607                           | 1,375216E+22  | 1,744607E+22   | 1,965137E+22   | 1,965140E+22    | 1,744625E+22     | 1,375253E+22     | 9,600024E+21     | 6,101634E+21     | 4,154781E+21      | 4,154848E+21      | 6,101897E+21      | 9,600494E+21      |
| -2606                           | 1,375281E+22  | 1,744594E+22   | 1,965049E+22   | 1,965025E+22    | 1,744538E+22     | 1,375215E+22     | 9,599943E+21     | 6,101699E+21     | 4,154951E+21      | 4,155056E+21      | 6,101898E+21      | 9,600038E+21      |
| -2605                           | 1,375203E+22  | 1,744521E+22   | 1,965022E+22   | 1,965032E+22    | 1,744548E+22     | 1,375237E+22     | 9,600399E+21     | 6,102238E+21     | 4,155355E+21      | 4,155216E+21      | 6,101881E+21      | 9,600063E+21      |

| 1                 | 2            | 3            | 4            | 5            | 6            | 7            | 8            | 9            | 10           | 11           | 12           | 13           |
|-------------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|
| Longitude $\odot$ | 0° - 30°     | 30° - 60°    | 60° - 90°    | 90° - 120°   | 120° - 150°  | 150° - 180°  | 180° - 210°  | 210° - 240°  | 240° - 270°  | 270° - 300°  | 300° - 330°  | 330° - 360°  |
| Years             |              |              |              |              |              |              |              |              |              |              |              |              |
| -2604             | 1,375245E+22 | 1,744599E+22 | 1,965088E+22 | 1,965063E+22 | 1,744538E+22 | 1,375196E+22 | 9,599998E+21 | 6,102080E+21 | 4,155477E+21 | 4,155599E+21 | 6,102465E+21 | 9,600553E+21 |
| -2603             | 1,375235E+22 | 1,744526E+22 | 1,964988E+22 | 1,964988E+22 | 1,744516E+22 | 1,375210E+22 | 9,600203E+21 | 6,102238E+21 | 4,155583E+21 | 4,155602E+21 | 6,102229E+21 | 9,600017E+21 |
| -2602             | 1,375169E+22 | 1,744495E+22 | 1,965017E+22 | 1,965035E+22 | 1,744555E+22 | 1,375242E+22 | 9,600479E+21 | 6,102458E+21 | 4,155709E+21 | 4,155650E+21 | 6,102355E+21 | 9,600491E+21 |
| -2601             | 1,375254E+22 | 1,744555E+22 | 1,965020E+22 | 1,965009E+22 | 1,744519E+22 | 1,375202E+22 | 9,600088E+21 | 6,102159E+21 | 4,155593E+21 | 4,155738E+21 | 6,102532E+21 | 9,600459E+21 |
| -2600             | 1,375213E+22 | 1,744486E+22 | 1,964941E+22 | 1,964963E+22 | 1,744531E+22 | 1,375250E+22 | 9,600552E+21 | 6,102396E+21 | 4,15557E+21  | 4,155439E+21 | 6,102014E+21 | 9,599913E+21 |
| -2599             | 1,375187E+22 | 1,744538E+22 | 1,965054E+22 | 1,965049E+22 | 1,744556E+22 | 1,375237E+22 | 9,600378E+21 | 6,102279E+21 | 4,155466E+21 | 4,155399E+21 | 6,102163E+21 | 9,600474E+21 |
| -2598             | 1,375267E+22 | 1,744574E+22 | 1,965038E+22 | 1,965013E+22 | 1,744513E+22 | 1,375192E+22 | 9,599929E+21 | 6,101872E+21 | 4,155192E+21 | 4,155284E+21 | 6,102043E+21 | 9,600003E+21 |
| -2597             | 1,375189E+22 | 1,744506E+22 | 1,965017E+22 | 1,965047E+22 | 1,744568E+22 | 1,375240E+22 | 9,600259E+21 | 6,102005E+21 | 4,155079E+21 | 4,154941E+21 | 6,101649E+21 | 9,599829E+21 |
| -2596             | 1,375221E+22 | 1,744600E+22 | 1,965122E+22 | 1,965116E+22 | 1,744595E+22 | 1,375227E+22 | 9,599870E+21 | 6,101586E+21 | 4,154796E+21 | 4,154896E+21 | 6,101954E+21 | 9,600466E+21 |
| -2595             | 1,375266E+22 | 1,744586E+22 | 1,965073E+22 | 1,965068E+22 | 1,744571E+22 | 1,375226E+22 | 9,599833E+21 | 6,101400E+21 | 4,154526E+21 | 4,154573E+21 | 6,101464E+21 | 9,599799E+21 |
| -2594             | 1,375207E+22 | 1,744565E+22 | 1,965105E+22 | 1,965124E+22 | 1,744621E+22 | 1,375265E+22 | 9,600151E+21 | 6,101590E+21 | 4,154521E+21 | 4,154405E+21 | 6,101297E+21 | 9,599915E+21 |
| -2593             | 1,375278E+22 | 1,744657E+22 | 1,965159E+22 | 1,965136E+22 | 1,744597E+22 | 1,375221E+22 | 9,599707E+21 | 6,101306E+21 | 4,154465E+21 | 4,154574E+21 | 6,101604E+21 | 9,600044E+21 |
| -2592             | 1,375242E+22 | 1,744591E+22 | 1,965085E+22 | 1,965086E+22 | 1,744598E+22 | 1,375252E+22 | 9,600039E+21 | 6,101523E+21 | 4,154542E+21 | 4,154481E+21 | 6,101287E+21 | 9,599527E+21 |
| -2591             | 1,375180E+22 | 1,744571E+22 | 1,965139E+22 | 1,965151E+22 | 1,744631E+22 | 1,375261E+22 | 9,600136E+21 | 6,101716E+21 | 4,154768E+21 | 4,154719E+21 | 6,101628E+21 | 9,600201E+21 |
| -2590             | 1,375272E+22 | 1,744605E+22 | 1,965097E+22 | 1,965083E+22 | 1,744564E+22 | 1,375208E+22 | 9,599739E+21 | 6,101497E+21 | 4,154805E+21 | 4,154993E+21 | 6,101947E+21 | 9,600137E+21 |
| -2589             | 1,375213E+22 | 1,744516E+22 | 1,965003E+22 | 1,965029E+22 | 1,744564E+22 | 1,375245E+22 | 9,600277E+21 | 6,101993E+21 | 4,155102E+21 | 4,155017E+21 | 6,101741E+21 | 9,599865E+21 |
| -2588             | 1,375209E+22 | 1,744568E+22 | 1,965069E+22 | 1,965056E+22 | 1,744559E+22 | 1,375230E+22 | 9,600211E+21 | 6,102100E+21 | 4,155359E+21 | 4,155402E+21 | 6,102288E+21 | 9,600606E+21 |
| -2587             | 1,375266E+22 | 1,744561E+22 | 1,965013E+22 | 1,964979E+22 | 1,744487E+22 | 1,375187E+22 | 9,600057E+21 | 6,102137E+21 | 4,155532E+21 | 4,155615E+21 | 6,102284E+21 | 9,600108E+21 |
| -2586             | 1,375178E+22 | 1,744476E+22 | 1,964978E+22 | 1,964995E+22 | 1,744523E+22 | 1,375227E+22 | 9,600538E+21 | 6,102631E+21 | 4,155894E+21 | 4,155786E+21 | 6,102329E+21 | 9,600182E+21 |
| -2585             | 1,375216E+22 | 1,744535E+22 | 1,965011E+22 | 1,964998E+22 | 1,744503E+22 | 1,375191E+22 | 9,600191E+21 | 6,102502E+21 | 4,156041E+21 | 4,156179E+21 | 6,102928E+21 | 9,600738E+21 |
| -2584             | 1,375217E+22 | 1,744475E+22 | 1,964917E+22 | 1,964916E+22 | 1,744478E+22 | 1,375211E+22 | 9,600458E+21 | 6,102661E+21 | 4,156105E+21 | 4,156124E+21 | 6,102640E+21 | 9,600205E+21 |
| -2583             | 1,375152E+22 | 1,744435E+22 | 1,964942E+22 | 1,964972E+22 | 1,744520E+22 | 1,375239E+22 | 9,600746E+21 | 6,102918E+21 | 4,156237E+21 | 4,156139E+21 | 6,102677E+21 | 9,600608E+21 |
| -2582             | 1,375254E+22 | 1,744525E+22 | 1,964952E+22 | 1,964928E+22 | 1,744459E+22 | 1,375181E+22 | 9,600227E+21 | 6,102540E+21 | 4,156082E+21 | 4,156218E+21 | 6,102883E+21 | 9,600560E+21 |
| -2581             | 1,375200E+22 | 1,744460E+22 | 1,964900E+22 | 1,964904E+22 | 1,744469E+22 | 1,375213E+22 | 9,600587E+21 | 6,102745E+21 | 4,156035E+21 | 4,155897E+21 | 6,102331E+21 | 9,599954E+21 |
| -2580             | 1,375162E+22 | 1,744490E+22 | 1,965002E+22 | 1,965002E+22 | 1,744517E+22 | 1,375217E+22 | 9,600452E+21 | 6,102610E+21 | 4,155931E+21 | 4,155889E+21 | 6,102568E+21 | 9,600622E+21 |
| -2579             | 1,375248E+22 | 1,744527E+22 | 1,964993E+22 | 1,964979E+22 | 1,744486E+22 | 1,375177E+22 | 9,599956E+21 | 6,102118E+21 | 4,155578E+21 | 4,155703E+21 | 6,102417E+21 | 9,600213E+21 |
| -2578             | 1,375182E+22 | 1,744467E+22 | 1,964966E+22 | 1,965007E+22 | 1,744548E+22 | 1,375239E+22 | 9,600372E+21 | 6,102228E+21 | 4,155395E+21 | 4,155305E+21 | 6,101985E+21 | 9,600032E+21 |
| -2577             | 1,375221E+22 | 1,744565E+22 | 1,965055E+22 | 1,965047E+22 | 1,744552E+22 | 1,375219E+22 | 9,600048E+21 | 6,101919E+21 | 4,155193E+21 | 4,155276E+21 | 6,102231E+21 | 9,600570E+21 |
| -2576             | 1,375262E+22 | 1,744567E+22 | 1,965031E+22 | 1,965005E+22 | 1,744526E+22 | 1,375219E+22 | 9,600038E+21 | 6,101785E+21 | 4,154980E+21 | 4,154987E+21 | 6,101730E+21 | 9,599821E+21 |
| -2575             | 1,375184E+22 | 1,744523E+22 | 1,965065E+22 | 1,965087E+22 | 1,744589E+22 | 1,375255E+22 | 9,600354E+21 | 6,102034E+21 | 4,155065E+21 | 4,154916E+21 | 6,101613E+21 | 9,599937E+21 |
| -2574             | 1,375260E+22 | 1,744613E+22 | 1,965097E+22 | 1,965076E+22 | 1,744554E+22 | 1,375201E+22 | 9,599793E+21 | 6,101669E+21 | 4,154992E+21 | 4,155137E+21 | 6,102056E+21 | 9,600195E+21 |
| -2573             | 1,375220E+22 | 1,744541E+22 | 1,965021E+22 | 1,965024E+22 | 1,744551E+22 | 1,375230E+22 | 9,600117E+21 | 6,101884E+21 | 4,155059E+21 | 4,155019E+21 | 6,101732E+21 | 9,599728E+21 |
| -2572             | 1,375162E+22 | 1,744508E+22 | 1,965056E+22 | 1,965078E+22 | 1,744584E+22 | 1,375251E+22 | 9,600340E+21 | 6,102136E+21 | 4,155302E+21 | 4,155269E+21 | 6,102094E+21 | 9,600446E+21 |
| -2571             | 1,375265E+22 | 1,744560E+22 | 1,965030E+22 | 1,965014E+22 | 1,744511E+22 | 1,375189E+22 | 9,599904E+21 | 6,101921E+21 | 4,155335E+21 | 4,155506E+21 | 6,102344E+21 | 9,600320E+21 |
| -2570             | 1,375208E+22 | 1,744485E+22 | 1,964948E+22 | 1,964965E+22 | 1,744515E+22 | 1,375229E+22 | 9,600458E+21 | 6,102418E+21 | 4,155643E+21 | 4,155564E+21 | 6,102146E+21 | 9,599966E+21 |
| -2569             | 1,375191E+22 | 1,744524E+22 | 1,965005E+22 | 1,964982E+22 | 1,744495E+22 | 1,375203E+22 | 9,600383E+21 | 6,102600E+21 | 4,156003E+21 | 4,156031E+21 | 6,102743E+21 | 9,600705E+21 |



| 1                 | 2            | 3            | 4            | 5            | 6            | 7            | 8            | 9            | 10           | 11           | 12           | 13           |
|-------------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|
| Longitude $\odot$ | 0° - 30°     | 30° - 60°    | 60° - 90°    | 90° - 120°   | 120° - 150°  | 150° - 180°  | 180° - 210°  | 210° - 240°  | 240° - 270°  | 270° - 300°  | 300° - 330°  | 330° - 360°  |
| Years             |              |              |              |              |              |              |              |              |              |              |              |              |
| -2568             | 1,375240E+22 | 1,744514E+22 | 1,964955E+22 | 1,964918E+22 | 1,744444E+22 | 1,375173E+22 | 9,600215E+21 | 6,102602E+21 | 4,156169E+21 | 4,156263E+21 | 6,102788E+21 | 9,600275E+21 |
| -2567             | 1,375148E+22 | 1,744407E+22 | 1,964903E+22 | 1,964942E+22 | 1,744496E+22 | 1,375224E+22 | 9,600744E+21 | 6,103089E+21 | 4,156507E+21 | 4,156405E+21 | 6,102798E+21 | 9,600397E+21 |
| -2566             | 1,375209E+22 | 1,744483E+22 | 1,964923E+22 | 1,964915E+22 | 1,744453E+22 | 1,375178E+22 | 9,600359E+21 | 6,102892E+21 | 4,156565E+21 | 4,156727E+21 | 6,103381E+21 | 9,600976E+21 |
| -2565             | 1,375214E+22 | 1,744438E+22 | 1,964851E+22 | 1,964841E+22 | 1,744419E+22 | 1,375187E+22 | 9,600600E+21 | 6,103063E+21 | 4,156597E+21 | 4,156580E+21 | 6,102960E+21 | 9,600307E+21 |
| -2564             | 1,375138E+22 | 1,744393E+22 | 1,964878E+22 | 1,964904E+22 | 1,744468E+22 | 1,375223E+22 | 9,600939E+21 | 6,103344E+21 | 4,156745E+21 | 4,156617E+21 | 6,103009E+21 | 9,600659E+21 |
| -2563             | 1,375230E+22 | 1,744487E+22 | 1,964917E+22 | 1,964890E+22 | 1,744418E+22 | 1,375157E+22 | 9,600306E+21 | 6,102890E+21 | 4,156546E+21 | 4,156674E+21 | 6,103223E+21 | 9,600643E+21 |
| -2562             | 1,375179E+22 | 1,744420E+22 | 1,964858E+22 | 1,964872E+22 | 1,744447E+22 | 1,375202E+22 | 9,600649E+21 | 6,103002E+21 | 4,156427E+21 | 4,156347E+21 | 6,102725E+21 | 9,600096E+21 |
| -2561             | 1,375142E+22 | 1,744440E+22 | 1,964934E+22 | 1,964941E+22 | 1,744480E+22 | 1,375207E+22 | 9,600575E+21 | 6,102909E+21 | 4,156342E+21 | 4,156328E+21 | 6,102956E+21 | 9,600841E+21 |
| -2560             | 1,375243E+22 | 1,744495E+22 | 1,964937E+22 | 1,964921E+22 | 1,744454E+22 | 1,375175E+22 | 9,600122E+21 | 6,102426E+21 | 4,155967E+21 | 4,156093E+21 | 6,102741E+21 | 9,600407E+21 |
| -2559             | 1,375180E+22 | 1,744431E+22 | 1,964908E+22 | 1,964956E+22 | 1,744519E+22 | 1,375236E+22 | 9,600575E+21 | 6,102595E+21 | 4,155820E+21 | 4,155685E+21 | 6,102215E+21 | 9,600110E+21 |
| -2558             | 1,375223E+22 | 1,744547E+22 | 1,965004E+22 | 1,964981E+22 | 1,744500E+22 | 1,375199E+22 | 9,600176E+21 | 6,102270E+21 | 4,155639E+21 | 4,155704E+21 | 6,102522E+21 | 9,600616E+21 |
| -2557             | 1,375246E+22 | 1,744543E+22 | 1,964999E+22 | 1,964961E+22 | 1,744473E+22 | 1,375185E+22 | 9,600101E+21 | 6,102157E+21 | 4,155468E+21 | 4,155450E+21 | 6,102046E+21 | 9,599839E+21 |
| -2556             | 1,375152E+22 | 1,744462E+22 | 1,965001E+22 | 1,965039E+22 | 1,744555E+22 | 1,375240E+22 | 9,600487E+21 | 6,102429E+21 | 4,155598E+21 | 4,155467E+21 | 6,102061E+21 | 9,600067E+21 |
| -2555             | 1,375228E+22 | 1,744553E+22 | 1,965037E+22 | 1,965028E+22 | 1,744521E+22 | 1,375188E+22 | 9,599906E+21 | 6,102017E+21 | 4,155484E+21 | 4,155653E+21 | 6,102502E+21 | 9,600430E+21 |
| -2554             | 1,375210E+22 | 1,744491E+22 | 1,964949E+22 | 1,964959E+22 | 1,744512E+22 | 1,375221E+22 | 9,600289E+21 | 6,102232E+21 | 4,155525E+21 | 4,155528E+21 | 6,102166E+21 | 9,599937E+21 |
| -2553             | 1,375156E+22 | 1,744464E+22 | 1,964970E+22 | 1,964984E+22 | 1,744518E+22 | 1,375231E+22 | 9,600557E+21 | 6,102609E+21 | 4,155872E+21 | 4,155813E+21 | 6,102497E+21 | 9,600599E+21 |
| -2552             | 1,375256E+22 | 1,744531E+22 | 1,964970E+22 | 1,964936E+22 | 1,744452E+22 | 1,375170E+22 | 9,600093E+21 | 6,102412E+21 | 4,155956E+21 | 4,156090E+21 | 6,102749E+21 | 9,600421E+21 |
| -2551             | 1,375184E+22 | 1,744435E+22 | 1,964893E+22 | 1,964916E+22 | 1,744475E+22 | 1,375211E+22 | 9,600633E+21 | 6,102920E+21 | 4,156301E+21 | 4,156199E+21 | 6,102580E+21 | 9,600086E+21 |
| -2550             | 1,375174E+22 | 1,744475E+22 | 1,964935E+22 | 1,964918E+22 | 1,744450E+22 | 1,375182E+22 | 9,600477E+21 | 6,103013E+21 | 4,156609E+21 | 4,156679E+21 | 6,103279E+21 | 9,600928E+21 |
| -2549             | 1,375220E+22 | 1,744463E+22 | 1,964891E+22 | 1,964859E+22 | 1,744398E+22 | 1,375152E+22 | 9,600345E+21 | 6,103013E+21 | 4,156723E+21 | 4,156831E+21 | 6,103253E+21 | 9,600493E+21 |
| -2548             | 1,375131E+22 | 1,744345E+22 | 1,964820E+22 | 1,964873E+22 | 1,744458E+22 | 1,375220E+22 | 9,601004E+21 | 6,103541E+21 | 4,157054E+21 | 4,156955E+21 | 6,103242E+21 | 9,600587E+21 |
| -2547             | 1,375194E+22 | 1,744441E+22 | 1,964862E+22 | 1,964850E+22 | 1,744408E+22 | 1,375167E+22 | 9,600563E+21 | 6,103315E+21 | 4,157070E+21 | 4,157198E+21 | 6,103718E+21 | 9,601092E+21 |
| -2546             | 1,375203E+22 | 1,744407E+22 | 1,964799E+22 | 1,964782E+22 | 1,744375E+22 | 1,375175E+22 | 9,600785E+21 | 6,103452E+21 | 4,157085E+21 | 4,157070E+21 | 6,103315E+21 | 9,600368E+21 |
| -2545             | 1,375116E+22 | 1,744347E+22 | 1,964813E+22 | 1,964836E+22 | 1,744411E+22 | 1,375197E+22 | 9,601079E+21 | 6,103769E+21 | 4,157286E+21 | 4,157149E+21 | 6,103416E+21 | 9,600781E+21 |
| -2544             | 1,375207E+22 | 1,744440E+22 | 1,964854E+22 | 1,964834E+22 | 1,744383E+22 | 1,375142E+22 | 9,600388E+21 | 6,103233E+21 | 4,157036E+21 | 4,157177E+21 | 6,103643E+21 | 9,600850E+21 |
| -2543             | 1,375162E+22 | 1,744367E+22 | 1,964795E+22 | 1,964825E+22 | 1,744422E+22 | 1,375195E+22 | 9,600767E+21 | 6,103315E+21 | 4,156861E+21 | 4,156789E+21 | 6,103081E+21 | 9,600341E+21 |
| -2542             | 1,375150E+22 | 1,744412E+22 | 1,964867E+22 | 1,964869E+22 | 1,744430E+22 | 1,375188E+22 | 9,600647E+21 | 6,103168E+21 | 4,156707E+21 | 4,156710E+21 | 6,103272E+21 | 9,601026E+21 |
| -2541             | 1,375246E+22 | 1,744480E+22 | 1,964897E+22 | 1,964865E+22 | 1,744401E+22 | 1,375148E+22 | 9,600210E+21 | 6,102736E+21 | 4,156335E+21 | 4,156417E+21 | 6,102933E+21 | 9,600426E+21 |
| -2540             | 1,375166E+22 | 1,744405E+22 | 1,964870E+22 | 1,964913E+22 | 1,744482E+22 | 1,375222E+22 | 9,600733E+21 | 6,102960E+21 | 4,156262E+21 | 4,156097E+21 | 6,102474E+21 | 9,600075E+21 |
| -2539             | 1,375191E+22 | 1,744511E+22 | 1,964977E+22 | 1,964956E+22 | 1,744472E+22 | 1,375183E+22 | 9,600267E+21 | 6,102604E+21 | 4,156086E+21 | 4,156135E+21 | 6,102821E+21 | 9,600638E+21 |
| -2538             | 1,375217E+22 | 1,744496E+22 | 1,964950E+22 | 1,964929E+22 | 1,744458E+22 | 1,375181E+22 | 9,600217E+21 | 6,102454E+21 | 4,155906E+21 | 4,155944E+21 | 6,102461E+21 | 9,599974E+21 |
| -2537             | 1,375126E+22 | 1,744400E+22 | 1,964915E+22 | 1,964965E+22 | 1,744512E+22 | 1,375232E+22 | 9,600683E+21 | 6,102830E+21 | 4,156110E+21 | 4,155998E+21 | 6,102520E+21 | 9,600316E+21 |
| -2536             | 1,375215E+22 | 1,744502E+22 | 1,964953E+22 | 1,964952E+22 | 1,744478E+22 | 1,375181E+22 | 9,600116E+21 | 6,102444E+21 | 4,156016E+21 | 4,156178E+21 | 6,102930E+21 | 9,600676E+21 |
| -2535             | 1,375203E+22 | 1,744447E+22 | 1,964874E+22 | 1,964885E+22 | 1,744464E+22 | 1,375208E+22 | 9,600506E+21 | 6,102711E+21 | 4,156114E+21 | 4,156079E+21 | 6,102547E+21 | 9,600112E+21 |
| -2534             | 1,375156E+22 | 1,744438E+22 | 1,964905E+22 | 1,964897E+22 | 1,744445E+22 | 1,375197E+22 | 9,600665E+21 | 6,103054E+21 | 4,156478E+21 | 4,156420E+21 | 6,102950E+21 | 9,600749E+21 |
| -2533             | 1,375240E+22 | 1,744499E+22 | 1,964925E+22 | 1,964880E+22 | 1,744390E+22 | 1,375129E+22 | 9,600161E+21 | 6,102865E+21 | 4,156571E+21 | 4,156702E+21 | 6,103207E+21 | 9,600561E+21 |

| 1                 | 2            | 3            | 4            | 5            | 6            | 7            | 8            | 9            | 10           | 11           | 12           | 13           |
|-------------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|
| Longitude $\odot$ | 0° - 30°     | 30° - 60°    | 60° - 90°    | 90° - 120°   | 120° - 150°  | 150° - 180°  | 180° - 210°  | 210° - 240°  | 240° - 270°  | 270° - 300°  | 300° - 330°  | 330° - 360°  |
| Years             |              |              |              |              |              |              |              |              |              |              |              |              |
| -2532             | 1,375157E+22 | 1,744375E+22 | 1,964822E+22 | 1,964862E+22 | 1,744440E+22 | 1,375196E+22 | 9,600776E+21 | 6,103362E+21 | 4,156920E+21 | 4,156849E+21 | 6,103113E+21 | 9,600294E+21 |
| -2531             | 1,375147E+22 | 1,744418E+22 | 1,964870E+22 | 1,964864E+22 | 1,744417E+22 | 1,375173E+22 | 9,600642E+21 | 6,103410E+21 | 4,157148E+21 | 4,157233E+21 | 6,103738E+21 | 9,601176E+21 |
| -2530             | 1,375211E+22 | 1,744416E+22 | 1,964818E+22 | 1,964794E+22 | 1,744363E+22 | 1,375149E+22 | 9,600572E+21 | 6,103405E+21 | 4,157223E+21 | 4,157353E+21 | 6,103664E+21 | 9,600651E+21 |
| -2529             | 1,375118E+22 | 1,744298E+22 | 1,964734E+22 | 1,964781E+22 | 1,744396E+22 | 1,375206E+22 | 9,601275E+21 | 6,104046E+21 | 4,157628E+21 | 4,157483E+21 | 6,103614E+21 | 9,600693E+21 |
| -2528             | 1,375174E+22 | 1,744403E+22 | 1,964800E+22 | 1,964781E+22 | 1,744359E+22 | 1,375151E+22 | 9,600764E+21 | 6,103793E+21 | 4,157654E+21 | 4,157737E+21 | 6,104077E+21 | 9,601167E+21 |
| -2527             | 1,375176E+22 | 1,744356E+22 | 1,964740E+22 | 1,964731E+22 | 1,744337E+22 | 1,375157E+22 | 9,600925E+21 | 6,103883E+21 | 4,157651E+21 | 4,157613E+21 | 6,103690E+21 | 9,600495E+21 |
| -2526             | 1,375102E+22 | 1,744303E+22 | 1,964745E+22 | 1,964768E+22 | 1,744363E+22 | 1,375172E+22 | 9,601108E+21 | 6,104076E+21 | 4,157762E+21 | 4,157664E+21 | 6,103861E+21 | 9,601013E+21 |
| -2525             | 1,375196E+22 | 1,744405E+22 | 1,964804E+22 | 1,964781E+22 | 1,744336E+22 | 1,375116E+22 | 9,600443E+21 | 6,103523E+21 | 4,157431E+21 | 4,157583E+21 | 6,103982E+21 | 9,601055E+21 |
| -2524             | 1,375156E+22 | 1,744328E+22 | 1,964734E+22 | 1,964773E+22 | 1,744390E+22 | 1,375187E+22 | 9,600913E+21 | 6,103625E+21 | 4,157250E+21 | 4,157177E+21 | 6,103380E+21 | 9,600466E+21 |
| -2523             | 1,375141E+22 | 1,744392E+22 | 1,964835E+22 | 1,964826E+22 | 1,744397E+22 | 1,375177E+22 | 9,600767E+21 | 6,103464E+21 | 4,157073E+21 | 4,157040E+21 | 6,103479E+21 | 9,601062E+21 |
| -2522             | 1,375234E+22 | 1,744461E+22 | 1,964870E+22 | 1,964832E+22 | 1,744373E+22 | 1,375139E+22 | 9,600340E+21 | 6,103035E+21 | 4,156734E+21 | 4,156821E+21 | 6,103191E+21 | 9,600390E+21 |
| -2521             | 1,375135E+22 | 1,744359E+22 | 1,964813E+22 | 1,964861E+22 | 1,744443E+22 | 1,375207E+22 | 9,600885E+21 | 6,103358E+21 | 4,156768E+21 | 4,156599E+21 | 6,102854E+21 | 9,600159E+21 |
| -2520             | 1,375156E+22 | 1,744451E+22 | 1,964907E+22 | 1,964905E+22 | 1,744450E+22 | 1,375178E+22 | 9,600396E+21 | 6,102973E+21 | 4,156599E+21 | 4,156660E+21 | 6,103243E+21 | 9,600829E+21 |
| -2519             | 1,375194E+22 | 1,744432E+22 | 1,964868E+22 | 1,964866E+22 | 1,744428E+22 | 1,375178E+22 | 9,600406E+21 | 6,102843E+21 | 4,156416E+21 | 4,156457E+21 | 6,102879E+21 | 9,600267E+21 |
| -2518             | 1,375131E+22 | 1,744361E+22 | 1,964829E+22 | 1,964870E+22 | 1,744447E+22 | 1,375207E+22 | 9,600799E+21 | 6,103197E+21 | 4,156604E+21 | 4,156508E+21 | 6,102948E+21 | 9,600583E+21 |
| -2517             | 1,375218E+22 | 1,744480E+22 | 1,964898E+22 | 1,964874E+22 | 1,744405E+22 | 1,375145E+22 | 9,600228E+21 | 6,102864E+21 | 4,156530E+21 | 4,156662E+21 | 6,103270E+21 | 9,600811E+21 |
| -2516             | 1,375192E+22 | 1,744416E+22 | 1,964824E+22 | 1,964828E+22 | 1,744412E+22 | 1,375184E+22 | 9,600639E+21 | 6,103149E+21 | 4,156696E+21 | 4,156656E+21 | 6,102960E+21 | 9,600196E+21 |
| -2515             | 1,375130E+22 | 1,744404E+22 | 1,964870E+22 | 1,964858E+22 | 1,744409E+22 | 1,375175E+22 | 9,600736E+21 | 6,103435E+21 | 4,157030E+21 | 4,156983E+21 | 6,103372E+21 | 9,600877E+21 |
| -2514             | 1,375216E+22 | 1,744451E+22 | 1,964871E+22 | 1,964840E+22 | 1,744371E+22 | 1,375126E+22 | 9,600305E+21 | 6,103225E+21 | 4,157108E+21 | 4,157296E+21 | 6,103684E+21 | 9,600729E+21 |
| -2513             | 1,375132E+22 | 1,744313E+22 | 1,964735E+22 | 1,964787E+22 | 1,744399E+22 | 1,375193E+22 | 9,601053E+21 | 6,103852E+21 | 4,157518E+21 | 4,157448E+21 | 6,103602E+21 | 9,600534E+21 |
| -2512             | 1,375128E+22 | 1,744357E+22 | 1,964779E+22 | 1,964786E+22 | 1,744381E+22 | 1,375173E+22 | 9,600929E+21 | 6,103924E+21 | 4,157751E+21 | 4,157794E+21 | 6,104133E+21 | 9,601334E+21 |
| -2511             | 1,375196E+22 | 1,744365E+22 | 1,964739E+22 | 1,964716E+22 | 1,744317E+22 | 1,375142E+22 | 9,600867E+21 | 6,103949E+21 | 4,157853E+21 | 4,157919E+21 | 6,104036E+21 | 9,600790E+21 |
| -2510             | 1,375109E+22 | 1,744262E+22 | 1,964662E+22 | 1,964688E+22 | 1,744319E+22 | 1,375171E+22 | 9,601395E+21 | 6,104507E+21 | 4,158235E+21 | 4,158083E+21 | 6,104060E+21 | 9,600828E+21 |
| -2509             | 1,375150E+22 | 1,744358E+22 | 1,964746E+22 | 1,964718E+22 | 1,744293E+22 | 1,375109E+22 | 9,600806E+21 | 6,104199E+21 | 4,158205E+21 | 4,158292E+21 | 6,104504E+21 | 9,601328E+21 |
| -2508             | 1,375153E+22 | 1,744300E+22 | 1,964673E+22 | 1,964677E+22 | 1,744302E+22 | 1,375138E+22 | 9,600977E+21 | 6,104207E+21 | 4,158149E+21 | 4,158158E+21 | 6,104157E+21 | 9,600721E+21 |
| -2507             | 1,375087E+22 | 1,744265E+22 | 1,964697E+22 | 1,964717E+22 | 1,744328E+22 | 1,375157E+22 | 9,601147E+21 | 6,104314E+21 | 4,158134E+21 | 4,158063E+21 | 6,104199E+21 | 9,601236E+21 |
| -2506             | 1,375199E+22 | 1,744380E+22 | 1,964757E+22 | 1,964735E+22 | 1,744310E+22 | 1,375111E+22 | 9,600559E+21 | 6,103763E+21 | 4,157771E+21 | 4,157942E+21 | 6,104237E+21 | 9,601129E+21 |
| -2505             | 1,375147E+22 | 1,744302E+22 | 1,964682E+22 | 1,964710E+22 | 1,744348E+22 | 1,375176E+22 | 9,601104E+21 | 6,103997E+21 | 4,157674E+21 | 4,157558E+21 | 6,103622E+21 | 9,600490E+21 |
| -2504             | 1,375118E+22 | 1,744357E+22 | 1,964792E+22 | 1,964787E+22 | 1,744374E+22 | 1,375170E+22 | 9,600931E+21 | 6,103843E+21 | 4,157536E+21 | 4,157461E+21 | 6,103725E+21 | 9,601041E+21 |
| -2503             | 1,375201E+22 | 1,744410E+22 | 1,964820E+22 | 1,964797E+22 | 1,744356E+22 | 1,375135E+22 | 9,600507E+21 | 6,103413E+21 | 4,157223E+21 | 4,157293E+21 | 6,103529E+21 | 9,600507E+21 |
| -2502             | 1,375116E+22 | 1,744310E+22 | 1,964740E+22 | 1,964788E+22 | 1,744398E+22 | 1,375190E+22 | 9,600972E+21 | 6,103674E+21 | 4,157233E+21 | 4,157109E+21 | 6,103308E+21 | 9,600414E+21 |
| -2501             | 1,375143E+22 | 1,744403E+22 | 1,964841E+22 | 1,964836E+22 | 1,744397E+22 | 1,375156E+22 | 9,600523E+21 | 6,103321E+21 | 4,157040E+21 | 4,157117E+21 | 6,103628E+21 | 9,601081E+21 |
| -2500             | 1,375192E+22 | 1,744389E+22 | 1,964794E+22 | 1,964793E+22 | 1,744383E+22 | 1,375164E+22 | 9,600566E+21 | 6,103223E+21 | 4,156903E+21 | 4,156950E+21 | 6,103268E+21 | 9,600453E+21 |
| -2499             | 1,375127E+22 | 1,744344E+22 | 1,964789E+22 | 1,964806E+22 | 1,744393E+22 | 1,375183E+22 | 9,600892E+21 | 6,103556E+21 | 4,157085E+21 | 4,156972E+21 | 6,103275E+21 | 9,600709E+21 |
| -2498             | 1,375211E+22 | 1,744460E+22 | 1,964866E+22 | 1,964828E+22 | 1,744362E+22 | 1,375123E+22 | 9,600329E+21 | 6,103232E+21 | 4,157060E+21 | 4,157212E+21 | 6,103651E+21 | 9,600857E+21 |
| -2497             | 1,375163E+22 | 1,744365E+22 | 1,964764E+22 | 1,964770E+22 | 1,744369E+22 | 1,375164E+22 | 9,600791E+21 | 6,103615E+21 | 4,157314E+21 | 4,157280E+21 | 6,103445E+21 | 9,600353E+21 |

| 1                 | 2            | 3            | 4            | 5            | 6            | 7            | 8            | 9            | 10           | 11           | 12           | 13           |
|-------------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|
| Longitude $\odot$ | 0° - 30°     | 30° - 60°    | 60° - 90°    | 90° - 120°   | 120° - 150°  | 150° - 180°  | 180° - 210°  | 210° - 240°  | 240° - 270°  | 270° - 300°  | 300° - 330°  | 330° - 360°  |
| Years             |              |              |              |              |              |              |              |              |              |              |              |              |
| -2496             | 1,375098E+22 | 1,744338E+22 | 1,964794E+22 | 1,964805E+22 | 1,744389E+22 | 1,375173E+22 | 9,600928E+21 | 6,103889E+21 | 4,157646E+21 | 4,157603E+21 | 6,103843E+21 | 9,601072E+21 |
| -2495             | 1,375193E+22 | 1,744385E+22 | 1,964784E+22 | 1,964768E+22 | 1,744339E+22 | 1,375128E+22 | 9,600595E+21 | 6,103724E+21 | 4,157722E+21 | 4,157885E+21 | 6,104127E+21 | 9,600968E+21 |
| -2494             | 1,375126E+22 | 1,744263E+22 | 1,964641E+22 | 1,964681E+22 | 1,744330E+22 | 1,375174E+22 | 9,601274E+21 | 6,104348E+21 | 4,158131E+21 | 4,158047E+21 | 6,104057E+21 | 9,600738E+21 |
| -2493             | 1,375116E+22 | 1,744316E+22 | 1,964713E+22 | 1,964701E+22 | 1,744306E+22 | 1,375140E+22 | 9,601117E+21 | 6,104434E+21 | 4,158359E+21 | 4,158360E+21 | 6,104511E+21 | 9,601427E+21 |
| -2492             | 1,375173E+22 | 1,744315E+22 | 1,964674E+22 | 1,964649E+22 | 1,744262E+22 | 1,375116E+22 | 9,601004E+21 | 6,104416E+21 | 4,158475E+21 | 4,158543E+21 | 6,104494E+21 | 9,600893E+21 |
| -2491             | 1,375082E+22 | 1,744221E+22 | 1,964617E+22 | 1,964637E+22 | 1,744275E+22 | 1,375143E+22 | 9,601408E+21 | 6,104833E+21 | 4,158744E+21 | 4,158625E+21 | 6,104505E+21 | 9,601031E+21 |
| -2490             | 1,375137E+22 | 1,744315E+22 | 1,964694E+22 | 1,964671E+22 | 1,744264E+22 | 1,375098E+22 | 9,600861E+21 | 6,104453E+21 | 4,158639E+21 | 4,158794E+21 | 6,104926E+21 | 9,601521E+21 |
| -2489             | 1,375140E+22 | 1,744252E+22 | 1,964605E+22 | 1,964612E+22 | 1,744263E+22 | 1,375130E+22 | 9,601150E+21 | 6,104552E+21 | 4,158585E+21 | 4,158607E+21 | 6,104536E+21 | 9,600943E+21 |
| -2488             | 1,375082E+22 | 1,744227E+22 | 1,964634E+22 | 1,964665E+22 | 1,744307E+22 | 1,375157E+22 | 9,601338E+21 | 6,104669E+21 | 4,158558E+21 | 4,158451E+21 | 6,104444E+21 | 9,601306E+21 |
| -2487             | 1,375190E+22 | 1,744350E+22 | 1,964708E+22 | 1,964683E+22 | 1,744282E+22 | 1,375112E+22 | 9,600805E+21 | 6,104172E+21 | 4,158230E+21 | 4,158335E+21 | 6,104465E+21 | 9,601163E+21 |
| -2486             | 1,375135E+22 | 1,744273E+22 | 1,964634E+22 | 1,964646E+22 | 1,744294E+22 | 1,375152E+22 | 9,601219E+21 | 6,104367E+21 | 4,158154E+21 | 4,158032E+21 | 6,103968E+21 | 9,600567E+21 |
| -2485             | 1,375091E+22 | 1,744307E+22 | 1,964744E+22 | 1,964740E+22 | 1,744328E+22 | 1,375143E+22 | 9,601013E+21 | 6,104192E+21 | 4,157996E+21 | 4,157931E+21 | 6,104085E+21 | 9,601152E+21 |
| -2484             | 1,375176E+22 | 1,744350E+22 | 1,964751E+22 | 1,964743E+22 | 1,744327E+22 | 1,375127E+22 | 9,600615E+21 | 6,103728E+21 | 4,157679E+21 | 4,157797E+21 | 6,103970E+21 | 9,600729E+21 |
| -2483             | 1,375107E+22 | 1,744274E+22 | 1,964686E+22 | 1,964723E+22 | 1,744353E+22 | 1,375173E+22 | 9,601037E+21 | 6,103930E+21 | 4,157612E+21 | 4,157520E+21 | 6,103667E+21 | 9,600662E+21 |
| -2482             | 1,375150E+22 | 1,744380E+22 | 1,964790E+22 | 1,964773E+22 | 1,744353E+22 | 1,375142E+22 | 9,600631E+21 | 6,103608E+21 | 4,157447E+21 | 4,157541E+21 | 6,103928E+21 | 9,601182E+21 |
| -2481             | 1,375187E+22 | 1,744364E+22 | 1,964744E+22 | 1,964725E+22 | 1,744327E+22 | 1,375143E+22 | 9,600730E+21 | 6,103644E+21 | 4,157420E+21 | 4,157441E+21 | 6,103610E+21 | 9,600539E+21 |
| -2480             | 1,375108E+22 | 1,744304E+22 | 1,964742E+22 | 1,964765E+22 | 1,744363E+22 | 1,375167E+22 | 9,601019E+21 | 6,103975E+21 | 4,157646E+21 | 4,157508E+21 | 6,103616E+21 | 9,600730E+21 |
| -2479             | 1,375180E+22 | 1,744405E+22 | 1,964809E+22 | 1,964786E+22 | 1,744343E+22 | 1,375121E+22 | 9,600531E+21 | 6,103687E+21 | 4,157655E+21 | 4,157792E+21 | 6,104084E+21 | 9,601020E+21 |
| -2478             | 1,375142E+22 | 1,744307E+22 | 1,964687E+22 | 1,964692E+22 | 1,744320E+22 | 1,375149E+22 | 9,600953E+21 | 6,104047E+21 | 4,157909E+21 | 4,157911E+21 | 6,103978E+21 | 9,600618E+21 |
| -2477             | 1,375079E+22 | 1,744273E+22 | 1,964712E+22 | 1,964726E+22 | 1,744331E+22 | 1,375157E+22 | 9,601169E+21 | 6,104372E+21 | 4,158227E+21 | 4,158183E+21 | 6,104292E+21 | 9,601274E+21 |
| -2476             | 1,375179E+22 | 1,744327E+22 | 1,964696E+22 | 1,964685E+22 | 1,744289E+22 | 1,375119E+22 | 9,600849E+21 | 6,104231E+21 | 4,158348E+21 | 4,158506E+21 | 6,104594E+21 | 9,601133E+21 |
| -2475             | 1,375113E+22 | 1,744233E+22 | 1,964585E+22 | 1,964597E+22 | 1,744262E+22 | 1,375146E+22 | 9,601414E+21 | 6,104792E+21 | 4,158717E+21 | 4,158623E+21 | 6,104477E+21 | 9,600886E+21 |
| -2474             | 1,375103E+22 | 1,744277E+22 | 1,964661E+22 | 1,964639E+22 | 1,744251E+22 | 1,375112E+22 | 9,601200E+21 | 6,104830E+21 | 4,158945E+21 | 4,158975E+21 | 6,104957E+21 | 9,601520E+21 |
| -2473             | 1,375146E+22 | 1,744257E+22 | 1,964602E+22 | 1,964582E+22 | 1,744212E+22 | 1,375091E+22 | 9,601102E+21 | 6,104838E+21 | 4,159066E+21 | 4,159159E+21 | 6,105011E+21 | 9,601133E+21 |
| -2472             | 1,375063E+22 | 1,744159E+22 | 1,964541E+22 | 1,964584E+22 | 1,744251E+22 | 1,375135E+22 | 9,601513E+21 | 6,105180E+21 | 4,159249E+21 | 4,159149E+21 | 6,104925E+21 | 9,601256E+21 |
| -2471             | 1,375129E+22 | 1,744268E+22 | 1,964625E+22 | 1,964612E+22 | 1,744236E+22 | 1,375100E+22 | 9,601091E+21 | 6,104837E+21 | 4,159100E+21 | 4,159232E+21 | 6,105269E+21 | 9,601738E+21 |
| -2470             | 1,375143E+22 | 1,744224E+22 | 1,964543E+22 | 1,964533E+22 | 1,744205E+22 | 1,375112E+22 | 9,601312E+21 | 6,104922E+21 | 4,159037E+21 | 4,159037E+21 | 6,104848E+21 | 9,601058E+21 |
| -2469             | 1,375073E+22 | 1,744201E+22 | 1,964596E+22 | 1,964609E+22 | 1,744251E+22 | 1,375136E+22 | 9,601516E+21 | 6,105062E+21 | 4,159007E+21 | 4,158856E+21 | 6,104675E+21 | 9,601271E+21 |
| -2468             | 1,375165E+22 | 1,744309E+22 | 1,964664E+22 | 1,964644E+22 | 1,744252E+22 | 1,375100E+22 | 9,600944E+21 | 6,104541E+21 | 4,158712E+21 | 4,158815E+21 | 6,104793E+21 | 9,601157E+21 |
| -2467             | 1,375105E+22 | 1,744236E+22 | 1,964597E+22 | 1,964605E+22 | 1,744262E+22 | 1,375136E+22 | 9,601263E+21 | 6,104631E+21 | 4,158558E+21 | 4,158468E+21 | 6,104334E+21 | 9,600729E+21 |
| -2466             | 1,375077E+22 | 1,744261E+22 | 1,964691E+22 | 1,964695E+22 | 1,744301E+22 | 1,375136E+22 | 9,601090E+21 | 6,104431E+21 | 4,158383E+21 | 4,158372E+21 | 6,104453E+21 | 9,601312E+21 |
| -2465             | 1,375162E+22 | 1,744297E+22 | 1,964677E+22 | 1,964675E+22 | 1,744283E+22 | 1,375116E+22 | 9,600792E+21 | 6,104083E+21 | 4,158110E+21 | 4,158234E+21 | 6,104351E+21 | 9,600957E+21 |
| -2464             | 1,375105E+22 | 1,744235E+22 | 1,964622E+22 | 1,964667E+22 | 1,744321E+22 | 1,375163E+22 | 9,601190E+21 | 6,104294E+21 | 4,158066E+21 | 4,157945E+21 | 6,103955E+21 | 9,600761E+21 |
| -2463             | 1,375145E+22 | 1,744354E+22 | 1,964743E+22 | 1,964715E+22 | 1,744309E+22 | 1,375130E+22 | 9,600839E+21 | 6,104041E+21 | 4,157966E+21 | 4,158011E+21 | 6,104243E+21 | 9,601259E+21 |
| -2462             | 1,375171E+22 | 1,744329E+22 | 1,964694E+22 | 1,964658E+22 | 1,744266E+22 | 1,375112E+22 | 9,600815E+21 | 6,104054E+21 | 4,157991E+21 | 4,158023E+21 | 6,104060E+21 | 9,600671E+21 |
| -2461             | 1,375082E+22 | 1,744249E+22 | 1,964686E+22 | 1,964712E+22 | 1,744317E+22 | 1,375144E+22 | 9,601135E+21 | 6,104384E+21 | 4,158210E+21 | 4,158096E+21 | 6,104075E+21 | 9,600881E+21 |

| 1                 | 2            | 3            | 4            | 5            | 6            | 7            | 8            | 9            | 10           | 11           | 12           | 13           |
|-------------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|
| Longitude $\odot$ | 0° - 30°     | 30° - 60°    | 60° - 90°    | 90° - 120°   | 120° - 150°  | 150° - 180°  | 180° - 210°  | 210° - 240°  | 240° - 270°  | 270° - 300°  | 300° - 330°  | 330° - 360°  |
| Years             |              |              |              |              |              |              |              |              |              |              |              |              |
| -2460             | 1,375155E+22 | 1,744337E+22 | 1,964727E+22 | 1,964722E+22 | 1,744311E+22 | 1,375117E+22 | 9,600721E+21 | 6,104109E+21 | 4,158237E+21 | 4,158411E+21 | 6,104594E+21 | 9,601241E+21 |
| -2459             | 1,375129E+22 | 1,744262E+22 | 1,964616E+22 | 1,964614E+22 | 1,744267E+22 | 1,375135E+22 | 9,601124E+21 | 6,104442E+21 | 4,158435E+21 | 4,158454E+21 | 6,104426E+21 | 9,600880E+21 |
| -2458             | 1,375080E+22 | 1,744233E+22 | 1,964642E+22 | 1,964648E+22 | 1,744277E+22 | 1,375141E+22 | 9,601348E+21 | 6,104799E+21 | 4,158789E+21 | 4,158744E+21 | 6,104681E+21 | 9,601355E+21 |
| -2457             | 1,375160E+22 | 1,744280E+22 | 1,964627E+22 | 1,964603E+22 | 1,744223E+22 | 1,375095E+22 | 9,601065E+21 | 6,104752E+21 | 4,158983E+21 | 4,159115E+21 | 6,105043E+21 | 9,601262E+21 |
| -2456             | 1,375090E+22 | 1,744178E+22 | 1,964521E+22 | 1,964544E+22 | 1,744222E+22 | 1,375125E+22 | 9,601538E+21 | 6,105246E+21 | 4,159336E+21 | 4,159233E+21 | 6,104908E+21 | 9,600991E+21 |
| -2455             | 1,375078E+22 | 1,744222E+22 | 1,964594E+22 | 1,964582E+22 | 1,744218E+22 | 1,375104E+22 | 9,601379E+21 | 6,105269E+21 | 4,159526E+21 | 4,159556E+21 | 6,105430E+21 | 9,601750E+21 |
| -2454             | 1,375133E+22 | 1,744207E+22 | 1,964528E+22 | 1,964504E+22 | 1,744158E+22 | 1,375072E+22 | 9,601230E+21 | 6,105220E+21 | 4,159599E+21 | 4,159724E+21 | 6,105504E+21 | 9,601423E+21 |
| -2453             | 1,375057E+22 | 1,744114E+22 | 1,964476E+22 | 1,964518E+22 | 1,744200E+22 | 1,375119E+22 | 9,601708E+21 | 6,105571E+21 | 4,159720E+21 | 4,159612E+21 | 6,105271E+21 | 9,601408E+21 |
| -2452             | 1,375123E+22 | 1,744232E+22 | 1,964563E+22 | 1,964550E+22 | 1,744200E+22 | 1,375095E+22 | 9,601319E+21 | 6,105254E+21 | 4,159596E+21 | 4,159701E+21 | 6,105590E+21 | 9,601791E+21 |
| -2451             | 1,375131E+22 | 1,744209E+22 | 1,964514E+22 | 1,964479E+22 | 1,744155E+22 | 1,375092E+22 | 9,601432E+21 | 6,105268E+21 | 4,159482E+21 | 4,159465E+21 | 6,105143E+21 | 9,601109E+21 |
| -2450             | 1,375054E+22 | 1,744164E+22 | 1,964559E+22 | 1,964574E+22 | 1,744217E+22 | 1,375117E+22 | 9,601579E+21 | 6,105370E+21 | 4,159463E+21 | 4,159330E+21 | 6,105002E+21 | 9,601260E+21 |
| -2449             | 1,375129E+22 | 1,744250E+22 | 1,964601E+22 | 1,964594E+22 | 1,744220E+22 | 1,375087E+22 | 9,601057E+21 | 6,104883E+21 | 4,159179E+21 | 4,159307E+21 | 6,105220E+21 | 9,601354E+21 |
| -2448             | 1,375086E+22 | 1,744174E+22 | 1,964523E+22 | 1,964554E+22 | 1,744238E+22 | 1,375130E+22 | 9,601363E+21 | 6,104921E+21 | 4,158970E+21 | 4,158896E+21 | 6,104683E+21 | 9,600919E+21 |
| -2447             | 1,375072E+22 | 1,744218E+22 | 1,964619E+22 | 1,964629E+22 | 1,744265E+22 | 1,375134E+22 | 9,601299E+21 | 6,104784E+21 | 4,158794E+21 | 4,158760E+21 | 6,104774E+21 | 9,601519E+21 |
| -2446             | 1,375166E+22 | 1,744273E+22 | 1,964617E+22 | 1,964593E+22 | 1,744217E+22 | 1,375088E+22 | 9,600901E+21 | 6,104440E+21 | 4,158565E+21 | 4,158674E+21 | 6,104690E+21 | 9,601109E+21 |
| -2445             | 1,375099E+22 | 1,744210E+22 | 1,964583E+22 | 1,964610E+22 | 1,744260E+22 | 1,375134E+22 | 9,601305E+21 | 6,104664E+21 | 4,158538E+21 | 4,158402E+21 | 6,104258E+21 | 9,600791E+21 |
| -2444             | 1,375123E+22 | 1,744313E+22 | 1,964697E+22 | 1,964676E+22 | 1,744278E+22 | 1,375115E+22 | 9,600953E+21 | 6,104422E+21 | 4,158497E+21 | 4,158561E+21 | 6,104656E+21 | 9,601326E+21 |
| -2443             | 1,375147E+22 | 1,744293E+22 | 1,964651E+22 | 1,964612E+22 | 1,744229E+22 | 1,375095E+22 | 9,600881E+21 | 6,104364E+21 | 4,158469E+21 | 4,158548E+21 | 6,104509E+21 | 9,600886E+21 |
| -2442             | 1,375068E+22 | 1,744198E+22 | 1,964622E+22 | 1,964657E+22 | 1,744284E+22 | 1,375138E+22 | 9,601281E+21 | 6,104734E+21 | 4,158718E+21 | 4,158642E+21 | 6,104502E+21 | 9,601025E+21 |
| -2441             | 1,375134E+22 | 1,744277E+22 | 1,964641E+22 | 1,964644E+22 | 1,744264E+22 | 1,375110E+22 | 9,600997E+21 | 6,104601E+21 | 4,158815E+21 | 4,158973E+21 | 6,105041E+21 | 9,601454E+21 |
| -2440             | 1,375119E+22 | 1,744210E+22 | 1,964535E+22 | 1,964542E+22 | 1,744223E+22 | 1,375124E+22 | 9,601372E+21 | 6,104955E+21 | 4,159049E+21 | 4,159021E+21 | 6,104806E+21 | 9,600982E+21 |
| -2439             | 1,375065E+22 | 1,744191E+22 | 1,964574E+22 | 1,964573E+22 | 1,744221E+22 | 1,375127E+22 | 9,601625E+21 | 6,105357E+21 | 4,159446E+21 | 4,159352E+21 | 6,105126E+21 | 9,601487E+21 |
| -2438             | 1,375136E+22 | 1,744228E+22 | 1,964556E+22 | 1,964522E+22 | 1,744151E+22 | 1,375058E+22 | 9,601172E+21 | 6,105246E+21 | 4,159656E+21 | 4,159800E+21 | 6,105601E+21 | 9,601489E+21 |
| -2437             | 1,375067E+22 | 1,744119E+22 | 1,964450E+22 | 1,964476E+22 | 1,744165E+22 | 1,375098E+22 | 9,601647E+21 | 6,105663E+21 | 4,159932E+21 | 4,159862E+21 | 6,105424E+21 | 9,601227E+21 |
| -2436             | 1,375063E+22 | 1,744165E+22 | 1,964514E+22 | 1,964514E+22 | 1,744178E+22 | 1,375094E+22 | 9,601543E+21 | 6,105671E+21 | 4,160086E+21 | 4,160148E+21 | 6,105917E+21 | 9,601975E+21 |
| -2435             | 1,375129E+22 | 1,744179E+22 | 1,964472E+22 | 1,964436E+22 | 1,744108E+22 | 1,375055E+22 | 9,601358E+21 | 6,105567E+21 | 4,160061E+21 | 4,160191E+21 | 6,105875E+21 | 9,601630E+21 |
| -2434             | 1,375060E+22 | 1,744092E+22 | 1,964430E+22 | 1,964463E+22 | 1,744158E+22 | 1,375105E+22 | 9,601840E+21 | 6,105931E+21 | 4,160197E+21 | 4,160064E+21 | 6,105544E+21 | 9,601385E+21 |
| -2433             | 1,375097E+22 | 1,744192E+22 | 1,964512E+22 | 1,964496E+22 | 1,744157E+22 | 1,375081E+22 | 9,601518E+21 | 6,105689E+21 | 4,160109E+21 | 4,160175E+21 | 6,105907E+21 | 9,601816E+21 |
| -2432             | 1,375100E+22 | 1,744153E+22 | 1,964460E+22 | 1,964452E+22 | 1,744138E+22 | 1,375082E+22 | 9,601555E+21 | 6,105631E+21 | 4,159960E+21 | 4,159930E+21 | 6,105466E+21 | 9,601158E+21 |
| -2431             | 1,375028E+22 | 1,744110E+22 | 1,964493E+22 | 1,964526E+22 | 1,744194E+22 | 1,375116E+22 | 9,601760E+21 | 6,105717E+21 | 4,159900E+21 | 4,159774E+21 | 6,105394E+21 | 9,601453E+21 |
| -2430             | 1,375110E+22 | 1,744194E+22 | 1,964523E+22 | 1,964519E+22 | 1,744168E+22 | 1,375069E+22 | 9,601169E+21 | 6,105196E+21 | 4,159603E+21 | 4,159758E+21 | 6,105640E+21 | 9,601638E+21 |
| -2429             | 1,375084E+22 | 1,744136E+22 | 1,964457E+22 | 1,964485E+22 | 1,744184E+22 | 1,375111E+22 | 9,601502E+21 | 6,105234E+21 | 4,159365E+21 | 4,159293E+21 | 6,104997E+21 | 9,601091E+21 |
| -2428             | 1,375074E+22 | 1,744196E+22 | 1,964562E+22 | 1,964564E+22 | 1,744219E+22 | 1,375118E+22 | 9,601443E+21 | 6,105142E+21 | 4,159248E+21 | 4,159200E+21 | 6,105082E+21 | 9,601585E+21 |
| -2427             | 1,375161E+22 | 1,744269E+22 | 1,964592E+22 | 1,964543E+22 | 1,744162E+22 | 1,375059E+22 | 9,600946E+21 | 6,104748E+21 | 4,159000E+21 | 4,159110E+21 | 6,105012E+21 | 9,601217E+21 |
| -2426             | 1,375086E+22 | 1,744181E+22 | 1,964549E+22 | 1,964579E+22 | 1,744227E+22 | 1,375110E+22 | 9,601314E+21 | 6,104967E+21 | 4,159019E+21 | 4,158904E+21 | 6,104615E+21 | 9,600821E+21 |
| -2425             | 1,375088E+22 | 1,744253E+22 | 1,964631E+22 | 1,964627E+22 | 1,744250E+22 | 1,375107E+22 | 9,601110E+21 | 6,104809E+21 | 4,159014E+21 | 4,159096E+21 | 6,105104E+21 | 9,601528E+21 |



| 1                 | 2            | 3            | 4            | 5            | 6            | 7            | 8            | 9            | 10           | 11           | 12           | 13           |
|-------------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|
| Longitude $\odot$ | 0° - 30°     | 30° - 60°    | 60° - 90°    | 90° - 120°   | 120° - 150°  | 150° - 180°  | 180° - 210°  | 210° - 240°  | 240° - 270°  | 270° - 300°  | 300° - 330°  | 330° - 360°  |
| Years             |              |              |              |              |              |              |              |              |              |              |              |              |
| -2424             | 1,375125E+22 | 1,744228E+22 | 1,964573E+22 | 1,964563E+22 | 1,744208E+22 | 1,375094E+22 | 9,601084E+21 | 6,104763E+21 | 4,158983E+21 | 4,159060E+21 | 6,104904E+21 | 9,601069E+21 |
| -2423             | 1,375059E+22 | 1,744150E+22 | 1,964538E+22 | 1,964580E+22 | 1,744242E+22 | 1,375139E+22 | 9,601607E+21 | 6,105238E+21 | 4,159277E+21 | 4,159162E+21 | 6,104908E+21 | 9,601202E+21 |
| -2422             | 1,375120E+22 | 1,744233E+22 | 1,964562E+22 | 1,964549E+22 | 1,744190E+22 | 1,375084E+22 | 9,601212E+21 | 6,105129E+21 | 4,159456E+21 | 4,159579E+21 | 6,105489E+21 | 9,601616E+21 |
| -2421             | 1,375102E+22 | 1,744165E+22 | 1,964471E+22 | 1,964466E+22 | 1,744152E+22 | 1,375092E+22 | 9,601546E+21 | 6,105459E+21 | 4,159700E+21 | 4,159658E+21 | 6,105255E+21 | 9,601080E+21 |
| -2420             | 1,375039E+22 | 1,744137E+22 | 1,964504E+22 | 1,964510E+22 | 1,744174E+22 | 1,375104E+22 | 9,601757E+21 | 6,105833E+21 | 4,160110E+21 | 4,160040E+21 | 6,105664E+21 | 9,601657E+21 |
| -2419             | 1,375116E+22 | 1,744189E+22 | 1,964496E+22 | 1,964457E+22 | 1,744101E+22 | 1,375033E+22 | 9,601231E+21 | 6,105606E+21 | 4,160208E+21 | 4,160404E+21 | 6,106135E+21 | 9,601809E+21 |
| -2418             | 1,375061E+22 | 1,744073E+22 | 1,964384E+22 | 1,964417E+22 | 1,744125E+22 | 1,375083E+22 | 9,601740E+21 | 6,106013E+21 | 4,160451E+21 | 4,160409E+21 | 6,105854E+21 | 9,601412E+21 |
| -2417             | 1,375049E+22 | 1,744116E+22 | 1,964441E+22 | 1,964447E+22 | 1,744138E+22 | 1,375087E+22 | 9,601783E+21 | 6,106119E+21 | 4,160618E+21 | 4,160658E+21 | 6,106309E+21 | 9,602162E+21 |
| -2416             | 1,375120E+22 | 1,744138E+22 | 1,964410E+22 | 1,964383E+22 | 1,744074E+22 | 1,375047E+22 | 9,601573E+21 | 6,106004E+21 | 4,160584E+21 | 4,160662E+21 | 6,106157E+21 | 9,601645E+21 |
| -2415             | 1,375040E+22 | 1,744055E+22 | 1,964375E+22 | 1,964409E+22 | 1,744120E+22 | 1,375098E+22 | 9,602092E+21 | 6,106399E+21 | 4,160731E+21 | 4,160556E+21 | 6,105896E+21 | 9,601430E+21 |
| -2414             | 1,375061E+22 | 1,744135E+22 | 1,964446E+22 | 1,964434E+22 | 1,744106E+22 | 1,375054E+22 | 9,601609E+21 | 6,106086E+21 | 4,160649E+21 | 4,160719E+21 | 6,106347E+21 | 9,601990E+21 |
| -2413             | 1,375074E+22 | 1,744092E+22 | 1,964386E+22 | 1,964386E+22 | 1,744092E+22 | 1,375064E+22 | 9,601658E+21 | 6,105947E+21 | 4,160416E+21 | 4,160417E+21 | 6,105877E+21 | 9,601376E+21 |
| -2412             | 1,375017E+22 | 1,744060E+22 | 1,964414E+22 | 1,964455E+22 | 1,744154E+22 | 1,375106E+22 | 9,601894E+21 | 6,106030E+21 | 4,160326E+21 | 4,160227E+21 | 6,105782E+21 | 9,601678E+21 |
| -2411             | 1,375115E+22 | 1,744181E+22 | 1,964472E+22 | 1,964448E+22 | 1,744110E+22 | 1,375044E+22 | 9,601225E+21 | 6,105454E+21 | 4,159956E+21 | 4,160117E+21 | 6,105939E+21 | 9,601851E+21 |
| -2410             | 1,375093E+22 | 1,744129E+22 | 1,964426E+22 | 1,964436E+22 | 1,744137E+22 | 1,375085E+22 | 9,601521E+21 | 6,105506E+21 | 4,159761E+21 | 4,159670E+21 | 6,105217E+21 | 9,601077E+21 |
| -2409             | 1,375054E+22 | 1,744170E+22 | 1,964530E+22 | 1,964525E+22 | 1,744182E+22 | 1,375099E+22 | 9,601551E+21 | 6,105499E+21 | 4,159708E+21 | 4,159640E+21 | 6,105382E+21 | 9,601627E+21 |
| -2408             | 1,375134E+22 | 1,744221E+22 | 1,964550E+22 | 1,964526E+22 | 1,744152E+22 | 1,375051E+22 | 9,601046E+21 | 6,105085E+21 | 4,159467E+21 | 4,159567E+21 | 6,105324E+21 | 9,601265E+21 |
| -2407             | 1,375061E+22 | 1,744132E+22 | 1,964489E+22 | 1,964537E+22 | 1,744212E+22 | 1,375117E+22 | 9,601559E+21 | 6,105369E+21 | 4,159506E+21 | 4,159394E+21 | 6,105034E+21 | 9,601000E+21 |
| -2406             | 1,375060E+22 | 1,744189E+22 | 1,964548E+22 | 1,964553E+22 | 1,744203E+22 | 1,375096E+22 | 9,601334E+21 | 6,105259E+21 | 4,159566E+21 | 4,159643E+21 | 6,105552E+21 | 9,601769E+21 |
| -2405             | 1,375114E+22 | 1,744175E+22 | 1,964490E+22 | 1,964479E+22 | 1,744152E+22 | 1,375083E+22 | 9,601351E+21 | 6,105245E+21 | 4,159561E+21 | 4,159621E+21 | 6,105320E+21 | 9,601239E+21 |
| -2404             | 1,375049E+22 | 1,744110E+22 | 1,964460E+22 | 1,964493E+22 | 1,744182E+22 | 1,375122E+22 | 9,601847E+21 | 6,105767E+21 | 4,159932E+21 | 4,159798E+21 | 6,105364E+21 | 9,601322E+21 |
| -2403             | 1,375103E+22 | 1,744204E+22 | 1,964508E+22 | 1,964473E+22 | 1,744118E+22 | 1,375046E+22 | 9,601294E+21 | 6,105573E+21 | 4,160079E+21 | 4,160218E+21 | 6,105994E+21 | 9,601843E+21 |
| -2402             | 1,375087E+22 | 1,744122E+22 | 1,964414E+22 | 1,964410E+22 | 1,744102E+22 | 1,375058E+22 | 9,601531E+21 | 6,105848E+21 | 4,160325E+21 | 4,160316E+21 | 6,105767E+21 | 9,601258E+21 |
| -2401             | 1,375013E+22 | 1,744075E+22 | 1,964423E+22 | 1,964441E+22 | 1,744131E+22 | 1,375086E+22 | 9,601872E+21 | 6,106245E+21 | 4,160700E+21 | 4,160660E+21 | 6,106194E+21 | 9,601956E+21 |
| -2400             | 1,375103E+22 | 1,744128E+22 | 1,964418E+22 | 1,964402E+22 | 1,744071E+22 | 1,375026E+22 | 9,601415E+21 | 6,106012E+21 | 4,160740E+21 | 4,160929E+21 | 6,106529E+21 | 9,602013E+21 |
| -2399             | 1,375058E+22 | 1,744039E+22 | 1,964316E+22 | 1,964348E+22 | 1,744085E+22 | 1,375081E+22 | 9,602036E+21 | 6,106490E+21 | 4,160978E+21 | 4,160897E+21 | 6,106221E+21 | 9,601539E+21 |
| -2398             | 1,375029E+22 | 1,744074E+22 | 1,964375E+22 | 1,964369E+22 | 1,744076E+22 | 1,375066E+22 | 9,601995E+21 | 6,106609E+21 | 4,161200E+21 | 4,161189E+21 | 6,106662E+21 | 9,602235E+21 |
| -2397             | 1,375096E+22 | 1,744092E+22 | 1,964354E+22 | 1,964324E+22 | 1,744026E+22 | 1,375030E+22 | 9,601757E+21 | 6,106437E+21 | 4,161141E+21 | 4,161203E+21 | 6,106521E+21 | 9,601685E+21 |
| -2396             | 1,375011E+22 | 1,744002E+22 | 1,964307E+22 | 1,964350E+22 | 1,744086E+22 | 1,375086E+22 | 9,602231E+21 | 6,106791E+21 | 4,161268E+21 | 4,161114E+21 | 6,106327E+21 | 9,601556E+21 |
| -2395             | 1,375039E+22 | 1,744094E+22 | 1,964384E+22 | 1,964369E+22 | 1,744061E+22 | 1,375035E+22 | 9,601658E+21 | 6,106356E+21 | 4,161064E+21 | 4,161179E+21 | 6,106765E+21 | 9,602278E+21 |
| -2394             | 1,375073E+22 | 1,744055E+22 | 1,964327E+22 | 1,964329E+22 | 1,744051E+22 | 1,375044E+22 | 9,601679E+21 | 6,106205E+21 | 4,160808E+21 | 4,160821E+21 | 6,106192E+21 | 9,601539E+21 |
| -2393             | 1,375012E+22 | 1,744027E+22 | 1,964354E+22 | 1,964392E+22 | 1,744112E+22 | 1,375092E+22 | 9,602030E+21 | 6,106362E+21 | 4,160729E+21 | 4,160610E+21 | 6,106074E+21 | 9,601835E+21 |
| -2392             | 1,375111E+22 | 1,744156E+22 | 1,964436E+22 | 1,964411E+22 | 1,744079E+22 | 1,375031E+22 | 9,601356E+21 | 6,105793E+21 | 4,160374E+21 | 4,160492E+21 | 6,106153E+21 | 9,601857E+21 |
| -2391             | 1,375079E+22 | 1,744109E+22 | 1,964397E+22 | 1,964402E+22 | 1,744108E+22 | 1,375075E+22 | 9,601693E+21 | 6,105882E+21 | 4,160212E+21 | 4,160107E+21 | 6,105543E+21 | 9,601120E+21 |
| -2390             | 1,375019E+22 | 1,744117E+22 | 1,964475E+22 | 1,964478E+22 | 1,744147E+22 | 1,375081E+22 | 9,601640E+21 | 6,105865E+21 | 4,160220E+21 | 4,160161E+21 | 6,105792E+21 | 9,601786E+21 |
| -2389             | 1,375109E+22 | 1,744161E+22 | 1,964478E+22 | 1,964465E+22 | 1,744121E+22 | 1,375046E+22 | 9,601211E+21 | 6,105436E+21 | 4,159961E+21 | 4,160088E+21 | 6,105739E+21 | 9,601454E+21 |

| 1                 | 2            | 3            | 4            | 5            | 6            | 7            | 8            | 9            | 10           | 11           | 12           | 13           |
|-------------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|
| Longitude $\odot$ | 0° - 30°     | 30° - 60°    | 60° - 90°    | 90° - 120°   | 120° - 150°  | 150° - 180°  | 180° - 210°  | 210° - 240°  | 240° - 270°  | 270° - 300°  | 300° - 330°  | 330° - 360°  |
| Years             |              |              |              |              |              |              |              |              |              |              |              |              |
| -2388             | 1,375046E+22 | 1,744078E+22 | 1,964403E+22 | 1,964460E+22 | 1,744173E+22 | 1,375114E+22 | 9,601795E+21 | 6,105799E+21 | 4,160048E+21 | 4,159944E+21 | 6,105468E+21 | 9,601209E+21 |
| -2387             | 1,375055E+22 | 1,744158E+22 | 1,964479E+22 | 1,964467E+22 | 1,744140E+22 | 1,375073E+22 | 9,601484E+21 | 6,105668E+21 | 4,160092E+21 | 4,160163E+21 | 6,105956E+21 | 9,601993E+21 |
| -2386             | 1,375111E+22 | 1,744145E+22 | 1,964433E+22 | 1,964407E+22 | 1,744091E+22 | 1,375050E+22 | 9,601420E+21 | 6,105672E+21 | 4,160150E+21 | 4,160187E+21 | 6,105698E+21 | 9,601310E+21 |
| -2385             | 1,375023E+22 | 1,744064E+22 | 1,964400E+22 | 1,964429E+22 | 1,744129E+22 | 1,375094E+22 | 9,601968E+21 | 6,106225E+21 | 4,160551E+21 | 4,160421E+21 | 6,105845E+21 | 9,601506E+21 |
| -2384             | 1,375079E+22 | 1,744146E+22 | 1,964446E+22 | 1,964427E+22 | 1,744085E+22 | 1,375027E+22 | 9,601391E+21 | 6,105975E+21 | 4,160659E+21 | 4,160812E+21 | 6,106447E+21 | 9,602021E+21 |
| -2383             | 1,375068E+22 | 1,744072E+22 | 1,964344E+22 | 1,964347E+22 | 1,744068E+22 | 1,375054E+22 | 9,601745E+21 | 6,106275E+21 | 4,160876E+21 | 4,160895E+21 | 6,106270E+21 | 9,601511E+21 |
| -2382             | 1,374993E+22 | 1,744015E+22 | 1,964340E+22 | 1,964362E+22 | 1,744080E+22 | 1,375071E+22 | 9,602070E+21 | 6,106707E+21 | 4,161288E+21 | 4,161240E+21 | 6,106649E+21 | 9,602204E+21 |
| -2381             | 1,375097E+22 | 1,744083E+22 | 1,964338E+22 | 1,964318E+22 | 1,744021E+22 | 1,375019E+22 | 9,601685E+21 | 6,106500E+21 | 4,161332E+21 | 4,161486E+21 | 6,106901E+21 | 9,602113E+21 |
| -2380             | 1,375044E+22 | 1,744002E+22 | 1,964249E+22 | 1,964271E+22 | 1,744035E+22 | 1,375070E+22 | 9,602307E+21 | 6,107022E+21 | 4,161616E+21 | 4,161498E+21 | 6,106616E+21 | 9,601590E+21 |
| -2379             | 1,375004E+22 | 1,744036E+22 | 1,964324E+22 | 1,964305E+22 | 1,744017E+22 | 1,375035E+22 | 9,602096E+21 | 6,107032E+21 | 4,161771E+21 | 4,161764E+21 | 6,107092E+21 | 9,602374E+21 |
| -2378             | 1,375072E+22 | 1,744040E+22 | 1,964294E+22 | 1,964271E+22 | 1,743985E+22 | 1,375002E+22 | 9,601757E+21 | 6,106779E+21 | 4,161673E+21 | 4,161755E+21 | 6,106948E+21 | 9,601824E+21 |
| -2377             | 1,374984E+22 | 1,743941E+22 | 1,964230E+22 | 1,964282E+22 | 1,744047E+22 | 1,375073E+22 | 9,602338E+21 | 6,107115E+21 | 4,161730E+21 | 4,161610E+21 | 6,106765E+21 | 9,601833E+21 |
| -2376             | 1,375032E+22 | 1,744043E+22 | 1,964318E+22 | 1,964314E+22 | 1,744027E+22 | 1,375025E+22 | 9,601787E+21 | 6,106658E+21 | 4,161457E+21 | 4,161563E+21 | 6,107049E+21 | 9,602444E+21 |
| -2375             | 1,375078E+22 | 1,744037E+22 | 1,964280E+22 | 1,964272E+22 | 1,744013E+22 | 1,375036E+22 | 9,601868E+21 | 6,106552E+21 | 4,161198E+21 | 4,161191E+21 | 6,106474E+21 | 9,601636E+21 |
| -2374             | 1,374998E+22 | 1,744000E+22 | 1,964314E+22 | 1,964336E+22 | 1,744061E+22 | 1,375067E+22 | 9,602128E+21 | 6,106723E+21 | 4,161192E+21 | 4,161039E+21 | 6,106352E+21 | 9,601892E+21 |
| -2373             | 1,375093E+22 | 1,744120E+22 | 1,964395E+22 | 1,964370E+22 | 1,744049E+22 | 1,375020E+22 | 9,601482E+21 | 6,106134E+21 | 4,160841E+21 | 4,160958E+21 | 6,106467E+21 | 9,601885E+21 |
| -2372             | 1,375053E+22 | 1,744064E+22 | 1,964344E+22 | 1,964358E+22 | 1,744088E+22 | 1,375073E+22 | 9,601846E+21 | 6,106236E+21 | 4,160699E+21 | 4,160621E+21 | 6,105946E+21 | 9,601251E+21 |
| -2371             | 1,374998E+22 | 1,744070E+22 | 1,964414E+22 | 1,964419E+22 | 1,744109E+22 | 1,375070E+22 | 9,601756E+21 | 6,106167E+21 | 4,160652E+21 | 4,160632E+21 | 6,106200E+21 | 9,602036E+21 |
| -2370             | 1,375103E+22 | 1,744118E+22 | 1,964413E+22 | 1,964403E+22 | 1,744081E+22 | 1,375031E+22 | 9,601316E+21 | 6,105784E+21 | 4,160434E+21 | 4,160559E+21 | 6,106095E+21 | 9,601615E+21 |
| -2369             | 1,375036E+22 | 1,744037E+22 | 1,964329E+22 | 1,964376E+22 | 1,744120E+22 | 1,375100E+22 | 9,601994E+21 | 6,106234E+21 | 4,160578E+21 | 4,160456E+21 | 6,105851E+21 | 9,601378E+21 |
| -2368             | 1,375044E+22 | 1,744115E+22 | 1,964423E+22 | 1,964407E+22 | 1,744090E+22 | 1,375053E+22 | 9,601653E+21 | 6,106115E+21 | 4,160655E+21 | 4,160692E+21 | 6,106298E+21 | 9,602066E+21 |
| -2367             | 1,375094E+22 | 1,744109E+22 | 1,964384E+22 | 1,964352E+22 | 1,744043E+22 | 1,375028E+22 | 9,601574E+21 | 6,106129E+21 | 4,160740E+21 | 4,160793E+21 | 6,106189E+21 | 9,601464E+21 |
| -2366             | 1,374990E+22 | 1,743998E+22 | 1,964326E+22 | 1,964359E+22 | 1,744076E+22 | 1,375066E+22 | 9,602035E+21 | 6,106652E+21 | 4,161175E+21 | 4,161071E+21 | 6,106378E+21 | 9,601774E+21 |
| -2365             | 1,375063E+22 | 1,744083E+22 | 1,964361E+22 | 1,964348E+22 | 1,744042E+22 | 1,375020E+22 | 9,601573E+21 | 6,106390E+21 | 4,161244E+21 | 4,161427E+21 | 6,106938E+21 | 9,602262E+21 |
| -2364             | 1,375060E+22 | 1,744025E+22 | 1,964264E+22 | 1,964265E+22 | 1,744021E+22 | 1,375047E+22 | 9,602006E+21 | 6,106761E+21 | 4,161482E+21 | 4,161498E+21 | 6,106715E+21 | 9,601699E+21 |
| -2363             | 1,374988E+22 | 1,743986E+22 | 1,964276E+22 | 1,964279E+22 | 1,744017E+22 | 1,375050E+22 | 9,602254E+21 | 6,107164E+21 | 4,161864E+21 | 4,161796E+21 | 6,107035E+21 | 9,602337E+21 |
| -2362             | 1,375086E+22 | 1,744050E+22 | 1,964289E+22 | 1,964257E+22 | 1,743968E+22 | 1,374991E+22 | 9,601793E+21 | 6,106963E+21 | 4,161944E+21 | 4,162057E+21 | 6,107258E+21 | 9,602115E+21 |
| -2361             | 1,375009E+22 | 1,743947E+22 | 1,964188E+22 | 1,964213E+22 | 1,743993E+22 | 1,375053E+22 | 9,602464E+21 | 6,107475E+21 | 4,162212E+21 | 4,162095E+21 | 6,107073E+21 | 9,601733E+21 |
| -2360             | 1,374972E+22 | 1,743966E+22 | 1,964260E+22 | 1,964261E+22 | 1,743990E+22 | 1,375025E+22 | 9,602226E+21 | 6,107403E+21 | 4,162283E+21 | 4,162288E+21 | 6,107499E+21 | 9,602535E+21 |
| -2359             | 1,375054E+22 | 1,743988E+22 | 1,964227E+22 | 1,964212E+22 | 1,743951E+22 | 1,374998E+22 | 9,601951E+21 | 6,107135E+21 | 4,162116E+21 | 4,162237E+21 | 6,107398E+21 | 9,602070E+21 |
| -2358             | 1,374971E+22 | 1,743888E+22 | 1,964155E+22 | 1,964207E+22 | 1,743994E+22 | 1,375055E+22 | 9,602468E+21 | 6,107471E+21 | 4,162187E+21 | 4,162064E+21 | 6,107138E+21 | 9,602075E+21 |
| -2357             | 1,375037E+22 | 1,744014E+22 | 1,964256E+22 | 1,964239E+22 | 1,743980E+22 | 1,375017E+22 | 9,601964E+21 | 6,107013E+21 | 4,161907E+21 | 4,161995E+21 | 6,107336E+21 | 9,602518E+21 |
| -2356             | 1,375071E+22 | 1,744018E+22 | 1,964242E+22 | 1,964216E+22 | 1,743969E+22 | 1,375023E+22 | 9,602037E+21 | 6,106943E+21 | 4,161690E+21 | 4,161665E+21 | 6,106786E+21 | 9,601679E+21 |
| -2355             | 1,374983E+22 | 1,743975E+22 | 1,964281E+22 | 1,964294E+22 | 1,744018E+22 | 1,375040E+22 | 9,602153E+21 | 6,107020E+21 | 4,161636E+21 | 4,161505E+21 | 6,106711E+21 | 9,602014E+21 |
| -2354             | 1,375075E+22 | 1,744076E+22 | 1,964345E+22 | 1,964330E+22 | 1,744022E+22 | 1,375000E+22 | 9,601478E+21 | 6,106410E+21 | 4,161280E+21 | 4,161410E+21 | 6,106811E+21 | 9,601986E+21 |
| -2353             | 1,375029E+22 | 1,744007E+22 | 1,964275E+22 | 1,964297E+22 | 1,744058E+22 | 1,375069E+22 | 9,602007E+21 | 6,106558E+21 | 4,161128E+21 | 4,161075E+21 | 6,106343E+21 | 9,601491E+21 |

| 1                 | 2            | 3            | 4            | 5            | 6            | 7            | 8            | 9            | 10           | 11           | 12           | 13           |
|-------------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|
| Longitude $\odot$ | 0° - 30°     | 30° - 60°    | 60° - 90°    | 90° - 120°   | 120° - 150°  | 150° - 180°  | 180° - 210°  | 210° - 240°  | 240° - 270°  | 270° - 300°  | 300° - 330°  | 330° - 360°  |
| Years             |              |              |              |              |              |              |              |              |              |              |              |              |
| -2352             | 1,374989E+22 | 1,744016E+22 | 1,964348E+22 | 1,964361E+22 | 1,744071E+22 | 1,375063E+22 | 9,601951E+21 | 6,106526E+21 | 4,161080E+21 | 4,161039E+21 | 6,106483E+21 | 9,602133E+21 |
| -2351             | 1,375097E+22 | 1,744089E+22 | 1,964358E+22 | 1,964334E+22 | 1,744032E+22 | 1,375021E+22 | 9,601554E+21 | 6,106210E+21 | 4,160917E+21 | 4,161028E+21 | 6,106449E+21 | 9,601697E+21 |
| -2350             | 1,375014E+22 | 1,743993E+22 | 1,964273E+22 | 1,964305E+22 | 1,744055E+22 | 1,375069E+22 | 9,602111E+21 | 6,106683E+21 | 4,161168E+21 | 4,161026E+21 | 6,106254E+21 | 9,601496E+21 |
| -2349             | 1,375025E+22 | 1,744067E+22 | 1,964359E+22 | 1,964339E+22 | 1,744043E+22 | 1,375036E+22 | 9,601782E+21 | 6,106544E+21 | 4,161261E+21 | 4,161310E+21 | 6,106751E+21 | 9,602177E+21 |
| -2348             | 1,375071E+22 | 1,744057E+22 | 1,964316E+22 | 1,964288E+22 | 1,744005E+22 | 1,375017E+22 | 9,601739E+21 | 6,106571E+21 | 4,161357E+21 | 4,161441E+21 | 6,106708E+21 | 9,601693E+21 |
| -2347             | 1,374977E+22 | 1,743949E+22 | 1,964256E+22 | 1,964287E+22 | 1,744024E+22 | 1,375045E+22 | 9,602154E+21 | 6,107039E+21 | 4,161728E+21 | 4,161661E+21 | 6,106874E+21 | 9,602061E+21 |
| -2346             | 1,375059E+22 | 1,744038E+22 | 1,964291E+22 | 1,964279E+22 | 1,743995E+22 | 1,375001E+22 | 9,601720E+21 | 6,106838E+21 | 4,161828E+21 | 4,161988E+21 | 6,107343E+21 | 9,602399E+21 |
| -2345             | 1,375046E+22 | 1,743981E+22 | 1,964195E+22 | 1,964187E+22 | 1,743970E+22 | 1,375038E+22 | 9,602269E+21 | 6,107276E+21 | 4,162103E+21 | 4,162094E+21 | 6,107150E+21 | 9,601839E+21 |
| -2344             | 1,374966E+22 | 1,743933E+22 | 1,964221E+22 | 1,964224E+22 | 1,743970E+22 | 1,375034E+22 | 9,602480E+21 | 6,107665E+21 | 4,162482E+21 | 4,162380E+21 | 6,107415E+21 | 9,602358E+21 |
| -2343             | 1,375056E+22 | 1,744000E+22 | 1,964232E+22 | 1,964204E+22 | 1,743929E+22 | 1,374978E+22 | 9,601989E+21 | 6,107431E+21 | 4,162541E+21 | 4,162680E+21 | 6,107773E+21 | 9,602265E+21 |
| -2342             | 1,374973E+22 | 1,743871E+22 | 1,964103E+22 | 1,964138E+22 | 1,743941E+22 | 1,375030E+22 | 9,602561E+21 | 6,107883E+21 | 4,162795E+21 | 4,162705E+21 | 6,107590E+21 | 9,602022E+21 |
| -2341             | 1,374962E+22 | 1,743904E+22 | 1,964166E+22 | 1,964174E+22 | 1,743944E+22 | 1,375020E+22 | 9,602402E+21 | 6,107771E+21 | 4,162787E+21 | 4,162815E+21 | 6,107931E+21 | 9,602773E+21 |
| -2340             | 1,375056E+22 | 1,743952E+22 | 1,964156E+22 | 1,964134E+22 | 1,743901E+22 | 1,374987E+22 | 9,602152E+21 | 6,107533E+21 | 4,162601E+21 | 4,162711E+21 | 6,107759E+21 | 9,602263E+21 |
| -2339             | 1,374977E+22 | 1,743873E+22 | 1,964109E+22 | 1,964139E+22 | 1,743933E+22 | 1,375025E+22 | 9,602537E+21 | 6,107787E+21 | 4,162611E+21 | 4,162477E+21 | 6,107432E+21 | 9,602189E+21 |
| -2338             | 1,375034E+22 | 1,743999E+22 | 1,964230E+22 | 1,964201E+22 | 1,743938E+22 | 1,374988E+22 | 9,601987E+21 | 6,107331E+21 | 4,162349E+21 | 4,162408E+21 | 6,107592E+21 | 9,602497E+21 |
| -2337             | 1,375045E+22 | 1,743981E+22 | 1,964205E+22 | 1,964182E+22 | 1,743943E+22 | 1,375011E+22 | 9,602126E+21 | 6,107246E+21 | 4,162116E+21 | 4,162106E+21 | 6,107126E+21 | 9,601763E+21 |
| -2336             | 1,374955E+22 | 1,743919E+22 | 1,964235E+22 | 1,964266E+22 | 1,744003E+22 | 1,375039E+22 | 9,602281E+21 | 6,107301E+21 | 4,162018E+21 | 4,161896E+21 | 6,107001E+21 | 9,602075E+21 |
| -2335             | 1,375056E+22 | 1,744031E+22 | 1,964291E+22 | 1,964286E+22 | 1,744000E+22 | 1,375003E+22 | 9,601696E+21 | 6,106735E+21 | 4,161664E+21 | 4,161820E+21 | 6,107173E+21 | 9,602137E+21 |
| -2334             | 1,375011E+22 | 1,743951E+22 | 1,964197E+22 | 1,964223E+22 | 1,744007E+22 | 1,375055E+22 | 9,602191E+21 | 6,106957E+21 | 4,161606E+21 | 4,161532E+21 | 6,106694E+21 | 9,601675E+21 |
| -2333             | 1,374986E+22 | 1,743977E+22 | 1,964273E+22 | 1,964276E+22 | 1,744020E+22 | 1,375056E+22 | 9,602178E+21 | 6,106964E+21 | 4,161616E+21 | 4,161549E+21 | 6,106830E+21 | 9,602193E+21 |
| -2332             | 1,375082E+22 | 1,744056E+22 | 1,964306E+22 | 1,964267E+22 | 1,743975E+22 | 1,374999E+22 | 9,601743E+21 | 6,106691E+21 | 4,161525E+21 | 4,161625E+21 | 6,106883E+21 | 9,601818E+21 |
| -2331             | 1,374997E+22 | 1,743952E+22 | 1,964219E+22 | 1,964245E+22 | 1,743996E+22 | 1,375031E+22 | 9,602115E+21 | 6,107046E+21 | 4,161737E+21 | 4,161642E+21 | 6,106764E+21 | 9,601727E+21 |
| -2330             | 1,375011E+22 | 1,744017E+22 | 1,964294E+22 | 1,964281E+22 | 1,743999E+22 | 1,375007E+22 | 9,601790E+21 | 6,106899E+21 | 4,161821E+21 | 4,161901E+21 | 6,107234E+21 | 9,602388E+21 |
| -2329             | 1,375055E+22 | 1,744001E+22 | 1,964239E+22 | 1,964216E+22 | 1,743963E+22 | 1,375008E+22 | 9,601912E+21 | 6,106972E+21 | 4,161905E+21 | 4,162018E+21 | 6,107201E+21 | 9,601973E+21 |
| -2328             | 1,374970E+22 | 1,743900E+22 | 1,964190E+22 | 1,964224E+22 | 1,743981E+22 | 1,375038E+22 | 9,602395E+21 | 6,107492E+21 | 4,162275E+21 | 4,162179E+21 | 6,107230E+21 | 9,602157E+21 |
| -2327             | 1,375048E+22 | 1,744006E+22 | 1,964236E+22 | 1,964215E+22 | 1,743949E+22 | 1,374993E+22 | 9,602012E+21 | 6,107352E+21 | 4,162419E+21 | 4,162560E+21 | 6,107756E+21 | 9,602458E+21 |
| -2326             | 1,375013E+22 | 1,743922E+22 | 1,964128E+22 | 1,964118E+22 | 1,743912E+22 | 1,375014E+22 | 9,602473E+21 | 6,107810E+21 | 4,162775E+21 | 4,162742E+21 | 6,107618E+21 | 9,601974E+21 |
| -2325             | 1,374941E+22 | 1,743867E+22 | 1,964136E+22 | 1,964150E+22 | 1,743929E+22 | 1,375027E+22 | 9,602682E+21 | 6,108143E+21 | 4,163123E+21 | 4,163035E+21 | 6,107915E+21 | 9,602486E+21 |
| -2324             | 1,375027E+22 | 1,743937E+22 | 1,964151E+22 | 1,964130E+22 | 1,743885E+22 | 1,374969E+22 | 9,602202E+21 | 6,107887E+21 | 4,163142E+21 | 4,163303E+21 | 6,108291E+21 | 9,602544E+21 |
| -2323             | 1,374967E+22 | 1,743823E+22 | 1,964026E+22 | 1,964058E+22 | 1,743881E+22 | 1,375004E+22 | 9,602648E+21 | 6,108229E+21 | 4,163289E+21 | 4,163232E+21 | 6,108051E+21 | 9,602336E+21 |
| -2322             | 1,374970E+22 | 1,743874E+22 | 1,964100E+22 | 1,964101E+22 | 1,743887E+22 | 1,374990E+22 | 9,602474E+21 | 6,108132E+21 | 4,163258E+21 | 4,163256E+21 | 6,108243E+21 | 9,602888E+21 |
| -2321             | 1,375051E+22 | 1,743929E+22 | 1,964108E+22 | 1,964071E+22 | 1,743853E+22 | 1,374971E+22 | 9,602307E+21 | 6,107911E+21 | 4,163070E+21 | 4,163155E+21 | 6,108073E+21 | 9,602354E+21 |
| -2320             | 1,374961E+22 | 1,743844E+22 | 1,964087E+22 | 1,964111E+22 | 1,743896E+22 | 1,375006E+22 | 9,602645E+21 | 6,108130E+21 | 4,163048E+21 | 4,162887E+21 | 6,107684E+21 | 9,602151E+21 |
| -2319             | 1,375007E+22 | 1,743961E+22 | 1,964196E+22 | 1,964176E+22 | 1,743918E+22 | 1,374980E+22 | 9,602113E+21 | 6,107649E+21 | 4,162769E+21 | 4,162856E+21 | 6,107958E+21 | 9,602551E+21 |
| -2318             | 1,375008E+22 | 1,743914E+22 | 1,964138E+22 | 1,964133E+22 | 1,743914E+22 | 1,375001E+22 | 9,602241E+21 | 6,107565E+21 | 4,162562E+21 | 4,162569E+21 | 6,107514E+21 | 9,601969E+21 |
| -2317             | 1,374944E+22 | 1,743861E+22 | 1,964146E+22 | 1,964191E+22 | 1,743971E+22 | 1,375044E+22 | 9,602496E+21 | 6,107647E+21 | 4,162458E+21 | 4,162341E+21 | 6,107342E+21 | 9,602196E+21 |

| 1                 | 2            | 3            | 4            | 5            | 6            | 7            | 8            | 9            | 10           | 11           | 12           | 13           |
|-------------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|
| Longitude $\odot$ | 0° - 30°     | 30° - 60°    | 60° - 90°    | 90° - 120°   | 120° - 150°  | 150° - 180°  | 180° - 210°  | 210° - 240°  | 240° - 270°  | 270° - 300°  | 300° - 330°  | 330° - 360°  |
| Years             |              |              |              |              |              |              |              |              |              |              |              |              |
| -2316             | 1,375045E+22 | 1,743991E+22 | 1,964221E+22 | 1,964212E+22 | 1,743953E+22 | 1,374996E+22 | 9,601942E+21 | 6,107164E+21 | 4,162158E+21 | 4,162280E+21 | 6,107503E+21 | 9,602281E+21 |
| -2315             | 1,375009E+22 | 1,743925E+22 | 1,964142E+22 | 1,964151E+22 | 1,743940E+22 | 1,375021E+22 | 9,602263E+21 | 6,107326E+21 | 4,162105E+21 | 4,162023E+21 | 6,107057E+21 | 9,601815E+21 |
| -2314             | 1,374978E+22 | 1,743948E+22 | 1,964227E+22 | 1,964223E+22 | 1,743963E+22 | 1,375016E+22 | 9,602199E+21 | 6,107347E+21 | 4,162151E+21 | 4,162073E+21 | 6,107208E+21 | 9,602267E+21 |
| -2313             | 1,375057E+22 | 1,744011E+22 | 1,964251E+22 | 1,964217E+22 | 1,743938E+22 | 1,374981E+22 | 9,601830E+21 | 6,107054E+21 | 4,162055E+21 | 4,162196E+21 | 6,107376E+21 | 9,602043E+21 |
| -2312             | 1,374976E+22 | 1,743899E+22 | 1,964165E+22 | 1,964201E+22 | 1,743965E+22 | 1,375021E+22 | 9,602238E+21 | 6,107383E+21 | 4,162218E+21 | 4,162152E+21 | 6,107183E+21 | 9,601914E+21 |
| -2311             | 1,375000E+22 | 1,743974E+22 | 1,964233E+22 | 1,964228E+22 | 1,743968E+22 | 1,375006E+22 | 9,602026E+21 | 6,107298E+21 | 4,162318E+21 | 4,162430E+21 | 6,107684E+21 | 9,602586E+21 |
| -2310             | 1,375038E+22 | 1,743946E+22 | 1,964158E+22 | 1,964139E+22 | 1,743911E+22 | 1,374996E+22 | 9,602158E+21 | 6,107474E+21 | 4,162511E+21 | 4,162593E+21 | 6,107622E+21 | 9,602152E+21 |
| -2309             | 1,374963E+22 | 1,743856E+22 | 1,964106E+22 | 1,964137E+22 | 1,743931E+22 | 1,375035E+22 | 9,602706E+21 | 6,108054E+21 | 4,162947E+21 | 4,162809E+21 | 6,107645E+21 | 9,602188E+21 |
| -2308             | 1,375018E+22 | 1,743957E+22 | 1,964172E+22 | 1,964147E+22 | 1,743894E+22 | 1,374976E+22 | 9,602287E+21 | 6,107947E+21 | 4,163141E+21 | 4,163248E+21 | 6,108247E+21 | 9,602601E+21 |
| -2307             | 1,374988E+22 | 1,743859E+22 | 1,964049E+22 | 1,964044E+22 | 1,743850E+22 | 1,374980E+22 | 9,602544E+21 | 6,108258E+21 | 4,163422E+21 | 4,163420E+21 | 6,108181E+21 | 9,602245E+21 |
| -2306             | 1,374926E+22 | 1,743808E+22 | 1,964050E+22 | 1,964073E+22 | 1,743873E+22 | 1,374997E+22 | 9,602747E+21 | 6,108542E+21 | 4,163695E+21 | 4,163629E+21 | 6,108413E+21 | 9,602738E+21 |
| -2305             | 1,375016E+22 | 1,743886E+22 | 1,964068E+22 | 1,964047E+22 | 1,743830E+22 | 1,374953E+22 | 9,602357E+21 | 6,108266E+21 | 4,163647E+21 | 4,163828E+21 | 6,108742E+21 | 9,602819E+21 |
| -2304             | 1,374964E+22 | 1,743791E+22 | 1,963973E+22 | 1,963995E+22 | 1,743830E+22 | 1,374985E+22 | 9,602781E+21 | 6,108583E+21 | 4,163733E+21 | 4,163648E+21 | 6,108326E+21 | 9,602410E+21 |
| -2303             | 1,374965E+22 | 1,743861E+22 | 1,964071E+22 | 1,964058E+22 | 1,743847E+22 | 1,374975E+22 | 9,602623E+21 | 6,108494E+21 | 4,163709E+21 | 4,163698E+21 | 6,108547E+21 | 9,602894E+21 |
| -2302             | 1,375021E+22 | 1,743885E+22 | 1,964064E+22 | 1,964032E+22 | 1,743816E+22 | 1,374950E+22 | 9,602410E+21 | 6,108290E+21 | 4,163572E+21 | 4,163635E+21 | 6,108402E+21 | 9,602418E+21 |
| -2301             | 1,374938E+22 | 1,743793E+22 | 1,964021E+22 | 1,964065E+22 | 1,743882E+22 | 1,375010E+22 | 9,602807E+21 | 6,108480E+21 | 4,163523E+21 | 4,163369E+21 | 6,108037E+21 | 9,602194E+21 |
| -2300             | 1,374974E+22 | 1,743907E+22 | 1,964133E+22 | 1,964126E+22 | 1,743894E+22 | 1,374982E+22 | 9,602342E+21 | 6,108029E+21 | 4,163233E+21 | 4,163316E+21 | 6,108326E+21 | 9,602741E+21 |
| -2299             | 1,374997E+22 | 1,743863E+22 | 1,964064E+22 | 1,964065E+22 | 1,743866E+22 | 1,374983E+22 | 9,602355E+21 | 6,107881E+21 | 4,162981E+21 | 4,163006E+21 | 6,107890E+21 | 9,602215E+21 |
| -2298             | 1,374948E+22 | 1,743830E+22 | 1,964075E+22 | 1,964117E+22 | 1,743916E+22 | 1,375018E+22 | 9,602605E+21 | 6,108008E+21 | 4,162904E+21 | 4,162764E+21 | 6,107652E+21 | 9,602306E+21 |
| -2297             | 1,375034E+22 | 1,743963E+22 | 1,964167E+22 | 1,964143E+22 | 1,743898E+22 | 1,374976E+22 | 9,602087E+21 | 6,107548E+21 | 4,162647E+21 | 4,162764E+21 | 6,107875E+21 | 9,602422E+21 |
| -2296             | 1,374993E+22 | 1,743895E+22 | 1,964111E+22 | 1,964111E+22 | 1,743893E+22 | 1,374992E+22 | 9,602314E+21 | 6,107668E+21 | 4,162587E+21 | 4,162508E+21 | 6,107417E+21 | 9,601908E+21 |
| -2295             | 1,374959E+22 | 1,743913E+22 | 1,964184E+22 | 1,964186E+22 | 1,743933E+22 | 1,374998E+22 | 9,602260E+21 | 6,107666E+21 | 4,162634E+21 | 4,162611E+21 | 6,107670E+21 | 9,602440E+21 |
| -2294             | 1,375030E+22 | 1,743948E+22 | 1,964175E+22 | 1,964157E+22 | 1,743899E+22 | 1,374968E+22 | 9,601958E+21 | 6,107430E+21 | 4,162581E+21 | 4,162742E+21 | 6,107836E+21 | 9,602330E+21 |
| -2293             | 1,374973E+22 | 1,743849E+22 | 1,964075E+22 | 1,964122E+22 | 1,743930E+22 | 1,375025E+22 | 9,602500E+21 | 6,107830E+21 | 4,162770E+21 | 4,162695E+21 | 6,107583E+21 | 9,602045E+21 |
| -2292             | 1,374984E+22 | 1,743934E+22 | 1,964163E+22 | 1,964152E+22 | 1,743919E+22 | 1,375001E+22 | 9,602363E+21 | 6,107861E+21 | 4,162950E+21 | 4,162996E+21 | 6,108058E+21 | 9,602707E+21 |
| -2291             | 1,375025E+22 | 1,743908E+22 | 1,964095E+22 | 1,964065E+22 | 1,743846E+22 | 1,374967E+22 | 9,602330E+21 | 6,107987E+21 | 4,163169E+21 | 4,163229E+21 | 6,108070E+21 | 9,602284E+21 |
| -2290             | 1,374944E+22 | 1,743810E+22 | 1,964037E+22 | 1,964067E+22 | 1,743871E+22 | 1,375000E+22 | 9,602826E+21 | 6,108563E+21 | 4,163614E+21 | 4,163461E+21 | 6,108115E+21 | 9,602273E+21 |
| -2289             | 1,374981E+22 | 1,743891E+22 | 1,964092E+22 | 1,964077E+22 | 1,743850E+22 | 1,374960E+22 | 9,602440E+21 | 6,108403E+21 | 4,163774E+21 | 4,163909E+21 | 6,108802E+21 | 9,602855E+21 |
| -2288             | 1,374963E+22 | 1,743800E+22 | 1,963981E+22 | 1,963981E+22 | 1,743803E+22 | 1,374961E+22 | 9,602664E+21 | 6,108644E+21 | 4,163959E+21 | 4,163980E+21 | 6,108644E+21 | 9,602489E+21 |
| -2287             | 1,374918E+22 | 1,743765E+22 | 1,963982E+22 | 1,964007E+22 | 1,743828E+22 | 1,374982E+22 | 9,602907E+21 | 6,108921E+21 | 4,164193E+21 | 4,164155E+21 | 6,108854E+21 | 9,602943E+21 |
| -2286             | 1,375003E+22 | 1,743840E+22 | 1,963994E+22 | 1,963971E+22 | 1,743777E+22 | 1,374935E+22 | 9,602536E+21 | 6,108704E+21 | 4,164189E+21 | 4,164340E+21 | 6,109114E+21 | 9,602995E+21 |
| -2285             | 1,374961E+22 | 1,743763E+22 | 1,963911E+22 | 1,963927E+22 | 1,743789E+22 | 1,374978E+22 | 9,602990E+21 | 6,109023E+21 | 4,164283E+21 | 4,164167E+21 | 6,108655E+21 | 9,602407E+21 |
| -2284             | 1,374935E+22 | 1,743823E+22 | 1,964029E+22 | 1,964016E+22 | 1,743813E+22 | 1,374963E+22 | 9,602820E+21 | 6,108944E+21 | 4,164268E+21 | 4,164225E+21 | 6,108911E+21 | 9,602996E+21 |
| -2283             | 1,374997E+22 | 1,743831E+22 | 1,964001E+22 | 1,963983E+22 | 1,743780E+22 | 1,374928E+22 | 9,602441E+21 | 6,108604E+21 | 4,164055E+21 | 4,164150E+21 | 6,108828E+21 | 9,602629E+21 |
| -2282             | 1,374925E+22 | 1,743743E+22 | 1,963945E+22 | 1,964001E+22 | 1,743842E+22 | 1,374992E+22 | 9,602894E+21 | 6,108790E+21 | 4,163945E+21 | 4,163807E+21 | 6,108403E+21 | 9,602374E+21 |
| -2281             | 1,374959E+22 | 1,743859E+22 | 1,964059E+22 | 1,964056E+22 | 1,743854E+22 | 1,374975E+22 | 9,602520E+21 | 6,108360E+21 | 4,163640E+21 | 4,163727E+21 | 6,108668E+21 | 9,602941E+21 |



| 1                 | 2            | 3            | 4            | 5            | 6            | 7            | 8            | 9            | 10           | 11           | 12           | 13           |
|-------------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|
| Longitude $\odot$ | 0° - 30°     | 30° - 60°    | 60° - 90°    | 90° - 120°   | 120° - 150°  | 150° - 180°  | 180° - 210°  | 210° - 240°  | 240° - 270°  | 270° - 300°  | 300° - 330°  | 330° - 360°  |
| Years             |              |              |              |              |              |              |              |              |              |              |              |              |
| -2280             | 1,374991E+22 | 1,743838E+22 | 1,964020E+22 | 1,964005E+22 | 1,743816E+22 | 1,374964E+22 | 9,602477E+21 | 6,108204E+21 | 4,163372E+21 | 4,163369E+21 | 6,108135E+21 | 9,602291E+21 |
| -2279             | 1,374942E+22 | 1,743817E+22 | 1,964046E+22 | 1,964071E+22 | 1,743872E+22 | 1,374997E+22 | 9,602703E+21 | 6,108329E+21 | 4,163336E+21 | 4,163207E+21 | 6,107975E+21 | 9,602358E+21 |
| -2278             | 1,375007E+22 | 1,743920E+22 | 1,964117E+22 | 1,964097E+22 | 1,743858E+22 | 1,374953E+22 | 9,602163E+21 | 6,107908E+21 | 4,163150E+21 | 4,163269E+21 | 6,108258E+21 | 9,602577E+21 |
| -2277             | 1,374977E+22 | 1,743850E+22 | 1,964043E+22 | 1,964057E+22 | 1,743873E+22 | 1,374991E+22 | 9,602446E+21 | 6,108019E+21 | 4,163091E+21 | 4,163035E+21 | 6,107823E+21 | 9,602035E+21 |
| -2276             | 1,374936E+22 | 1,743866E+22 | 1,964125E+22 | 1,964133E+22 | 1,743904E+22 | 1,374997E+22 | 9,602490E+21 | 6,108090E+21 | 4,163164E+21 | 4,163127E+21 | 6,108075E+21 | 9,602687E+21 |
| -2275             | 1,375025E+22 | 1,743899E+22 | 1,964097E+22 | 1,964084E+22 | 1,743850E+22 | 1,374949E+22 | 9,602110E+21 | 6,107844E+21 | 4,163119E+21 | 4,163276E+21 | 6,108247E+21 | 9,602552E+21 |
| -2274             | 1,374971E+22 | 1,743815E+22 | 1,964001E+22 | 1,964042E+22 | 1,743871E+22 | 1,375002E+22 | 9,602712E+21 | 6,108337E+21 | 4,163368E+21 | 4,163253E+21 | 6,107966E+21 | 9,602124E+21 |
| -2273             | 1,374958E+22 | 1,743889E+22 | 1,964100E+22 | 1,964078E+22 | 1,743862E+22 | 1,374982E+22 | 9,602601E+21 | 6,108395E+21 | 4,163611E+21 | 4,163637E+21 | 6,108518E+21 | 9,602805E+21 |
| -2272             | 1,374991E+22 | 1,743854E+22 | 1,964041E+22 | 1,964007E+22 | 1,743793E+22 | 1,374938E+22 | 9,602451E+21 | 6,108457E+21 | 4,163807E+21 | 4,163872E+21 | 6,108557E+21 | 9,602427E+21 |
| -2271             | 1,374916E+22 | 1,743753E+22 | 1,963966E+22 | 1,964005E+22 | 1,743830E+22 | 1,374981E+22 | 9,602919E+21 | 6,108957E+21 | 4,164215E+21 | 4,164127E+21 | 6,108684E+21 | 9,602527E+21 |
| -2270             | 1,374953E+22 | 1,743815E+22 | 1,963993E+22 | 1,963990E+22 | 1,743797E+22 | 1,374942E+22 | 9,602584E+21 | 6,108830E+21 | 4,164366E+21 | 4,164525E+21 | 6,109322E+21 | 9,603200E+21 |
| -2269             | 1,374965E+22 | 1,743751E+22 | 1,963884E+22 | 1,963890E+22 | 1,743756E+22 | 1,374953E+22 | 9,602874E+21 | 6,109087E+21 | 4,164526E+21 | 4,164537E+21 | 6,109054E+21 | 9,602658E+21 |
| -2268             | 1,374910E+22 | 1,743735E+22 | 1,963924E+22 | 1,963936E+22 | 1,743775E+22 | 1,374966E+22 | 9,603143E+21 | 6,109418E+21 | 4,164778E+21 | 4,164677E+21 | 6,109198E+21 | 9,603086E+21 |
| -2267             | 1,374994E+22 | 1,743806E+22 | 1,963943E+22 | 1,963911E+22 | 1,743722E+22 | 1,374905E+22 | 9,602629E+21 | 6,109121E+21 | 4,164750E+21 | 4,164886E+21 | 6,109493E+21 | 9,603100E+21 |
| -2266             | 1,374945E+22 | 1,743727E+22 | 1,963861E+22 | 1,963879E+22 | 1,743747E+22 | 1,374953E+22 | 9,603086E+21 | 6,109413E+21 | 4,164799E+21 | 4,164686E+21 | 6,109033E+21 | 9,602468E+21 |
| -2265             | 1,374901E+22 | 1,743767E+22 | 1,963968E+22 | 1,963966E+22 | 1,743788E+22 | 1,374960E+22 | 9,602977E+21 | 6,109287E+21 | 4,164735E+21 | 4,164719E+21 | 6,109316E+21 | 9,603160E+21 |
| -2264             | 1,374974E+22 | 1,743782E+22 | 1,963949E+22 | 1,963934E+22 | 1,743749E+22 | 1,374921E+22 | 9,602573E+21 | 6,108894E+21 | 4,164440E+21 | 4,164549E+21 | 6,109152E+21 | 9,602802E+21 |
| -2263             | 1,374920E+22 | 1,743711E+22 | 1,963887E+22 | 1,963942E+22 | 1,743807E+22 | 1,374983E+22 | 9,603034E+21 | 6,109083E+21 | 4,164329E+21 | 4,164209E+21 | 6,108720E+21 | 9,602505E+21 |
| -2262             | 1,374945E+22 | 1,743816E+22 | 1,963991E+22 | 1,963983E+22 | 1,743805E+22 | 1,374960E+22 | 9,602689E+21 | 6,108746E+21 | 4,164102E+21 | 4,164153E+21 | 6,108963E+21 | 9,603078E+21 |
| -2261             | 1,374987E+22 | 1,743811E+22 | 1,963965E+22 | 1,963944E+22 | 1,743775E+22 | 1,374950E+22 | 9,602634E+21 | 6,108604E+21 | 4,163879E+21 | 4,163853E+21 | 6,108452E+21 | 9,602315E+21 |
| -2260             | 1,374915E+22 | 1,743779E+22 | 1,964008E+22 | 1,964031E+22 | 1,743835E+22 | 1,374978E+22 | 9,602825E+21 | 6,108737E+21 | 4,163870E+21 | 4,163720E+21 | 6,108359E+21 | 9,602526E+21 |
| -2259             | 1,374989E+22 | 1,743867E+22 | 1,964055E+22 | 1,964043E+22 | 1,743819E+22 | 1,374929E+22 | 9,602183E+21 | 6,108223E+21 | 4,163648E+21 | 4,163810E+21 | 6,108714E+21 | 9,602838E+21 |
| -2258             | 1,374972E+22 | 1,743808E+22 | 1,963972E+22 | 1,963987E+22 | 1,743826E+22 | 1,374972E+22 | 9,602558E+21 | 6,108366E+21 | 4,163561E+21 | 4,163528E+21 | 6,108218E+21 | 9,602213E+21 |
| -2257             | 1,374921E+22 | 1,743819E+22 | 1,964052E+22 | 1,964060E+22 | 1,743862E+22 | 1,374990E+22 | 9,602712E+21 | 6,108507E+21 | 4,163678E+21 | 4,163633E+21 | 6,108444E+21 | 9,602822E+21 |
| -2256             | 1,375010E+22 | 1,743868E+22 | 1,964051E+22 | 1,964022E+22 | 1,743800E+22 | 1,374930E+22 | 9,602281E+21 | 6,108280E+21 | 4,163663E+21 | 4,163785E+21 | 6,108580E+21 | 9,602616E+21 |
| -2255             | 1,374952E+22 | 1,743781E+22 | 1,963954E+22 | 1,963984E+22 | 1,743823E+22 | 1,374981E+22 | 9,602863E+21 | 6,108783E+21 | 4,163975E+21 | 4,163872E+21 | 6,108408E+21 | 9,602195E+21 |
| -2254             | 1,374918E+22 | 1,743816E+22 | 1,964021E+22 | 1,964012E+22 | 1,743817E+22 | 1,374964E+22 | 9,602766E+21 | 6,108886E+21 | 4,164268E+21 | 4,164304E+21 | 6,109037E+21 | 9,603021E+21 |
| -2253             | 1,374969E+22 | 1,743788E+22 | 1,963947E+22 | 1,963929E+22 | 1,743757E+22 | 1,374933E+22 | 9,602647E+21 | 6,108920E+21 | 4,164441E+21 | 4,164534E+21 | 6,109089E+21 | 9,602646E+21 |
| -2252             | 1,374893E+22 | 1,743694E+22 | 1,963887E+22 | 1,963928E+22 | 1,743781E+22 | 1,374970E+22 | 9,603154E+21 | 6,109443E+21 | 4,164826E+21 | 4,164728E+21 | 6,109177E+21 | 9,602864E+21 |
| -2251             | 1,374954E+22 | 1,743764E+22 | 1,963907E+22 | 1,963901E+22 | 1,743733E+22 | 1,374916E+22 | 9,602714E+21 | 6,109266E+21 | 4,164951E+21 | 4,165111E+21 | 6,109777E+21 | 9,603464E+21 |
| -2250             | 1,374972E+22 | 1,743727E+22 | 1,963820E+22 | 1,963806E+22 | 1,743689E+22 | 1,374925E+22 | 9,603039E+21 | 6,109552E+21 | 4,165100E+21 | 4,165086E+21 | 6,109431E+21 | 9,602744E+21 |
| -2249             | 1,374891E+22 | 1,743701E+22 | 1,963878E+22 | 1,963879E+22 | 1,743728E+22 | 1,374948E+22 | 9,603322E+21 | 6,109874E+21 | 4,165363E+21 | 4,165249E+21 | 6,109597E+21 | 9,603153E+21 |
| -2248             | 1,374965E+22 | 1,743765E+22 | 1,963907E+22 | 1,963873E+22 | 1,743688E+22 | 1,374885E+22 | 9,602711E+21 | 6,109489E+21 | 4,165264E+21 | 4,165406E+21 | 6,109880E+21 | 9,603201E+21 |
| -2247             | 1,374920E+22 | 1,743679E+22 | 1,963807E+22 | 1,963835E+22 | 1,743724E+22 | 1,374946E+22 | 9,603179E+21 | 6,109708E+21 | 4,165256E+21 | 4,165196E+21 | 6,109459E+21 | 9,602638E+21 |
| -2246             | 1,374874E+22 | 1,743696E+22 | 1,963884E+22 | 1,963896E+22 | 1,743751E+22 | 1,374956E+22 | 9,603168E+21 | 6,109641E+21 | 4,165182E+21 | 4,165171E+21 | 6,109680E+21 | 9,603372E+21 |
| -2245             | 1,374970E+22 | 1,743738E+22 | 1,963867E+22 | 1,963857E+22 | 1,743713E+22 | 1,374919E+22 | 9,602797E+21 | 6,109276E+21 | 4,164887E+21 | 4,164971E+21 | 6,109439E+21 | 9,602876E+21 |

| 1                 | 2            | 3            | 4            | 5            | 6            | 7            | 8            | 9            | 10           | 11           | 12           | 13           |
|-------------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|
| Longitude $\odot$ | 0° - 30°     | 30° - 60°    | 60° - 90°    | 90° - 120°   | 120° - 150°  | 150° - 180°  | 180° - 210°  | 210° - 240°  | 240° - 270°  | 270° - 300°  | 300° - 330°  | 330° - 360°  |
| Years             |              |              |              |              |              |              |              |              |              |              |              |              |
| -2244             | 1,374909E+22 | 1,743686E+22 | 1,963843E+22 | 1,963880E+22 | 1,743758E+22 | 1,374968E+22 | 9,603230E+21 | 6,109502E+21 | 4,164813E+21 | 4,164632E+21 | 6,109000E+21 | 9,602630E+21 |
| -2243             | 1,374938E+22 | 1,743781E+22 | 1,963942E+22 | 1,963924E+22 | 1,743749E+22 | 1,374926E+22 | 9,602713E+21 | 6,109086E+21 | 4,164592E+21 | 4,164642E+21 | 6,109312E+21 | 9,603190E+21 |
| -2242             | 1,374976E+22 | 1,743778E+22 | 1,963918E+22 | 1,963894E+22 | 1,743731E+22 | 1,374923E+22 | 9,602669E+21 | 6,108922E+21 | 4,164336E+21 | 4,164339E+21 | 6,108836E+21 | 9,602430E+21 |
| -2241             | 1,374891E+22 | 1,743732E+22 | 1,963957E+22 | 1,963985E+22 | 1,743807E+22 | 1,374969E+22 | 9,602924E+21 | 6,109034E+21 | 4,164312E+21 | 4,164206E+21 | 6,108772E+21 | 9,602713E+21 |
| -2240             | 1,374973E+22 | 1,743825E+22 | 1,964006E+22 | 1,963993E+22 | 1,743785E+22 | 1,374919E+22 | 9,602298E+21 | 6,108521E+21 | 4,164057E+21 | 4,164235E+21 | 6,109057E+21 | 9,603014E+21 |
| -2239             | 1,374969E+22 | 1,743777E+22 | 1,963918E+22 | 1,963929E+22 | 1,743791E+22 | 1,374965E+22 | 9,602718E+21 | 6,108708E+21 | 4,164027E+21 | 4,164014E+21 | 6,108579E+21 | 9,602328E+21 |
| -2238             | 1,374902E+22 | 1,743768E+22 | 1,963979E+22 | 1,963982E+22 | 1,743811E+22 | 1,374980E+22 | 9,602962E+21 | 6,108995E+21 | 4,164263E+21 | 4,164184E+21 | 6,108815E+21 | 9,602910E+21 |
| -2237             | 1,374992E+22 | 1,743821E+22 | 1,963980E+22 | 1,963953E+22 | 1,743757E+22 | 1,374919E+22 | 9,602517E+21 | 6,108804E+21 | 4,164320E+21 | 4,164421E+21 | 6,109018E+21 | 9,602673E+21 |
| -2236             | 1,374917E+22 | 1,743723E+22 | 1,963891E+22 | 1,963922E+22 | 1,743777E+22 | 1,374962E+22 | 9,603050E+21 | 6,109307E+21 | 4,164658E+21 | 4,164540E+21 | 6,108939E+21 | 9,602466E+21 |
| -2235             | 1,374899E+22 | 1,743740E+22 | 1,963924E+22 | 1,963924E+22 | 1,743759E+22 | 1,374937E+22 | 9,602850E+21 | 6,109315E+21 | 4,164904E+21 | 4,164983E+21 | 6,109613E+21 | 9,603367E+21 |
| -2234             | 1,374968E+22 | 1,743737E+22 | 1,963857E+22 | 1,963833E+22 | 1,743688E+22 | 1,374907E+22 | 9,602808E+21 | 6,109362E+21 | 4,165019E+21 | 4,165138E+21 | 6,109588E+21 | 9,602908E+21 |
| -2233             | 1,374888E+22 | 1,743653E+22 | 1,963815E+22 | 1,963844E+22 | 1,743721E+22 | 1,374952E+22 | 9,603351E+21 | 6,109899E+21 | 4,165405E+21 | 4,165300E+21 | 6,109603E+21 | 9,603028E+21 |
| -2232             | 1,374945E+22 | 1,743743E+22 | 1,963869E+22 | 1,963838E+22 | 1,743677E+22 | 1,374891E+22 | 9,602855E+21 | 6,109700E+21 | 4,165511E+21 | 4,165644E+21 | 6,110129E+21 | 9,603532E+21 |
| -2231             | 1,374956E+22 | 1,743701E+22 | 1,963788E+22 | 1,963765E+22 | 1,743651E+22 | 1,374906E+22 | 9,603141E+21 | 6,109943E+21 | 4,165667E+21 | 4,165670E+21 | 6,109833E+21 | 9,602774E+21 |
| -2230             | 1,374852E+22 | 1,743634E+22 | 1,963811E+22 | 1,963829E+22 | 1,743700E+22 | 1,374942E+22 | 9,603502E+21 | 6,110305E+21 | 4,165932E+21 | 4,165820E+21 | 6,110024E+21 | 9,603278E+21 |
| -2229             | 1,374941E+22 | 1,743703E+22 | 1,963827E+22 | 1,963817E+22 | 1,743670E+22 | 1,374890E+22 | 9,602943E+21 | 6,109901E+21 | 4,165788E+21 | 4,165933E+21 | 6,110285E+21 | 9,603334E+21 |
| -2228             | 1,374896E+22 | 1,743620E+22 | 1,963737E+22 | 1,963771E+22 | 1,743686E+22 | 1,374943E+22 | 9,603437E+21 | 6,110139E+21 | 4,165749E+21 | 4,165654E+21 | 6,109832E+21 | 9,602890E+21 |
| -2227             | 1,374870E+22 | 1,743641E+22 | 1,963799E+22 | 1,963812E+22 | 1,743695E+22 | 1,374935E+22 | 9,603306E+21 | 6,110020E+21 | 4,165662E+21 | 4,165640E+21 | 6,110036E+21 | 9,603552E+21 |
| -2226             | 1,374974E+22 | 1,743716E+22 | 1,963810E+22 | 1,963777E+22 | 1,743642E+22 | 1,374890E+22 | 9,602930E+21 | 6,109655E+21 | 4,165353E+21 | 4,165428E+21 | 6,109767E+21 | 9,602940E+21 |
| -2225             | 1,374891E+22 | 1,743654E+22 | 1,963804E+22 | 1,963829E+22 | 1,743708E+22 | 1,374942E+22 | 9,603300E+21 | 6,109839E+21 | 4,165289E+21 | 4,165126E+21 | 6,109373E+21 | 9,602717E+21 |
| -2224             | 1,374918E+22 | 1,743749E+22 | 1,963912E+22 | 1,963889E+22 | 1,743715E+22 | 1,374901E+22 | 9,602686E+21 | 6,109335E+21 | 4,165008E+21 | 4,165097E+21 | 6,109689E+21 | 9,603353E+21 |
| -2223             | 1,374965E+22 | 1,743742E+22 | 1,963873E+22 | 1,963854E+22 | 1,743706E+22 | 1,374911E+22 | 9,602677E+21 | 6,109126E+21 | 4,164723E+21 | 4,164792E+21 | 6,109223E+21 | 9,602613E+21 |
| -2222             | 1,374875E+22 | 1,743675E+22 | 1,963882E+22 | 1,963921E+22 | 1,743774E+22 | 1,374967E+22 | 9,603117E+21 | 6,109374E+21 | 4,164736E+21 | 4,164633E+21 | 6,109102E+21 | 9,602878E+21 |
| -2221             | 1,374970E+22 | 1,743787E+22 | 1,963935E+22 | 1,963927E+22 | 1,743753E+22 | 1,374919E+22 | 9,602565E+21 | 6,108958E+21 | 4,164552E+21 | 4,164684E+21 | 6,109336E+21 | 9,603028E+21 |
| -2220             | 1,374948E+22 | 1,743743E+22 | 1,963873E+22 | 1,963870E+22 | 1,743744E+22 | 1,374954E+22 | 9,602993E+21 | 6,109225E+21 | 4,164614E+21 | 4,164534E+21 | 6,108933E+21 | 9,602442E+21 |
| -2219             | 1,374880E+22 | 1,743708E+22 | 1,963909E+22 | 1,963913E+22 | 1,743755E+22 | 1,374953E+22 | 9,603096E+21 | 6,109468E+21 | 4,164902E+21 | 4,164826E+21 | 6,109289E+21 | 9,603043E+21 |
| -2218             | 1,374970E+22 | 1,743766E+22 | 1,963906E+22 | 1,963877E+22 | 1,743699E+22 | 1,374895E+22 | 9,602666E+21 | 6,109257E+21 | 4,164935E+21 | 4,165074E+21 | 6,109554E+21 | 9,602871E+21 |
| -2217             | 1,374893E+22 | 1,743661E+22 | 1,963814E+22 | 1,963848E+22 | 1,743727E+22 | 1,374946E+22 | 9,603206E+21 | 6,109733E+21 | 4,165257E+21 | 4,165183E+21 | 6,109485E+21 | 9,602743E+21 |
| -2216             | 1,374891E+22 | 1,743696E+22 | 1,963856E+22 | 1,963849E+22 | 1,743702E+22 | 1,374913E+22 | 9,602970E+21 | 6,109715E+21 | 4,165451E+21 | 4,165544E+21 | 6,110069E+21 | 9,603621E+21 |
| -2215             | 1,374972E+22 | 1,743709E+22 | 1,963798E+22 | 1,963763E+22 | 1,743637E+22 | 1,374888E+22 | 9,602933E+21 | 6,109766E+21 | 4,165588E+21 | 4,165717E+21 | 6,110014E+21 | 9,603051E+21 |
| -2214             | 1,374872E+22 | 1,743608E+22 | 1,963751E+22 | 1,963772E+22 | 1,743668E+22 | 1,374937E+22 | 9,603585E+21 | 6,110408E+21 | 4,166030E+21 | 4,165897E+21 | 6,110012E+21 | 9,603111E+21 |
| -2213             | 1,374923E+22 | 1,743694E+22 | 1,963808E+22 | 1,963786E+22 | 1,743643E+22 | 1,374881E+22 | 9,603092E+21 | 6,110220E+21 | 4,166159E+21 | 4,166266E+21 | 6,110553E+21 | 9,603562E+21 |
| -2212             | 1,374917E+22 | 1,743640E+22 | 1,963732E+22 | 1,963719E+22 | 1,743622E+22 | 1,374899E+22 | 9,603359E+21 | 6,110429E+21 | 4,166286E+21 | 4,166273E+21 | 6,110323E+21 | 9,603023E+21 |
| -2211             | 1,374830E+22 | 1,743554E+22 | 1,963712E+22 | 1,963749E+22 | 1,743654E+22 | 1,374927E+22 | 9,603632E+21 | 6,110693E+21 | 4,166482E+21 | 4,166400E+21 | 6,110504E+21 | 9,603520E+21 |
| -2210             | 1,374934E+22 | 1,743651E+22 | 1,963738E+22 | 1,963724E+22 | 1,743607E+22 | 1,374874E+22 | 9,603140E+21 | 6,110289E+21 | 4,166263E+21 | 4,166417E+21 | 6,110678E+21 | 9,603520E+21 |
| -2209             | 1,374888E+22 | 1,743583E+22 | 1,963672E+22 | 1,963694E+22 | 1,743628E+22 | 1,374922E+22 | 9,603587E+21 | 6,110516E+21 | 4,166219E+21 | 4,166112E+21 | 6,110170E+21 | 9,603009E+21 |

| 1                 | 2            | 3            | 4            | 5            | 6            | 7            | 8            | 9            | 10           | 11           | 12           | 13           |
|-------------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|
| Longitude $\odot$ | 0° - 30°     | 30° - 60°    | 60° - 90°    | 90° - 120°   | 120° - 150°  | 150° - 180°  | 180° - 210°  | 210° - 240°  | 240° - 270°  | 270° - 300°  | 300° - 330°  | 330° - 360°  |
| Years             |              |              |              |              |              |              |              |              |              |              |              |              |
| -2208             | 1,374864E+22 | 1,743625E+22 | 1,963763E+22 | 1,963753E+22 | 1,743634E+22 | 1,374903E+22 | 9,603350E+21 | 6,110336E+21 | 4,166091E+21 | 4,166059E+21 | 6,110331E+21 | 9,603627E+21 |
| -2207             | 1,374965E+22 | 1,743696E+22 | 1,963784E+22 | 1,963745E+22 | 1,743607E+22 | 1,374865E+22 | 9,602907E+21 | 6,109900E+21 | 4,165774E+21 | 4,165886E+21 | 6,110114E+21 | 9,603013E+21 |
| -2206             | 1,374865E+22 | 1,743605E+22 | 1,963751E+22 | 1,963789E+22 | 1,743683E+22 | 1,374933E+22 | 9,603386E+21 | 6,110121E+21 | 4,165701E+21 | 4,165567E+21 | 6,109735E+21 | 9,602865E+21 |
| -2205             | 1,374903E+22 | 1,743703E+22 | 1,963851E+22 | 1,963848E+22 | 1,743701E+22 | 1,374905E+22 | 9,602870E+21 | 6,109654E+21 | 4,165417E+21 | 4,165510E+21 | 6,110007E+21 | 9,603460E+21 |
| -2204             | 1,374948E+22 | 1,743701E+22 | 1,963822E+22 | 1,963809E+22 | 1,743680E+22 | 1,374912E+22 | 9,602925E+21 | 6,109520E+21 | 4,165165E+21 | 4,165193E+21 | 6,109540E+21 | 9,602816E+21 |
| -2203             | 1,374871E+22 | 1,743626E+22 | 1,963802E+22 | 1,963843E+22 | 1,743724E+22 | 1,374953E+22 | 9,603313E+21 | 6,109803E+21 | 4,165258E+21 | 4,165124E+21 | 6,109439E+21 | 9,602960E+21 |
| -2202             | 1,374960E+22 | 1,743756E+22 | 1,963877E+22 | 1,963849E+22 | 1,743686E+22 | 1,374898E+22 | 9,602807E+21 | 6,109446E+21 | 4,165128E+21 | 4,165237E+21 | 6,109719E+21 | 9,603069E+21 |
| -2201             | 1,374918E+22 | 1,743692E+22 | 1,963818E+22 | 1,963813E+22 | 1,743690E+22 | 1,374929E+22 | 9,603149E+21 | 6,109705E+21 | 4,165249E+21 | 4,165179E+21 | 6,109431E+21 | 9,602574E+21 |
| -2200             | 1,374854E+22 | 1,743656E+22 | 1,963844E+22 | 1,963851E+22 | 1,743705E+22 | 1,374926E+22 | 9,603151E+21 | 6,109857E+21 | 4,165485E+21 | 4,165454E+21 | 6,109827E+21 | 9,603305E+21 |
| -2199             | 1,374959E+22 | 1,743716E+22 | 1,963833E+22 | 1,963808E+22 | 1,743653E+22 | 1,374876E+22 | 9,602719E+21 | 6,109594E+21 | 4,165489E+21 | 4,165693E+21 | 6,110085E+21 | 9,603149E+21 |
| -2198             | 1,374881E+22 | 1,743601E+22 | 1,963724E+22 | 1,963763E+22 | 1,743674E+22 | 1,374933E+22 | 9,603404E+21 | 6,110171E+21 | 4,165824E+21 | 4,165756E+21 | 6,109941E+21 | 9,602983E+21 |
| -2197             | 1,374891E+22 | 1,743660E+22 | 1,963784E+22 | 1,963778E+22 | 1,743656E+22 | 1,374902E+22 | 9,603214E+21 | 6,110221E+21 | 4,166062E+21 | 4,166111E+21 | 6,110446E+21 | 9,603693E+21 |
| -2196             | 1,374952E+22 | 1,743673E+22 | 1,963753E+22 | 1,963710E+22 | 1,743589E+22 | 1,374872E+22 | 9,603181E+21 | 6,110311E+21 | 4,166237E+21 | 4,166306E+21 | 6,110428E+21 | 9,603187E+21 |
| -2195             | 1,374847E+22 | 1,743545E+22 | 1,963676E+22 | 1,963708E+22 | 1,743621E+22 | 1,374916E+22 | 9,603743E+21 | 6,110900E+21 | 4,166691E+21 | 4,166558E+21 | 6,110501E+21 | 9,603229E+21 |
| -2194             | 1,374896E+22 | 1,743637E+22 | 1,963733E+22 | 1,963714E+22 | 1,743593E+22 | 1,374868E+22 | 9,603309E+21 | 6,110676E+21 | 4,166750E+21 | 4,166881E+21 | 6,111049E+21 | 9,603726E+21 |
| -2193             | 1,374887E+22 | 1,743573E+22 | 1,963651E+22 | 1,963649E+22 | 1,743578E+22 | 1,374891E+22 | 9,603568E+21 | 6,110850E+21 | 4,166833E+21 | 4,166845E+21 | 6,110799E+21 | 9,603250E+21 |
| -2192             | 1,374821E+22 | 1,743510E+22 | 1,963636E+22 | 1,963672E+22 | 1,743600E+22 | 1,374907E+22 | 9,603756E+21 | 6,111045E+21 | 4,166944E+21 | 4,166872E+21 | 6,110890E+21 | 9,603733E+21 |
| -2191             | 1,374936E+22 | 1,743626E+22 | 1,963679E+22 | 1,963654E+22 | 1,743554E+22 | 1,374851E+22 | 9,603202E+21 | 6,110604E+21 | 4,166719E+21 | 4,166874E+21 | 6,111008E+21 | 9,603625E+21 |
| -2190             | 1,374875E+22 | 1,743549E+22 | 1,963619E+22 | 1,963630E+22 | 1,743574E+22 | 1,374901E+22 | 9,603715E+21 | 6,110889E+21 | 4,166695E+21 | 4,166570E+21 | 6,110494E+21 | 9,603093E+21 |
| -2189             | 1,374850E+22 | 1,743591E+22 | 1,963720E+22 | 1,963719E+22 | 1,743605E+22 | 1,374884E+22 | 9,603447E+21 | 6,110697E+21 | 4,166569E+21 | 4,166523E+21 | 6,110661E+21 | 9,603672E+21 |
| -2188             | 1,374937E+22 | 1,743653E+22 | 1,963745E+22 | 1,963717E+22 | 1,743587E+22 | 1,374857E+22 | 9,603026E+21 | 6,110234E+21 | 4,166216E+21 | 4,166323E+21 | 6,110495E+21 | 9,603249E+21 |
| -2187             | 1,374852E+22 | 1,743547E+22 | 1,963674E+22 | 1,963728E+22 | 1,743648E+22 | 1,374923E+22 | 9,603502E+21 | 6,110424E+21 | 4,166128E+21 | 4,166016E+21 | 6,110104E+21 | 9,603049E+21 |
| -2186             | 1,374899E+22 | 1,743668E+22 | 1,963783E+22 | 1,963773E+22 | 1,743649E+22 | 1,374897E+22 | 9,603112E+21 | 6,110024E+21 | 4,165842E+21 | 4,165922E+21 | 6,110307E+21 | 9,603545E+21 |
| -2185             | 1,374934E+22 | 1,743668E+22 | 1,963769E+22 | 1,963748E+22 | 1,743633E+22 | 1,374899E+22 | 9,603137E+21 | 6,109946E+21 | 4,165670E+21 | 4,165668E+21 | 6,109858E+21 | 9,602864E+21 |
| -2184             | 1,374857E+22 | 1,743600E+22 | 1,963756E+22 | 1,963786E+22 | 1,743670E+22 | 1,374926E+22 | 9,603414E+21 | 6,110200E+21 | 4,165787E+21 | 4,165644E+21 | 6,109810E+21 | 9,603029E+21 |
| -2183             | 1,374936E+22 | 1,743715E+22 | 1,963827E+22 | 1,963804E+22 | 1,743648E+22 | 1,374874E+22 | 9,602835E+21 | 6,109802E+21 | 4,165686E+21 | 4,165828E+21 | 6,110181E+21 | 9,603207E+21 |
| -2182             | 1,374887E+22 | 1,743627E+22 | 1,963740E+22 | 1,963749E+22 | 1,743651E+22 | 1,374915E+22 | 9,603288E+21 | 6,110108E+21 | 4,165811E+21 | 4,165780E+21 | 6,109950E+21 | 9,602839E+21 |
| -2181             | 1,374840E+22 | 1,743598E+22 | 1,963761E+22 | 1,963786E+22 | 1,743666E+22 | 1,374915E+22 | 9,603351E+21 | 6,110292E+21 | 4,166045E+21 | 4,166020E+21 | 6,110287E+21 | 9,603528E+21 |
| -2180             | 1,374946E+22 | 1,743671E+22 | 1,963765E+22 | 1,963742E+22 | 1,743609E+22 | 1,374866E+22 | 9,602967E+21 | 6,110078E+21 | 4,166065E+21 | 4,166239E+21 | 6,110538E+21 | 9,603449E+21 |
| -2179             | 1,374880E+22 | 1,743555E+22 | 1,963638E+22 | 1,963671E+22 | 1,743609E+22 | 1,374910E+22 | 9,603592E+21 | 6,110663E+21 | 4,166457E+21 | 4,166369E+21 | 6,110373E+21 | 9,603112E+21 |
| -2178             | 1,374878E+22 | 1,743626E+22 | 1,963722E+22 | 1,963696E+22 | 1,743586E+22 | 1,374879E+22 | 9,603465E+21 | 6,110755E+21 | 4,166720E+21 | 4,166749E+21 | 6,110891E+21 | 9,603758E+21 |
| -2177             | 1,374918E+22 | 1,743617E+22 | 1,963694E+22 | 1,963658E+22 | 1,743544E+22 | 1,374851E+22 | 9,603350E+21 | 6,110822E+21 | 4,166919E+21 | 4,166994E+21 | 6,110948E+21 | 9,603332E+21 |
| -2176             | 1,374821E+22 | 1,743488E+22 | 1,963598E+22 | 1,963641E+22 | 1,743575E+22 | 1,374894E+22 | 9,603837E+21 | 6,111304E+21 | 4,167279E+21 | 4,167182E+21 | 6,111024E+21 | 9,603473E+21 |
| -2175             | 1,374879E+22 | 1,743581E+22 | 1,963653E+22 | 1,963642E+22 | 1,743548E+22 | 1,374853E+22 | 9,603405E+21 | 6,111030E+21 | 4,167276E+21 | 4,167437E+21 | 6,111500E+21 | 9,603949E+21 |
| -2174             | 1,374874E+22 | 1,743517E+22 | 1,963562E+22 | 1,963563E+22 | 1,743522E+22 | 1,374877E+22 | 9,603781E+21 | 6,111272E+21 | 4,167339E+21 | 4,167335E+21 | 6,111176E+21 | 9,603432E+21 |
| -2173             | 1,374817E+22 | 1,743477E+22 | 1,963573E+22 | 1,963605E+22 | 1,743550E+22 | 1,374889E+22 | 9,603951E+21 | 6,111481E+21 | 4,167455E+21 | 4,167330E+21 | 6,111181E+21 | 9,603768E+21 |

| 1                 | 2            | 3            | 4            | 5            | 6            | 7            | 8            | 9            | 10           | 11           | 12           | 13           |
|-------------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|
| Longitude $\odot$ | 0° - 30°     | 30° - 60°    | 60° - 90°    | 90° - 120°   | 120° - 150°  | 150° - 180°  | 180° - 210°  | 210° - 240°  | 240° - 270°  | 270° - 300°  | 300° - 330°  | 330° - 360°  |
| Years             |              |              |              |              |              |              |              |              |              |              |              |              |
| -2172             | 1,374915E+22 | 1,743599E+22 | 1,963645E+22 | 1,963612E+22 | 1,743513E+22 | 1,374833E+22 | 9,603357E+21 | 6,111020E+21 | 4,167224E+21 | 4,167337E+21 | 6,111349E+21 | 9,603760E+21 |
| -2171             | 1,374855E+22 | 1,743501E+22 | 1,963559E+22 | 1,963580E+22 | 1,743536E+22 | 1,374878E+22 | 9,603764E+21 | 6,111224E+21 | 4,167191E+21 | 4,167081E+21 | 6,110882E+21 | 9,603213E+21 |
| -2170             | 1,374832E+22 | 1,743553E+22 | 1,963666E+22 | 1,963664E+22 | 1,743568E+22 | 1,374875E+22 | 9,603597E+21 | 6,111015E+21 | 4,167005E+21 | 4,166983E+21 | 6,111038E+21 | 9,603824E+21 |
| -2169             | 1,374915E+22 | 1,743604E+22 | 1,963688E+22 | 1,963673E+22 | 1,743560E+22 | 1,374851E+22 | 9,603195E+21 | 6,110572E+21 | 4,166649E+21 | 4,166764E+21 | 6,110843E+21 | 9,603412E+21 |
| -2168             | 1,374848E+22 | 1,743517E+22 | 1,963613E+22 | 1,963667E+22 | 1,743608E+22 | 1,374910E+22 | 9,603632E+21 | 6,110748E+21 | 4,166539E+21 | 4,166424E+21 | 6,110420E+21 | 9,603187E+21 |
| -2167             | 1,374892E+22 | 1,743645E+22 | 1,963734E+22 | 1,963714E+22 | 1,743606E+22 | 1,374881E+22 | 9,603216E+21 | 6,110371E+21 | 4,166313E+21 | 4,166376E+21 | 6,110605E+21 | 9,603574E+21 |
| -2166             | 1,374908E+22 | 1,743623E+22 | 1,963711E+22 | 1,963687E+22 | 1,743585E+22 | 1,374882E+22 | 9,603322E+21 | 6,110380E+21 | 4,166211E+21 | 4,166198E+21 | 6,110249E+21 | 9,602968E+21 |
| -2165             | 1,374833E+22 | 1,743550E+22 | 1,963695E+22 | 1,963740E+22 | 1,743636E+22 | 1,374907E+22 | 9,603545E+21 | 6,110627E+21 | 4,166358E+21 | 4,166217E+21 | 6,110256E+21 | 9,603180E+21 |
| -2164             | 1,374908E+22 | 1,743658E+22 | 1,963759E+22 | 1,963749E+22 | 1,743614E+22 | 1,374862E+22 | 9,602976E+21 | 6,110204E+21 | 4,166230E+21 | 4,166387E+21 | 6,110688E+21 | 9,603557E+21 |
| -2163             | 1,374878E+22 | 1,743562E+22 | 1,963641E+22 | 1,963660E+22 | 1,743595E+22 | 1,374895E+22 | 9,603410E+21 | 6,110500E+21 | 4,166366E+21 | 4,166360E+21 | 6,110431E+21 | 9,603123E+21 |
| -2162             | 1,374843E+22 | 1,743566E+22 | 1,963687E+22 | 1,963691E+22 | 1,743596E+22 | 1,374895E+22 | 9,603572E+21 | 6,110745E+21 | 4,166603E+21 | 4,166566E+21 | 6,110693E+21 | 9,603684E+21 |
| -2161             | 1,374933E+22 | 1,743636E+22 | 1,963707E+22 | 1,963673E+22 | 1,743550E+22 | 1,374844E+22 | 9,603172E+21 | 6,110588E+21 | 4,166697E+21 | 4,166838E+21 | 6,110936E+21 | 9,603528E+21 |
| -2160             | 1,374864E+22 | 1,743527E+22 | 1,963587E+22 | 1,963611E+22 | 1,743554E+22 | 1,374882E+22 | 9,603712E+21 | 6,111124E+21 | 4,167084E+21 | 4,166997E+21 | 6,110826E+21 | 9,603212E+21 |
| -2159             | 1,374850E+22 | 1,743578E+22 | 1,963665E+22 | 1,963646E+22 | 1,743550E+22 | 1,374860E+22 | 9,603544E+21 | 6,111177E+21 | 4,167348E+21 | 4,167392E+21 | 6,111365E+21 | 9,603867E+21 |
| -2158             | 1,374881E+22 | 1,743545E+22 | 1,963608E+22 | 1,963589E+22 | 1,743509E+22 | 1,374846E+22 | 9,603574E+21 | 6,111282E+21 | 4,167521E+21 | 4,167615E+21 | 6,111458E+21 | 9,603569E+21 |
| -2157             | 1,374802E+22 | 1,743425E+22 | 1,963511E+22 | 1,963573E+22 | 1,743537E+22 | 1,374887E+22 | 9,604080E+21 | 6,111772E+21 | 4,167848E+21 | 4,167734E+21 | 6,111452E+21 | 9,603667E+21 |
| -2156             | 1,374862E+22 | 1,743530E+22 | 1,963578E+22 | 1,963571E+22 | 1,743504E+22 | 1,374844E+22 | 9,603651E+21 | 6,111505E+21 | 4,167820E+21 | 4,167940E+21 | 6,111904E+21 | 9,604199E+21 |
| -2155             | 1,374868E+22 | 1,743472E+22 | 1,963482E+22 | 1,963473E+22 | 1,743456E+22 | 1,374851E+22 | 9,603933E+21 | 6,111721E+21 | 4,167912E+21 | 4,167886E+21 | 6,111566E+21 | 9,603557E+21 |
| -2154             | 1,374806E+22 | 1,743451E+22 | 1,963525E+22 | 1,963533E+22 | 1,743483E+22 | 1,374861E+22 | 9,604105E+21 | 6,111904E+21 | 4,168004E+21 | 4,167873E+21 | 6,111574E+21 | 9,603852E+21 |
| -2153             | 1,374887E+22 | 1,743553E+22 | 1,963600E+22 | 1,963574E+22 | 1,743479E+22 | 1,374812E+22 | 9,603436E+21 | 6,111392E+21 | 4,167756E+21 | 4,167890E+21 | 6,111777E+21 | 9,603920E+21 |
| -2152             | 1,374842E+22 | 1,743465E+22 | 1,963501E+22 | 1,963528E+22 | 1,743504E+22 | 1,374861E+22 | 9,603778E+21 | 6,111474E+21 | 4,167609E+21 | 4,167552E+21 | 6,111292E+21 | 9,603442E+21 |
| -2151             | 1,374825E+22 | 1,743516E+22 | 1,963608E+22 | 1,963611E+22 | 1,743538E+22 | 1,374865E+22 | 9,603648E+21 | 6,111263E+21 | 4,167389E+21 | 4,167380E+21 | 6,111338E+21 | 9,603966E+21 |
| -2150             | 1,374906E+22 | 1,743563E+22 | 1,963623E+22 | 1,963610E+22 | 1,743524E+22 | 1,374846E+22 | 9,603399E+21 | 6,110930E+21 | 4,167063E+21 | 4,167151E+21 | 6,111116E+21 | 9,603516E+21 |
| -2149             | 1,374839E+22 | 1,743487E+22 | 1,963562E+22 | 1,963615E+22 | 1,743569E+22 | 1,374896E+22 | 9,603827E+21 | 6,111160E+21 | 4,167012E+21 | 4,166842E+21 | 6,110672E+21 | 9,603180E+21 |
| -2148             | 1,374862E+22 | 1,743604E+22 | 1,963694E+22 | 1,963676E+22 | 1,743574E+22 | 1,374868E+22 | 9,603395E+21 | 6,110793E+21 | 4,166821E+21 | 4,166859E+21 | 6,110975E+21 | 9,603711E+21 |
| -2147             | 1,374882E+22 | 1,743564E+22 | 1,963635E+22 | 1,963619E+22 | 1,743540E+22 | 1,374861E+22 | 9,603409E+21 | 6,110760E+21 | 4,166760E+21 | 4,166775E+21 | 6,110711E+21 | 9,603155E+21 |
| -2146             | 1,374815E+22 | 1,743502E+22 | 1,963622E+22 | 1,963658E+22 | 1,743581E+22 | 1,374893E+22 | 9,603710E+21 | 6,111005E+21 | 4,166880E+21 | 4,166773E+21 | 6,110723E+21 | 9,603417E+21 |
| -2145             | 1,374892E+22 | 1,743605E+22 | 1,963688E+22 | 1,963682E+22 | 1,743568E+22 | 1,374847E+22 | 9,603146E+21 | 6,110623E+21 | 4,166781E+21 | 4,166946E+21 | 6,111126E+21 | 9,603804E+21 |
| -2144             | 1,374883E+22 | 1,743536E+22 | 1,963570E+22 | 1,963579E+22 | 1,743536E+22 | 1,374869E+22 | 9,603511E+21 | 6,110894E+21 | 4,166905E+21 | 4,166902E+21 | 6,110839E+21 | 9,603308E+21 |
| -2143             | 1,374838E+22 | 1,743543E+22 | 1,963636E+22 | 1,963624E+22 | 1,743542E+22 | 1,374870E+22 | 9,603670E+21 | 6,111179E+21 | 4,167203E+21 | 4,167138E+21 | 6,111060E+21 | 9,603729E+21 |
| -2142             | 1,374904E+22 | 1,743587E+22 | 1,963650E+22 | 1,963615E+22 | 1,743504E+22 | 1,374826E+22 | 9,603383E+21 | 6,111112E+21 | 4,167360E+21 | 4,167485E+21 | 6,111400E+21 | 9,603628E+21 |
| -2141             | 1,374830E+22 | 1,743463E+22 | 1,963521E+22 | 1,963563E+22 | 1,743522E+22 | 1,374869E+22 | 9,603909E+21 | 6,111640E+21 | 4,167755E+21 | 4,167661E+21 | 6,111330E+21 | 9,603361E+21 |
| -2140             | 1,374812E+22 | 1,743504E+22 | 1,963585E+22 | 1,963586E+22 | 1,743521E+22 | 1,374858E+22 | 9,603787E+21 | 6,111662E+21 | 4,167965E+21 | 4,168022E+21 | 6,111905E+21 | 9,604173E+21 |
| -2139             | 1,374863E+22 | 1,743471E+22 | 1,963497E+22 | 1,963487E+22 | 1,743450E+22 | 1,374831E+22 | 9,603788E+21 | 6,111758E+21 | 4,168137E+21 | 4,168240E+21 | 6,111954E+21 | 9,603829E+21 |
| -2138             | 1,374799E+22 | 1,743386E+22 | 1,963427E+22 | 1,963466E+22 | 1,743463E+22 | 1,374868E+22 | 9,604322E+21 | 6,112253E+21 | 4,168435E+21 | 4,168300E+21 | 6,111868E+21 | 9,603832E+21 |
| -2137             | 1,374848E+22 | 1,743491E+22 | 1,963520E+22 | 1,963500E+22 | 1,743444E+22 | 1,374817E+22 | 9,603812E+21 | 6,111980E+21 | 4,168424E+21 | 4,168514E+21 | 6,112287E+21 | 9,604310E+21 |



| 1                 | 2            | 3            | 4            | 5            | 6            | 7            | 8            | 9            | 10           | 11           | 12           | 13           |
|-------------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|
| Longitude $\odot$ | 0° - 30°     | 30° - 60°    | 60° - 90°    | 90° - 120°   | 120° - 150°  | 150° - 180°  | 180° - 210°  | 210° - 240°  | 240° - 270°  | 270° - 300°  | 300° - 330°  | 330° - 360°  |
| Years             |              |              |              |              |              |              |              |              |              |              |              |              |
| -2136             | 1,374859E+22 | 1,743446E+22 | 1,963435E+22 | 1,963417E+22 | 1,743403E+22 | 1,374817E+22 | 9,603945E+21 | 6,112070E+21 | 4,168438E+21 | 4,168437E+21 | 6,111991E+21 | 9,603710E+21 |
| -2135             | 1,374790E+22 | 1,743417E+22 | 1,963484E+22 | 1,963494E+22 | 1,743453E+22 | 1,374839E+22 | 9,604078E+21 | 6,112179E+21 | 4,168471E+21 | 4,168367E+21 | 6,111959E+21 | 9,603982E+21 |
| -2134             | 1,374864E+22 | 1,743499E+22 | 1,963539E+22 | 1,963525E+22 | 1,743457E+22 | 1,374811E+22 | 9,603600E+21 | 6,111708E+21 | 4,168177E+21 | 4,168332E+21 | 6,112148E+21 | 9,604110E+21 |
| -2133             | 1,374832E+22 | 1,743421E+22 | 1,963445E+22 | 1,963486E+22 | 1,743482E+22 | 1,374861E+22 | 9,603980E+21 | 6,111815E+21 | 4,168008E+21 | 4,167931E+21 | 6,111571E+21 | 9,603559E+21 |
| -2132             | 1,374812E+22 | 1,743478E+22 | 1,963554E+22 | 1,963559E+22 | 1,743511E+22 | 1,374866E+22 | 9,603883E+21 | 6,111638E+21 | 4,167798E+21 | 4,167750E+21 | 6,111599E+21 | 9,604058E+21 |
| -2131             | 1,374890E+22 | 1,743521E+22 | 1,963554E+22 | 1,963532E+22 | 1,743470E+22 | 1,374829E+22 | 9,603573E+21 | 6,111340E+21 | 4,167569E+21 | 4,167627E+21 | 6,111427E+21 | 9,603560E+21 |
| -2130             | 1,374820E+22 | 1,743454E+22 | 1,963513E+22 | 1,963544E+22 | 1,743510E+22 | 1,374874E+22 | 9,603981E+21 | 6,111570E+21 | 4,167548E+21 | 4,167376E+21 | 6,111068E+21 | 9,603275E+21 |
| -2129             | 1,374830E+22 | 1,743543E+22 | 1,963633E+22 | 1,963623E+22 | 1,743535E+22 | 1,374847E+22 | 9,603483E+21 | 6,111184E+21 | 4,167378E+21 | 4,167438E+21 | 6,111431E+21 | 9,603923E+21 |
| -2128             | 1,374874E+22 | 1,743520E+22 | 1,963562E+22 | 1,963547E+22 | 1,743491E+22 | 1,374837E+22 | 9,603428E+21 | 6,111051E+21 | 4,167239E+21 | 4,167318E+21 | 6,111198E+21 | 9,603463E+21 |
| -2127             | 1,374816E+22 | 1,743468E+22 | 1,963560E+22 | 1,963588E+22 | 1,743531E+22 | 1,374868E+22 | 9,603740E+21 | 6,111314E+21 | 4,167354E+21 | 4,167259E+21 | 6,111094E+21 | 9,603595E+21 |
| -2126             | 1,374885E+22 | 1,743568E+22 | 1,963624E+22 | 1,963609E+22 | 1,743519E+22 | 1,374833E+22 | 9,603349E+21 | 6,111058E+21 | 4,167314E+21 | 4,167456E+21 | 6,111484E+21 | 9,603918E+21 |
| -2125             | 1,374871E+22 | 1,743504E+22 | 1,963528E+22 | 1,963530E+22 | 1,743493E+22 | 1,374851E+22 | 9,603703E+21 | 6,111376E+21 | 4,167504E+21 | 4,167459E+21 | 6,111193E+21 | 9,603330E+21 |
| -2124             | 1,374805E+22 | 1,743491E+22 | 1,963587E+22 | 1,963585E+22 | 1,743515E+22 | 1,374862E+22 | 9,603891E+21 | 6,111679E+21 | 4,167831E+21 | 4,167756E+21 | 6,111522E+21 | 9,603852E+21 |
| -2123             | 1,374869E+22 | 1,743512E+22 | 1,963560E+22 | 1,963541E+22 | 1,743464E+22 | 1,374815E+22 | 9,603582E+21 | 6,111612E+21 | 4,168036E+21 | 4,168181E+21 | 6,111951E+21 | 9,603841E+21 |
| -2122             | 1,374806E+22 | 1,743399E+22 | 1,963432E+22 | 1,963468E+22 | 1,743466E+22 | 1,374862E+22 | 9,604187E+21 | 6,112142E+21 | 4,168399E+21 | 4,168325E+21 | 6,111878E+21 | 9,603630E+21 |
| -2121             | 1,374791E+22 | 1,743432E+22 | 1,963493E+22 | 1,963502E+22 | 1,743468E+22 | 1,374846E+22 | 9,604041E+21 | 6,112181E+21 | 4,168610E+21 | 4,168661E+21 | 6,112392E+21 | 9,604433E+21 |
| -2120             | 1,374868E+22 | 1,743436E+22 | 1,963413E+22 | 1,963388E+22 | 1,743379E+22 | 1,374802E+22 | 9,603910E+21 | 6,112191E+21 | 4,168724E+21 | 4,168838E+21 | 6,112422E+21 | 9,604053E+21 |
| -2119             | 1,374797E+22 | 1,743361E+22 | 1,963375E+22 | 1,963391E+22 | 1,743396E+22 | 1,374832E+22 | 9,604359E+21 | 6,112654E+21 | 4,169011E+21 | 4,168860E+21 | 6,112256E+21 | 9,603928E+21 |
| -2118             | 1,374828E+22 | 1,743450E+22 | 1,963470E+22 | 1,963447E+22 | 1,743398E+22 | 1,374794E+22 | 9,603929E+21 | 6,112398E+21 | 4,168988E+21 | 4,169084E+21 | 6,112725E+21 | 9,604459E+21 |
| -2117             | 1,374838E+22 | 1,743398E+22 | 1,963387E+22 | 1,963382E+22 | 1,743377E+22 | 1,374802E+22 | 9,604027E+21 | 6,112418E+21 | 4,168934E+21 | 4,168941E+21 | 6,112384E+21 | 9,603857E+21 |
| -2116             | 1,374768E+22 | 1,743364E+22 | 1,963427E+22 | 1,963453E+22 | 1,743436E+22 | 1,374842E+22 | 9,604255E+21 | 6,112502E+21 | 4,168882E+21 | 4,168797E+21 | 6,112326E+21 | 9,604181E+21 |
| -2115             | 1,374853E+22 | 1,743446E+22 | 1,963457E+22 | 1,963448E+22 | 1,743414E+22 | 1,374805E+22 | 9,603799E+21 | 6,112072E+21 | 4,168616E+21 | 4,168756E+21 | 6,112452E+21 | 9,604217E+21 |
| -2114             | 1,374824E+22 | 1,743392E+22 | 1,963386E+22 | 1,963402E+22 | 1,743425E+22 | 1,374852E+22 | 9,604223E+21 | 6,112218E+21 | 4,168469E+21 | 4,168352E+21 | 6,111839E+21 | 9,603584E+21 |
| -2113             | 1,374788E+22 | 1,743434E+22 | 1,963507E+22 | 1,963506E+22 | 1,743467E+22 | 1,374850E+22 | 9,604062E+21 | 6,112068E+21 | 4,168325E+21 | 4,168242E+21 | 6,111897E+21 | 9,604072E+21 |
| -2112             | 1,374874E+22 | 1,743485E+22 | 1,963501E+22 | 1,963475E+22 | 1,743421E+22 | 1,374800E+22 | 9,603591E+21 | 6,111662E+21 | 4,168061E+21 | 4,168155E+21 | 6,111847E+21 | 9,603704E+21 |
| -2111             | 1,374803E+22 | 1,743413E+22 | 1,963462E+22 | 1,963493E+22 | 1,743470E+22 | 1,374848E+22 | 9,603949E+21 | 6,111845E+21 | 4,168013E+21 | 4,167876E+21 | 6,111479E+21 | 9,603456E+21 |
| -2110             | 1,374814E+22 | 1,743489E+22 | 1,963565E+22 | 1,963563E+22 | 1,743498E+22 | 1,374837E+22 | 9,603623E+21 | 6,111523E+21 | 4,167839E+21 | 4,167931E+21 | 6,111859E+21 | 9,604175E+21 |
| -2109             | 1,374870E+22 | 1,743477E+22 | 1,963505E+22 | 1,963496E+22 | 1,743454E+22 | 1,374824E+22 | 9,603582E+21 | 6,111420E+21 | 4,167706E+21 | 4,167777E+21 | 6,111553E+21 | 9,603630E+21 |
| -2108             | 1,374809E+22 | 1,743435E+22 | 1,963508E+22 | 1,963533E+22 | 1,743496E+22 | 1,374863E+22 | 9,603961E+21 | 6,111732E+21 | 4,167854E+21 | 4,167747E+21 | 6,111455E+21 | 9,603703E+21 |
| -2107             | 1,374868E+22 | 1,743524E+22 | 1,963557E+22 | 1,963532E+22 | 1,743463E+22 | 1,374817E+22 | 9,603570E+21 | 6,111561E+21 | 4,167945E+21 | 4,168066E+21 | 6,111901E+21 | 9,603984E+21 |
| -2106             | 1,374845E+22 | 1,743458E+22 | 1,963469E+22 | 1,963458E+22 | 1,743441E+22 | 1,374838E+22 | 9,603934E+21 | 6,111900E+21 | 4,168185E+21 | 4,168142E+21 | 6,111708E+21 | 9,603469E+21 |
| -2105             | 1,374768E+22 | 1,743412E+22 | 1,963505E+22 | 1,963521E+22 | 1,743478E+22 | 1,374852E+22 | 9,604099E+21 | 6,112199E+21 | 4,168530E+21 | 4,168471E+21 | 6,112071E+21 | 9,604081E+21 |
| -2104             | 1,374856E+22 | 1,743449E+22 | 1,963462E+22 | 1,963448E+22 | 1,743406E+22 | 1,374796E+22 | 9,603722E+21 | 6,112043E+21 | 4,168653E+21 | 4,168847E+21 | 6,112527E+21 | 9,604184E+21 |
| -2103             | 1,374805E+22 | 1,743354E+22 | 1,963351E+22 | 1,963375E+22 | 1,743397E+22 | 1,374833E+22 | 9,604293E+21 | 6,112576E+21 | 4,168985E+21 | 4,168903E+21 | 6,112323E+21 | 9,603846E+21 |
| -2102             | 1,374785E+22 | 1,743388E+22 | 1,963416E+22 | 1,963412E+22 | 1,743401E+22 | 1,374823E+22 | 9,604249E+21 | 6,112672E+21 | 4,169207E+21 | 4,169232E+21 | 6,112804E+21 | 9,604572E+21 |
| -2101             | 1,374855E+22 | 1,743402E+22 | 1,963371E+22 | 1,963337E+22 | 1,743325E+22 | 1,374775E+22 | 9,604043E+21 | 6,112642E+21 | 4,169307E+21 | 4,169393E+21 | 6,112804E+21 | 9,604126E+21 |

| 1<br>Longitude $\odot$<br>Years | 2<br>0° - 30° | 3<br>30° - 60° | 4<br>60° - 90° | 5<br>90° - 120° | 6<br>120° - 150° | 7<br>150° - 180° | 8<br>180° - 210° | 9<br>210° - 240° | 10<br>240° - 270° | 11<br>270° - 300° | 12<br>300° - 330° | 13<br>330° - 360° |
|---------------------------------|---------------|----------------|----------------|-----------------|------------------|------------------|------------------|------------------|-------------------|-------------------|-------------------|-------------------|
| -2100                           | 1,374774E+22  | 1,743320E+22   | 1,963334E+22   | 1,963355E+22    | 1,743367E+22     | 1,374818E+22     | 9,604478E+21     | 6,113035E+21     | 4,169532E+21      | 4,169404E+21      | 6,112682E+21      | 9,604042E+21      |
| -2099                           | 1,374800E+22  | 1,743388E+22   | 1,963395E+22   | 1,963383E+22    | 1,743363E+22     | 1,374786E+22     | 9,604081E+21     | 6,112784E+21     | 4,169519E+21      | 4,169632E+21      | 6,113158E+21      | 9,604622E+21      |
| -2098                           | 1,374820E+22  | 1,743350E+22   | 1,963323E+22   | 1,963314E+22    | 1,743339E+22     | 1,374802E+22     | 9,604254E+21     | 6,112799E+21     | 4,169417E+21      | 4,169428E+21      | 6,112770E+21      | 9,604027E+21      |
| -2097                           | 1,374751E+22  | 1,743306E+22   | 1,963356E+22   | 1,963394E+22    | 1,743403E+22     | 1,374839E+22     | 9,604494E+21     | 6,112924E+21     | 4,169375E+21      | 4,169256E+21      | 6,112626E+21      | 9,604275E+21      |
| -2096                           | 1,374851E+22  | 1,743417E+22   | 1,963390E+22   | 1,963371E+22    | 1,743359E+22     | 1,374786E+22     | 9,603930E+21     | 6,112432E+21     | 4,169080E+21      | 4,169212E+21      | 6,112782E+21      | 9,604311E+21      |
| -2095                           | 1,374813E+22  | 1,743367E+22   | 1,963347E+22   | 1,963343E+22    | 1,743365E+22     | 1,374818E+22     | 9,604266E+21     | 6,112571E+21     | 4,168951E+21      | 4,168815E+21      | 6,112159E+21      | 9,603622E+21      |
| -2094                           | 1,374761E+22  | 1,743382E+22   | 1,963451E+22   | 1,963456E+22    | 1,743425E+22     | 1,374829E+22     | 9,604161E+21     | 6,112431E+21     | 4,168823E+21      | 4,168763E+21      | 6,112323E+21      | 9,604221E+21      |
| -2093                           | 1,374852E+22  | 1,743432E+22   | 1,963450E+22   | 1,963437E+22    | 1,743391E+22     | 1,374784E+22     | 9,603642E+21     | 6,111958E+21     | 4,168510E+21      | 4,168639E+21      | 6,112272E+21      | 9,603927E+21      |
| -2092                           | 1,374792E+22  | 1,743366E+22   | 1,963401E+22   | 1,963443E+22    | 1,743443E+22     | 1,374843E+22     | 9,604067E+21     | 6,112119E+21     | 4,168405E+21      | 4,168319E+21      | 6,111885E+21      | 9,603703E+21      |
| -2091                           | 1,374812E+22  | 1,743446E+22   | 1,963486E+22   | 1,963481E+22    | 1,743446E+22     | 1,374824E+22     | 9,603804E+21     | 6,111907E+21     | 4,168319E+21      | 4,168400E+21      | 6,112213E+21      | 9,604332E+21      |
| -2090                           | 1,374868E+22  | 1,743455E+22   | 1,963453E+22   | 1,963418E+22    | 1,743397E+22     | 1,374812E+22     | 9,603804E+21     | 6,111867E+21     | 4,168248E+21      | 4,168284E+21      | 6,111893E+21      | 9,603689E+21      |
| -2089                           | 1,374785E+22  | 1,743388E+22   | 1,963459E+22   | 1,963483E+22    | 1,743454E+22     | 1,374849E+22     | 9,604189E+21     | 6,112248E+21     | 4,168492E+21      | 4,168350E+21      | 6,111837E+21      | 9,603738E+21      |
| -2088                           | 1,374847E+22  | 1,743476E+22   | 1,963491E+22   | 1,963468E+22    | 1,743416E+22     | 1,374796E+22     | 9,603694E+21     | 6,112003E+21     | 4,168571E+21      | 4,168723E+21      | 6,112421E+21      | 9,604156E+21      |
| -2087                           | 1,374820E+22  | 1,743401E+22   | 1,963399E+22   | 1,963391E+22    | 1,743392E+22     | 1,374816E+22     | 9,604051E+21     | 6,112336E+21     | 4,168799E+21      | 4,168776E+21      | 6,112223E+21      | 9,603688E+21      |
| -2086                           | 1,374747E+22  | 1,743341E+22   | 1,963413E+22   | 1,963440E+22    | 1,743430E+22     | 1,374844E+22     | 9,604354E+21     | 6,112689E+21     | 4,169144E+21      | 4,169102E+21      | 6,112601E+21      | 9,604354E+21      |
| -2085                           | 1,374846E+22  | 1,743395E+22   | 1,963384E+22   | 1,963372E+22    | 1,743350E+22     | 1,374777E+22     | 9,603920E+21     | 6,112520E+21     | 4,169246E+21      | 4,169419E+21      | 6,112965E+21      | 9,604380E+21      |
| -2084                           | 1,374797E+22  | 1,743316E+22   | 1,963286E+22   | 1,963302E+22    | 1,743343E+22     | 1,374815E+22     | 9,604489E+21     | 6,113037E+21     | 4,169564E+21      | 4,169477E+21      | 6,112751E+21      | 9,603974E+21      |
| -2083                           | 1,374767E+22  | 1,743343E+22   | 1,963348E+22   | 1,963331E+22    | 1,743332E+22     | 1,374794E+22     | 9,604416E+21     | 6,113181E+21     | 4,169863E+21      | 4,169870E+21      | 6,113260E+21      | 9,604673E+21      |
| -2082                           | 1,374831E+22  | 1,743356E+22   | 1,963313E+22   | 1,963272E+22    | 1,743276E+22     | 1,374757E+22     | 9,604190E+21     | 6,113105E+21     | 4,169939E+21      | 4,170031E+21      | 6,113295E+21      | 9,604277E+21      |
| -2081                           | 1,374743E+22  | 1,743251E+22   | 1,963263E+22   | 1,963305E+22    | 1,743341E+22     | 1,374812E+22     | 9,604652E+21     | 6,113464E+21     | 4,170121E+21      | 4,170005E+21      | 6,113138E+21      | 9,604242E+21      |
| -2080                           | 1,374792E+22  | 1,743339E+22   | 1,963313E+22   | 1,963305E+22    | 1,743317E+22     | 1,374774E+22     | 9,604218E+21     | 6,113130E+21     | 4,170004E+21      | 4,170149E+21      | 6,113589E+21      | 9,604851E+21      |
| -2079                           | 1,374817E+22  | 1,743315E+22   | 1,963260E+22   | 1,963244E+22    | 1,743286E+22     | 1,374780E+22     | 9,604375E+21     | 6,113161E+21     | 4,169870E+21      | 4,169851E+21      | 6,113067E+21      | 9,604122E+21      |
| -2078                           | 1,374739E+22  | 1,743266E+22   | 1,963293E+22   | 1,963328E+22    | 1,743355E+22     | 1,374825E+22     | 9,604689E+21     | 6,113329E+21     | 4,169854E+21      | 4,169705E+21      | 6,112933E+21      | 9,604314E+21      |
| -2077                           | 1,374827E+22  | 1,743379E+22   | 1,963354E+22   | 1,963334E+22    | 1,743318E+22     | 1,374763E+22     | 9,604026E+21     | 6,112788E+21     | 4,169542E+21      | 4,169657E+21      | 6,113100E+21      | 9,604365E+21      |
| -2076                           | 1,374789E+22  | 1,743324E+22   | 1,963304E+22   | 1,963311E+22    | 1,743341E+22     | 1,374806E+22     | 9,604344E+21     | 6,112856E+21     | 4,169366E+21      | 4,169279E+21      | 6,112565E+21      | 9,603771E+21      |
| -2075                           | 1,374740E+22  | 1,743328E+22   | 1,963377E+22   | 1,963390E+22    | 1,743384E+22     | 1,374817E+22     | 9,604287E+21     | 6,112759E+21     | 4,169276E+21      | 4,169246E+21      | 6,112745E+21      | 9,604444E+21      |
| -2074                           | 1,374844E+22  | 1,743395E+22   | 1,963386E+22   | 1,963368E+22    | 1,743350E+22     | 1,374779E+22     | 9,603826E+21     | 6,112306E+21     | 4,168957E+21      | 4,169096E+21      | 6,112656E+21      | 9,604148E+21      |
| -2073                           | 1,374787E+22  | 1,743325E+22   | 1,963337E+22   | 1,963385E+22    | 1,743408E+22     | 1,374836E+22     | 9,604274E+21     | 6,112528E+21     | 4,168901E+21      | 4,168785E+21      | 6,112194E+21      | 9,603824E+21      |
| -2072                           | 1,374815E+22  | 1,743425E+22   | 1,963426E+22   | 1,963407E+22    | 1,743389E+22     | 1,374803E+22     | 9,603946E+21     | 6,112306E+21     | 4,168841E+21      | 4,168912E+21      | 6,112577E+21      | 9,604429E+21      |
| -2071                           | 1,374854E+22  | 1,743429E+22   | 1,963416E+22   | 1,963367E+22    | 1,743340E+22     | 1,374779E+22     | 9,603902E+21     | 6,112308E+21     | 4,168829E+21      | 4,168841E+21      | 6,112283E+21      | 9,603751E+21      |
| -2070                           | 1,374754E+22  | 1,743325E+22   | 1,963389E+22   | 1,963428E+22    | 1,743415E+22     | 1,374834E+22     | 9,604368E+21     | 6,112727E+21     | 4,169122E+21      | 4,168993E+21      | 6,112347E+21      | 9,603886E+21      |
| -2069                           | 1,374812E+22  | 1,743408E+22   | 1,963421E+22   | 1,963414E+22    | 1,743379E+22     | 1,374783E+22     | 9,603856E+21     | 6,112439E+21     | 4,169163E+21      | 4,169333E+21      | 6,112930E+21      | 9,604400E+21      |
| -2068                           | 1,374804E+22  | 1,743342E+22   | 1,963316E+22   | 1,963318E+22    | 1,743347E+22     | 1,374807E+22     | 9,604259E+21     | 6,112755E+21     | 4,169349E+21      | 4,169366E+21      | 6,112725E+21      | 9,603931E+21      |
| -2067                           | 1,374736E+22  | 1,743285E+22   | 1,963311E+22   | 1,963333E+22    | 1,743356E+22     | 1,374822E+22     | 9,604593E+21     | 6,113208E+21     | 4,169776E+21      | 4,169710E+21      | 6,113055E+21      | 9,604532E+21      |
| -2066                           | 1,374836E+22  | 1,743361E+22   | 1,963315E+22   | 1,963281E+22    | 1,743282E+22     | 1,374755E+22     | 9,604127E+21     | 6,113045E+21     | 4,169908E+21      | 4,170046E+21      | 6,113406E+21      | 9,604500E+21      |
| -2065                           | 1,374773E+22  | 1,743265E+22   | 1,963226E+22   | 1,963245E+22    | 1,743295E+22     | 1,374792E+22     | 9,604652E+21     | 6,113549E+21     | 4,170244E+21      | 4,170135E+21      | 6,113195E+21      | 9,604092E+21      |

| 1                 | 2            | 3            | 4            | 5            | 6            | 7            | 8            | 9            | 10           | 11           | 12           | 13           |
|-------------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|
| Longitude $\odot$ | 0° - 30°     | 30° - 60°    | 60° - 90°    | 90° - 120°   | 120° - 150°  | 150° - 180°  | 180° - 210°  | 210° - 240°  | 240° - 270°  | 270° - 300°  | 300° - 330°  | 330° - 360°  |
| Years             |              |              |              |              |              |              |              |              |              |              |              |              |
| -2064             | 1,374751E+22 | 1,743296E+22 | 1,963278E+22 | 1,963266E+22 | 1,743284E+22 | 1,374769E+22 | 9,604488E+21 | 6,113585E+21 | 4,170468E+21 | 4,170515E+21 | 6,113790E+21 | 9,604897E+21 |
| -2063             | 1,374812E+22 | 1,743307E+22 | 1,963253E+22 | 1,963216E+22 | 1,743232E+22 | 1,374735E+22 | 9,604288E+21 | 6,113489E+21 | 4,170475E+21 | 4,170581E+21 | 6,113746E+21 | 9,604486E+21 |
| -2062             | 1,374725E+22 | 1,743191E+22 | 1,963183E+22 | 1,963241E+22 | 1,743305E+22 | 1,374808E+22 | 9,604891E+21 | 6,113882E+21 | 4,170628E+21 | 4,170517E+21 | 6,113554E+21 | 9,604423E+21 |
| -2061             | 1,374777E+22 | 1,743297E+22 | 1,963254E+22 | 1,963248E+22 | 1,743277E+22 | 1,374765E+22 | 9,604418E+21 | 6,113525E+21 | 4,170469E+21 | 4,170580E+21 | 6,113893E+21 | 9,604950E+21 |
| -2060             | 1,374806E+22 | 1,743284E+22 | 1,963209E+22 | 1,963187E+22 | 1,743244E+22 | 1,374770E+22 | 9,604560E+21 | 6,113527E+21 | 4,170320E+21 | 4,170301E+21 | 6,113390E+21 | 9,604168E+21 |
| -2059             | 1,374717E+22 | 1,743222E+22 | 1,963227E+22 | 1,963259E+22 | 1,743298E+22 | 1,374801E+22 | 9,604838E+21 | 6,113749E+21 | 4,170382E+21 | 4,170220E+21 | 6,113318E+21 | 9,604413E+21 |
| -2058             | 1,374803E+22 | 1,743333E+22 | 1,963294E+22 | 1,963277E+22 | 1,743280E+22 | 1,374748E+22 | 9,604118E+21 | 6,113149E+21 | 4,170051E+21 | 4,170177E+21 | 6,113527E+21 | 9,604556E+21 |
| -2057             | 1,374767E+22 | 1,743267E+22 | 1,963236E+22 | 1,963261E+22 | 1,743313E+22 | 1,374797E+22 | 9,604460E+21 | 6,113193E+21 | 4,169841E+21 | 4,169769E+21 | 6,112958E+21 | 9,604023E+21 |
| -2056             | 1,374746E+22 | 1,743296E+22 | 1,963306E+22 | 1,963314E+22 | 1,743331E+22 | 1,374796E+22 | 9,604368E+21 | 6,113054E+21 | 4,169696E+21 | 4,169693E+21 | 6,113129E+21 | 9,604681E+21 |
| -2055             | 1,374848E+22 | 1,743377E+22 | 1,963339E+22 | 1,963305E+22 | 1,743293E+22 | 1,374751E+22 | 9,603927E+21 | 6,112662E+21 | 4,169393E+21 | 4,169494E+21 | 6,112920E+21 | 9,604223E+21 |
| -2054             | 1,374776E+22 | 1,743297E+22 | 1,963291E+22 | 1,963333E+22 | 1,743365E+22 | 1,374822E+22 | 9,604467E+21 | 6,112956E+21 | 4,169419E+21 | 4,169273E+21 | 6,112517E+21 | 9,603834E+21 |
| -2053             | 1,374784E+22 | 1,743386E+22 | 1,963393E+22 | 1,963374E+22 | 1,743354E+22 | 1,374785E+22 | 9,604076E+21 | 6,112720E+21 | 4,169381E+21 | 4,169430E+21 | 6,112928E+21 | 9,604453E+21 |
| -2052             | 1,374821E+22 | 1,743374E+22 | 1,963358E+22 | 1,963328E+22 | 1,743319E+22 | 1,374773E+22 | 9,604057E+21 | 6,112691E+21 | 4,169369E+21 | 4,169427E+21 | 6,112762E+21 | 9,603895E+21 |
| -2051             | 1,374723E+22 | 1,743254E+22 | 1,963292E+22 | 1,963346E+22 | 1,743368E+22 | 1,374824E+22 | 9,604599E+21 | 6,113206E+21 | 4,169737E+21 | 4,169624E+21 | 6,112876E+21 | 9,604145E+21 |
| -2050             | 1,374793E+22 | 1,743345E+22 | 1,963326E+22 | 1,963325E+22 | 1,743327E+22 | 1,374775E+22 | 9,604104E+21 | 6,112942E+21 | 4,169789E+21 | 4,169952E+21 | 6,113428E+21 | 9,604662E+21 |
| -2049             | 1,374792E+22 | 1,743285E+22 | 1,963228E+22 | 1,963233E+22 | 1,743292E+22 | 1,374791E+22 | 9,604500E+21 | 6,113293E+21 | 4,170013E+21 | 4,169996E+21 | 6,113171E+21 | 9,604139E+21 |
| -2048             | 1,374737E+22 | 1,743254E+22 | 1,963235E+22 | 1,963235E+22 | 1,743276E+22 | 1,374786E+22 | 9,604718E+21 | 6,113692E+21 | 4,170432E+21 | 4,170369E+21 | 6,113554E+21 | 9,604713E+21 |
| -2047             | 1,374820E+22 | 1,743327E+22 | 1,963265E+22 | 1,963217E+22 | 1,743214E+22 | 1,374713E+22 | 9,604201E+21 | 6,113522E+21 | 4,170556E+21 | 4,170690E+21 | 6,113886E+21 | 9,604652E+21 |
| -2046             | 1,374748E+22 | 1,743207E+22 | 1,963156E+22 | 1,963190E+22 | 1,743258E+22 | 1,374775E+22 | 9,604784E+21 | 6,113995E+21 | 4,170871E+21 | 4,170793E+21 | 6,113733E+21 | 9,604304E+21 |
| -2045             | 1,374724E+22 | 1,743237E+22 | 1,963214E+22 | 1,963215E+22 | 1,743252E+22 | 1,374759E+22 | 9,604631E+21 | 6,113968E+21 | 4,170998E+21 | 4,171059E+21 | 6,114234E+21 | 9,605130E+21 |
| -2044             | 1,374802E+22 | 1,743260E+22 | 1,963182E+22 | 1,963157E+22 | 1,743201E+22 | 1,374733E+22 | 9,604501E+21 | 6,113854E+21 | 4,170941E+21 | 4,171071E+21 | 6,114136E+21 | 9,604645E+21 |
| -2043             | 1,374714E+22 | 1,743147E+22 | 1,963099E+22 | 1,963152E+22 | 1,743247E+22 | 1,374796E+22 | 9,605147E+21 | 6,114354E+21 | 4,171162E+21 | 4,171005E+21 | 6,113892E+21 | 9,604505E+21 |
| -2042             | 1,374757E+22 | 1,743260E+22 | 1,963195E+22 | 1,963178E+22 | 1,743228E+22 | 1,374752E+22 | 9,604626E+21 | 6,113984E+21 | 4,171020E+21 | 4,171082E+21 | 6,114217E+21 | 9,604990E+21 |
| -2041             | 1,374777E+22 | 1,743235E+22 | 1,963155E+22 | 1,963141E+22 | 1,743209E+22 | 1,374753E+22 | 9,604706E+21 | 6,113950E+21 | 4,170870E+21 | 4,170830E+21 | 6,113751E+21 | 9,604278E+21 |
| -2040             | 1,374702E+22 | 1,743179E+22 | 1,963160E+22 | 1,963192E+22 | 1,743252E+22 | 1,374777E+22 | 9,604870E+21 | 6,114055E+21 | 4,170856E+21 | 4,170740E+21 | 6,113771E+21 | 9,604653E+21 |
| -2039             | 1,374793E+22 | 1,743297E+22 | 1,963241E+22 | 1,963223E+22 | 1,743234E+22 | 1,374723E+22 | 9,604175E+21 | 6,113448E+21 | 4,170466E+21 | 4,170609E+21 | 6,113899E+21 | 9,604796E+21 |
| -2038             | 1,374763E+22 | 1,743227E+22 | 1,963172E+22 | 1,963204E+22 | 1,743278E+22 | 1,374786E+22 | 9,604601E+21 | 6,113518E+21 | 4,170257E+21 | 4,170190E+21 | 6,113295E+21 | 9,604188E+21 |
| -2037             | 1,374738E+22 | 1,743272E+22 | 1,963267E+22 | 1,963267E+22 | 1,743294E+22 | 1,374782E+22 | 9,604491E+21 | 6,113384E+21 | 4,170107E+21 | 4,170071E+21 | 6,113378E+21 | 9,604748E+21 |
| -2036             | 1,374837E+22 | 1,743356E+22 | 1,963306E+22 | 1,963265E+22 | 1,743259E+22 | 1,374738E+22 | 9,604072E+21 | 6,113007E+21 | 4,169848E+21 | 4,169953E+21 | 6,113229E+21 | 9,604218E+21 |
| -2035             | 1,374744E+22 | 1,743247E+22 | 1,963227E+22 | 1,963271E+22 | 1,743318E+22 | 1,374802E+22 | 9,604648E+21 | 6,113420E+21 | 4,170007E+21 | 4,169852E+21 | 6,112947E+21 | 9,603922E+21 |
| -2034             | 1,374745E+22 | 1,743320E+22 | 1,963317E+22 | 1,963314E+22 | 1,743325E+22 | 1,374779E+22 | 9,604248E+21 | 6,113171E+21 | 4,169995E+21 | 4,170053E+21 | 6,113419E+21 | 9,604648E+21 |
| -2033             | 1,374792E+22 | 1,743300E+22 | 1,963265E+22 | 1,963256E+22 | 1,743284E+22 | 1,374768E+22 | 9,604274E+21 | 6,113158E+21 | 4,169984E+21 | 4,170050E+21 | 6,113258E+21 | 9,604199E+21 |
| -2032             | 1,374724E+22 | 1,743205E+22 | 1,963191E+22 | 1,963238E+22 | 1,743296E+22 | 1,374799E+22 | 9,604752E+21 | 6,113645E+21 | 4,170326E+21 | 4,170233E+21 | 6,113386E+21 | 9,604456E+21 |
| -2031             | 1,374794E+22 | 1,743314E+22 | 1,963256E+22 | 1,963234E+22 | 1,743248E+22 | 1,374735E+22 | 9,604237E+21 | 6,113424E+21 | 4,170390E+21 | 4,170521E+21 | 6,113839E+21 | 9,604840E+21 |
| -2030             | 1,374781E+22 | 1,743248E+22 | 1,963167E+22 | 1,963162E+22 | 1,743231E+22 | 1,374763E+22 | 9,604650E+21 | 6,113786E+21 | 4,170660E+21 | 4,170634E+21 | 6,113632E+21 | 9,604255E+21 |
| -2029             | 1,374710E+22 | 1,743215E+22 | 1,963195E+22 | 1,963191E+22 | 1,743232E+22 | 1,374759E+22 | 9,604797E+21 | 6,114118E+21 | 4,171037E+21 | 4,170979E+21 | 6,114009E+21 | 9,604853E+21 |

| 1                 | 2            | 3            | 4            | 5            | 6            | 7            | 8            | 9            | 10           | 11           | 12           | 13           |
|-------------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|
| Longitude $\odot$ | 0° - 30°     | 30° - 60°    | 60° - 90°    | 90° - 120°   | 120° - 150°  | 150° - 180°  | 180° - 210°  | 210° - 240°  | 240° - 270°  | 270° - 300°  | 300° - 330°  | 330° - 360°  |
| Years             |              |              |              |              |              |              |              |              |              |              |              |              |
| -2028             | 1,374796E+22 | 1,743278E+22 | 1,963208E+22 | 1,963173E+22 | 1,743189E+22 | 1,374706E+22 | 9,604344E+21 | 6,113901E+21 | 4,171116E+21 | 4,171305E+21 | 6,114381E+21 | 9,604819E+21 |
| -2027             | 1,374721E+22 | 1,743144E+22 | 1,963069E+22 | 1,963113E+22 | 1,743216E+22 | 1,374772E+22 | 9,605053E+21 | 6,114480E+21 | 4,171470E+21 | 4,171395E+21 | 6,114217E+21 | 9,604529E+21 |
| -2026             | 1,374705E+22 | 1,743179E+22 | 1,963128E+22 | 1,963139E+22 | 1,743217E+22 | 1,374760E+22 | 9,604916E+21 | 6,114468E+21 | 4,171587E+21 | 4,171609E+21 | 6,114619E+21 | 9,605273E+21 |
| -2025             | 1,374785E+22 | 1,743208E+22 | 1,963104E+22 | 1,963083E+22 | 1,743160E+22 | 1,374728E+22 | 9,604787E+21 | 6,114376E+21 | 4,171545E+21 | 4,171612E+21 | 6,114481E+21 | 9,604766E+21 |
| -2024             | 1,374706E+22 | 1,743113E+22 | 1,963030E+22 | 1,963063E+22 | 1,743176E+22 | 1,374765E+22 | 9,605282E+21 | 6,114800E+21 | 4,171741E+21 | 4,171576E+21 | 6,114317E+21 | 9,604640E+21 |
| -2023             | 1,374734E+22 | 1,743218E+22 | 1,963144E+22 | 1,963118E+22 | 1,743166E+22 | 1,374712E+22 | 9,604676E+21 | 6,114386E+21 | 4,171555E+21 | 4,171615E+21 | 6,114625E+21 | 9,605135E+21 |
| -2022             | 1,374752E+22 | 1,743179E+22 | 1,963091E+22 | 1,963089E+22 | 1,743175E+22 | 1,374735E+22 | 9,604765E+21 | 6,114277E+21 | 4,171363E+21 | 4,171368E+21 | 6,114215E+21 | 9,604510E+21 |
| -2021             | 1,374687E+22 | 1,743139E+22 | 1,963111E+22 | 1,963141E+22 | 1,743215E+22 | 1,374760E+22 | 9,604901E+21 | 6,114295E+21 | 4,171236E+21 | 4,171151E+21 | 6,114121E+21 | 9,604881E+21 |
| -2020             | 1,374793E+22 | 1,743268E+22 | 1,963190E+22 | 1,963171E+22 | 1,743204E+22 | 1,374715E+22 | 9,604284E+21 | 6,113695E+21 | 4,170817E+21 | 4,170987E+21 | 6,114182E+21 | 9,604895E+21 |
| -2019             | 1,374756E+22 | 1,743200E+22 | 1,963115E+22 | 1,963136E+22 | 1,743231E+22 | 1,374773E+22 | 9,604786E+21 | 6,113903E+21 | 4,170713E+21 | 4,170607E+21 | 6,113568E+21 | 9,604235E+21 |
| -2018             | 1,374717E+22 | 1,743237E+22 | 1,963220E+22 | 1,963219E+22 | 1,743263E+22 | 1,374773E+22 | 9,604667E+21 | 6,113802E+21 | 4,170626E+21 | 4,170545E+21 | 6,113656E+21 | 9,604732E+21 |
| -2017             | 1,374803E+22 | 1,743300E+22 | 1,963251E+22 | 1,963226E+22 | 1,743238E+22 | 1,374733E+22 | 9,604259E+21 | 6,113446E+21 | 4,170414E+21 | 4,170498E+21 | 6,113609E+21 | 9,604336E+21 |
| -2016             | 1,374724E+22 | 1,743193E+22 | 1,963148E+22 | 1,963193E+22 | 1,743269E+22 | 1,374785E+22 | 9,604769E+21 | 6,113811E+21 | 4,170564E+21 | 4,170453E+21 | 6,113466E+21 | 9,604187E+21 |
| -2015             | 1,374727E+22 | 1,743263E+22 | 1,963241E+22 | 1,963238E+22 | 1,743268E+22 | 1,374756E+22 | 9,604412E+21 | 6,113598E+21 | 4,170535E+21 | 4,170607E+21 | 6,113878E+21 | 9,604917E+21 |
| -2014             | 1,374784E+22 | 1,743247E+22 | 1,963180E+22 | 1,963173E+22 | 1,743232E+22 | 1,374753E+22 | 9,604470E+21 | 6,113612E+21 | 4,170565E+21 | 4,170640E+21 | 6,113730E+21 | 9,604432E+21 |
| -2013             | 1,374717E+22 | 1,743176E+22 | 1,963137E+22 | 1,963161E+22 | 1,743233E+22 | 1,374771E+22 | 9,604868E+21 | 6,114071E+21 | 4,170893E+21 | 4,170782E+21 | 6,113780E+21 | 9,604615E+21 |
| -2012             | 1,374786E+22 | 1,743287E+22 | 1,963211E+22 | 1,963175E+22 | 1,743195E+22 | 1,374711E+22 | 9,604362E+21 | 6,113847E+21 | 4,170987E+21 | 4,171138E+21 | 6,114278E+21 | 9,604924E+21 |
| -2011             | 1,374754E+22 | 1,743196E+22 | 1,963101E+22 | 1,963096E+22 | 1,743179E+22 | 1,374738E+22 | 9,604808E+21 | 6,114295E+21 | 4,171338E+21 | 4,171315E+21 | 6,114155E+21 | 9,604423E+21 |
| -2010             | 1,374679E+22 | 1,743148E+22 | 1,963117E+22 | 1,963132E+22 | 1,743206E+22 | 1,374755E+22 | 9,604985E+21 | 6,114600E+21 | 4,171695E+21 | 4,171642E+21 | 6,114515E+21 | 9,605054E+21 |
| -2009             | 1,374771E+22 | 1,743208E+22 | 1,963121E+22 | 1,963105E+22 | 1,743160E+22 | 1,374709E+22 | 9,604631E+21 | 6,114410E+21 | 4,171750E+21 | 4,171921E+21 | 6,114847E+21 | 9,605072E+21 |
| -2008             | 1,374716E+22 | 1,743094E+22 | 1,962975E+22 | 1,963010E+22 | 1,743150E+22 | 1,374755E+22 | 9,605281E+21 | 6,114966E+21 | 4,172073E+21 | 4,171989E+21 | 6,114678E+21 | 9,604745E+21 |
| -2007             | 1,374694E+22 | 1,743139E+22 | 1,963063E+22 | 1,963057E+22 | 1,743146E+22 | 1,374730E+22 | 9,605113E+21 | 6,114969E+21 | 4,172173E+21 | 4,172150E+21 | 6,114979E+21 | 9,605358E+21 |
| -2006             | 1,374764E+22 | 1,743161E+22 | 1,963041E+22 | 1,963016E+22 | 1,743106E+22 | 1,374703E+22 | 9,604926E+21 | 6,114826E+21 | 4,172136E+21 | 4,172197E+21 | 6,114901E+21 | 9,604845E+21 |
| -2005             | 1,374677E+22 | 1,743070E+22 | 1,962986E+22 | 1,963014E+22 | 1,743132E+22 | 1,374737E+22 | 9,605293E+21 | 6,115118E+21 | 4,172229E+21 | 4,172088E+21 | 6,114725E+21 | 9,604811E+21 |
| -2004             | 1,374719E+22 | 1,743174E+22 | 1,963093E+22 | 1,963073E+22 | 1,743138E+22 | 1,374699E+22 | 9,604716E+21 | 6,114623E+21 | 4,171966E+21 | 4,172096E+21 | 6,115036E+21 | 9,605322E+21 |
| -2003             | 1,374739E+22 | 1,743129E+22 | 1,963020E+22 | 1,963022E+22 | 1,743133E+22 | 1,374724E+22 | 9,604915E+21 | 6,114606E+21 | 4,171790E+21 | 4,171811E+21 | 6,114594E+21 | 9,604732E+21 |
| -2002             | 1,374682E+22 | 1,743100E+22 | 1,963048E+22 | 1,963086E+22 | 1,743190E+22 | 1,374757E+22 | 9,605074E+21 | 6,114641E+21 | 4,171663E+21 | 4,171549E+21 | 6,114388E+21 | 9,604974E+21 |
| -2001             | 1,374785E+22 | 1,743237E+22 | 1,963138E+22 | 1,963117E+22 | 1,743174E+22 | 1,374714E+22 | 9,604515E+21 | 6,114106E+21 | 4,171295E+21 | 4,171406E+21 | 6,114426E+21 | 9,604942E+21 |
| -2000             | 1,374746E+22 | 1,743172E+22 | 1,963065E+22 | 1,963066E+22 | 1,743173E+22 | 1,374749E+22 | 9,604914E+21 | 6,114300E+21 | 4,171231E+21 | 4,171122E+21 | 6,113942E+21 | 9,604321E+21 |
| -1999             | 1,374691E+22 | 1,743188E+22 | 1,963170E+22 | 1,963168E+22 | 1,743215E+22 | 1,374745E+22 | 9,604770E+21 | 6,114210E+21 | 4,171158E+21 | 4,171080E+21 | 6,114057E+21 | 9,604841E+21 |
| -1998             | 1,374774E+22 | 1,743234E+22 | 1,963176E+22 | 1,963166E+22 | 1,743205E+22 | 1,374723E+22 | 9,604395E+21 | 6,113832E+21 | 4,170962E+21 | 4,171087E+21 | 6,114107E+21 | 9,604570E+21 |
| -1997             | 1,374707E+22 | 1,743144E+22 | 1,963083E+22 | 1,963120E+22 | 1,743219E+22 | 1,374767E+22 | 9,604874E+21 | 6,114154E+21 | 4,171049E+21 | 4,170967E+21 | 6,113903E+21 | 9,604464E+21 |
| -1996             | 1,374730E+22 | 1,743227E+22 | 1,963174E+22 | 1,963162E+22 | 1,743215E+22 | 1,374739E+22 | 9,604559E+21 | 6,113963E+21 | 4,171039E+21 | 4,171132E+21 | 6,114266E+21 | 9,605057E+21 |
| -1995             | 1,374775E+22 | 1,743211E+22 | 1,963113E+22 | 1,963088E+22 | 1,743166E+22 | 1,374729E+22 | 9,604668E+21 | 6,114111E+21 | 4,171181E+21 | 4,171229E+21 | 6,114147E+21 | 9,604552E+21 |
| -1994             | 1,374697E+22 | 1,743133E+22 | 1,963081E+22 | 1,963106E+22 | 1,743193E+22 | 1,374752E+22 | 9,605019E+21 | 6,114562E+21 | 4,171549E+21 | 4,171414E+21 | 6,114198E+21 | 9,604673E+21 |
| -1993             | 1,374755E+22 | 1,743227E+22 | 1,963148E+22 | 1,963126E+22 | 1,743170E+22 | 1,374705E+22 | 9,604572E+21 | 6,114361E+21 | 4,171665E+21 | 4,171802E+21 | 6,114770E+21 | 9,605112E+21 |



| 1                 | 2            | 3            | 4            | 5            | 6            | 7            | 8            | 9            | 10           | 11           | 12           | 13           |
|-------------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|
| Longitude $\odot$ | 0° - 30°     | 30° - 60°    | 60° - 90°    | 90° - 120°   | 120° - 150°  | 150° - 180°  | 180° - 210°  | 210° - 240°  | 240° - 270°  | 270° - 300°  | 300° - 330°  | 330° - 360°  |
| Years             |              |              |              |              |              |              |              |              |              |              |              |              |
| -1992             | 1,374734E+22 | 1,743137E+22 | 1,963020E+22 | 1,963015E+22 | 1,743129E+22 | 1,374723E+22 | 9,604986E+21 | 6,114766E+21 | 4,171990E+21 | 4,172006E+21 | 6,114737E+21 | 9,604719E+21 |
| -1991             | 1,374661E+22 | 1,743084E+22 | 1,963034E+22 | 1,963053E+22 | 1,743150E+22 | 1,374738E+22 | 9,605230E+21 | 6,115107E+21 | 4,172307E+21 | 4,172250E+21 | 6,114985E+21 | 9,605264E+21 |
| -1990             | 1,374756E+22 | 1,743148E+22 | 1,963032E+22 | 1,963022E+22 | 1,743112E+22 | 1,374700E+22 | 9,604897E+21 | 6,114925E+21 | 4,172379E+21 | 4,172538E+21 | 6,115313E+21 | 9,605241E+21 |
| -1989             | 1,374702E+22 | 1,743060E+22 | 1,962918E+22 | 1,962927E+22 | 1,743084E+22 | 1,374729E+22 | 9,605429E+21 | 6,115405E+21 | 4,172642E+21 | 4,172543E+21 | 6,115075E+21 | 9,604874E+21 |
| -1988             | 1,374679E+22 | 1,743098E+22 | 1,963009E+22 | 1,962993E+22 | 1,743091E+22 | 1,374704E+22 | 9,605209E+21 | 6,115351E+21 | 4,172727E+21 | 4,172730E+21 | 6,115393E+21 | 9,605422E+21 |
| -1987             | 1,374735E+22 | 1,743103E+22 | 1,962972E+22 | 1,962951E+22 | 1,743056E+22 | 1,374679E+22 | 9,605021E+21 | 6,115232E+21 | 4,172701E+21 | 4,172784E+21 | 6,115389E+21 | 9,605059E+21 |
| -1986             | 1,374658E+22 | 1,743011E+22 | 1,962912E+22 | 1,962960E+22 | 1,743106E+22 | 1,374727E+22 | 9,605373E+21 | 6,115443E+21 | 4,172715E+21 | 4,172594E+21 | 6,115133E+21 | 9,605027E+21 |
| -1985             | 1,374711E+22 | 1,743126E+22 | 1,963023E+22 | 1,963014E+22 | 1,743110E+22 | 1,374699E+22 | 9,604916E+21 | 6,114979E+21 | 4,172408E+21 | 4,172520E+21 | 6,115369E+21 | 9,605548E+21 |
| -1984             | 1,374746E+22 | 1,743104E+22 | 1,962959E+22 | 1,962942E+22 | 1,743074E+22 | 1,374705E+22 | 9,605050E+21 | 6,114952E+21 | 4,172222E+21 | 4,172230E+21 | 6,114909E+21 | 9,604865E+21 |
| -1983             | 1,374676E+22 | 1,743077E+22 | 1,963011E+22 | 1,963029E+22 | 1,743133E+22 | 1,374734E+22 | 9,605235E+21 | 6,115029E+21 | 4,172109E+21 | 4,171953E+21 | 6,114622E+21 | 9,604945E+21 |
| -1982             | 1,374761E+22 | 1,743198E+22 | 1,963096E+22 | 1,963076E+22 | 1,743142E+22 | 1,374701E+22 | 9,604664E+21 | 6,114493E+21 | 4,171800E+21 | 4,171906E+21 | 6,114767E+21 | 9,604939E+21 |
| -1981             | 1,374714E+22 | 1,743131E+22 | 1,963026E+22 | 1,963023E+22 | 1,743140E+22 | 1,374732E+22 | 9,604975E+21 | 6,114608E+21 | 4,171689E+21 | 4,171609E+21 | 6,114336E+21 | 9,604470E+21 |
| -1980             | 1,374672E+22 | 1,743134E+22 | 1,963109E+22 | 1,963117E+22 | 1,743186E+22 | 1,374739E+22 | 9,604883E+21 | 6,114506E+21 | 4,171617E+21 | 4,171597E+21 | 6,114482E+21 | 9,605006E+21 |
| -1979             | 1,374755E+22 | 1,743174E+22 | 1,963093E+22 | 1,963088E+22 | 1,743156E+22 | 1,374711E+22 | 9,604607E+21 | 6,114256E+21 | 4,171486E+21 | 4,171621E+21 | 6,114562E+21 | 9,604826E+21 |
| -1978             | 1,374702E+22 | 1,743096E+22 | 1,963005E+22 | 1,963049E+22 | 1,743178E+22 | 1,374755E+22 | 9,605058E+21 | 6,114595E+21 | 4,171607E+21 | 4,171499E+21 | 6,114281E+21 | 9,604612E+21 |
| -1977             | 1,374723E+22 | 1,743191E+22 | 1,963113E+22 | 1,963091E+22 | 1,743165E+22 | 1,374726E+22 | 9,604798E+21 | 6,114473E+21 | 4,171659E+21 | 4,171706E+21 | 6,114666E+21 | 9,605196E+21 |
| -1976             | 1,374763E+22 | 1,743172E+22 | 1,963052E+22 | 1,963009E+22 | 1,743095E+22 | 1,374694E+22 | 9,604784E+21 | 6,114593E+21 | 4,171843E+21 | 4,171904E+21 | 6,114675E+21 | 9,604730E+21 |
| -1975             | 1,374672E+22 | 1,743077E+22 | 1,963020E+22 | 1,963046E+22 | 1,743139E+22 | 1,374725E+22 | 9,605154E+21 | 6,115038E+21 | 4,172197E+21 | 4,172085E+21 | 6,114723E+21 | 9,604860E+21 |
| -1974             | 1,374729E+22 | 1,743157E+22 | 1,963061E+22 | 1,963056E+22 | 1,743132E+22 | 1,374698E+22 | 9,604768E+21 | 6,114825E+21 | 4,172311E+21 | 4,172486E+21 | 6,115329E+21 | 9,605348E+21 |
| -1973             | 1,374716E+22 | 1,743085E+22 | 1,962944E+22 | 1,962932E+22 | 1,743074E+22 | 1,374709E+22 | 9,605166E+21 | 6,115193E+21 | 4,172560E+21 | 4,172590E+21 | 6,115210E+21 | 9,604981E+21 |
| -1972             | 1,374659E+22 | 1,743039E+22 | 1,962959E+22 | 1,962973E+22 | 1,743095E+22 | 1,374723E+22 | 9,605421E+21 | 6,115542E+21 | 4,172882E+21 | 4,172825E+21 | 6,115384E+21 | 9,605345E+21 |
| -1971             | 1,374736E+22 | 1,743099E+22 | 1,962958E+22 | 1,962935E+22 | 1,743044E+22 | 1,374677E+22 | 9,605121E+21 | 6,115454E+21 | 4,173015E+21 | 4,173140E+21 | 6,115743E+21 | 9,605349E+21 |
| -1970             | 1,374677E+22 | 1,743006E+22 | 1,962853E+22 | 1,962871E+22 | 1,743042E+22 | 1,374707E+22 | 9,605562E+21 | 6,115863E+21 | 4,173254E+21 | 4,173138E+21 | 6,115490E+21 | 9,604961E+21 |
| -1969             | 1,374653E+22 | 1,743042E+22 | 1,962942E+22 | 1,962937E+22 | 1,743058E+22 | 1,374695E+22 | 9,605381E+21 | 6,115780E+21 | 4,173294E+21 | 4,173292E+21 | 6,115842E+21 | 9,605632E+21 |
| -1968             | 1,374723E+22 | 1,743054E+22 | 1,962898E+22 | 1,962873E+22 | 1,743002E+22 | 1,374659E+22 | 9,605132E+21 | 6,115590E+21 | 4,173206E+21 | 4,173326E+21 | 6,115869E+21 | 9,605342E+21 |
| -1967             | 1,374653E+22 | 1,742969E+22 | 1,962852E+22 | 1,962897E+22 | 1,743055E+22 | 1,374709E+22 | 9,605533E+21 | 6,115803E+21 | 4,173156E+21 | 4,173033E+21 | 6,115471E+21 | 9,605188E+21 |
| -1966             | 1,374707E+22 | 1,743091E+22 | 1,962962E+22 | 1,962955E+22 | 1,743074E+22 | 1,374693E+22 | 9,605108E+21 | 6,115362E+21 | 4,172876E+21 | 4,172967E+21 | 6,115678E+21 | 9,605607E+21 |
| -1965             | 1,374734E+22 | 1,743089E+22 | 1,962931E+22 | 1,962890E+22 | 1,743025E+22 | 1,374684E+22 | 9,605160E+21 | 6,115286E+21 | 4,172656E+21 | 4,172646E+21 | 6,115190E+21 | 9,604912E+21 |
| -1964             | 1,374659E+22 | 1,743043E+22 | 1,962976E+22 | 1,962993E+22 | 1,743097E+22 | 1,374715E+22 | 9,605313E+21 | 6,115351E+21 | 4,172579E+21 | 4,172441E+21 | 6,114952E+21 | 9,604914E+21 |
| -1963             | 1,374722E+22 | 1,743135E+22 | 1,963031E+22 | 1,963025E+22 | 1,743108E+22 | 1,374688E+22 | 9,604806E+21 | 6,114883E+21 | 4,172321E+21 | 4,172446E+21 | 6,115218E+21 | 9,605119E+21 |
| -1962             | 1,374690E+22 | 1,743065E+22 | 1,962947E+22 | 1,962969E+22 | 1,743116E+22 | 1,374727E+22 | 9,605118E+21 | 6,114964E+21 | 4,172186E+21 | 4,172126E+21 | 6,114760E+21 | 9,604689E+21 |
| -1961             | 1,374663E+22 | 1,743080E+22 | 1,963024E+22 | 1,963043E+22 | 1,743147E+22 | 1,374738E+22 | 9,605135E+21 | 6,114931E+21 | 4,172124E+21 | 4,172085E+21 | 6,114885E+21 | 9,605261E+21 |
| -1960             | 1,374759E+22 | 1,743141E+22 | 1,963018E+22 | 1,962994E+22 | 1,743084E+22 | 1,374684E+22 | 9,604760E+21 | 6,114689E+21 | 4,172037E+21 | 4,172164E+21 | 6,114995E+21 | 9,605042E+21 |
| -1959             | 1,374698E+22 | 1,743067E+22 | 1,962954E+22 | 1,962979E+22 | 1,743106E+22 | 1,374721E+22 | 9,605193E+21 | 6,115040E+21 | 4,172176E+21 | 4,172050E+21 | 6,114657E+21 | 9,604684E+21 |
| -1958             | 1,374701E+22 | 1,743145E+22 | 1,963057E+22 | 1,963039E+22 | 1,743122E+22 | 1,374706E+22 | 9,604930E+21 | 6,114926E+21 | 4,172285E+21 | 4,172346E+21 | 6,115145E+21 | 9,605295E+21 |
| -1957             | 1,374737E+22 | 1,743131E+22 | 1,963004E+22 | 1,962956E+22 | 1,743051E+22 | 1,374673E+22 | 9,604858E+21 | 6,114966E+21 | 4,172408E+21 | 4,172511E+21 | 6,115181E+21 | 9,604957E+21 |

| 1<br>Longitude $\odot$<br>Years | 2<br>0° - 30° | 3<br>30° - 60° | 4<br>60° - 90° | 5<br>90° - 120° | 6<br>120° - 150° | 7<br>150° - 180° | 8<br>180° - 210° | 9<br>210° - 240° | 10<br>240° - 270° | 11<br>270° - 300° | 12<br>300° - 330° | 13<br>330° - 360° |
|---------------------------------|---------------|----------------|----------------|-----------------|------------------|------------------|------------------|------------------|-------------------|-------------------|-------------------|-------------------|
| -1956                           | 1,374655E+22  | 1,743020E+22   | 1,962949E+22   | 1,962984E+22    | 1,743101E+22     | 1,374718E+22     | 9,605318E+21     | 6,115431E+21     | 4,172767E+21      | 4,172698E+21      | 6,115201E+21      | 9,605014E+21      |
| -1955                           | 1,374704E+22  | 1,743091E+22   | 1,962970E+22   | 1,962973E+22    | 1,743084E+22     | 1,374692E+22     | 9,605067E+21     | 6,115356E+21     | 4,172939E+21      | 4,173099E+21      | 6,115811E+21      | 9,605571E+21      |
| -1954                           | 1,374704E+22  | 1,743028E+22   | 1,962856E+22   | 1,962856E+22    | 1,743029E+22     | 1,374699E+22     | 9,605429E+21     | 6,115729E+21     | 4,173204E+21      | 4,173188E+21      | 6,115613E+21      | 9,605090E+21      |
| -1953                           | 1,374643E+22  | 1,742992E+22   | 1,962883E+22   | 1,962894E+22    | 1,743040E+22     | 1,374710E+22     | 9,605712E+21     | 6,116110E+21     | 4,173549E+21      | 4,173438E+21      | 6,115823E+21      | 9,605476E+21      |
| -1952                           | 1,374713E+22  | 1,743048E+22   | 1,962885E+22   | 1,962852E+22    | 1,742971E+22     | 1,374639E+22     | 9,605234E+21     | 6,115946E+21     | 4,173681E+21      | 4,173816E+21      | 6,116287E+21      | 9,605567E+21      |
| -1951                           | 1,374654E+22  | 1,742947E+22   | 1,962784E+22   | 1,962805E+22    | 1,742983E+22     | 1,374677E+22     | 9,605649E+21     | 6,116270E+21     | 4,173832E+21      | 4,173747E+21      | 6,115990E+21      | 9,605188E+21      |
| -1950                           | 1,374636E+22  | 1,742985E+22   | 1,962864E+22   | 1,962871E+22    | 1,743018E+22     | 1,374684E+22     | 9,605517E+21     | 6,116151E+21     | 4,173822E+21      | 4,173858E+21      | 6,116319E+21      | 9,605866E+21      |
| -1949                           | 1,374718E+22  | 1,743027E+22   | 1,962844E+22   | 1,962807E+22    | 1,742952E+22     | 1,374640E+22     | 9,605229E+21     | 6,115894E+21     | 4,173626E+21      | 4,173758E+21      | 6,116217E+21      | 9,605548E+21      |
| -1948                           | 1,374657E+22  | 1,742949E+22   | 1,962807E+22   | 1,962844E+22    | 1,743015E+22     | 1,374695E+22     | 9,605644E+21     | 6,116118E+21     | 4,173586E+21      | 4,173450E+21      | 6,115720E+21      | 9,605163E+21      |
| -1947                           | 1,374683E+22  | 1,743056E+22   | 1,962915E+22   | 1,962903E+22    | 1,743032E+22     | 1,374679E+22     | 9,605300E+21     | 6,115779E+21     | 4,173370E+21      | 4,173422E+21      | 6,115976E+21      | 9,605618E+21      |
| -1946                           | 1,374703E+22  | 1,743036E+22   | 1,962881E+22   | 1,962864E+22    | 1,743009E+22     | 1,374675E+22     | 9,605292E+21     | 6,115660E+21     | 4,173149E+21      | 4,173123E+21      | 6,115515E+21      | 9,604952E+21      |
| -1945                           | 1,374630E+22  | 1,742986E+22   | 1,962908E+22   | 1,962947E+22    | 1,743078E+22     | 1,374718E+22     | 9,605523E+21     | 6,115737E+21     | 4,173064E+21      | 4,172928E+21      | 6,115372E+21      | 9,605121E+21      |
| -1944                           | 1,374702E+22  | 1,743076E+22   | 1,962948E+22   | 1,962946E+22    | 1,743054E+22     | 1,374672E+22     | 9,604954E+21     | 6,115250E+21     | 4,172809E+21      | 4,172963E+21      | 6,115691E+21      | 9,605420E+21      |
| -1943                           | 1,374686E+22  | 1,743020E+22   | 1,962874E+22   | 1,962893E+22    | 1,743055E+22     | 1,374706E+22     | 9,605291E+21     | 6,115346E+21     | 4,172659E+21      | 4,172605E+21      | 6,115147E+21      | 9,604902E+21      |
| -1942                           | 1,374663E+22  | 1,743050E+22   | 1,962956E+22   | 1,962965E+22    | 1,743090E+22     | 1,374718E+22     | 9,605299E+21     | 6,115351E+21     | 4,172661E+21      | 4,172614E+21      | 6,115269E+21      | 9,605366E+21      |
| -1941                           | 1,374751E+22  | 1,743129E+22   | 1,962979E+22   | 1,962927E+22    | 1,743017E+22     | 1,374650E+22     | 9,604825E+21     | 6,115063E+21     | 4,172561E+21      | 4,172690E+21      | 6,115385E+21      | 9,605177E+21      |
| -1940                           | 1,374684E+22  | 1,743033E+22   | 1,962912E+22   | 1,962937E+22    | 1,743063E+22     | 1,374693E+22     | 9,605222E+21     | 6,115404E+21     | 4,172744E+21      | 4,172645E+21      | 6,115086E+21      | 9,604744E+21      |
| -1939                           | 1,374665E+22  | 1,743081E+22   | 1,962983E+22   | 1,962981E+22    | 1,743085E+22     | 1,374693E+22     | 9,605100E+21     | 6,115382E+21     | 4,172899E+21      | 4,172976E+21      | 6,115659E+21      | 9,605518E+21      |
| -1938                           | 1,374712E+22  | 1,743059E+22   | 1,962917E+22   | 1,962899E+22    | 1,743025E+22     | 1,374670E+22     | 9,605084E+21     | 6,115430E+21     | 4,173011E+21      | 4,173114E+21      | 6,115644E+21      | 9,605165E+21      |
| -1937                           | 1,374642E+22  | 1,742963E+22   | 1,962856E+22   | 1,962901E+22    | 1,743057E+22     | 1,374718E+22     | 9,605672E+21     | 6,115989E+21     | 4,173397E+21      | 4,173285E+21      | 6,115654E+21      | 9,605213E+21      |
| -1936                           | 1,374688E+22  | 1,743041E+22   | 1,962883E+22   | 1,962871E+22    | 1,743006E+22     | 1,374666E+22     | 9,605314E+21     | 6,115925E+21     | 4,173625E+21      | 4,173749E+21      | 6,116287E+21      | 9,605737E+21      |
| -1935                           | 1,374685E+22  | 1,742981E+22   | 1,962789E+22   | 1,962775E+22    | 1,742954E+22     | 1,374666E+22     | 9,605626E+21     | 6,116266E+21     | 4,173884E+21      | 4,173847E+21      | 6,116074E+21      | 9,605188E+21      |
| -1934                           | 1,374615E+22  | 1,742935E+22   | 1,962808E+22   | 1,962826E+22    | 1,742989E+22     | 1,374686E+22     | 9,605847E+21     | 6,116597E+21     | 4,174224E+21      | 4,174132E+21      | 6,116359E+21      | 9,605630E+21      |
| -1933                           | 1,374689E+22  | 1,743005E+22   | 1,962823E+22   | 1,962786E+22    | 1,742920E+22     | 1,374614E+22     | 9,605284E+21     | 6,116298E+21     | 4,174226E+21      | 4,174409E+21      | 6,116809E+21      | 9,605876E+21      |
| -1932                           | 1,374648E+22  | 1,742903E+22   | 1,962720E+22   | 1,962747E+22    | 1,742944E+22     | 1,374661E+22     | 9,605719E+21     | 6,116586E+21     | 4,174321E+21      | 4,174272E+21      | 6,116408E+21      | 9,605373E+21      |
| -1931                           | 1,374623E+22  | 1,742938E+22   | 1,962793E+22   | 1,962806E+22    | 1,742978E+22     | 1,374675E+22     | 9,605732E+21     | 6,116567E+21     | 4,174318E+21      | 4,174335E+21      | 6,116691E+21      | 9,606056E+21      |
| -1930                           | 1,374712E+22  | 1,742989E+22   | 1,962786E+22   | 1,962760E+22    | 1,742924E+22     | 1,374634E+22     | 9,605431E+21     | 6,116301E+21     | 4,174114E+21      | 4,174197E+21      | 6,116484E+21      | 9,605574E+21      |
| -1929                           | 1,374640E+22  | 1,742917E+22   | 1,962757E+22   | 1,962793E+22    | 1,742980E+22     | 1,374690E+22     | 9,605904E+21     | 6,116569E+21     | 4,174094E+21      | 4,173912E+21      | 6,116044E+21      | 9,605206E+21      |
| -1928                           | 1,374651E+22  | 1,743005E+22   | 1,962855E+22   | 1,962844E+22    | 1,742983E+22     | 1,374655E+22     | 9,605417E+21     | 6,116186E+21     | 4,173908E+21      | 4,173962E+21      | 6,116405E+21      | 9,605773E+21      |
| -1927                           | 1,374678E+22  | 1,742978E+22   | 1,962810E+22   | 1,962802E+22    | 1,742964E+22     | 1,374657E+22     | 9,605405E+21     | 6,116002E+21     | 4,173630E+21      | 4,173632E+21      | 6,115937E+21      | 9,605156E+21      |
| -1926                           | 1,374615E+22  | 1,742930E+22   | 1,962821E+22   | 1,962872E+22    | 1,743037E+22     | 1,374707E+22     | 9,605672E+21     | 6,116086E+21     | 4,173538E+21      | 4,173431E+21      | 6,115800E+21      | 9,605355E+21      |
| -1925                           | 1,374701E+22  | 1,743054E+22   | 1,962888E+22   | 1,962869E+22    | 1,742993E+22     | 1,374645E+22     | 9,605024E+21     | 6,115551E+21     | 4,173222E+21      | 4,173386E+21      | 6,116045E+21      | 9,605662E+21      |
| -1924                           | 1,374693E+22  | 1,743005E+22   | 1,962829E+22   | 1,962831E+22    | 1,742999E+22     | 1,374677E+22     | 9,605322E+21     | 6,115663E+21     | 4,173123E+21      | 4,173057E+21      | 6,115433E+21      | 9,604923E+21      |
| -1923                           | 1,374641E+22  | 1,743018E+22   | 1,962912E+22   | 1,962913E+22    | 1,743043E+22     | 1,374694E+22     | 9,605428E+21     | 6,115771E+21     | 4,173206E+21      | 4,173139E+21      | 6,115637E+21      | 9,605442E+21      |
| -1922                           | 1,374723E+22  | 1,743077E+22   | 1,962929E+22   | 1,962900E+22    | 1,742998E+22     | 1,374637E+22     | 9,604943E+21     | 6,115468E+21     | 4,173120E+21      | 4,173243E+21      | 6,115772E+21      | 9,605254E+21      |
| -1921                           | 1,374656E+22  | 1,742978E+22   | 1,962842E+22   | 1,962886E+22    | 1,743042E+22     | 1,374698E+22     | 9,605488E+21     | 6,115872E+21     | 4,173324E+21      | 4,173226E+21      | 6,115570E+21      | 9,604954E+21      |

| 1<br>Longitude $\odot$<br>Years | 2<br>0° - 30° | 3<br>30° - 60° | 4<br>60° - 90° | 5<br>90° - 120° | 6<br>120° - 150° | 7<br>150° - 180° | 8<br>180° - 210° | 9<br>210° - 240° | 10<br>240° - 270° | 11<br>270° - 300° | 12<br>300° - 330° | 13<br>330° - 360° |
|---------------------------------|---------------|----------------|----------------|-----------------|------------------|------------------|------------------|------------------|-------------------|-------------------|-------------------|-------------------|
| -1920                           | 1,374637E+22  | 1,743013E+22   | 1,962893E+22   | 1,962899E+22    | 1,743033E+22     | 1,374681E+22     | 9,605351E+21     | 6,115891E+21     | 4,173533E+21      | 4,173608E+21      | 6,116174E+21      | 9,605786E+21      |
| -1919                           | 1,374699E+22  | 1,743000E+22   | 1,962827E+22   | 1,962811E+22    | 1,742965E+22     | 1,374656E+22     | 9,605370E+21     | 6,115968E+21     | 4,173659E+21      | 4,173742E+21      | 6,116111E+21      | 9,605357E+21      |
| -1918                           | 1,374630E+22  | 1,742916E+22   | 1,962767E+22   | 1,962807E+22    | 1,742994E+22     | 1,374701E+22     | 9,605937E+21     | 6,116562E+21     | 4,174104E+21      | 4,173971E+21      | 6,116150E+21      | 9,605348E+21      |
| -1917                           | 1,374668E+22  | 1,743007E+22   | 1,962822E+22   | 1,962788E+22    | 1,742929E+22     | 1,374627E+22     | 9,605418E+21     | 6,116403E+21     | 4,174283E+21      | 4,174415E+21      | 6,116806E+21      | 9,605952E+21      |
| -1916                           | 1,374667E+22  | 1,742933E+22   | 1,962727E+22   | 1,962714E+22    | 1,742900E+22     | 1,374631E+22     | 9,605628E+21     | 6,116673E+21     | 4,174527E+21      | 4,174526E+21      | 6,116597E+21      | 9,605361E+21      |
| -1915                           | 1,374586E+22  | 1,742871E+22   | 1,962727E+22   | 1,962756E+22    | 1,742944E+22     | 1,374667E+22     | 9,605961E+21     | 6,117018E+21     | 4,174826E+21      | 4,174769E+21      | 6,116906E+21      | 9,605937E+21      |
| -1914                           | 1,374676E+22  | 1,742944E+22   | 1,962744E+22   | 1,962730E+22    | 1,742891E+22     | 1,374607E+22     | 9,605454E+21     | 6,116691E+21     | 4,174751E+21      | 4,174934E+21      | 6,117213E+21      | 9,606101E+21      |
| -1913                           | 1,374647E+22  | 1,742870E+22   | 1,962653E+22   | 1,962681E+22    | 1,742908E+22     | 1,374661E+22     | 9,606003E+21     | 6,117035E+21     | 4,174821E+21      | 4,174733E+21      | 6,116760E+21      | 9,605532E+21      |
| -1912                           | 1,374611E+22  | 1,742903E+22   | 1,962731E+22   | 1,962729E+22    | 1,742917E+22     | 1,374654E+22     | 9,605928E+21     | 6,117025E+21     | 4,174860E+21      | 4,174826E+21      | 6,117012E+21      | 9,606121E+21      |
| -1911                           | 1,374690E+22  | 1,742949E+22   | 1,962738E+22   | 1,962706E+22    | 1,742876E+22     | 1,374615E+22     | 9,605608E+21     | 6,116720E+21     | 4,174640E+21      | 4,174699E+21      | 6,116808E+21      | 9,605586E+21      |
| -1910                           | 1,374610E+22  | 1,742867E+22   | 1,962694E+22   | 1,962739E+22    | 1,742947E+22     | 1,374678E+22     | 9,606038E+21     | 6,116956E+21     | 4,174621E+21      | 4,174455E+21      | 6,116454E+21      | 9,605292E+21      |
| -1909                           | 1,374622E+22  | 1,742960E+22   | 1,962793E+22   | 1,962779E+22    | 1,742939E+22     | 1,374636E+22     | 9,605472E+21     | 6,116466E+21     | 4,174336E+21      | 4,174431E+21      | 6,116818E+21      | 9,606026E+21      |
| -1908                           | 1,374670E+22  | 1,742936E+22   | 1,962747E+22   | 1,962743E+22    | 1,742923E+22     | 1,374638E+22     | 9,605443E+21     | 6,116278E+21     | 4,174052E+21      | 4,174075E+21      | 6,116285E+21      | 9,605329E+21      |
| -1907                           | 1,374607E+22  | 1,742891E+22   | 1,962753E+22   | 1,962801E+22    | 1,742989E+22     | 1,374691E+22     | 9,605821E+21     | 6,116457E+21     | 4,173996E+21      | 4,173873E+21      | 6,116143E+21      | 9,605543E+21      |
| -1906                           | 1,374697E+22  | 1,743022E+22   | 1,962839E+22   | 1,962820E+22    | 1,742955E+22     | 1,374629E+22     | 9,605170E+21     | 6,115938E+21     | 4,173706E+21      | 4,173831E+21      | 6,116321E+21      | 9,605716E+21      |
| -1905                           | 1,374679E+22  | 1,742980E+22   | 1,962791E+22   | 1,962786E+22    | 1,742962E+22     | 1,374664E+22     | 9,605511E+21     | 6,116099E+21     | 4,173654E+21      | 4,173569E+21      | 6,115816E+21      | 9,605007E+21      |
| -1904                           | 1,374608E+22  | 1,742963E+22   | 1,962852E+22   | 1,962857E+22    | 1,742997E+22     | 1,374671E+22     | 9,605534E+21     | 6,116207E+21     | 4,173808E+21      | 4,173749E+21      | 6,116117E+21      | 9,605626E+21      |
| -1903                           | 1,374697E+22  | 1,743013E+22   | 1,962852E+22   | 1,962834E+22    | 1,742960E+22     | 1,374629E+22     | 9,605131E+21     | 6,115891E+21     | 4,173711E+21      | 4,173861E+21      | 6,116263E+21      | 9,605473E+21      |
| -1902                           | 1,374638E+22  | 1,742916E+22   | 1,962747E+22   | 1,962800E+22    | 1,742998E+22     | 1,374694E+22     | 9,605753E+21     | 6,116369E+21     | 4,173955E+21      | 4,173870E+21      | 6,116076E+21      | 9,605178E+21      |
| -1901                           | 1,374627E+22  | 1,742973E+22   | 1,962814E+22   | 1,962805E+22    | 1,742966E+22     | 1,374658E+22     | 9,605538E+21     | 6,116364E+21     | 4,174137E+21      | 4,174204E+21      | 6,116633E+21      | 9,606019E+21      |
| -1900                           | 1,374693E+22  | 1,742965E+22   | 1,962761E+22   | 1,962731E+22    | 1,742899E+22     | 1,374624E+22     | 9,605476E+21     | 6,116448E+21     | 4,174313E+21      | 4,174374E+21      | 6,116536E+21      | 9,605438E+21      |
| -1899                           | 1,374601E+22  | 1,742864E+22   | 1,962699E+22   | 1,962733E+22    | 1,742934E+22     | 1,374673E+22     | 9,606094E+21     | 6,117079E+21     | 4,174783E+21      | 4,174647E+21      | 6,116666E+21      | 9,605541E+21      |
| -1898                           | 1,374643E+22  | 1,742943E+22   | 1,962753E+22   | 1,962738E+22    | 1,742894E+22     | 1,374608E+22     | 9,605538E+21     | 6,116849E+21     | 4,174910E+21      | 4,175053E+21      | 6,117295E+21      | 9,606152E+21      |
| -1897                           | 1,374649E+22  | 1,742880E+22   | 1,962654E+22   | 1,962649E+22    | 1,742864E+22     | 1,374626E+22     | 9,605851E+21     | 6,117119E+21     | 4,175098E+21      | 4,175118E+21      | 6,117114E+21      | 9,605637E+21      |
| -1896                           | 1,374569E+22  | 1,742814E+22   | 1,962647E+22   | 1,962676E+22    | 1,742891E+22     | 1,374651E+22     | 9,606155E+21     | 6,117473E+21     | 4,175405E+21      | 4,175344E+21      | 6,117366E+21      | 9,606202E+21      |
| -1895                           | 1,374674E+22  | 1,742903E+22   | 1,962670E+22   | 1,962650E+22    | 1,742840E+22     | 1,374597E+22     | 9,605696E+21     | 6,117147E+21     | 4,175307E+21      | 4,175459E+21      | 6,117564E+21      | 9,606196E+21      |
| -1894                           | 1,374635E+22  | 1,742836E+22   | 1,962588E+22   | 1,962606E+22    | 1,742859E+22     | 1,374650E+22     | 9,606244E+21     | 6,117522E+21     | 4,175409E+21      | 4,175286E+21      | 6,117115E+21      | 9,605553E+21      |
| -1893                           | 1,374586E+22  | 1,742870E+22   | 1,962688E+22   | 1,962671E+22    | 1,742861E+22     | 1,374624E+22     | 9,606014E+21     | 6,117411E+21     | 4,175385E+21      | 4,175350E+21      | 6,117391E+21      | 9,606222E+21      |
| -1892                           | 1,374665E+22  | 1,742899E+22   | 1,962683E+22   | 1,962659E+22    | 1,742838E+22     | 1,374589E+22     | 9,605595E+21     | 6,117037E+21     | 4,175144E+21      | 4,175222E+21      | 6,117202E+21      | 9,605688E+21      |
| -1891                           | 1,374580E+22  | 1,742804E+22   | 1,962618E+22   | 1,962673E+22    | 1,742910E+22     | 1,374666E+22     | 9,606150E+21     | 6,117283E+21     | 4,175085E+21      | 4,174952E+21      | 6,116896E+21      | 9,605564E+21      |
| -1890                           | 1,374613E+22  | 1,742903E+22   | 1,962721E+22   | 1,962723E+22    | 1,742906E+22     | 1,374627E+22     | 9,605609E+21     | 6,116781E+21     | 4,174748E+21      | 4,174842E+21      | 6,117131E+21      | 9,606209E+21      |
| -1889                           | 1,374673E+22  | 1,742911E+22   | 1,962692E+22   | 1,962677E+22    | 1,742881E+22     | 1,374630E+22     | 9,605645E+21     | 6,116650E+21     | 4,174476E+21      | 4,174480E+21      | 6,116601E+21      | 9,605466E+21      |
| -1888                           | 1,374596E+22  | 1,742862E+22   | 1,962706E+22   | 1,962735E+22    | 1,742930E+22     | 1,374662E+22     | 9,605924E+21     | 6,116853E+21     | 4,174509E+21      | 4,174356E+21      | 6,116471E+21      | 9,605633E+21      |
| -1887                           | 1,374680E+22  | 1,742985E+22   | 1,962794E+22   | 1,962770E+22    | 1,742914E+22     | 1,374611E+22     | 9,605300E+21     | 6,116328E+21     | 4,174242E+21      | 4,174363E+21      | 6,116683E+21      | 9,605766E+21      |
| -1886                           | 1,374653E+22  | 1,742930E+22   | 1,962731E+22   | 1,962735E+22    | 1,742935E+22     | 1,374657E+22     | 9,605669E+21     | 6,116510E+21     | 4,174225E+21      | 4,174168E+21      | 6,116281E+21      | 9,605152E+21      |
| -1885                           | 1,374584E+22  | 1,742913E+22   | 1,962785E+22   | 1,962790E+22    | 1,742954E+22     | 1,374657E+22     | 9,605665E+21     | 6,116572E+21     | 4,174329E+21      | 4,174310E+21      | 6,116588E+21      | 9,605886E+21      |

| 1<br>Longitude $\odot$<br>Years | 2<br>0° - 30° | 3<br>30° - 60° | 4<br>60° - 90° | 5<br>90° - 120° | 6<br>120° - 150° | 7<br>150° - 180° | 8<br>180° - 210° | 9<br>210° - 240° | 10<br>240° - 270° | 11<br>270° - 300° | 12<br>300° - 330° | 13<br>330° - 360° |
|---------------------------------|---------------|----------------|----------------|-----------------|------------------|------------------|------------------|------------------|-------------------|-------------------|-------------------|-------------------|
| -1884                           | 1,374687E+22  | 1,742962E+22   | 1,962778E+22   | 1,962765E+22    | 1,742916E+22     | 1,374613E+22     | 9,605268E+21     | 6,116307E+21     | 4,174276E+21      | 4,174427E+21      | 6,116692E+21      | 9,605655E+21      |
| -1883                           | 1,374624E+22  | 1,742866E+22   | 1,962664E+22   | 1,962709E+22    | 1,742942E+22     | 1,374680E+22     | 9,606005E+21     | 6,116885E+21     | 4,174583E+21      | 4,174479E+21      | 6,116540E+21      | 9,605389E+21      |
| -1882                           | 1,374613E+22  | 1,742920E+22   | 1,962744E+22   | 1,962733E+22    | 1,742913E+22     | 1,374640E+22     | 9,605757E+21     | 6,116886E+21     | 4,174787E+21      | 4,174818E+21      | 6,117042E+21      | 9,606120E+21      |
| -1881                           | 1,374674E+22  | 1,742923E+22   | 1,962702E+22   | 1,962665E+22    | 1,742847E+22     | 1,374604E+22     | 9,605685E+21     | 6,116980E+21     | 4,174981E+21      | 4,175045E+21      | 6,117074E+21      | 9,605628E+21      |
| -1880                           | 1,374570E+22  | 1,742797E+22   | 1,962618E+22   | 1,962654E+22    | 1,742873E+22     | 1,374640E+22     | 9,606179E+21     | 6,117559E+21     | 4,175469E+21      | 4,175352E+21      | 6,117238E+21      | 9,605823E+21      |
| -1879                           | 1,374625E+22  | 1,742877E+22   | 1,962665E+22   | 1,962655E+22    | 1,742845E+22     | 1,374596E+22     | 9,605719E+21     | 6,117293E+21     | 4,175533E+21      | 4,175702E+21      | 6,117813E+21      | 9,606407E+21      |
| -1878                           | 1,374640E+22  | 1,742831E+22   | 1,962572E+22   | 1,962565E+22    | 1,742814E+22     | 1,374617E+22     | 9,606086E+21     | 6,117597E+21     | 4,175708E+21      | 4,175729E+21      | 6,117571E+21      | 9,605826E+21      |
| -1877                           | 1,374564E+22  | 1,742784E+22   | 1,962582E+22   | 1,962593E+22    | 1,742827E+22     | 1,374627E+22     | 9,606311E+21     | 6,117902E+21     | 4,175955E+21      | 4,175874E+21      | 6,117732E+21      | 9,606322E+21      |
| -1876                           | 1,374663E+22  | 1,742873E+22   | 1,962623E+22   | 1,962592E+22    | 1,742791E+22     | 1,374572E+22     | 9,605789E+21     | 6,117572E+21     | 4,175878E+21      | 4,175990E+21      | 6,117884E+21      | 9,606170E+21      |
| -1875                           | 1,374600E+22  | 1,742783E+22   | 1,962533E+22   | 1,962552E+22    | 1,742820E+22     | 1,374634E+22     | 9,606394E+21     | 6,117951E+21     | 4,175972E+21      | 4,175845E+21      | 6,117530E+21      | 9,605658E+21      |
| -1874                           | 1,374553E+22  | 1,742799E+22   | 1,962623E+22   | 1,962632E+22    | 1,742840E+22     | 1,374617E+22     | 9,606143E+21     | 6,117767E+21     | 4,175875E+21      | 4,175849E+21      | 6,117770E+21      | 9,606349E+21      |
| -1873                           | 1,374645E+22  | 1,742845E+22   | 1,962617E+22   | 1,962602E+22    | 1,742809E+22     | 1,374588E+22     | 9,605797E+21     | 6,117389E+21     | 4,175578E+21      | 4,175689E+21      | 6,117638E+21      | 9,605933E+21      |
| -1872                           | 1,374566E+22  | 1,742749E+22   | 1,962541E+22   | 1,962596E+22    | 1,742856E+22     | 1,374647E+22     | 9,606281E+21     | 6,117644E+21     | 4,175546E+21      | 4,175414E+21      | 6,117282E+21      | 9,605819E+21      |
| -1871                           | 1,374618E+22  | 1,742872E+22   | 1,962656E+22   | 1,962645E+22    | 1,742856E+22     | 1,374616E+22     | 9,605786E+21     | 6,117148E+21     | 4,175215E+21      | 4,175294E+21      | 6,117445E+21      | 9,606314E+21      |
| -1870                           | 1,374669E+22  | 1,742890E+22   | 1,962647E+22   | 1,962613E+22    | 1,742831E+22     | 1,374613E+22     | 9,605810E+21     | 6,117056E+21     | 4,174997E+21      | 4,174990E+21      | 6,116945E+21      | 9,605518E+21      |
| -1869                           | 1,374581E+22  | 1,742837E+22   | 1,962670E+22   | 1,962686E+22    | 1,742880E+22     | 1,374632E+22     | 9,605953E+21     | 6,117184E+21     | 4,175003E+21      | 4,174873E+21      | 6,116865E+21      | 9,605762E+21      |
| -1868                           | 1,374661E+22  | 1,742939E+22   | 1,962743E+22   | 1,962728E+22    | 1,742884E+22     | 1,374590E+22     | 9,605303E+21     | 6,116652E+21     | 4,174757E+21      | 4,174896E+21      | 6,117089E+21      | 9,605885E+21      |
| -1867                           | 1,374626E+22  | 1,742868E+22   | 1,962655E+22   | 1,962669E+22    | 1,742902E+22     | 1,374653E+22     | 9,605859E+21     | 6,116903E+21     | 4,174751E+21      | 4,174722E+21      | 6,116756E+21      | 9,605426E+21      |
| -1866                           | 1,374573E+22  | 1,742849E+22   | 1,962707E+22   | 1,962727E+22    | 1,742917E+22     | 1,374653E+22     | 9,605911E+21     | 6,117012E+21     | 4,174859E+21      | 4,174821E+21      | 6,116958E+21      | 9,606032E+21      |
| -1865                           | 1,374679E+22  | 1,742924E+22   | 1,962710E+22   | 1,962686E+22    | 1,742864E+22     | 1,374605E+22     | 9,605559E+21     | 6,116818E+21     | 4,174854E+21      | 4,174982E+21      | 6,117114E+21      | 9,605781E+21      |
| -1864                           | 1,374601E+22  | 1,742816E+22   | 1,962597E+22   | 1,962625E+22    | 1,742868E+22     | 1,374648E+22     | 9,606175E+21     | 6,117420E+21     | 4,175266E+21      | 4,175134E+21      | 6,117007E+21      | 9,605535E+21      |
| -1863                           | 1,374593E+22  | 1,742866E+22   | 1,962672E+22   | 1,962655E+22    | 1,742855E+22     | 1,374618E+22     | 9,605915E+21     | 6,117381E+21     | 4,175471E+21      | 4,175510E+21      | 6,117545E+21      | 9,606241E+21      |
| -1862                           | 1,374647E+22  | 1,742862E+22   | 1,962622E+22   | 1,962590E+22    | 1,742800E+22     | 1,374588E+22     | 9,605851E+21     | 6,117466E+21     | 4,175662E+21      | 4,175756E+21      | 6,117637E+21      | 9,605855E+21      |
| -1861                           | 1,374555E+22  | 1,742745E+22   | 1,962543E+22   | 1,962577E+22    | 1,742816E+22     | 1,374617E+22     | 9,606282E+21     | 6,117959E+21     | 4,176055E+21      | 4,175979E+21      | 6,117767E+21      | 9,606130E+21      |
| -1860                           | 1,374622E+22  | 1,742830E+22   | 1,962592E+22   | 1,962583E+22    | 1,742796E+22     | 1,374574E+22     | 9,605839E+21     | 6,117730E+21     | 4,176122E+21      | 4,176276E+21      | 6,118230E+21      | 9,606561E+21      |
| -1859                           | 1,374627E+22  | 1,742786E+22   | 1,962502E+22   | 1,962487E+22    | 1,742764E+22     | 1,374606E+22     | 9,606333E+21     | 6,118092E+21     | 4,176310E+21      | 4,176307E+21      | 6,117995E+21      | 9,605975E+21      |
| -1858                           | 1,374545E+22  | 1,742734E+22   | 1,962529E+22   | 1,962541E+22    | 1,742783E+22     | 1,374613E+22     | 9,606529E+21     | 6,118377E+21     | 4,176538E+21      | 4,176420E+21      | 6,118078E+21      | 9,606322E+21      |
| -1857                           | 1,374633E+22  | 1,742825E+22   | 1,962571E+22   | 1,962543E+22    | 1,742754E+22     | 1,374560E+22     | 9,605992E+21     | 6,118022E+21     | 4,176437E+21      | 4,176563E+21      | 6,118348E+21      | 9,606289E+21      |
| -1856                           | 1,374563E+22  | 1,742711E+22   | 1,962454E+22   | 1,962482E+22    | 1,742771E+22     | 1,374613E+22     | 9,606492E+21     | 6,118346E+21     | 4,176530E+21      | 4,176428E+21      | 6,118023E+21      | 9,605922E+21      |
| -1855                           | 1,374540E+22  | 1,742735E+22   | 1,962531E+22   | 1,962547E+22    | 1,742796E+22     | 1,374612E+22     | 9,606312E+21     | 6,118118E+21     | 4,176362E+21      | 4,176362E+21      | 6,118192E+21      | 9,606574E+21      |
| -1854                           | 1,374643E+22  | 1,742805E+22   | 1,962541E+22   | 1,962522E+22    | 1,742759E+22     | 1,374577E+22     | 9,605991E+21     | 6,117775E+21     | 4,176056E+21      | 4,176165E+21      | 6,118006E+21      | 9,606127E+21      |
| -1853                           | 1,374573E+22  | 1,742735E+22   | 1,962493E+22   | 1,962524E+22    | 1,742791E+22     | 1,374615E+22     | 9,606333E+21     | 6,117955E+21     | 4,175973E+21      | 4,175836E+21      | 6,117588E+21      | 9,605948E+21      |
| -1852                           | 1,374616E+22  | 1,742856E+22   | 1,962628E+22   | 1,962602E+22    | 1,742808E+22     | 1,374584E+22     | 9,605798E+21     | 6,117478E+21     | 4,175684E+21      | 4,175735E+21      | 6,117723E+21      | 9,606304E+21      |
| -1851                           | 1,374643E+22  | 1,742852E+22   | 1,962609E+22   | 1,962577E+22    | 1,742801E+22     | 1,374599E+22     | 9,605914E+21     | 6,117402E+21     | 4,175479E+21      | 4,175487E+21      | 6,117334E+21      | 9,605630E+21      |
| -1850                           | 1,374553E+22  | 1,742777E+22   | 1,962619E+22   | 1,962655E+22    | 1,742863E+22     | 1,374631E+22     | 9,606108E+21     | 6,117522E+21     | 4,175461E+21      | 4,175341E+21      | 6,117214E+21      | 9,605843E+21      |
| -1849                           | 1,374640E+22  | 1,742890E+22   | 1,962683E+22   | 1,962677E+22    | 1,742860E+22     | 1,374596E+22     | 9,605575E+21     | 6,117056E+21     | 4,175232E+21      | 4,175391E+21      | 6,117515E+21      | 9,606070E+21      |



| 1<br>Longitude $\odot$<br>Years | 2<br>0° - 30° | 3<br>30° - 60° | 4<br>60° - 90° | 5<br>90° - 120° | 6<br>120° - 150° | 7<br>150° - 180° | 8<br>180° - 210° | 9<br>210° - 240° | 10<br>240° - 270° | 11<br>270° - 300° | 12<br>300° - 330° | 13<br>330° - 360° |
|---------------------------------|---------------|----------------|----------------|-----------------|------------------|------------------|------------------|------------------|-------------------|-------------------|-------------------|-------------------|
| -1848                           | 1,374607E+22  | 1,742807E+22   | 1,962570E+22   | 1,962586E+22    | 1,742845E+22     | 1,374637E+22     | 9,606084E+21     | 6,117384E+21     | 4,175331E+21      | 4,175279E+21      | 6,117181E+21      | 9,605636E+21      |
| -1847                           | 1,374567E+22  | 1,742799E+22   | 1,962619E+22   | 1,962631E+22    | 1,742858E+22     | 1,374644E+22     | 9,606181E+21     | 6,117532E+21     | 4,175494E+21      | 4,175426E+21      | 6,117372E+21      | 9,606118E+21      |
| -1846                           | 1,374660E+22  | 1,742881E+22   | 1,962644E+22   | 1,962605E+22    | 1,742798E+22     | 1,374581E+22     | 9,605781E+21     | 6,117374E+21     | 4,175558E+21      | 4,175673E+21      | 6,117612E+21      | 9,605912E+21      |
| -1845                           | 1,374580E+22  | 1,742768E+22   | 1,962532E+22   | 1,962551E+22    | 1,742797E+22     | 1,374605E+22     | 9,606198E+21     | 6,117854E+21     | 4,175923E+21      | 4,175832E+21      | 6,117574E+21      | 9,605778E+21      |
| -1844                           | 1,374575E+22  | 1,742809E+22   | 1,962598E+22   | 1,962589E+22    | 1,742804E+22     | 1,374585E+22     | 9,605928E+21     | 6,117787E+21     | 4,176109E+21      | 4,176181E+21      | 6,118089E+21      | 9,606477E+21      |
| -1843                           | 1,374629E+22  | 1,742801E+22   | 1,962539E+22   | 1,962511E+22    | 1,742752E+22     | 1,374576E+22     | 9,606029E+21     | 6,117901E+21     | 4,176263E+21      | 4,176394E+21      | 6,118182E+21      | 9,606167E+21      |
| -1842                           | 1,374548E+22  | 1,742691E+22   | 1,962470E+22   | 1,962510E+22    | 1,742772E+22     | 1,374608E+22     | 9,606519E+21     | 6,118419E+21     | 4,176621E+21      | 4,176522E+21      | 6,118148E+21      | 9,606252E+21      |
| -1841                           | 1,374613E+22  | 1,742799E+22   | 1,962535E+22   | 1,962517E+22    | 1,742750E+22     | 1,374568E+22     | 9,606134E+21     | 6,118241E+21     | 4,176706E+21      | 4,176834E+21      | 6,118633E+21      | 9,606630E+21      |
| -1840                           | 1,374596E+22  | 1,742731E+22   | 1,962437E+22   | 1,962420E+22    | 1,742706E+22     | 1,374583E+22     | 9,606533E+21     | 6,118615E+21     | 4,176960E+21      | 4,176925E+21      | 6,118428E+21      | 9,606082E+21      |
| -1839                           | 1,374520E+22  | 1,742670E+22   | 1,962449E+22   | 1,962473E+22    | 1,742744E+22     | 1,374606E+22     | 9,606728E+21     | 6,118839E+21     | 4,177150E+21      | 4,177038E+21      | 6,118536E+21      | 9,606413E+21      |
| -1838                           | 1,374602E+22  | 1,742763E+22   | 1,962492E+22   | 1,962473E+22    | 1,742713E+22     | 1,374553E+22     | 9,606194E+21     | 6,118455E+21     | 4,177008E+21      | 4,177155E+21      | 6,118830E+21      | 9,606516E+21      |
| -1837                           | 1,374553E+22  | 1,742663E+22   | 1,962379E+22   | 1,962405E+22    | 1,742712E+22     | 1,374587E+22     | 9,606571E+21     | 6,118668E+21     | 4,176994E+21      | 4,176929E+21      | 6,118465E+21      | 9,606219E+21      |
| -1836                           | 1,374547E+22  | 1,742705E+22   | 1,962467E+22   | 1,962478E+22    | 1,742742E+22     | 1,374584E+22     | 9,606372E+21     | 6,118456E+21     | 4,176814E+21      | 4,176794E+21      | 6,118511E+21      | 9,606705E+21      |
| -1835                           | 1,374639E+22  | 1,742782E+22   | 1,962490E+22   | 1,962458E+22    | 1,742711E+22     | 1,374561E+22     | 9,606139E+21     | 6,118142E+21     | 4,176517E+21      | 4,176608E+21      | 6,118335E+21      | 9,606252E+21      |
| -1834                           | 1,374562E+22  | 1,742708E+22   | 1,962467E+22   | 1,962495E+22    | 1,742755E+22     | 1,374597E+22     | 9,606448E+21     | 6,118300E+21     | 4,176419E+21      | 4,176258E+21      | 6,117858E+21      | 9,605944E+21      |
| -1833                           | 1,374593E+22  | 1,742822E+22   | 1,962594E+22   | 1,962574E+22    | 1,742784E+22     | 1,374574E+22     | 9,605937E+21     | 6,117826E+21     | 4,176135E+21      | 4,176209E+21      | 6,118109E+21      | 9,606375E+21      |
| -1832                           | 1,374606E+22  | 1,742786E+22   | 1,962541E+22   | 1,962525E+22    | 1,742767E+22     | 1,374587E+22     | 9,606040E+21     | 6,117770E+21     | 4,175986E+21      | 4,176009E+21      | 6,117767E+21      | 9,605850E+21      |
| -1831                           | 1,374539E+22  | 1,742716E+22   | 1,962527E+22   | 1,962575E+22    | 1,742827E+22     | 1,374634E+22     | 9,606345E+21     | 6,117923E+21     | 4,175977E+21      | 4,175865E+21      | 6,117616E+21      | 9,605981E+21      |
| -1830                           | 1,374624E+22  | 1,742840E+22   | 1,962600E+22   | 1,962592E+22    | 1,742807E+22     | 1,374588E+22     | 9,605854E+21     | 6,117550E+21     | 4,175812E+21      | 4,175942E+21      | 6,117908E+21      | 9,606219E+21      |
| -1829                           | 1,374601E+22  | 1,742773E+22   | 1,962503E+22   | 1,962502E+22    | 1,742771E+22     | 1,374603E+22     | 9,606193E+21     | 6,117823E+21     | 4,175920E+21      | 4,175860E+21      | 6,117614E+21      | 9,605801E+21      |
| -1828                           | 1,374556E+22  | 1,742763E+22   | 1,962560E+22   | 1,962564E+22    | 1,742793E+22     | 1,374602E+22     | 9,606228E+21     | 6,117985E+21     | 4,176127E+21      | 4,176045E+21      | 6,117817E+21      | 9,606211E+21      |
| -1827                           | 1,374632E+22  | 1,742826E+22   | 1,962576E+22   | 1,962543E+22    | 1,742752E+22     | 1,374559E+22     | 9,605893E+21     | 6,117812E+21     | 4,176184E+21      | 4,176339E+21      | 6,118176E+21      | 9,606170E+21      |
| -1826                           | 1,374557E+22  | 1,742707E+22   | 1,962467E+22   | 1,962498E+22    | 1,742759E+22     | 1,374591E+22     | 9,606330E+21     | 6,118247E+21     | 4,176486E+21      | 4,176427E+21      | 6,118060E+21      | 9,605999E+21      |
| -1825                           | 1,374562E+22  | 1,742761E+22   | 1,962529E+22   | 1,962526E+22    | 1,742766E+22     | 1,374581E+22     | 9,606176E+21     | 6,118232E+21     | 4,176664E+21      | 4,176767E+21      | 6,118594E+21      | 9,606713E+21      |
| -1824                           | 1,374613E+22  | 1,742744E+22   | 1,962455E+22   | 1,962430E+22    | 1,742697E+22     | 1,374561E+22     | 9,606277E+21     | 6,118427E+21     | 4,176905E+21      | 4,177007E+21      | 6,118638E+21      | 9,606376E+21      |
| -1823                           | 1,374541E+22  | 1,742646E+22   | 1,962385E+22   | 1,962419E+22    | 1,742720E+22     | 1,374605E+22     | 9,606829E+21     | 6,118980E+21     | 4,177297E+21      | 4,177156E+21      | 6,118562E+21      | 9,606278E+21      |
| -1822                           | 1,374583E+22  | 1,742751E+22   | 1,962471E+22   | 1,962446E+22    | 1,742695E+22     | 1,374553E+22     | 9,606419E+21     | 6,118833E+21     | 4,177419E+21      | 4,177508E+21      | 6,119094E+21      | 9,606727E+21      |
| -1821                           | 1,374569E+22  | 1,742673E+22   | 1,962364E+22   | 1,962350E+22    | 1,742646E+22     | 1,374549E+22     | 9,606604E+21     | 6,119054E+21     | 4,177591E+21      | 4,177581E+21      | 6,118962E+21      | 9,606319E+21      |
| -1820                           | 1,374501E+22  | 1,742610E+22   | 1,962365E+22   | 1,962401E+22    | 1,742693E+22     | 1,374577E+22     | 9,606783E+21     | 6,119224E+21     | 4,177709E+21      | 4,177616E+21      | 6,119018E+21      | 9,606647E+21      |
| -1819                           | 1,374587E+22  | 1,742708E+22   | 1,962409E+22   | 1,962394E+22    | 1,742664E+22     | 1,374539E+22     | 9,606352E+21     | 6,118824E+21     | 4,177497E+21      | 4,177668E+21      | 6,119287E+21      | 9,606814E+21      |
| -1818                           | 1,374551E+22  | 1,742628E+22   | 1,962323E+22   | 1,962344E+22    | 1,742663E+22     | 1,374569E+22     | 9,606704E+21     | 6,119006E+21     | 4,177417E+21      | 4,177328E+21      | 6,118741E+21      | 9,606315E+21      |
| -1817                           | 1,374544E+22  | 1,742695E+22   | 1,962437E+22   | 1,962431E+22    | 1,742700E+22     | 1,374569E+22     | 9,606532E+21     | 6,118815E+21     | 4,177248E+21      | 4,177218E+21      | 6,118811E+21      | 9,606731E+21      |
| -1816                           | 1,374613E+22  | 1,742743E+22   | 1,962449E+22   | 1,962416E+22    | 1,742668E+22     | 1,374537E+22     | 9,606233E+21     | 6,118523E+21     | 4,177021E+21      | 4,177088E+21      | 6,118659E+21      | 9,606309E+21      |
| -1815                           | 1,374538E+22  | 1,742657E+22   | 1,962402E+22   | 1,962446E+22    | 1,742736E+22     | 1,374597E+22     | 9,606603E+21     | 6,118662E+21     | 4,176916E+21      | 4,176761E+21      | 6,118218E+21      | 9,605978E+21      |
| -1814                           | 1,374558E+22  | 1,742764E+22   | 1,962528E+22   | 1,962523E+22    | 1,742760E+22     | 1,374576E+22     | 9,606169E+21     | 6,118233E+21     | 4,176645E+21      | 4,176718E+21      | 6,118503E+21      | 9,606553E+21      |
| -1813                           | 1,374592E+22  | 1,742732E+22   | 1,962463E+22   | 1,962454E+22    | 1,742716E+22     | 1,374568E+22     | 9,606172E+21     | 6,118129E+21     | 4,176466E+21      | 4,176509E+21      | 6,118191E+21      | 9,606108E+21      |

| 1                 | 2            | 3            | 4            | 5            | 6            | 7            | 8            | 9            | 10           | 11           | 12           | 13           |
|-------------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|
| Longitude $\odot$ | 0° - 30°     | 30° - 60°    | 60° - 90°    | 90° - 120°   | 120° - 150°  | 150° - 180°  | 180° - 210°  | 210° - 240°  | 240° - 270°  | 270° - 300°  | 300° - 330°  | 330° - 360°  |
| Years             |              |              |              |              |              |              |              |              |              |              |              |              |
| -1812             | 1,374539E+22 | 1,742677E+22 | 1,962448E+22 | 1,962496E+22 | 1,742770E+22 | 1,374609E+22 | 9,606483E+21 | 6,118344E+21 | 4,176503E+21 | 4,176369E+21 | 6,117991E+21 | 9,606118E+21 |
| -1811             | 1,374610E+22 | 1,742803E+22 | 1,962533E+22 | 1,962513E+22 | 1,742747E+22 | 1,374568E+22 | 9,606042E+21 | 6,118005E+21 | 4,176388E+21 | 4,176513E+21 | 6,118350E+21 | 9,606391E+21 |
| -1810             | 1,374582E+22 | 1,742733E+22 | 1,962458E+22 | 1,962449E+22 | 1,742716E+22 | 1,374572E+22 | 9,606290E+21 | 6,118244E+21 | 4,176494E+21 | 4,176436E+21 | 6,118039E+21 | 9,605915E+21 |
| -1809             | 1,374535E+22 | 1,742721E+22 | 1,962507E+22 | 1,962515E+22 | 1,742752E+22 | 1,374581E+22 | 9,606328E+21 | 6,118389E+21 | 4,176706E+21 | 4,176674E+21 | 6,118354E+21 | 9,606418E+21 |
| -1808             | 1,374603E+22 | 1,742758E+22 | 1,962490E+22 | 1,962471E+22 | 1,742704E+22 | 1,374541E+22 | 9,606029E+21 | 6,118252E+21 | 4,176803E+21 | 4,176979E+21 | 6,118711E+21 | 9,606490E+21 |
| -1807             | 1,374552E+22 | 1,742651E+22 | 1,962369E+22 | 1,962411E+22 | 1,742717E+22 | 1,374592E+22 | 9,606598E+21 | 6,118735E+21 | 4,177104E+21 | 4,177042E+21 | 6,118521E+21 | 9,606173E+21 |
| -1806             | 1,374548E+22 | 1,742716E+22 | 1,962452E+22 | 1,962444E+22 | 1,742712E+22 | 1,374573E+22 | 9,606513E+21 | 6,118819E+21 | 4,177338E+21 | 4,177383E+21 | 6,119004E+21 | 9,606845E+21 |
| -1805             | 1,374600E+22 | 1,742704E+22 | 1,962388E+22 | 1,962351E+22 | 1,742628E+22 | 1,374531E+22 | 9,606457E+21 | 6,118955E+21 | 4,177580E+21 | 4,177657E+21 | 6,119094E+21 | 9,606503E+21 |
| -1804             | 1,374521E+22 | 1,742601E+22 | 1,962319E+22 | 1,962353E+22 | 1,742662E+22 | 1,374572E+22 | 9,606960E+21 | 6,119497E+21 | 4,177974E+21 | 4,177814E+21 | 6,119030E+21 | 9,606349E+21 |
| -1803             | 1,374542E+22 | 1,742683E+22 | 1,962392E+22 | 1,962380E+22 | 1,742654E+22 | 1,374539E+22 | 9,606585E+21 | 6,119294E+21 | 4,178048E+21 | 4,178163E+21 | 6,119640E+21 | 9,606965E+21 |
| -1802             | 1,374543E+22 | 1,742610E+22 | 1,962295E+22 | 1,962291E+22 | 1,742605E+22 | 1,374534E+22 | 9,606741E+21 | 6,119434E+21 | 4,178112E+21 | 4,178124E+21 | 6,119415E+21 | 9,606562E+21 |
| -1801             | 1,374493E+22 | 1,742567E+22 | 1,962297E+22 | 1,962334E+22 | 1,742649E+22 | 1,374564E+22 | 9,606950E+21 | 6,119590E+21 | 4,178178E+21 | 4,178112E+21 | 6,119444E+21 | 9,606862E+21 |
| -1800             | 1,374575E+22 | 1,742662E+22 | 1,962334E+22 | 1,962318E+22 | 1,742610E+22 | 1,374520E+22 | 9,606512E+21 | 6,119238E+21 | 4,178008E+21 | 4,178151E+21 | 6,119643E+21 | 9,607003E+21 |
| -1799             | 1,374551E+22 | 1,742603E+22 | 1,962264E+22 | 1,962275E+22 | 1,742620E+22 | 1,374560E+22 | 9,606881E+21 | 6,119411E+21 | 4,177931E+21 | 4,177814E+21 | 6,119048E+21 | 9,606317E+21 |
| -1798             | 1,374517E+22 | 1,742660E+22 | 1,962396E+22 | 1,962386E+22 | 1,742661E+22 | 1,374553E+22 | 9,606705E+21 | 6,119246E+21 | 4,177790E+21 | 4,177728E+21 | 6,119151E+21 | 9,606805E+21 |
| -1797             | 1,374589E+22 | 1,742693E+22 | 1,962391E+22 | 1,962369E+22 | 1,742631E+22 | 1,374512E+22 | 9,606252E+21 | 6,118835E+21 | 4,177507E+21 | 4,177608E+21 | 6,119084E+21 | 9,606508E+21 |
| -1796             | 1,374524E+22 | 1,742607E+22 | 1,962328E+22 | 1,962384E+22 | 1,742697E+22 | 1,374579E+22 | 9,606682E+21 | 6,118989E+21 | 4,177375E+21 | 4,177238E+21 | 6,118611E+21 | 9,606156E+21 |
| -1795             | 1,374539E+22 | 1,742710E+22 | 1,962448E+22 | 1,962449E+22 | 1,742719E+22 | 1,374570E+22 | 9,606374E+21 | 6,118607E+21 | 4,177108E+21 | 4,177189E+21 | 6,118894E+21 | 9,606772E+21 |
| -1794             | 1,374584E+22 | 1,742698E+22 | 1,962408E+22 | 1,962388E+22 | 1,742665E+22 | 1,374549E+22 | 9,606330E+21 | 6,118510E+21 | 4,176929E+21 | 4,176945E+21 | 6,118493E+21 | 9,606212E+21 |
| -1793             | 1,374531E+22 | 1,742656E+22 | 1,962405E+22 | 1,962437E+22 | 1,742717E+22 | 1,374586E+22 | 9,606631E+21 | 6,118747E+21 | 4,177020E+21 | 4,176889E+21 | 6,118376E+21 | 9,606197E+21 |
| -1792             | 1,374580E+22 | 1,742752E+22 | 1,962472E+22 | 1,962453E+22 | 1,742696E+22 | 1,374540E+22 | 9,606153E+21 | 6,118451E+21 | 4,176992E+21 | 4,177114E+21 | 6,118805E+21 | 9,606574E+21 |
| -1791             | 1,374563E+22 | 1,742681E+22 | 1,962380E+22 | 1,962383E+22 | 1,742684E+22 | 1,374565E+22 | 9,606439E+21 | 6,118670E+21 | 4,177100E+21 | 4,177065E+21 | 6,118520E+21 | 9,606062E+21 |
| -1790             | 1,374508E+22 | 1,742666E+22 | 1,962436E+22 | 1,962448E+22 | 1,742714E+22 | 1,374575E+22 | 9,606573E+21 | 6,118881E+21 | 4,177333E+21 | 4,177294E+21 | 6,118833E+21 | 9,606679E+21 |
| -1789             | 1,374595E+22 | 1,742704E+22 | 1,962408E+22 | 1,962392E+22 | 1,742648E+22 | 1,374518E+22 | 9,606195E+21 | 6,118721E+21 | 4,177423E+21 | 4,177602E+21 | 6,119200E+21 | 9,606752E+21 |
| -1788             | 1,374550E+22 | 1,742612E+22 | 1,962289E+22 | 1,962326E+22 | 1,742657E+22 | 1,374568E+22 | 9,606820E+21 | 6,119283E+21 | 4,177766E+21 | 4,177666E+21 | 6,118959E+21 | 9,606289E+21 |
| -1787             | 1,374523E+22 | 1,742669E+22 | 1,962383E+22 | 1,962367E+22 | 1,742656E+22 | 1,374558E+22 | 9,606785E+21 | 6,119393E+21 | 4,178041E+21 | 4,178063E+21 | 6,119497E+21 | 9,606973E+21 |
| -1786             | 1,374567E+22 | 1,742649E+22 | 1,962332E+22 | 1,962293E+22 | 1,742575E+22 | 1,374505E+22 | 9,606612E+21 | 6,119456E+21 | 4,178241E+21 | 4,178314E+21 | 6,119581E+21 | 9,606632E+21 |
| -1785             | 1,374491E+22 | 1,742543E+22 | 1,962247E+22 | 1,962290E+22 | 1,742621E+22 | 1,374554E+22 | 9,607088E+21 | 6,119920E+21 | 4,178585E+21 | 4,178481E+21 | 6,119599E+21 | 9,606589E+21 |
| -1784             | 1,374512E+22 | 1,742605E+22 | 1,962293E+22 | 1,962293E+22 | 1,742600E+22 | 1,374520E+22 | 9,606729E+21 | 6,119719E+21 | 4,178638E+21 | 4,178776E+21 | 6,120155E+21 | 9,607297E+21 |
| -1783             | 1,374542E+22 | 1,742558E+22 | 1,962196E+22 | 1,962196E+22 | 1,742556E+22 | 1,374527E+22 | 9,606936E+21 | 6,119854E+21 | 4,178655E+21 | 4,178661E+21 | 6,119813E+21 | 9,606731E+21 |
| -1782             | 1,374486E+22 | 1,742537E+22 | 1,962238E+22 | 1,962261E+22 | 1,742595E+22 | 1,374547E+22 | 9,607164E+21 | 6,120054E+21 | 4,178728E+21 | 4,178604E+21 | 6,119765E+21 | 9,607000E+21 |
| -1781             | 1,374570E+22 | 1,742634E+22 | 1,962287E+22 | 1,962257E+22 | 1,742552E+22 | 1,374487E+22 | 9,606574E+21 | 6,119617E+21 | 4,178528E+21 | 4,178655E+21 | 6,119988E+21 | 9,607098E+21 |
| -1780             | 1,374537E+22 | 1,742572E+22 | 1,962220E+22 | 1,962231E+22 | 1,742579E+22 | 1,374533E+22 | 9,606944E+21 | 6,119773E+21 | 4,178421E+21 | 4,178302E+21 | 6,119397E+21 | 9,606361E+21 |
| -1779             | 1,374484E+22 | 1,742607E+22 | 1,962340E+22 | 1,962341E+22 | 1,742638E+22 | 1,374549E+22 | 9,606845E+21 | 6,119577E+21 | 4,178248E+21 | 4,178214E+21 | 6,119547E+21 | 9,606956E+21 |
| -1778             | 1,374564E+22 | 1,742642E+22 | 1,962340E+22 | 1,962324E+22 | 1,742603E+22 | 1,374506E+22 | 9,606389E+21 | 6,119132E+21 | 4,177903E+21 | 4,178018E+21 | 6,119413E+21 | 9,606670E+21 |
| -1777             | 1,374515E+22 | 1,742572E+22 | 1,962268E+22 | 1,962324E+22 | 1,742663E+22 | 1,374572E+22 | 9,606857E+21 | 6,119318E+21 | 4,177794E+21 | 4,177679E+21 | 6,118968E+21 | 9,606306E+21 |

| 1<br>Longitude ☉<br>Years | 2<br>0° - 30° | 3<br>30° - 60° | 4<br>60° - 90° | 5<br>90° - 120° | 6<br>120° - 150° | 7<br>150° - 180° | 8<br>180° - 210° | 9<br>210° - 240° | 10<br>240° - 270° | 11<br>270° - 300° | 12<br>300° - 330° | 13<br>330° - 360° |
|---------------------------|---------------|----------------|----------------|-----------------|------------------|------------------|------------------|------------------|-------------------|-------------------|-------------------|-------------------|
| -1776                     | 1,374523E+22  | 1,742661E+22   | 1,962372E+22   | 1,962370E+22    | 1,742667E+22     | 1,374555E+22     | 9,606565E+21     | 6,119038E+21     | 4,177630E+21      | 4,177675E+21      | 6,119236E+21      | 9,606924E+21      |
| -1775                     | 1,374577E+22  | 1,742665E+22   | 1,962342E+22   | 1,962314E+22    | 1,742618E+22     | 1,374536E+22     | 9,606520E+21     | 6,118968E+21     | 4,177508E+21      | 4,177501E+21      | 6,118866E+21      | 9,606262E+21      |
| -1774                     | 1,374504E+22  | 1,742614E+22   | 1,962357E+22   | 1,962383E+22    | 1,742670E+22     | 1,374562E+22     | 9,606781E+21     | 6,119229E+21     | 4,177647E+21      | 4,177496E+21      | 6,118823E+21      | 9,606379E+21      |
| -1773                     | 1,374560E+22  | 1,742694E+22   | 1,962402E+22   | 1,962389E+22    | 1,742646E+22     | 1,374510E+22     | 9,606184E+21     | 6,118838E+21     | 4,177589E+21      | 4,177755E+21      | 6,119344E+21      | 9,606873E+21      |
| -1772                     | 1,374556E+22  | 1,742631E+22   | 1,962301E+22   | 1,962307E+22    | 1,742632E+22     | 1,374543E+22     | 9,606561E+21     | 6,119083E+21     | 4,177672E+21      | 4,177667E+21      | 6,119013E+21      | 9,606302E+21      |
| -1771                     | 1,374493E+22  | 1,742613E+22   | 1,962353E+22   | 1,962367E+22    | 1,742666E+22     | 1,374567E+22     | 9,606818E+21     | 6,119356E+21     | 4,177930E+21      | 4,177891E+21      | 6,119290E+21      | 9,606880E+21      |
| -1770                     | 1,374582E+22  | 1,742668E+22   | 1,962352E+22   | 1,962323E+22    | 1,742596E+22     | 1,374501E+22     | 9,606404E+21     | 6,119214E+21     | 4,178033E+21      | 4,178177E+21      | 6,119585E+21      | 9,606848E+21      |
| -1769                     | 1,374533E+22  | 1,742578E+22   | 1,962237E+22   | 1,962261E+22    | 1,742605E+22     | 1,374548E+22     | 9,607013E+21     | 6,119782E+21     | 4,178423E+21      | 4,178325E+21      | 6,119427E+21      | 9,606359E+21      |
| -1768                     | 1,374480E+22  | 1,742591E+22   | 1,962299E+22   | 1,962296E+22    | 1,742607E+22     | 1,374537E+22     | 9,606970E+21     | 6,119927E+21     | 4,178743E+21      | 4,178761E+21      | 6,120023E+21      | 9,607163E+21      |
| -1767                     | 1,374541E+22  | 1,742579E+22   | 1,962235E+22   | 1,962212E+22    | 1,742538E+22     | 1,374499E+22     | 9,606811E+21     | 6,119939E+21     | 4,178898E+21      | 4,178993E+21      | 6,120117E+21      | 9,606836E+21      |
| -1766                     | 1,374466E+22  | 1,742479E+22   | 1,962163E+22   | 1,962207E+22    | 1,742569E+22     | 1,374542E+22     | 9,607323E+21     | 6,120411E+21     | 4,179201E+21      | 4,179087E+21      | 6,120089E+21      | 9,606908E+21      |
| -1765                     | 1,374511E+22  | 1,742552E+22   | 1,962206E+22   | 1,962203E+22    | 1,742535E+22     | 1,374492E+22     | 9,606847E+21     | 6,120137E+21     | 4,179201E+21      | 4,179344E+21      | 6,120606E+21      | 9,607574E+21      |
| -1764                     | 1,374550E+22  | 1,742534E+22   | 1,962132E+22   | 1,962114E+22    | 1,742491E+22     | 1,374497E+22     | 9,607068E+21     | 6,120283E+21     | 4,179193E+21      | 4,179178E+21      | 6,120170E+21      | 9,606822E+21      |
| -1763                     | 1,374471E+22  | 1,742507E+22   | 1,962194E+22   | 1,962204E+22    | 1,742546E+22     | 1,374528E+22     | 9,607318E+21     | 6,120472E+21     | 4,179269E+21      | 4,179133E+21      | 6,120134E+21      | 9,607062E+21      |
| -1762                     | 1,374544E+22  | 1,742597E+22   | 1,962257E+22   | 1,962225E+22    | 1,742520E+22     | 1,374465E+22     | 9,606638E+21     | 6,119960E+21     | 4,179010E+21      | 4,179138E+21      | 6,120336E+21      | 9,607169E+21      |
| -1761                     | 1,374512E+22  | 1,742527E+22   | 1,962172E+22   | 1,962192E+22    | 1,742558E+22     | 1,374525E+22     | 9,607031E+21     | 6,120059E+21     | 4,178863E+21      | 4,178796E+21      | 6,119806E+21      | 9,606507E+21      |
| -1760                     | 1,374455E+22  | 1,742534E+22   | 1,962257E+22   | 1,962274E+22    | 1,742605E+22     | 1,374546E+22     | 9,607036E+21     | 6,119939E+21     | 4,178708E+21      | 4,178680E+21      | 6,119920E+21      | 9,607161E+21      |
| -1759                     | 1,374558E+22  | 1,742594E+22   | 1,962255E+22   | 1,962244E+22    | 1,742566E+22     | 1,374506E+22     | 9,606626E+21     | 6,119535E+21     | 4,178382E+21      | 4,178472E+21      | 6,119725E+21      | 9,606749E+21      |
| -1758                     | 1,374501E+22  | 1,742540E+22   | 1,962216E+22   | 1,962253E+22    | 1,742609E+22     | 1,374557E+22     | 9,607086E+21     | 6,119787E+21     | 4,178336E+21      | 4,178160E+21      | 6,119286E+21      | 9,606434E+21      |
| -1757                     | 1,374514E+22  | 1,742621E+22   | 1,962316E+22   | 1,962302E+22    | 1,742605E+22     | 1,374520E+22     | 9,606622E+21     | 6,119441E+21     | 4,178195E+21      | 4,178240E+21      | 6,119645E+21      | 9,607063E+21      |
| -1756                     | 1,374564E+22  | 1,742625E+22   | 1,962286E+22   | 1,962256E+22    | 1,742567E+22     | 1,374505E+22     | 9,606574E+21     | 6,119358E+21     | 4,178063E+21      | 4,178083E+21      | 6,119325E+21      | 9,606412E+21      |
| -1755                     | 1,374479E+22  | 1,742559E+22   | 1,962295E+22   | 1,962327E+22    | 1,742636E+22     | 1,374551E+22     | 9,606902E+21     | 6,119600E+21     | 4,178191E+21      | 4,178088E+21      | 6,119328E+21      | 9,606626E+21      |
| -1754                     | 1,374544E+22  | 1,742645E+22   | 1,962344E+22   | 1,962330E+22    | 1,742606E+22     | 1,374497E+22     | 9,606324E+21     | 6,119207E+21     | 4,178092E+21      | 4,178277E+21      | 6,119767E+21      | 9,607093E+21      |
| -1753                     | 1,374551E+22  | 1,742594E+22   | 1,962239E+22   | 1,962240E+22    | 1,742591E+22     | 1,374534E+22     | 9,606757E+21     | 6,119498E+21     | 4,178223E+21      | 4,178237E+21      | 6,119449E+21      | 9,606460E+21      |
| -1752                     | 1,374474E+22  | 1,742557E+22   | 1,962273E+22   | 1,962282E+22    | 1,742611E+22     | 1,374555E+22     | 9,607089E+21     | 6,119900E+21     | 4,178588E+21      | 4,178512E+21      | 6,119712E+21      | 9,606989E+21      |
| -1751                     | 1,374562E+22  | 1,742616E+22   | 1,962273E+22   | 1,962243E+22    | 1,742547E+22     | 1,374490E+22     | 9,606670E+21     | 6,119789E+21     | 4,178750E+21      | 4,178864E+21      | 6,120048E+21      | 9,606894E+21      |
| -1750                     | 1,374494E+22  | 1,742514E+22   | 1,962168E+22   | 1,962193E+22    | 1,742554E+22     | 1,374528E+22     | 9,607233E+21     | 6,120359E+21     | 4,179160E+21      | 4,179039E+21      | 6,119975E+21      | 9,606608E+21      |
| -1749                     | 1,374458E+22  | 1,742511E+22   | 1,962199E+22   | 1,962206E+22    | 1,742546E+22     | 1,374509E+22     | 9,607058E+21     | 6,120383E+21     | 4,179415E+21      | 4,179472E+21      | 6,120618E+21      | 9,607499E+21      |
| -1748                     | 1,374536E+22  | 1,742522E+22   | 1,962139E+22   | 1,962115E+22    | 1,742470E+22     | 1,374473E+22     | 9,606966E+21     | 6,120387E+21     | 4,179491E+21      | 4,179613E+21      | 6,120634E+21      | 9,607114E+21      |
| -1747                     | 1,374460E+22  | 1,742435E+22   | 1,962086E+22   | 1,962121E+22    | 1,742508E+22     | 1,374522E+22     | 9,607502E+21     | 6,120851E+21     | 4,179767E+21      | 4,179651E+21      | 6,120524E+21      | 9,607102E+21      |
| -1746                     | 1,374505E+22  | 1,742530E+22   | 1,962167E+22   | 1,962139E+22    | 1,742477E+22     | 1,374466E+22     | 9,606968E+21     | 6,120540E+21     | 4,179722E+21      | 4,179837E+21      | 6,120932E+21      | 9,607641E+21      |
| -1745                     | 1,374538E+22  | 1,742513E+22   | 1,962106E+22   | 1,962075E+22    | 1,742452E+22     | 1,374477E+22     | 9,607157E+21     | 6,120639E+21     | 4,179711E+21      | 4,179712E+21      | 6,120537E+21      | 9,606838E+21      |
| -1744                     | 1,374434E+22  | 1,742446E+22   | 1,962134E+22   | 1,962158E+22    | 1,742520E+22     | 1,374519E+22     | 9,607465E+21     | 6,120865E+21     | 4,179796E+21      | 4,179662E+21      | 6,120518E+21      | 9,607151E+21      |
| -1743                     | 1,374519E+22  | 1,742538E+22   | 1,962181E+22   | 1,962172E+22    | 1,742506E+22     | 1,374473E+22     | 9,606851E+21     | 6,120340E+21     | 4,179505E+21      | 4,179636E+21      | 6,120709E+21      | 9,607266E+21      |
| -1742                     | 1,374486E+22  | 1,742470E+22   | 1,962106E+22   | 1,962132E+22    | 1,742524E+22     | 1,374524E+22     | 9,607290E+21     | 6,120485E+21     | 4,179353E+21      | 4,179255E+21      | 6,120173E+21      | 9,606746E+21      |
| -1741                     | 1,374449E+22  | 1,742476E+22   | 1,962171E+22   | 1,962193E+22    | 1,742550E+22     | 1,374527E+22     | 9,607182E+21     | 6,120328E+21     | 4,179203E+21      | 4,179168E+21      | 6,120299E+21      | 9,607358E+21      |

| 1                 | 2            | 3            | 4            | 5            | 6            | 7            | 8            | 9            | 10           | 11           | 12           | 13           |
|-------------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|
| Longitude $\odot$ | 0° - 30°     | 30° - 60°    | 60° - 90°    | 90° - 120°   | 120° - 150°  | 150° - 180°  | 180° - 210°  | 210° - 240°  | 240° - 270°  | 270° - 300°  | 300° - 330°  | 330° - 360°  |
| Years             |              |              |              |              |              |              |              |              |              |              |              |              |
| -1740             | 1,374560E+22 | 1,742567E+22 | 1,962194E+22 | 1,962163E+22 | 1,742498E+22 | 1,374479E+22 | 9,606782E+21 | 6,119948E+21 | 4,178887E+21 | 4,178972E+21 | 6,120097E+21 | 9,606854E+21 |
| -1739             | 1,374485E+22 | 1,742506E+22 | 1,962169E+22 | 1,962192E+22 | 1,742553E+22 | 1,374531E+22 | 9,607188E+21 | 6,120175E+21 | 4,178872E+21 | 4,178713E+21 | 6,119711E+21 | 9,606557E+21 |
| -1738             | 1,374493E+22 | 1,742585E+22 | 1,962279E+22 | 1,962259E+22 | 1,742562E+22 | 1,374492E+22 | 9,606629E+21 | 6,119759E+21 | 4,178691E+21 | 4,178771E+21 | 6,120078E+21 | 9,607248E+21 |
| -1737             | 1,374553E+22 | 1,742586E+22 | 1,962234E+22 | 1,962206E+22 | 1,742534E+22 | 1,374489E+22 | 9,606599E+21 | 6,119628E+21 | 4,178540E+21 | 4,178632E+21 | 6,119791E+21 | 9,606622E+21 |
| -1736             | 1,374460E+22 | 1,742494E+22 | 1,962209E+22 | 1,962252E+22 | 1,742595E+22 | 1,374545E+22 | 9,607101E+21 | 6,120001E+21 | 4,178712E+21 | 4,178615E+21 | 6,119739E+21 | 9,606833E+21 |
| -1735             | 1,374540E+22 | 1,742600E+22 | 1,962261E+22 | 1,962252E+22 | 1,742568E+22 | 1,374496E+22 | 9,606608E+21 | 6,119702E+21 | 4,178677E+21 | 4,178819E+21 | 6,120121E+21 | 9,607149E+21 |
| -1734             | 1,374530E+22 | 1,742553E+22 | 1,962183E+22 | 1,962169E+22 | 1,742535E+22 | 1,374521E+22 | 9,607062E+21 | 6,120087E+21 | 4,178898E+21 | 4,178839E+21 | 6,119852E+21 | 9,606583E+21 |
| -1733             | 1,374451E+22 | 1,742493E+22 | 1,962195E+22 | 1,962205E+22 | 1,742548E+22 | 1,374526E+22 | 9,607257E+21 | 6,120440E+21 | 4,179303E+21 | 4,179222E+21 | 6,120229E+21 | 9,607122E+21 |
| -1732             | 1,374536E+22 | 1,742556E+22 | 1,962194E+22 | 1,962163E+22 | 1,742485E+22 | 1,374464E+22 | 9,606841E+21 | 6,120302E+21 | 4,179435E+21 | 4,179578E+21 | 6,120617E+21 | 9,607085E+21 |
| -1731             | 1,374464E+22 | 1,742445E+22 | 1,962083E+22 | 1,962111E+22 | 1,742500E+22 | 1,374512E+22 | 9,607410E+21 | 6,120828E+21 | 4,179811E+21 | 4,179731E+21 | 6,120558E+21 | 9,606892E+21 |
| -1730             | 1,374445E+22 | 1,742460E+22 | 1,962125E+22 | 1,962127E+22 | 1,742487E+22 | 1,374485E+22 | 9,607191E+21 | 6,120804E+21 | 4,179988E+21 | 4,180061E+21 | 6,121097E+21 | 9,607763E+21 |
| -1729             | 1,374538E+22 | 1,742489E+22 | 1,962075E+22 | 1,962042E+22 | 1,742417E+22 | 1,374452E+22 | 9,607089E+21 | 6,120788E+21 | 4,180056E+21 | 4,180193E+21 | 6,121068E+21 | 9,607274E+21 |
| -1728             | 1,374446E+22 | 1,742390E+22 | 1,962020E+22 | 1,962048E+22 | 1,742454E+22 | 1,374506E+22 | 9,607711E+21 | 6,121334E+21 | 4,180366E+21 | 4,180222E+21 | 6,120916E+21 | 9,607198E+21 |
| -1727             | 1,374488E+22 | 1,742489E+22 | 1,962109E+22 | 1,962086E+22 | 1,742443E+22 | 1,374456E+22 | 9,607182E+21 | 6,121026E+21 | 4,180330E+21 | 4,180417E+21 | 6,121319E+21 | 9,607648E+21 |
| -1726             | 1,374500E+22 | 1,742458E+22 | 1,962056E+22 | 1,962034E+22 | 1,742423E+22 | 1,374469E+22 | 9,607357E+21 | 6,121101E+21 | 4,180298E+21 | 4,180278E+21 | 6,120983E+21 | 9,607046E+21 |
| -1725             | 1,374411E+22 | 1,742371E+22 | 1,962045E+22 | 1,962088E+22 | 1,742479E+22 | 1,374506E+22 | 9,607585E+21 | 6,121230E+21 | 4,180321E+21 | 4,180221E+21 | 6,120983E+21 | 9,607382E+21 |
| -1724             | 1,374510E+22 | 1,742485E+22 | 1,962096E+22 | 1,962087E+22 | 1,742450E+22 | 1,374460E+22 | 9,607052E+21 | 6,120720E+21 | 4,179968E+21 | 4,180113E+21 | 6,121100E+21 | 9,607451E+21 |
| -1723             | 1,374478E+22 | 1,742432E+22 | 1,962039E+22 | 1,962055E+22 | 1,742468E+22 | 1,374508E+22 | 9,607469E+21 | 6,120872E+21 | 4,179829E+21 | 4,179721E+21 | 6,120529E+21 | 9,606892E+21 |
| -1722             | 1,374445E+22 | 1,742458E+22 | 1,962131E+22 | 1,962128E+22 | 1,742488E+22 | 1,374496E+22 | 9,607251E+21 | 6,120669E+21 | 4,179656E+21 | 4,179605E+21 | 6,120603E+21 | 9,607432E+21 |
| -1721             | 1,374549E+22 | 1,742544E+22 | 1,962162E+22 | 1,962123E+22 | 1,742456E+22 | 1,374452E+22 | 9,606787E+21 | 6,120238E+21 | 4,179354E+21 | 4,179474E+21 | 6,120475E+21 | 9,606932E+21 |
| -1720             | 1,374458E+22 | 1,742452E+22 | 1,962111E+22 | 1,962146E+22 | 1,742521E+22 | 1,374516E+22 | 9,607268E+21 | 6,120502E+21 | 4,179351E+21 | 4,179222E+21 | 6,120125E+21 | 9,606721E+21 |
| -1719             | 1,374477E+22 | 1,742534E+22 | 1,962208E+22 | 1,962205E+22 | 1,742540E+22 | 1,374492E+22 | 9,606812E+21 | 6,120124E+21 | 4,179178E+21 | 4,179268E+21 | 6,120461E+21 | 9,607376E+21 |
| -1718             | 1,374533E+22 | 1,742538E+22 | 1,962175E+22 | 1,962151E+22 | 1,742500E+22 | 1,374488E+22 | 9,606864E+21 | 6,120080E+21 | 4,179069E+21 | 4,179126E+21 | 6,120181E+21 | 9,606860E+21 |
| -1717             | 1,374455E+22 | 1,742440E+22 | 1,962122E+22 | 1,962168E+22 | 1,742539E+22 | 1,374529E+22 | 9,607312E+21 | 6,120484E+21 | 4,179315E+21 | 4,179195E+21 | 6,120150E+21 | 9,606955E+21 |
| -1716             | 1,374529E+22 | 1,742563E+22 | 1,962192E+22 | 1,962166E+22 | 1,742498E+22 | 1,374476E+22 | 9,606880E+21 | 6,120255E+21 | 4,179333E+21 | 4,179450E+21 | 6,120559E+21 | 9,607215E+21 |
| -1715             | 1,374499E+22 | 1,742498E+22 | 1,962119E+22 | 1,962102E+22 | 1,742476E+22 | 1,374495E+22 | 9,607262E+21 | 6,120636E+21 | 4,179613E+21 | 4,179559E+21 | 6,120401E+21 | 9,606730E+21 |
| -1714             | 1,374421E+22 | 1,742433E+22 | 1,962123E+22 | 1,962136E+22 | 1,742492E+22 | 1,374497E+22 | 9,607342E+21 | 6,120893E+21 | 4,179960E+21 | 4,179915E+21 | 6,120807E+21 | 9,607380E+21 |
| -1713             | 1,374518E+22 | 1,742497E+22 | 1,962113E+22 | 1,962088E+22 | 1,742435E+22 | 1,374443E+22 | 9,606919E+21 | 6,120686E+21 | 4,180048E+21 | 4,180261E+21 | 6,121201E+21 | 9,607383E+21 |
| -1712             | 1,374449E+22 | 1,742379E+22 | 1,961985E+22 | 1,962018E+22 | 1,742441E+22 | 1,374496E+22 | 9,607605E+21 | 6,121285E+21 | 4,180413E+21 | 4,180346E+21 | 6,121052E+21 | 9,607161E+21 |
| -1711             | 1,374445E+22 | 1,742420E+22 | 1,962044E+22 | 1,962046E+22 | 1,742437E+22 | 1,374473E+22 | 9,607431E+21 | 6,121313E+21 | 4,180608E+21 | 4,180640E+21 | 6,121488E+21 | 9,607852E+21 |
| -1710             | 1,374521E+22 | 1,742457E+22 | 1,962030E+22 | 1,961985E+22 | 1,742367E+22 | 1,374436E+22 | 9,607329E+21 | 6,121325E+21 | 4,180698E+21 | 4,180771E+21 | 6,121469E+21 | 9,607412E+21 |
| -1709             | 1,374425E+22 | 1,742333E+22 | 1,961951E+22 | 1,961988E+22 | 1,742407E+22 | 1,374483E+22 | 9,607845E+21 | 6,121800E+21 | 4,181000E+21 | 4,180855E+21 | 6,121378E+21 | 9,607310E+21 |
| -1708             | 1,374463E+22 | 1,742436E+22 | 1,962041E+22 | 1,962023E+22 | 1,742399E+22 | 1,374445E+22 | 9,607384E+21 | 6,121461E+21 | 4,180892E+21 | 4,181001E+21 | 6,121786E+21 | 9,607802E+21 |
| -1707             | 1,374471E+22 | 1,742394E+22 | 1,961981E+22 | 1,961970E+22 | 1,742384E+22 | 1,374463E+22 | 9,607562E+21 | 6,121498E+21 | 4,180812E+21 | 4,180818E+21 | 6,121436E+21 | 9,607257E+21 |
| -1706             | 1,374400E+22 | 1,742326E+22 | 1,961973E+22 | 1,962017E+22 | 1,742430E+22 | 1,374489E+22 | 9,607722E+21 | 6,121571E+21 | 4,180760E+21 | 4,180668E+21 | 6,121350E+21 | 9,607579E+21 |
| -1705             | 1,374510E+22 | 1,742460E+22 | 1,962037E+22 | 1,962019E+22 | 1,742399E+22 | 1,374439E+22 | 9,607125E+21 | 6,121029E+21 | 4,180412E+21 | 4,180564E+21 | 6,121426E+21 | 9,607549E+21 |



| 1                 | 2            | 3            | 4            | 5            | 6            | 7            | 8            | 9            | 10           | 11           | 12           | 13           |
|-------------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|
| Longitude $\odot$ | 0° - 30°     | 30° - 60°    | 60° - 90°    | 90° - 120°   | 120° - 150°  | 150° - 180°  | 180° - 210°  | 210° - 240°  | 240° - 270°  | 270° - 300°  | 300° - 330°  | 330° - 360°  |
| Years             |              |              |              |              |              |              |              |              |              |              |              |              |
| -1704             | 1,374464E+22 | 1,742395E+22 | 1,961979E+22 | 1,961985E+22 | 1,742411E+22 | 1,374486E+22 | 9,607601E+21 | 6,121254E+21 | 4,180315E+21 | 4,180190E+21 | 6,120858E+21 | 9,606974E+21 |
| -1703             | 1,374430E+22 | 1,742424E+22 | 1,962081E+22 | 1,962086E+22 | 1,742453E+22 | 1,374476E+22 | 9,607361E+21 | 6,121058E+21 | 4,180170E+21 | 4,180104E+21 | 6,120955E+21 | 9,607479E+21 |
| -1702             | 1,374520E+22 | 1,742499E+22 | 1,962117E+22 | 1,962088E+22 | 1,742428E+22 | 1,374439E+22 | 9,606910E+21 | 6,120618E+21 | 4,179862E+21 | 4,179972E+21 | 6,120896E+21 | 9,607181E+21 |
| -1701             | 1,374443E+22 | 1,742389E+22 | 1,962027E+22 | 1,962079E+22 | 1,742481E+22 | 1,374502E+22 | 9,607378E+21 | 6,120847E+21 | 4,179849E+21 | 4,179751E+21 | 6,120564E+21 | 9,606947E+21 |
| -1700             | 1,374472E+22 | 1,742493E+22 | 1,962133E+22 | 1,962125E+22 | 1,742484E+22 | 1,374481E+22 | 9,607064E+21 | 6,120549E+21 | 4,179683E+21 | 4,179768E+21 | 6,120840E+21 | 9,607509E+21 |
| -1699             | 1,374518E+22 | 1,742498E+22 | 1,962111E+22 | 1,962081E+22 | 1,742446E+22 | 1,374473E+22 | 9,607107E+21 | 6,120568E+21 | 4,179658E+21 | 4,179688E+21 | 6,120572E+21 | 9,606945E+21 |
| -1698             | 1,374438E+22 | 1,742408E+22 | 1,962068E+22 | 1,962101E+22 | 1,742479E+22 | 1,374501E+22 | 9,607462E+21 | 6,120958E+21 | 4,179932E+21 | 4,179796E+21 | 6,120574E+21 | 9,607032E+21 |
| -1697             | 1,374501E+22 | 1,742516E+22 | 1,962134E+22 | 1,962112E+22 | 1,742452E+22 | 1,374450E+22 | 9,606956E+21 | 6,120688E+21 | 4,179982E+21 | 4,180128E+21 | 6,121071E+21 | 9,607341E+21 |
| -1696             | 1,374463E+22 | 1,742423E+22 | 1,962030E+22 | 1,962030E+22 | 1,742431E+22 | 1,374480E+22 | 9,607433E+21 | 6,121111E+21 | 4,180266E+21 | 4,180245E+21 | 6,120975E+21 | 9,607004E+21 |
| -1695             | 1,374403E+22 | 1,742367E+22 | 1,962028E+22 | 1,962059E+22 | 1,742449E+22 | 1,374486E+22 | 9,607568E+21 | 6,121384E+21 | 4,180594E+21 | 4,180557E+21 | 6,121326E+21 | 9,607623E+21 |
| -1694             | 1,374502E+22 | 1,742444E+22 | 1,962035E+22 | 1,962013E+22 | 1,742384E+22 | 1,374431E+22 | 9,607186E+21 | 6,121215E+21 | 4,180680E+21 | 4,180861E+21 | 6,121701E+21 | 9,607719E+21 |
| -1693             | 1,374449E+22 | 1,742330E+22 | 1,961895E+22 | 1,961924E+22 | 1,742375E+22 | 1,374472E+22 | 9,607793E+21 | 6,121789E+21 | 4,181067E+21 | 4,180986E+21 | 6,121523E+21 | 9,607343E+21 |
| -1692             | 1,374438E+22 | 1,742389E+22 | 1,961983E+22 | 1,961963E+22 | 1,742365E+22 | 1,374449E+22 | 9,607680E+21 | 6,121844E+21 | 4,181260E+21 | 4,181274E+21 | 6,121932E+21 | 9,607932E+21 |
| -1691             | 1,374491E+22 | 1,742407E+22 | 1,961976E+22 | 1,961934E+22 | 1,742321E+22 | 1,374415E+22 | 9,607503E+21 | 6,121825E+21 | 4,181359E+21 | 4,181433E+21 | 6,121965E+21 | 9,607540E+21 |
| -1690             | 1,374399E+22 | 1,742282E+22 | 1,961883E+22 | 1,961928E+22 | 1,742365E+22 | 1,374461E+22 | 9,607923E+21 | 6,122180E+21 | 4,181557E+21 | 4,181440E+21 | 6,121856E+21 | 9,607506E+21 |
| -1689             | 1,374441E+22 | 1,742380E+22 | 1,961966E+22 | 1,961958E+22 | 1,742360E+22 | 1,374432E+22 | 9,607474E+21 | 6,121785E+21 | 4,181384E+21 | 4,181525E+21 | 6,122205E+21 | 9,607991E+21 |
| -1688             | 1,374454E+22 | 1,742335E+22 | 1,961894E+22 | 1,961890E+22 | 1,742334E+22 | 1,374451E+22 | 9,607761E+21 | 6,121891E+21 | 4,181285E+21 | 4,181279E+21 | 6,121794E+21 | 9,607435E+21 |
| -1687             | 1,374396E+22 | 1,742292E+22 | 1,961903E+22 | 1,961946E+22 | 1,742381E+22 | 1,374473E+22 | 9,607916E+21 | 6,121991E+21 | 4,181248E+21 | 4,181104E+21 | 6,121627E+21 | 9,607609E+21 |
| -1686             | 1,374489E+22 | 1,742431E+22 | 1,962000E+22 | 1,961973E+22 | 1,742355E+22 | 1,374420E+22 | 9,607289E+21 | 6,121449E+21 | 4,180916E+21 | 4,181020E+21 | 6,121760E+21 | 9,607688E+21 |
| -1685             | 1,374445E+22 | 1,742348E+22 | 1,961920E+22 | 1,961932E+22 | 1,742369E+22 | 1,374459E+22 | 9,607637E+21 | 6,121596E+21 | 4,180826E+21 | 4,180719E+21 | 6,121262E+21 | 9,607102E+21 |
| -1684             | 1,374412E+22 | 1,742384E+22 | 1,962025E+22 | 1,962028E+22 | 1,742411E+22 | 1,374462E+22 | 9,607499E+21 | 6,121398E+21 | 4,180643E+21 | 4,180606E+21 | 6,121367E+21 | 9,607643E+21 |
| -1683             | 1,374498E+22 | 1,742448E+22 | 1,962056E+22 | 1,962038E+22 | 1,742396E+22 | 1,374431E+22 | 9,607081E+21 | 6,120985E+21 | 4,180346E+21 | 4,180473E+21 | 6,121301E+21 | 9,607378E+21 |
| -1682             | 1,374437E+22 | 1,742355E+22 | 1,961962E+22 | 1,962014E+22 | 1,742436E+22 | 1,374486E+22 | 9,607520E+21 | 6,121214E+21 | 4,180323E+21 | 4,180225E+21 | 6,120933E+21 | 9,607114E+21 |
| -1681             | 1,374463E+22 | 1,742462E+22 | 1,962075E+22 | 1,962061E+22 | 1,742438E+22 | 1,374465E+22 | 9,607202E+21 | 6,120953E+21 | 4,180226E+21 | 4,180299E+21 | 6,121199E+21 | 9,607570E+21 |
| -1680             | 1,374492E+22 | 1,742448E+22 | 1,962043E+22 | 1,962010E+22 | 1,742392E+22 | 1,374455E+22 | 9,607329E+21 | 6,121072E+21 | 4,180284E+21 | 4,180300E+21 | 6,121018E+21 | 9,607060E+21 |
| -1679             | 1,374412E+22 | 1,742352E+22 | 1,961995E+22 | 1,962042E+22 | 1,742437E+22 | 1,374482E+22 | 9,607648E+21 | 6,121473E+21 | 4,180602E+21 | 4,180461E+21 | 6,121077E+21 | 9,607179E+21 |
| -1678             | 1,374467E+22 | 1,742449E+22 | 1,962057E+22 | 1,962049E+22 | 1,742413E+22 | 1,374437E+22 | 9,607140E+21 | 6,121180E+21 | 4,180636E+21 | 4,180790E+21 | 6,121653E+21 | 9,607713E+21 |
| -1677             | 1,374449E+22 | 1,742350E+22 | 1,961920E+22 | 1,961932E+22 | 1,742369E+22 | 1,374458E+22 | 9,607578E+21 | 6,121569E+21 | 4,180911E+21 | 4,180922E+21 | 6,121541E+21 | 9,607340E+21 |
| -1676             | 1,374405E+22 | 1,742328E+22 | 1,961942E+22 | 1,961956E+22 | 1,742373E+22 | 1,374464E+22 | 9,607817E+21 | 6,121892E+21 | 4,181222E+21 | 4,181177E+21 | 6,121803E+21 | 9,607842E+21 |
| -1675             | 1,374493E+22 | 1,742407E+22 | 1,961969E+22 | 1,961934E+22 | 1,742319E+22 | 1,374407E+22 | 9,607403E+21 | 6,121756E+21 | 4,181351E+21 | 4,181497E+21 | 6,122135E+21 | 9,607827E+21 |
| -1674             | 1,374435E+22 | 1,742303E+22 | 1,961844E+22 | 1,961860E+22 | 1,742315E+22 | 1,374442E+22 | 9,607916E+21 | 6,122263E+21 | 4,181705E+21 | 4,181615E+21 | 6,121966E+21 | 9,607434E+21 |
| -1673             | 1,374410E+22 | 1,742345E+22 | 1,961931E+22 | 1,961916E+22 | 1,742328E+22 | 1,374428E+22 | 9,607749E+21 | 6,122257E+21 | 4,181880E+21 | 4,181908E+21 | 6,122384E+21 | 9,608010E+21 |
| -1672             | 1,374452E+22 | 1,742334E+22 | 1,961892E+22 | 1,961869E+22 | 1,742288E+22 | 1,374409E+22 | 9,607706E+21 | 6,122265E+21 | 4,181940E+21 | 4,182030E+21 | 6,122442E+21 | 9,607735E+21 |
| -1671             | 1,374377E+22 | 1,742217E+22 | 1,961796E+22 | 1,961863E+22 | 1,742333E+22 | 1,374458E+22 | 9,608164E+21 | 6,122625E+21 | 4,182098E+21 | 4,181966E+21 | 6,122258E+21 | 9,607668E+21 |
| -1670             | 1,374420E+22 | 1,742326E+22 | 1,961892E+22 | 1,961891E+22 | 1,742320E+22 | 1,374424E+22 | 9,607718E+21 | 6,122242E+21 | 4,181903E+21 | 4,181999E+21 | 6,122582E+21 | 9,608228E+21 |
| -1669             | 1,374447E+22 | 1,742288E+22 | 1,961811E+22 | 1,961802E+22 | 1,742271E+22 | 1,374426E+22 | 9,607907E+21 | 6,122317E+21 | 4,181830E+21 | 4,181804E+21 | 6,122170E+21 | 9,607572E+21 |

| 1                 | 2            | 3            | 4            | 5            | 6            | 7            | 8            | 9            | 10           | 11           | 12           | 13           |
|-------------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|
| Longitude $\odot$ | 0° - 30°     | 30° - 60°    | 60° - 90°    | 90° - 120°   | 120° - 150°  | 150° - 180°  | 180° - 210°  | 210° - 240°  | 240° - 270°  | 270° - 300°  | 300° - 330°  | 330° - 360°  |
| Years             |              |              |              |              |              |              |              |              |              |              |              |              |
| -1668             | 1,374387E+22 | 1,742267E+22 | 1,961855E+22 | 1,961872E+22 | 1,742312E+22 | 1,374445E+22 | 9,608074E+21 | 6,122408E+21 | 4,181780E+21 | 4,181631E+21 | 6,122011E+21 | 9,607700E+21 |
| -1667             | 1,374462E+22 | 1,742387E+22 | 1,961955E+22 | 1,961931E+22 | 1,742316E+22 | 1,374396E+22 | 9,607364E+21 | 6,121826E+21 | 4,181452E+21 | 4,181575E+21 | 6,122193E+21 | 9,607845E+21 |
| -1666             | 1,374430E+22 | 1,742311E+22 | 1,961864E+22 | 1,961881E+22 | 1,742333E+22 | 1,374438E+22 | 9,607639E+21 | 6,121855E+21 | 4,181267E+21 | 4,181215E+21 | 6,121693E+21 | 9,607341E+21 |
| -1665             | 1,374404E+22 | 1,742345E+22 | 1,961964E+22 | 1,961972E+22 | 1,742379E+22 | 1,374450E+22 | 9,607543E+21 | 6,121661E+21 | 4,181065E+21 | 4,181056E+21 | 6,121712E+21 | 9,607802E+21 |
| -1664             | 1,374486E+22 | 1,742402E+22 | 1,961983E+22 | 1,961969E+22 | 1,742357E+22 | 1,374425E+22 | 9,607296E+21 | 6,121380E+21 | 4,180816E+21 | 4,180920E+21 | 6,121623E+21 | 9,607509E+21 |
| -1663             | 1,374429E+22 | 1,742321E+22 | 1,961902E+22 | 1,961954E+22 | 1,742395E+22 | 1,374474E+22 | 9,607755E+21 | 6,121689E+21 | 4,180874E+21 | 4,180720E+21 | 6,121241E+21 | 9,607127E+21 |
| -1662             | 1,374431E+22 | 1,742415E+22 | 1,962028E+22 | 1,962013E+22 | 1,742399E+22 | 1,374452E+22 | 9,607434E+21 | 6,121466E+21 | 4,180835E+21 | 4,180867E+21 | 6,121621E+21 | 9,607719E+21 |
| -1661             | 1,374463E+22 | 1,742382E+22 | 1,961960E+22 | 1,961937E+22 | 1,742344E+22 | 1,374433E+22 | 9,607462E+21 | 6,121543E+21 | 4,180939E+21 | 4,180978E+21 | 6,121560E+21 | 9,607281E+21 |
| -1660             | 1,374391E+22 | 1,742297E+22 | 1,961911E+22 | 1,961950E+22 | 1,742376E+22 | 1,374466E+22 | 9,607860E+21 | 6,121937E+21 | 4,181227E+21 | 4,181120E+21 | 6,121627E+21 | 9,607449E+21 |
| -1659             | 1,374448E+22 | 1,742388E+22 | 1,961974E+22 | 1,961969E+22 | 1,742359E+22 | 1,374420E+22 | 9,607347E+21 | 6,121669E+21 | 4,181275E+21 | 4,181442E+21 | 6,122174E+21 | 9,608001E+21 |
| -1658             | 1,374452E+22 | 1,742317E+22 | 1,961843E+22 | 1,961842E+22 | 1,742303E+22 | 1,374428E+22 | 9,607686E+21 | 6,122007E+21 | 4,181514E+21 | 4,181530E+21 | 6,122007E+21 | 9,607559E+21 |
| -1657             | 1,374401E+22 | 1,742300E+22 | 1,961883E+22 | 1,961880E+22 | 1,742314E+22 | 1,374436E+22 | 9,607911E+21 | 6,122347E+21 | 4,181861E+21 | 4,181794E+21 | 6,122209E+21 | 9,607913E+21 |
| -1656             | 1,374466E+22 | 1,742357E+22 | 1,961908E+22 | 1,961872E+22 | 1,742269E+22 | 1,374386E+22 | 9,607611E+21 | 6,122290E+21 | 4,182029E+21 | 4,182158E+21 | 6,122605E+21 | 9,607933E+21 |
| -1655             | 1,374403E+22 | 1,742241E+22 | 1,961778E+22 | 1,961811E+22 | 1,742282E+22 | 1,374427E+22 | 9,608108E+21 | 6,122782E+21 | 4,182377E+21 | 4,182275E+21 | 6,122455E+21 | 9,607554E+21 |
| -1654             | 1,374369E+22 | 1,742269E+22 | 1,961854E+22 | 1,961859E+22 | 1,742300E+22 | 1,374426E+22 | 9,607987E+21 | 6,122738E+21 | 4,182488E+21 | 4,182519E+21 | 6,122903E+21 | 9,608298E+21 |
| -1653             | 1,374432E+22 | 1,742258E+22 | 1,961784E+22 | 1,961773E+22 | 1,742234E+22 | 1,374396E+22 | 9,607907E+21 | 6,122711E+21 | 4,182525E+21 | 4,182630E+21 | 6,122924E+21 | 9,607991E+21 |
| -1652             | 1,374373E+22 | 1,742177E+22 | 1,961712E+22 | 1,961757E+22 | 1,742260E+22 | 1,374441E+22 | 9,608408E+21 | 6,123081E+21 | 4,182647E+21 | 4,182499E+21 | 6,122655E+21 | 9,607830E+21 |
| -1651             | 1,374408E+22 | 1,742288E+22 | 1,961832E+22 | 1,961817E+22 | 1,742260E+22 | 1,374400E+22 | 9,607877E+21 | 6,122693E+21 | 4,182472E+21 | 4,182538E+21 | 6,122943E+21 | 9,608329E+21 |
| -1650             | 1,374438E+22 | 1,742265E+22 | 1,961767E+22 | 1,961744E+22 | 1,742216E+22 | 1,374391E+22 | 9,607906E+21 | 6,122647E+21 | 4,182331E+21 | 4,182323E+21 | 6,122561E+21 | 9,607704E+21 |
| -1649             | 1,374372E+22 | 1,742234E+22 | 1,961816E+22 | 1,961834E+22 | 1,742280E+22 | 1,374420E+22 | 9,608024E+21 | 6,122671E+21 | 4,182241E+21 | 4,182122E+21 | 6,122389E+21 | 9,607824E+21 |
| -1648             | 1,374439E+22 | 1,742333E+22 | 1,961894E+22 | 1,961881E+22 | 1,742291E+22 | 1,374392E+22 | 9,607504E+21 | 6,122141E+21 | 4,181883E+21 | 4,182033E+21 | 6,122577E+21 | 9,608038E+21 |
| -1647             | 1,374419E+22 | 1,742265E+22 | 1,961805E+22 | 1,961835E+22 | 1,742310E+22 | 1,374437E+22 | 9,607844E+21 | 6,122215E+21 | 4,181697E+21 | 4,181632E+21 | 6,122004E+21 | 9,607469E+21 |
| -1646             | 1,374389E+22 | 1,742304E+22 | 1,961908E+22 | 1,961919E+22 | 1,742351E+22 | 1,374452E+22 | 9,607804E+21 | 6,122083E+21 | 4,181531E+21 | 4,181481E+21 | 6,122022E+21 | 9,607935E+21 |
| -1645             | 1,374472E+22 | 1,742356E+22 | 1,961908E+22 | 1,961887E+22 | 1,742303E+22 | 1,374410E+22 | 9,607504E+21 | 6,121847E+21 | 4,181392E+21 | 4,181466E+21 | 6,121991E+21 | 9,607586E+21 |
| -1644             | 1,374410E+22 | 1,742286E+22 | 1,961846E+22 | 1,961874E+22 | 1,742330E+22 | 1,374452E+22 | 9,607977E+21 | 6,122190E+21 | 4,181505E+21 | 4,181342E+21 | 6,121698E+21 | 9,607241E+21 |
| -1643             | 1,374397E+22 | 1,742350E+22 | 1,961958E+22 | 1,961951E+22 | 1,742353E+22 | 1,374428E+22 | 9,607568E+21 | 6,121950E+21 | 4,181501E+21 | 4,181547E+21 | 6,122145E+21 | 9,607929E+21 |
| -1642             | 1,374446E+22 | 1,742327E+22 | 1,961876E+22 | 1,961855E+22 | 1,742288E+22 | 1,374406E+22 | 9,607510E+21 | 6,121923E+21 | 4,181529E+21 | 4,181627E+21 | 6,122123E+21 | 9,607608E+21 |
| -1641             | 1,374386E+22 | 1,742251E+22 | 1,961837E+22 | 1,961869E+22 | 1,742317E+22 | 1,374438E+22 | 9,607902E+21 | 6,122313E+21 | 4,181800E+21 | 4,181713E+21 | 6,122089E+21 | 9,607676E+21 |
| -1640             | 1,374439E+22 | 1,742340E+22 | 1,961895E+22 | 1,961882E+22 | 1,742299E+22 | 1,374401E+22 | 9,607559E+21 | 6,122157E+21 | 4,181885E+21 | 4,182035E+21 | 6,122603E+21 | 9,608163E+21 |
| -1639             | 1,374441E+22 | 1,742280E+22 | 1,961788E+22 | 1,961781E+22 | 1,742253E+22 | 1,374408E+22 | 9,607897E+21 | 6,122534E+21 | 4,182171E+21 | 4,182144E+21 | 6,122403E+21 | 9,607601E+21 |
| -1638             | 1,374368E+22 | 1,742248E+22 | 1,961832E+22 | 1,961835E+22 | 1,742280E+22 | 1,374425E+22 | 9,608138E+21 | 6,122882E+21 | 4,182530E+21 | 4,182443E+21 | 6,122685E+21 | 9,608037E+21 |
| -1637             | 1,374431E+22 | 1,742282E+22 | 1,961817E+22 | 1,961798E+22 | 1,742229E+22 | 1,374375E+22 | 9,607807E+21 | 6,122802E+21 | 4,182724E+21 | 4,182868E+21 | 6,123156E+21 | 9,608132E+21 |
| -1636             | 1,374377E+22 | 1,742177E+22 | 1,961690E+22 | 1,961719E+22 | 1,742228E+22 | 1,374421E+22 | 9,608394E+21 | 6,123284E+21 | 4,183019E+21 | 4,182936E+21 | 6,122996E+21 | 9,607807E+21 |
| -1635             | 1,374346E+22 | 1,742194E+22 | 1,961762E+22 | 1,961777E+22 | 1,742250E+22 | 1,374415E+22 | 9,608243E+21 | 6,123246E+21 | 4,183111E+21 | 4,183137E+21 | 6,123375E+21 | 9,608532E+21 |
| -1634             | 1,374432E+22 | 1,742221E+22 | 1,961701E+22 | 1,961678E+22 | 1,742167E+22 | 1,374369E+22 | 9,608026E+21 | 6,123122E+21 | 4,183075E+21 | 4,183189E+21 | 6,123363E+21 | 9,608208E+21 |
| -1633             | 1,374372E+22 | 1,742154E+22 | 1,961661E+22 | 1,961681E+22 | 1,742194E+22 | 1,374406E+22 | 9,608436E+21 | 6,123449E+21 | 4,183182E+21 | 4,183021E+21 | 6,123011E+21 | 9,607912E+21 |

| 1                 | 2            | 3            | 4            | 5            | 6            | 7            | 8            | 9            | 10           | 11           | 12           | 13           |
|-------------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|
| Longitude $\odot$ | 0° - 30°     | 30° - 60°    | 60° - 90°    | 90° - 120°   | 120° - 150°  | 150° - 180°  | 180° - 210°  | 210° - 240°  | 240° - 270°  | 270° - 300°  | 300° - 330°  | 330° - 360°  |
| Years             |              |              |              |              |              |              |              |              |              |              |              |              |
| -1632             | 1,374390E+22 | 1,742249E+22 | 1,961783E+22 | 1,961761E+22 | 1,742211E+22 | 1,374376E+22 | 9,607985E+21 | 6,123087E+21 | 4,183002E+21 | 4,183072E+21 | 6,123347E+21 | 9,608457E+21 |
| -1631             | 1,374420E+22 | 1,742220E+22 | 1,961723E+22 | 1,961713E+22 | 1,742190E+22 | 1,374374E+22 | 9,607972E+21 | 6,122983E+21 | 4,182814E+21 | 4,182817E+21 | 6,122945E+21 | 9,607837E+21 |
| -1630             | 1,374349E+22 | 1,742182E+22 | 1,961762E+22 | 1,961797E+22 | 1,742265E+22 | 1,374422E+22 | 9,608182E+21 | 6,122990E+21 | 4,182660E+21 | 4,182560E+21 | 6,122770E+21 | 9,608046E+21 |
| -1629             | 1,374429E+22 | 1,742279E+22 | 1,961813E+22 | 1,961807E+22 | 1,742252E+22 | 1,374387E+22 | 9,607702E+21 | 6,122510E+21 | 4,182342E+21 | 4,182486E+21 | 6,122919E+21 | 9,608190E+21 |
| -1628             | 1,374415E+22 | 1,742237E+22 | 1,961744E+22 | 1,961748E+22 | 1,742251E+22 | 1,374429E+22 | 9,608113E+21 | 6,122648E+21 | 4,182194E+21 | 4,182091E+21 | 6,122312E+21 | 9,607523E+21 |
| -1627             | 1,374366E+22 | 1,742257E+22 | 1,961854E+22 | 1,961859E+22 | 1,742303E+22 | 1,374436E+22 | 9,608023E+21 | 6,122567E+21 | 4,182118E+21 | 4,182028E+21 | 6,122360E+21 | 9,607949E+21 |
| -1626             | 1,374452E+22 | 1,742318E+22 | 1,961853E+22 | 1,961824E+22 | 1,742248E+22 | 1,374379E+22 | 9,607554E+21 | 6,122234E+21 | 4,181962E+21 | 4,182064E+21 | 6,122450E+21 | 9,607723E+21 |
| -1625             | 1,374387E+22 | 1,742235E+22 | 1,961785E+22 | 1,961812E+22 | 1,742283E+22 | 1,374424E+22 | 9,607967E+21 | 6,122537E+21 | 4,182070E+21 | 4,181939E+21 | 6,122174E+21 | 9,607425E+21 |
| -1624             | 1,374375E+22 | 1,742284E+22 | 1,961876E+22 | 1,961877E+22 | 1,742308E+22 | 1,374416E+22 | 9,607732E+21 | 6,122358E+21 | 4,182060E+21 | 4,182141E+21 | 6,122653E+21 | 9,608215E+21 |
| -1623             | 1,374440E+22 | 1,742273E+22 | 1,961803E+22 | 1,961790E+22 | 1,742242E+22 | 1,374389E+22 | 9,607684E+21 | 6,122360E+21 | 4,182092E+21 | 4,182187E+21 | 6,122560E+21 | 9,607819E+21 |
| -1622             | 1,374377E+22 | 1,742208E+22 | 1,961772E+22 | 1,961803E+22 | 1,742274E+22 | 1,374429E+22 | 9,608134E+21 | 6,122792E+21 | 4,182382E+21 | 4,182281E+21 | 6,122524E+21 | 9,607853E+21 |
| -1621             | 1,374425E+22 | 1,742292E+22 | 1,961819E+22 | 1,961795E+22 | 1,742237E+22 | 1,374382E+22 | 9,607787E+21 | 6,122702E+21 | 4,182577E+21 | 4,182707E+21 | 6,123076E+21 | 9,608270E+21 |
| -1620             | 1,374417E+22 | 1,742235E+22 | 1,961727E+22 | 1,961702E+22 | 1,742192E+22 | 1,374391E+22 | 9,608152E+21 | 6,123098E+21 | 4,182897E+21 | 4,182869E+21 | 6,122942E+21 | 9,607739E+21 |
| -1619             | 1,374331E+22 | 1,742169E+22 | 1,961749E+22 | 1,961770E+22 | 1,742241E+22 | 1,374413E+22 | 9,608354E+21 | 6,123429E+21 | 4,183263E+21 | 4,183188E+21 | 6,123248E+21 | 9,608242E+21 |
| -1618             | 1,374412E+22 | 1,742218E+22 | 1,961720E+22 | 1,961706E+22 | 1,742173E+22 | 1,374356E+22 | 9,607943E+21 | 6,123238E+21 | 4,183353E+21 | 4,183541E+21 | 6,123727E+21 | 9,608449E+21 |
| -1617             | 1,374372E+22 | 1,742126E+22 | 1,961606E+22 | 1,961626E+22 | 1,742163E+22 | 1,374395E+22 | 9,608503E+21 | 6,123709E+21 | 4,183600E+21 | 4,183512E+21 | 6,123438E+21 | 9,608020E+21 |
| -1616             | 1,374338E+22 | 1,742147E+22 | 1,961681E+22 | 1,961686E+22 | 1,742184E+22 | 1,374394E+22 | 9,608453E+21 | 6,123723E+21 | 4,183687E+21 | 4,183685E+21 | 6,123772E+21 | 9,608672E+21 |
| -1615             | 1,374421E+22 | 1,742186E+22 | 1,961656E+22 | 1,961625E+22 | 1,742113E+22 | 1,374343E+22 | 9,608164E+21 | 6,123563E+21 | 4,183634E+21 | 4,183714E+21 | 6,123720E+21 | 9,608267E+21 |
| -1614             | 1,374349E+22 | 1,742115E+22 | 1,961624E+22 | 1,961649E+22 | 1,742165E+22 | 1,374391E+22 | 9,608550E+21 | 6,123824E+21 | 4,183685E+21 | 4,183539E+21 | 6,123422E+21 | 9,608038E+21 |
| -1613             | 1,374365E+22 | 1,742191E+22 | 1,961712E+22 | 1,961702E+22 | 1,742178E+22 | 1,374366E+22 | 9,608113E+21 | 6,123453E+21 | 4,183515E+21 | 4,183606E+21 | 6,123772E+21 | 9,608620E+21 |
| -1612             | 1,374403E+22 | 1,742177E+22 | 1,961664E+22 | 1,961647E+22 | 1,742153E+22 | 1,374375E+22 | 9,608198E+21 | 6,123354E+21 | 4,183288E+21 | 4,183300E+21 | 6,123333E+21 | 9,608010E+21 |
| -1611             | 1,374333E+22 | 1,742127E+22 | 1,961694E+22 | 1,961739E+22 | 1,742231E+22 | 1,374418E+22 | 9,608412E+21 | 6,123407E+21 | 4,183157E+21 | 4,183028E+21 | 6,123079E+21 | 9,608133E+21 |
| -1610             | 1,374424E+22 | 1,742247E+22 | 1,961744E+22 | 1,961730E+22 | 1,742199E+22 | 1,374369E+22 | 9,607837E+21 | 6,122884E+21 | 4,182827E+21 | 4,182960E+21 | 6,123255E+21 | 9,608284E+21 |
| -1609             | 1,374403E+22 | 1,742208E+22 | 1,961700E+22 | 1,961686E+22 | 1,742192E+22 | 1,374398E+22 | 9,608176E+21 | 6,123034E+21 | 4,182723E+21 | 4,182601E+21 | 6,122662E+21 | 9,607569E+21 |
| -1608             | 1,374338E+22 | 1,742200E+22 | 1,961791E+22 | 1,961800E+22 | 1,742255E+22 | 1,374414E+22 | 9,608158E+21 | 6,122993E+21 | 4,182686E+21 | 4,182613E+21 | 6,122827E+21 | 9,608097E+21 |
| -1607             | 1,374426E+22 | 1,742256E+22 | 1,961791E+22 | 1,961777E+22 | 1,742212E+22 | 1,374361E+22 | 9,607643E+21 | 6,122607E+21 | 4,182505E+21 | 4,182642E+21 | 6,122941E+21 | 9,607958E+21 |
| -1606             | 1,374371E+22 | 1,742179E+22 | 1,961713E+22 | 1,961752E+22 | 1,742248E+22 | 1,374416E+22 | 9,608107E+21 | 6,122888E+21 | 4,182564E+21 | 4,182486E+21 | 6,122668E+21 | 9,607721E+21 |
| -1605             | 1,374371E+22 | 1,742231E+22 | 1,961782E+22 | 1,961782E+22 | 1,742247E+22 | 1,374400E+22 | 9,607928E+21 | 6,122804E+21 | 4,182632E+21 | 4,182712E+21 | 6,123097E+21 | 9,608431E+21 |
| -1604             | 1,374440E+22 | 1,742246E+22 | 1,961740E+22 | 1,961699E+22 | 1,742175E+22 | 1,374374E+22 | 9,607932E+21 | 6,122868E+21 | 4,182718E+21 | 4,182781E+21 | 6,122974E+21 | 9,607927E+21 |
| -1603             | 1,374356E+22 | 1,742159E+22 | 1,961715E+22 | 1,961742E+22 | 1,742224E+22 | 1,374411E+22 | 9,608374E+21 | 6,123359E+21 | 4,183089E+21 | 4,182951E+21 | 6,122951E+21 | 9,607900E+21 |
| -1602             | 1,374401E+22 | 1,742243E+22 | 1,961751E+22 | 1,961728E+22 | 1,742185E+22 | 1,374358E+22 | 9,607924E+21 | 6,123190E+21 | 4,183261E+21 | 4,183414E+21 | 6,123620E+21 | 9,608437E+21 |
| -1601             | 1,374390E+22 | 1,742175E+22 | 1,961655E+22 | 1,961634E+22 | 1,742143E+22 | 1,374370E+22 | 9,608272E+21 | 6,123563E+21 | 4,183557E+21 | 4,183545E+21 | 6,123478E+21 | 9,607943E+21 |
| -1600             | 1,374304E+22 | 1,742093E+22 | 1,961652E+22 | 1,961687E+22 | 1,742193E+22 | 1,374407E+22 | 9,608624E+21 | 6,123936E+21 | 4,183899E+21 | 4,183841E+21 | 6,123790E+21 | 9,608503E+21 |
| -1599             | 1,374398E+22 | 1,742158E+22 | 1,961639E+22 | 1,961632E+22 | 1,742120E+22 | 1,374340E+22 | 9,608162E+21 | 6,123726E+21 | 4,183953E+21 | 4,184123E+21 | 6,124175E+21 | 9,608650E+21 |
| -1598             | 1,374363E+22 | 1,742084E+22 | 1,961537E+22 | 1,961553E+22 | 1,742110E+22 | 1,374379E+22 | 9,608707E+21 | 6,124172E+21 | 4,184169E+21 | 4,184071E+21 | 6,123868E+21 | 9,608180E+21 |
| -1597             | 1,374325E+22 | 1,742104E+22 | 1,961610E+22 | 1,961604E+22 | 1,742117E+22 | 1,374367E+22 | 9,608628E+21 | 6,124216E+21 | 4,184316E+21 | 4,184295E+21 | 6,124213E+21 | 9,608792E+21 |

| 1                 | 2            | 3            | 4            | 5            | 6            | 7            | 8            | 9            | 10           | 11           | 12           | 13           |
|-------------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|
| Longitude $\odot$ | 0° - 30°     | 30° - 60°    | 60° - 90°    | 90° - 120°   | 120° - 150°  | 150° - 180°  | 180° - 210°  | 210° - 240°  | 240° - 270°  | 270° - 300°  | 300° - 330°  | 330° - 360°  |
| Years             |              |              |              |              |              |              |              |              |              |              |              |              |
| -1596             | 1,374403E+22 | 1,742148E+22 | 1,961603E+22 | 1,961559E+22 | 1,742060E+22 | 1,374322E+22 | 9,608308E+21 | 6,124008E+21 | 4,184235E+21 | 4,184317E+21 | 6,124182E+21 | 9,608405E+21 |
| -1595             | 1,374319E+22 | 1,742051E+22 | 1,961559E+22 | 1,961603E+22 | 1,742138E+22 | 1,374381E+22 | 9,608688E+21 | 6,124223E+21 | 4,184243E+21 | 4,184110E+21 | 6,123855E+21 | 9,608217E+21 |
| -1594             | 1,374355E+22 | 1,742146E+22 | 1,961637E+22 | 1,961631E+22 | 1,742134E+22 | 1,374352E+22 | 9,608210E+21 | 6,123758E+21 | 4,183969E+21 | 4,184099E+21 | 6,124189E+21 | 9,608843E+21 |
| -1593             | 1,374399E+22 | 1,742142E+22 | 1,961602E+22 | 1,961578E+22 | 1,742100E+22 | 1,374353E+22 | 9,608294E+21 | 6,123686E+21 | 4,183725E+21 | 4,183716E+21 | 6,123626E+21 | 9,608104E+21 |
| -1592             | 1,374321E+22 | 1,742086E+22 | 1,961628E+22 | 1,961670E+22 | 1,742184E+22 | 1,374405E+22 | 9,608616E+21 | 6,123815E+21 | 4,183639E+21 | 4,183481E+21 | 6,123389E+21 | 9,608171E+21 |
| -1591             | 1,374401E+22 | 1,742207E+22 | 1,961704E+22 | 1,961690E+22 | 1,742155E+22 | 1,374347E+22 | 9,607962E+21 | 6,123277E+21 | 4,183329E+21 | 4,183437E+21 | 6,123580E+21 | 9,608318E+21 |
| -1590             | 1,374375E+22 | 1,742160E+22 | 1,961651E+22 | 1,961649E+22 | 1,742163E+22 | 1,374384E+22 | 9,608286E+21 | 6,123385E+21 | 4,183207E+21 | 4,183124E+21 | 6,123108E+21 | 9,607732E+21 |
| -1589             | 1,374314E+22 | 1,742139E+22 | 1,961707E+22 | 1,961726E+22 | 1,742208E+22 | 1,374400E+22 | 9,608305E+21 | 6,123385E+21 | 4,183225E+21 | 4,183184E+21 | 6,123317E+21 | 9,608342E+21 |
| -1588             | 1,374415E+22 | 1,742210E+22 | 1,961716E+22 | 1,961695E+22 | 1,742160E+22 | 1,374353E+22 | 9,607859E+21 | 6,123024E+21 | 4,183044E+21 | 4,183196E+21 | 6,123409E+21 | 9,608216E+21 |
| -1587             | 1,374363E+22 | 1,742129E+22 | 1,961638E+22 | 1,961682E+22 | 1,742202E+22 | 1,374404E+22 | 9,608328E+21 | 6,123358E+21 | 4,183150E+21 | 4,183052E+21 | 6,123064E+21 | 9,607889E+21 |
| -1586             | 1,374373E+22 | 1,742205E+22 | 1,961712E+22 | 1,961696E+22 | 1,742182E+22 | 1,374375E+22 | 9,608075E+21 | 6,123256E+21 | 4,183235E+21 | 4,183309E+21 | 6,123528E+21 | 9,608564E+21 |
| -1585             | 1,374426E+22 | 1,742216E+22 | 1,961693E+22 | 1,961637E+22 | 1,742111E+22 | 1,374339E+22 | 9,608048E+21 | 6,123365E+21 | 4,183381E+21 | 4,183417E+21 | 6,123417E+21 | 9,608002E+21 |
| -1584             | 1,374323E+22 | 1,742096E+22 | 1,961642E+22 | 1,961682E+22 | 1,742179E+22 | 1,374393E+22 | 9,608583E+21 | 6,123901E+21 | 4,183796E+21 | 4,183665E+21 | 6,123506E+21 | 9,608051E+21 |
| -1583             | 1,374363E+22 | 1,742168E+22 | 1,961675E+22 | 1,961673E+22 | 1,742147E+22 | 1,374346E+22 | 9,608117E+21 | 6,123688E+21 | 4,183927E+21 | 4,184092E+21 | 6,124169E+21 | 9,608676E+21 |
| -1582             | 1,374368E+22 | 1,742107E+22 | 1,961567E+22 | 1,961561E+22 | 1,742101E+22 | 1,374364E+22 | 9,608518E+21 | 6,124034E+21 | 4,184161E+21 | 4,184187E+21 | 6,124032E+21 | 9,608228E+21 |
| -1581             | 1,374293E+22 | 1,742030E+22 | 1,961541E+22 | 1,961575E+22 | 1,742120E+22 | 1,374388E+22 | 9,608888E+21 | 6,124478E+21 | 4,184556E+21 | 4,184477E+21 | 6,124275E+21 | 9,608709E+21 |
| -1580             | 1,374389E+22 | 1,742122E+22 | 1,961565E+22 | 1,961534E+22 | 1,742048E+22 | 1,374320E+22 | 9,608399E+21 | 6,124263E+21 | 4,184617E+21 | 4,184751E+21 | 6,124619E+21 | 9,608782E+21 |
| -1579             | 1,374341E+22 | 1,742037E+22 | 1,961478E+22 | 1,961492E+22 | 1,742057E+22 | 1,374353E+22 | 9,608857E+21 | 6,124671E+21 | 4,184832E+21 | 4,184709E+21 | 6,124289E+21 | 9,608273E+21 |
| -1578             | 1,374308E+22 | 1,742061E+22 | 1,961544E+22 | 1,961539E+22 | 1,742066E+22 | 1,374338E+22 | 9,608666E+21 | 6,124593E+21 | 4,184893E+21 | 4,184907E+21 | 6,124705E+21 | 9,608986E+21 |
| -1577             | 1,374384E+22 | 1,742102E+22 | 1,961547E+22 | 1,961509E+22 | 1,742020E+22 | 1,374300E+22 | 9,608361E+21 | 6,124347E+21 | 4,184734E+21 | 4,184833E+21 | 6,124603E+21 | 9,608597E+21 |
| -1576             | 1,374302E+22 | 1,741994E+22 | 1,961484E+22 | 1,961543E+22 | 1,742104E+22 | 1,374377E+22 | 9,608898E+21 | 6,124601E+21 | 4,184709E+21 | 4,184585E+21 | 6,124245E+21 | 9,608391E+21 |
| -1575             | 1,374340E+22 | 1,742102E+22 | 1,961579E+22 | 1,961579E+22 | 1,742098E+22 | 1,374344E+22 | 9,608408E+21 | 6,124133E+21 | 4,184407E+21 | 4,184504E+21 | 6,124474E+21 | 9,608934E+21 |
| -1574             | 1,374387E+22 | 1,742111E+22 | 1,961552E+22 | 1,961525E+22 | 1,742063E+22 | 1,374345E+22 | 9,608490E+21 | 6,124053E+21 | 4,184165E+21 | 4,184153E+21 | 6,123945E+21 | 9,608160E+21 |
| -1573             | 1,374300E+22 | 1,742043E+22 | 1,961560E+22 | 1,961597E+22 | 1,742126E+22 | 1,374384E+22 | 9,608792E+21 | 6,124256E+21 | 4,184186E+21 | 4,184014E+21 | 6,123780E+21 | 9,608259E+21 |
| -1572             | 1,374375E+22 | 1,742161E+22 | 1,961642E+22 | 1,961628E+22 | 1,742112E+22 | 1,374331E+22 | 9,608090E+21 | 6,123687E+21 | 4,183889E+21 | 4,184006E+21 | 6,124039E+21 | 9,608501E+21 |
| -1571             | 1,374350E+22 | 1,742097E+22 | 1,961576E+22 | 1,961593E+22 | 1,742129E+22 | 1,374371E+22 | 9,608408E+21 | 6,123772E+21 | 4,183757E+21 | 4,183693E+21 | 6,123559E+21 | 9,607989E+21 |
| -1570             | 1,374315E+22 | 1,742099E+22 | 1,961625E+22 | 1,961641E+22 | 1,742149E+22 | 1,374376E+22 | 9,608394E+21 | 6,123731E+21 | 4,183724E+21 | 4,183719E+21 | 6,123778E+21 | 9,608625E+21 |
| -1569             | 1,374418E+22 | 1,742185E+22 | 1,961657E+22 | 1,961620E+22 | 1,742096E+22 | 1,374321E+22 | 9,607963E+21 | 6,123429E+21 | 4,183563E+21 | 4,183688E+21 | 6,123761E+21 | 9,608348E+21 |
| -1568             | 1,374352E+22 | 1,742095E+22 | 1,961580E+22 | 1,961617E+22 | 1,742149E+22 | 1,374386E+22 | 9,608542E+21 | 6,123844E+21 | 4,183748E+21 | 4,183623E+21 | 6,123458E+21 | 9,607947E+21 |
| -1567             | 1,374343E+22 | 1,742162E+22 | 1,961672E+22 | 1,961656E+22 | 1,742140E+22 | 1,374355E+22 | 9,608246E+21 | 6,123742E+21 | 4,183863E+21 | 4,183914E+21 | 6,123945E+21 | 9,608619E+21 |
| -1566             | 1,374391E+22 | 1,742157E+22 | 1,961631E+22 | 1,961594E+22 | 1,742087E+22 | 1,374332E+22 | 9,608239E+21 | 6,123824E+21 | 4,184006E+21 | 4,184083E+21 | 6,123957E+21 | 9,608170E+21 |
| -1565             | 1,374291E+22 | 1,742020E+22 | 1,961538E+22 | 1,961594E+22 | 1,742131E+22 | 1,374386E+22 | 9,608854E+21 | 6,124442E+21 | 4,184487E+21 | 4,184370E+21 | 6,124089E+21 | 9,608325E+21 |
| -1564             | 1,374342E+22 | 1,742102E+22 | 1,961575E+22 | 1,961575E+22 | 1,742091E+22 | 1,374338E+22 | 9,608402E+21 | 6,124240E+21 | 4,184609E+21 | 4,184764E+21 | 6,124704E+21 | 9,608942E+21 |
| -1563             | 1,374352E+22 | 1,742043E+22 | 1,961470E+22 | 1,961470E+22 | 1,742042E+22 | 1,374347E+22 | 9,608774E+21 | 6,124601E+21 | 4,184858E+21 | 4,184848E+21 | 6,124501E+21 | 9,608445E+21 |
| -1562             | 1,374293E+22 | 1,741996E+22 | 1,961460E+22 | 1,961473E+22 | 1,742037E+22 | 1,374351E+22 | 9,609010E+21 | 6,124963E+21 | 4,185214E+21 | 4,185138E+21 | 6,124778E+21 | 9,608903E+21 |
| -1561             | 1,374375E+22 | 1,742089E+22 | 1,961512E+22 | 1,961464E+22 | 1,741975E+22 | 1,374275E+22 | 9,608458E+21 | 6,124726E+21 | 4,185252E+21 | 4,185378E+21 | 6,125082E+21 | 9,608924E+21 |



| 1                 | 2            | 3            | 4            | 5            | 6            | 7            | 8            | 9            | 10           | 11           | 12           | 13           |
|-------------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|
| Longitude $\odot$ | 0° - 30°     | 30° - 60°    | 60° - 90°    | 90° - 120°   | 120° - 150°  | 150° - 180°  | 180° - 210°  | 210° - 240°  | 240° - 270°  | 270° - 300°  | 300° - 330°  | 330° - 360°  |
| Years             |              |              |              |              |              |              |              |              |              |              |              |              |
| -1560             | 1,374316E+22 | 1,741982E+22 | 1,961412E+22 | 1,961437E+22 | 1,742017E+22 | 1,374334E+22 | 9,608965E+21 | 6,125091E+21 | 4,185429E+21 | 4,185338E+21 | 6,124800E+21 | 9,608472E+21 |
| -1559             | 1,374282E+22 | 1,742005E+22 | 1,961486E+22 | 1,961494E+22 | 1,742036E+22 | 1,374327E+22 | 9,608774E+21 | 6,124941E+21 | 4,185391E+21 | 4,185422E+21 | 6,125122E+21 | 9,609198E+21 |
| -1558             | 1,374372E+22 | 1,742055E+22 | 1,961481E+22 | 1,961456E+22 | 1,741993E+22 | 1,374298E+22 | 9,608552E+21 | 6,124679E+21 | 4,185162E+21 | 4,185286E+21 | 6,124972E+21 | 9,608760E+21 |
| -1557             | 1,374292E+22 | 1,741951E+22 | 1,961401E+22 | 1,961458E+22 | 1,742050E+22 | 1,374366E+22 | 9,609147E+21 | 6,125046E+21 | 4,185211E+21 | 4,185044E+21 | 6,124561E+21 | 9,608471E+21 |
| -1556             | 1,374322E+22 | 1,742068E+22 | 1,961522E+22 | 1,961508E+22 | 1,742048E+22 | 1,374333E+22 | 9,608631E+21 | 6,124594E+21 | 4,184946E+21 | 4,184989E+21 | 6,124775E+21 | 9,608945E+21 |
| -1555             | 1,374356E+22 | 1,742061E+22 | 1,961499E+22 | 1,961478E+22 | 1,742026E+22 | 1,374328E+22 | 9,608653E+21 | 6,124498E+21 | 4,184733E+21 | 4,184693E+21 | 6,124302E+21 | 9,608243E+21 |
| -1554             | 1,374282E+22 | 1,741998E+22 | 1,961490E+22 | 1,961528E+22 | 1,742076E+22 | 1,374358E+22 | 9,608833E+21 | 6,124594E+21 | 4,184703E+21 | 4,184575E+21 | 6,124256E+21 | 9,608487E+21 |
| -1553             | 1,374359E+22 | 1,742118E+22 | 1,961582E+22 | 1,961566E+22 | 1,742063E+22 | 1,374305E+22 | 9,608152E+21 | 6,124026E+21 | 4,184369E+21 | 4,184507E+21 | 6,124466E+21 | 9,608753E+21 |
| -1552             | 1,374341E+22 | 1,742050E+22 | 1,961504E+22 | 1,961528E+22 | 1,742088E+22 | 1,374358E+22 | 9,608564E+21 | 6,124147E+21 | 4,184248E+21 | 4,184199E+21 | 6,123978E+21 | 9,608208E+21 |
| -1551             | 1,374306E+22 | 1,742065E+22 | 1,961575E+22 | 1,961587E+22 | 1,742107E+22 | 1,374359E+22 | 9,608536E+21 | 6,124123E+21 | 4,184223E+21 | 4,184191E+21 | 6,124109E+21 | 9,608751E+21 |
| -1550             | 1,374408E+22 | 1,742159E+22 | 1,961613E+22 | 1,961571E+22 | 1,742058E+22 | 1,374309E+22 | 9,608151E+21 | 6,123849E+21 | 4,184104E+21 | 4,184234E+21 | 6,124155E+21 | 9,608416E+21 |
| -1549             | 1,374325E+22 | 1,742044E+22 | 1,961509E+22 | 1,961545E+22 | 1,742095E+22 | 1,374366E+22 | 9,608769E+21 | 6,124387E+21 | 4,184426E+21 | 4,184287E+21 | 6,123948E+21 | 9,608058E+21 |
| -1548             | 1,374305E+22 | 1,742094E+22 | 1,961592E+22 | 1,961589E+22 | 1,742104E+22 | 1,374347E+22 | 9,608472E+21 | 6,124280E+21 | 4,184572E+21 | 4,184623E+21 | 6,124491E+21 | 9,608813E+21 |
| -1547             | 1,374358E+22 | 1,742077E+22 | 1,961533E+22 | 1,961517E+22 | 1,742047E+22 | 1,374325E+22 | 9,608479E+21 | 6,124355E+21 | 4,184708E+21 | 4,184792E+21 | 6,124508E+21 | 9,608467E+21 |
| -1546             | 1,374285E+22 | 1,741961E+22 | 1,961426E+22 | 1,961477E+22 | 1,742055E+22 | 1,374360E+22 | 9,609028E+21 | 6,124926E+21 | 4,185139E+21 | 4,185044E+21 | 6,124648E+21 | 9,608648E+21 |
| -1545             | 1,374339E+22 | 1,742061E+22 | 1,961494E+22 | 1,961477E+22 | 1,742009E+22 | 1,374299E+22 | 9,608547E+21 | 6,124752E+21 | 4,185252E+21 | 4,185375E+21 | 6,125150E+21 | 9,609139E+21 |
| -1544             | 1,374341E+22 | 1,742002E+22 | 1,961401E+22 | 1,961390E+22 | 1,741975E+22 | 1,374316E+22 | 9,608930E+21 | 6,125112E+21 | 4,185522E+21 | 4,185499E+21 | 6,124969E+21 | 9,608572E+21 |
| -1543             | 1,374267E+22 | 1,741954E+22 | 1,961419E+22 | 1,961426E+22 | 1,741988E+22 | 1,374321E+22 | 9,609088E+21 | 6,125399E+21 | 4,185823E+21 | 4,185745E+21 | 6,125224E+21 | 9,609033E+21 |
| -1542             | 1,374351E+22 | 1,742040E+22 | 1,961459E+22 | 1,961423E+22 | 1,741951E+22 | 1,374266E+22 | 9,608582E+21 | 6,125092E+21 | 4,185793E+21 | 4,185971E+21 | 6,125567E+21 | 9,609089E+21 |
| -1541             | 1,374290E+22 | 1,741922E+22 | 1,961329E+22 | 1,961364E+22 | 1,741978E+22 | 1,374329E+22 | 9,609205E+21 | 6,125536E+21 | 4,185989E+21 | 4,185905E+21 | 6,125257E+21 | 9,608681E+21 |
| -1540             | 1,374264E+22 | 1,741952E+22 | 1,961407E+22 | 1,961423E+22 | 1,742003E+22 | 1,374329E+22 | 9,609046E+21 | 6,125402E+21 | 4,185934E+21 | 4,185930E+21 | 6,125479E+21 | 9,609328E+21 |
| -1539             | 1,374356E+22 | 1,742004E+22 | 1,961405E+22 | 1,961388E+22 | 1,741956E+22 | 1,374294E+22 | 9,608812E+21 | 6,125160E+21 | 4,185721E+21 | 4,185785E+21 | 6,125278E+21 | 9,608851E+21 |
| -1538             | 1,374285E+22 | 1,741920E+22 | 1,961333E+22 | 1,961371E+22 | 1,741983E+22 | 1,374339E+22 | 9,609280E+21 | 6,125468E+21 | 4,185759E+21 | 4,185582E+21 | 6,124955E+21 | 9,608588E+21 |
| -1537             | 1,374300E+22 | 1,742027E+22 | 1,961474E+22 | 1,961450E+22 | 1,741988E+22 | 1,374294E+22 | 9,608686E+21 | 6,124998E+21 | 4,185483E+21 | 4,185519E+21 | 6,125175E+21 | 9,609070E+21 |
| -1536             | 1,374329E+22 | 1,742003E+22 | 1,961433E+22 | 1,961425E+22 | 1,741989E+22 | 1,374308E+22 | 9,608720E+21 | 6,124851E+21 | 4,185254E+21 | 4,185259E+21 | 6,124791E+21 | 9,608483E+21 |
| -1535             | 1,374264E+22 | 1,741951E+22 | 1,961437E+22 | 1,961476E+22 | 1,742039E+22 | 1,374340E+22 | 9,608880E+21 | 6,124874E+21 | 4,185138E+21 | 4,185048E+21 | 6,124670E+21 | 9,608759E+21 |
| -1534             | 1,374359E+22 | 1,742082E+22 | 1,961522E+22 | 1,961507E+22 | 1,742028E+22 | 1,374296E+22 | 9,608284E+21 | 6,124318E+21 | 4,184779E+21 | 4,184956E+21 | 6,124829E+21 | 9,608927E+21 |
| -1533             | 1,374338E+22 | 1,742019E+22 | 1,961436E+22 | 1,961448E+22 | 1,742034E+22 | 1,374343E+22 | 9,608771E+21 | 6,124584E+21 | 4,184774E+21 | 4,184693E+21 | 6,124319E+21 | 9,608309E+21 |
| -1532             | 1,374290E+22 | 1,742032E+22 | 1,961522E+22 | 1,961525E+22 | 1,742064E+22 | 1,374347E+22 | 9,608738E+21 | 6,124605E+21 | 4,184824E+21 | 4,184741E+21 | 6,124443E+21 | 9,608753E+21 |
| -1531             | 1,374373E+22 | 1,742099E+22 | 1,961551E+22 | 1,961524E+22 | 1,742028E+22 | 1,374298E+22 | 9,608359E+21 | 6,124365E+21 | 4,184767E+21 | 4,184866E+21 | 6,124580E+21 | 9,608525E+21 |
| -1530             | 1,374300E+22 | 1,741984E+22 | 1,961423E+22 | 1,961462E+22 | 1,742043E+22 | 1,374346E+22 | 9,608913E+21 | 6,124851E+21 | 4,185079E+21 | 4,184979E+21 | 6,124527E+21 | 9,608326E+21 |
| -1529             | 1,374281E+22 | 1,742027E+22 | 1,961506E+22 | 1,961504E+22 | 1,742042E+22 | 1,374323E+22 | 9,608658E+21 | 6,124775E+21 | 4,185205E+21 | 4,185266E+21 | 6,125015E+21 | 9,609085E+21 |
| -1528             | 1,374343E+22 | 1,742012E+22 | 1,961436E+22 | 1,961425E+22 | 1,741990E+22 | 1,374309E+22 | 9,608712E+21 | 6,124871E+21 | 4,185362E+21 | 4,185456E+21 | 6,125042E+21 | 9,608733E+21 |
| -1527             | 1,374276E+22 | 1,741922E+22 | 1,961359E+22 | 1,961391E+22 | 1,741987E+22 | 1,374332E+22 | 9,609172E+21 | 6,125402E+21 | 4,185763E+21 | 4,185651E+21 | 6,125090E+21 | 9,608834E+21 |
| -1526             | 1,374331E+22 | 1,742028E+22 | 1,961439E+22 | 1,961407E+22 | 1,741951E+22 | 1,374274E+22 | 9,608694E+21 | 6,125208E+21 | 4,185881E+21 | 4,186020E+21 | 6,125617E+21 | 9,609248E+21 |
| -1525             | 1,374316E+22 | 1,741951E+22 | 1,961333E+22 | 1,961318E+22 | 1,741917E+22 | 1,374289E+22 | 9,609092E+21 | 6,125636E+21 | 4,186217E+21 | 4,186191E+21 | 6,125494E+21 | 9,608740E+21 |

| 1                 | 2            | 3            | 4            | 5            | 6            | 7            | 8            | 9            | 10           | 11           | 12           | 13           |
|-------------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|
| Longitude $\odot$ | 0° - 30°     | 30° - 60°    | 60° - 90°    | 90° - 120°   | 120° - 150°  | 150° - 180°  | 180° - 210°  | 210° - 240°  | 240° - 270°  | 270° - 300°  | 300° - 330°  | 330° - 360°  |
| Years             |              |              |              |              |              |              |              |              |              |              |              |              |
| -1524             | 1,374237E+22 | 1,741891E+22 | 1,961344E+22 | 1,961367E+22 | 1,741959E+22 | 1,374312E+22 | 9,609254E+21 | 6,125879E+21 | 4,186482E+21 | 4,186405E+21 | 6,125722E+21 | 9,609218E+21 |
| -1523             | 1,374324E+22 | 1,741970E+22 | 1,961375E+22 | 1,961360E+22 | 1,741925E+22 | 1,374268E+22 | 9,608839E+21 | 6,125576E+21 | 4,186407E+21 | 4,186571E+21 | 6,126014E+21 | 9,609324E+21 |
| -1522             | 1,374286E+22 | 1,741873E+22 | 1,961239E+22 | 1,961266E+22 | 1,741917E+22 | 1,374313E+22 | 9,609408E+21 | 6,125978E+21 | 4,186549E+21 | 4,186465E+21 | 6,125695E+21 | 9,608886E+21 |
| -1521             | 1,374254E+22 | 1,741912E+22 | 1,961344E+22 | 1,961343E+22 | 1,741936E+22 | 1,374302E+22 | 9,609233E+21 | 6,125869E+21 | 4,186478E+21 | 4,186430E+21 | 6,125806E+21 | 9,609391E+21 |
| -1520             | 1,374335E+22 | 1,741960E+22 | 1,961347E+22 | 1,961324E+22 | 1,741906E+22 | 1,374273E+22 | 9,608962E+21 | 6,125594E+21 | 4,186283E+21 | 4,186339E+21 | 6,125671E+21 | 9,608919E+21 |
| -1519             | 1,374256E+22 | 1,741876E+22 | 1,961292E+22 | 1,961324E+22 | 1,741941E+22 | 1,374312E+22 | 9,609309E+21 | 6,125797E+21 | 4,186248E+21 | 4,186090E+21 | 6,125353E+21 | 9,608744E+21 |
| -1518             | 1,374283E+22 | 1,741982E+22 | 1,961421E+22 | 1,961406E+22 | 1,741963E+22 | 1,374284E+22 | 9,608748E+21 | 6,125258E+21 | 4,185911E+21 | 4,186017E+21 | 6,125607E+21 | 9,609278E+21 |
| -1517             | 1,374316E+22 | 1,741952E+22 | 1,961359E+22 | 1,961353E+22 | 1,741945E+22 | 1,374297E+22 | 9,608879E+21 | 6,125204E+21 | 4,185715E+21 | 4,185739E+21 | 6,125203E+21 | 9,608727E+21 |
| -1516             | 1,374258E+22 | 1,741909E+22 | 1,961369E+22 | 1,961413E+22 | 1,742006E+22 | 1,374335E+22 | 9,609059E+21 | 6,125256E+21 | 4,185613E+21 | 4,185498E+21 | 6,124987E+21 | 9,608887E+21 |
| -1515             | 1,374351E+22 | 1,742047E+22 | 1,961464E+22 | 1,961447E+22 | 1,741992E+22 | 1,374290E+22 | 9,608510E+21 | 6,124765E+21 | 4,185314E+21 | 4,185435E+21 | 6,125120E+21 | 9,609002E+21 |
| -1514             | 1,374329E+22 | 1,741990E+22 | 1,961379E+22 | 1,961367E+22 | 1,741969E+22 | 1,374317E+22 | 9,608912E+21 | 6,125026E+21 | 4,185358E+21 | 4,185274E+21 | 6,124738E+21 | 9,608407E+21 |
| -1513             | 1,374262E+22 | 1,741981E+22 | 1,961468E+22 | 1,961468E+22 | 1,742011E+22 | 1,374317E+22 | 9,608867E+21 | 6,125081E+21 | 4,185442E+21 | 4,185357E+21 | 6,124893E+21 | 9,608861E+21 |
| -1512             | 1,374340E+22 | 1,742028E+22 | 1,961469E+22 | 1,961458E+22 | 1,741991E+22 | 1,374286E+22 | 9,608518E+21 | 6,124823E+21 | 4,185411E+21 | 4,185547E+21 | 6,125140E+21 | 9,608768E+21 |
| -1511             | 1,374277E+22 | 1,741923E+22 | 1,961348E+22 | 1,961382E+22 | 1,741989E+22 | 1,374328E+22 | 9,609058E+21 | 6,125272E+21 | 4,185663E+21 | 4,185590E+21 | 6,125039E+21 | 9,608629E+21 |
| -1510             | 1,374278E+22 | 1,741978E+22 | 1,961425E+22 | 1,961419E+22 | 1,741986E+22 | 1,374307E+22 | 9,608845E+21 | 6,125206E+21 | 4,185785E+21 | 4,185873E+21 | 6,125483E+21 | 9,609275E+21 |
| -1509             | 1,374333E+22 | 1,741967E+22 | 1,961355E+22 | 1,961326E+22 | 1,741915E+22 | 1,374283E+22 | 9,608938E+21 | 6,125423E+21 | 4,186041E+21 | 4,186106E+21 | 6,125511E+21 | 9,608886E+21 |
| -1508             | 1,374257E+22 | 1,741877E+22 | 1,961296E+22 | 1,961323E+22 | 1,741936E+22 | 1,374309E+22 | 9,609340E+21 | 6,125936E+21 | 4,186468E+21 | 4,186326E+21 | 6,125542E+21 | 9,608914E+21 |
| -1507             | 1,374300E+22 | 1,741968E+22 | 1,961373E+22 | 1,961353E+22 | 1,741917E+22 | 1,374261E+22 | 9,608889E+21 | 6,125739E+21 | 4,186588E+21 | 4,186711E+21 | 6,126114E+21 | 9,609421E+21 |
| -1506             | 1,374297E+22 | 1,741892E+22 | 1,961251E+22 | 1,961237E+22 | 1,741866E+22 | 1,374272E+22 | 9,609243E+21 | 6,126095E+21 | 4,186869E+21 | 4,186883E+21 | 6,126073E+21 | 9,609022E+21 |
| -1505             | 1,374219E+22 | 1,741830E+22 | 1,961266E+22 | 1,961293E+22 | 1,741905E+22 | 1,374295E+22 | 9,609471E+21 | 6,126358E+21 | 4,187073E+21 | 4,186997E+21 | 6,126183E+21 | 9,609424E+21 |
| -1504             | 1,374309E+22 | 1,741911E+22 | 1,961289E+22 | 1,961283E+22 | 1,741881E+22 | 1,374261E+22 | 9,609091E+21 | 6,126060E+21 | 4,186997E+21 | 4,187152E+21 | 6,126458E+21 | 9,609496E+21 |
| -1503             | 1,374272E+22 | 1,741838E+22 | 1,961185E+22 | 1,961191E+22 | 1,741858E+22 | 1,374293E+22 | 9,609566E+21 | 6,126398E+21 | 4,187080E+21 | 4,186979E+21 | 6,126068E+21 | 9,609019E+21 |
| -1502             | 1,374241E+22 | 1,741873E+22 | 1,961292E+22 | 1,961282E+22 | 1,741885E+22 | 1,374280E+22 | 9,609354E+21 | 6,126237E+21 | 4,186994E+21 | 4,186970E+21 | 6,126193E+21 | 9,609442E+21 |
| -1501             | 1,374306E+22 | 1,741905E+22 | 1,961281E+22 | 1,961260E+22 | 1,741856E+22 | 1,374250E+22 | 9,609079E+21 | 6,126006E+21 | 4,186837E+21 | 4,186910E+21 | 6,126137E+21 | 9,609109E+21 |
| -1500             | 1,374236E+22 | 1,741821E+22 | 1,961222E+22 | 1,961269E+22 | 1,741912E+22 | 1,374300E+22 | 9,609379E+21 | 6,126129E+21 | 4,186745E+21 | 4,186606E+21 | 6,125767E+21 | 9,608946E+21 |
| -1499             | 1,374272E+22 | 1,741928E+22 | 1,961346E+22 | 1,961343E+22 | 1,741931E+22 | 1,374280E+22 | 9,608926E+21 | 6,125620E+21 | 4,186380E+21 | 4,186473E+21 | 6,125960E+21 | 9,609509E+21 |
| -1498             | 1,374324E+22 | 1,741922E+22 | 1,961291E+22 | 1,961268E+22 | 1,741883E+22 | 1,374275E+22 | 9,609000E+21 | 6,125557E+21 | 4,186176E+21 | 4,186198E+21 | 6,125560E+21 | 9,608898E+21 |
| -1497             | 1,374255E+22 | 1,741884E+22 | 1,961325E+22 | 1,961349E+22 | 1,741943E+22 | 1,374306E+22 | 9,609211E+21 | 6,125674E+21 | 4,186106E+21 | 4,185951E+21 | 6,125261E+21 | 9,608883E+21 |
| -1496             | 1,374327E+22 | 1,742005E+22 | 1,961417E+22 | 1,961398E+22 | 1,741953E+22 | 1,374275E+22 | 9,608680E+21 | 6,125206E+21 | 4,185887E+21 | 4,185998E+21 | 6,125504E+21 | 9,609015E+21 |
| -1495             | 1,374294E+22 | 1,741943E+22 | 1,961338E+22 | 1,961321E+22 | 1,741932E+22 | 1,374298E+22 | 9,609006E+21 | 6,125410E+21 | 4,185909E+21 | 4,185850E+21 | 6,125189E+21 | 9,608557E+21 |
| -1494             | 1,374238E+22 | 1,741918E+22 | 1,961397E+22 | 1,961410E+22 | 1,741980E+22 | 1,374311E+22 | 9,609024E+21 | 6,125455E+21 | 4,185997E+21 | 4,185971E+21 | 6,125392E+21 | 9,609036E+21 |
| -1493             | 1,374315E+22 | 1,741957E+22 | 1,961375E+22 | 1,961370E+22 | 1,741938E+22 | 1,374276E+22 | 9,608775E+21 | 6,125326E+21 | 4,186037E+21 | 4,186183E+21 | 6,125670E+21 | 9,609050E+21 |
| -1492             | 1,374267E+22 | 1,741865E+22 | 1,961257E+22 | 1,961298E+22 | 1,741940E+22 | 1,374314E+22 | 9,609275E+21 | 6,125790E+21 | 4,186317E+21 | 4,186216E+21 | 6,125490E+21 | 9,608813E+21 |
| -1491             | 1,374269E+22 | 1,741932E+22 | 1,961347E+22 | 1,961334E+22 | 1,741928E+22 | 1,374292E+22 | 9,609105E+21 | 6,125775E+21 | 4,186484E+21 | 4,186523E+21 | 6,125936E+21 | 9,609447E+21 |
| -1490             | 1,374323E+22 | 1,741926E+22 | 1,961285E+22 | 1,961236E+22 | 1,741836E+22 | 1,374246E+22 | 9,609069E+21 | 6,125949E+21 | 4,186759E+21 | 4,186837E+21 | 6,126081E+21 | 9,609086E+21 |
| -1489             | 1,374232E+22 | 1,741821E+22 | 1,961233E+22 | 1,961259E+22 | 1,741875E+22 | 1,374277E+22 | 9,609469E+21 | 6,126443E+21 | 4,187157E+21 | 4,187035E+21 | 6,126096E+21 | 9,609111E+21 |

| 1                 | 2            | 3            | 4            | 5            | 6            | 7            | 8            | 9            | 10           | 11           | 12           | 13           |
|-------------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|
| Longitude $\odot$ | 0° - 30°     | 30° - 60°    | 60° - 90°    | 90° - 120°   | 120° - 150°  | 150° - 180°  | 180° - 210°  | 210° - 240°  | 240° - 270°  | 270° - 300°  | 300° - 330°  | 330° - 360°  |
| Years             |              |              |              |              |              |              |              |              |              |              |              |              |
| -1488             | 1,374273E+22 | 1,741898E+22 | 1,961288E+22 | 1,961285E+22 | 1,741881E+22 | 1,374254E+22 | 9,609079E+21 | 6,126214E+21 | 4,187255E+21 | 4,187420E+21 | 6,126701E+21 | 9,609681E+21 |
| -1487             | 1,374278E+22 | 1,741838E+22 | 1,961179E+22 | 1,961159E+22 | 1,741816E+22 | 1,374259E+22 | 9,609421E+21 | 6,126515E+21 | 4,187433E+21 | 4,187467E+21 | 6,126551E+21 | 9,609291E+21 |
| -1486             | 1,374218E+22 | 1,741786E+22 | 1,961191E+22 | 1,961217E+22 | 1,741857E+22 | 1,374284E+22 | 9,609678E+21 | 6,126775E+21 | 4,187617E+21 | 4,187544E+21 | 6,126567E+21 | 9,609510E+21 |
| -1485             | 1,374291E+22 | 1,741866E+22 | 1,961216E+22 | 1,961197E+22 | 1,741816E+22 | 1,374240E+22 | 9,609324E+21 | 6,126568E+21 | 4,187597E+21 | 4,187708E+21 | 6,126839E+21 | 9,609572E+21 |
| -1484             | 1,374247E+22 | 1,741787E+22 | 1,961123E+22 | 1,961135E+22 | 1,741815E+22 | 1,374272E+22 | 9,609706E+21 | 6,126848E+21 | 4,187666E+21 | 4,187534E+21 | 6,126439E+21 | 9,609066E+21 |
| -1483             | 1,374212E+22 | 1,741816E+22 | 1,961227E+22 | 1,961231E+22 | 1,741853E+22 | 1,374270E+22 | 9,609510E+21 | 6,126652E+21 | 4,187543E+21 | 4,187509E+21 | 6,126612E+21 | 9,609621E+21 |
| -1482             | 1,374292E+22 | 1,741854E+22 | 1,961206E+22 | 1,961182E+22 | 1,741802E+22 | 1,374229E+22 | 9,609168E+21 | 6,126342E+21 | 4,187327E+21 | 4,187443E+21 | 6,126615E+21 | 9,609384E+21 |
| -1481             | 1,374229E+22 | 1,741778E+22 | 1,961160E+22 | 1,961205E+22 | 1,741859E+22 | 1,374280E+22 | 9,609516E+21 | 6,126472E+21 | 4,187181E+21 | 4,187052E+21 | 6,126122E+21 | 9,609128E+21 |
| -1480             | 1,374268E+22 | 1,741892E+22 | 1,961282E+22 | 1,961281E+22 | 1,741892E+22 | 1,374271E+22 | 9,609096E+21 | 6,125995E+21 | 4,186855E+21 | 4,186938E+21 | 6,126297E+21 | 9,609601E+21 |
| -1479             | 1,374313E+22 | 1,741905E+22 | 1,961260E+22 | 1,961212E+22 | 1,741832E+22 | 1,374254E+22 | 9,609110E+21 | 6,125905E+21 | 4,186636E+21 | 4,186643E+21 | 6,125866E+21 | 9,608968E+21 |
| -1478             | 1,374240E+22 | 1,741851E+22 | 1,961287E+22 | 1,961308E+22 | 1,741905E+22 | 1,374289E+22 | 9,609321E+21 | 6,126034E+21 | 4,186621E+21 | 4,186485E+21 | 6,125627E+21 | 9,608868E+21 |
| -1477             | 1,374287E+22 | 1,741941E+22 | 1,961349E+22 | 1,961342E+22 | 1,741914E+22 | 1,374261E+22 | 9,608856E+21 | 6,125664E+21 | 4,186486E+21 | 4,186607E+21 | 6,125995E+21 | 9,609189E+21 |
| -1476             | 1,374266E+22 | 1,741871E+22 | 1,961251E+22 | 1,961261E+22 | 1,741903E+22 | 1,374292E+22 | 9,609185E+21 | 6,125845E+21 | 4,186507E+21 | 4,186464E+21 | 6,125685E+21 | 9,608793E+21 |
| -1475             | 1,374223E+22 | 1,741852E+22 | 1,961299E+22 | 1,961325E+22 | 1,741934E+22 | 1,374308E+22 | 9,609305E+21 | 6,125951E+21 | 4,186604E+21 | 4,186564E+21 | 6,125871E+21 | 9,609318E+21 |
| -1474             | 1,374316E+22 | 1,741913E+22 | 1,961283E+22 | 1,961261E+22 | 1,741857E+22 | 1,374247E+22 | 9,608958E+21 | 6,125825E+21 | 4,186677E+21 | 4,186822E+21 | 6,126183E+21 | 9,609305E+21 |
| -1473             | 1,374263E+22 | 1,741831E+22 | 1,961194E+22 | 1,961214E+22 | 1,741858E+22 | 1,374276E+22 | 9,609430E+21 | 6,126300E+21 | 4,186971E+21 | 4,186854E+21 | 6,125939E+21 | 9,608930E+21 |
| -1472             | 1,374248E+22 | 1,741883E+22 | 1,961283E+22 | 1,961271E+22 | 1,741875E+22 | 1,374266E+22 | 9,609253E+21 | 6,126287E+21 | 4,187186E+21 | 4,187237E+21 | 6,126471E+21 | 9,609579E+21 |
| -1471             | 1,374296E+22 | 1,741881E+22 | 1,961234E+22 | 1,961179E+22 | 1,741789E+22 | 1,374222E+22 | 9,609159E+21 | 6,126374E+21 | 4,187387E+21 | 4,187503E+21 | 6,126631E+21 | 9,609337E+21 |
| -1470             | 1,374216E+22 | 1,741764E+22 | 1,961160E+22 | 1,961195E+22 | 1,741838E+22 | 1,374269E+22 | 9,609642E+21 | 6,126854E+21 | 4,187754E+21 | 4,187680E+21 | 6,126602E+21 | 9,609278E+21 |
| -1469             | 1,374247E+22 | 1,741830E+22 | 1,961197E+22 | 1,961201E+22 | 1,741831E+22 | 1,374249E+22 | 9,609393E+21 | 6,126754E+21 | 4,187891E+21 | 4,188038E+21 | 6,127183E+21 | 9,609901E+21 |
| -1468             | 1,374265E+22 | 1,741782E+22 | 1,961092E+22 | 1,961083E+22 | 1,741772E+22 | 1,374250E+22 | 9,609684E+21 | 6,127041E+21 | 4,188065E+21 | 4,188050E+21 | 6,126938E+21 | 9,609386E+21 |
| -1467             | 1,374200E+22 | 1,741736E+22 | 1,961112E+22 | 1,961136E+22 | 1,741803E+22 | 1,374274E+22 | 9,609963E+21 | 6,127325E+21 | 4,188259E+21 | 4,188124E+21 | 6,126962E+21 | 9,609605E+21 |
| -1466             | 1,374268E+22 | 1,741816E+22 | 1,961144E+22 | 1,961115E+22 | 1,741744E+22 | 1,374205E+22 | 9,609437E+21 | 6,127041E+21 | 4,188232E+21 | 4,188347E+21 | 6,127344E+21 | 9,609756E+21 |
| -1465             | 1,374223E+22 | 1,741732E+22 | 1,961059E+22 | 1,961073E+22 | 1,741757E+22 | 1,374239E+22 | 9,609772E+21 | 6,127243E+21 | 4,188224E+21 | 4,188119E+21 | 6,126915E+21 | 9,609270E+21 |
| -1464             | 1,374193E+22 | 1,741759E+22 | 1,961149E+22 | 1,961166E+22 | 1,741814E+22 | 1,374257E+22 | 9,609624E+21 | 6,127005E+21 | 4,188057E+21 | 4,188065E+21 | 6,127090E+21 | 9,609861E+21 |
| -1463             | 1,374285E+22 | 1,741825E+22 | 1,961153E+22 | 1,961117E+22 | 1,741752E+22 | 1,374209E+22 | 9,609248E+21 | 6,126629E+21 | 4,187736E+21 | 4,187874E+21 | 6,126977E+21 | 9,609614E+21 |
| -1462             | 1,374235E+22 | 1,741757E+22 | 1,961112E+22 | 1,961149E+22 | 1,741817E+22 | 1,374265E+22 | 9,609622E+21 | 6,126772E+21 | 4,187599E+21 | 4,187471E+21 | 6,126390E+21 | 9,609135E+21 |
| -1461             | 1,374248E+22 | 1,741859E+22 | 1,961234E+22 | 1,961224E+22 | 1,741847E+22 | 1,374256E+22 | 9,609298E+21 | 6,126426E+21 | 4,187366E+21 | 4,187410E+21 | 6,126605E+21 | 9,609619E+21 |
| -1460             | 1,374284E+22 | 1,741855E+22 | 1,961208E+22 | 1,961181E+22 | 1,741810E+22 | 1,374242E+22 | 9,609257E+21 | 6,126319E+21 | 4,187179E+21 | 4,187163E+21 | 6,126212E+21 | 9,608994E+21 |
| -1459             | 1,374208E+22 | 1,741789E+22 | 1,961214E+22 | 1,961258E+22 | 1,741884E+22 | 1,374290E+22 | 9,609554E+21 | 6,126481E+21 | 4,187186E+21 | 4,187042E+21 | 6,126080E+21 | 9,609061E+21 |
| -1458             | 1,374263E+22 | 1,741876E+22 | 1,961259E+22 | 1,961257E+22 | 1,741858E+22 | 1,374244E+22 | 9,609038E+21 | 6,126098E+21 | 4,187063E+21 | 4,187216E+21 | 6,126534E+21 | 9,609500E+21 |
| -1457             | 1,374256E+22 | 1,741815E+22 | 1,961168E+22 | 1,961178E+22 | 1,741836E+22 | 1,374269E+22 | 9,609394E+21 | 6,126308E+21 | 4,187078E+21 | 4,187044E+21 | 6,126159E+21 | 9,609047E+21 |
| -1456             | 1,374220E+22 | 1,741811E+22 | 1,961216E+22 | 1,961237E+22 | 1,741873E+22 | 1,374289E+22 | 9,609513E+21 | 6,126448E+21 | 4,187237E+21 | 4,187193E+21 | 6,126350E+21 | 9,609495E+21 |
| -1455             | 1,374307E+22 | 1,741892E+22 | 1,961233E+22 | 1,961181E+22 | 1,741783E+22 | 1,374213E+22 | 9,609063E+21 | 6,126269E+21 | 4,187288E+21 | 4,187436E+21 | 6,126648E+21 | 9,609487E+21 |
| -1454             | 1,374251E+22 | 1,741795E+22 | 1,961145E+22 | 1,961160E+22 | 1,741807E+22 | 1,374247E+22 | 9,609497E+21 | 6,126725E+21 | 4,187612E+21 | 4,187525E+21 | 6,126427E+21 | 9,609023E+21 |
| -1453             | 1,374214E+22 | 1,741819E+22 | 1,961207E+22 | 1,961207E+22 | 1,741831E+22 | 1,374249E+22 | 9,609427E+21 | 6,126791E+21 | 4,187868E+21 | 4,187931E+21 | 6,127027E+21 | 9,609808E+21 |

| 1                 | 2            | 3            | 4            | 5            | 6            | 7            | 8            | 9            | 10           | 11           | 12           | 13           |
|-------------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|
| Longitude $\odot$ | 0° - 30°     | 30° - 60°    | 60° - 90°    | 90° - 120°   | 120° - 150°  | 150° - 180°  | 180° - 210°  | 210° - 240°  | 240° - 270°  | 270° - 300°  | 300° - 330°  | 330° - 360°  |
| Years             |              |              |              |              |              |              |              |              |              |              |              |              |
| -1452             | 1,374269E+22 | 1,741806E+22 | 1,961143E+22 | 1,961119E+22 | 1,741760E+22 | 1,374217E+22 | 9,609381E+21 | 6,126867E+21 | 4,188040E+21 | 4,188154E+21 | 6,127126E+21 | 9,609549E+21 |
| -1451             | 1,374200E+22 | 1,741702E+22 | 1,961064E+22 | 1,961113E+22 | 1,741795E+22 | 1,374270E+22 | 9,609991E+21 | 6,127417E+21 | 4,188401E+21 | 4,188284E+21 | 6,127065E+21 | 9,609487E+21 |
| -1450             | 1,374232E+22 | 1,741778E+22 | 1,961106E+22 | 1,961097E+22 | 1,741753E+22 | 1,374223E+22 | 9,609642E+21 | 6,127314E+21 | 4,188565E+21 | 4,188676E+21 | 6,127649E+21 | 9,610058E+21 |
| -1449             | 1,374246E+22 | 1,741736E+22 | 1,961025E+22 | 1,961003E+22 | 1,741696E+22 | 1,374218E+22 | 9,609887E+21 | 6,127569E+21 | 4,188719E+21 | 4,188679E+21 | 6,127371E+21 | 9,609470E+21 |
| -1448             | 1,374172E+22 | 1,741681E+22 | 1,961039E+22 | 1,961069E+22 | 1,741752E+22 | 1,374249E+22 | 9,610093E+21 | 6,127794E+21 | 4,188905E+21 | 4,188787E+21 | 6,127470E+21 | 9,609736E+21 |
| -1447             | 1,374241E+22 | 1,741772E+22 | 1,961085E+22 | 1,961052E+22 | 1,741696E+22 | 1,374179E+22 | 9,609469E+21 | 6,127368E+21 | 4,188747E+21 | 4,188910E+21 | 6,127839E+21 | 9,610045E+21 |
| -1446             | 1,374216E+22 | 1,741689E+22 | 1,960997E+22 | 1,961018E+22 | 1,741720E+22 | 1,374223E+22 | 9,609822E+21 | 6,127518E+21 | 4,188675E+21 | 4,188618E+21 | 6,127322E+21 | 9,609463E+21 |
| -1445             | 1,374181E+22 | 1,741713E+22 | 1,961080E+22 | 1,961101E+22 | 1,741772E+22 | 1,374246E+22 | 9,609813E+21 | 6,127392E+21 | 4,188524E+21 | 4,188519E+21 | 6,127450E+21 | 9,610059E+21 |
| -1444             | 1,374281E+22 | 1,741788E+22 | 1,961094E+22 | 1,961070E+22 | 1,741724E+22 | 1,374202E+22 | 9,609432E+21 | 6,127020E+21 | 4,188209E+21 | 4,188299E+21 | 6,127239E+21 | 9,609655E+21 |
| -1443             | 1,374221E+22 | 1,741727E+22 | 1,961062E+22 | 1,961097E+22 | 1,741781E+22 | 1,374260E+22 | 9,609879E+21 | 6,127223E+21 | 4,188114E+21 | 4,187934E+21 | 6,126705E+21 | 9,609175E+21 |
| -1442             | 1,374217E+22 | 1,741810E+22 | 1,961174E+22 | 1,961162E+22 | 1,741794E+22 | 1,374232E+22 | 9,609438E+21 | 6,126864E+21 | 4,187938E+21 | 4,187982E+21 | 6,127047E+21 | 9,609755E+21 |
| -1441             | 1,374255E+22 | 1,741796E+22 | 1,961138E+22 | 1,961121E+22 | 1,741764E+22 | 1,374223E+22 | 9,609396E+21 | 6,126721E+21 | 4,187731E+21 | 4,187744E+21 | 6,126687E+21 | 9,609207E+21 |
| -1440             | 1,374188E+22 | 1,741726E+22 | 1,961119E+22 | 1,961179E+22 | 1,741841E+22 | 1,374281E+22 | 9,609738E+21 | 6,126899E+21 | 4,187753E+21 | 4,187643E+21 | 6,126590E+21 | 9,609328E+21 |
| -1439             | 1,374257E+22 | 1,741842E+22 | 1,961187E+22 | 1,961171E+22 | 1,741794E+22 | 1,374219E+22 | 9,609159E+21 | 6,126479E+21 | 4,187574E+21 | 4,187741E+21 | 6,126977E+21 | 9,609797E+21 |
| -1438             | 1,374263E+22 | 1,741792E+22 | 1,961109E+22 | 1,961101E+22 | 1,741772E+22 | 1,374238E+22 | 9,609467E+21 | 6,126700E+21 | 4,187633E+21 | 4,187593E+21 | 6,126527E+21 | 9,609116E+21 |
| -1437             | 1,374198E+22 | 1,741773E+22 | 1,961160E+22 | 1,961168E+22 | 1,741811E+22 | 1,374260E+22 | 9,609679E+21 | 6,126954E+21 | 4,187880E+21 | 4,187808E+21 | 6,126785E+21 | 9,609598E+21 |
| -1436             | 1,374278E+22 | 1,741838E+22 | 1,961174E+22 | 1,961142E+22 | 1,741753E+22 | 1,374194E+22 | 9,609197E+21 | 6,126746E+21 | 4,187943E+21 | 4,188082E+21 | 6,127099E+21 | 9,609581E+21 |
| -1435             | 1,374219E+22 | 1,741733E+22 | 1,961066E+22 | 1,961101E+22 | 1,741779E+22 | 1,374247E+22 | 9,609764E+21 | 6,127244E+21 | 4,188272E+21 | 4,188181E+21 | 6,126957E+21 | 9,609242E+21 |
| -1434             | 1,374184E+22 | 1,741746E+22 | 1,961111E+22 | 1,961119E+22 | 1,741777E+22 | 1,374237E+22 | 9,609688E+21 | 6,127332E+21 | 4,188554E+21 | 4,188621E+21 | 6,127587E+21 | 9,610090E+21 |
| -1433             | 1,374253E+22 | 1,741744E+22 | 1,961049E+22 | 1,961030E+22 | 1,741698E+22 | 1,374201E+22 | 9,609672E+21 | 6,127427E+21 | 4,188717E+21 | 4,188813E+21 | 6,127617E+21 | 9,609751E+21 |
| -1432             | 1,374186E+22 | 1,741649E+22 | 1,960969E+22 | 1,961016E+22 | 1,741734E+22 | 1,374255E+22 | 9,610267E+21 | 6,127996E+21 | 4,189113E+21 | 4,188975E+21 | 6,127567E+21 | 9,609625E+21 |
| -1431             | 1,374210E+22 | 1,741741E+22 | 1,961044E+22 | 1,961012E+22 | 1,741678E+22 | 1,374188E+22 | 9,609763E+21 | 6,127792E+21 | 4,189209E+21 | 4,189323E+21 | 6,128146E+21 | 9,610254E+21 |
| -1430             | 1,374227E+22 | 1,741689E+22 | 1,960964E+22 | 1,960942E+22 | 1,741641E+22 | 1,374183E+22 | 9,609901E+21 | 6,127966E+21 | 4,189335E+21 | 4,189328E+21 | 6,127867E+21 | 9,609619E+21 |
| -1429             | 1,374142E+22 | 1,741618E+22 | 1,960962E+22 | 1,961001E+22 | 1,741707E+22 | 1,374229E+22 | 9,610202E+21 | 6,128201E+21 | 4,189483E+21 | 4,189397E+21 | 6,127994E+21 | 9,610031E+21 |
| -1428             | 1,374229E+22 | 1,741713E+22 | 1,961006E+22 | 1,960996E+22 | 1,741668E+22 | 1,374171E+22 | 9,609609E+21 | 6,127728E+21 | 4,189241E+21 | 4,189411E+21 | 6,128229E+21 | 9,610264E+21 |
| -1427             | 1,374215E+22 | 1,741655E+22 | 1,960929E+22 | 1,960952E+22 | 1,741685E+22 | 1,374222E+22 | 9,610074E+21 | 6,127927E+21 | 4,189140E+21 | 4,189046E+21 | 6,127649E+21 | 9,609629E+21 |
| -1426             | 1,374173E+22 | 1,741683E+22 | 1,961021E+22 | 1,961025E+22 | 1,741713E+22 | 1,374224E+22 | 9,609989E+21 | 6,127821E+21 | 4,189037E+21 | 4,188986E+21 | 6,127758E+21 | 9,610133E+21 |
| -1425             | 1,374262E+22 | 1,741753E+22 | 1,961050E+22 | 1,961019E+22 | 1,741675E+22 | 1,374181E+22 | 9,609606E+21 | 6,127442E+21 | 4,188732E+21 | 4,188794E+21 | 6,127552E+21 | 9,609661E+21 |
| -1424             | 1,374191E+22 | 1,741678E+22 | 1,961002E+22 | 1,961047E+22 | 1,741751E+22 | 1,374249E+22 | 9,610035E+21 | 6,127640E+21 | 4,188672E+21 | 4,188506E+21 | 6,127139E+21 | 9,609263E+21 |
| -1423             | 1,374186E+22 | 1,741761E+22 | 1,961112E+22 | 1,961099E+22 | 1,741752E+22 | 1,374215E+22 | 9,609524E+21 | 6,127192E+21 | 4,188421E+21 | 4,188504E+21 | 6,127497E+21 | 9,610003E+21 |
| -1422             | 1,374243E+22 | 1,741748E+22 | 1,961069E+22 | 1,961056E+22 | 1,741722E+22 | 1,374207E+22 | 9,609481E+21 | 6,127051E+21 | 4,188220E+21 | 4,188262E+21 | 6,127099E+21 | 9,609405E+21 |
| -1421             | 1,374177E+22 | 1,741679E+22 | 1,961041E+22 | 1,961096E+22 | 1,741786E+22 | 1,374262E+22 | 9,609918E+21 | 6,127335E+21 | 4,188293E+21 | 4,188170E+21 | 6,127004E+21 | 9,609551E+21 |
| -1420             | 1,374251E+22 | 1,741800E+22 | 1,961119E+22 | 1,961106E+22 | 1,741747E+22 | 1,374200E+22 | 9,609323E+21 | 6,126930E+21 | 4,188147E+21 | 4,188275E+21 | 6,127325E+21 | 9,609892E+21 |
| -1419             | 1,374248E+22 | 1,741759E+22 | 1,961056E+22 | 1,961042E+22 | 1,741725E+22 | 1,374221E+22 | 9,609675E+21 | 6,127198E+21 | 4,188253E+21 | 4,188188E+21 | 6,126970E+21 | 9,609242E+21 |
| -1418             | 1,374167E+22 | 1,741715E+22 | 1,961092E+22 | 1,961100E+22 | 1,741754E+22 | 1,374229E+22 | 9,609794E+21 | 6,127453E+21 | 4,188568E+21 | 4,188505E+21 | 6,127330E+21 | 9,609805E+21 |
| -1417             | 1,374250E+22 | 1,741769E+22 | 1,961093E+22 | 1,961072E+22 | 1,741708E+22 | 1,374180E+22 | 9,609393E+21 | 6,127232E+21 | 4,188615E+21 | 4,188782E+21 | 6,127658E+21 | 9,609825E+21 |



| 1                 | 2            | 3            | 4            | 5            | 6            | 7            | 8            | 9            | 10           | 11           | 12           | 13           |
|-------------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|
| Longitude $\odot$ | 0° - 30°     | 30° - 60°    | 60° - 90°    | 90° - 120°   | 120° - 150°  | 150° - 180°  | 180° - 210°  | 210° - 240°  | 240° - 270°  | 270° - 300°  | 300° - 330°  | 330° - 360°  |
| Years             |              |              |              |              |              |              |              |              |              |              |              |              |
| -1416             | 1,374198E+22 | 1,741666E+22 | 1,960966E+22 | 1,961011E+22 | 1,741733E+22 | 1,374242E+22 | 9,610041E+21 | 6,127780E+21 | 4,188964E+21 | 4,188895E+21 | 6,127525E+21 | 9,609492E+21 |
| -1415             | 1,374170E+22 | 1,741699E+22 | 1,961025E+22 | 1,961020E+22 | 1,741708E+22 | 1,374215E+22 | 9,609896E+21 | 6,127834E+21 | 4,189194E+21 | 4,189256E+21 | 6,128076E+21 | 9,610332E+21 |
| -1414             | 1,374247E+22 | 1,741705E+22 | 1,960978E+22 | 1,960945E+22 | 1,741632E+22 | 1,374172E+22 | 9,609803E+21 | 6,127921E+21 | 4,189384E+21 | 4,189458E+21 | 6,128050E+21 | 9,609835E+21 |
| -1413             | 1,374158E+22 | 1,741596E+22 | 1,960897E+22 | 1,960936E+22 | 1,741669E+22 | 1,374226E+22 | 9,610439E+21 | 6,128528E+21 | 4,189800E+21 | 4,189646E+21 | 6,128065E+21 | 9,609793E+21 |
| -1412             | 1,374183E+22 | 1,741675E+22 | 1,960972E+22 | 1,960960E+22 | 1,741642E+22 | 1,374168E+22 | 9,609882E+21 | 6,128244E+21 | 4,189835E+21 | 4,189951E+21 | 6,128615E+21 | 9,610429E+21 |
| -1411             | 1,374207E+22 | 1,741634E+22 | 1,960891E+22 | 1,960878E+22 | 1,741607E+22 | 1,374178E+22 | 9,610103E+21 | 6,128395E+21 | 4,189892E+21 | 4,189901E+21 | 6,128365E+21 | 9,609889E+21 |
| -1410             | 1,374126E+22 | 1,741562E+22 | 1,960884E+22 | 1,960922E+22 | 1,741652E+22 | 1,374210E+22 | 9,610373E+21 | 6,128626E+21 | 4,190033E+21 | 4,189949E+21 | 6,128446E+21 | 9,610300E+21 |
| -1409             | 1,374227E+22 | 1,741674E+22 | 1,960939E+22 | 1,960923E+22 | 1,741619E+22 | 1,374160E+22 | 9,609834E+21 | 6,128155E+21 | 4,189762E+21 | 4,189909E+21 | 6,128575E+21 | 9,610383E+21 |
| -1408             | 1,374206E+22 | 1,741624E+22 | 1,960867E+22 | 1,960880E+22 | 1,741640E+22 | 1,374213E+22 | 9,610300E+21 | 6,128385E+21 | 4,189695E+21 | 4,189573E+21 | 6,127991E+21 | 9,609653E+21 |
| -1407             | 1,374152E+22 | 1,741656E+22 | 1,960982E+22 | 1,960969E+22 | 1,741660E+22 | 1,374198E+22 | 9,610088E+21 | 6,128203E+21 | 4,189550E+21 | 4,189492E+21 | 6,128115E+21 | 9,610216E+21 |
| -1406             | 1,374239E+22 | 1,741708E+22 | 1,961001E+22 | 1,960975E+22 | 1,741639E+22 | 1,374155E+22 | 9,609605E+21 | 6,127772E+21 | 4,189250E+21 | 4,189328E+21 | 6,127939E+21 | 9,609735E+21 |
| -1405             | 1,374156E+22 | 1,741612E+22 | 1,960925E+22 | 1,960980E+22 | 1,741713E+22 | 1,374237E+22 | 9,610164E+21 | 6,128014E+21 | 4,189188E+21 | 4,189050E+21 | 6,127609E+21 | 9,609527E+21 |
| -1404             | 1,374171E+22 | 1,741695E+22 | 1,961031E+22 | 1,961038E+22 | 1,741719E+22 | 1,374206E+22 | 9,609681E+21 | 6,127556E+21 | 4,188902E+21 | 4,188988E+21 | 6,127872E+21 | 9,610210E+21 |
| -1403             | 1,374241E+22 | 1,741712E+22 | 1,960999E+22 | 1,960978E+22 | 1,741674E+22 | 1,374197E+22 | 9,609707E+21 | 6,127479E+21 | 4,188721E+21 | 4,188744E+21 | 6,127481E+21 | 9,609590E+21 |
| -1402             | 1,374166E+22 | 1,741643E+22 | 1,960979E+22 | 1,961014E+22 | 1,741716E+22 | 1,374230E+22 | 9,610047E+21 | 6,127794E+21 | 4,188887E+21 | 4,188739E+21 | 6,127405E+21 | 9,609686E+21 |
| -1401             | 1,374235E+22 | 1,741760E+22 | 1,961067E+22 | 1,961043E+22 | 1,741693E+22 | 1,374175E+22 | 9,609471E+21 | 6,127389E+21 | 4,188771E+21 | 4,188895E+21 | 6,127755E+21 | 9,609975E+21 |
| -1400             | 1,374221E+22 | 1,741705E+22 | 1,960988E+22 | 1,960981E+22 | 1,741689E+22 | 1,374209E+22 | 9,609841E+21 | 6,127675E+21 | 4,188916E+21 | 4,188879E+21 | 6,127502E+21 | 9,609404E+21 |
| -1399             | 1,374141E+22 | 1,741661E+22 | 1,961020E+22 | 1,961028E+22 | 1,741707E+22 | 1,374214E+22 | 9,609938E+21 | 6,127876E+21 | 4,189171E+21 | 4,189147E+21 | 6,127863E+21 | 9,610086E+21 |
| -1398             | 1,374237E+22 | 1,741712E+22 | 1,961013E+22 | 1,960998E+22 | 1,741661E+22 | 1,374164E+22 | 9,609553E+21 | 6,127694E+21 | 4,189244E+21 | 4,189415E+21 | 6,128136E+21 | 9,610021E+21 |
| -1397             | 1,374181E+22 | 1,741608E+22 | 1,960877E+22 | 1,960917E+22 | 1,741674E+22 | 1,374229E+22 | 9,610327E+21 | 6,128346E+21 | 4,189644E+21 | 4,189551E+21 | 6,128026E+21 | 9,609720E+21 |
| -1396             | 1,374155E+22 | 1,741640E+22 | 1,960946E+22 | 1,960943E+22 | 1,741653E+22 | 1,374197E+22 | 9,610139E+21 | 6,128388E+21 | 4,189879E+21 | 4,189900E+21 | 6,128501E+21 | 9,610424E+21 |
| -1395             | 1,374225E+22 | 1,741659E+22 | 1,960913E+22 | 1,960872E+22 | 1,741576E+22 | 1,374153E+22 | 9,610038E+21 | 6,128478E+21 | 4,190071E+21 | 4,190136E+21 | 6,128580E+21 | 9,610012E+21 |
| -1394             | 1,374127E+22 | 1,741530E+22 | 1,960818E+22 | 1,960856E+22 | 1,741606E+22 | 1,374192E+22 | 9,610530E+21 | 6,129021E+21 | 4,190496E+21 | 4,190359E+21 | 6,128644E+21 | 9,610072E+21 |
| -1393             | 1,374165E+22 | 1,741610E+22 | 1,960887E+22 | 1,960880E+22 | 1,741592E+22 | 1,374153E+22 | 9,610049E+21 | 6,128679E+21 | 4,190451E+21 | 4,190596E+21 | 6,129137E+21 | 9,610699E+21 |
| -1392             | 1,374199E+22 | 1,741584E+22 | 1,960810E+22 | 1,960798E+22 | 1,741561E+22 | 1,374169E+22 | 9,610319E+21 | 6,128844E+21 | 4,190472E+21 | 4,190493E+21 | 6,128827E+21 | 9,610104E+21 |
| -1391             | 1,374125E+22 | 1,741536E+22 | 1,960824E+22 | 1,960842E+22 | 1,741590E+22 | 1,374187E+22 | 9,610503E+21 | 6,129013E+21 | 4,190533E+21 | 4,190434E+21 | 6,128790E+21 | 9,610429E+21 |
| -1390             | 1,374220E+22 | 1,741649E+22 | 1,960896E+22 | 1,960867E+22 | 1,741571E+22 | 1,374136E+22 | 9,609913E+21 | 6,128540E+21 | 4,190284E+21 | 4,190393E+21 | 6,128855E+21 | 9,610340E+21 |
| -1389             | 1,374174E+22 | 1,741578E+22 | 1,960820E+22 | 1,960830E+22 | 1,741600E+22 | 1,374196E+22 | 9,610440E+21 | 6,128796E+21 | 4,190232E+21 | 4,190100E+21 | 6,128370E+21 | 9,609723E+21 |
| -1388             | 1,374117E+22 | 1,741584E+22 | 1,960917E+22 | 1,960932E+22 | 1,741640E+22 | 1,374190E+22 | 9,610210E+21 | 6,128559E+21 | 4,190044E+21 | 4,189991E+21 | 6,128479E+21 | 9,610301E+21 |
| -1387             | 1,374212E+22 | 1,741649E+22 | 1,960931E+22 | 1,960918E+22 | 1,741613E+22 | 1,374157E+22 | 9,609817E+21 | 6,128141E+21 | 4,189712E+21 | 4,189817E+21 | 6,128385E+21 | 9,609982E+21 |
| -1386             | 1,374140E+22 | 1,741552E+22 | 1,960843E+22 | 1,960896E+22 | 1,741654E+22 | 1,374216E+22 | 9,610311E+21 | 6,128408E+21 | 4,189697E+21 | 4,189565E+21 | 6,128041E+21 | 9,609805E+21 |
| -1385             | 1,374174E+22 | 1,741655E+22 | 1,960956E+22 | 1,960952E+22 | 1,741661E+22 | 1,374192E+22 | 9,609877E+21 | 6,127972E+21 | 4,189430E+21 | 4,189503E+21 | 6,128246E+21 | 9,610360E+21 |
| -1384             | 1,374238E+22 | 1,741684E+22 | 1,960941E+22 | 1,960902E+22 | 1,741616E+22 | 1,374178E+22 | 9,609886E+21 | 6,127936E+21 | 4,189313E+21 | 4,189331E+21 | 6,127894E+21 | 9,609681E+21 |
| -1383             | 1,374151E+22 | 1,741615E+22 | 1,960937E+22 | 1,960952E+22 | 1,741654E+22 | 1,374195E+22 | 9,610092E+21 | 6,128184E+21 | 4,189460E+21 | 4,189335E+21 | 6,127859E+21 | 9,609839E+21 |
| -1382             | 1,374216E+22 | 1,741712E+22 | 1,961012E+22 | 1,960994E+22 | 1,741656E+22 | 1,374150E+22 | 9,609489E+21 | 6,127776E+21 | 4,189377E+21 | 4,189522E+21 | 6,128229E+21 | 9,610115E+21 |
| -1381             | 1,374192E+22 | 1,741638E+22 | 1,960906E+22 | 1,960908E+22 | 1,741650E+22 | 1,374201E+22 | 9,610043E+21 | 6,128134E+21 | 4,189538E+21 | 4,189528E+21 | 6,128045E+21 | 9,609692E+21 |

| 1                 | 2            | 3            | 4            | 5            | 6            | 7            | 8            | 9            | 10           | 11           | 12           | 13           |
|-------------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|
| Longitude $\odot$ | 0° - 30°     | 30° - 60°    | 60° - 90°    | 90° - 120°   | 120° - 150°  | 150° - 180°  | 180° - 210°  | 210° - 240°  | 240° - 270°  | 270° - 300°  | 300° - 330°  | 330° - 360°  |
| Years             |              |              |              |              |              |              |              |              |              |              |              |              |
| -1380             | 1,374125E+22 | 1,741589E+22 | 1,960930E+22 | 1,960957E+22 | 1,741668E+22 | 1,374209E+22 | 9,610209E+21 | 6,128378E+21 | 4,189787E+21 | 4,189745E+21 | 6,128294E+21 | 9,610252E+21 |
| -1379             | 1,374227E+22 | 1,741667E+22 | 1,960935E+22 | 1,960912E+22 | 1,741607E+22 | 1,374157E+22 | 9,609879E+21 | 6,128267E+21 | 4,189895E+21 | 4,190034E+21 | 6,128604E+21 | 9,610176E+21 |
| -1378             | 1,374156E+22 | 1,741553E+22 | 1,960801E+22 | 1,960822E+22 | 1,741594E+22 | 1,374196E+22 | 9,610538E+21 | 6,128941E+21 | 4,190388E+21 | 4,190259E+21 | 6,128531E+21 | 9,609878E+21 |
| -1377             | 1,374133E+22 | 1,741582E+22 | 1,960870E+22 | 1,960862E+22 | 1,741591E+22 | 1,374174E+22 | 9,610334E+21 | 6,128933E+21 | 4,190612E+21 | 4,190634E+21 | 6,129036E+21 | 9,610560E+21 |
| -1376             | 1,374197E+22 | 1,741594E+22 | 1,960829E+22 | 1,960793E+22 | 1,741528E+22 | 1,374136E+22 | 9,610214E+21 | 6,128988E+21 | 4,190780E+21 | 4,190876E+21 | 6,129166E+21 | 9,610238E+21 |
| -1375             | 1,374110E+22 | 1,741478E+22 | 1,960742E+22 | 1,960777E+22 | 1,741549E+22 | 1,374169E+22 | 9,610627E+21 | 6,129418E+21 | 4,191081E+21 | 4,190988E+21 | 6,129181E+21 | 9,610388E+21 |
| -1374             | 1,374163E+22 | 1,741566E+22 | 1,960817E+22 | 1,960811E+22 | 1,741543E+22 | 1,374130E+22 | 9,610140E+21 | 6,129082E+21 | 4,191012E+21 | 4,191147E+21 | 6,129542E+21 | 9,610855E+21 |
| -1373             | 1,374187E+22 | 1,741540E+22 | 1,960741E+22 | 1,960723E+22 | 1,741512E+22 | 1,374157E+22 | 9,610534E+21 | 6,129299E+21 | 4,191031E+21 | 4,191027E+21 | 6,129216E+21 | 9,610245E+21 |
| -1372             | 1,374109E+22 | 1,741489E+22 | 1,960772E+22 | 1,960795E+22 | 1,741551E+22 | 1,374174E+22 | 9,610698E+21 | 6,129446E+21 | 4,191066E+21 | 4,190928E+21 | 6,129091E+21 | 9,610408E+21 |
| -1371             | 1,374192E+22 | 1,741606E+22 | 1,960848E+22 | 1,960821E+22 | 1,741536E+22 | 1,374126E+22 | 9,610115E+21 | 6,128970E+21 | 4,190808E+21 | 4,190918E+21 | 6,129268E+21 | 9,610422E+21 |
| -1370             | 1,374136E+22 | 1,741509E+22 | 1,960747E+22 | 1,960765E+22 | 1,741553E+22 | 1,374175E+22 | 9,610547E+21 | 6,129191E+21 | 4,190783E+21 | 4,190673E+21 | 6,128849E+21 | 9,609963E+21 |
| -1369             | 1,374102E+22 | 1,741519E+22 | 1,960828E+22 | 1,960851E+22 | 1,741598E+22 | 1,374186E+22 | 9,610388E+21 | 6,128921E+21 | 4,190547E+21 | 4,190526E+21 | 6,128921E+21 | 9,610526E+21 |
| -1368             | 1,374207E+22 | 1,741602E+22 | 1,960849E+22 | 1,960834E+22 | 1,741561E+22 | 1,374147E+22 | 9,610021E+21 | 6,128546E+21 | 4,190221E+21 | 4,190334E+21 | 6,128794E+21 | 9,610192E+21 |
| -1367             | 1,374146E+22 | 1,741534E+22 | 1,960786E+22 | 1,960817E+22 | 1,741585E+22 | 1,374183E+22 | 9,610372E+21 | 6,128749E+21 | 4,190168E+21 | 4,190035E+21 | 6,128393E+21 | 9,609971E+21 |
| -1366             | 1,374174E+22 | 1,741637E+22 | 1,960919E+22 | 1,960898E+22 | 1,741604E+22 | 1,374156E+22 | 9,609892E+21 | 6,128341E+21 | 4,189957E+21 | 4,190004E+21 | 6,128565E+21 | 9,610370E+21 |
| -1365             | 1,374212E+22 | 1,741642E+22 | 1,960897E+22 | 1,960857E+22 | 1,741577E+22 | 1,374159E+22 | 9,609999E+21 | 6,128342E+21 | 4,189873E+21 | 4,189903E+21 | 6,128337E+21 | 9,609811E+21 |
| -1364             | 1,374122E+22 | 1,741551E+22 | 1,960878E+22 | 1,960916E+22 | 1,741632E+22 | 1,374190E+22 | 9,610253E+21 | 6,128580E+21 | 4,190006E+21 | 4,189893E+21 | 6,128275E+21 | 9,609939E+21 |
| -1363             | 1,374189E+22 | 1,741655E+22 | 1,960942E+22 | 1,960935E+22 | 1,741627E+22 | 1,374157E+22 | 9,609790E+21 | 6,128246E+21 | 4,189940E+21 | 4,190105E+21 | 6,128724E+21 | 9,610332E+21 |
| -1362             | 1,374170E+22 | 1,741569E+22 | 1,960815E+22 | 1,960820E+22 | 1,741590E+22 | 1,374187E+22 | 9,610312E+21 | 6,128685E+21 | 4,190207E+21 | 4,190180E+21 | 6,128553E+21 | 9,609947E+21 |
| -1361             | 1,374118E+22 | 1,741530E+22 | 1,960832E+22 | 1,960855E+22 | 1,741606E+22 | 1,374201E+22 | 9,610522E+21 | 6,128961E+21 | 4,190500E+21 | 4,190427E+21 | 6,128774E+21 | 9,610376E+21 |
| -1360             | 1,374207E+22 | 1,741617E+22 | 1,960857E+22 | 1,960822E+22 | 1,741538E+22 | 1,374135E+22 | 9,610147E+21 | 6,128880E+21 | 4,190663E+21 | 4,190786E+21 | 6,129147E+21 | 9,610328E+21 |
| -1359             | 1,374136E+22 | 1,741505E+22 | 1,960731E+22 | 1,960740E+22 | 1,741515E+22 | 1,374151E+22 | 9,610586E+21 | 6,129423E+21 | 4,191092E+21 | 4,190995E+21 | 6,129121E+21 | 9,610125E+21 |
| -1358             | 1,374114E+22 | 1,741522E+22 | 1,960793E+22 | 1,960791E+22 | 1,741535E+22 | 1,374139E+22 | 9,610345E+21 | 6,129366E+21 | 4,191283E+21 | 4,191333E+21 | 6,129597E+21 | 9,610793E+21 |
| -1357             | 1,374177E+22 | 1,741531E+22 | 1,960743E+22 | 1,960714E+22 | 1,741478E+22 | 1,374121E+22 | 9,610372E+21 | 6,129419E+21 | 4,191388E+21 | 4,191524E+21 | 6,129725E+21 | 9,610564E+21 |
| -1356             | 1,374103E+22 | 1,741422E+22 | 1,960665E+22 | 1,960710E+22 | 1,741505E+22 | 1,374158E+22 | 9,610829E+21 | 6,129844E+21 | 4,191623E+21 | 4,191515E+21 | 6,129556E+21 | 9,610521E+21 |
| -1355             | 1,374156E+22 | 1,741536E+22 | 1,960759E+22 | 1,960744E+22 | 1,741499E+22 | 1,374125E+22 | 9,610415E+21 | 6,129555E+21 | 4,191551E+21 | 4,191658E+21 | 6,129912E+21 | 9,610929E+21 |
| -1354             | 1,374161E+22 | 1,741492E+22 | 1,960682E+22 | 1,960657E+22 | 1,741453E+22 | 1,374133E+22 | 9,610714E+21 | 6,129785E+21 | 4,191636E+21 | 4,191595E+21 | 6,129601E+21 | 9,610323E+21 |
| -1353             | 1,374083E+22 | 1,741431E+22 | 1,960700E+22 | 1,960732E+22 | 1,741513E+22 | 1,374166E+22 | 9,610892E+21 | 6,129887E+21 | 4,191646E+21 | 4,191507E+21 | 6,129503E+21 | 9,610458E+21 |
| -1352             | 1,374159E+22 | 1,741543E+22 | 1,960773E+22 | 1,960757E+22 | 1,741500E+22 | 1,374120E+22 | 9,610311E+21 | 6,129392E+21 | 4,191364E+21 | 4,191494E+21 | 6,129728E+21 | 9,610607E+21 |
| -1351             | 1,374121E+22 | 1,741460E+22 | 1,960673E+22 | 1,960689E+22 | 1,741495E+22 | 1,374151E+22 | 9,610631E+21 | 6,129514E+21 | 4,191246E+21 | 4,191174E+21 | 6,129293E+21 | 9,610252E+21 |
| -1350             | 1,374105E+22 | 1,741485E+22 | 1,960760E+22 | 1,960780E+22 | 1,741543E+22 | 1,374159E+22 | 9,610455E+21 | 6,129268E+21 | 4,191016E+21 | 4,190982E+21 | 6,129265E+21 | 9,610675E+21 |
| -1349             | 1,374202E+22 | 1,741574E+22 | 1,960790E+22 | 1,960762E+22 | 1,741508E+22 | 1,374129E+22 | 9,610174E+21 | 6,128936E+21 | 4,190716E+21 | 4,190817E+21 | 6,129161E+21 | 9,610340E+21 |
| -1348             | 1,374136E+22 | 1,741502E+22 | 1,960750E+22 | 1,960777E+22 | 1,741542E+22 | 1,374162E+22 | 9,610492E+21 | 6,129127E+21 | 4,190666E+21 | 4,190512E+21 | 6,128703E+21 | 9,609985E+21 |
| -1347             | 1,374150E+22 | 1,741602E+22 | 1,960881E+22 | 1,960863E+22 | 1,741574E+22 | 1,374143E+22 | 9,610050E+21 | 6,128748E+21 | 4,190485E+21 | 4,190551E+21 | 6,129007E+21 | 9,610474E+21 |
| -1346             | 1,374174E+22 | 1,741573E+22 | 1,960825E+22 | 1,960800E+22 | 1,741537E+22 | 1,374143E+22 | 9,610144E+21 | 6,128781E+21 | 4,190478E+21 | 4,190525E+21 | 6,128849E+21 | 9,610063E+21 |
| -1345             | 1,374106E+22 | 1,741483E+22 | 1,960782E+22 | 1,960833E+22 | 1,741593E+22 | 1,374193E+22 | 9,610536E+21 | 6,129060E+21 | 4,190624E+21 | 4,190524E+21 | 6,128769E+21 | 9,610128E+21 |

| 1                 | 2            | 3            | 4            | 5            | 6            | 7            | 8            | 9            | 10           | 11           | 12           | 13           |
|-------------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|
| Longitude $\odot$ | 0° - 30°     | 30° - 60°    | 60° - 90°    | 90° - 120°   | 120° - 150°  | 150° - 180°  | 180° - 210°  | 210° - 240°  | 240° - 270°  | 270° - 300°  | 300° - 330°  | 330° - 360°  |
| Years             |              |              |              |              |              |              |              |              |              |              |              |              |
| -1344             | 1,374172E+22 | 1,741597E+22 | 1,960848E+22 | 1,960841E+22 | 1,741571E+22 | 1,374150E+22 | 9,610120E+21 | 6,128815E+21 | 4,190615E+21 | 4,190755E+21 | 6,129196E+21 | 9,610510E+21 |
| -1343             | 1,374161E+22 | 1,741530E+22 | 1,960737E+22 | 1,960724E+22 | 1,741510E+22 | 1,374153E+22 | 9,610475E+21 | 6,129202E+21 | 4,190880E+21 | 4,190842E+21 | 6,129045E+21 | 9,610139E+21 |
| -1342             | 1,374107E+22 | 1,741490E+22 | 1,960764E+22 | 1,960776E+22 | 1,741533E+22 | 1,374158E+22 | 9,610597E+21 | 6,129474E+21 | 4,191207E+21 | 4,191114E+21 | 6,129260E+21 | 9,610471E+21 |
| -1341             | 1,374175E+22 | 1,741555E+22 | 1,960779E+22 | 1,960748E+22 | 1,741482E+22 | 1,374109E+22 | 9,610273E+21 | 6,129372E+21 | 4,191356E+21 | 4,191509E+21 | 6,129743E+21 | 9,610583E+21 |
| -1340             | 1,374110E+22 | 1,741436E+22 | 1,960657E+22 | 1,960683E+22 | 1,741475E+22 | 1,374135E+22 | 9,610712E+21 | 6,129841E+21 | 4,191699E+21 | 4,191632E+21 | 6,129636E+21 | 9,610356E+21 |
| -1339             | 1,374099E+22 | 1,741471E+22 | 1,960720E+22 | 1,960724E+22 | 1,741493E+22 | 1,374132E+22 | 9,610585E+21 | 6,129819E+21 | 4,191851E+21 | 4,191932E+21 | 6,130117E+21 | 9,611048E+21 |
| -1338             | 1,374161E+22 | 1,741473E+22 | 1,960660E+22 | 1,960633E+22 | 1,741420E+22 | 1,374105E+22 | 9,610608E+21 | 6,129933E+21 | 4,192016E+21 | 4,192127E+21 | 6,130181E+21 | 9,610788E+21 |
| -1337             | 1,374098E+22 | 1,741381E+22 | 1,960585E+22 | 1,960623E+22 | 1,741454E+22 | 1,374155E+22 | 9,611122E+21 | 6,130369E+21 | 4,192258E+21 | 4,192112E+21 | 6,129942E+21 | 9,610547E+21 |
| -1336             | 1,374128E+22 | 1,741492E+22 | 1,960698E+22 | 1,960675E+22 | 1,741447E+22 | 1,374112E+22 | 9,610693E+21 | 6,130109E+21 | 4,192214E+21 | 4,192282E+21 | 6,130322E+21 | 9,610981E+21 |
| -1335             | 1,374134E+22 | 1,741441E+22 | 1,960619E+22 | 1,960595E+22 | 1,741397E+22 | 1,374101E+22 | 9,610778E+21 | 6,130196E+21 | 4,192223E+21 | 4,192203E+21 | 6,130086E+21 | 9,610519E+21 |
| -1334             | 1,374063E+22 | 1,741373E+22 | 1,960621E+22 | 1,960667E+22 | 1,741468E+22 | 1,374139E+22 | 9,610926E+21 | 6,130245E+21 | 4,192180E+21 | 4,192059E+21 | 6,129956E+21 | 9,610658E+21 |
| -1333             | 1,374139E+22 | 1,741484E+22 | 1,960689E+22 | 1,960682E+22 | 1,741455E+22 | 1,374108E+22 | 9,610463E+21 | 6,129749E+21 | 4,191842E+21 | 4,192001E+21 | 6,130185E+21 | 9,610906E+21 |
| -1332             | 1,374118E+22 | 1,741420E+22 | 1,960613E+22 | 1,960628E+22 | 1,741446E+22 | 1,374133E+22 | 9,610758E+21 | 6,129846E+21 | 4,191670E+21 | 4,191583E+21 | 6,129591E+21 | 9,610372E+21 |
| -1331             | 1,374102E+22 | 1,741471E+22 | 1,960722E+22 | 1,960725E+22 | 1,741496E+22 | 1,374142E+22 | 9,610625E+21 | 6,129643E+21 | 4,191467E+21 | 4,191424E+21 | 6,129593E+21 | 9,610736E+21 |
| -1330             | 1,374179E+22 | 1,741537E+22 | 1,960747E+22 | 1,960713E+22 | 1,741459E+22 | 1,374102E+22 | 9,610285E+21 | 6,129351E+21 | 4,191263E+21 | 4,191344E+21 | 6,129531E+21 | 9,610438E+21 |
| -1329             | 1,374114E+22 | 1,741453E+22 | 1,960684E+22 | 1,960724E+22 | 1,741517E+22 | 1,374159E+22 | 9,610660E+21 | 6,129534E+21 | 4,191226E+21 | 4,191081E+21 | 6,129117E+21 | 9,610048E+21 |
| -1328             | 1,374116E+22 | 1,741542E+22 | 1,960809E+22 | 1,960806E+22 | 1,741547E+22 | 1,374145E+22 | 9,610308E+21 | 6,129213E+21 | 4,191075E+21 | 4,191144E+21 | 6,129464E+21 | 9,610669E+21 |
| -1327             | 1,374159E+22 | 1,741518E+22 | 1,960743E+22 | 1,960723E+22 | 1,741481E+22 | 1,374122E+22 | 9,610301E+21 | 6,129202E+21 | 4,191042E+21 | 4,191111E+21 | 6,129337E+21 | 9,610343E+21 |
| -1326             | 1,374102E+22 | 1,741435E+22 | 1,960692E+22 | 1,960746E+22 | 1,741532E+22 | 1,374167E+22 | 9,610703E+21 | 6,129551E+21 | 4,191242E+21 | 4,191115E+21 | 6,129208E+21 | 9,610284E+21 |
| -1325             | 1,374154E+22 | 1,741550E+22 | 1,960768E+22 | 1,960752E+22 | 1,741506E+22 | 1,374129E+22 | 9,610343E+21 | 6,129341E+21 | 4,191277E+21 | 4,191409E+21 | 6,129700E+21 | 9,610704E+21 |
| -1324             | 1,374140E+22 | 1,741481E+22 | 1,960678E+22 | 1,960659E+22 | 1,741445E+22 | 1,374121E+22 | 9,610610E+21 | 6,129690E+21 | 4,191537E+21 | 4,191495E+21 | 6,129522E+21 | 9,610263E+21 |
| -1323             | 1,374081E+22 | 1,741442E+22 | 1,960701E+22 | 1,960715E+22 | 1,741483E+22 | 1,374134E+22 | 9,610735E+21 | 6,129945E+21 | 4,191859E+21 | 4,191810E+21 | 6,129849E+21 | 9,610699E+21 |
| -1322             | 1,374144E+22 | 1,741482E+22 | 1,960688E+22 | 1,960669E+22 | 1,741428E+22 | 1,374086E+22 | 9,610412E+21 | 6,129856E+21 | 4,192038E+21 | 4,192215E+21 | 6,130331E+21 | 9,610924E+21 |
| -1321             | 1,374104E+22 | 1,741377E+22 | 1,960555E+22 | 1,960589E+22 | 1,741428E+22 | 1,374133E+22 | 9,610972E+21 | 6,130340E+21 | 4,192347E+21 | 4,192284E+21 | 6,130132E+21 | 9,610564E+21 |
| -1320             | 1,374087E+22 | 1,741425E+22 | 1,960640E+22 | 1,960639E+22 | 1,741438E+22 | 1,374123E+22 | 9,610908E+21 | 6,130398E+21 | 4,192526E+21 | 4,192555E+21 | 6,130535E+21 | 9,611193E+21 |
| -1319             | 1,374151E+22 | 1,741437E+22 | 1,960595E+22 | 1,960554E+22 | 1,741351E+22 | 1,374074E+22 | 9,610772E+21 | 6,130439E+21 | 4,192664E+21 | 4,192745E+21 | 6,130606E+21 | 9,610898E+21 |
| -1318             | 1,374079E+22 | 1,741339E+22 | 1,960524E+22 | 1,960562E+22 | 1,741399E+22 | 1,374122E+22 | 9,611241E+21 | 6,130863E+21 | 4,192903E+21 | 4,192729E+21 | 6,130364E+21 | 9,610577E+21 |
| -1317             | 1,374086E+22 | 1,741426E+22 | 1,960625E+22 | 1,960614E+22 | 1,741408E+22 | 1,374098E+22 | 9,610851E+21 | 6,130549E+21 | 4,192812E+21 | 4,192903E+21 | 6,130825E+21 | 9,611168E+21 |
| -1316             | 1,374103E+22 | 1,741375E+22 | 1,960549E+22 | 1,960540E+22 | 1,741362E+22 | 1,374089E+22 | 9,610911E+21 | 6,130553E+21 | 4,192719E+21 | 4,192721E+21 | 6,130514E+21 | 9,610730E+21 |
| -1315             | 1,374052E+22 | 1,741329E+22 | 1,960553E+22 | 1,960602E+22 | 1,741427E+22 | 1,374129E+22 | 9,611107E+21 | 6,130603E+21 | 4,192632E+21 | 4,192542E+21 | 6,130388E+21 | 9,610895E+21 |
| -1314             | 1,374128E+22 | 1,741436E+22 | 1,960612E+22 | 1,960605E+22 | 1,741401E+22 | 1,374088E+22 | 9,610624E+21 | 6,130160E+21 | 4,192352E+21 | 4,192487E+21 | 6,130558E+21 | 9,611133E+21 |
| -1313             | 1,374121E+22 | 1,741395E+22 | 1,960551E+22 | 1,960555E+22 | 1,741402E+22 | 1,374124E+22 | 9,610944E+21 | 6,130257E+21 | 4,192190E+21 | 4,192081E+21 | 6,129922E+21 | 9,610420E+21 |
| -1312             | 1,374082E+22 | 1,741440E+22 | 1,960680E+22 | 1,960674E+22 | 1,741451E+22 | 1,374124E+22 | 9,610806E+21 | 6,130097E+21 | 4,192035E+21 | 4,191962E+21 | 6,129952E+21 | 9,610811E+21 |
| -1311             | 1,374156E+22 | 1,741490E+22 | 1,960691E+22 | 1,960664E+22 | 1,741415E+22 | 1,374073E+22 | 9,610316E+21 | 6,129705E+21 | 4,191799E+21 | 4,191908E+21 | 6,129986E+21 | 9,610641E+21 |
| -1310             | 1,374098E+22 | 1,741402E+22 | 1,960610E+22 | 1,960662E+22 | 1,741477E+22 | 1,374138E+22 | 9,610740E+21 | 6,129905E+21 | 4,191756E+21 | 4,191631E+21 | 6,129560E+21 | 9,610232E+21 |
| -1309             | 1,374093E+22 | 1,741479E+22 | 1,960720E+22 | 1,960725E+22 | 1,741502E+22 | 1,374138E+22 | 9,610535E+21 | 6,129645E+21 | 4,191620E+21 | 4,191700E+21 | 6,129918E+21 | 9,610904E+21 |

| 1                 | 2            | 3            | 4            | 5            | 6            | 7            | 8            | 9            | 10           | 11           | 12           | 13           |
|-------------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|
| Longitude $\odot$ | 0° - 30°     | 30° - 60°    | 60° - 90°    | 90° - 120°   | 120° - 150°  | 150° - 180°  | 180° - 210°  | 210° - 240°  | 240° - 270°  | 270° - 300°  | 300° - 330°  | 330° - 360°  |
| Years             |              |              |              |              |              |              |              |              |              |              |              |              |
| -1308             | 1,374147E+22 | 1,741472E+22 | 1,960674E+22 | 1,960650E+22 | 1,741428E+22 | 1,374105E+22 | 9,610497E+21 | 6,129649E+21 | 4,191591E+21 | 4,191633E+21 | 6,129707E+21 | 9,610474E+21 |
| -1307             | 1,374092E+22 | 1,741407E+22 | 1,960635E+22 | 1,960672E+22 | 1,741472E+22 | 1,374144E+22 | 9,610901E+21 | 6,130035E+21 | 4,191846E+21 | 4,191716E+21 | 6,129655E+21 | 9,610390E+21 |
| -1306             | 1,374122E+22 | 1,741490E+22 | 1,960697E+22 | 1,960680E+22 | 1,741444E+22 | 1,374098E+22 | 9,610490E+21 | 6,129867E+21 | 4,191974E+21 | 4,192095E+21 | 6,130217E+21 | 9,610904E+21 |
| -1305             | 1,374118E+22 | 1,741421E+22 | 1,960592E+22 | 1,960583E+22 | 1,741404E+22 | 1,374109E+22 | 9,610778E+21 | 6,130180E+21 | 4,192224E+21 | 4,192205E+21 | 6,130067E+21 | 9,610436E+21 |
| -1304             | 1,374052E+22 | 1,741380E+22 | 1,960620E+22 | 1,960639E+22 | 1,741437E+22 | 1,374125E+22 | 9,610986E+21 | 6,130479E+21 | 4,192548E+21 | 4,192500E+21 | 6,130384E+21 | 9,610975E+21 |
| -1303             | 1,374134E+22 | 1,741427E+22 | 1,960602E+22 | 1,960585E+22 | 1,741367E+22 | 1,374061E+22 | 9,610579E+21 | 6,130343E+21 | 4,192689E+21 | 4,192876E+21 | 6,130858E+21 | 9,611216E+21 |
| -1302             | 1,374103E+22 | 1,741337E+22 | 1,960474E+22 | 1,960504E+22 | 1,741368E+22 | 1,374107E+22 | 9,611169E+21 | 6,130877E+21 | 4,193013E+21 | 4,192914E+21 | 6,130574E+21 | 9,610686E+21 |
| -1301             | 1,374064E+22 | 1,741377E+22 | 1,960569E+22 | 1,960561E+22 | 1,741383E+22 | 1,374108E+22 | 9,611170E+21 | 6,130954E+21 | 4,193208E+21 | 4,193212E+21 | 6,131004E+21 | 9,611310E+21 |
| -1300             | 1,374120E+22 | 1,741384E+22 | 1,960542E+22 | 1,960501E+22 | 1,741302E+22 | 1,374049E+22 | 9,610926E+21 | 6,130921E+21 | 4,193295E+21 | 4,193365E+21 | 6,131054E+21 | 9,610994E+21 |
| -1299             | 1,374047E+22 | 1,741283E+22 | 1,960458E+22 | 1,960504E+22 | 1,741361E+22 | 1,374106E+22 | 9,611377E+21 | 6,131278E+21 | 4,193486E+21 | 4,193361E+21 | 6,130906E+21 | 9,610791E+21 |
| -1298             | 1,374053E+22 | 1,741348E+22 | 1,960531E+22 | 1,960535E+22 | 1,741361E+22 | 1,374083E+22 | 9,611001E+21 | 6,130963E+21 | 4,193383E+21 | 4,193498E+21 | 6,131336E+21 | 9,611503E+21 |
| -1297             | 1,374101E+22 | 1,741322E+22 | 1,960452E+22 | 1,960447E+22 | 1,741316E+22 | 1,374084E+22 | 9,611111E+21 | 6,130956E+21 | 4,193238E+21 | 4,193243E+21 | 6,130914E+21 | 9,610919E+21 |
| -1296             | 1,374047E+22 | 1,741299E+22 | 1,960491E+22 | 1,960525E+22 | 1,741372E+22 | 1,374114E+22 | 9,611323E+21 | 6,131057E+21 | 4,193165E+21 | 4,193024E+21 | 6,130707E+21 | 9,611044E+21 |
| -1295             | 1,374128E+22 | 1,741414E+22 | 1,960565E+22 | 1,960540E+22 | 1,741337E+22 | 1,374051E+22 | 9,610670E+21 | 6,130529E+21 | 4,192862E+21 | 4,192981E+21 | 6,130895E+21 | 9,611232E+21 |
| -1294             | 1,374109E+22 | 1,741366E+22 | 1,960508E+22 | 1,960508E+22 | 1,741356E+22 | 1,374092E+22 | 9,610979E+21 | 6,130622E+21 | 4,192697E+21 | 4,192581E+21 | 6,130266E+21 | 9,610452E+21 |
| -1293             | 1,374048E+22 | 1,741386E+22 | 1,960623E+22 | 1,960629E+22 | 1,741426E+22 | 1,374116E+22 | 9,610931E+21 | 6,130450E+21 | 4,192532E+21 | 4,192485E+21 | 6,130373E+21 | 9,610963E+21 |
| -1292             | 1,374127E+22 | 1,741434E+22 | 1,960634E+22 | 1,960617E+22 | 1,741386E+22 | 1,374066E+22 | 9,610460E+21 | 6,130041E+21 | 4,192253E+21 | 4,192377E+21 | 6,130356E+21 | 9,610804E+21 |
| -1291             | 1,374084E+22 | 1,741359E+22 | 1,960543E+22 | 1,960596E+22 | 1,741439E+22 | 1,374133E+22 | 9,610964E+21 | 6,130302E+21 | 4,192250E+21 | 4,192148E+21 | 6,129984E+21 | 9,610411E+21 |
| -1290             | 1,374073E+22 | 1,741420E+22 | 1,960635E+22 | 1,960639E+22 | 1,741446E+22 | 1,374122E+22 | 9,610768E+21 | 6,130152E+21 | 4,192233E+21 | 4,192278E+21 | 6,130333E+21 | 9,611083E+21 |
| -1289             | 1,374137E+22 | 1,741430E+22 | 1,960594E+22 | 1,960561E+22 | 1,741373E+22 | 1,374092E+22 | 9,610732E+21 | 6,130183E+21 | 4,192264E+21 | 4,192280E+21 | 6,130147E+21 | 9,610552E+21 |
| -1288             | 1,374063E+22 | 1,741358E+22 | 1,960575E+22 | 1,960604E+22 | 1,741414E+22 | 1,374118E+22 | 9,611094E+21 | 6,130601E+21 | 4,192573E+21 | 4,192419E+21 | 6,130166E+21 | 9,610588E+21 |
| -1287             | 1,374100E+22 | 1,741426E+22 | 1,960616E+22 | 1,960605E+22 | 1,741384E+22 | 1,374062E+22 | 9,610534E+21 | 6,130323E+21 | 4,192663E+21 | 4,192825E+21 | 6,130821E+21 | 9,611226E+21 |
| -1286             | 1,374108E+22 | 1,741364E+22 | 1,960505E+22 | 1,960500E+22 | 1,741348E+22 | 1,374082E+22 | 9,610894E+21 | 6,130643E+21 | 4,192875E+21 | 4,192887E+21 | 6,130625E+21 | 9,610708E+21 |
| -1285             | 1,374037E+22 | 1,741322E+22 | 1,960532E+22 | 1,960551E+22 | 1,741384E+22 | 1,374113E+22 | 9,611226E+21 | 6,130982E+21 | 4,193195E+21 | 4,193156E+21 | 6,130900E+21 | 9,611216E+21 |
| -1284             | 1,374121E+22 | 1,741385E+22 | 1,960540E+22 | 1,960512E+22 | 1,741313E+22 | 1,374043E+22 | 9,610796E+21 | 6,130851E+21 | 4,193321E+21 | 4,193475E+21 | 6,131265E+21 | 9,611324E+21 |
| -1283             | 1,374086E+22 | 1,741303E+22 | 1,960422E+22 | 1,960438E+22 | 1,741317E+22 | 1,374090E+22 | 9,611389E+21 | 6,131388E+21 | 4,193669E+21 | 4,193571E+21 | 6,131047E+21 | 9,610762E+21 |
| -1282             | 1,374022E+22 | 1,741301E+22 | 1,960489E+22 | 1,960492E+22 | 1,741335E+22 | 1,374089E+22 | 9,611370E+21 | 6,131493E+21 | 4,193906E+21 | 4,193897E+21 | 6,131510E+21 | 9,611477E+21 |
| -1281             | 1,374093E+22 | 1,741316E+22 | 1,960448E+22 | 1,960424E+22 | 1,741270E+22 | 1,374047E+22 | 9,611138E+21 | 6,131399E+21 | 4,193935E+21 | 4,194022E+21 | 6,131567E+21 | 9,611181E+21 |
| -1280             | 1,374022E+22 | 1,741220E+22 | 1,960376E+22 | 1,960422E+22 | 1,741311E+22 | 1,374096E+22 | 9,611614E+21 | 6,131755E+21 | 4,194078E+21 | 4,193942E+21 | 6,131369E+21 | 9,611081E+21 |
| -1279             | 1,374051E+22 | 1,741294E+22 | 1,960445E+22 | 1,960446E+22 | 1,741296E+22 | 1,374055E+22 | 9,611108E+21 | 6,131357E+21 | 4,193911E+21 | 4,194031E+21 | 6,131766E+21 | 9,611775E+21 |
| -1278             | 1,374110E+22 | 1,741299E+22 | 1,960390E+22 | 1,960369E+22 | 1,741252E+22 | 1,374053E+22 | 9,611208E+21 | 6,131349E+21 | 4,193742E+21 | 4,193730E+21 | 6,131254E+21 | 9,611017E+21 |
| -1277             | 1,374034E+22 | 1,741271E+22 | 1,960447E+22 | 1,960464E+22 | 1,741320E+22 | 1,374092E+22 | 9,611448E+21 | 6,131444E+21 | 4,193678E+21 | 4,193530E+21 | 6,131061E+21 | 9,611108E+21 |
| -1276             | 1,374103E+22 | 1,741379E+22 | 1,960538E+22 | 1,960508E+22 | 1,741304E+22 | 1,374029E+22 | 9,610722E+21 | 6,130862E+21 | 4,193337E+21 | 4,193457E+21 | 6,131233E+21 | 9,611291E+21 |
| -1275             | 1,374085E+22 | 1,741324E+22 | 1,960463E+22 | 1,960470E+22 | 1,741335E+22 | 1,374082E+22 | 9,611065E+21 | 6,130922E+21 | 4,193159E+21 | 4,193095E+21 | 6,130695E+21 | 9,610599E+21 |
| -1274             | 1,374016E+22 | 1,741310E+22 | 1,960538E+22 | 1,960562E+22 | 1,741393E+22 | 1,374113E+22 | 9,611130E+21 | 6,130843E+21 | 4,193041E+21 | 4,193002E+21 | 6,130786E+21 | 9,611184E+21 |
| -1273             | 1,374119E+22 | 1,741380E+22 | 1,960544E+22 | 1,960532E+22 | 1,741348E+22 | 1,374068E+22 | 9,610723E+21 | 6,130490E+21 | 4,192793E+21 | 4,192897E+21 | 6,130725E+21 | 9,610918E+21 |



| 1<br>Longitude ☉<br>Years | 2<br>0° - 30° | 3<br>30° - 60° | 4<br>60° - 90° | 5<br>90° - 120° | 6<br>120° - 150° | 7<br>150° - 180° | 8<br>180° - 210° | 9<br>210° - 240° | 10<br>240° - 270° | 11<br>270° - 300° | 12<br>300° - 330° | 13<br>330° - 360° |
|---------------------------|---------------|----------------|----------------|-----------------|------------------|------------------|------------------|------------------|-------------------|-------------------|-------------------|-------------------|
| -1272                     | 1,374069E+22  | 1,741319E+22   | 1,960479E+22   | 1,960513E+22    | 1,741379E+22     | 1,374118E+22     | 9,611233E+21     | 6,130837E+21     | 4,192871E+21      | 4,192708E+21      | 6,130358E+21      | 9,610556E+21      |
| -1271                     | 1,374062E+22  | 1,741375E+22   | 1,960569E+22   | 1,960559E+22    | 1,741375E+22     | 1,374085E+22     | 9,610865E+21     | 6,130627E+21     | 4,192883E+21      | 4,192923E+21      | 6,130801E+21      | 9,611244E+21      |
| -1270                     | 1,374122E+22  | 1,741384E+22   | 1,960529E+22   | 1,960493E+22    | 1,741314E+22     | 1,374055E+22     | 9,610798E+21     | 6,130644E+21     | 4,192916E+21      | 4,192955E+21      | 6,130669E+21      | 9,610712E+21      |
| -1269                     | 1,374034E+22  | 1,741295E+22   | 1,960500E+22   | 1,960536E+22    | 1,741371E+22     | 1,374101E+22     | 9,611220E+21     | 6,131036E+21     | 4,193211E+21      | 4,193106E+21      | 6,130744E+21      | 9,610866E+21      |
| -1268                     | 1,374081E+22  | 1,741370E+22   | 1,960550E+22   | 1,960539E+22    | 1,741338E+22     | 1,374046E+22     | 9,610684E+21     | 6,130745E+21     | 4,193246E+21      | 4,193435E+21      | 6,131318E+21      | 9,611489E+21      |
| -1267                     | 1,374102E+22  | 1,741321E+22   | 1,960436E+22   | 1,960428E+22    | 1,741302E+22     | 1,374072E+22     | 9,611112E+21     | 6,131105E+21     | 4,193484E+21      | 4,193521E+21      | 6,131126E+21      | 9,610915E+21      |
| -1266                     | 1,374019E+22  | 1,741263E+22   | 1,960447E+22   | 1,960464E+22    | 1,741329E+22     | 1,374102E+22     | 9,611515E+21     | 6,131560E+21     | 4,193894E+21      | 4,193818E+21      | 6,131362E+21      | 9,611367E+21      |
| -1265                     | 1,374105E+22  | 1,741336E+22   | 1,960459E+22   | 1,960426E+22    | 1,741262E+22     | 1,374035E+22     | 9,611088E+21     | 6,131446E+21     | 4,194053E+21      | 4,194172E+21      | 6,131729E+21      | 9,611367E+21      |
| -1264                     | 1,374048E+22  | 1,741241E+22   | 1,960354E+22   | 1,960368E+22    | 1,741264E+22     | 1,374072E+22     | 9,611639E+21     | 6,131986E+21     | 4,194413E+21      | 4,194283E+21      | 6,131573E+21      | 9,610972E+21      |
| -1263                     | 1,373998E+22  | 1,741223E+22   | 1,960392E+22   | 1,960407E+22    | 1,741275E+22     | 1,374059E+22     | 9,611451E+21     | 6,131946E+21     | 4,194570E+21      | 4,194596E+21      | 6,132085E+21      | 9,611777E+21      |
| -1262                     | 1,374083E+22  | 1,741254E+22   | 1,960352E+22   | 1,960329E+22    | 1,741204E+22     | 1,374020E+22     | 9,611268E+21     | 6,131827E+21     | 4,194512E+21      | 4,194624E+21      | 6,132065E+21      | 9,611441E+21      |
| -1261                     | 1,374014E+22  | 1,741172E+22   | 1,960296E+22   | 1,960336E+22    | 1,741251E+22     | 1,374076E+22     | 9,611772E+21     | 6,132165E+21     | 4,194611E+21      | 4,194479E+21      | 6,131793E+21      | 9,611290E+21      |
| -1260                     | 1,374047E+22  | 1,741271E+22   | 1,960404E+22   | 1,960382E+22    | 1,741237E+22     | 1,374027E+22     | 9,611205E+21     | 6,131728E+21     | 4,194394E+21      | 4,194487E+21      | 6,132067E+21      | 9,611840E+21      |
| -1259                     | 1,374099E+22  | 1,741281E+22   | 1,960366E+22   | 1,960329E+22    | 1,741211E+22     | 1,374031E+22     | 9,611289E+21     | 6,131684E+21     | 4,194227E+21      | 4,194230E+21      | 6,131602E+21      | 9,611028E+21      |
| -1258                     | 1,373999E+22  | 1,741213E+22   | 1,960393E+22   | 1,960423E+22    | 1,741292E+22     | 1,374080E+22     | 9,611576E+21     | 6,131826E+21     | 4,194198E+21      | 4,194051E+21      | 6,131436E+21      | 9,611188E+21      |
| -1257                     | 1,374077E+22  | 1,741320E+22   | 1,960463E+22   | 1,960455E+22    | 1,741291E+22     | 1,374038E+22     | 9,610927E+21     | 6,131245E+21     | 4,193843E+21      | 4,193969E+21      | 6,131611E+21      | 9,611374E+21      |
| -1256                     | 1,374056E+22  | 1,741265E+22   | 1,960395E+22   | 1,960409E+22    | 1,741301E+22     | 1,374084E+22     | 9,611342E+21     | 6,131374E+21     | 4,193687E+21      | 4,193596E+21      | 6,131086E+21      | 9,610836E+21      |
| -1255                     | 1,374010E+22  | 1,741249E+22   | 1,960448E+22   | 1,960477E+22    | 1,741336E+22     | 1,374093E+22     | 9,611294E+21     | 6,131272E+21     | 4,193589E+21      | 4,193546E+21      | 6,131204E+21      | 9,611390E+21      |
| -1254                     | 1,374118E+22  | 1,741345E+22   | 1,960473E+22   | 1,960445E+22    | 1,741279E+22     | 1,374041E+22     | 9,610902E+21     | 6,130959E+21     | 4,193370E+21      | 4,193466E+21      | 6,131145E+21      | 9,611043E+21      |
| -1253                     | 1,374052E+22  | 1,741278E+22   | 1,960422E+22   | 1,960441E+22    | 1,741314E+22     | 1,374089E+22     | 9,611368E+21     | 6,131297E+21     | 4,193492E+21      | 4,193344E+21      | 6,130850E+21      | 9,610708E+21      |
| -1252                     | 1,374038E+22  | 1,741331E+22   | 1,960522E+22   | 1,960504E+22    | 1,741322E+22     | 1,374053E+22     | 9,610907E+21     | 6,131024E+21     | 4,193475E+21      | 4,193547E+21      | 6,131303E+21      | 9,611450E+21      |
| -1251                     | 1,374107E+22  | 1,741337E+22   | 1,960469E+22   | 1,960434E+22    | 1,741275E+22     | 1,374037E+22     | 9,610862E+21     | 6,130995E+21     | 4,193493E+21      | 4,193611E+21      | 6,131232E+21      | 9,610976E+21      |
| -1250                     | 1,374014E+22  | 1,741224E+22   | 1,960406E+22   | 1,960452E+22    | 1,741324E+22     | 1,374092E+22     | 9,611434E+21     | 6,131498E+21     | 4,193824E+21      | 4,193734E+21      | 6,131246E+21      | 9,611134E+21      |
| -1249                     | 1,374078E+22  | 1,741321E+22   | 1,960458E+22   | 1,960451E+22    | 1,741296E+22     | 1,374046E+22     | 9,610994E+21     | 6,131293E+21     | 4,193903E+21      | 4,194053E+21      | 6,131740E+21      | 9,611597E+21      |
| -1248                     | 1,374084E+22  | 1,741279E+22   | 1,960374E+22   | 1,960349E+22    | 1,741242E+22     | 1,374057E+22     | 9,611436E+21     | 6,131735E+21     | 4,194212E+21      | 4,194170E+21      | 6,131551E+21      | 9,611041E+21      |
| -1247                     | 1,373997E+22  | 1,741199E+22   | 1,960366E+22   | 1,960382E+22    | 1,741261E+22     | 1,374071E+22     | 9,611692E+21     | 6,132128E+21     | 4,194638E+21      | 4,194546E+21      | 6,131877E+21      | 9,611478E+21      |
| -1246                     | 1,374076E+22  | 1,741273E+22   | 1,960380E+22   | 1,960350E+22    | 1,741202E+22     | 1,374008E+22     | 9,611253E+21     | 6,131973E+21     | 4,194754E+21      | 4,194892E+21      | 6,132288E+21      | 9,611530E+21      |
| -1245                     | 1,374014E+22  | 1,741168E+22   | 1,960266E+22   | 1,960285E+22    | 1,741210E+22     | 1,374055E+22     | 9,611811E+21     | 6,132451E+21     | 4,195061E+21      | 4,194972E+21      | 6,132153E+21      | 9,611244E+21      |
| -1244                     | 1,373980E+22  | 1,741166E+22   | 1,960316E+22   | 1,960327E+22    | 1,741217E+22     | 1,374038E+22     | 9,611586E+21     | 6,132349E+21     | 4,195119E+21      | 4,195164E+21      | 6,132553E+21      | 9,612037E+21      |
| -1243                     | 1,374084E+22  | 1,741221E+22   | 1,960287E+22   | 1,960257E+22    | 1,741152E+22     | 1,374000E+22     | 9,611384E+21     | 6,132198E+21     | 4,195037E+21      | 4,195171E+21      | 6,132491E+21      | 9,611614E+21      |
| -1242                     | 1,374003E+22  | 1,741130E+22   | 1,960229E+22   | 1,960263E+22    | 1,741198E+22     | 1,374058E+22     | 9,611949E+21     | 6,132604E+21     | 4,195166E+21      | 4,195008E+21      | 6,132160E+21      | 9,611400E+21      |
| -1241                     | 1,374035E+22  | 1,741237E+22   | 1,960350E+22   | 1,960329E+22    | 1,741203E+22     | 1,374017E+22     | 9,611394E+21     | 6,132174E+21     | 4,194958E+21      | 4,195024E+21      | 6,132420E+21      | 9,611843E+21      |
| -1240                     | 1,374065E+22  | 1,741231E+22   | 1,960323E+22   | 1,960291E+22    | 1,741181E+22     | 1,374020E+22     | 9,611467E+21     | 6,132126E+21     | 4,194789E+21      | 4,194768E+21      | 6,132011E+21      | 9,611201E+21      |
| -1239                     | 1,373977E+22  | 1,741143E+22   | 1,960310E+22   | 1,960358E+22    | 1,741254E+22     | 1,374066E+22     | 9,611680E+21     | 6,132181E+21     | 4,194717E+21      | 4,194606E+21      | 6,131895E+21      | 9,611404E+21      |
| -1238                     | 1,374065E+22  | 1,741267E+22   | 1,960380E+22   | 1,960374E+22    | 1,741238E+22     | 1,374024E+22     | 9,611123E+21     | 6,131632E+21     | 4,194327E+21      | 4,194471E+21      | 6,132017E+21      | 9,611553E+21      |
| -1237                     | 1,374046E+22  | 1,741221E+22   | 1,960321E+22   | 1,960327E+22    | 1,741244E+22     | 1,374069E+22     | 9,611542E+21     | 6,131792E+21     | 4,194206E+21      | 4,194111E+21      | 6,131486E+21      | 9,611004E+21      |

| 1<br>Longitude $\odot$<br>Years | 2<br>0° - 30° | 3<br>30° - 60° | 4<br>60° - 90° | 5<br>90° - 120° | 6<br>120° - 150° | 7<br>150° - 180° | 8<br>180° - 210° | 9<br>210° - 240° | 10<br>240° - 270° | 11<br>270° - 300° | 12<br>300° - 330° | 13<br>330° - 360° |
|---------------------------------|---------------|----------------|----------------|-----------------|------------------|------------------|------------------|------------------|-------------------|-------------------|-------------------|-------------------|
| -1236                           | 1,374003E+22  | 1,741222E+22   | 1,960398E+22   | 1,960406E+22    | 1,741272E+22     | 1,374064E+22     | 9,611402E+21     | 6,131668E+21     | 4,194107E+21      | 4,194049E+21      | 6,131564E+21      | 9,611493E+21      |
| -1235                           | 1,374106E+22  | 1,741316E+22   | 1,960431E+22   | 1,960394E+22    | 1,741230E+22     | 1,374013E+22     | 9,610956E+21     | 6,131322E+21     | 4,193921E+21      | 4,194052E+21      | 6,131593E+21      | 9,611155E+21      |
| -1234                           | 1,374023E+22  | 1,741218E+22   | 1,960354E+22   | 1,960385E+22    | 1,741274E+22     | 1,374071E+22     | 9,611478E+21     | 6,131705E+21     | 4,194076E+21      | 4,193956E+21      | 6,131345E+21      | 9,610918E+21      |
| -1233                           | 1,374022E+22  | 1,741275E+22   | 1,960440E+22   | 1,960437E+22    | 1,741290E+22     | 1,374050E+22     | 9,611110E+21     | 6,131463E+21     | 4,194063E+21      | 4,194147E+21      | 6,131768E+21      | 9,611614E+21      |
| -1232                           | 1,374085E+22  | 1,741282E+22   | 1,960399E+22   | 1,960368E+22    | 1,741231E+22     | 1,374032E+22     | 9,611152E+21     | 6,131520E+21     | 4,194120E+21      | 4,194203E+21      | 6,131694E+21      | 9,611244E+21      |
| -1231                           | 1,374008E+22  | 1,741166E+22   | 1,960314E+22   | 1,960362E+22    | 1,741262E+22     | 1,374073E+22     | 9,611652E+21     | 6,132030E+21     | 4,194499E+21      | 4,194390E+21      | 6,131718E+21      | 9,611291E+21      |
| -1230                           | 1,374066E+22  | 1,741278E+22   | 1,960380E+22   | 1,960358E+22    | 1,741222E+22     | 1,374023E+22     | 9,611273E+21     | 6,131888E+21     | 4,194619E+21      | 4,194740E+21      | 6,132212E+21      | 9,611668E+21      |
| -1229                           | 1,374051E+22  | 1,741221E+22   | 1,960304E+22   | 1,960275E+22    | 1,741178E+22     | 1,374032E+22     | 9,611662E+21     | 6,132323E+21     | 4,194972E+21      | 4,194928E+21      | 6,132121E+21      | 9,611187E+21      |
| -1228                           | 1,373963E+22  | 1,741134E+22   | 1,960292E+22   | 1,960312E+22    | 1,741205E+22     | 1,374041E+22     | 9,611793E+21     | 6,132612E+21     | 4,195328E+21      | 4,195264E+21      | 6,132460E+21      | 9,611712E+21      |
| -1227                           | 1,374053E+22  | 1,741208E+22   | 1,960296E+22   | 1,960275E+22    | 1,741152E+22     | 1,373988E+22     | 9,611349E+21     | 6,132374E+21     | 4,195382E+21      | 4,195589E+21      | 6,132885E+21      | 9,611825E+21      |
| -1226                           | 1,373996E+22  | 1,741097E+22   | 1,960165E+22   | 1,960192E+22    | 1,741151E+22     | 1,374039E+22     | 9,612003E+21     | 6,132904E+21     | 4,195660E+21      | 4,195587E+21      | 6,132658E+21      | 9,611533E+21      |
| -1225                           | 1,373981E+22  | 1,741127E+22   | 1,960231E+22   | 1,960241E+22    | 1,741165E+22     | 1,374025E+22     | 9,611818E+21     | 6,132834E+21     | 4,195710E+21      | 4,195718E+21      | 6,132932E+21      | 9,612135E+21      |
| -1224                           | 1,374070E+22  | 1,741192E+22   | 1,960242E+22   | 1,960198E+22    | 1,741100E+22     | 1,373983E+22     | 9,611609E+21     | 6,132704E+21     | 4,195639E+21      | 4,195708E+21      | 6,132854E+21      | 9,611743E+21      |
| -1223                           | 1,373986E+22  | 1,741081E+22   | 1,960168E+22   | 1,960206E+22    | 1,741149E+22     | 1,374032E+22     | 9,612043E+21     | 6,133025E+21     | 4,195751E+21      | 4,195591E+21      | 6,132575E+21      | 9,611486E+21      |
| -1222                           | 1,374011E+22  | 1,741189E+22   | 1,960288E+22   | 1,960273E+22    | 1,741162E+22     | 1,374003E+22     | 9,611559E+21     | 6,132576E+21     | 4,195487E+21      | 4,195571E+21      | 6,132847E+21      | 9,611962E+21      |
| -1221                           | 1,374035E+22  | 1,741170E+22   | 1,960253E+22   | 1,960235E+22    | 1,741146E+22     | 1,374015E+22     | 9,611657E+21     | 6,132503E+21     | 4,195288E+21      | 4,195295E+21      | 6,132456E+21      | 9,611402E+21      |
| -1220                           | 1,373962E+22  | 1,741095E+22   | 1,960240E+22   | 1,960291E+22    | 1,741207E+22     | 1,374052E+22     | 9,611830E+21     | 6,132529E+21     | 4,195163E+21      | 4,195061E+21      | 6,132271E+21      | 9,611598E+21      |
| -1219                           | 1,374062E+22  | 1,741237E+22   | 1,960319E+22   | 1,960308E+22    | 1,741190E+22     | 1,374008E+22     | 9,611243E+21     | 6,131974E+21     | 4,194800E+21      | 4,194959E+21      | 6,132384E+21      | 9,611680E+21      |
| -1218                           | 1,374031E+22  | 1,741180E+22   | 1,960254E+22   | 1,960251E+22    | 1,741184E+22     | 1,374048E+22     | 9,611712E+21     | 6,132222E+21     | 4,194746E+21      | 4,194635E+21      | 6,131864E+21      | 9,611119E+21      |
| -1217                           | 1,373989E+22  | 1,741186E+22   | 1,960340E+22   | 1,960350E+22    | 1,741229E+22     | 1,374044E+22     | 9,611557E+21     | 6,132122E+21     | 4,194695E+21      | 4,194619E+21      | 6,131968E+21      | 9,611558E+21      |
| -1216                           | 1,374076E+22  | 1,741268E+22   | 1,960379E+22   | 1,960348E+22    | 1,741191E+22     | 1,373995E+22     | 9,611094E+21     | 6,131770E+21     | 4,194521E+21      | 4,194640E+21      | 6,132076E+21      | 9,611421E+21      |
| -1215                           | 1,374006E+22  | 1,741149E+22   | 1,960262E+22   | 1,960308E+22    | 1,741225E+22     | 1,374050E+22     | 9,611580E+21     | 6,132104E+21     | 4,194664E+21      | 4,194581E+21      | 6,131861E+21      | 9,611183E+21      |
| -1214                           | 1,374015E+22  | 1,741226E+22   | 1,960355E+22   | 1,960351E+22    | 1,741229E+22     | 1,374035E+22     | 9,611357E+21     | 6,131939E+21     | 4,194651E+21      | 4,194739E+21      | 6,132228E+21      | 9,611800E+21      |
| -1213                           | 1,374070E+22  | 1,741236E+22   | 1,960324E+22   | 1,960287E+22    | 1,741169E+22     | 1,374014E+22     | 9,611408E+21     | 6,132058E+21     | 4,194781E+21      | 4,194842E+21      | 6,132154E+21      | 9,611368E+21      |
| -1212                           | 1,373989E+22  | 1,741129E+22   | 1,960253E+22   | 1,960286E+22    | 1,741197E+22     | 1,374045E+22     | 9,611838E+21     | 6,132557E+21     | 4,195177E+21      | 4,195049E+21      | 6,132180E+21      | 9,611376E+21      |
| -1211                           | 1,374036E+22  | 1,741228E+22   | 1,960319E+22   | 1,960298E+22    | 1,741172E+22     | 1,373998E+22     | 9,611390E+21     | 6,132372E+21     | 4,195322E+21      | 4,195470E+21      | 6,132753E+21      | 9,611784E+21      |
| -1210                           | 1,374011E+22  | 1,741140E+22   | 1,960208E+22   | 1,960199E+22    | 1,741131E+22     | 1,374017E+22     | 9,611852E+21     | 6,132838E+21     | 4,195672E+21      | 4,195655E+21      | 6,132716E+21      | 9,611456E+21      |
| -1209                           | 1,373943E+22  | 1,741064E+22   | 1,960188E+22   | 1,960228E+22    | 1,741161E+22     | 1,374033E+22     | 9,612035E+21     | 6,133123E+21     | 4,195989E+21      | 4,195932E+21      | 6,132998E+21      | 9,611959E+21      |
| -1208                           | 1,374034E+22  | 1,741150E+22   | 1,960212E+22   | 1,960194E+22    | 1,741098E+22     | 1,373975E+22     | 9,611614E+21     | 6,132907E+21     | 4,196019E+21      | 4,196192E+21      | 6,133383E+21      | 9,612165E+21      |
| -1207                           | 1,373997E+22  | 1,741047E+22   | 1,960074E+22   | 1,960098E+22    | 1,741083E+22     | 1,374013E+22     | 9,612162E+21     | 6,133383E+21     | 4,196288E+21      | 4,196204E+21      | 6,133118E+21      | 9,611732E+21      |
| -1206                           | 1,373977E+22  | 1,741101E+22   | 1,960173E+22   | 1,960160E+22    | 1,741093E+22     | 1,373999E+22     | 9,612032E+21     | 6,133328E+21     | 4,196321E+21      | 4,196313E+21      | 6,133347E+21      | 9,612211E+21      |
| -1205                           | 1,374043E+22  | 1,741148E+22   | 1,960194E+22   | 1,960149E+22    | 1,741054E+22     | 1,373960E+22     | 9,611762E+21     | 6,133167E+21     | 4,196254E+21      | 4,196326E+21      | 6,133312E+21      | 9,611849E+21      |
| -1204                           | 1,373960E+22  | 1,741035E+22   | 1,960111E+22   | 1,960157E+22    | 1,741112E+22     | 1,374011E+22     | 9,612108E+21     | 6,133379E+21     | 4,196274E+21      | 4,196143E+21      | 6,133024E+21      | 9,611662E+21      |
| -1203                           | 1,373989E+22  | 1,741136E+22   | 1,960218E+22   | 1,960215E+22    | 1,741131E+22     | 1,373995E+22     | 9,611656E+21     | 6,132885E+21     | 4,195961E+21      | 4,196085E+21      | 6,133259E+21      | 9,612141E+21      |
| -1202                           | 1,374016E+22  | 1,741111E+22   | 1,960167E+22   | 1,960158E+22    | 1,741101E+22     | 1,374007E+22     | 9,611876E+21     | 6,132904E+21     | 4,195766E+21      | 4,195763E+21      | 6,132824E+21      | 9,611600E+21      |
| -1201                           | 1,373960E+22  | 1,741061E+22   | 1,960165E+22   | 1,960215E+22    | 1,741159E+22     | 1,374038E+22     | 9,612049E+21     | 6,132973E+21     | 4,195674E+21      | 4,195520E+21      | 6,132566E+21      | 9,611635E+21      |

| 1                 | 2            | 3            | 4            | 5            | 6            | 7            | 8            | 9            | 10           | 11           | 12           | 13           |
|-------------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|
| Longitude $\odot$ | 0° - 30°     | 30° - 60°    | 60° - 90°    | 90° - 120°   | 120° - 150°  | 150° - 180°  | 180° - 210°  | 210° - 240°  | 240° - 270°  | 270° - 300°  | 300° - 330°  | 330° - 360°  |
| Years             |              |              |              |              |              |              |              |              |              |              |              |              |
| -1200             | 1,374039E+22 | 1,741203E+22 | 1,960274E+22 | 1,960253E+22 | 1,741140E+22 | 1,373988E+22 | 9,611435E+21 | 6,132442E+21 | 4,195356E+21 | 4,195455E+21 | 6,132739E+21 | 9,611819E+21 |
| -1199             | 1,374011E+22 | 1,741130E+22 | 1,960190E+22 | 1,960192E+22 | 1,741134E+22 | 1,374016E+22 | 9,611752E+21 | 6,132610E+21 | 4,195320E+21 | 4,195228E+21 | 6,132316E+21 | 9,611262E+21 |
| -1198             | 1,373968E+22 | 1,741140E+22 | 1,960274E+22 | 1,960283E+22 | 1,741178E+22 | 1,374024E+22 | 9,611691E+21 | 6,132516E+21 | 4,195248E+21 | 4,195206E+21 | 6,132445E+21 | 9,611740E+21 |
| -1197             | 1,374051E+22 | 1,741210E+22 | 1,960307E+22 | 1,960286E+22 | 1,741151E+22 | 1,373984E+22 | 9,611277E+21 | 6,132190E+21 | 4,195088E+21 | 4,195234E+21 | 6,132565E+21 | 9,611661E+21 |
| -1196             | 1,373997E+22 | 1,741109E+22 | 1,960189E+22 | 1,960235E+22 | 1,741175E+22 | 1,374032E+22 | 9,611738E+21 | 6,132525E+21 | 4,195219E+21 | 4,195141E+21 | 6,132301E+21 | 9,611390E+21 |
| -1195             | 1,374006E+22 | 1,741189E+22 | 1,960288E+22 | 1,960278E+22 | 1,741179E+22 | 1,374019E+22 | 9,611531E+21 | 6,132401E+21 | 4,195269E+21 | 4,195351E+21 | 6,132653E+21 | 9,611900E+21 |
| -1194             | 1,374044E+22 | 1,741182E+22 | 1,960249E+22 | 1,960209E+22 | 1,741111E+22 | 1,373996E+22 | 9,611665E+21 | 6,132625E+21 | 4,195480E+21 | 4,195523E+21 | 6,132649E+21 | 9,611505E+21 |
| -1193             | 1,373963E+22 | 1,741070E+22 | 1,960171E+22 | 1,960217E+22 | 1,741149E+22 | 1,374027E+22 | 9,612068E+21 | 6,133136E+21 | 4,195916E+21 | 4,195773E+21 | 6,132717E+21 | 9,611511E+21 |
| -1192             | 1,373996E+22 | 1,741155E+22 | 1,960236E+22 | 1,960230E+22 | 1,741129E+22 | 1,373984E+22 | 9,611607E+21 | 6,132922E+21 | 4,196040E+21 | 4,196185E+21 | 6,133360E+21 | 9,612144E+21 |
| -1191             | 1,373994E+22 | 1,741061E+22 | 1,960094E+22 | 1,960096E+22 | 1,741066E+22 | 1,373993E+22 | 9,612000E+21 | 6,133321E+21 | 4,196354E+21 | 4,196373E+21 | 6,133315E+21 | 9,611799E+21 |
| -1190             | 1,373942E+22 | 1,741019E+22 | 1,960095E+22 | 1,960121E+22 | 1,741082E+22 | 1,374009E+22 | 9,612279E+21 | 6,133638E+21 | 4,196630E+21 | 4,196571E+21 | 6,133496E+21 | 9,612198E+21 |
| -1189             | 1,374026E+22 | 1,741113E+22 | 1,960143E+22 | 1,960112E+22 | 1,741032E+22 | 1,373949E+22 | 9,611821E+21 | 6,133433E+21 | 4,196676E+21 | 4,196821E+21 | 6,133825E+21 | 9,612302E+21 |
| -1188             | 1,373985E+22 | 1,741023E+22 | 1,960027E+22 | 1,960035E+22 | 1,741024E+22 | 1,373981E+22 | 9,612265E+21 | 6,133827E+21 | 4,196891E+21 | 4,196796E+21 | 6,133533E+21 | 9,611822E+21 |
| -1187             | 1,373954E+22 | 1,741062E+22 | 1,960130E+22 | 1,960120E+22 | 1,741059E+22 | 1,373979E+22 | 9,612094E+21 | 6,133710E+21 | 4,196897E+21 | 4,196907E+21 | 6,133771E+21 | 9,612284E+21 |
| -1186             | 1,374006E+22 | 1,741081E+22 | 1,960118E+22 | 1,960093E+22 | 1,741026E+22 | 1,373955E+22 | 9,611947E+21 | 6,133575E+21 | 4,196795E+21 | 4,196881E+21 | 6,133752E+21 | 9,612020E+21 |
| -1185             | 1,373938E+22 | 1,740974E+22 | 1,960028E+22 | 1,960094E+22 | 1,741085E+22 | 1,374012E+22 | 9,612355E+21 | 6,133803E+21 | 4,196784E+21 | 4,196639E+21 | 6,133399E+21 | 9,611798E+21 |
| -1184             | 1,373966E+22 | 1,741082E+22 | 1,960147E+22 | 1,960151E+22 | 1,741092E+22 | 1,373988E+22 | 9,611903E+21 | 6,133334E+21 | 4,196467E+21 | 4,196541E+21 | 6,133616E+21 | 9,612359E+21 |
| -1183             | 1,374008E+22 | 1,741061E+22 | 1,960081E+22 | 1,960068E+22 | 1,741039E+22 | 1,373982E+22 | 9,612015E+21 | 6,133326E+21 | 4,196310E+21 | 4,196288E+21 | 6,133201E+21 | 9,611740E+21 |
| -1182             | 1,373951E+22 | 1,741034E+22 | 1,960110E+22 | 1,960136E+22 | 1,741088E+22 | 1,374009E+22 | 9,612214E+21 | 6,133407E+21 | 4,196227E+21 | 4,196069E+21 | 6,132968E+21 | 9,611741E+21 |
| -1181             | 1,374013E+22 | 1,741156E+22 | 1,960224E+22 | 1,960202E+22 | 1,741092E+22 | 1,373959E+22 | 9,611516E+21 | 6,132852E+21 | 4,195934E+21 | 4,196055E+21 | 6,133211E+21 | 9,611993E+21 |
| -1180             | 1,373993E+22 | 1,741088E+22 | 1,960131E+22 | 1,960135E+22 | 1,741092E+22 | 1,373991E+22 | 9,611756E+21 | 6,132912E+21 | 4,195823E+21 | 4,195789E+21 | 6,132801E+21 | 9,611524E+21 |
| -1179             | 1,373958E+22 | 1,741096E+22 | 1,960209E+22 | 1,960221E+22 | 1,741141E+22 | 1,374009E+22 | 9,611747E+21 | 6,132823E+21 | 4,195743E+21 | 4,195743E+21 | 6,132869E+21 | 9,611943E+21 |
| -1178             | 1,374038E+22 | 1,741158E+22 | 1,960225E+22 | 1,960209E+22 | 1,741106E+22 | 1,373975E+22 | 9,611511E+21 | 6,132641E+21 | 4,195637E+21 | 4,195767E+21 | 6,132960E+21 | 9,611836E+21 |
| -1177             | 1,373990E+22 | 1,741071E+22 | 1,960118E+22 | 1,960163E+22 | 1,741129E+22 | 1,374020E+22 | 9,612011E+21 | 6,133068E+21 | 4,195854E+21 | 4,195718E+21 | 6,132670E+21 | 9,611428E+21 |
| -1176             | 1,373972E+22 | 1,741138E+22 | 1,960231E+22 | 1,960220E+22 | 1,741132E+22 | 1,374003E+22 | 9,611803E+21 | 6,132991E+21 | 4,195969E+21 | 4,195994E+21 | 6,133113E+21 | 9,612046E+21 |
| -1175             | 1,374012E+22 | 1,741108E+22 | 1,960158E+22 | 1,960129E+22 | 1,741057E+22 | 1,373971E+22 | 9,611826E+21 | 6,133165E+21 | 4,196219E+21 | 4,196276E+21 | 6,133234E+21 | 9,611721E+21 |
| -1174             | 1,373938E+22 | 1,741007E+22 | 1,960080E+22 | 1,960120E+22 | 1,741083E+22 | 1,374008E+22 | 9,612304E+21 | 6,133663E+21 | 4,196616E+21 | 4,196504E+21 | 6,133320E+21 | 9,611789E+21 |
| -1173             | 1,373972E+22 | 1,741084E+22 | 1,960144E+22 | 1,960142E+22 | 1,741069E+22 | 1,373965E+22 | 9,611835E+21 | 6,133454E+21 | 4,196735E+21 | 4,196896E+21 | 6,133936E+21 | 9,612453E+21 |
| -1172             | 1,373992E+22 | 1,741022E+22 | 1,960012E+22 | 1,960004E+22 | 1,740998E+22 | 1,373963E+22 | 9,612127E+21 | 6,133785E+21 | 4,196988E+21 | 4,197015E+21 | 6,133820E+21 | 9,612060E+21 |
| -1171             | 1,373941E+22 | 1,740989E+22 | 1,960033E+22 | 1,960042E+22 | 1,741021E+22 | 1,373981E+22 | 9,612376E+21 | 6,134094E+21 | 4,197271E+21 | 4,197199E+21 | 6,133920E+21 | 9,612296E+21 |
| -1170             | 1,374004E+22 | 1,741067E+22 | 1,960083E+22 | 1,960048E+22 | 1,740981E+22 | 1,373930E+22 | 9,612030E+21 | 6,133957E+21 | 4,197338E+21 | 4,197461E+21 | 6,134278E+21 | 9,612411E+21 |
| -1169             | 1,373958E+22 | 1,740970E+22 | 1,959966E+22 | 1,959988E+22 | 1,740992E+22 | 1,373965E+22 | 9,612442E+21 | 6,134322E+21 | 4,197531E+21 | 4,197419E+21 | 6,133979E+21 | 9,611905E+21 |
| -1168             | 1,373912E+22 | 1,740989E+22 | 1,960058E+22 | 1,960069E+22 | 1,741034E+22 | 1,373977E+22 | 9,612312E+21 | 6,134169E+21 | 4,197477E+21 | 4,197478E+21 | 6,134242E+21 | 9,612532E+21 |
| -1167             | 1,373984E+22 | 1,741005E+22 | 1,960015E+22 | 1,960005E+22 | 1,740978E+22 | 1,373944E+22 | 9,612123E+21 | 6,133985E+21 | 4,197344E+21 | 4,197447E+21 | 6,134210E+21 | 9,612259E+21 |
| -1166             | 1,373932E+22 | 1,740933E+22 | 1,959945E+22 | 1,959991E+22 | 1,741014E+22 | 1,373995E+22 | 9,612596E+21 | 6,134239E+21 | 4,197307E+21 | 4,197150E+21 | 6,133783E+21 | 9,611952E+21 |
| -1165             | 1,373952E+22 | 1,741041E+22 | 1,960084E+22 | 1,960075E+22 | 1,741033E+22 | 1,373966E+22 | 9,612072E+21 | 6,133779E+21 | 4,197024E+21 | 4,197073E+21 | 6,133978E+21 | 9,612457E+21 |

| 1                 | 2            | 3            | 4            | 5            | 6            | 7            | 8            | 9            | 10           | 11           | 12           | 13           |
|-------------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|
| Longitude $\odot$ | 0° - 30°     | 30° - 60°    | 60° - 90°    | 90° - 120°   | 120° - 150°  | 150° - 180°  | 180° - 210°  | 210° - 240°  | 240° - 270°  | 270° - 300°  | 300° - 330°  | 330° - 360°  |
| Years             |              |              |              |              |              |              |              |              |              |              |              |              |
| -1164             | 1,373998E+22 | 1,741038E+22 | 1,960037E+22 | 1,960007E+22 | 1,740981E+22 | 1,373946E+22 | 9,612021E+21 | 6,133665E+21 | 4,196820E+21 | 4,196815E+21 | 6,133596E+21 | 9,611871E+21 |
| -1163             | 1,373935E+22 | 1,740999E+22 | 1,960068E+22 | 1,960094E+22 | 1,741052E+22 | 1,373981E+22 | 9,612167E+21 | 6,133693E+21 | 4,196721E+21 | 4,196598E+21 | 6,133374E+21 | 9,611875E+21 |
| -1162             | 1,373989E+22 | 1,741100E+22 | 1,960158E+22 | 1,960148E+22 | 1,741063E+22 | 1,373952E+22 | 9,611654E+21 | 6,133202E+21 | 4,196418E+21 | 4,196567E+21 | 6,133641E+21 | 9,612216E+21 |
| -1161             | 1,373982E+22 | 1,741039E+22 | 1,960064E+22 | 1,960081E+22 | 1,741063E+22 | 1,373987E+22 | 9,611968E+21 | 6,133314E+21 | 4,196317E+21 | 4,196273E+21 | 6,133167E+21 | 9,611673E+21 |
| -1160             | 1,373941E+22 | 1,741049E+22 | 1,960145E+22 | 1,960162E+22 | 1,741108E+22 | 1,374008E+22 | 9,612029E+21 | 6,133304E+21 | 4,196286E+21 | 4,196240E+21 | 6,133235E+21 | 9,612111E+21 |
| -1159             | 1,374024E+22 | 1,741108E+22 | 1,960143E+22 | 1,960120E+22 | 1,741048E+22 | 1,373959E+22 | 9,611737E+21 | 6,133162E+21 | 4,196290E+21 | 4,196392E+21 | 6,133388E+21 | 9,611936E+21 |
| -1158             | 1,373970E+22 | 1,741030E+22 | 1,960054E+22 | 1,960074E+22 | 1,741056E+22 | 1,373998E+22 | 9,612279E+21 | 6,133643E+21 | 4,196570E+21 | 4,196423E+21 | 6,133183E+21 | 9,611549E+21 |
| -1157             | 1,373935E+22 | 1,741065E+22 | 1,960154E+22 | 1,960151E+22 | 1,741081E+22 | 1,373980E+22 | 9,611980E+21 | 6,133552E+21 | 4,196725E+21 | 4,196763E+21 | 6,133707E+21 | 9,612268E+21 |
| -1156             | 1,373989E+22 | 1,741045E+22 | 1,960067E+22 | 1,960042E+22 | 1,740998E+22 | 1,373944E+22 | 9,611907E+21 | 6,133611E+21 | 4,196893E+21 | 4,197006E+21 | 6,133862E+21 | 9,612079E+21 |
| -1155             | 1,373931E+22 | 1,740954E+22 | 1,959996E+22 | 1,960031E+22 | 1,741022E+22 | 1,373981E+22 | 9,612381E+21 | 6,134091E+21 | 4,197254E+21 | 4,197170E+21 | 6,133853E+21 | 9,612072E+21 |
| -1154             | 1,373966E+22 | 1,741032E+22 | 1,960056E+22 | 1,960046E+22 | 1,741002E+22 | 1,373944E+22 | 9,612057E+21 | 6,133973E+21 | 4,197382E+21 | 4,197527E+21 | 6,134407E+21 | 9,612657E+21 |
| -1153             | 1,373985E+22 | 1,740985E+22 | 1,959951E+22 | 1,959934E+22 | 1,740943E+22 | 1,373941E+22 | 9,612340E+21 | 6,134322E+21 | 4,197655E+21 | 4,197637E+21 | 6,134221E+21 | 9,612109E+21 |
| -1152             | 1,373911E+22 | 1,740942E+22 | 1,959985E+22 | 1,959996E+22 | 1,740984E+22 | 1,373966E+22 | 9,612583E+21 | 6,134619E+21 | 4,197931E+21 | 4,197828E+21 | 6,134372E+21 | 9,612409E+21 |
| -1151             | 1,373969E+22 | 1,740994E+22 | 1,959996E+22 | 1,959977E+22 | 1,740941E+22 | 1,373915E+22 | 9,612188E+21 | 6,134438E+21 | 4,198004E+21 | 4,198139E+21 | 6,134793E+21 | 9,612573E+21 |
| -1150             | 1,373931E+22 | 1,740907E+22 | 1,959883E+22 | 1,959902E+22 | 1,740943E+22 | 1,373961E+22 | 9,612709E+21 | 6,134789E+21 | 4,198133E+21 | 4,198041E+21 | 6,134485E+21 | 9,612128E+21 |
| -1149             | 1,373887E+22 | 1,740915E+22 | 1,959970E+22 | 1,959992E+22 | 1,740987E+22 | 1,373967E+22 | 9,612555E+21 | 6,134642E+21 | 4,198059E+21 | 4,198056E+21 | 6,134686E+21 | 9,612738E+21 |
| -1148             | 1,373981E+22 | 1,740966E+22 | 1,959936E+22 | 1,959916E+22 | 1,740915E+22 | 1,373919E+22 | 9,612238E+21 | 6,134369E+21 | 4,197856E+21 | 4,197967E+21 | 6,134620E+21 | 9,612465E+21 |
| -1147             | 1,373932E+22 | 1,740909E+22 | 1,959894E+22 | 1,959916E+22 | 1,740950E+22 | 1,373963E+22 | 9,612627E+21 | 6,134590E+21 | 4,197819E+21 | 4,197655E+21 | 6,134131E+21 | 9,612039E+21 |
| -1146             | 1,373935E+22 | 1,741002E+22 | 1,960033E+22 | 1,960014E+22 | 1,740980E+22 | 1,373941E+22 | 9,612185E+21 | 6,134175E+21 | 4,197551E+21 | 4,197602E+21 | 6,134375E+21 | 9,612583E+21 |
| -1145             | 1,373980E+22 | 1,740993E+22 | 1,959991E+22 | 1,959972E+22 | 1,740952E+22 | 1,373927E+22 | 9,612089E+21 | 6,134020E+21 | 4,197327E+21 | 4,197333E+21 | 6,133994E+21 | 9,612001E+21 |
| -1144             | 1,373911E+22 | 1,740945E+22 | 1,960013E+22 | 1,960052E+22 | 1,741031E+22 | 1,373978E+22 | 9,612310E+21 | 6,134038E+21 | 4,197189E+21 | 4,197081E+21 | 6,133789E+21 | 9,612114E+21 |
| -1143             | 1,373977E+22 | 1,741041E+22 | 1,960071E+22 | 1,960069E+22 | 1,741021E+22 | 1,373944E+22 | 9,611846E+21 | 6,133603E+21 | 4,196936E+21 | 4,197085E+21 | 6,134037E+21 | 9,612400E+21 |
| -1142             | 1,373978E+22 | 1,741006E+22 | 1,959997E+22 | 1,959990E+22 | 1,741001E+22 | 1,373977E+22 | 9,612257E+21 | 6,133801E+21 | 4,196887E+21 | 4,196813E+21 | 6,133542E+21 | 9,611767E+21 |
| -1141             | 1,373918E+22 | 1,740998E+22 | 1,960083E+22 | 1,960093E+22 | 1,741054E+22 | 1,373992E+22 | 9,612285E+21 | 6,133860E+21 | 4,196959E+21 | 4,196872E+21 | 6,133640E+21 | 9,612144E+21 |
| -1140             | 1,374000E+22 | 1,741064E+22 | 1,960082E+22 | 1,960051E+22 | 1,740990E+22 | 1,373929E+22 | 9,611843E+21 | 6,133635E+21 | 4,196957E+21 | 4,197079E+21 | 6,133910E+21 | 9,612096E+21 |
| -1139             | 1,373944E+22 | 1,740973E+22 | 1,959985E+22 | 1,960004E+22 | 1,741005E+22 | 1,373970E+22 | 9,612321E+21 | 6,134077E+21 | 4,197238E+21 | 4,197122E+21 | 6,133732E+21 | 9,611752E+21 |
| -1138             | 1,373908E+22 | 1,740990E+22 | 1,960059E+22 | 1,960066E+22 | 1,741031E+22 | 1,373968E+22 | 9,612187E+21 | 6,134039E+21 | 4,197380E+21 | 4,197449E+21 | 6,134285E+21 | 9,612579E+21 |
| -1137             | 1,373981E+22 | 1,740984E+22 | 1,959981E+22 | 1,959965E+22 | 1,740946E+22 | 1,373925E+22 | 9,612104E+21 | 6,134109E+21 | 4,197534E+21 | 4,197644E+21 | 6,134358E+21 | 9,612314E+21 |
| -1136             | 1,373919E+22 | 1,740903E+22 | 1,959920E+22 | 1,959955E+22 | 1,740971E+22 | 1,373967E+22 | 9,612611E+21 | 6,134610E+21 | 4,197892E+21 | 4,197786E+21 | 6,134327E+21 | 9,612289E+21 |
| -1135             | 1,373953E+22 | 1,740981E+22 | 1,959974E+22 | 1,959954E+22 | 1,740937E+22 | 1,373922E+22 | 9,612272E+21 | 6,134527E+21 | 4,198095E+21 | 4,198220E+21 | 6,134899E+21 | 9,612788E+21 |
| -1134             | 1,373964E+22 | 1,740942E+22 | 1,959892E+22 | 1,959853E+22 | 1,740877E+22 | 1,373921E+22 | 9,612589E+21 | 6,134883E+21 | 4,198376E+21 | 4,198354E+21 | 6,134749E+21 | 9,612233E+21 |
| -1133             | 1,373873E+22 | 1,740867E+22 | 1,959908E+22 | 1,959935E+22 | 1,740945E+22 | 1,373953E+22 | 9,612788E+21 | 6,135151E+21 | 4,198643E+21 | 4,198550E+21 | 6,134912E+21 | 9,612579E+21 |
| -1132             | 1,373948E+22 | 1,740933E+22 | 1,959906E+22 | 1,959894E+22 | 1,740891E+22 | 1,373899E+22 | 9,612311E+21 | 6,134844E+21 | 4,198597E+21 | 4,198777E+21 | 6,135329E+21 | 9,612858E+21 |
| -1131             | 1,373923E+22 | 1,740856E+22 | 1,959802E+22 | 1,959816E+22 | 1,740883E+22 | 1,373939E+22 | 9,612812E+21 | 6,135179E+21 | 4,198676E+21 | 4,198583E+21 | 6,134902E+21 | 9,612326E+21 |
| -1130             | 1,373879E+22 | 1,740866E+22 | 1,959888E+22 | 1,959904E+22 | 1,740927E+22 | 1,373949E+22 | 9,612766E+21 | 6,135091E+21 | 4,198595E+21 | 4,198566E+21 | 6,135056E+21 | 9,612875E+21 |
| -1129             | 1,373972E+22 | 1,740931E+22 | 1,959888E+22 | 1,959860E+22 | 1,740862E+22 | 1,373894E+22 | 9,612374E+21 | 6,134793E+21 | 4,198386E+21 | 4,198460E+21 | 6,134946E+21 | 9,612505E+21 |



| 1                 | 2            | 3            | 4            | 5            | 6            | 7            | 8            | 9            | 10           | 11           | 12           | 13           |
|-------------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|
| Longitude $\odot$ | 0° - 30°     | 30° - 60°    | 60° - 90°    | 90° - 120°   | 120° - 150°  | 150° - 180°  | 180° - 210°  | 210° - 240°  | 240° - 270°  | 270° - 300°  | 300° - 330°  | 330° - 360°  |
| Years             |              |              |              |              |              |              |              |              |              |              |              |              |
| -1128             | 1,373908E+22 | 1,740871E+22 | 1,959858E+22 | 1,959883E+22 | 1,740918E+22 | 1,373945E+22 | 9,612730E+21 | 6,134962E+21 | 4,198313E+21 | 4,198153E+21 | 6,134524E+21 | 9,612164E+21 |
| -1127             | 1,373911E+22 | 1,740946E+22 | 1,959964E+22 | 1,959956E+22 | 1,740944E+22 | 1,373927E+22 | 9,612284E+21 | 6,134532E+21 | 4,198069E+21 | 4,198146E+21 | 6,134812E+21 | 9,612749E+21 |
| -1126             | 1,373964E+22 | 1,740949E+22 | 1,959930E+22 | 1,959903E+22 | 1,740910E+22 | 1,373925E+22 | 9,612308E+21 | 6,134396E+21 | 4,197822E+21 | 4,197848E+21 | 6,134415E+21 | 9,612190E+21 |
| -1125             | 1,373895E+22 | 1,740888E+22 | 1,959942E+22 | 1,959992E+22 | 1,740996E+22 | 1,373974E+22 | 9,612548E+21 | 6,134479E+21 | 4,197727E+21 | 4,197602E+21 | 6,134156E+21 | 9,612237E+21 |
| -1124             | 1,373972E+22 | 1,741007E+22 | 1,959999E+22 | 1,959989E+22 | 1,740967E+22 | 1,373927E+22 | 9,612002E+21 | 6,134017E+21 | 4,197477E+21 | 4,197619E+21 | 6,134424E+21 | 9,612531E+21 |
| -1123             | 1,373968E+22 | 1,740975E+22 | 1,959946E+22 | 1,959921E+22 | 1,740940E+22 | 1,373949E+22 | 9,612368E+21 | 6,134250E+21 | 4,197495E+21 | 4,197400E+21 | 6,133951E+21 | 9,611847E+21 |
| -1122             | 1,373891E+22 | 1,740938E+22 | 1,960012E+22 | 1,960025E+22 | 1,740999E+22 | 1,373969E+22 | 9,612466E+21 | 6,134366E+21 | 4,197617E+21 | 4,197538E+21 | 6,134158E+21 | 9,612298E+21 |
| -1121             | 1,373970E+22 | 1,740993E+22 | 1,960008E+22 | 1,959994E+22 | 1,740947E+22 | 1,373909E+22 | 9,611972E+21 | 6,134096E+21 | 4,197604E+21 | 4,197751E+21 | 6,134461E+21 | 9,612331E+21 |
| -1120             | 1,373921E+22 | 1,740906E+22 | 1,959903E+22 | 1,959934E+22 | 1,740962E+22 | 1,373958E+22 | 9,612482E+21 | 6,134505E+21 | 4,197833E+21 | 4,197764E+21 | 6,134301E+21 | 9,612086E+21 |
| -1119             | 1,373901E+22 | 1,740927E+22 | 1,959951E+22 | 1,959957E+22 | 1,740961E+22 | 1,373947E+22 | 9,612389E+21 | 6,134536E+21 | 4,198032E+21 | 4,198108E+21 | 6,134803E+21 | 9,612837E+21 |
| -1118             | 1,373980E+22 | 1,740951E+22 | 1,959906E+22 | 1,959862E+22 | 1,740870E+22 | 1,373906E+22 | 9,612368E+21 | 6,134658E+21 | 4,198219E+21 | 4,198302E+21 | 6,134829E+21 | 9,612462E+21 |
| -1117             | 1,373900E+22 | 1,740855E+22 | 1,959857E+22 | 1,959885E+22 | 1,740913E+22 | 1,373945E+22 | 9,612843E+21 | 6,135196E+21 | 4,198634E+21 | 4,198492E+21 | 6,134784E+21 | 9,612350E+21 |
| -1116             | 1,373930E+22 | 1,740934E+22 | 1,959907E+22 | 1,959885E+22 | 1,740882E+22 | 1,373896E+22 | 9,612400E+21 | 6,135024E+21 | 4,198791E+21 | 4,198934E+21 | 6,135439E+21 | 9,612949E+21 |
| -1115             | 1,373936E+22 | 1,740883E+22 | 1,959823E+22 | 1,959790E+22 | 1,740831E+22 | 1,373901E+22 | 9,612698E+21 | 6,135340E+21 | 4,199032E+21 | 4,199025E+21 | 6,135272E+21 | 9,612418E+21 |
| -1114             | 1,373845E+22 | 1,740790E+22 | 1,959812E+22 | 1,959855E+22 | 1,740899E+22 | 1,373947E+22 | 9,613054E+21 | 6,135640E+21 | 4,199257E+21 | 4,199177E+21 | 6,135425E+21 | 9,612808E+21 |
| -1113             | 1,373931E+22 | 1,740871E+22 | 1,959826E+22 | 1,959823E+22 | 1,740843E+22 | 1,373886E+22 | 9,612538E+21 | 6,135314E+21 | 4,199168E+21 | 4,199326E+21 | 6,135744E+21 | 9,613030E+21 |
| -1112             | 1,373912E+22 | 1,740813E+22 | 1,959734E+22 | 1,959745E+22 | 1,740833E+22 | 1,373925E+22 | 9,613011E+21 | 6,135623E+21 | 4,199212E+21 | 4,199105E+21 | 6,135303E+21 | 9,612478E+21 |
| -1111             | 1,373866E+22 | 1,740823E+22 | 1,959815E+22 | 1,959819E+22 | 1,740860E+22 | 1,373924E+22 | 9,612931E+21 | 6,135558E+21 | 4,199193E+21 | 4,199145E+21 | 6,135473E+21 | 9,612986E+21 |
| -1110             | 1,373954E+22 | 1,740897E+22 | 1,959838E+22 | 1,959797E+22 | 1,740808E+22 | 1,373872E+22 | 9,612518E+21 | 6,135226E+21 | 4,198969E+21 | 4,199048E+21 | 6,135402E+21 | 9,612646E+21 |
| -1109             | 1,373880E+22 | 1,740809E+22 | 1,959795E+22 | 1,959839E+22 | 1,740889E+22 | 1,373933E+22 | 9,612847E+21 | 6,135353E+21 | 4,198870E+21 | 4,198731E+21 | 6,134972E+21 | 9,612351E+21 |
| -1108             | 1,373902E+22 | 1,740902E+22 | 1,959891E+22 | 1,959888E+22 | 1,740902E+22 | 1,373913E+22 | 9,612375E+21 | 6,134842E+21 | 4,198537E+21 | 4,198661E+21 | 6,135258E+21 | 9,613006E+21 |
| -1107             | 1,373962E+22 | 1,740915E+22 | 1,959868E+22 | 1,959834E+22 | 1,740857E+22 | 1,373904E+22 | 9,612411E+21 | 6,134744E+21 | 4,198291E+21 | 4,198302E+21 | 6,134747E+21 | 9,612314E+21 |
| -1106             | 1,373884E+22 | 1,740846E+22 | 1,959872E+22 | 1,959919E+22 | 1,740945E+22 | 1,373962E+22 | 9,612784E+21 | 6,134931E+21 | 4,198259E+21 | 4,198105E+21 | 6,134501E+21 | 9,612290E+21 |
| -1105             | 1,373949E+22 | 1,740965E+22 | 1,959953E+22 | 1,959942E+22 | 1,740920E+22 | 1,373905E+22 | 9,612166E+21 | 6,134472E+21 | 4,198051E+21 | 4,198160E+21 | 6,134782E+21 | 9,612552E+21 |
| -1104             | 1,373935E+22 | 1,740919E+22 | 1,959889E+22 | 1,959876E+22 | 1,740904E+22 | 1,373933E+22 | 9,612512E+21 | 6,134682E+21 | 4,198073E+21 | 4,198004E+21 | 6,134446E+21 | 9,612015E+21 |
| -1103             | 1,373861E+22 | 1,740866E+22 | 1,959915E+22 | 1,959942E+22 | 1,740948E+22 | 1,373954E+22 | 9,612640E+21 | 6,134831E+21 | 4,198254E+21 | 4,198205E+21 | 6,134718E+21 | 9,612565E+21 |
| -1102             | 1,373954E+22 | 1,740938E+22 | 1,959920E+22 | 1,959899E+22 | 1,740886E+22 | 1,373898E+22 | 9,612217E+21 | 6,134583E+21 | 4,198236E+21 | 4,198403E+21 | 6,135009E+21 | 9,612620E+21 |
| -1101             | 1,373909E+22 | 1,740847E+22 | 1,959815E+22 | 1,959853E+22 | 1,740906E+22 | 1,373941E+22 | 9,612717E+21 | 6,135032E+21 | 4,198500E+21 | 4,198418E+21 | 6,134776E+21 | 9,612295E+21 |
| -1100             | 1,373902E+22 | 1,740897E+22 | 1,959873E+22 | 1,959862E+22 | 1,740889E+22 | 1,373919E+22 | 9,612540E+21 | 6,135026E+21 | 4,198694E+21 | 4,198770E+21 | 6,135293E+21 | 9,613014E+21 |
| -1099             | 1,373968E+22 | 1,740920E+22 | 1,959854E+22 | 1,959791E+22 | 1,740801E+22 | 1,373871E+22 | 9,612487E+21 | 6,135179E+21 | 4,198921E+21 | 4,198981E+21 | 6,135302E+21 | 9,612552E+21 |
| -1098             | 1,373869E+22 | 1,740792E+22 | 1,959784E+22 | 1,959823E+22 | 1,740866E+22 | 1,373927E+22 | 9,613058E+21 | 6,135753E+21 | 4,199360E+21 | 4,199222E+21 | 6,135343E+21 | 9,612499E+21 |
| -1097             | 1,373892E+22 | 1,740859E+22 | 1,959831E+22 | 1,959831E+22 | 1,740846E+22 | 1,373884E+22 | 9,612594E+21 | 6,135526E+21 | 4,199464E+21 | 4,199614E+21 | 6,135972E+21 | 9,613155E+21 |
| -1096             | 1,373910E+22 | 1,740812E+22 | 1,959734E+22 | 1,959720E+22 | 1,740793E+22 | 1,373896E+22 | 9,612944E+21 | 6,135808E+21 | 4,199625E+21 | 4,199649E+21 | 6,135811E+21 | 9,612698E+21 |
| -1095             | 1,373832E+22 | 1,740725E+22 | 1,959701E+22 | 1,959747E+22 | 1,740830E+22 | 1,373931E+22 | 9,613311E+21 | 6,136160E+21 | 4,199886E+21 | 4,199790E+21 | 6,135899E+21 | 9,613016E+21 |
| -1094             | 1,373921E+22 | 1,740835E+22 | 1,959751E+22 | 1,959725E+22 | 1,740771E+22 | 1,373867E+22 | 9,612781E+21 | 6,135829E+21 | 4,199796E+21 | 4,199920E+21 | 6,136168E+21 | 9,613159E+21 |
| -1093             | 1,373891E+22 | 1,740768E+22 | 1,959677E+22 | 1,959685E+22 | 1,740780E+22 | 1,373899E+22 | 9,613159E+21 | 6,136100E+21 | 4,199841E+21 | 4,199713E+21 | 6,135709E+21 | 9,612570E+21 |

| 1                 | 2            | 3            | 4            | 5            | 6            | 7            | 8            | 9            | 10           | 11           | 12           | 13           |
|-------------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|
| Longitude $\odot$ | 0° - 30°     | 30° - 60°    | 60° - 90°    | 90° - 120°   | 120° - 150°  | 150° - 180°  | 180° - 210°  | 210° - 240°  | 240° - 270°  | 270° - 300°  | 300° - 330°  | 330° - 360°  |
| Years             |              |              |              |              |              |              |              |              |              |              |              |              |
| -1092             | 1,373851E+22 | 1,740786E+22 | 1,959754E+22 | 1,959757E+22 | 1,740809E+22 | 1,373894E+22 | 9,612954E+21 | 6,135912E+21 | 4,199740E+21 | 4,199728E+21 | 6,135945E+21 | 9,613176E+21 |
| -1091             | 1,373937E+22 | 1,740855E+22 | 1,959785E+22 | 1,959748E+22 | 1,740769E+22 | 1,373850E+22 | 9,612552E+21 | 6,135545E+21 | 4,199455E+21 | 4,199553E+21 | 6,135815E+21 | 9,612842E+21 |
| -1090             | 1,373864E+22 | 1,740756E+22 | 1,959722E+22 | 1,959780E+22 | 1,740855E+22 | 1,373927E+22 | 9,613039E+21 | 6,135715E+21 | 4,199329E+21 | 4,199202E+21 | 6,135359E+21 | 9,612531E+21 |
| -1089             | 1,373887E+22 | 1,740855E+22 | 1,959830E+22 | 1,959836E+22 | 1,740866E+22 | 1,373904E+22 | 9,612572E+21 | 6,135227E+21 | 4,198991E+21 | 4,199082E+21 | 6,135550E+21 | 9,613091E+21 |
| -1088             | 1,373948E+22 | 1,740881E+22 | 1,959815E+22 | 1,959780E+22 | 1,740819E+22 | 1,373896E+22 | 9,612618E+21 | 6,135142E+21 | 4,198766E+21 | 4,198772E+21 | 6,135095E+21 | 9,612391E+21 |
| -1087             | 1,373862E+22 | 1,740800E+22 | 1,959797E+22 | 1,959838E+22 | 1,740883E+22 | 1,373941E+22 | 9,612988E+21 | 6,135420E+21 | 4,198867E+21 | 4,198696E+21 | 6,134930E+21 | 9,612379E+21 |
| -1086             | 1,373919E+22 | 1,740914E+22 | 1,959885E+22 | 1,959871E+22 | 1,740869E+22 | 1,373888E+22 | 9,612345E+21 | 6,134957E+21 | 4,198696E+21 | 4,198811E+21 | 6,135295E+21 | 9,612734E+21 |
| -1085             | 1,373905E+22 | 1,740849E+22 | 1,959805E+22 | 1,959811E+22 | 1,740863E+22 | 1,373916E+22 | 9,612660E+21 | 6,135145E+21 | 4,198724E+21 | 4,198676E+21 | 6,134976E+21 | 9,612285E+21 |
| -1084             | 1,373857E+22 | 1,740816E+22 | 1,959820E+22 | 1,959845E+22 | 1,740882E+22 | 1,373927E+22 | 9,612753E+21 | 6,135245E+21 | 4,198851E+21 | 4,198841E+21 | 6,135262E+21 | 9,612891E+21 |
| -1083             | 1,373955E+22 | 1,740904E+22 | 1,959848E+22 | 1,959813E+22 | 1,740815E+22 | 1,373864E+22 | 9,612336E+21 | 6,135049E+21 | 4,198847E+21 | 4,198993E+21 | 6,135447E+21 | 9,612810E+21 |
| -1082             | 1,373899E+22 | 1,740807E+22 | 1,959746E+22 | 1,959774E+22 | 1,740844E+22 | 1,373919E+22 | 9,612941E+21 | 6,135568E+21 | 4,199168E+21 | 4,199060E+21 | 6,135228E+21 | 9,612392E+21 |
| -1081             | 1,373874E+22 | 1,740850E+22 | 1,959826E+22 | 1,959815E+22 | 1,740841E+22 | 1,373896E+22 | 9,612729E+21 | 6,135559E+21 | 4,199383E+21 | 4,199431E+21 | 6,135745E+21 | 9,613076E+21 |
| -1080             | 1,373932E+22 | 1,740859E+22 | 1,959791E+22 | 1,959747E+22 | 1,740772E+22 | 1,373861E+22 | 9,612688E+21 | 6,135676E+21 | 4,199591E+21 | 4,199685E+21 | 6,135865E+21 | 9,612718E+21 |
| -1079             | 1,373833E+22 | 1,740713E+22 | 1,959677E+22 | 1,959734E+22 | 1,740818E+22 | 1,373920E+22 | 9,613336E+21 | 6,136311E+21 | 4,200076E+21 | 4,199953E+21 | 6,135937E+21 | 9,612756E+21 |
| -1078             | 1,373867E+22 | 1,740790E+22 | 1,959731E+22 | 1,959735E+22 | 1,740791E+22 | 1,373879E+22 | 9,612907E+21 | 6,136090E+21 | 4,200156E+21 | 4,200296E+21 | 6,136515E+21 | 9,613418E+21 |
| -1077             | 1,373893E+22 | 1,740744E+22 | 1,959635E+22 | 1,959631E+22 | 1,740737E+22 | 1,373881E+22 | 9,613213E+21 | 6,136372E+21 | 4,200313E+21 | 4,200303E+21 | 6,136278E+21 | 9,612918E+21 |
| -1076             | 1,373833E+22 | 1,740691E+22 | 1,959619E+22 | 1,959645E+22 | 1,740752E+22 | 1,373898E+22 | 9,613445E+21 | 6,136632E+21 | 4,200515E+21 | 4,200420E+21 | 6,136385E+21 | 9,613226E+21 |
| -1075             | 1,373912E+22 | 1,740806E+22 | 1,959701E+22 | 1,959655E+22 | 1,740698E+22 | 1,373823E+22 | 9,612830E+21 | 6,136265E+21 | 4,200395E+21 | 4,200507E+21 | 6,136602E+21 | 9,613295E+21 |
| -1074             | 1,373867E+22 | 1,740718E+22 | 1,959616E+22 | 1,959632E+22 | 1,740739E+22 | 1,373876E+22 | 9,613247E+21 | 6,136492E+21 | 4,200401E+21 | 4,200300E+21 | 6,136184E+21 | 9,612754E+21 |
| -1073             | 1,373826E+22 | 1,740734E+22 | 1,959701E+22 | 1,959717E+22 | 1,740780E+22 | 1,373880E+22 | 9,613028E+21 | 6,136229E+21 | 4,200210E+21 | 4,200218E+21 | 6,136339E+21 | 9,613366E+21 |
| -1072             | 1,373924E+22 | 1,740808E+22 | 1,959721E+22 | 1,959697E+22 | 1,740744E+22 | 1,373847E+22 | 9,612717E+21 | 6,135856E+21 | 4,199863E+21 | 4,199990E+21 | 6,136177E+21 | 9,613008E+21 |
| -1071             | 1,373854E+22 | 1,740713E+22 | 1,959639E+22 | 1,959696E+22 | 1,740804E+22 | 1,373917E+22 | 9,613281E+21 | 6,136152E+21 | 4,199829E+21 | 4,199665E+21 | 6,135682E+21 | 9,612622E+21 |
| -1070             | 1,373870E+22 | 1,740821E+22 | 1,959771E+22 | 1,959762E+22 | 1,740814E+22 | 1,373893E+22 | 9,612816E+21 | 6,135709E+21 | 4,199553E+21 | 4,199589E+21 | 6,135865E+21 | 9,613100E+21 |
| -1069             | 1,373915E+22 | 1,740828E+22 | 1,959758E+22 | 1,959729E+22 | 1,740779E+22 | 1,373878E+22 | 9,612807E+21 | 6,135632E+21 | 4,199385E+21 | 4,199360E+21 | 6,135482E+21 | 9,612468E+21 |
| -1068             | 1,373841E+22 | 1,740752E+22 | 1,959722E+22 | 1,959764E+22 | 1,740830E+22 | 1,373913E+22 | 9,613056E+21 | 6,135814E+21 | 4,199454E+21 | 4,199326E+21 | 6,135457E+21 | 9,612619E+21 |
| -1067             | 1,373900E+22 | 1,740861E+22 | 1,959814E+22 | 1,959800E+22 | 1,740814E+22 | 1,373860E+22 | 9,612427E+21 | 6,135354E+21 | 4,199260E+21 | 4,199398E+21 | 6,135790E+21 | 9,613009E+21 |
| -1066             | 1,373892E+22 | 1,740793E+22 | 1,959721E+22 | 1,959734E+22 | 1,740814E+22 | 1,373900E+22 | 9,612839E+21 | 6,135581E+21 | 4,199299E+21 | 4,199272E+21 | 6,135472E+21 | 9,612549E+21 |
| -1065             | 1,373847E+22 | 1,740774E+22 | 1,959758E+22 | 1,959779E+22 | 1,740830E+22 | 1,373905E+22 | 9,612907E+21 | 6,135696E+21 | 4,199433E+21 | 4,199402E+21 | 6,135666E+21 | 9,613052E+21 |
| -1064             | 1,373945E+22 | 1,740870E+22 | 1,959793E+22 | 1,959752E+22 | 1,740769E+22 | 1,373848E+22 | 9,612540E+21 | 6,135526E+21 | 4,199462E+21 | 4,199613E+21 | 6,135905E+21 | 9,612925E+21 |
| -1063             | 1,373873E+22 | 1,740754E+22 | 1,959670E+22 | 1,959696E+22 | 1,740784E+22 | 1,373898E+22 | 9,613186E+21 | 6,136159E+21 | 4,199910E+21 | 4,199789E+21 | 6,135768E+21 | 9,612529E+21 |
| -1062             | 1,373837E+22 | 1,740781E+22 | 1,959745E+22 | 1,959743E+22 | 1,740798E+22 | 1,373887E+22 | 9,612981E+21 | 6,136148E+21 | 4,200148E+21 | 4,200194E+21 | 6,136330E+21 | 9,613276E+21 |
| -1061             | 1,373896E+22 | 1,740775E+22 | 1,959691E+22 | 1,959671E+22 | 1,740734E+22 | 1,373855E+22 | 9,612954E+21 | 6,136244E+21 | 4,200338E+21 | 4,200439E+21 | 6,136450E+21 | 9,613022E+21 |
| -1060             | 1,373826E+22 | 1,740653E+22 | 1,959563E+22 | 1,959615E+22 | 1,740744E+22 | 1,373897E+22 | 9,613532E+21 | 6,136812E+21 | 4,200747E+21 | 4,200648E+21 | 6,136515E+21 | 9,613085E+21 |
| -1059             | 1,373863E+22 | 1,740745E+22 | 1,959646E+22 | 1,959633E+22 | 1,740711E+22 | 1,373842E+22 | 9,613064E+21 | 6,136606E+21 | 4,200801E+21 | 4,200906E+21 | 6,136962E+21 | 9,613615E+21 |
| -1058             | 1,373882E+22 | 1,740704E+22 | 1,959565E+22 | 1,959547E+22 | 1,740667E+22 | 1,373849E+22 | 9,613362E+21 | 6,136869E+21 | 4,200956E+21 | 4,200927E+21 | 6,136724E+21 | 9,613040E+21 |
| -1057             | 1,373808E+22 | 1,740649E+22 | 1,959576E+22 | 1,959596E+22 | 1,740699E+22 | 1,373864E+22 | 9,613506E+21 | 6,137050E+21 | 4,201098E+21 | 4,200993E+21 | 6,136793E+21 | 9,613329E+21 |

| 1<br>Longitude $\odot$<br>Years | 2<br>0° - 30° | 3<br>30° - 60° | 4<br>60° - 90° | 5<br>90° - 120° | 6<br>120° - 150° | 7<br>150° - 180° | 8<br>180° - 210° | 9<br>210° - 240° | 10<br>240° - 270° | 11<br>270° - 300° | 12<br>300° - 330° | 13<br>330° - 360° |
|---------------------------------|---------------|----------------|----------------|-----------------|------------------|------------------|------------------|------------------|-------------------|-------------------|-------------------|-------------------|
| -1056                           | 1,373887E+22  | 1,740758E+22   | 1,959651E+22   | 1,959618E+22    | 1,740675E+22     | 1,373811E+22     | 9,612925E+21     | 6,136605E+21     | 4,200898E+21      | 4,201060E+21      | 6,137059E+21      | 9,613453E+21      |
| -1055                           | 1,373843E+22  | 1,740660E+22   | 1,959537E+22   | 1,959562E+22    | 1,740700E+22     | 1,373870E+22     | 9,613448E+21     | 6,136896E+21     | 4,200923E+21      | 4,200833E+21      | 6,136614E+21      | 9,612948E+21      |
| -1054                           | 1,373809E+22  | 1,740684E+22   | 1,959628E+22   | 1,959648E+22    | 1,740747E+22     | 1,373882E+22     | 9,613290E+21     | 6,136664E+21     | 4,200725E+21      | 4,200703E+21      | 6,136681E+21      | 9,613488E+21      |
| -1053                           | 1,373907E+22  | 1,740758E+22   | 1,959649E+22   | 1,959634E+22    | 1,740710E+22     | 1,373843E+22     | 9,612967E+21     | 6,136324E+21     | 4,200413E+21      | 4,200484E+21      | 6,136475E+21      | 9,613087E+21      |
| -1052                           | 1,373847E+22  | 1,740682E+22   | 1,959570E+22   | 1,959608E+22    | 1,740738E+22     | 1,373892E+22     | 9,613426E+21     | 6,136582E+21     | 4,200389E+21      | 4,200214E+21      | 6,136080E+21      | 9,612735E+21      |
| -1051                           | 1,373847E+22  | 1,740779E+22   | 1,959721E+22   | 1,959702E+22    | 1,740754E+22     | 1,373856E+22     | 9,612897E+21     | 6,136150E+21     | 4,200135E+21      | 4,200157E+21      | 6,136285E+21      | 9,613219E+21      |
| -1050                           | 1,373885E+22  | 1,740766E+22   | 1,959686E+22   | 1,959670E+22    | 1,740738E+22     | 1,373857E+22     | 9,612897E+21     | 6,136039E+21     | 4,199971E+21      | 4,199986E+21      | 6,136011E+21      | 9,612714E+21      |
| -1049                           | 1,373818E+22  | 1,740694E+22   | 1,959658E+22   | 1,959704E+22    | 1,740787E+22     | 1,373893E+22     | 9,613129E+21     | 6,136163E+21     | 4,199974E+21      | 4,199884E+21      | 6,135938E+21      | 9,612912E+21      |
| -1048                           | 1,373896E+22  | 1,740817E+22   | 1,959743E+22   | 1,959731E+22    | 1,740771E+22     | 1,373848E+22     | 9,612582E+21     | 6,135711E+21     | 4,199755E+21      | 4,199939E+21      | 6,136245E+21      | 9,613243E+21      |
| -1047                           | 1,373888E+22  | 1,740753E+22   | 1,959640E+22   | 1,959640E+22    | 1,740750E+22     | 1,373882E+22     | 9,613063E+21     | 6,136079E+21     | 4,199911E+21      | 4,199861E+21      | 6,135896E+21      | 9,612701E+21      |
| -1046                           | 1,373833E+22  | 1,740739E+22   | 1,959698E+22   | 1,959705E+22    | 1,740779E+22     | 1,373891E+22     | 9,613141E+21     | 6,136246E+21     | 4,200120E+21      | 4,200042E+21      | 6,136079E+21      | 9,613104E+21      |
| -1045                           | 1,373911E+22  | 1,740809E+22   | 1,959725E+22   | 1,959698E+22    | 1,740734E+22     | 1,373835E+22     | 9,612776E+21     | 6,136108E+21     | 4,200208E+21      | 4,200326E+21      | 6,136385E+21      | 9,613048E+21      |
| -1044                           | 1,373849E+22  | 1,740693E+22   | 1,959581E+22   | 1,959610E+22    | 1,740731E+22     | 1,373878E+22     | 9,613366E+21     | 6,136683E+21     | 4,200634E+21      | 4,200544E+21      | 6,136388E+21      | 9,612810E+21      |
| -1043                           | 1,373812E+22  | 1,740711E+22   | 1,959655E+22   | 1,959656E+22    | 1,740736E+22     | 1,373862E+22     | 9,613186E+21     | 6,136685E+21     | 4,200834E+21      | 4,200883E+21      | 6,136881E+21      | 9,613537E+21      |
| -1042                           | 1,373876E+22  | 1,740704E+22   | 1,959589E+22   | 1,959575E+22    | 1,740674E+22     | 1,373839E+22     | 9,613206E+21     | 6,136789E+21     | 4,201019E+21      | 4,201124E+21      | 6,136998E+21      | 9,613286E+21      |
| -1041                           | 1,373813E+22  | 1,740606E+22   | 1,959491E+22   | 1,959528E+22    | 1,740676E+22     | 1,373869E+22     | 9,613685E+21     | 6,137296E+21     | 4,201377E+21      | 4,201259E+21      | 6,136962E+21      | 9,613272E+21      |
| -1040                           | 1,373853E+22  | 1,740709E+22   | 1,959586E+22   | 1,959559E+22    | 1,740650E+22     | 1,373817E+22     | 9,613210E+21     | 6,137052E+21     | 4,201408E+21      | 4,201530E+21      | 6,137419E+21      | 9,613728E+21      |
| -1039                           | 1,373859E+22  | 1,740654E+22   | 1,959497E+22   | 1,959474E+22    | 1,740608E+22     | 1,373822E+22     | 9,613510E+21     | 6,137368E+21     | 4,201617E+21      | 4,201587E+21      | 6,137222E+21      | 9,613200E+21      |
| -1038                           | 1,373781E+22  | 1,740592E+22   | 1,959509E+22   | 1,959539E+22    | 1,740667E+22     | 1,373852E+22     | 9,613641E+21     | 6,137496E+21     | 4,201720E+21      | 4,201617E+21      | 6,137265E+21      | 9,613502E+21      |
| -1037                           | 1,373861E+22  | 1,740691E+22   | 1,959572E+22   | 1,959561E+22    | 1,740651E+22     | 1,373811E+22     | 9,613144E+21     | 6,137045E+21     | 4,201471E+21      | 4,201624E+21      | 6,137476E+21      | 9,613673E+21      |
| -1036                           | 1,373840E+22  | 1,740615E+22   | 1,959454E+22   | 1,959471E+22    | 1,740644E+22     | 1,373855E+22     | 9,613624E+21     | 6,137295E+21     | 4,201438E+21      | 4,201355E+21      | 6,137030E+21      | 9,613154E+21      |
| -1035                           | 1,373801E+22  | 1,740646E+22   | 1,959567E+22   | 1,959572E+22    | 1,740684E+22     | 1,373855E+22     | 9,613460E+21     | 6,137104E+21     | 4,201240E+21      | 4,201174E+21      | 6,136984E+21      | 9,613537E+21      |
| -1034                           | 1,373886E+22  | 1,740715E+22   | 1,959592E+22   | 1,959571E+22    | 1,740661E+22     | 1,373824E+22     | 9,613126E+21     | 6,136757E+21     | 4,200968E+21      | 4,201027E+21      | 6,136853E+21      | 9,613142E+21      |
| -1033                           | 1,373817E+22  | 1,740637E+22   | 1,959530E+22   | 1,959560E+22    | 1,740694E+22     | 1,373865E+22     | 9,613472E+21     | 6,136939E+21     | 4,200907E+21      | 4,200748E+21      | 6,136487E+21      | 9,612868E+21      |
| -1032                           | 1,373826E+22  | 1,740726E+22   | 1,959661E+22   | 1,959652E+22    | 1,740726E+22     | 1,373845E+22     | 9,612979E+21     | 6,136456E+21     | 4,200617E+21      | 4,200707E+21      | 6,136761E+21      | 9,613435E+21      |
| -1031                           | 1,373868E+22  | 1,740707E+22   | 1,959603E+22   | 1,959590E+22    | 1,740690E+22     | 1,373845E+22     | 9,613077E+21     | 6,136445E+21     | 4,200506E+21      | 4,200547E+21      | 6,136494E+21      | 9,613001E+21      |
| -1030                           | 1,373812E+22  | 1,740645E+22   | 1,959581E+22   | 1,959629E+22    | 1,740745E+22     | 1,373885E+22     | 9,613330E+21     | 6,136610E+21     | 4,200535E+21      | 4,200427E+21      | 6,136341E+21      | 9,613100E+21      |
| -1029                           | 1,373888E+22  | 1,740775E+22   | 1,959675E+22   | 1,959661E+22    | 1,740729E+22     | 1,373839E+22     | 9,612833E+21     | 6,136226E+21     | 4,200380E+21      | 4,200514E+21      | 6,136620E+21      | 9,613381E+21      |
| -1028                           | 1,373884E+22  | 1,740723E+22   | 1,959576E+22   | 1,959550E+22    | 1,740678E+22     | 1,373853E+22     | 9,613230E+21     | 6,136582E+21     | 4,200578E+21      | 4,200525E+21      | 6,136380E+21      | 9,612835E+21      |
| -1027                           | 1,373806E+22  | 1,740687E+22   | 1,959639E+22   | 1,959640E+22    | 1,740718E+22     | 1,373858E+22     | 9,613298E+21     | 6,136791E+21     | 4,200824E+21      | 4,200735E+21      | 6,136578E+21      | 9,613218E+21      |
| -1026                           | 1,373876E+22  | 1,740734E+22   | 1,959640E+22   | 1,959628E+22    | 1,740692E+22     | 1,373821E+22     | 9,612952E+21     | 6,136627E+21     | 4,200930E+21      | 4,201077E+21      | 6,136988E+21      | 9,613287E+21      |
| -1025                           | 1,373819E+22  | 1,740622E+22   | 1,959497E+22   | 1,959525E+22    | 1,740675E+22     | 1,373860E+22     | 9,613534E+21     | 6,137159E+21     | 4,201288E+21      | 4,201221E+21      | 6,136939E+21      | 9,613107E+21      |
| -1024                           | 1,373802E+22  | 1,740650E+22   | 1,959563E+22   | 1,959566E+22    | 1,740680E+22     | 1,373847E+22     | 9,613401E+21     | 6,137156E+21     | 4,201459E+21      | 4,201534E+21      | 6,137390E+21      | 9,613749E+21      |
| -1023                           | 1,373864E+22  | 1,740652E+22   | 1,959498E+22   | 1,959468E+22    | 1,740596E+22     | 1,373813E+22     | 9,613445E+21     | 6,137364E+21     | 4,201723E+21      | 4,201797E+21      | 6,137486E+21      | 9,613452E+21      |
| -1022                           | 1,373795E+22  | 1,740560E+22   | 1,959424E+22   | 1,959452E+22    | 1,740617E+22     | 1,373845E+22     | 9,613863E+21     | 6,137843E+21     | 4,202087E+21      | 4,201936E+21      | 6,137417E+21      | 9,613356E+21      |
| -1021                           | 1,373823E+22  | 1,740650E+22   | 1,959521E+22   | 1,959504E+22    | 1,740613E+22     | 1,373802E+22     | 9,613390E+21     | 6,137572E+21     | 4,202103E+21      | 4,202207E+21      | 6,137898E+21      | 9,613888E+21      |

| 1                 | 2            | 3            | 4            | 5            | 6            | 7            | 8            | 9            | 10           | 11           | 12           | 13           |
|-------------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|
| Longitude $\odot$ | 0° - 30°     | 30° - 60°    | 60° - 90°    | 90° - 120°   | 120° - 150°  | 150° - 180°  | 180° - 210°  | 210° - 240°  | 240° - 270°  | 270° - 300°  | 300° - 330°  | 330° - 360°  |
| Years             |              |              |              |              |              |              |              |              |              |              |              |              |
| -1020             | 1,373841E+22 | 1,740599E+22 | 1,959419E+22 | 1,959395E+22 | 1,740558E+22 | 1,373803E+22 | 9,613628E+21 | 6,137789E+21 | 4,202233E+21 | 4,202244E+21 | 6,137771E+21 | 9,613461E+21 |
| -1019             | 1,373764E+22 | 1,740536E+22 | 1,959437E+22 | 1,959472E+22 | 1,740618E+22 | 1,373835E+22 | 9,613822E+21 | 6,137929E+21 | 4,202266E+21 | 4,202166E+21 | 6,137693E+21 | 9,613692E+21 |
| -1018             | 1,373847E+22 | 1,740635E+22 | 1,959491E+22 | 1,959489E+22 | 1,740612E+22 | 1,373805E+22 | 9,613368E+21 | 6,137485E+21 | 4,202012E+21 | 4,202157E+21 | 6,137878E+21 | 9,613823E+21 |
| -1017             | 1,373825E+22 | 1,740579E+22 | 1,959403E+22 | 1,959402E+22 | 1,740591E+22 | 1,373837E+22 | 9,613776E+21 | 6,137690E+21 | 4,201935E+21 | 4,201832E+21 | 6,137368E+21 | 9,613264E+21 |
| -1016             | 1,373788E+22 | 1,740608E+22 | 1,959518E+22 | 1,959514E+22 | 1,740636E+22 | 1,373838E+22 | 9,613597E+21 | 6,137469E+21 | 4,201740E+21 | 4,201697E+21 | 6,137364E+21 | 9,613579E+21 |
| -1015             | 1,373856E+22 | 1,740659E+22 | 1,959527E+22 | 1,959506E+22 | 1,740610E+22 | 1,373801E+22 | 9,613267E+21 | 6,137189E+21 | 4,201540E+21 | 4,201612E+21 | 6,137326E+21 | 9,613324E+21 |
| -1014             | 1,373795E+22 | 1,740580E+22 | 1,959458E+22 | 1,959501E+22 | 1,740663E+22 | 1,373854E+22 | 9,613572E+21 | 6,137316E+21 | 4,201455E+21 | 4,201318E+21 | 6,136949E+21 | 9,613094E+21 |
| -1013             | 1,373813E+22 | 1,740668E+22 | 1,959579E+22 | 1,959582E+22 | 1,740690E+22 | 1,373840E+22 | 9,613174E+21 | 6,136865E+21 | 4,201152E+21 | 4,201237E+21 | 6,137172E+21 | 9,613697E+21 |
| -1012             | 1,373877E+22 | 1,740673E+22 | 1,959525E+22 | 1,959496E+22 | 1,740623E+22 | 1,373821E+22 | 9,613217E+21 | 6,136846E+21 | 4,201039E+21 | 4,201086E+21 | 6,136924E+21 | 9,613225E+21 |
| -1011             | 1,373811E+22 | 1,740619E+22 | 1,959530E+22 | 1,959556E+22 | 1,740675E+22 | 1,373851E+22 | 9,613480E+21 | 6,137075E+21 | 4,201104E+21 | 4,200957E+21 | 6,136679E+21 | 9,613137E+21 |
| -1010             | 1,373864E+22 | 1,740729E+22 | 1,959619E+22 | 1,959601E+22 | 1,740680E+22 | 1,373820E+22 | 9,613012E+21 | 6,136726E+21 | 4,201030E+21 | 4,201151E+21 | 6,137057E+21 | 9,613417E+21 |
| -1009             | 1,373846E+22 | 1,740670E+22 | 1,959530E+22 | 1,959500E+22 | 1,740635E+22 | 1,373832E+22 | 9,613345E+21 | 6,137031E+21 | 4,201212E+21 | 4,201179E+21 | 6,136883E+21 | 9,612990E+21 |
| -1008             | 1,373777E+22 | 1,740617E+22 | 1,959560E+22 | 1,959576E+22 | 1,740684E+22 | 1,373852E+22 | 9,613485E+21 | 6,137225E+21 | 4,201453E+21 | 4,201423E+21 | 6,137132E+21 | 9,613400E+21 |
| -1007             | 1,373846E+22 | 1,740656E+22 | 1,959537E+22 | 1,959532E+22 | 1,740635E+22 | 1,373811E+22 | 9,613246E+21 | 6,137186E+21 | 4,201624E+21 | 4,201780E+21 | 6,137564E+21 | 9,613578E+21 |
| -1006             | 1,373806E+22 | 1,740558E+22 | 1,959398E+22 | 1,959432E+22 | 1,740620E+22 | 1,373846E+22 | 9,613782E+21 | 6,137727E+21 | 4,201998E+21 | 4,201902E+21 | 6,137437E+21 | 9,613313E+21 |
| -1005             | 1,373791E+22 | 1,740596E+22 | 1,959475E+22 | 1,959473E+22 | 1,740619E+22 | 1,373831E+22 | 9,613672E+21 | 6,137754E+21 | 4,202194E+21 | 4,202218E+21 | 6,137864E+21 | 9,613935E+21 |
| -1004             | 1,373857E+22 | 1,740611E+22 | 1,959423E+22 | 1,959372E+22 | 1,740513E+22 | 1,373774E+22 | 9,613580E+21 | 6,137897E+21 | 4,202449E+21 | 4,202534E+21 | 6,138061E+21 | 9,613667E+21 |
| -1003             | 1,373774E+22 | 1,740507E+22 | 1,959362E+22 | 1,959387E+22 | 1,740554E+22 | 1,373807E+22 | 9,613961E+21 | 6,138338E+21 | 4,202766E+21 | 4,202630E+21 | 6,137957E+21 | 9,613545E+21 |
| -1002             | 1,373797E+22 | 1,740583E+22 | 1,959441E+22 | 1,959439E+22 | 1,740577E+22 | 1,373791E+22 | 9,613546E+21 | 6,138016E+21 | 4,202740E+21 | 4,202887E+21 | 6,138462E+21 | 9,614138E+21 |
| -1001             | 1,373822E+22 | 1,740547E+22 | 1,959353E+22 | 1,959325E+22 | 1,740510E+22 | 1,373790E+22 | 9,613775E+21 | 6,138165E+21 | 4,202755E+21 | 4,202792E+21 | 6,138220E+21 | 9,613709E+21 |
| -1000             | 1,373762E+22 | 1,740493E+22 | 1,959366E+22 | 1,959400E+22 | 1,740574E+22 | 1,373827E+22 | 9,614016E+21 | 6,138305E+21 | 4,202759E+21 | 4,202668E+21 | 6,138049E+21 | 9,613766E+21 |
| -999              | 1,373830E+22 | 1,740593E+22 | 1,959421E+22 | 1,959408E+22 | 1,740552E+22 | 1,373789E+22 | 9,613605E+21 | 6,137969E+21 | 4,202578E+21 | 4,202678E+21 | 6,138231E+21 | 9,613888E+21 |
| -998              | 1,373802E+22 | 1,740532E+22 | 1,959344E+22 | 1,959347E+22 | 1,740549E+22 | 1,373819E+22 | 9,613935E+21 | 6,138144E+21 | 4,202512E+21 | 4,202374E+21 | 6,137726E+21 | 9,613304E+21 |
| -997              | 1,373758E+22 | 1,740550E+22 | 1,959452E+22 | 1,959465E+22 | 1,740606E+22 | 1,373829E+22 | 9,613775E+21 | 6,137907E+21 | 4,202308E+21 | 4,202250E+21 | 6,137785E+21 | 9,613753E+21 |
| -996              | 1,373842E+22 | 1,740607E+22 | 1,959449E+22 | 1,959426E+22 | 1,740553E+22 | 1,373780E+22 | 9,613365E+21 | 6,137550E+21 | 4,202062E+21 | 4,202180E+21 | 6,137831E+21 | 9,613603E+21 |
| -995              | 1,373786E+22 | 1,740533E+22 | 1,959391E+22 | 1,959432E+22 | 1,740604E+22 | 1,373829E+22 | 9,613707E+21 | 6,137693E+21 | 4,201941E+21 | 4,201816E+21 | 6,137350E+21 | 9,613297E+21 |
| -994              | 1,373807E+22 | 1,740627E+22 | 1,959510E+22 | 1,959513E+22 | 1,740644E+22 | 1,373826E+22 | 9,613337E+21 | 6,137273E+21 | 4,201684E+21 | 4,201766E+21 | 6,137566E+21 | 9,613826E+21 |
| -993              | 1,373865E+22 | 1,740649E+22 | 1,959484E+22 | 1,959431E+22 | 1,740565E+22 | 1,373797E+22 | 9,613326E+21 | 6,137237E+21 | 4,201567E+21 | 4,201604E+21 | 6,137287E+21 | 9,613320E+21 |
| -992              | 1,373795E+22 | 1,740581E+22 | 1,959483E+22 | 1,959506E+22 | 1,740631E+22 | 1,373833E+22 | 9,613622E+21 | 6,137491E+21 | 4,201691E+21 | 4,201565E+21 | 6,137105E+21 | 9,613152E+21 |
| -991              | 1,373824E+22 | 1,740662E+22 | 1,959545E+22 | 1,959537E+22 | 1,740636E+22 | 1,373804E+22 | 9,613222E+21 | 6,137255E+21 | 4,201719E+21 | 4,201845E+21 | 6,137601E+21 | 9,613600E+21 |
| -990              | 1,373814E+22 | 1,740591E+22 | 1,959436E+22 | 1,959432E+22 | 1,740601E+22 | 1,373826E+22 | 9,613563E+21 | 6,137548E+21 | 4,201907E+21 | 4,201886E+21 | 6,137446E+21 | 9,613241E+21 |
| -989              | 1,373758E+22 | 1,740541E+22 | 1,959451E+22 | 1,959485E+22 | 1,740635E+22 | 1,373850E+22 | 9,613802E+21 | 6,137789E+21 | 4,202147E+21 | 4,202102E+21 | 6,137673E+21 | 9,613704E+21 |
| -988              | 1,373843E+22 | 1,740603E+22 | 1,959433E+22 | 1,959413E+22 | 1,740549E+22 | 1,373782E+22 | 9,613458E+21 | 6,137735E+21 | 4,202328E+21 | 4,202486E+21 | 6,138128E+21 | 9,613857E+21 |
| -987              | 1,373801E+22 | 1,740518E+22 | 1,959327E+22 | 1,959338E+22 | 1,740532E+22 | 1,373805E+22 | 9,613948E+21 | 6,138278E+21 | 4,202701E+21 | 4,202584E+21 | 6,137920E+21 | 9,613450E+21 |
| -986              | 1,373771E+22 | 1,740547E+22 | 1,959405E+22 | 1,959401E+22 | 1,740558E+22 | 1,373802E+22 | 9,613815E+21 | 6,138283E+21 | 4,202921E+21 | 4,202952E+21 | 6,138409E+21 | 9,614068E+21 |
| -985              | 1,373827E+22 | 1,740563E+22 | 1,959370E+22 | 1,959314E+22 | 1,740465E+22 | 1,373748E+22 | 9,613655E+21 | 6,138323E+21 | 4,203082E+21 | 4,203201E+21 | 6,138603E+21 | 9,613905E+21 |



| 1                 | 2            | 3            | 4            | 5            | 6            | 7            | 8            | 9            | 10           | 11           | 12           | 13           |
|-------------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|
| Longitude $\odot$ | 0° - 30°     | 30° - 60°    | 60° - 90°    | 90° - 120°   | 120° - 150°  | 150° - 180°  | 180° - 210°  | 210° - 240°  | 240° - 270°  | 270° - 300°  | 300° - 330°  | 330° - 360°  |
| Years             |              |              |              |              |              |              |              |              |              |              |              |              |
| -984              | 1,373756E+22 | 1,740451E+22 | 1,959292E+22 | 1,959329E+22 | 1,740520E+22 | 1,373800E+22 | 9,614115E+21 | 6,138723E+21 | 4,203337E+21 | 4,203255E+21 | 6,138457E+21 | 9,613721E+21 |
| -983              | 1,373772E+22 | 1,740518E+22 | 1,959354E+22 | 1,959361E+22 | 1,740531E+22 | 1,373788E+22 | 9,613847E+21 | 6,138524E+21 | 4,203338E+21 | 4,203470E+21 | 6,138921E+21 | 9,614355E+21 |
| -982              | 1,373810E+22 | 1,740495E+22 | 1,959272E+22 | 1,959256E+22 | 1,740473E+22 | 1,373785E+22 | 9,614041E+21 | 6,138663E+21 | 4,203344E+21 | 4,203334E+21 | 6,138584E+21 | 9,613809E+21 |
| -981              | 1,373746E+22 | 1,740447E+22 | 1,959290E+22 | 1,959324E+22 | 1,740526E+22 | 1,373820E+22 | 9,614305E+21 | 6,138827E+21 | 4,203360E+21 | 4,203206E+21 | 6,138402E+21 | 9,613839E+21 |
| -980              | 1,373809E+22 | 1,740548E+22 | 1,959353E+22 | 1,959328E+22 | 1,740483E+22 | 1,373756E+22 | 9,613732E+21 | 6,138427E+21 | 4,203182E+21 | 4,203284E+21 | 6,138701E+21 | 9,614043E+21 |
| -979              | 1,373778E+22 | 1,740481E+22 | 1,959284E+22 | 1,959289E+22 | 1,740490E+22 | 1,373783E+22 | 9,613990E+21 | 6,138536E+21 | 4,203065E+21 | 4,202949E+21 | 6,138189E+21 | 9,613488E+21 |
| -978              | 1,373737E+22 | 1,740490E+22 | 1,959371E+22 | 1,959397E+22 | 1,740565E+22 | 1,373813E+22 | 9,613874E+21 | 6,138262E+21 | 4,202833E+21 | 4,202821E+21 | 6,138276E+21 | 9,613998E+21 |
| -977              | 1,373832E+22 | 1,740571E+22 | 1,959391E+22 | 1,959358E+22 | 1,740502E+22 | 1,373759E+22 | 9,613439E+21 | 6,137848E+21 | 4,202496E+21 | 4,202643E+21 | 6,138232E+21 | 9,613865E+21 |
| -976              | 1,373792E+22 | 1,740508E+22 | 1,959336E+22 | 1,959369E+22 | 1,740557E+22 | 1,373812E+22 | 9,613811E+21 | 6,138007E+21 | 4,202390E+21 | 4,202279E+21 | 6,137669E+21 | 9,613348E+21 |
| -975              | 1,373789E+22 | 1,740592E+22 | 1,959454E+22 | 1,959447E+22 | 1,740591E+22 | 1,373809E+22 | 9,613553E+21 | 6,137741E+21 | 4,202248E+21 | 4,202295E+21 | 6,137920E+21 | 9,613873E+21 |
| -974              | 1,373838E+22 | 1,740600E+22 | 1,959429E+22 | 1,959392E+22 | 1,740536E+22 | 1,373783E+22 | 9,613497E+21 | 6,137710E+21 | 4,202186E+21 | 4,202198E+21 | 6,137685E+21 | 9,613358E+21 |
| -973              | 1,373760E+22 | 1,740514E+22 | 1,959403E+22 | 1,959450E+22 | 1,740605E+22 | 1,373833E+22 | 9,613882E+21 | 6,138009E+21 | 4,202348E+21 | 4,202208E+21 | 6,137605E+21 | 9,613341E+21 |
| -972              | 1,373797E+22 | 1,740590E+22 | 1,959446E+22 | 1,959445E+22 | 1,740577E+22 | 1,373789E+22 | 9,613442E+21 | 6,137760E+21 | 4,202387E+21 | 4,202543E+21 | 6,138199E+21 | 9,613921E+21 |
| -971              | 1,373800E+22 | 1,740527E+22 | 1,959342E+22 | 1,959340E+22 | 1,740528E+22 | 1,373800E+22 | 9,613801E+21 | 6,138083E+21 | 4,202567E+21 | 4,202551E+21 | 6,137981E+21 | 9,613512E+21 |
| -970              | 1,373750E+22 | 1,740488E+22 | 1,959354E+22 | 1,959385E+22 | 1,740567E+22 | 1,373829E+22 | 9,614035E+21 | 6,138345E+21 | 4,202853E+21 | 4,202805E+21 | 6,138214E+21 | 9,613912E+21 |
| -969              | 1,373831E+22 | 1,740573E+22 | 1,959373E+22 | 1,959323E+22 | 1,740469E+22 | 1,373746E+22 | 9,613582E+21 | 6,138224E+21 | 4,202996E+21 | 4,203158E+21 | 6,138642E+21 | 9,614064E+21 |
| -968              | 1,373787E+22 | 1,740480E+22 | 1,959271E+22 | 1,959276E+22 | 1,740473E+22 | 1,373774E+22 | 9,614032E+21 | 6,138729E+21 | 4,203374E+21 | 4,203293E+21 | 6,138441E+21 | 9,613565E+21 |
| -967              | 1,373738E+22 | 1,740484E+22 | 1,959330E+22 | 1,959336E+22 | 1,740511E+22 | 1,373783E+22 | 9,613992E+21 | 6,138807E+21 | 4,203629E+21 | 4,203673E+21 | 6,138986E+21 | 9,614312E+21 |
| -966              | 1,373802E+22 | 1,740491E+22 | 1,959281E+22 | 1,959254E+22 | 1,740437E+22 | 1,373743E+22 | 9,613872E+21 | 6,138817E+21 | 4,203742E+21 | 4,203859E+21 | 6,139104E+21 | 9,614123E+21 |
| -965              | 1,373740E+22 | 1,740390E+22 | 1,959199E+22 | 1,959251E+22 | 1,740482E+22 | 1,373803E+22 | 9,614461E+21 | 6,139271E+21 | 4,203969E+21 | 4,203843E+21 | 6,138900E+21 | 9,613930E+21 |
| -964              | 1,373760E+22 | 1,740469E+22 | 1,959267E+22 | 1,959260E+22 | 1,740456E+22 | 1,373764E+22 | 9,614090E+21 | 6,139057E+21 | 4,203974E+21 | 4,204068E+21 | 6,139351E+21 | 9,614490E+21 |
| -963              | 1,373790E+22 | 1,740450E+22 | 1,959208E+22 | 1,959180E+22 | 1,740400E+22 | 1,373753E+22 | 9,614234E+21 | 6,139170E+21 | 4,203960E+21 | 4,203917E+21 | 6,138973E+21 | 9,613858E+21 |
| -962              | 1,373717E+22 | 1,740393E+22 | 1,959221E+22 | 1,959261E+22 | 1,740477E+22 | 1,373796E+22 | 9,614429E+21 | 6,139273E+21 | 4,203974E+21 | 4,203835E+21 | 6,138878E+21 | 9,613943E+21 |
| -961              | 1,373778E+22 | 1,740500E+22 | 1,959295E+22 | 1,959267E+22 | 1,740436E+22 | 1,373730E+22 | 9,613751E+21 | 6,138740E+21 | 4,203681E+21 | 4,203831E+21 | 6,139179E+21 | 9,614304E+21 |
| -960              | 1,373767E+22 | 1,740435E+22 | 1,959220E+22 | 1,959232E+22 | 1,740454E+22 | 1,373769E+22 | 9,614039E+21 | 6,138800E+21 | 4,203506E+21 | 4,203450E+21 | 6,138607E+21 | 9,613690E+21 |
| -959              | 1,373725E+22 | 1,740444E+22 | 1,959299E+22 | 1,959328E+22 | 1,740519E+22 | 1,373800E+22 | 9,614057E+21 | 6,138654E+21 | 4,203315E+21 | 4,203295E+21 | 6,138659E+21 | 9,614217E+21 |
| -958              | 1,373828E+22 | 1,740534E+22 | 1,959326E+22 | 1,959305E+22 | 1,740470E+22 | 1,373749E+22 | 9,613624E+21 | 6,138260E+21 | 4,202999E+21 | 4,203103E+21 | 6,138528E+21 | 9,613940E+21 |
| -957              | 1,373780E+22 | 1,740477E+22 | 1,959281E+22 | 1,959312E+22 | 1,740518E+22 | 1,373806E+22 | 9,614078E+21 | 6,138490E+21 | 4,202950E+21 | 4,202786E+21 | 6,138015E+21 | 9,613415E+21 |
| -956              | 1,373761E+22 | 1,740543E+22 | 1,959391E+22 | 1,959380E+22 | 1,740533E+22 | 1,373783E+22 | 9,613721E+21 | 6,138229E+21 | 4,202881E+21 | 4,202924E+21 | 6,138398E+21 | 9,614011E+21 |
| -955              | 1,373807E+22 | 1,740538E+22 | 1,959357E+22 | 1,959329E+22 | 1,740486E+22 | 1,373761E+22 | 9,613663E+21 | 6,138182E+21 | 4,202822E+21 | 4,202858E+21 | 6,138212E+21 | 9,613572E+21 |
| -954              | 1,373736E+22 | 1,740445E+22 | 1,959301E+22 | 1,959363E+22 | 1,740558E+22 | 1,373823E+22 | 9,614095E+21 | 6,138494E+21 | 4,203007E+21 | 4,202903E+21 | 6,138184E+21 | 9,613616E+21 |
| -953              | 1,373782E+22 | 1,740542E+22 | 1,959362E+22 | 1,959350E+22 | 1,740508E+22 | 1,373763E+22 | 9,613598E+21 | 6,138209E+21 | 4,202990E+21 | 4,203161E+21 | 6,138715E+21 | 9,614237E+21 |
| -952              | 1,373802E+22 | 1,740494E+22 | 1,959269E+22 | 1,959254E+22 | 1,740460E+22 | 1,373769E+22 | 9,613916E+21 | 6,138536E+21 | 4,203200E+21 | 4,203187E+21 | 6,138430E+21 | 9,613638E+21 |
| -951              | 1,373729E+22 | 1,740444E+22 | 1,959287E+22 | 1,959304E+22 | 1,740496E+22 | 1,373797E+22 | 9,614233E+21 | 6,138912E+21 | 4,203567E+21 | 4,203491E+21 | 6,138710E+21 | 9,614060E+21 |
| -950              | 1,373804E+22 | 1,740517E+22 | 1,959308E+22 | 1,959275E+22 | 1,740432E+22 | 1,373725E+22 | 9,613743E+21 | 6,138754E+21 | 4,203712E+21 | 4,203860E+21 | 6,139144E+21 | 9,614195E+21 |
| -949              | 1,373758E+22 | 1,740418E+22 | 1,959191E+22 | 1,959213E+22 | 1,740442E+22 | 1,373771E+22 | 9,614297E+21 | 6,139267E+21 | 4,204066E+21 | 4,203977E+21 | 6,138986E+21 | 9,613796E+21 |

| 1                 | 2            | 3            | 4            | 5            | 6            | 7            | 8            | 9            | 10           | 11           | 12           | 13           |
|-------------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|
| Longitude $\odot$ | 0° - 30°     | 30° - 60°    | 60° - 90°    | 90° - 120°   | 120° - 150°  | 150° - 180°  | 180° - 210°  | 210° - 240°  | 240° - 270°  | 270° - 300°  | 300° - 330°  | 330° - 360°  |
| Years             |              |              |              |              |              |              |              |              |              |              |              |              |
| -948              | 1,373710E+22 | 1,740412E+22 | 1,959235E+22 | 1,959247E+22 | 1,740454E+22 | 1,373769E+22 | 9,614247E+21 | 6,139344E+21 | 4,204315E+21 | 4,204366E+21 | 6,139547E+21 | 9,614589E+21 |
| -947              | 1,373788E+22 | 1,740431E+22 | 1,959193E+22 | 1,959171E+22 | 1,740376E+22 | 1,373726E+22 | 9,614140E+21 | 6,139356E+21 | 4,204395E+21 | 4,204494E+21 | 6,139574E+21 | 9,614308E+21 |
| -946              | 1,373725E+22 | 1,740336E+22 | 1,959104E+22 | 1,959156E+22 | 1,740424E+22 | 1,373788E+22 | 9,614715E+21 | 6,139815E+21 | 4,204642E+21 | 4,204493E+21 | 6,139366E+21 | 9,614042E+21 |
| -945              | 1,373736E+22 | 1,740431E+22 | 1,959207E+22 | 1,959179E+22 | 1,740387E+22 | 1,373732E+22 | 9,614210E+21 | 6,139503E+21 | 4,204571E+21 | 4,204664E+21 | 6,139800E+21 | 9,614654E+21 |
| -944              | 1,373771E+22 | 1,740405E+22 | 1,959151E+22 | 1,959121E+22 | 1,740347E+22 | 1,373720E+22 | 9,614250E+21 | 6,139538E+21 | 4,204531E+21 | 4,204523E+21 | 6,139433E+21 | 9,613983E+21 |
| -943              | 1,373686E+22 | 1,740331E+22 | 1,959146E+22 | 1,959194E+22 | 1,740432E+22 | 1,373775E+22 | 9,614533E+21 | 6,139667E+21 | 4,204529E+21 | 4,204419E+21 | 6,139383E+21 | 9,614229E+21 |
| -942              | 1,373765E+22 | 1,740442E+22 | 1,959216E+22 | 1,959210E+22 | 1,740408E+22 | 1,373722E+22 | 9,613882E+21 | 6,139087E+21 | 4,204166E+21 | 4,204328E+21 | 6,139576E+21 | 9,614538E+21 |
| -941              | 1,373766E+22 | 1,740400E+22 | 1,959150E+22 | 1,959163E+22 | 1,740416E+22 | 1,373766E+22 | 9,614273E+21 | 6,139198E+21 | 4,203971E+21 | 4,203883E+21 | 6,138941E+21 | 9,613878E+21 |
| -940              | 1,373721E+22 | 1,740415E+22 | 1,959237E+22 | 1,959249E+22 | 1,740457E+22 | 1,373776E+22 | 9,614223E+21 | 6,139084E+21 | 4,203841E+21 | 4,203781E+21 | 6,138987E+21 | 9,614311E+21 |
| -939              | 1,373812E+22 | 1,740501E+22 | 1,959282E+22 | 1,959250E+22 | 1,740415E+22 | 1,373724E+22 | 9,613794E+21 | 6,138708E+21 | 4,203558E+21 | 4,203630E+21 | 6,138858E+21 | 9,613947E+21 |
| -938              | 1,373748E+22 | 1,740426E+22 | 1,959218E+22 | 1,959258E+22 | 1,740483E+22 | 1,373792E+22 | 9,614251E+21 | 6,138957E+21 | 4,203572E+21 | 4,203417E+21 | 6,138484E+21 | 9,613497E+21 |
| -937              | 1,373724E+22 | 1,740487E+22 | 1,959326E+22 | 1,959315E+22 | 1,740489E+22 | 1,373766E+22 | 9,613837E+21 | 6,138625E+21 | 4,203448E+21 | 4,203527E+21 | 6,138904E+21 | 9,614258E+21 |
| -936              | 1,373788E+22 | 1,740480E+22 | 1,959279E+22 | 1,959258E+22 | 1,740441E+22 | 1,373746E+22 | 9,613797E+21 | 6,138583E+21 | 4,203400E+21 | 4,203473E+21 | 6,138703E+21 | 9,613797E+21 |
| -935              | 1,373720E+22 | 1,740388E+22 | 1,959211E+22 | 1,959271E+22 | 1,740498E+22 | 1,373805E+22 | 9,614335E+21 | 6,139018E+21 | 4,203649E+21 | 4,203534E+21 | 6,138687E+21 | 9,613892E+21 |
| -934              | 1,373776E+22 | 1,740492E+22 | 1,959278E+22 | 1,959271E+22 | 1,740456E+22 | 1,373744E+22 | 9,613804E+21 | 6,138738E+21 | 4,203659E+21 | 4,203792E+21 | 6,139146E+21 | 9,614381E+21 |
| -933              | 1,373788E+22 | 1,740454E+22 | 1,959204E+22 | 1,959180E+22 | 1,740404E+22 | 1,373751E+22 | 9,614160E+21 | 6,139106E+21 | 4,203907E+21 | 4,203859E+21 | 6,138928E+21 | 9,613806E+21 |
| -932              | 1,373701E+22 | 1,740387E+22 | 1,959214E+22 | 1,959226E+22 | 1,740430E+22 | 1,373761E+22 | 9,614357E+21 | 6,139461E+21 | 4,204321E+21 | 4,204251E+21 | 6,139299E+21 | 9,614283E+21 |
| -931              | 1,373775E+22 | 1,740446E+22 | 1,959225E+22 | 1,959203E+22 | 1,740380E+22 | 1,373705E+22 | 9,613931E+21 | 6,139276E+21 | 4,204431E+21 | 4,204604E+21 | 6,139731E+21 | 9,614441E+21 |
| -930              | 1,373734E+22 | 1,740347E+22 | 1,959090E+22 | 1,959124E+22 | 1,740396E+22 | 1,373765E+22 | 9,614563E+21 | 6,139804E+21 | 4,204773E+21 | 4,204710E+21 | 6,139574E+21 | 9,614049E+21 |
| -929              | 1,373694E+22 | 1,740362E+22 | 1,959149E+22 | 1,959149E+22 | 1,740387E+22 | 1,373748E+22 | 9,614452E+21 | 6,139834E+21 | 4,204943E+21 | 4,204991E+21 | 6,140025E+21 | 9,614820E+21 |
| -928              | 1,373780E+22 | 1,740392E+22 | 1,959121E+22 | 1,959087E+22 | 1,740314E+22 | 1,373700E+22 | 9,614280E+21 | 6,139826E+21 | 4,205026E+21 | 4,205108E+21 | 6,139979E+21 | 9,614374E+21 |
| -927              | 1,373698E+22 | 1,740287E+22 | 1,959035E+22 | 1,959077E+22 | 1,740361E+22 | 1,373762E+22 | 9,614894E+21 | 6,140330E+21 | 4,205294E+21 | 4,205124E+21 | 6,139825E+21 | 9,614178E+21 |
| -926              | 1,373708E+22 | 1,740366E+22 | 1,959136E+22 | 1,959129E+22 | 1,740354E+22 | 1,373713E+22 | 9,614326E+21 | 6,139938E+21 | 4,205168E+21 | 4,205255E+21 | 6,140232E+21 | 9,614798E+21 |
| -925              | 1,373749E+22 | 1,740349E+22 | 1,959080E+22 | 1,959062E+22 | 1,740316E+22 | 1,373715E+22 | 9,614440E+21 | 6,139946E+21 | 4,205061E+21 | 4,205061E+21 | 6,139900E+21 | 9,614247E+21 |
| -924              | 1,373671E+22 | 1,740276E+22 | 1,959069E+22 | 1,959115E+22 | 1,740375E+22 | 1,373755E+22 | 9,614682E+21 | 6,140066E+21 | 4,205049E+21 | 4,204947E+21 | 6,139823E+21 | 9,614495E+21 |
| -923              | 1,373763E+22 | 1,740403E+22 | 1,959152E+22 | 1,959140E+22 | 1,740357E+22 | 1,373707E+22 | 9,614083E+21 | 6,139496E+21 | 4,204667E+21 | 4,204812E+21 | 6,139919E+21 | 9,614668E+21 |
| -922              | 1,373760E+22 | 1,740370E+22 | 1,959090E+22 | 1,959092E+22 | 1,740371E+22 | 1,373755E+22 | 9,614475E+21 | 6,139635E+21 | 4,204518E+21 | 4,204411E+21 | 6,139292E+21 | 9,613911E+21 |
| -921              | 1,373699E+22 | 1,740389E+22 | 1,959199E+22 | 1,959189E+22 | 1,740402E+22 | 1,373750E+22 | 9,614324E+21 | 6,139474E+21 | 4,204368E+21 | 4,204303E+21 | 6,139353E+21 | 9,614390E+21 |
| -920              | 1,373788E+22 | 1,740457E+22 | 1,959234E+22 | 1,959207E+22 | 1,740380E+22 | 1,373700E+22 | 9,613822E+21 | 6,139075E+21 | 4,204121E+21 | 4,204212E+21 | 6,139281E+21 | 9,614034E+21 |
| -919              | 1,373712E+22 | 1,740356E+22 | 1,959137E+22 | 1,959188E+22 | 1,740445E+22 | 1,373781E+22 | 9,614420E+21 | 6,139399E+21 | 4,204168E+21 | 4,204038E+21 | 6,139012E+21 | 9,613783E+21 |
| -918              | 1,373706E+22 | 1,740412E+22 | 1,959234E+22 | 1,959247E+22 | 1,740455E+22 | 1,373759E+22 | 9,614047E+21 | 6,139072E+21 | 4,204025E+21 | 4,204106E+21 | 6,139359E+21 | 9,614504E+21 |
| -917              | 1,373783E+22 | 1,740434E+22 | 1,959195E+22 | 1,959169E+22 | 1,740386E+22 | 1,373736E+22 | 9,614066E+21 | 6,139090E+21 | 4,203998E+21 | 4,204045E+21 | 6,139158E+21 | 9,614028E+21 |
| -916              | 1,373709E+22 | 1,740344E+22 | 1,959135E+22 | 1,959172E+22 | 1,740416E+22 | 1,373769E+22 | 9,614496E+21 | 6,139551E+21 | 4,204333E+21 | 4,204192E+21 | 6,139159E+21 | 9,614064E+21 |
| -915              | 1,373760E+22 | 1,740448E+22 | 1,959218E+22 | 1,959197E+22 | 1,740388E+22 | 1,373712E+22 | 9,613963E+21 | 6,139261E+21 | 4,204365E+21 | 4,204493E+21 | 6,139637E+21 | 9,614491E+21 |
| -914              | 1,373760E+22 | 1,740395E+22 | 1,959128E+22 | 1,959110E+22 | 1,740359E+22 | 1,373732E+22 | 9,614318E+21 | 6,139626E+21 | 4,204640E+21 | 4,204622E+21 | 6,139511E+21 | 9,613973E+21 |
| -913              | 1,373672E+22 | 1,740329E+22 | 1,959137E+22 | 1,959149E+22 | 1,740380E+22 | 1,373743E+22 | 9,614497E+21 | 6,139913E+21 | 4,204974E+21 | 4,204943E+21 | 6,139871E+21 | 9,614577E+21 |

| 1                 | 2            | 3            | 4            | 5            | 6            | 7            | 8            | 9            | 10           | 11           | 12           | 13           |
|-------------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|
| Longitude $\odot$ | 0° - 30°     | 30° - 60°    | 60° - 90°    | 90° - 120°   | 120° - 150°  | 150° - 180°  | 180° - 210°  | 210° - 240°  | 240° - 270°  | 270° - 300°  | 300° - 330°  | 330° - 360°  |
| Years             |              |              |              |              |              |              |              |              |              |              |              |              |
| -912              | 1,373762E+22 | 1,740387E+22 | 1,959141E+22 | 1,959126E+22 | 1,740334E+22 | 1,373689E+22 | 9,614095E+21 | 6,139750E+21 | 4,205083E+21 | 4,205267E+21 | 6,140232E+21 | 9,614643E+21 |
| -911              | 1,373715E+22 | 1,740286E+22 | 1,958998E+22 | 1,959029E+22 | 1,740337E+22 | 1,373753E+22 | 9,614860E+21 | 6,140382E+21 | 4,205459E+21 | 4,205370E+21 | 6,140077E+21 | 9,614278E+21 |
| -910              | 1,373679E+22 | 1,740302E+22 | 1,959067E+22 | 1,959073E+22 | 1,740336E+22 | 1,373733E+22 | 9,614706E+21 | 6,140386E+21 | 4,205616E+21 | 4,205618E+21 | 6,140437E+21 | 9,614899E+21 |
| -909              | 1,373757E+22 | 1,740345E+22 | 1,959055E+22 | 1,959013E+22 | 1,740258E+22 | 1,373683E+22 | 9,614526E+21 | 6,140372E+21 | 4,205689E+21 | 4,205747E+21 | 6,140467E+21 | 9,614527E+21 |
| -908              | 1,373667E+22 | 1,740223E+22 | 1,958959E+22 | 1,958998E+22 | 1,740296E+22 | 1,373727E+22 | 9,614985E+21 | 6,140810E+21 | 4,205963E+21 | 4,205805E+21 | 6,140372E+21 | 9,614429E+21 |
| -907              | 1,373689E+22 | 1,740303E+22 | 1,959055E+22 | 1,959052E+22 | 1,740303E+22 | 1,373696E+22 | 9,614465E+21 | 6,140348E+21 | 4,205756E+21 | 4,205872E+21 | 6,140730E+21 | 9,615046E+21 |
| -906              | 1,373740E+22 | 1,740298E+22 | 1,958998E+22 | 1,958983E+22 | 1,740271E+22 | 1,373705E+22 | 9,614623E+21 | 6,140359E+21 | 4,205612E+21 | 4,205632E+21 | 6,140352E+21 | 9,614459E+21 |
| -905              | 1,373670E+22 | 1,740251E+22 | 1,959013E+22 | 1,959039E+22 | 1,740316E+22 | 1,373731E+22 | 9,614785E+21 | 6,140422E+21 | 4,205523E+21 | 4,205415E+21 | 6,140168E+21 | 9,614648E+21 |
| -904              | 1,373760E+22 | 1,740380E+22 | 1,959110E+22 | 1,959086E+22 | 1,740311E+22 | 1,373683E+22 | 9,614154E+21 | 6,139865E+21 | 4,205176E+21 | 4,205290E+21 | 6,140202E+21 | 9,614639E+21 |
| -903              | 1,373730E+22 | 1,740328E+22 | 1,959046E+22 | 1,959042E+22 | 1,740331E+22 | 1,373739E+22 | 9,614640E+21 | 6,140070E+21 | 4,205074E+21 | 4,204956E+21 | 6,139684E+21 | 9,613993E+21 |
| -902              | 1,373667E+22 | 1,740319E+22 | 1,959134E+22 | 1,959151E+22 | 1,740384E+22 | 1,373743E+22 | 9,614474E+21 | 6,139875E+21 | 4,204913E+21 | 4,204848E+21 | 6,139743E+21 | 9,614466E+21 |
| -901              | 1,373758E+22 | 1,740393E+22 | 1,959159E+22 | 1,959146E+22 | 1,740353E+22 | 1,373704E+22 | 9,614072E+21 | 6,139504E+21 | 4,204655E+21 | 4,204762E+21 | 6,139763E+21 | 9,614288E+21 |
| -900              | 1,373694E+22 | 1,740291E+22 | 1,959048E+22 | 1,959097E+22 | 1,740380E+22 | 1,373759E+22 | 9,614600E+21 | 6,139860E+21 | 4,204762E+21 | 4,204637E+21 | 6,139507E+21 | 9,614079E+21 |
| -899              | 1,373704E+22 | 1,740362E+22 | 1,959147E+22 | 1,959150E+22 | 1,740389E+22 | 1,373740E+22 | 9,614268E+21 | 6,139558E+21 | 4,204642E+21 | 4,204710E+21 | 6,139800E+21 | 9,614685E+21 |
| -898              | 1,373777E+22 | 1,740395E+22 | 1,959122E+22 | 1,959080E+22 | 1,740322E+22 | 1,373714E+22 | 9,614262E+21 | 6,139609E+21 | 4,204675E+21 | 4,204720E+21 | 6,139646E+21 | 9,614158E+21 |
| -897              | 1,373693E+22 | 1,740311E+22 | 1,959083E+22 | 1,959098E+22 | 1,740343E+22 | 1,373729E+22 | 9,614555E+21 | 6,139999E+21 | 4,204984E+21 | 4,204865E+21 | 6,139675E+21 | 9,614248E+21 |
| -896              | 1,373740E+22 | 1,740397E+22 | 1,959158E+22 | 1,959139E+22 | 1,740343E+22 | 1,373684E+22 | 9,613997E+21 | 6,139700E+21 | 4,205042E+21 | 4,205196E+21 | 6,140169E+21 | 9,614655E+21 |
| -895              | 1,373729E+22 | 1,740325E+22 | 1,959044E+22 | 1,959033E+22 | 1,740316E+22 | 1,373722E+22 | 9,614529E+21 | 6,140130E+21 | 4,205325E+21 | 4,205336E+21 | 6,140103E+21 | 9,614277E+21 |
| -894              | 1,373655E+22 | 1,740252E+22 | 1,959041E+22 | 1,959075E+22 | 1,740341E+22 | 1,373739E+22 | 9,614777E+21 | 6,140441E+21 | 4,205632E+21 | 4,205583E+21 | 6,140334E+21 | 9,614752E+21 |
| -893              | 1,373749E+22 | 1,740337E+22 | 1,959058E+22 | 1,959038E+22 | 1,740280E+22 | 1,373684E+22 | 9,614440E+21 | 6,140340E+21 | 4,205753E+21 | 4,205894E+21 | 6,140699E+21 | 9,614811E+21 |
| -892              | 1,373693E+22 | 1,740230E+22 | 1,958919E+22 | 1,958931E+22 | 1,740256E+22 | 1,373721E+22 | 9,615083E+21 | 6,140982E+21 | 4,206199E+21 | 4,206068E+21 | 6,140567E+21 | 9,614421E+21 |
| -891              | 1,373655E+22 | 1,740242E+22 | 1,958992E+22 | 1,958992E+22 | 1,740271E+22 | 1,373709E+22 | 9,614907E+21 | 6,140930E+21 | 4,206333E+21 | 4,206329E+21 | 6,140945E+21 | 9,615008E+21 |
| -890              | 1,373727E+22 | 1,740279E+22 | 1,958973E+22 | 1,958938E+22 | 1,740211E+22 | 1,373666E+22 | 9,614687E+21 | 6,140860E+21 | 4,206371E+21 | 4,206463E+21 | 6,141035E+21 | 9,614730E+21 |
| -889              | 1,373647E+22 | 1,740172E+22 | 1,958886E+22 | 1,958921E+22 | 1,740240E+22 | 1,373703E+22 | 9,615058E+21 | 6,141171E+21 | 4,206510E+21 | 4,206402E+21 | 6,140889E+21 | 9,614740E+21 |
| -888              | 1,373689E+22 | 1,740262E+22 | 1,958988E+22 | 1,958987E+22 | 1,740257E+22 | 1,373675E+22 | 9,614538E+21 | 6,140709E+21 | 4,206274E+21 | 4,206393E+21 | 6,141125E+21 | 9,615222E+21 |
| -887              | 1,373732E+22 | 1,740259E+22 | 1,958933E+22 | 1,958912E+22 | 1,740225E+22 | 1,373693E+22 | 9,614817E+21 | 6,140782E+21 | 4,206134E+21 | 4,206133E+21 | 6,140725E+21 | 9,614615E+21 |
| -886              | 1,373659E+22 | 1,740210E+22 | 1,958962E+22 | 1,958993E+22 | 1,740281E+22 | 1,373720E+22 | 9,614976E+21 | 6,140838E+21 | 4,206034E+21 | 4,205885E+21 | 6,140450E+21 | 9,614633E+21 |
| -885              | 1,373735E+22 | 1,740342E+22 | 1,959067E+22 | 1,959041E+22 | 1,740275E+22 | 1,373674E+22 | 9,614362E+21 | 6,140301E+21 | 4,205699E+21 | 4,205801E+21 | 6,140590E+21 | 9,614706E+21 |
| -884              | 1,373692E+22 | 1,740259E+22 | 1,958974E+22 | 1,958977E+22 | 1,740281E+22 | 1,373717E+22 | 9,614758E+21 | 6,140495E+21 | 4,205659E+21 | 4,205555E+21 | 6,140174E+21 | 9,614213E+21 |
| -883              | 1,373647E+22 | 1,740248E+22 | 1,959042E+22 | 1,959071E+22 | 1,740339E+22 | 1,373737E+22 | 9,614669E+21 | 6,140278E+21 | 4,205472E+21 | 4,205440E+21 | 6,140227E+21 | 9,614692E+21 |
| -882              | 1,373747E+22 | 1,740336E+22 | 1,959066E+22 | 1,959053E+22 | 1,740297E+22 | 1,373693E+22 | 9,614295E+21 | 6,139957E+21 | 4,205235E+21 | 4,205359E+21 | 6,140237E+21 | 9,614513E+21 |
| -881              | 1,373695E+22 | 1,740264E+22 | 1,958979E+22 | 1,959004E+22 | 1,740303E+22 | 1,373724E+22 | 9,614685E+21 | 6,140260E+21 | 4,205312E+21 | 4,205190E+21 | 6,139929E+21 | 9,614283E+21 |
| -880              | 1,373704E+22 | 1,740339E+22 | 1,959097E+22 | 1,959081E+22 | 1,740322E+22 | 1,373702E+22 | 9,614303E+21 | 6,139988E+21 | 4,205254E+21 | 4,205299E+21 | 6,140188E+21 | 9,614732E+21 |
| -879              | 1,373751E+22 | 1,740349E+22 | 1,959068E+22 | 1,959022E+22 | 1,740271E+22 | 1,373689E+22 | 9,614394E+21 | 6,140088E+21 | 4,205329E+21 | 4,205383E+21 | 6,140155E+21 | 9,614316E+21 |
| -878              | 1,373663E+22 | 1,740241E+22 | 1,959016E+22 | 1,959055E+22 | 1,740316E+22 | 1,373720E+22 | 9,614725E+21 | 6,140459E+21 | 4,205619E+21 | 4,205510E+21 | 6,140157E+21 | 9,614377E+21 |
| -877              | 1,373711E+22 | 1,740333E+22 | 1,959080E+22 | 1,959073E+22 | 1,740310E+22 | 1,373688E+22 | 9,614315E+21 | 6,140224E+21 | 4,205680E+21 | 4,205846E+21 | 6,140712E+21 | 9,614893E+21 |

| 1<br>Longitude $\odot$<br>Years | 2<br>0° - 30° | 3<br>30° - 60° | 4<br>60° - 90° | 5<br>90° - 120° | 6<br>120° - 150° | 7<br>150° - 180° | 8<br>180° - 210° | 9<br>210° - 240° | 10<br>240° - 270° | 11<br>270° - 300° | 12<br>300° - 330° | 13<br>330° - 360° |
|---------------------------------|---------------|----------------|----------------|-----------------|------------------|------------------|------------------|------------------|-------------------|-------------------|-------------------|-------------------|
| -876                            | 1,373704E+22  | 1,740252E+22   | 1,958948E+22   | 1,958940E+22    | 1,740252E+22     | 1,373707E+22     | 9,614824E+21     | 6,140726E+21     | 4,206052E+21      | 4,206045E+21      | 6,140651E+21      | 9,614542E+21      |
| -875                            | 1,373646E+22  | 1,740191E+22   | 1,958940E+22   | 1,958971E+22    | 1,740277E+22     | 1,373730E+22     | 9,615103E+21     | 6,141052E+21     | 4,206380E+21      | 4,206301E+21      | 6,140835E+21      | 9,614873E+21      |
| -874                            | 1,373727E+22  | 1,740282E+22   | 1,958973E+22   | 1,958942E+22    | 1,740211E+22     | 1,373664E+22     | 9,614722E+21     | 6,140967E+21     | 4,206537E+21      | 4,206659E+21      | 6,141245E+21      | 9,614944E+21      |
| -873                            | 1,373670E+22  | 1,740181E+22   | 1,958849E+22   | 1,958849E+22    | 1,740178E+22     | 1,373677E+22     | 9,615150E+21     | 6,141474E+21     | 4,206906E+21      | 4,206801E+21      | 6,141154E+21      | 9,614669E+21      |
| -872                            | 1,373635E+22  | 1,740182E+22   | 1,958915E+22   | 1,958923E+22    | 1,740217E+22     | 1,373674E+22     | 9,614918E+21     | 6,141357E+21     | 4,206994E+21      | 4,207018E+21      | 6,141500E+21      | 9,615243E+21      |
| -871                            | 1,373706E+22  | 1,740217E+22   | 1,958889E+22   | 1,958862E+22    | 1,740164E+22     | 1,373652E+22     | 9,614844E+21     | 6,141279E+21     | 4,206959E+21      | 4,207092E+21      | 6,141593E+21      | 9,615076E+21      |
| -870                            | 1,373644E+22  | 1,740119E+22   | 1,958810E+22   | 1,958857E+22    | 1,740198E+22     | 1,373692E+22     | 9,615238E+21     | 6,141562E+21     | 4,207013E+21      | 4,206895E+21      | 6,141248E+21      | 9,614885E+21      |
| -869                            | 1,373684E+22  | 1,740235E+22   | 1,958933E+22   | 1,958921E+22    | 1,740214E+22     | 1,373670E+22     | 9,614796E+21     | 6,141148E+21     | 4,206769E+21      | 4,206856E+21      | 6,141459E+21      | 9,615298E+21      |
| -868                            | 1,373710E+22  | 1,740218E+22   | 1,958881E+22   | 1,958849E+22    | 1,740166E+22     | 1,373668E+22     | 9,614974E+21     | 6,141237E+21     | 4,206703E+21      | 4,206664E+21      | 6,141074E+21      | 9,614667E+21      |
| -867                            | 1,373634E+22  | 1,740156E+22   | 1,958896E+22   | 1,958934E+22    | 1,740241E+22     | 1,373710E+22     | 9,615159E+21     | 6,141268E+21     | 4,206603E+21      | 4,206447E+21      | 6,140835E+21      | 9,614646E+21      |
| -866                            | 1,373698E+22  | 1,740277E+22   | 1,958991E+22   | 1,958980E+22    | 1,740243E+22     | 1,373669E+22     | 9,614563E+21     | 6,140731E+21     | 4,206270E+21      | 4,206392E+21      | 6,141051E+21      | 9,614860E+21      |
| -865                            | 1,373672E+22  | 1,740207E+22   | 1,958898E+22   | 1,958901E+22    | 1,740223E+22     | 1,373694E+22     | 9,614858E+21     | 6,140845E+21     | 4,206157E+21      | 4,206094E+21      | 6,140649E+21      | 9,614505E+21      |
| -864                            | 1,373646E+22  | 1,740206E+22   | 1,958966E+22   | 1,958995E+22    | 1,740282E+22     | 1,373711E+22     | 9,614761E+21     | 6,140665E+21     | 4,205995E+21      | 4,205957E+21      | 6,140626E+21      | 9,614869E+21      |
| -863                            | 1,373740E+22  | 1,740300E+22   | 1,958997E+22   | 1,958972E+22    | 1,740239E+22     | 1,373673E+22     | 9,614473E+21     | 6,140398E+21     | 4,205798E+21      | 4,205916E+21      | 6,140673E+21      | 9,614707E+21      |
| -862                            | 1,373685E+22  | 1,740225E+22   | 1,958929E+22   | 1,958951E+22    | 1,740252E+22     | 1,373701E+22     | 9,614819E+21     | 6,140689E+21     | 4,205883E+21      | 4,205745E+21      | 6,140302E+21      | 9,614332E+21      |
| -861                            | 1,373682E+22  | 1,740300E+22   | 1,959051E+22   | 1,959035E+22    | 1,740282E+22     | 1,373685E+22     | 9,614482E+21     | 6,140458E+21     | 4,205863E+21      | 4,205920E+21      | 6,140686E+21      | 9,614871E+21      |
| -860                            | 1,373714E+22  | 1,740278E+22   | 1,958990E+22   | 1,958957E+22    | 1,740223E+22     | 1,373668E+22     | 9,614543E+21     | 6,140585E+21     | 4,206020E+21      | 4,206090E+21      | 6,140727E+21      | 9,614585E+21      |
| -859                            | 1,373644E+22  | 1,740169E+22   | 1,958915E+22   | 1,958967E+22    | 1,740272E+22     | 1,373721E+22     | 9,615023E+21     | 6,140991E+21     | 4,206313E+21      | 4,206220E+21      | 6,140710E+21      | 9,614589E+21      |
| -858                            | 1,373691E+22  | 1,740268E+22   | 1,958979E+22   | 1,958975E+22    | 1,740252E+22     | 1,373683E+22     | 9,614668E+21     | 6,140838E+21     | 4,206416E+21      | 4,206565E+21      | 6,141242E+21      | 9,615090E+21      |
| -857                            | 1,373693E+22  | 1,740208E+22   | 1,958863E+22   | 1,958838E+22    | 1,740169E+22     | 1,373674E+22     | 9,615018E+21     | 6,141283E+21     | 4,206768E+21      | 4,206750E+21      | 6,141179E+21      | 9,614755E+21      |
| -856                            | 1,373634E+22  | 1,740147E+22   | 1,958866E+22   | 1,958887E+22    | 1,740203E+22     | 1,373691E+22     | 9,615213E+21     | 6,141596E+21     | 4,207119E+21      | 4,207018E+21      | 6,141343E+21      | 9,614981E+21      |
| -855                            | 1,373694E+22  | 1,740219E+22   | 1,958893E+22   | 1,958865E+22    | 1,740153E+22     | 1,373638E+22     | 9,614868E+21     | 6,141484E+21     | 4,207251E+21      | 4,207396E+21      | 6,141845E+21      | 9,615193E+21      |
| -854                            | 1,373644E+22  | 1,740111E+22   | 1,958771E+22   | 1,958790E+22    | 1,740138E+22     | 1,373661E+22     | 9,615274E+21     | 6,141898E+21     | 4,207517E+21      | 4,207437E+21      | 6,141665E+21      | 9,614897E+21      |
| -853                            | 1,373621E+22  | 1,740133E+22   | 1,958843E+22   | 1,958855E+22    | 1,740173E+22     | 1,373666E+22     | 9,615142E+21     | 6,141793E+21     | 4,207541E+21      | 4,207590E+21      | 6,141999E+21      | 9,615500E+21      |
| -852                            | 1,373692E+22  | 1,740160E+22   | 1,958807E+22   | 1,958781E+22    | 1,740105E+22     | 1,373633E+22     | 9,615047E+21     | 6,141758E+21     | 4,207549E+21      | 4,207657E+21      | 6,142021E+21      | 9,615294E+21      |
| -851                            | 1,373641E+22  | 1,740080E+22   | 1,958736E+22   | 1,958776E+22    | 1,740149E+22     | 1,373687E+22     | 9,615498E+21     | 6,142037E+21     | 4,207596E+21      | 4,207442E+21      | 6,141601E+21      | 9,614909E+21      |
| -850                            | 1,373659E+22  | 1,740196E+22   | 1,958875E+22   | 1,958854E+22    | 1,740163E+22     | 1,373657E+22     | 9,615054E+21     | 6,141659E+21     | 4,207384E+21      | 4,207435E+21      | 6,141829E+21      | 9,615312E+21      |
| -849                            | 1,373681E+22  | 1,740173E+22   | 1,958825E+22   | 1,958792E+22    | 1,740111E+22     | 1,373636E+22     | 9,615039E+21     | 6,141631E+21     | 4,207263E+21      | 4,207242E+21      | 6,141527E+21      | 9,614830E+21      |
| -848                            | 1,373612E+22  | 1,740100E+22   | 1,958821E+22   | 1,958874E+22    | 1,740200E+22     | 1,373685E+22     | 9,615192E+21     | 6,141629E+21     | 4,207146E+21      | 4,207007E+21      | 6,141285E+21      | 9,614822E+21      |
| -847                            | 1,373673E+22  | 1,740213E+22   | 1,958903E+22   | 1,958904E+22    | 1,740199E+22     | 1,373658E+22     | 9,614731E+21     | 6,141113E+21     | 4,206783E+21      | 4,206935E+21      | 6,141533E+21      | 9,615161E+21      |
| -846                            | 1,373667E+22  | 1,740159E+22   | 1,958828E+22   | 1,958836E+22    | 1,740174E+22     | 1,373676E+22     | 9,615007E+21     | 6,141217E+21     | 4,206633E+21      | 4,206559E+21      | 6,140997E+21      | 9,614660E+21      |
| -845                            | 1,373643E+22  | 1,740185E+22   | 1,958916E+22   | 1,958928E+22    | 1,740227E+22     | 1,373693E+22     | 9,614956E+21     | 6,141095E+21     | 4,206508E+21      | 4,206457E+21      | 6,141006E+21      | 9,614968E+21      |
| -844                            | 1,373716E+22  | 1,740258E+22   | 1,958944E+22   | 1,958910E+22    | 1,740178E+22     | 1,373643E+22     | 9,614605E+21     | 6,140873E+21     | 4,206422E+21      | 4,206520E+21      | 6,141105E+21      | 9,614835E+21      |
| -843                            | 1,373663E+22  | 1,740174E+22   | 1,958860E+22   | 1,958890E+22    | 1,740216E+22     | 1,373692E+22     | 9,614998E+21     | 6,141152E+21     | 4,206527E+21      | 4,206402E+21      | 6,140783E+21      | 9,614420E+21      |
| -842                            | 1,373646E+22  | 1,740234E+22   | 1,958970E+22   | 1,958969E+22    | 1,740249E+22     | 1,373684E+22     | 9,614750E+21     | 6,140979E+21     | 4,206541E+21      | 4,206609E+21      | 6,141214E+21      | 9,615080E+21      |
| -841                            | 1,373696E+22  | 1,740218E+22   | 1,958902E+22   | 1,958876E+22    | 1,740165E+22     | 1,373648E+22     | 9,614734E+21     | 6,141069E+21     | 4,206668E+21      | 4,206764E+21      | 6,141288E+21      | 9,614901E+21      |



| 1<br>Longitude ☉ | 2<br>0° - 30° | 3<br>30° - 60° | 4<br>60° - 90° | 5<br>90° - 120° | 6<br>120° - 150° | 7<br>150° - 180° | 8<br>180° - 210° | 9<br>210° - 240° | 10<br>240° - 270° | 11<br>270° - 300° | 12<br>300° - 330° | 13<br>330° - 360° |
|------------------|---------------|----------------|----------------|-----------------|------------------|------------------|------------------|------------------|-------------------|-------------------|-------------------|-------------------|
| -840             | 1,373638E+22  | 1,740115E+22   | 1,958819E+22   | 1,958876E+22    | 1,740210E+22     | 1,373697E+22     | 9,615227E+21     | 6,141543E+21     | 4,207008E+21      | 4,206887E+21      | 6,141208E+21      | 9,614775E+21      |
| -839             | 1,373671E+22  | 1,740214E+22   | 1,958891E+22   | 1,958881E+22    | 1,740186E+22     | 1,373664E+22     | 9,614941E+21     | 6,141427E+21     | 4,207143E+21      | 4,207276E+21      | 6,141788E+21      | 9,615306E+21      |
| -838             | 1,373673E+22  | 1,740154E+22   | 1,958795E+22   | 1,958767E+22    | 1,740102E+22     | 1,373643E+22     | 9,615191E+21     | 6,141819E+21     | 4,207470E+21      | 4,207438E+21      | 6,141675E+21      | 9,614878E+21      |
| -837             | 1,373607E+22  | 1,740095E+22   | 1,958797E+22   | 1,958819E+22    | 1,740148E+22     | 1,373666E+22     | 9,615378E+21     | 6,142106E+21     | 4,207799E+21      | 4,207730E+21      | 6,141938E+21      | 9,615203E+21      |
| -836             | 1,373661E+22  | 1,740145E+22   | 1,958802E+22   | 1,958784E+22    | 1,740095E+22     | 1,373613E+22     | 9,614994E+21     | 6,141972E+21     | 4,207942E+21      | 4,208112E+21      | 6,142440E+21      | 9,615531E+21      |
| -835             | 1,373636E+22  | 1,740051E+22   | 1,958671E+22   | 1,958696E+22    | 1,740089E+22     | 1,373655E+22     | 9,615500E+21     | 6,142365E+21     | 4,208145E+21      | 4,208077E+21      | 6,142157E+21      | 9,615110E+21      |
| -834             | 1,373610E+22  | 1,740087E+22   | 1,958762E+22   | 1,958771E+22    | 1,740120E+22     | 1,373657E+22     | 9,615433E+21     | 6,142327E+21     | 4,208173E+21      | 4,208180E+21      | 6,142398E+21      | 9,615644E+21      |
| -833             | 1,373685E+22  | 1,740131E+22   | 1,958747E+22   | 1,958706E+22    | 1,740038E+22     | 1,373601E+22     | 9,615181E+21     | 6,142215E+21     | 4,208137E+21      | 4,208218E+21      | 6,142402E+21      | 9,615393E+21      |
| -832             | 1,373623E+22  | 1,740044E+22   | 1,958683E+22   | 1,958721E+22    | 1,740098E+22     | 1,373656E+22     | 9,615594E+21     | 6,142490E+21     | 4,208190E+21      | 4,208004E+21      | 6,141971E+21      | 9,614908E+21      |
| -831             | 1,373617E+22  | 1,740133E+22   | 1,958810E+22   | 1,958802E+22    | 1,740129E+22     | 1,373644E+22     | 9,615208E+21     | 6,142080E+21     | 4,207950E+21      | 4,208019E+21      | 6,142296E+21      | 9,615466E+21      |
| -830             | 1,373648E+22  | 1,740105E+22   | 1,958756E+22   | 1,958742E+22    | 1,740080E+22     | 1,373627E+22     | 9,615173E+21     | 6,141979E+21     | 4,207747E+21      | 4,207748E+21      | 6,141939E+21      | 9,615015E+21      |
| -829             | 1,373598E+22  | 1,740053E+22   | 1,958750E+22   | 1,958807E+22    | 1,740160E+22     | 1,373678E+22     | 9,615395E+21     | 6,142000E+21     | 4,207605E+21      | 4,207498E+21      | 6,141728E+21      | 9,615065E+21      |
| -828             | 1,373660E+22  | 1,740161E+22   | 1,958821E+22   | 1,958823E+22    | 1,740142E+22     | 1,373637E+22     | 9,614896E+21     | 6,141546E+21     | 4,207324E+21      | 4,207456E+21      | 6,141941E+21      | 9,615407E+21      |
| -827             | 1,373668E+22  | 1,740129E+22   | 1,958757E+22   | 1,958754E+22    | 1,740123E+22     | 1,373665E+22     | 9,615197E+21     | 6,141655E+21     | 4,207199E+21      | 4,207107E+21      | 6,141373E+21      | 9,614741E+21      |
| -826             | 1,373623E+22  | 1,740151E+22   | 1,958867E+22   | 1,958868E+22    | 1,740175E+22     | 1,373671E+22     | 9,615150E+21     | 6,141593E+21     | 4,207138E+21      | 4,207066E+21      | 6,141424E+21      | 9,615072E+21      |
| -825             | 1,373694E+22  | 1,740212E+22   | 1,958884E+22   | 1,958854E+22    | 1,740126E+22     | 1,373610E+22     | 9,614654E+21     | 6,141286E+21     | 4,207034E+21      | 4,207164E+21      | 6,141627E+21      | 9,615073E+21      |
| -824             | 1,373646E+22  | 1,740120E+22   | 1,958782E+22   | 1,958825E+22    | 1,740174E+22     | 1,373671E+22     | 9,615104E+21     | 6,141589E+21     | 4,207150E+21      | 4,207047E+21      | 6,141304E+21      | 9,614645E+21      |
| -823             | 1,373622E+22  | 1,740167E+22   | 1,958875E+22   | 1,958882E+22    | 1,740200E+22     | 1,373677E+22     | 9,615016E+21     | 6,141482E+21     | 4,207175E+21      | 4,207257E+21      | 6,141743E+21      | 9,615349E+21      |
| -822             | 1,373682E+22  | 1,740163E+22   | 1,958822E+22   | 1,958796E+22    | 1,740108E+22     | 1,373631E+22     | 9,614974E+21     | 6,141587E+21     | 4,207302E+21      | 4,207367E+21      | 6,141718E+21      | 9,615052E+21      |
| -821             | 1,373626E+22  | 1,740082E+22   | 1,958751E+22   | 1,958791E+22    | 1,740145E+22     | 1,373674E+22     | 9,615467E+21     | 6,142094E+21     | 4,207683E+21      | 4,207548E+21      | 6,141698E+21      | 9,614893E+21      |
| -820             | 1,373636E+22  | 1,740148E+22   | 1,958810E+22   | 1,958798E+22    | 1,740116E+22     | 1,373630E+22     | 9,615110E+21     | 6,142011E+21     | 4,207906E+21      | 4,208018E+21      | 6,142333E+21      | 9,615497E+21      |
| -819             | 1,373647E+22  | 1,740087E+22   | 1,958704E+22   | 1,958685E+22    | 1,740055E+22     | 1,373629E+22     | 9,615370E+21     | 6,142346E+21     | 4,208204E+21      | 4,208189E+21      | 6,142249E+21      | 9,615057E+21      |
| -818             | 1,373575E+22  | 1,740028E+22   | 1,958711E+22   | 1,958737E+22    | 1,740097E+22     | 1,373653E+22     | 9,615621E+21     | 6,142651E+21     | 4,208512E+21      | 4,208448E+21      | 6,142494E+21      | 9,615475E+21      |
| -817             | 1,373649E+22  | 1,740089E+22   | 1,958715E+22   | 1,958698E+22    | 1,740032E+22     | 1,373586E+22     | 9,615153E+21     | 6,142448E+21     | 4,208584E+21      | 4,208769E+21      | 6,142971E+21      | 9,615835E+21      |
| -816             | 1,373636E+22  | 1,740012E+22   | 1,958593E+22   | 1,958615E+22    | 1,740031E+22     | 1,373630E+22     | 9,615664E+21     | 6,142864E+21     | 4,208777E+21      | 4,208679E+21      | 6,142580E+21      | 9,615235E+21      |
| -815             | 1,373590E+22  | 1,740042E+22   | 1,958694E+22   | 1,958695E+22    | 1,740067E+22     | 1,373642E+22     | 9,615670E+21     | 6,142839E+21     | 4,208805E+21      | 4,208786E+21      | 6,142825E+21      | 9,615749E+21      |
| -814             | 1,373657E+22  | 1,740081E+22   | 1,958699E+22   | 1,958660E+22    | 1,739994E+22     | 1,373579E+22     | 9,615326E+21     | 6,142659E+21     | 4,208718E+21      | 4,208781E+21      | 6,142793E+21      | 9,615453E+21      |
| -813             | 1,373593E+22  | 1,739993E+22   | 1,958624E+22   | 1,958668E+22    | 1,740063E+22     | 1,373641E+22     | 9,615731E+21     | 6,142890E+21     | 4,208735E+21      | 4,208589E+21      | 6,142468E+21      | 9,615082E+21      |
| -812             | 1,373580E+22  | 1,740053E+22   | 1,958719E+22   | 1,958727E+22    | 1,740085E+22     | 1,373631E+22     | 9,615356E+21     | 6,142488E+21     | 4,208510E+21      | 4,208600E+21      | 6,142792E+21      | 9,615773E+21      |
| -811             | 1,373642E+22  | 1,740050E+22   | 1,958661E+22   | 1,958651E+22    | 1,740036E+22     | 1,373624E+22     | 9,615380E+21     | 6,142379E+21     | 4,208267E+21      | 4,208279E+21      | 6,142357E+21      | 9,615220E+21      |
| -810             | 1,373591E+22  | 1,740018E+22   | 1,958681E+22   | 1,958724E+22    | 1,740102E+22     | 1,373662E+22     | 9,615622E+21     | 6,142466E+21     | 4,208157E+21      | 4,208010E+21      | 6,142079E+21      | 9,615236E+21      |
| -809             | 1,373662E+22  | 1,740139E+22   | 1,958770E+22   | 1,958750E+22    | 1,740073E+22     | 1,373600E+22     | 9,614959E+21     | 6,141944E+21     | 4,207869E+21      | 4,207989E+21      | 6,142320E+21      | 9,615551E+21      |
| -808             | 1,373660E+22  | 1,740101E+22   | 1,958711E+22   | 1,958701E+22    | 1,740072E+22     | 1,373629E+22     | 9,615236E+21     | 6,142059E+21     | 4,207764E+21      | 4,207663E+21      | 6,141761E+21      | 9,614799E+21      |
| -807             | 1,373590E+22  | 1,740096E+22   | 1,958807E+22   | 1,958818E+22    | 1,740145E+22     | 1,373660E+22     | 9,615291E+21     | 6,142004E+21     | 4,207711E+21      | 4,207662E+21      | 6,141901E+21      | 9,615252E+21      |
| -806             | 1,373666E+22  | 1,740150E+22   | 1,958822E+22   | 1,958803E+22    | 1,740094E+22     | 1,373601E+22     | 9,614816E+21     | 6,141682E+21     | 4,207569E+21      | 4,207712E+21      | 6,142054E+21      | 9,615250E+21      |
| -805             | 1,373629E+22  | 1,740068E+22   | 1,958707E+22   | 1,958751E+22    | 1,740131E+22     | 1,373664E+22     | 9,615370E+21     | 6,142062E+21     | 4,207728E+21      | 4,207642E+21      | 6,141791E+21      | 9,614844E+21      |

| 1<br>Longitude ☉ | 2            | 3            | 4            | 5            | 6            | 7            | 8            | 9            | 10           | 11           | 12           | 13           |
|------------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|
| Years            | 0° - 30°     | 30° - 60°    | 60° - 90°    | 90° - 120°   | 120° - 150°  | 150° - 180°  | 180° - 210°  | 210° - 240°  | 240° - 270°  | 270° - 300°  | 300° - 330°  | 330° - 360°  |
| -804             | 1,373597E+22 | 1,740099E+22 | 1,958780E+22 | 1,958789E+22 | 1,740140E+22 | 1,373661E+22 | 9,615284E+21 | 6,142056E+21 | 4,207872E+21 | 4,207917E+21 | 6,142221E+21 | 9,615548E+21 |
| -803             | 1,373669E+22 | 1,740113E+22 | 1,958732E+22 | 1,958694E+22 | 1,740047E+22 | 1,373618E+22 | 9,615241E+21 | 6,142177E+21 | 4,208046E+21 | 4,208085E+21 | 6,142210E+21 | 9,615147E+21 |
| -802             | 1,373596E+22 | 1,740026E+22 | 1,958679E+22 | 1,958709E+22 | 1,740078E+22 | 1,373647E+22 | 9,615699E+21 | 6,142715E+21 | 4,208473E+21 | 4,208313E+21 | 6,142248E+21 | 9,615093E+21 |
| -801             | 1,373613E+22 | 1,740082E+22 | 1,958724E+22 | 1,958715E+22 | 1,740049E+22 | 1,373590E+22 | 9,615163E+21 | 6,142506E+21 | 4,208644E+21 | 4,208794E+21 | 6,142971E+21 | 9,615831E+21 |
| -800             | 1,373634E+22 | 1,740026E+22 | 1,958613E+22 | 1,958599E+22 | 1,739996E+22 | 1,373598E+22 | 9,615470E+21 | 6,142824E+21 | 4,208886E+21 | 4,208903E+21 | 6,142833E+21 | 9,615348E+21 |
| -799             | 1,373561E+22 | 1,739968E+22 | 1,958621E+22 | 1,958649E+22 | 1,740043E+22 | 1,373639E+22 | 9,615844E+21 | 6,143148E+21 | 4,209159E+21 | 4,209110E+21 | 6,143028E+21 | 9,615748E+21 |
| -798             | 1,373639E+22 | 1,740046E+22 | 1,958651E+22 | 1,958626E+22 | 1,739978E+22 | 1,373568E+22 | 9,615353E+21 | 6,142929E+21 | 4,209186E+21 | 4,209340E+21 | 6,143360E+21 | 9,615942E+21 |
| -797             | 1,373621E+22 | 1,739983E+22 | 1,958544E+22 | 1,958550E+22 | 1,739982E+22 | 1,373614E+22 | 9,615880E+21 | 6,143345E+21 | 4,209385E+21 | 4,209282E+21 | 6,143010E+21 | 9,615288E+21 |
| -796             | 1,373550E+22 | 1,739974E+22 | 1,958623E+22 | 1,958632E+22 | 1,740020E+22 | 1,373623E+22 | 9,615853E+21 | 6,143346E+21 | 4,209460E+21 | 4,209423E+21 | 6,143278E+21 | 9,615863E+21 |
| -795             | 1,373628E+22 | 1,740014E+22 | 1,958610E+22 | 1,958588E+22 | 1,739966E+22 | 1,373579E+22 | 9,615523E+21 | 6,143107E+21 | 4,209323E+21 | 4,209399E+21 | 6,143264E+21 | 9,615596E+21 |
| -794             | 1,373564E+22 | 1,739929E+22 | 1,958543E+22 | 1,958591E+22 | 1,740019E+22 | 1,373634E+22 | 9,615973E+21 | 6,143351E+21 | 4,209309E+21 | 4,209157E+21 | 6,142919E+21 | 9,615357E+21 |
| -793             | 1,373577E+22 | 1,739999E+22 | 1,958633E+22 | 1,958640E+22 | 1,740023E+22 | 1,373604E+22 | 9,615470E+21 | 6,142878E+21 | 4,209029E+21 | 4,209129E+21 | 6,143229E+21 | 9,616063E+21 |
| -792             | 1,373652E+22 | 1,740024E+22 | 1,958597E+22 | 1,958572E+22 | 1,739974E+22 | 1,373593E+22 | 9,615482E+21 | 6,142782E+21 | 4,208783E+21 | 4,208778E+21 | 6,142720E+21 | 9,615355E+21 |
| -791             | 1,373582E+22 | 1,739991E+22 | 1,958634E+22 | 1,958657E+22 | 1,740045E+22 | 1,373638E+22 | 9,615749E+21 | 6,142871E+21 | 4,208693E+21 | 4,208541E+21 | 6,142461E+21 | 9,615329E+21 |
| -790             | 1,373639E+22 | 1,740102E+22 | 1,958740E+22 | 1,958712E+22 | 1,740032E+22 | 1,373574E+22 | 9,615024E+21 | 6,142314E+21 | 4,208387E+21 | 4,208505E+21 | 6,142683E+21 | 9,615613E+21 |
| -789             | 1,373636E+22 | 1,740059E+22 | 1,958666E+22 | 1,958659E+22 | 1,740046E+22 | 1,373616E+22 | 9,615328E+21 | 6,142408E+21 | 4,208288E+21 | 4,208238E+21 | 6,142235E+21 | 9,614952E+21 |
| -788             | 1,373556E+22 | 1,740016E+22 | 1,958715E+22 | 1,958745E+22 | 1,740107E+22 | 1,373654E+22 | 9,615494E+21 | 6,142453E+21 | 4,208306E+21 | 4,208264E+21 | 6,142372E+21 | 9,615483E+21 |
| -787             | 1,373653E+22 | 1,740089E+22 | 1,958722E+22 | 1,958711E+22 | 1,740055E+22 | 1,373604E+22 | 9,615110E+21 | 6,142194E+21 | 4,208197E+21 | 4,208322E+21 | 6,142494E+21 | 9,615396E+21 |
| -786             | 1,373611E+22 | 1,740019E+22 | 1,958630E+22 | 1,958657E+22 | 1,740066E+22 | 1,373649E+22 | 9,615683E+21 | 6,142673E+21 | 4,208440E+21 | 4,208294E+21 | 6,142233E+21 | 9,615009E+21 |
| -785             | 1,373583E+22 | 1,740046E+22 | 1,958702E+22 | 1,958697E+22 | 1,740061E+22 | 1,373623E+22 | 9,615426E+21 | 6,142606E+21 | 4,208605E+21 | 4,208641E+21 | 6,142748E+21 | 9,615730E+21 |
| -784             | 1,373650E+22 | 1,740061E+22 | 1,958659E+22 | 1,958617E+22 | 1,739981E+22 | 1,373579E+22 | 9,615335E+21 | 6,142706E+21 | 4,208780E+21 | 4,208837E+21 | 6,142785E+21 | 9,615321E+21 |
| -783             | 1,373564E+22 | 1,739956E+22 | 1,958595E+22 | 1,958630E+22 | 1,740027E+22 | 1,373626E+22 | 9,615833E+21 | 6,143201E+21 | 4,209178E+21 | 4,209066E+21 | 6,142877E+21 | 9,615391E+21 |
| -782             | 1,373592E+22 | 1,740018E+22 | 1,958650E+22 | 1,958643E+22 | 1,739999E+22 | 1,373572E+22 | 9,615319E+21 | 6,142956E+21 | 4,209270E+21 | 4,209446E+21 | 6,143502E+21 | 9,616111E+21 |
| -781             | 1,373629E+22 | 1,739982E+22 | 1,958541E+22 | 1,958523E+22 | 1,739947E+22 | 1,373585E+22 | 9,615686E+21 | 6,143293E+21 | 4,209504E+21 | 4,209546E+21 | 6,143348E+21 | 9,615567E+21 |
| -780             | 1,373543E+22 | 1,739908E+22 | 1,958534E+22 | 1,958562E+22 | 1,739987E+22 | 1,373626E+22 | 9,616112E+21 | 6,143712E+21 | 4,209845E+21 | 4,209757E+21 | 6,143480E+21 | 9,615900E+21 |
| -779             | 1,373625E+22 | 1,740001E+22 | 1,958574E+22 | 1,958543E+22 | 1,739930E+22 | 1,373562E+22 | 9,615638E+21 | 6,143497E+21 | 4,209882E+21 | 4,210000E+21 | 6,143794E+21 | 9,615971E+21 |
| -778             | 1,373584E+22 | 1,739925E+22 | 1,958482E+22 | 1,958484E+22 | 1,739931E+22 | 1,373598E+22 | 9,616136E+21 | 6,143921E+21 | 4,210092E+21 | 4,209955E+21 | 6,143493E+21 | 9,615458E+21 |
| -777             | 1,373525E+22 | 1,739900E+22 | 1,958535E+22 | 1,958555E+22 | 1,739967E+22 | 1,373597E+22 | 9,615941E+21 | 6,143780E+21 | 4,210090E+21 | 4,210087E+21 | 6,143826E+21 | 9,616144E+21 |
| -776             | 1,373617E+22 | 1,739955E+22 | 1,958520E+22 | 1,958501E+22 | 1,739907E+22 | 1,373555E+22 | 9,615645E+21 | 6,143514E+21 | 4,209875E+21 | 4,209977E+21 | 6,143746E+21 | 9,615846E+21 |
| -775             | 1,373556E+22 | 1,739881E+22 | 1,958464E+22 | 1,958505E+22 | 1,739960E+22 | 1,373616E+22 | 9,616131E+21 | 6,143747E+21 | 4,209823E+21 | 4,209679E+21 | 6,143343E+21 | 9,615587E+21 |
| -774             | 1,373576E+22 | 1,739975E+22 | 1,958590E+22 | 1,958574E+22 | 1,739963E+22 | 1,373575E+22 | 9,615555E+21 | 6,143237E+21 | 4,209498E+21 | 4,209573E+21 | 6,143523E+21 | 9,616137E+21 |
| -773             | 1,373643E+22 | 1,740006E+22 | 1,958569E+22 | 1,958526E+22 | 1,739927E+22 | 1,373569E+22 | 9,615557E+21 | 6,143121E+21 | 4,209268E+21 | 4,209278E+21 | 6,143071E+21 | 9,615371E+21 |
| -772             | 1,373548E+22 | 1,739933E+22 | 1,958580E+22 | 1,958614E+22 | 1,740012E+22 | 1,373622E+22 | 9,615861E+21 | 6,143266E+21 | 4,209240E+21 | 4,209089E+21 | 6,142857E+21 | 9,615418E+21 |
| -771             | 1,373612E+22 | 1,740043E+22 | 1,958663E+22 | 1,958655E+22 | 1,740016E+22 | 1,373580E+22 | 9,615223E+21 | 6,142721E+21 | 4,208940E+21 | 4,209068E+21 | 6,143097E+21 | 9,615704E+21 |
| -770             | 1,373604E+22 | 1,739995E+22 | 1,958593E+22 | 1,958591E+22 | 1,740009E+22 | 1,373618E+22 | 9,615630E+21 | 6,142906E+21 | 4,208883E+21 | 4,208812E+21 | 6,142676E+21 | 9,615196E+21 |
| -769             | 1,373547E+22 | 1,739950E+22 | 1,958620E+22 | 1,958655E+22 | 1,740047E+22 | 1,373634E+22 | 9,615689E+21 | 6,142940E+21 | 4,208929E+21 | 4,208884E+21 | 6,142850E+21 | 9,615713E+21 |

| 1<br>Longitude $\odot$<br>Years | 2<br>0° - 30° | 3<br>30° - 60° | 4<br>60° - 90° | 5<br>90° - 120° | 6<br>120° - 150° | 7<br>150° - 180° | 8<br>180° - 210° | 9<br>210° - 240° | 10<br>240° - 270° | 11<br>270° - 300° | 12<br>300° - 330° | 13<br>330° - 360° |
|---------------------------------|---------------|----------------|----------------|-----------------|------------------|------------------|------------------|------------------|-------------------|-------------------|-------------------|-------------------|
| -768                            | 1,373649E+22  | 1,740045E+22   | 1,958640E+22   | 1,958616E+22    | 1,739983E+22     | 1,373576E+22     | 9,615313E+21     | 6,142728E+21     | 4,208860E+21      | 4,208970E+21      | 6,142969E+21      | 9,615546E+21      |
| -767                            | 1,373591E+22  | 1,739971E+22   | 1,958561E+22   | 1,958572E+22    | 1,739994E+22     | 1,373620E+22     | 9,615859E+21     | 6,143207E+21     | 4,209146E+21      | 4,209010E+21      | 6,142784E+21      | 9,615194E+21      |
| -766                            | 1,373558E+22  | 1,739993E+22   | 1,958644E+22   | 1,958631E+22    | 1,739998E+22     | 1,373587E+22     | 9,615500E+21     | 6,143074E+21     | 4,209279E+21      | 4,209339E+21      | 6,143299E+21      | 9,615940E+21      |
| -765                            | 1,373631E+22  | 1,740007E+22   | 1,958589E+22   | 1,958550E+22    | 1,739934E+22     | 1,373557E+22     | 9,615422E+21     | 6,143120E+21     | 4,209432E+21      | 4,209565E+21      | 6,143407E+21      | 9,615605E+21      |
| -764                            | 1,373541E+22  | 1,739881E+22   | 1,958496E+22   | 1,958542E+22    | 1,739974E+22     | 1,373613E+22     | 9,616038E+21     | 6,143696E+21     | 4,209850E+21      | 4,209759E+21      | 6,143437E+21      | 9,615695E+21      |
| -763                            | 1,373589E+22  | 1,739966E+22   | 1,958552E+22   | 1,958548E+22    | 1,739953E+22     | 1,373571E+22     | 9,615624E+21     | 6,143517E+21     | 4,209956E+21      | 4,210102E+21      | 6,143962E+21      | 9,616248E+21      |
| -762                            | 1,373612E+22  | 1,739940E+22   | 1,958476E+22   | 1,958442E+22    | 1,739887E+22     | 1,373573E+22     | 9,616017E+21     | 6,143928E+21     | 4,210239E+21      | 4,210204E+21      | 6,143778E+21      | 9,615703E+21      |
| -761                            | 1,373525E+22  | 1,739850E+22   | 1,958458E+22   | 1,958482E+22    | 1,739921E+22     | 1,373596E+22     | 9,616293E+21     | 6,144275E+21     | 4,210575E+21      | 4,210464E+21      | 6,143969E+21      | 9,615998E+21      |
| -760                            | 1,373597E+22  | 1,739942E+22   | 1,958501E+22   | 1,958474E+22    | 1,739875E+22     | 1,373536E+22     | 9,615805E+21     | 6,144020E+21     | 4,210566E+21      | 4,210689E+21      | 6,144315E+21      | 9,616101E+21      |
| -759                            | 1,373549E+22  | 1,739852E+22   | 1,958399E+22   | 1,958408E+22    | 1,739881E+22     | 1,373582E+22     | 9,616304E+21     | 6,144372E+21     | 4,210713E+21      | 4,210612E+21      | 6,144044E+21      | 9,615702E+21      |
| -758                            | 1,373503E+22  | 1,739839E+22   | 1,958458E+22   | 1,958479E+22    | 1,739912E+22     | 1,373578E+22     | 9,616079E+21     | 6,144163E+21     | 4,210609E+21      | 4,210623E+21      | 6,144267E+21      | 9,616377E+21      |
| -757                            | 1,373615E+22  | 1,739919E+22   | 1,958455E+22   | 1,958431E+22    | 1,739858E+22     | 1,373536E+22     | 9,615759E+21     | 6,143862E+21     | 4,210366E+21      | 4,210498E+21      | 6,144163E+21      | 9,616021E+21      |
| -756                            | 1,373545E+22  | 1,739837E+22   | 1,958394E+22   | 1,958430E+22    | 1,739905E+22     | 1,373596E+22     | 9,616277E+21     | 6,144159E+21     | 4,210357E+21      | 4,210192E+21      | 6,143703E+21      | 9,615706E+21      |
| -755                            | 1,373567E+22  | 1,739944E+22   | 1,958533E+22   | 1,958515E+22    | 1,739925E+22     | 1,373565E+22     | 9,615733E+21     | 6,143668E+21     | 4,210053E+21      | 4,210103E+21      | 6,143872E+21      | 9,616147E+21      |
| -754                            | 1,373612E+22  | 1,739960E+22   | 1,958527E+22   | 1,958486E+22    | 1,739892E+22     | 1,373554E+22     | 9,615730E+21     | 6,143573E+21     | 4,209847E+21      | 4,209832E+21      | 6,143483E+21      | 9,615534E+21      |
| -753                            | 1,373526E+22  | 1,739865E+22   | 1,958499E+22   | 1,958550E+22    | 1,739972E+22     | 1,373605E+22     | 9,615962E+21     | 6,143647E+21     | 4,209798E+21      | 4,209682E+21      | 6,143345E+21      | 9,615641E+21      |
| -752                            | 1,373598E+22  | 1,739986E+22   | 1,958578E+22   | 1,958575E+22    | 1,739964E+22     | 1,373568E+22     | 9,615433E+21     | 6,143148E+21     | 4,209483E+21      | 4,209631E+21      | 6,143550E+21      | 9,615903E+21      |
| -751                            | 1,373591E+22  | 1,739944E+22   | 1,958510E+22   | 1,958503E+22    | 1,739948E+22     | 1,373603E+22     | 9,615865E+21     | 6,143381E+21     | 4,209472E+21      | 4,209401E+21      | 6,143137E+21      | 9,615394E+21      |
| -750                            | 1,373537E+22  | 1,739914E+22   | 1,958558E+22   | 1,958574E+22    | 1,739979E+22     | 1,373606E+22     | 9,615843E+21     | 6,143406E+21     | 4,209528E+21      | 4,209463E+21      | 6,143262E+21      | 9,615826E+21      |
| -749                            | 1,373634E+22  | 1,740010E+22   | 1,958588E+22   | 1,958553E+22    | 1,739924E+22     | 1,373546E+22     | 9,615410E+21     | 6,143166E+21     | 4,209498E+21      | 4,209639E+21      | 6,143475E+21      | 9,615663E+21      |
| -748                            | 1,373558E+22  | 1,739903E+22   | 1,958482E+22   | 1,958505E+22    | 1,739944E+22     | 1,373596E+22     | 9,615985E+21     | 6,143689E+21     | 4,209829E+21      | 4,209715E+21      | 6,143341E+21      | 9,615420E+21      |
| -747                            | 1,373539E+22  | 1,739931E+22   | 1,958552E+22   | 1,958554E+22    | 1,739961E+22     | 1,373582E+22     | 9,615716E+21     | 6,143573E+21     | 4,209953E+21      | 4,210029E+21      | 6,143840E+21      | 9,616144E+21      |
| -746                            | 1,373608E+22  | 1,739946E+22   | 1,958511E+22   | 1,958475E+22    | 1,739884E+22     | 1,373550E+22     | 9,615730E+21     | 6,143695E+21     | 4,210127E+21      | 4,210232E+21      | 6,143931E+21      | 9,615911E+21      |
| -745                            | 1,373537E+22  | 1,739822E+22   | 1,958401E+22   | 1,958449E+22    | 1,739911E+22     | 1,373593E+22     | 9,616269E+21     | 6,144254E+21     | 4,210562E+21      | 4,210458E+21      | 6,143957E+21      | 9,615906E+21      |
| -744                            | 1,373580E+22  | 1,739925E+22   | 1,958474E+22   | 1,958454E+22    | 1,739880E+22     | 1,373548E+22     | 9,615903E+21     | 6,144120E+21     | 4,210683E+21      | 4,210800E+21      | 6,144442E+21      | 9,616334E+21      |
| -743                            | 1,373582E+22  | 1,739884E+22   | 1,958406E+22   | 1,958367E+22    | 1,739823E+22     | 1,373550E+22     | 9,616255E+21     | 6,144514E+21     | 4,210988E+21      | 4,210947E+21      | 6,144327E+21      | 9,615835E+21      |
| -742                            | 1,373491E+22  | 1,739788E+22   | 1,958388E+22   | 1,958418E+22    | 1,739866E+22     | 1,373566E+22     | 9,616390E+21     | 6,144747E+21     | 4,211243E+21      | 4,211150E+21      | 6,144509E+21      | 9,616182E+21      |
| -741                            | 1,373569E+22  | 1,739876E+22   | 1,958418E+22   | 1,958403E+22    | 1,739829E+22     | 1,373517E+22     | 9,615892E+21     | 6,144401E+21     | 4,211164E+21      | 4,211354E+21      | 6,144879E+21      | 9,616361E+21      |
| -740                            | 1,373527E+22  | 1,739778E+22   | 1,958298E+22   | 1,958319E+22    | 1,739825E+22     | 1,373567E+22     | 9,616480E+21     | 6,144796E+21     | 4,211280E+21      | 4,211197E+21      | 6,144534E+21      | 9,615994E+21      |
| -739                            | 1,373505E+22  | 1,739798E+22   | 1,958370E+22   | 1,958391E+22    | 1,739860E+22     | 1,373566E+22     | 9,616297E+21     | 6,144613E+21     | 4,211158E+21      | 4,211143E+21      | 6,144632E+21      | 9,616487E+21      |
| -738                            | 1,373602E+22  | 1,739892E+22   | 1,958408E+22   | 1,958368E+22    | 1,739803E+22     | 1,373518E+22     | 9,615975E+21     | 6,144342E+21     | 4,210934E+21      | 4,211003E+21      | 6,144502E+21      | 9,616151E+21      |
| -737                            | 1,373533E+22  | 1,739797E+22   | 1,958338E+22   | 1,958373E+22    | 1,739853E+22     | 1,373567E+22     | 9,616346E+21     | 6,144555E+21     | 4,210916E+21      | 4,210752E+21      | 6,144101E+21      | 9,615791E+21      |
| -736                            | 1,373545E+22  | 1,739900E+22   | 1,958475E+22   | 1,958463E+22    | 1,739884E+22     | 1,373547E+22     | 9,615867E+21     | 6,144062E+21     | 4,210584E+21      | 4,210650E+21      | 6,144291E+21      | 9,616250E+21      |
| -735                            | 1,373581E+22  | 1,739899E+22   | 1,958458E+22   | 1,958431E+22    | 1,739858E+22     | 1,373548E+22     | 9,615914E+21     | 6,143960E+21     | 4,210369E+21      | 4,210385E+21      | 6,143946E+21      | 9,615740E+21      |
| -734                            | 1,373508E+22  | 1,739813E+22   | 1,958428E+22   | 1,958482E+22    | 1,739925E+22     | 1,373591E+22     | 9,616131E+21     | 6,144029E+21     | 4,210288E+21      | 4,210181E+21      | 6,143748E+21      | 9,615827E+21      |
| -733                            | 1,373589E+22  | 1,739947E+22   | 1,958511E+22   | 1,958504E+22    | 1,739914E+22     | 1,373552E+22     | 9,615596E+21     | 6,143548E+21     | 4,210020E+21      | 4,210182E+21      | 6,143967E+21      | 9,616039E+21      |

| 1<br>Longitude $\odot$ | 2            | 3            | 4            | 5            | 6            | 7            | 8            | 9            | 10           | 11           | 12           | 13           |
|------------------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|
| Years                  | 0° - 30°     | 30° - 60°    | 60° - 90°    | 90° - 120°   | 120° - 150°  | 150° - 180°  | 180° - 210°  | 210° - 240°  | 240° - 270°  | 270° - 300°  | 300° - 330°  | 330° - 360°  |
| -732                   | 1,373573E+22 | 1,739895E+22 | 1,958433E+22 | 1,958421E+22 | 1,739885E+22 | 1,373582E+22 | 9,616071E+21 | 6,143878E+21 | 4,210097E+21 | 4,210009E+21 | 6,143582E+21 | 9,615540E+21 |
| -731                   | 1,373521E+22 | 1,739871E+22 | 1,958486E+22 | 1,958502E+22 | 1,739927E+22 | 1,373586E+22 | 9,616047E+21 | 6,143936E+21 | 4,210208E+21 | 4,210127E+21 | 6,143737E+21 | 9,615919E+21 |
| -730                   | 1,373601E+22 | 1,739955E+22 | 1,958525E+22 | 1,958495E+22 | 1,739878E+22 | 1,373526E+22 | 9,615592E+21 | 6,143703E+21 | 4,210204E+21 | 4,210333E+21 | 6,144037E+21 | 9,615963E+21 |
| -729                   | 1,373541E+22 | 1,739830E+22 | 1,958382E+22 | 1,958420E+22 | 1,739888E+22 | 1,373572E+22 | 9,616098E+21 | 6,144153E+21 | 4,210513E+21 | 4,210440E+21 | 6,143941E+21 | 9,615734E+21 |
| -728                   | 1,373531E+22 | 1,739877E+22 | 1,958460E+22 | 1,958461E+22 | 1,739895E+22 | 1,373564E+22 | 9,615971E+21 | 6,144104E+21 | 4,210623E+21 | 4,210708E+21 | 6,144374E+21 | 9,616384E+21 |
| -727                   | 1,373595E+22 | 1,739896E+22 | 1,958429E+22 | 1,958388E+22 | 1,739818E+22 | 1,373530E+22 | 9,615992E+21 | 6,144268E+21 | 4,210840E+21 | 4,210925E+21 | 6,144440E+21 | 9,616071E+21 |
| -726                   | 1,373518E+22 | 1,739780E+22 | 1,958336E+22 | 1,958368E+22 | 1,739842E+22 | 1,373565E+22 | 9,616466E+21 | 6,144803E+21 | 4,211265E+21 | 4,211136E+21 | 6,144425E+21 | 9,615982E+21 |
| -725                   | 1,373549E+22 | 1,739873E+22 | 1,958413E+22 | 1,958394E+22 | 1,739829E+22 | 1,373524E+22 | 9,616044E+21 | 6,144617E+21 | 4,211392E+21 | 4,211531E+21 | 6,144972E+21 | 9,616423E+21 |
| -724                   | 1,373539E+22 | 1,739801E+22 | 1,958311E+22 | 1,958292E+22 | 1,739776E+22 | 1,373533E+22 | 9,616443E+21 | 6,145029E+21 | 4,211686E+21 | 4,211665E+21 | 6,144903E+21 | 9,616071E+21 |
| -723                   | 1,373468E+22 | 1,739716E+22 | 1,958281E+22 | 1,958332E+22 | 1,739826E+22 | 1,373561E+22 | 9,616636E+21 | 6,145243E+21 | 4,211885E+21 | 4,211799E+21 | 6,145029E+21 | 9,616409E+21 |
| -722                   | 1,373549E+22 | 1,739816E+22 | 1,958334E+22 | 1,958323E+22 | 1,739777E+22 | 1,373505E+22 | 9,616156E+21 | 6,144913E+21 | 4,211772E+21 | 4,211927E+21 | 6,145351E+21 | 9,616691E+21 |
| -721                   | 1,373528E+22 | 1,739730E+22 | 1,958208E+22 | 1,958227E+22 | 1,739759E+22 | 1,373539E+22 | 9,616613E+21 | 6,145239E+21 | 4,211863E+21 | 4,211772E+21 | 6,144969E+21 | 9,616203E+21 |
| -720                   | 1,373504E+22 | 1,739777E+22 | 1,958316E+22 | 1,958312E+22 | 1,739790E+22 | 1,373539E+22 | 9,616481E+21 | 6,145071E+21 | 4,211724E+21 | 4,211693E+21 | 6,145017E+21 | 9,616567E+21 |
| -719                   | 1,373579E+22 | 1,739854E+22 | 1,958364E+22 | 1,958320E+22 | 1,739754E+22 | 1,373493E+22 | 9,616108E+21 | 6,144773E+21 | 4,211510E+21 | 4,211582E+21 | 6,144929E+21 | 9,616242E+21 |
| -718                   | 1,373506E+22 | 1,739754E+22 | 1,958289E+22 | 1,958329E+22 | 1,739817E+22 | 1,373545E+22 | 9,616399E+21 | 6,144894E+21 | 4,211422E+21 | 4,211285E+21 | 6,144525E+21 | 9,615939E+21 |
| -717                   | 1,373521E+22 | 1,739848E+22 | 1,958410E+22 | 1,958410E+22 | 1,739855E+22 | 1,373539E+22 | 9,615962E+21 | 6,144369E+21 | 4,211065E+21 | 4,211180E+21 | 6,144715E+21 | 9,616414E+21 |
| -716                   | 1,373558E+22 | 1,739835E+22 | 1,958369E+22 | 1,958355E+22 | 1,739815E+22 | 1,373541E+22 | 9,616143E+21 | 6,144380E+21 | 4,210884E+21 | 4,210895E+21 | 6,144350E+21 | 9,615953E+21 |
| -715                   | 1,373505E+22 | 1,739774E+22 | 1,958342E+22 | 1,958400E+22 | 1,739878E+22 | 1,373581E+22 | 9,616390E+21 | 6,144519E+21 | 4,210857E+21 | 4,210704E+21 | 6,144100E+21 | 9,615903E+21 |
| -714                   | 1,373566E+22 | 1,739907E+22 | 1,958455E+22 | 1,958440E+22 | 1,739859E+22 | 1,373533E+22 | 9,615838E+21 | 6,144089E+21 | 4,210654E+21 | 4,210753E+21 | 6,144376E+21 | 9,616205E+21 |
| -713                   | 1,373553E+22 | 1,739840E+22 | 1,958362E+22 | 1,958352E+22 | 1,739826E+22 | 1,373548E+22 | 9,616154E+21 | 6,144345E+21 | 4,210762E+21 | 4,210690E+21 | 6,144106E+21 | 9,615723E+21 |
| -712                   | 1,373500E+22 | 1,739821E+22 | 1,958413E+22 | 1,958427E+22 | 1,739866E+22 | 1,373560E+22 | 9,616197E+21 | 6,144405E+21 | 4,210856E+21 | 4,210809E+21 | 6,144287E+21 | 9,616129E+21 |
| -711                   | 1,373573E+22 | 1,739889E+22 | 1,958442E+22 | 1,958421E+22 | 1,739828E+22 | 1,373512E+22 | 9,615790E+21 | 6,144183E+21 | 4,210860E+21 | 4,211022E+21 | 6,144606E+21 | 9,616241E+21 |
| -710                   | 1,373529E+22 | 1,739783E+22 | 1,958304E+22 | 1,958340E+22 | 1,739831E+22 | 1,373550E+22 | 9,616260E+21 | 6,144617E+21 | 4,211135E+21 | 4,211073E+21 | 6,144441E+21 | 9,615971E+21 |
| -709                   | 1,373522E+22 | 1,739834E+22 | 1,958384E+22 | 1,958382E+22 | 1,739841E+22 | 1,373545E+22 | 9,616153E+21 | 6,144596E+21 | 4,211291E+21 | 4,211376E+21 | 6,144845E+21 | 9,616508E+21 |
| -708                   | 1,373569E+22 | 1,739838E+22 | 1,958347E+22 | 1,958304E+22 | 1,739758E+22 | 1,373512E+22 | 9,616264E+21 | 6,144862E+21 | 4,211575E+21 | 4,211637E+21 | 6,144953E+21 | 9,616218E+21 |
| -707                   | 1,373492E+22 | 1,739722E+22 | 1,958251E+22 | 1,958294E+22 | 1,739792E+22 | 1,373547E+22 | 9,616720E+21 | 6,145407E+21 | 4,212024E+21 | 4,211873E+21 | 6,144961E+21 | 9,616094E+21 |
| -706                   | 1,373505E+22 | 1,739798E+22 | 1,958330E+22 | 1,958326E+22 | 1,739784E+22 | 1,373509E+22 | 9,616280E+21 | 6,145191E+21 | 4,212127E+21 | 4,212250E+21 | 6,145565E+21 | 9,616750E+21 |
| -705                   | 1,373518E+22 | 1,739721E+22 | 1,958198E+22 | 1,958192E+22 | 1,739714E+22 | 1,373510E+22 | 9,616588E+21 | 6,145506E+21 | 4,212362E+21 | 4,212379E+21 | 6,145501E+21 | 9,616414E+21 |
| -704                   | 1,373465E+22 | 1,739668E+22 | 1,958187E+22 | 1,958224E+22 | 1,739747E+22 | 1,373537E+22 | 9,616866E+21 | 6,145738E+21 | 4,212500E+21 | 4,212419E+21 | 6,145518E+21 | 9,616653E+21 |
| -703                   | 1,373542E+22 | 1,739778E+22 | 1,958264E+22 | 1,958239E+22 | 1,739710E+22 | 1,373480E+22 | 9,616346E+21 | 6,145404E+21 | 4,212389E+21 | 4,212519E+21 | 6,145775E+21 | 9,616839E+21 |
| -702                   | 1,373519E+22 | 1,739710E+22 | 1,958166E+22 | 1,958164E+22 | 1,739698E+22 | 1,373505E+22 | 9,616683E+21 | 6,145640E+21 | 4,212417E+21 | 4,212313E+21 | 6,145337E+21 | 9,616271E+21 |
| -701                   | 1,373482E+22 | 1,739743E+22 | 1,958278E+22 | 1,958276E+22 | 1,739755E+22 | 1,373516E+22 | 9,616518E+21 | 6,145421E+21 | 4,212263E+21 | 4,212250E+21 | 6,145406E+21 | 9,616611E+21 |
| -700                   | 1,373542E+22 | 1,739788E+22 | 1,958296E+22 | 1,958272E+22 | 1,739730E+22 | 1,373487E+22 | 9,616268E+21 | 6,145163E+21 | 4,212036E+21 | 4,212121E+21 | 6,145355E+21 | 9,616400E+21 |
| -699                   | 1,373483E+22 | 1,739694E+22 | 1,958207E+22 | 1,958269E+22 | 1,739794E+22 | 1,373548E+22 | 9,616654E+21 | 6,145319E+21 | 4,211939E+21 | 4,211792E+21 | 6,144912E+21 | 9,616073E+21 |
| -698                   | 1,373495E+22 | 1,739790E+22 | 1,958338E+22 | 1,958347E+22 | 1,739820E+22 | 1,373537E+22 | 9,616252E+21 | 6,144854E+21 | 4,211607E+21 | 4,211672E+21 | 6,145100E+21 | 9,616649E+21 |
| -697                   | 1,373550E+22 | 1,739783E+22 | 1,958278E+22 | 1,958262E+22 | 1,739753E+22 | 1,373519E+22 | 9,616312E+21 | 6,144845E+21 | 4,211477E+21 | 4,211472E+21 | 6,144773E+21 | 9,616124E+21 |



| 1<br>Longitude ☉<br>Years | 2<br>0° - 30° | 3<br>30° - 60° | 4<br>60° - 90° | 5<br>90° - 120° | 6<br>120° - 150° | 7<br>150° - 180° | 8<br>180° - 210° | 9<br>210° - 240° | 10<br>240° - 270° | 11<br>270° - 300° | 12<br>300° - 330° | 13<br>330° - 360° |
|---------------------------|---------------|----------------|----------------|-----------------|------------------|------------------|------------------|------------------|-------------------|-------------------|-------------------|-------------------|
| -696                      | 1,373496E+22  | 1,739743E+22   | 1,958279E+22   | 1,958311E+22    | 1,739802E+22     | 1,373552E+22     | 9,616595E+21     | 6,145016E+21     | 4,211479E+21      | 4,211317E+21      | 6,144552E+21      | 9,616034E+21      |
| -695                      | 1,373540E+22  | 1,739857E+22   | 1,958396E+22   | 1,958377E+22    | 1,739801E+22     | 1,373500E+22     | 9,615945E+21     | 6,144564E+21     | 4,211312E+21      | 4,211429E+21      | 6,144905E+21      | 9,616399E+21      |
| -694                      | 1,373531E+22  | 1,739790E+22   | 1,958294E+22   | 1,958285E+22    | 1,739774E+22     | 1,373516E+22     | 9,616164E+21     | 6,144715E+21     | 4,211355E+21      | 4,211337E+21      | 6,144653E+21      | 9,615999E+21      |
| -693                      | 1,373485E+22  | 1,739769E+22   | 1,958339E+22   | 1,958358E+22    | 1,739823E+22     | 1,373542E+22     | 9,616266E+21     | 6,144767E+21     | 4,211437E+21      | 4,211442E+21      | 6,144798E+21      | 9,616375E+21      |
| -692                      | 1,373559E+22  | 1,739830E+22   | 1,958350E+22   | 1,958334E+22    | 1,739776E+22     | 1,373499E+22     | 9,616036E+21     | 6,144684E+21     | 4,211486E+21      | 4,211641E+21      | 6,145077E+21      | 9,616463E+21      |
| -691                      | 1,373522E+22  | 1,739740E+22   | 1,958222E+22   | 1,958257E+22    | 1,739780E+22     | 1,373538E+22     | 9,616566E+21     | 6,145209E+21     | 4,211832E+21      | 4,211714E+21      | 6,144860E+21      | 9,616034E+21      |
| -690                      | 1,373490E+22  | 1,739782E+22   | 1,958322E+22   | 1,958316E+22    | 1,739789E+22     | 1,373530E+22     | 9,616457E+21     | 6,145237E+21     | 4,212046E+21      | 4,212061E+21      | 6,145322E+21      | 9,616649E+21      |
| -689                      | 1,373536E+22  | 1,739763E+22   | 1,958254E+22   | 1,958222E+22    | 1,739701E+22     | 1,373485E+22     | 9,616439E+21     | 6,145439E+21     | 4,212353E+21      | 4,212419E+21      | 6,145545E+21      | 9,616416E+21      |
| -688                      | 1,373464E+22  | 1,739656E+22   | 1,958157E+22   | 1,958197E+22    | 1,739727E+22     | 1,373528E+22     | 9,616965E+21     | 6,145958E+21     | 4,212747E+21      | 4,212623E+21      | 6,145570E+21      | 9,616358E+21      |
| -687                      | 1,373478E+22  | 1,739721E+22   | 1,958233E+22   | 1,958235E+22    | 1,739723E+22     | 1,373491E+22     | 9,616509E+21     | 6,145722E+21     | 4,212819E+21      | 4,212960E+21      | 6,146144E+21      | 9,617048E+21      |
| -686                      | 1,373512E+22  | 1,739677E+22   | 1,958116E+22   | 1,958100E+22    | 1,739646E+22     | 1,373480E+22     | 9,616710E+21     | 6,145952E+21     | 4,212970E+21      | 4,212997E+21      | 6,145992E+21      | 9,616675E+21      |
| -685                      | 1,373465E+22  | 1,739639E+22   | 1,958127E+22   | 1,958148E+22    | 1,739687E+22     | 1,373509E+22     | 9,616944E+21     | 6,146152E+21     | 4,213097E+21      | 4,213013E+21      | 6,145928E+21      | 9,616761E+21      |
| -684                      | 1,373523E+22  | 1,739736E+22   | 1,958205E+22   | 1,958174E+22    | 1,739659E+22     | 1,373460E+22     | 9,616529E+21     | 6,145883E+21     | 4,212998E+21      | 4,213110E+21      | 6,146193E+21      | 9,616945E+21      |
| -683                      | 1,373498E+22  | 1,739664E+22   | 1,958111E+22   | 1,958121E+22    | 1,739670E+22     | 1,373491E+22     | 9,616848E+21     | 6,146098E+21     | 4,213012E+21      | 4,212890E+21      | 6,145747E+21      | 9,616342E+21      |
| -682                      | 1,373444E+22  | 1,739676E+22   | 1,958215E+22   | 1,958232E+22    | 1,739735E+22     | 1,373514E+22     | 9,616723E+21     | 6,145861E+21     | 4,212819E+21      | 4,212790E+21      | 6,145844E+21      | 9,616846E+21      |
| -681                      | 1,373521E+22  | 1,739716E+22   | 1,958199E+22   | 1,958192E+22    | 1,739689E+22     | 1,373478E+22     | 9,616441E+21     | 6,145565E+21     | 4,212576E+21      | 4,212681E+21      | 6,145810E+21      | 9,616644E+21      |
| -680                      | 1,373478E+22  | 1,739653E+22   | 1,958125E+22   | 1,958168E+22    | 1,739725E+22     | 1,373532E+22     | 9,616906E+21     | 6,145766E+21     | 4,212471E+21      | 4,212316E+21      | 6,145311E+21      | 9,616237E+21      |
| -679                      | 1,373480E+22  | 1,739744E+22   | 1,958268E+22   | 1,958264E+22    | 1,739757E+22     | 1,373514E+22     | 9,616445E+21     | 6,145329E+21     | 4,212195E+21      | 4,212234E+21      | 6,145488E+21      | 9,616751E+21      |
| -678                      | 1,373537E+22  | 1,739756E+22   | 1,958230E+22   | 1,958194E+22    | 1,739690E+22     | 1,373482E+22     | 9,616339E+21     | 6,145226E+21     | 4,212036E+21      | 4,212044E+21      | 6,145197E+21      | 9,616258E+21      |
| -677                      | 1,373478E+22  | 1,739703E+22   | 1,958230E+22   | 1,958259E+22    | 1,739756E+22     | 1,373520E+22     | 9,616559E+21     | 6,145353E+21     | 4,212045E+21      | 4,211922E+21      | 6,145010E+21      | 9,616176E+21      |
| -676                      | 1,373513E+22  | 1,739793E+22   | 1,958319E+22   | 1,958312E+22    | 1,739764E+22     | 1,373488E+22     | 9,616091E+21     | 6,144970E+21     | 4,211881E+21      | 4,212029E+21      | 6,145405E+21      | 9,616657E+21      |
| -675                      | 1,373519E+22  | 1,739735E+22   | 1,958216E+22   | 1,958219E+22    | 1,739739E+22     | 1,373509E+22     | 9,616390E+21     | 6,145174E+21     | 4,211935E+21      | 4,211913E+21      | 6,145093E+21      | 9,616183E+21      |
| -674                      | 1,373467E+22  | 1,739715E+22   | 1,958267E+22   | 1,958290E+22    | 1,739783E+22     | 1,373537E+22     | 9,616568E+21     | 6,145316E+21     | 4,212067E+21      | 4,212021E+21      | 6,145229E+21      | 9,616588E+21      |
| -673                      | 1,373546E+22  | 1,739775E+22   | 1,958260E+22   | 1,958239E+22    | 1,739715E+22     | 1,373481E+22     | 9,616284E+21     | 6,145262E+21     | 4,212211E+21      | 4,212337E+21      | 6,145563E+21      | 9,616597E+21      |
| -672                      | 1,373502E+22  | 1,739696E+22   | 1,958152E+22   | 1,958160E+22    | 1,739702E+22     | 1,373515E+22     | 9,616871E+21     | 6,145841E+21     | 4,212610E+21      | 4,212475E+21      | 6,145405E+21      | 9,616155E+21      |
| -671                      | 1,373450E+22  | 1,739705E+22   | 1,958240E+22   | 1,958241E+22    | 1,739733E+22     | 1,373506E+22     | 9,616668E+21     | 6,145852E+21     | 4,212858E+21      | 4,212878E+21      | 6,145942E+21      | 9,616847E+21      |
| -670                      | 1,373507E+22  | 1,739695E+22   | 1,958161E+22   | 1,958133E+22    | 1,739640E+22     | 1,373456E+22     | 9,616528E+21     | 6,145917E+21     | 4,213068E+21      | 4,213185E+21      | 6,146188E+21      | 9,616753E+21      |
| -669                      | 1,373451E+22  | 1,739594E+22   | 1,958066E+22   | 1,958105E+22    | 1,739665E+22     | 1,373502E+22     | 9,617050E+21     | 6,146396E+21     | 4,213406E+21      | 4,213318E+21      | 6,146129E+21      | 9,616653E+21      |
| -668                      | 1,373469E+22  | 1,739664E+22   | 1,958139E+22   | 1,958137E+22    | 1,739658E+22     | 1,373471E+22     | 9,616730E+21     | 6,146236E+21     | 4,213463E+21      | 4,213593E+21      | 6,146632E+21      | 9,617291E+21      |
| -667                      | 1,373509E+22  | 1,739639E+22   | 1,958050E+22   | 1,958028E+22    | 1,739591E+22     | 1,373459E+22     | 9,616919E+21     | 6,146471E+21     | 4,213610E+21      | 4,213594E+21      | 6,146385E+21      | 9,616743E+21      |
| -666                      | 1,373439E+22  | 1,739598E+22   | 1,958084E+22   | 1,958104E+22    | 1,739649E+22     | 1,373493E+22     | 9,617149E+21     | 6,146660E+21     | 4,213724E+21      | 4,213601E+21      | 6,146348E+21      | 9,616882E+21      |
| -665                      | 1,373494E+22  | 1,739673E+22   | 1,958129E+22   | 1,958110E+22    | 1,739621E+22     | 1,373444E+22     | 9,616661E+21     | 6,146331E+21     | 4,213623E+21      | 4,213745E+21      | 6,146668E+21      | 9,617081E+21      |
| -664                      | 1,373471E+22  | 1,739607E+22   | 1,958037E+22   | 1,958044E+22    | 1,739624E+22     | 1,373487E+22     | 9,617095E+21     | 6,146537E+21     | 4,213579E+21      | 4,213478E+21      | 6,146218E+21      | 9,616531E+21      |
| -663                      | 1,373418E+22  | 1,739605E+22   | 1,958131E+22   | 1,958160E+22    | 1,739692E+22     | 1,373506E+22     | 9,616955E+21     | 6,146309E+21     | 4,213376E+21      | 4,213346E+21      | 6,146269E+21      | 9,617021E+21      |
| -662                      | 1,373513E+22  | 1,739673E+22   | 1,958121E+22   | 1,958106E+22    | 1,739629E+22     | 1,373454E+22     | 9,616553E+21     | 6,145942E+21     | 4,213080E+21      | 4,213189E+21      | 6,146204E+21      | 9,616835E+21      |
| -661                      | 1,373475E+22  | 1,739624E+22   | 1,958070E+22   | 1,958092E+22    | 1,739663E+22     | 1,373503E+22     | 9,616954E+21     | 6,146129E+21     | 4,212996E+21      | 4,212838E+21      | 6,145676E+21      | 9,616335E+21      |

| 1                   | 2            | 3            | 4            | 5            | 6            | 7            | 8            | 9            | 10           | 11           | 12           | 13           |
|---------------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|
| Longitude $\ominus$ | 0° - 30°     | 30° - 60°    | 60° - 90°    | 90° - 120°   | 120° - 150°  | 150° - 180°  | 180° - 210°  | 210° - 240°  | 240° - 270°  | 270° - 300°  | 300° - 330°  | 330° - 360°  |
| Years               |              |              |              |              |              |              |              |              |              |              |              |              |
| -660                | 1,373463E+22 | 1,739701E+22 | 1,958210E+22 | 1,958196E+22 | 1,739699E+22 | 1,373489E+22 | 9,616579E+21 | 6,145757E+21 | 4,212758E+21 | 4,212797E+21 | 6,145911E+21 | 9,616887E+21 |
| -659                | 1,373519E+22 | 1,739708E+22 | 1,958176E+22 | 1,958148E+22 | 1,739654E+22 | 1,373460E+22 | 9,616432E+21 | 6,145632E+21 | 4,212605E+21 | 4,212623E+21 | 6,145640E+21 | 9,616400E+21 |
| -658                | 1,373452E+22 | 1,739645E+22 | 1,958169E+22 | 1,958211E+22 | 1,739729E+22 | 1,373512E+22 | 9,616705E+21 | 6,145755E+21 | 4,212595E+21 | 4,212486E+21 | 6,145489E+21 | 9,616453E+21 |
| -657                | 1,373500E+22 | 1,739728E+22 | 1,958224E+22 | 1,958225E+22 | 1,739716E+22 | 1,373477E+22 | 9,616281E+21 | 6,145418E+21 | 4,212479E+21 | 4,212636E+21 | 6,145880E+21 | 9,616891E+21 |
| -656                | 1,373515E+22 | 1,739697E+22 | 1,958141E+22 | 1,958121E+22 | 1,739671E+22 | 1,373497E+22 | 9,616698E+21 | 6,145715E+21 | 4,212581E+21 | 4,212536E+21 | 6,145539E+21 | 9,616324E+21 |
| -655                | 1,373446E+22 | 1,739660E+22 | 1,958195E+22 | 1,958210E+22 | 1,739722E+22 | 1,373519E+22 | 9,616847E+21 | 6,145926E+21 | 4,212809E+21 | 4,212721E+21 | 6,145685E+21 | 9,616634E+21 |
| -654                | 1,373519E+22 | 1,739727E+22 | 1,958195E+22 | 1,958164E+22 | 1,739651E+22 | 1,373450E+22 | 9,616419E+21 | 6,145794E+21 | 4,212945E+21 | 4,213079E+21 | 6,146113E+21 | 9,616747E+21 |
| -653                | 1,373472E+22 | 1,739634E+22 | 1,958079E+22 | 1,958088E+22 | 1,739648E+22 | 1,373487E+22 | 9,616943E+21 | 6,146328E+21 | 4,213342E+21 | 4,213239E+21 | 6,145998E+21 | 9,616358E+21 |
| -652                | 1,373417E+22 | 1,739621E+22 | 1,958136E+22 | 1,958150E+22 | 1,739681E+22 | 1,373494E+22 | 9,616896E+21 | 6,146378E+21 | 4,213563E+21 | 4,213617E+21 | 6,146561E+21 | 9,617171E+21 |
| -651                | 1,373495E+22 | 1,739628E+22 | 1,958067E+22 | 1,958050E+22 | 1,739588E+22 | 1,373441E+22 | 9,616758E+21 | 6,146445E+21 | 4,213741E+21 | 4,213858E+21 | 6,146722E+21 | 9,617020E+21 |
| -650                | 1,373441E+22 | 1,739542E+22 | 1,957986E+22 | 1,958025E+22 | 1,739612E+22 | 1,373486E+22 | 9,617284E+21 | 6,146929E+21 | 4,214056E+21 | 4,213939E+21 | 6,146615E+21 | 9,616911E+21 |
| -649                | 1,373462E+22 | 1,739616E+22 | 1,958056E+22 | 1,958043E+22 | 1,739591E+22 | 1,373448E+22 | 9,616933E+21 | 6,146775E+21 | 4,214156E+21 | 4,214266E+21 | 6,147112E+21 | 9,617444E+21 |
| -648                | 1,373495E+22 | 1,739605E+22 | 1,957998E+22 | 1,957949E+22 | 1,739522E+22 | 1,373436E+22 | 9,617146E+21 | 6,147001E+21 | 4,214289E+21 | 4,214265E+21 | 6,146871E+21 | 9,616844E+21 |
| -647                | 1,373403E+22 | 1,739529E+22 | 1,958015E+22 | 1,958047E+22 | 1,739609E+22 | 1,373477E+22 | 9,617320E+21 | 6,147155E+21 | 4,214391E+21 | 4,214271E+21 | 6,146840E+21 | 9,617002E+21 |
| -646                | 1,373469E+22 | 1,739615E+22 | 1,958049E+22 | 1,958037E+22 | 1,739577E+22 | 1,373428E+22 | 9,616754E+21 | 6,146693E+21 | 4,214171E+21 | 4,214338E+21 | 6,147161E+21 | 9,617325E+21 |
| -645                | 1,373460E+22 | 1,739555E+22 | 1,957959E+22 | 1,957963E+22 | 1,739570E+22 | 1,373468E+22 | 9,617186E+21 | 6,146891E+21 | 4,214088E+21 | 4,213997E+21 | 6,146618E+21 | 9,616713E+21 |
| -644                | 1,373408E+22 | 1,739553E+22 | 1,958046E+22 | 1,958072E+22 | 1,739634E+22 | 1,373492E+22 | 9,617174E+21 | 6,146746E+21 | 4,213896E+21 | 4,213843E+21 | 6,146634E+21 | 9,617161E+21 |
| -643                | 1,373504E+22 | 1,739637E+22 | 1,958067E+22 | 1,958046E+22 | 1,739576E+22 | 1,373431E+22 | 9,616709E+21 | 6,146378E+21 | 4,213618E+21 | 4,213688E+21 | 6,146530E+21 | 9,616871E+21 |
| -642                | 1,373451E+22 | 1,739584E+22 | 1,958030E+22 | 1,958052E+22 | 1,739624E+22 | 1,373482E+22 | 9,617071E+21 | 6,146540E+21 | 4,213530E+21 | 4,213364E+21 | 6,146081E+21 | 9,616468E+21 |
| -641                | 1,373439E+22 | 1,739643E+22 | 1,958138E+22 | 1,958133E+22 | 1,739658E+22 | 1,373470E+22 | 9,616675E+21 | 6,146155E+21 | 4,213333E+21 | 4,213398E+21 | 6,146391E+21 | 9,617071E+21 |
| -640                | 1,373501E+22 | 1,739660E+22 | 1,958108E+22 | 1,958073E+22 | 1,739605E+22 | 1,373454E+22 | 9,616654E+21 | 6,146051E+21 | 4,213167E+21 | 4,213212E+21 | 6,146122E+21 | 9,616610E+21 |
| -639                | 1,373432E+22 | 1,739582E+22 | 1,958091E+22 | 1,958142E+22 | 1,739687E+22 | 1,373505E+22 | 9,616954E+21 | 6,146242E+21 | 4,213205E+21 | 4,213090E+21 | 6,145930E+21 | 9,616608E+21 |
| -638                | 1,373493E+22 | 1,739690E+22 | 1,958147E+22 | 1,958140E+22 | 1,739658E+22 | 1,373458E+22 | 9,616449E+21 | 6,145882E+21 | 4,213095E+21 | 4,213249E+21 | 6,146331E+21 | 9,617053E+21 |
| -637                | 1,373503E+22 | 1,739659E+22 | 1,958080E+22 | 1,958044E+22 | 1,739607E+22 | 1,373470E+22 | 9,616839E+21 | 6,146221E+21 | 4,213269E+21 | 4,213205E+21 | 6,146008E+21 | 9,616428E+21 |
| -636                | 1,373417E+22 | 1,739595E+22 | 1,958116E+22 | 1,958134E+22 | 1,739664E+22 | 1,373498E+22 | 9,617081E+21 | 6,146504E+21 | 4,213549E+21 | 4,213463E+21 | 6,146255E+21 | 9,616808E+21 |
| -635                | 1,373487E+22 | 1,739651E+22 | 1,958112E+22 | 1,958100E+22 | 1,739605E+22 | 1,373430E+22 | 9,616596E+21 | 6,146335E+21 | 4,213677E+21 | 4,213826E+21 | 6,146710E+21 | 9,616987E+21 |
| -634                | 1,373445E+22 | 1,739560E+22 | 1,957990E+22 | 1,958013E+22 | 1,739602E+22 | 1,373475E+22 | 9,617148E+21 | 6,146831E+21 | 4,214017E+21 | 4,213947E+21 | 6,146621E+21 | 9,616731E+21 |
| -633                | 1,373410E+22 | 1,739552E+22 | 1,958021E+22 | 1,958035E+22 | 1,739607E+22 | 1,373472E+22 | 9,617113E+21 | 6,146910E+21 | 4,214262E+21 | 4,214325E+21 | 6,147125E+21 | 9,617462E+21 |
| -632                | 1,373495E+22 | 1,739591E+22 | 1,957984E+22 | 1,957939E+22 | 1,739506E+22 | 1,373420E+22 | 9,617031E+21 | 6,147009E+21 | 4,214442E+21 | 4,214535E+21 | 6,147213E+21 | 9,617188E+21 |
| -631                | 1,373425E+22 | 1,739496E+22 | 1,957922E+22 | 1,957952E+22 | 1,739550E+22 | 1,373461E+22 | 9,617489E+21 | 6,147496E+21 | 4,214783E+21 | 4,214630E+21 | 6,147063E+21 | 9,616966E+21 |
| -630                | 1,373440E+22 | 1,739574E+22 | 1,957995E+22 | 1,957976E+22 | 1,739534E+22 | 1,373418E+22 | 9,617025E+21 | 6,147238E+21 | 4,214819E+21 | 4,214940E+21 | 6,147608E+21 | 9,617570E+21 |
| -629                | 1,373466E+22 | 1,739549E+22 | 1,957935E+22 | 1,957894E+22 | 1,739482E+22 | 1,373416E+22 | 9,617222E+21 | 6,147413E+21 | 4,214901E+21 | 4,214893E+21 | 6,147352E+21 | 9,616994E+21 |
| -628                | 1,373373E+22 | 1,739454E+22 | 1,957925E+22 | 1,957975E+22 | 1,739569E+22 | 1,373473E+22 | 9,617565E+21 | 6,147602E+21 | 4,214955E+21 | 4,214850E+21 | 6,147313E+21 | 9,617202E+21 |
| -627                | 1,373450E+22 | 1,739552E+22 | 1,957969E+22 | 1,957973E+22 | 1,739536E+22 | 1,373419E+22 | 9,616987E+21 | 6,147136E+21 | 4,214700E+21 | 4,214845E+21 | 6,147540E+21 | 9,617471E+21 |
| -626                | 1,373446E+22 | 1,739511E+22 | 1,957893E+22 | 1,957897E+22 | 1,739524E+22 | 1,373456E+22 | 9,617394E+21 | 6,147324E+21 | 4,214599E+21 | 4,214489E+21 | 6,147001E+21 | 9,616877E+21 |
| -625                | 1,373396E+22 | 1,739509E+22 | 1,957970E+22 | 1,957985E+22 | 1,739568E+22 | 1,373468E+22 | 9,617340E+21 | 6,147203E+21 | 4,214480E+21 | 4,214411E+21 | 6,147044E+21 | 9,617274E+21 |

| 1                 | 2            | 3            | 4            | 5            | 6            | 7            | 8            | 9            | 10           | 11           | 12           | 13           |
|-------------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|
| Longitude $\odot$ | 0° - 30°     | 30° - 60°    | 60° - 90°    | 90° - 120°   | 120° - 150°  | 150° - 180°  | 180° - 210°  | 210° - 240°  | 240° - 270°  | 270° - 300°  | 300° - 330°  | 330° - 360°  |
| Years             |              |              |              |              |              |              |              |              |              |              |              |              |
| -624              | 1,373488E+22 | 1,739604E+22 | 1,958016E+22 | 1,957977E+22 | 1,739515E+22 | 1,373408E+22 | 9,616868E+21 | 6,146822E+21 | 4,214211E+21 | 4,214287E+21 | 6,146994E+21 | 9,617012E+21 |
| -623              | 1,373423E+22 | 1,739524E+22 | 1,957966E+22 | 1,958004E+22 | 1,739589E+22 | 1,373464E+22 | 9,617167E+21 | 6,146946E+21 | 4,214121E+21 | 4,213979E+21 | 6,146559E+21 | 9,616653E+21 |
| -622              | 1,373426E+22 | 1,739596E+22 | 1,958061E+22 | 1,958062E+22 | 1,739611E+22 | 1,373452E+22 | 9,616748E+21 | 6,146489E+21 | 4,213851E+21 | 4,213969E+21 | 6,146883E+21 | 9,617349E+21 |
| -621              | 1,373497E+22 | 1,739620E+22 | 1,958041E+22 | 1,958001E+22 | 1,739551E+22 | 1,373432E+22 | 9,616759E+21 | 6,146430E+21 | 4,213697E+21 | 4,213744E+21 | 6,146531E+21 | 9,616788E+21 |
| -620              | 1,373422E+22 | 1,739535E+22 | 1,958012E+22 | 1,958061E+22 | 1,739631E+22 | 1,373493E+22 | 9,617221E+21 | 6,146747E+21 | 4,213808E+21 | 4,213667E+21 | 6,146343E+21 | 9,616710E+21 |
| -619              | 1,373471E+22 | 1,739644E+22 | 1,958091E+22 | 1,958083E+22 | 1,739608E+22 | 1,373440E+22 | 9,616677E+21 | 6,146416E+21 | 4,213754E+21 | 4,213871E+21 | 6,146745E+21 | 9,617099E+21 |
| -618              | 1,373471E+22 | 1,739602E+22 | 1,958017E+22 | 1,957991E+22 | 1,739564E+22 | 1,373453E+22 | 9,617037E+21 | 6,146746E+21 | 4,213946E+21 | 4,213892E+21 | 6,146553E+21 | 9,616610E+21 |
| -617              | 1,373385E+22 | 1,739516E+22 | 1,958008E+22 | 1,958043E+22 | 1,739608E+22 | 1,373481E+22 | 9,617288E+21 | 6,147046E+21 | 4,214282E+21 | 4,214218E+21 | 6,146873E+21 | 9,617084E+21 |
| -616              | 1,373467E+22 | 1,739588E+22 | 1,958017E+22 | 1,957997E+22 | 1,739537E+22 | 1,373416E+22 | 9,616865E+21 | 6,146880E+21 | 4,214387E+21 | 4,214557E+21 | 6,147315E+21 | 9,617288E+21 |
| -615              | 1,373429E+22 | 1,739491E+22 | 1,957892E+22 | 1,957921E+22 | 1,739537E+22 | 1,373454E+22 | 9,617383E+21 | 6,147397E+21 | 4,214740E+21 | 4,214659E+21 | 6,147147E+21 | 9,616958E+21 |
| -614              | 1,373408E+22 | 1,739517E+22 | 1,957937E+22 | 1,957936E+22 | 1,739530E+22 | 1,373441E+22 | 9,617256E+21 | 6,147413E+21 | 4,214948E+21 | 4,215013E+21 | 6,147641E+21 | 9,617664E+21 |
| -613              | 1,373485E+22 | 1,739560E+22 | 1,957930E+22 | 1,957865E+22 | 1,739435E+22 | 1,373383E+22 | 9,617137E+21 | 6,147518E+21 | 4,215143E+21 | 4,215215E+21 | 6,147686E+21 | 9,617284E+21 |
| -612              | 1,373395E+22 | 1,739438E+22 | 1,957853E+22 | 1,957889E+22 | 1,739501E+22 | 1,373442E+22 | 9,617696E+21 | 6,148035E+21 | 4,215486E+21 | 4,215334E+21 | 6,147593E+21 | 9,617098E+21 |
| -611              | 1,373404E+22 | 1,739503E+22 | 1,957924E+22 | 1,957929E+22 | 1,739503E+22 | 1,373407E+22 | 9,617205E+21 | 6,147718E+21 | 4,215464E+21 | 4,215586E+21 | 6,148103E+21 | 9,617739E+21 |
| -610              | 1,373437E+22 | 1,739479E+22 | 1,957852E+22 | 1,957832E+22 | 1,739449E+22 | 1,373413E+22 | 9,617453E+21 | 6,147855E+21 | 4,215462E+21 | 4,215478E+21 | 6,147856E+21 | 9,617259E+21 |
| -609              | 1,373360E+22 | 1,739388E+22 | 1,957816E+22 | 1,957873E+22 | 1,739508E+22 | 1,373460E+22 | 9,617815E+21 | 6,148090E+21 | 4,215545E+21 | 4,215428E+21 | 6,147763E+21 | 9,617406E+21 |
| -608              | 1,373441E+22 | 1,739515E+22 | 1,957894E+22 | 1,957875E+22 | 1,739465E+22 | 1,373402E+22 | 9,617234E+21 | 6,147629E+21 | 4,215293E+21 | 4,215405E+21 | 6,147940E+21 | 9,617586E+21 |
| -607              | 1,373425E+22 | 1,739467E+22 | 1,957835E+22 | 1,957835E+22 | 1,739468E+22 | 1,373430E+22 | 9,617542E+21 | 6,147792E+21 | 4,215211E+21 | 4,215078E+21 | 6,147393E+21 | 9,616951E+21 |
| -606              | 1,373380E+22 | 1,739476E+22 | 1,957912E+22 | 1,957923E+22 | 1,739513E+22 | 1,373434E+22 | 9,617354E+21 | 6,147555E+21 | 4,215028E+21 | 4,214997E+21 | 6,147516E+21 | 9,617455E+21 |
| -605              | 1,373470E+22 | 1,739562E+22 | 1,957961E+22 | 1,957926E+22 | 1,739475E+22 | 1,373384E+22 | 9,616885E+21 | 6,147146E+21 | 4,214721E+21 | 4,214825E+21 | 6,147437E+21 | 9,617220E+21 |
| -604              | 1,373407E+22 | 1,739470E+22 | 1,957890E+22 | 1,957942E+22 | 1,739553E+22 | 1,373458E+22 | 9,617365E+21 | 6,147328E+21 | 4,214618E+21 | 4,214497E+21 | 6,146996E+21 | 9,616879E+21 |
| -603              | 1,373414E+22 | 1,739546E+22 | 1,957995E+22 | 1,958008E+22 | 1,739574E+22 | 1,373443E+22 | 9,616970E+21 | 6,146917E+21 | 4,214362E+21 | 4,214449E+21 | 6,147227E+21 | 9,617473E+21 |
| -602              | 1,373485E+22 | 1,739582E+22 | 1,957982E+22 | 1,957944E+22 | 1,739511E+22 | 1,373425E+22 | 9,617007E+21 | 6,146897E+21 | 4,214247E+21 | 4,214279E+21 | 6,146934E+21 | 9,616912E+21 |
| -601              | 1,373402E+22 | 1,739487E+22 | 1,957931E+22 | 1,957973E+22 | 1,739565E+22 | 1,373472E+22 | 9,617467E+21 | 6,147305E+21 | 4,214496E+21 | 4,214332E+21 | 6,146820E+21 | 9,616806E+21 |
| -600              | 1,373438E+22 | 1,739588E+22 | 1,958017E+22 | 1,958002E+22 | 1,739547E+22 | 1,373420E+22 | 9,616911E+21 | 6,146983E+21 | 4,214490E+21 | 4,214605E+21 | 6,147305E+21 | 9,617265E+21 |
| -599              | 1,373434E+22 | 1,739523E+22 | 1,957925E+22 | 1,957919E+22 | 1,739517E+22 | 1,373434E+22 | 9,617209E+21 | 6,147281E+21 | 4,214691E+21 | 4,214658E+21 | 6,147150E+21 | 9,616878E+21 |
| -598              | 1,373374E+22 | 1,739458E+22 | 1,957903E+22 | 1,957936E+22 | 1,739536E+22 | 1,373452E+22 | 9,617410E+21 | 6,147510E+21 | 4,214956E+21 | 4,214939E+21 | 6,147486E+21 | 9,617437E+21 |
| -597              | 1,373465E+22 | 1,739544E+22 | 1,957931E+22 | 1,957900E+22 | 1,739461E+22 | 1,373382E+22 | 9,616994E+21 | 6,147378E+21 | 4,215057E+21 | 4,215214E+21 | 6,147820E+21 | 9,617531E+21 |
| -596              | 1,373420E+22 | 1,739448E+22 | 1,957814E+22 | 1,957833E+22 | 1,739469E+22 | 1,373429E+22 | 9,617606E+21 | 6,147949E+21 | 4,215435E+21 | 4,215332E+21 | 6,147630E+21 | 9,617098E+21 |
| -595              | 1,373384E+22 | 1,739470E+22 | 1,957886E+22 | 1,957883E+22 | 1,739477E+22 | 1,373415E+22 | 9,617443E+21 | 6,147957E+21 | 4,215647E+21 | 4,215679E+21 | 6,148092E+21 | 9,617728E+21 |
| -594              | 1,373450E+22 | 1,739502E+22 | 1,957871E+22 | 1,957824E+22 | 1,739405E+22 | 1,373372E+22 | 9,617331E+21 | 6,148017E+21 | 4,215805E+21 | 4,215901E+21 | 6,148228E+21 | 9,617441E+21 |
| -593              | 1,373359E+22 | 1,739360E+22 | 1,957750E+22 | 1,957805E+22 | 1,739457E+22 | 1,373436E+22 | 9,617951E+21 | 6,148564E+21 | 4,216174E+21 | 4,216037E+21 | 6,148156E+21 | 9,617320E+21 |
| -592              | 1,373376E+22 | 1,739435E+22 | 1,957830E+22 | 1,957836E+22 | 1,739451E+22 | 1,373405E+22 | 9,617522E+21 | 6,148252E+21 | 4,216114E+21 | 4,216230E+21 | 6,148610E+21 | 9,617966E+21 |
| -591              | 1,373418E+22 | 1,739412E+22 | 1,957756E+22 | 1,957748E+22 | 1,739397E+22 | 1,373400E+22 | 9,617707E+21 | 6,148383E+21 | 4,216105E+21 | 4,216091E+21 | 6,148290E+21 | 9,617450E+21 |
| -590              | 1,373358E+22 | 1,739355E+22 | 1,957732E+22 | 1,957772E+22 | 1,739433E+22 | 1,373429E+22 | 9,617936E+21 | 6,148526E+21 | 4,216131E+21 | 4,216016E+21 | 6,148216E+21 | 9,617608E+21 |
| -589              | 1,373433E+22 | 1,739488E+22 | 1,957845E+22 | 1,957806E+22 | 1,739395E+22 | 1,373360E+22 | 9,617278E+21 | 6,148042E+21 | 4,215863E+21 | 4,215965E+21 | 6,148359E+21 | 9,617728E+21 |

| 1<br>Longitude ☉ | 2            | 3            | 4            | 5            | 6            | 7            | 8            | 9            | 10           | 11           | 12           | 13           |
|------------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|
| Years            | 0° - 30°     | 30° - 60°    | 60° - 90°    | 90° - 120°   | 120° - 150°  | 150° - 180°  | 180° - 210°  | 210° - 240°  | 240° - 270°  | 270° - 300°  | 300° - 330°  | 330° - 360°  |
| -588             | 1,373404E+22 | 1,739420E+22 | 1,957778E+22 | 1,957782E+22 | 1,739424E+22 | 1,373405E+22 | 9,617626E+21 | 6,148178E+21 | 4,215759E+21 | 4,215653E+21 | 6,147865E+21 | 9,617143E+21 |
| -587             | 1,373358E+22 | 1,739425E+22 | 1,957862E+22 | 1,957885E+22 | 1,739485E+22 | 1,373419E+22 | 9,617432E+21 | 6,147886E+21 | 4,215516E+21 | 4,215507E+21 | 6,147931E+21 | 9,617660E+21 |
| -586             | 1,373457E+22 | 1,739515E+22 | 1,957898E+22 | 1,957876E+22 | 1,739448E+22 | 1,373380E+22 | 9,617054E+21 | 6,147481E+21 | 4,215162E+21 | 4,215297E+21 | 6,147837E+21 | 9,617422E+21 |
| -585             | 1,373398E+22 | 1,739423E+22 | 1,957802E+22 | 1,957853E+22 | 1,739500E+22 | 1,373448E+22 | 9,617619E+21 | 6,147796E+21 | 4,215166E+21 | 4,215014E+21 | 6,147364E+21 | 9,616998E+21 |
| -584             | 1,373398E+22 | 1,739511E+22 | 1,957931E+22 | 1,957926E+22 | 1,739516E+22 | 1,373432E+22 | 9,617245E+21 | 6,147449E+21 | 4,214987E+21 | 4,215017E+21 | 6,147583E+21 | 9,617491E+21 |
| -583             | 1,373450E+22 | 1,739525E+22 | 1,957917E+22 | 1,957883E+22 | 1,739462E+22 | 1,373403E+22 | 9,617220E+21 | 6,147453E+21 | 4,214949E+21 | 4,214944E+21 | 6,147364E+21 | 9,616974E+21 |
| -582             | 1,373375E+22 | 1,739432E+22 | 1,957848E+22 | 1,957892E+22 | 1,739506E+22 | 1,373442E+22 | 9,617568E+21 | 6,147777E+21 | 4,215177E+21 | 4,215050E+21 | 6,147404E+21 | 9,617046E+21 |
| -581             | 1,373412E+22 | 1,739525E+22 | 1,957934E+22 | 1,957923E+22 | 1,739488E+22 | 1,373391E+22 | 9,617013E+21 | 6,147448E+21 | 4,215152E+21 | 4,215291E+21 | 6,147877E+21 | 9,617555E+21 |
| -580             | 1,373415E+22 | 1,739455E+22 | 1,957828E+22 | 1,957829E+22 | 1,739460E+22 | 1,373416E+22 | 9,617421E+21 | 6,147781E+21 | 4,215351E+21 | 4,215344E+21 | 6,147724E+21 | 9,617185E+21 |
| -579             | 1,373363E+22 | 1,739406E+22 | 1,957828E+22 | 1,957860E+22 | 1,739477E+22 | 1,373428E+22 | 9,617589E+21 | 6,148017E+21 | 4,215610E+21 | 4,215575E+21 | 6,147958E+21 | 9,617643E+21 |
| -578             | 1,373454E+22 | 1,739505E+22 | 1,957865E+22 | 1,957829E+22 | 1,739409E+22 | 1,373364E+22 | 9,617209E+21 | 6,147895E+21 | 4,215720E+21 | 4,215880E+21 | 6,148321E+21 | 9,617689E+21 |
| -577             | 1,373398E+22 | 1,739396E+22 | 1,957734E+22 | 1,957748E+22 | 1,739405E+22 | 1,373407E+22 | 9,617857E+21 | 6,148555E+21 | 4,216199E+21 | 4,216080E+21 | 6,148179E+21 | 9,617244E+21 |
| -576             | 1,373350E+22 | 1,739406E+22 | 1,957809E+22 | 1,957810E+22 | 1,739430E+22 | 1,373403E+22 | 9,617696E+21 | 6,148552E+21 | 4,216416E+21 | 4,216440E+21 | 6,148662E+21 | 9,617898E+21 |
| -575             | 1,373412E+22 | 1,739418E+22 | 1,957775E+22 | 1,957752E+22 | 1,739369E+22 | 1,373364E+22 | 9,617581E+21 | 6,148575E+21 | 4,216543E+21 | 4,216642E+21 | 6,148792E+21 | 9,617703E+21 |
| -574             | 1,373348E+22 | 1,739300E+22 | 1,957641E+22 | 1,957695E+22 | 1,739389E+22 | 1,373415E+22 | 9,618138E+21 | 6,149037E+21 | 4,216814E+21 | 4,216707E+21 | 6,148719E+21 | 9,617636E+21 |
| -573             | 1,373370E+22 | 1,739388E+22 | 1,957745E+22 | 1,957738E+22 | 1,739376E+22 | 1,373373E+22 | 9,617676E+21 | 6,148735E+21 | 4,216721E+21 | 4,216808E+21 | 6,149039E+21 | 9,618158E+21 |
| -572             | 1,373408E+22 | 1,739372E+22 | 1,957686E+22 | 1,957665E+22 | 1,739332E+22 | 1,373372E+22 | 9,617870E+21 | 6,148857E+21 | 4,216707E+21 | 4,216673E+21 | 6,148712E+21 | 9,617585E+21 |
| -571             | 1,373339E+22 | 1,739317E+22 | 1,957692E+22 | 1,957724E+22 | 1,739380E+22 | 1,373396E+22 | 9,618004E+21 | 6,148933E+21 | 4,216686E+21 | 4,216555E+21 | 6,148594E+21 | 9,617701E+21 |
| -570             | 1,373409E+22 | 1,739443E+22 | 1,957799E+22 | 1,957772E+22 | 1,739371E+22 | 1,373347E+22 | 9,617367E+21 | 6,148379E+21 | 4,216352E+21 | 4,216497E+21 | 6,148802E+21 | 9,617893E+21 |
| -569             | 1,373382E+22 | 1,739365E+22 | 1,957702E+22 | 1,957714E+22 | 1,739386E+22 | 1,373397E+22 | 9,617794E+21 | 6,148564E+21 | 4,216273E+21 | 4,216184E+21 | 6,148295E+21 | 9,617336E+21 |
| -568             | 1,373340E+22 | 1,739374E+22 | 1,957789E+22 | 1,957813E+22 | 1,739447E+22 | 1,373419E+22 | 9,617682E+21 | 6,148319E+21 | 4,216038E+21 | 4,216005E+21 | 6,148289E+21 | 9,617787E+21 |
| -567             | 1,373438E+22 | 1,739462E+22 | 1,957825E+22 | 1,957812E+22 | 1,739414E+22 | 1,373374E+22 | 9,617301E+21 | 6,147960E+21 | 4,215736E+21 | 4,215821E+21 | 6,148162E+21 | 9,617512E+21 |
| -566             | 1,373390E+22 | 1,739391E+22 | 1,957729E+22 | 1,957761E+22 | 1,739433E+22 | 1,373423E+22 | 9,617776E+21 | 6,148255E+21 | 4,215767E+21 | 4,215608E+21 | 6,147795E+21 | 9,617123E+21 |
| -565             | 1,373375E+22 | 1,739465E+22 | 1,957874E+22 | 1,957858E+22 | 1,739453E+22 | 1,373396E+22 | 9,617362E+21 | 6,147944E+21 | 4,215634E+21 | 4,215647E+21 | 6,148044E+21 | 9,617610E+21 |
| -564             | 1,373417E+22 | 1,739459E+22 | 1,957840E+22 | 1,957817E+22 | 1,739417E+22 | 1,373380E+22 | 9,617347E+21 | 6,147932E+21 | 4,215619E+21 | 4,215647E+21 | 6,147947E+21 | 9,617233E+21 |
| -563             | 1,373348E+22 | 1,739364E+22 | 1,957772E+22 | 1,957824E+22 | 1,739458E+22 | 1,373420E+22 | 9,617671E+21 | 6,148202E+21 | 4,215794E+21 | 4,215702E+21 | 6,147954E+21 | 9,617362E+21 |
| -562             | 1,373404E+22 | 1,739469E+22 | 1,957851E+22 | 1,957843E+22 | 1,739439E+22 | 1,373377E+22 | 9,617195E+21 | 6,147874E+21 | 4,215734E+21 | 4,215921E+21 | 6,148418E+21 | 9,617853E+21 |
| -561             | 1,373410E+22 | 1,739406E+22 | 1,957734E+22 | 1,957723E+22 | 1,739387E+22 | 1,373394E+22 | 9,617658E+21 | 6,148329E+21 | 4,216034E+21 | 4,216009E+21 | 6,148217E+21 | 9,617385E+21 |
| -560             | 1,373350E+22 | 1,739369E+22 | 1,957760E+22 | 1,957773E+22 | 1,739414E+22 | 1,373410E+22 | 9,617839E+21 | 6,148611E+21 | 4,216352E+21 | 4,216273E+21 | 6,148418E+21 | 9,617721E+21 |
| -559             | 1,373422E+22 | 1,739445E+22 | 1,957797E+22 | 1,957769E+22 | 1,739366E+22 | 1,373347E+22 | 9,617444E+21 | 6,148507E+21 | 4,216508E+21 | 4,216634E+21 | 6,148820E+21 | 9,617797E+21 |
| -558             | 1,373372E+22 | 1,739335E+22 | 1,957646E+22 | 1,957663E+22 | 1,739351E+22 | 1,373386E+22 | 9,618027E+21 | 6,149089E+21 | 4,216943E+21 | 4,216855E+21 | 6,148803E+21 | 9,617505E+21 |
| -557             | 1,373323E+22 | 1,739335E+22 | 1,957720E+22 | 1,957727E+22 | 1,739374E+22 | 1,373381E+22 | 9,617900E+21 | 6,149088E+21 | 4,217109E+21 | 4,217135E+21 | 6,149216E+21 | 9,618153E+21 |
| -556             | 1,373391E+22 | 1,739345E+22 | 1,957673E+22 | 1,957659E+22 | 1,739314E+22 | 1,373352E+22 | 9,617845E+21 | 6,149113E+21 | 4,217206E+21 | 4,217309E+21 | 6,149331E+21 | 9,617969E+21 |
| -555             | 1,373335E+22 | 1,739250E+22 | 1,957569E+22 | 1,957612E+22 | 1,739326E+22 | 1,373391E+22 | 9,618315E+21 | 6,149518E+21 | 4,217421E+21 | 4,217291E+21 | 6,149149E+21 | 9,617824E+21 |
| -554             | 1,373362E+22 | 1,739353E+22 | 1,957686E+22 | 1,957664E+22 | 1,739318E+22 | 1,373350E+22 | 9,617829E+21 | 6,149166E+21 | 4,217292E+21 | 4,217389E+21 | 6,149468E+21 | 9,618271E+21 |
| -553             | 1,373387E+22 | 1,739325E+22 | 1,957620E+22 | 1,957590E+22 | 1,739270E+22 | 1,373344E+22 | 9,618012E+21 | 6,149335E+21 | 4,217334E+21 | 4,217296E+21 | 6,149175E+21 | 9,617722E+21 |



| 1                 | 2            | 3            | 4            | 5            | 6            | 7            | 8            | 9            | 10           | 11           | 12           | 13           |
|-------------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|
| Longitude $\odot$ | 0° - 30°     | 30° - 60°    | 60° - 90°    | 90° - 120°   | 120° - 150°  | 150° - 180°  | 180° - 210°  | 210° - 240°  | 240° - 270°  | 270° - 300°  | 300° - 330°  | 330° - 360°  |
| Years             |              |              |              |              |              |              |              |              |              |              |              |              |
| -552              | 1,373313E+22 | 1,739266E+22 | 1,957632E+22 | 1,957669E+22 | 1,739345E+22 | 1,373381E+22 | 9,618111E+21 | 6,149356E+21 | 4,217284E+21 | 4,217154E+21 | 6,149045E+21 | 9,617853E+21 |
| -551              | 1,373383E+22 | 1,739376E+22 | 1,957722E+22 | 1,957717E+22 | 1,739347E+22 | 1,373342E+22 | 9,617540E+21 | 6,148793E+21 | 4,216914E+21 | 4,217057E+21 | 6,149212E+21 | 9,618097E+21 |
| -550              | 1,373378E+22 | 1,739320E+22 | 1,957620E+22 | 1,957625E+22 | 1,739332E+22 | 1,373381E+22 | 9,617949E+21 | 6,148944E+21 | 4,216781E+21 | 4,216710E+21 | 6,148721E+21 | 9,617560E+21 |
| -549              | 1,373334E+22 | 1,739337E+22 | 1,957726E+22 | 1,957736E+22 | 1,739386E+22 | 1,373393E+22 | 9,617847E+21 | 6,148762E+21 | 4,216568E+21 | 4,216494E+21 | 6,148612E+21 | 9,617851E+21 |
| -548              | 1,373418E+22 | 1,739418E+22 | 1,957764E+22 | 1,957744E+22 | 1,739362E+22 | 1,373355E+22 | 9,617485E+21 | 6,148428E+21 | 4,216326E+21 | 4,216394E+21 | 6,148559E+21 | 9,617577E+21 |
| -547              | 1,373359E+22 | 1,739342E+22 | 1,957685E+22 | 1,957710E+22 | 1,739385E+22 | 1,373396E+22 | 9,617868E+21 | 6,148677E+21 | 4,216354E+21 | 4,216202E+21 | 6,148237E+21 | 9,617251E+21 |
| -546              | 1,373348E+22 | 1,739403E+22 | 1,957806E+22 | 1,957802E+22 | 1,739421E+22 | 1,373384E+22 | 9,617480E+21 | 6,148325E+21 | 4,216201E+21 | 4,216277E+21 | 6,148576E+21 | 9,617833E+21 |
| -545              | 1,373395E+22 | 1,739390E+22 | 1,957744E+22 | 1,957726E+22 | 1,739363E+22 | 1,373368E+22 | 9,617556E+21 | 6,148407E+21 | 4,216247E+21 | 4,216303E+21 | 6,148502E+21 | 9,617544E+21 |
| -544              | 1,373339E+22 | 1,739309E+22 | 1,957685E+22 | 1,957734E+22 | 1,739404E+22 | 1,373407E+22 | 9,617895E+21 | 6,148716E+21 | 4,216445E+21 | 4,216338E+21 | 6,148434E+21 | 9,617588E+21 |
| -543              | 1,373394E+22 | 1,739417E+22 | 1,957770E+22 | 1,957762E+22 | 1,739388E+22 | 1,373363E+22 | 9,617454E+21 | 6,148447E+21 | 4,216439E+21 | 4,216581E+21 | 6,148860E+21 | 9,618028E+21 |
| -542              | 1,373407E+22 | 1,739373E+22 | 1,957663E+22 | 1,957626E+22 | 1,739310E+22 | 1,373363E+22 | 9,617833E+21 | 6,148873E+21 | 4,216760E+21 | 4,216737E+21 | 6,148757E+21 | 9,617557E+21 |
| -541              | 1,373326E+22 | 1,739318E+22 | 1,957699E+22 | 1,957704E+22 | 1,739350E+22 | 1,373375E+22 | 9,618008E+21 | 6,149191E+21 | 4,217105E+21 | 4,217012E+21 | 6,148953E+21 | 9,617850E+21 |
| -540              | 1,373386E+22 | 1,739371E+22 | 1,957713E+22 | 1,957700E+22 | 1,739326E+22 | 1,373333E+22 | 9,617644E+21 | 6,149062E+21 | 4,217266E+21 | 4,217418E+21 | 6,149447E+21 | 9,618045E+21 |
| -539              | 1,373341E+22 | 1,739262E+22 | 1,957563E+22 | 1,957581E+22 | 1,739298E+22 | 1,373370E+22 | 9,618213E+21 | 6,149584E+21 | 4,217619E+21 | 4,217550E+21 | 6,149366E+21 | 9,617795E+21 |
| -538              | 1,373310E+22 | 1,739269E+22 | 1,957625E+22 | 1,957639E+22 | 1,739321E+22 | 1,373370E+22 | 9,618135E+21 | 6,149566E+21 | 4,217729E+21 | 4,217780E+21 | 6,149729E+21 | 9,618374E+21 |
| -537              | 1,373378E+22 | 1,739291E+22 | 1,957579E+22 | 1,957552E+22 | 1,739237E+22 | 1,373327E+22 | 9,618083E+21 | 6,149670E+21 | 4,217883E+21 | 4,217954E+21 | 6,149798E+21 | 9,618134E+21 |
| -536              | 1,373318E+22 | 1,739206E+22 | 1,957501E+22 | 1,957529E+22 | 1,739262E+22 | 1,373366E+22 | 9,618483E+21 | 6,150044E+21 | 4,218096E+21 | 4,217926E+21 | 6,149570E+21 | 9,617891E+21 |
| -535              | 1,373333E+22 | 1,739296E+22 | 1,957623E+22 | 1,957611E+22 | 1,739279E+22 | 1,373331E+22 | 9,617983E+21 | 6,149654E+21 | 4,217947E+21 | 4,218024E+21 | 6,149907E+21 | 9,618403E+21 |
| -534              | 1,373370E+22 | 1,739274E+22 | 1,957547E+22 | 1,957516E+22 | 1,739221E+22 | 1,373322E+22 | 9,618084E+21 | 6,149708E+21 | 4,217906E+21 | 4,217915E+21 | 6,149695E+21 | 9,617965E+21 |
| -533              | 1,373297E+22 | 1,739212E+22 | 1,957565E+22 | 1,957605E+22 | 1,739299E+22 | 1,373363E+22 | 9,618253E+21 | 6,149745E+21 | 4,217794E+21 | 4,217675E+21 | 6,149457E+21 | 9,618041E+21 |
| -532              | 1,373369E+22 | 1,739323E+22 | 1,957645E+22 | 1,957648E+22 | 1,739310E+22 | 1,373336E+22 | 9,617746E+21 | 6,149206E+21 | 4,217430E+21 | 4,217569E+21 | 6,149605E+21 | 9,618254E+21 |
| -531              | 1,373364E+22 | 1,739283E+22 | 1,957568E+22 | 1,957559E+22 | 1,739282E+22 | 1,373364E+22 | 9,618102E+21 | 6,149337E+21 | 4,217280E+21 | 4,217187E+21 | 6,149057E+21 | 9,617671E+21 |
| -530              | 1,373322E+22 | 1,739298E+22 | 1,957674E+22 | 1,957677E+22 | 1,739340E+22 | 1,373378E+22 | 9,618012E+21 | 6,149156E+21 | 4,217090E+21 | 4,217034E+21 | 6,149004E+21 | 9,617899E+21 |
| -529              | 1,373387E+22 | 1,739361E+22 | 1,957696E+22 | 1,957673E+22 | 1,739306E+22 | 1,373332E+22 | 9,617657E+21 | 6,148909E+21 | 4,216951E+21 | 4,217025E+21 | 6,149053E+21 | 9,617743E+21 |
| -528              | 1,373333E+22 | 1,739280E+22 | 1,957609E+22 | 1,957642E+22 | 1,739345E+22 | 1,373382E+22 | 9,618000E+21 | 6,149126E+21 | 4,216987E+21 | 4,216851E+21 | 6,148755E+21 | 9,617479E+21 |
| -527              | 1,373329E+22 | 1,739336E+22 | 1,957715E+22 | 1,957724E+22 | 1,739379E+22 | 1,373376E+22 | 9,617690E+21 | 6,148798E+21 | 4,216831E+21 | 4,216909E+21 | 6,149067E+21 | 9,618122E+21 |
| -526              | 1,373400E+22 | 1,739346E+22 | 1,957652E+22 | 1,957620E+22 | 1,739289E+22 | 1,373342E+22 | 9,617710E+21 | 6,148866E+21 | 4,216870E+21 | 4,216944E+21 | 6,149024E+21 | 9,617827E+21 |
| -525              | 1,373339E+22 | 1,739275E+22 | 1,957621E+22 | 1,957650E+22 | 1,739329E+22 | 1,373372E+22 | 9,618059E+21 | 6,149241E+21 | 4,217102E+21 | 4,216961E+21 | 6,148860E+21 | 9,617699E+21 |
| -524              | 1,373374E+22 | 1,739370E+22 | 1,957706E+22 | 1,957691E+22 | 1,739331E+22 | 1,373341E+22 | 9,617657E+21 | 6,149009E+21 | 4,217168E+21 | 4,217293E+21 | 6,149359E+21 | 9,618110E+21 |
| -523              | 1,373371E+22 | 1,739318E+22 | 1,957614E+22 | 1,957572E+22 | 1,739262E+22 | 1,373339E+22 | 9,617980E+21 | 6,149390E+21 | 4,217470E+21 | 4,217456E+21 | 6,149298E+21 | 9,617718E+21 |
| -522              | 1,373296E+22 | 1,739246E+22 | 1,957619E+22 | 1,957639E+22 | 1,739314E+22 | 1,373368E+22 | 9,618211E+21 | 6,149670E+21 | 4,217786E+21 | 4,217746E+21 | 6,149538E+21 | 9,618027E+21 |
| -521              | 1,373352E+22 | 1,739287E+22 | 1,957604E+22 | 1,957600E+22 | 1,739268E+22 | 1,373325E+22 | 9,617956E+21 | 6,149647E+21 | 4,217994E+21 | 4,218150E+21 | 6,150035E+21 | 9,618322E+21 |
| -520              | 1,373324E+22 | 1,739193E+22 | 1,957461E+22 | 1,957484E+22 | 1,739242E+22 | 1,373358E+22 | 9,618481E+21 | 6,150166E+21 | 4,218339E+21 | 4,218242E+21 | 6,149874E+21 | 9,618002E+21 |
| -519              | 1,373296E+22 | 1,739209E+22 | 1,957530E+22 | 1,957543E+22 | 1,739260E+22 | 1,373354E+22 | 9,618401E+21 | 6,150155E+21 | 4,218454E+21 | 4,218454E+21 | 6,150189E+21 | 9,618550E+21 |
| -518              | 1,373372E+22 | 1,739250E+22 | 1,957501E+22 | 1,957452E+22 | 1,739154E+22 | 1,373290E+22 | 9,618215E+21 | 6,150178E+21 | 4,218576E+21 | 4,218656E+21 | 6,150345E+21 | 9,618346E+21 |
| -517              | 1,373301E+22 | 1,739160E+22 | 1,957444E+22 | 1,957467E+22 | 1,739197E+22 | 1,373325E+22 | 9,618552E+21 | 6,150509E+21 | 4,218734E+21 | 4,218576E+21 | 6,150073E+21 | 9,618067E+21 |

| 1<br>Longitude $\odot$<br>Years | 2<br>0° - 30° | 3<br>30° - 60° | 4<br>60° - 90° | 5<br>90° - 120° | 6<br>120° - 150° | 7<br>150° - 180° | 8<br>180° - 210° | 9<br>210° - 240° | 10<br>240° - 270° | 11<br>270° - 300° | 12<br>300° - 330° | 13<br>330° - 360° |
|---------------------------------|---------------|----------------|----------------|-----------------|------------------|------------------|------------------|------------------|-------------------|-------------------|-------------------|-------------------|
| -516                            | 1,373308E+22  | 1,739234E+22   | 1,957550E+22   | 1,957551E+22    | 1,739243E+22     | 1,373318E+22     | 9,618101E+21     | 6,150062E+21     | 4,218541E+21      | 4,218659E+21      | 6,150437E+21      | 9,618641E+21      |
| -515                            | 1,373350E+22  | 1,739224E+22   | 1,957489E+22   | 1,957456E+22    | 1,739178E+22     | 1,373309E+22     | 9,618202E+21     | 6,150044E+21     | 4,218386E+21      | 4,218426E+21      | 6,150119E+21      | 9,618203E+21      |
| -514                            | 1,373294E+22  | 1,739171E+22   | 1,957498E+22   | 1,957538E+22    | 1,739258E+22     | 1,373356E+22     | 9,618437E+21     | 6,150088E+21     | 4,218247E+21      | 4,218145E+21      | 6,149799E+21      | 9,618115E+21      |
| -513                            | 1,373353E+22  | 1,739282E+22   | 1,957576E+22   | 1,957568E+22    | 1,739253E+22     | 1,373323E+22     | 9,617991E+21     | 6,149680E+21     | 4,217981E+21      | 4,218075E+21      | 6,149938E+21      | 9,618304E+21      |
| -512                            | 1,373342E+22  | 1,739240E+22   | 1,957511E+22   | 1,957501E+22    | 1,739237E+22     | 1,373348E+22     | 9,618279E+21     | 6,149812E+21     | 4,217876E+21      | 4,217743E+21      | 6,149415E+21      | 9,617691E+21      |
| -511                            | 1,373289E+22  | 1,739235E+22   | 1,957603E+22   | 1,957625E+22    | 1,739307E+22     | 1,373367E+22     | 9,618205E+21     | 6,149635E+21     | 4,217711E+21      | 4,217636E+21      | 6,149445E+21      | 9,618051E+21      |
| -510                            | 1,373369E+22  | 1,739302E+22   | 1,957612E+22   | 1,957591E+22    | 1,739250E+22     | 1,373311E+22     | 9,617775E+21     | 6,149318E+21     | 4,217541E+21      | 4,217666E+21      | 6,149619E+21      | 9,618049E+21      |
| -509                            | 1,373322E+22  | 1,739226E+22   | 1,957533E+22   | 1,957566E+22    | 1,739282E+22     | 1,373356E+22     | 9,618151E+21     | 6,149560E+21     | 4,217553E+21      | 4,217437E+21      | 6,149238E+21      | 9,617732E+21      |
| -508                            | 1,373322E+22  | 1,739289E+22   | 1,957635E+22   | 1,957644E+22    | 1,739325E+22     | 1,373360E+22     | 9,617886E+21     | 6,149271E+21     | 4,217444E+21      | 4,217527E+21      | 6,149547E+21      | 9,618323E+21      |
| -507                            | 1,373390E+22  | 1,739317E+22   | 1,957602E+22   | 1,957546E+22    | 1,739224E+22     | 1,373315E+22     | 9,617840E+21     | 6,149317E+21     | 4,217478E+21      | 4,217546E+21      | 6,149458E+21      | 9,617967E+21      |
| -506                            | 1,373325E+22  | 1,739235E+22   | 1,957566E+22   | 1,957589E+22    | 1,739278E+22     | 1,373352E+22     | 9,618230E+21     | 6,149713E+21     | 4,217757E+21      | 4,217638E+21      | 6,149341E+21      | 9,617746E+21      |
| -505                            | 1,373336E+22  | 1,739303E+22   | 1,957628E+22   | 1,957621E+22    | 1,739280E+22     | 1,373323E+22     | 9,617883E+21     | 6,149590E+21     | 4,217925E+21      | 4,218049E+21      | 6,149937E+21      | 9,618292E+21      |
| -504                            | 1,373336E+22  | 1,739236E+22   | 1,957516E+22   | 1,957499E+22    | 1,739223E+22     | 1,373331E+22     | 9,618209E+21     | 6,149955E+21     | 4,218228E+21      | 4,218221E+21      | 6,149894E+21      | 9,617960E+21      |
| -503                            | 1,373270E+22  | 1,739161E+22   | 1,957503E+22   | 1,957545E+22    | 1,739267E+22     | 1,373367E+22     | 9,618540E+21     | 6,150264E+21     | 4,218524E+21      | 4,218471E+21      | 6,150107E+21      | 9,618329E+21      |
| -502                            | 1,373346E+22  | 1,739227E+22   | 1,957494E+22   | 1,957477E+22    | 1,739180E+22     | 1,373296E+22     | 9,618180E+21     | 6,150206E+21     | 4,218712E+21      | 4,218667E+21      | 6,150617E+21      | 9,618612E+21      |
| -501                            | 1,373318E+22  | 1,739151E+22   | 1,957384E+22   | 1,957386E+22    | 1,739151E+22     | 1,373316E+22     | 9,618652E+21     | 6,150721E+21     | 4,219039E+21      | 4,218918E+21      | 6,150355E+21      | 9,618150E+21      |
| -500                            | 1,373277E+22  | 1,739162E+22   | 1,957460E+22   | 1,957467E+22    | 1,739195E+22     | 1,373323E+22     | 9,618541E+21     | 6,150674E+21     | 4,219161E+21      | 4,219164E+21      | 6,150713E+21      | 9,618679E+21      |
| -499                            | 1,373343E+22  | 1,739204E+22   | 1,957451E+22   | 1,957398E+22    | 1,739104E+22     | 1,373261E+22     | 9,618264E+21     | 6,150580E+21     | 4,219180E+21      | 4,219290E+21      | 6,150852E+21      | 9,618557E+21      |
| -498                            | 1,373283E+22  | 1,739107E+22   | 1,957378E+22   | 1,957414E+22    | 1,739167E+22     | 1,373317E+22     | 9,618672E+21     | 6,150849E+21     | 4,219260E+21      | 4,219159E+21      | 6,150545E+21      | 9,618235E+21      |
| -497                            | 1,373285E+22  | 1,739173E+22   | 1,957468E+22   | 1,957476E+22    | 1,739199E+22     | 1,373313E+22     | 9,618369E+21     | 6,150522E+21     | 4,219091E+21      | 4,219199E+21      | 6,150862E+21      | 9,618837E+21      |
| -496                            | 1,373337E+22  | 1,739173E+22   | 1,957412E+22   | 1,957391E+22    | 1,739143E+22     | 1,373305E+22     | 9,618452E+21     | 6,150514E+21     | 4,218940E+21      | 4,218933E+21      | 6,150456E+21      | 9,618287E+21      |
| -495                            | 1,373278E+22  | 1,739126E+22   | 1,957425E+22   | 1,957468E+22    | 1,739215E+22     | 1,373352E+22     | 9,618723E+21     | 6,150594E+21     | 4,218832E+21      | 4,218669E+21      | 6,150134E+21      | 9,618175E+21      |
| -494                            | 1,373333E+22  | 1,739238E+22   | 1,957508E+22   | 1,957488E+22    | 1,739185E+22     | 1,373294E+22     | 9,618140E+21     | 6,150146E+21     | 4,218592E+21      | 4,218688E+21      | 6,150407E+21      | 9,618444E+21      |
| -493                            | 1,373317E+22  | 1,739189E+22   | 1,957452E+22   | 1,957443E+22    | 1,739178E+22     | 1,373313E+22     | 9,618364E+21     | 6,150248E+21     | 4,218473E+21      | 4,218359E+21      | 6,149911E+21      | 9,617887E+21      |
| -492                            | 1,373266E+22  | 1,739172E+22   | 1,957517E+22   | 1,957553E+22    | 1,739263E+22     | 1,373351E+22     | 9,618325E+21     | 6,150041E+21     | 4,218304E+21      | 4,218275E+21      | 6,149994E+21      | 9,618327E+21      |
| -491                            | 1,373355E+22  | 1,739257E+22   | 1,957544E+22   | 1,957516E+22    | 1,739194E+22     | 1,373290E+22     | 9,617875E+21     | 6,149675E+21     | 4,218054E+21      | 4,218215E+21      | 6,150098E+21      | 9,618358E+21      |
| -490                            | 1,373326E+22  | 1,739194E+22   | 1,957467E+22   | 1,957493E+22    | 1,739228E+22     | 1,373335E+22     | 9,618268E+21     | 6,149921E+21     | 4,218072E+21      | 4,217982E+21      | 6,149638E+21      | 9,617843E+21      |
| -489                            | 1,373306E+22  | 1,739248E+22   | 1,957567E+22   | 1,957564E+22    | 1,739260E+22     | 1,373338E+22     | 9,618113E+21     | 6,149794E+21     | 4,218086E+21      | 4,218133E+21      | 6,149963E+21      | 9,618407E+21      |
| -488                            | 1,373363E+22  | 1,739266E+22   | 1,957540E+22   | 1,957495E+22    | 1,739185E+22     | 1,373298E+22     | 9,618035E+21     | 6,149852E+21     | 4,218179E+21      | 4,218219E+21      | 6,149911E+21      | 9,618020E+21      |
| -487                            | 1,373288E+22  | 1,739165E+22   | 1,957482E+22   | 1,957528E+22    | 1,739245E+22     | 1,373349E+22     | 9,618506E+21     | 6,150291E+21     | 4,218496E+21      | 4,218358E+21      | 6,149881E+21      | 9,617925E+21      |
| -486                            | 1,373305E+22  | 1,739226E+22   | 1,957523E+22   | 1,957524E+22    | 1,739220E+22     | 1,373308E+22     | 9,618130E+21     | 6,150146E+21     | 4,218661E+21      | 4,218814E+21      | 6,150577E+21      | 9,618609E+21      |
| -485                            | 1,373318E+22  | 1,739167E+22   | 1,957416E+22   | 1,957403E+22    | 1,739150E+22     | 1,373306E+22     | 9,618472E+21     | 6,150536E+21     | 4,218944E+21      | 4,218937E+21      | 6,150467E+21      | 9,618244E+21      |
| -484                            | 1,373259E+22  | 1,739100E+22   | 1,957397E+22   | 1,957440E+22    | 1,739197E+22     | 1,373345E+22     | 9,618791E+21     | 6,150849E+21     | 4,219262E+21      | 4,219202E+21      | 6,150673E+21      | 9,618559E+21      |
| -483                            | 1,373332E+22  | 1,739191E+22   | 1,957428E+22   | 1,957385E+22    | 1,739100E+22     | 1,373261E+22     | 9,618316E+21     | 6,150708E+21     | 4,219389E+21      | 4,219551E+21      | 6,151135E+21      | 9,618827E+21      |
| -482                            | 1,373306E+22  | 1,739113E+22   | 1,957326E+22   | 1,957319E+22    | 1,739089E+22     | 1,373284E+22     | 9,618736E+21     | 6,151159E+21     | 4,219693E+21      | 4,219607E+21      | 6,150864E+21      | 9,618261E+21      |
| -481                            | 1,373245E+22  | 1,739103E+22   | 1,957389E+22   | 1,957401E+22    | 1,739144E+22     | 1,373301E+22     | 9,618699E+21     | 6,151178E+21     | 4,219842E+21      | 4,219855E+21      | 6,151261E+21      | 9,618901E+21      |

| 1                 | 2            | 3            | 4            | 5            | 6            | 7            | 8            | 9            | 10           | 11           | 12           | 13           |
|-------------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|
| Longitude $\odot$ | 0° - 30°     | 30° - 60°    | 60° - 90°    | 90° - 120°   | 120° - 150°  | 150° - 180°  | 180° - 210°  | 210° - 240°  | 240° - 270°  | 270° - 300°  | 300° - 330°  | 330° - 360°  |
| Years             |              |              |              |              |              |              |              |              |              |              |              |              |
| -480              | 1,373319E+22 | 1,739138E+22 | 1,957369E+22 | 1,957342E+22 | 1,739079E+22 | 1,373255E+22 | 9,618442E+21 | 6,151033E+21 | 4,219801E+21 | 4,219914E+21 | 6,151329E+21 | 9,618758E+21 |
| -479              | 1,373266E+22 | 1,739047E+22 | 1,957289E+22 | 1,957343E+22 | 1,739134E+22 | 1,373320E+22 | 9,618981E+21 | 6,151344E+21 | 4,219844E+21 | 4,219706E+21 | 6,150955E+21 | 9,618437E+21 |
| -478              | 1,373276E+22 | 1,739128E+22 | 1,957383E+22 | 1,957382E+22 | 1,739132E+22 | 1,373294E+22 | 9,618603E+21 | 6,151012E+21 | 4,219675E+21 | 4,219754E+21 | 6,151268E+21 | 9,618985E+21 |
| -477              | 1,373323E+22 | 1,739134E+22 | 1,957352E+22 | 1,957319E+22 | 1,739074E+22 | 1,373275E+22 | 9,618646E+21 | 6,151004E+21 | 4,219523E+21 | 4,219480E+21 | 6,150820E+21 | 9,618336E+21 |
| -476              | 1,373251E+22 | 1,739077E+22 | 1,957358E+22 | 1,957406E+22 | 1,739167E+22 | 1,373330E+22 | 9,618870E+21 | 6,151051E+21 | 4,219443E+21 | 4,219287E+21 | 6,150600E+21 | 9,618274E+21 |
| -475              | 1,373300E+22 | 1,739189E+22 | 1,957452E+22 | 1,957430E+22 | 1,739137E+22 | 1,373267E+22 | 9,618172E+21 | 6,150482E+21 | 4,219114E+21 | 4,219254E+21 | 6,150893E+21 | 9,618686E+21 |
| -474              | 1,373302E+22 | 1,739138E+22 | 1,957382E+22 | 1,957382E+22 | 1,739139E+22 | 1,373297E+22 | 9,618426E+21 | 6,150537E+21 | 4,218952E+21 | 4,218906E+21 | 6,150371E+21 | 9,618101E+21 |
| -473              | 1,373251E+22 | 1,739120E+22 | 1,957438E+22 | 1,957476E+22 | 1,739210E+22 | 1,373335E+22 | 9,618515E+21 | 6,150467E+21 | 4,218839E+21 | 4,218810E+21 | 6,150432E+21 | 9,618575E+21 |
| -472              | 1,373350E+22 | 1,739214E+22 | 1,957468E+22 | 1,957450E+22 | 1,739153E+22 | 1,373276E+22 | 9,618061E+21 | 6,150128E+21 | 4,218624E+21 | 4,218747E+21 | 6,150458E+21 | 9,618477E+21 |
| -471              | 1,373314E+22 | 1,739157E+22 | 1,957401E+22 | 1,957425E+22 | 1,739183E+22 | 1,373327E+22 | 9,618545E+21 | 6,150451E+21 | 4,218703E+21 | 4,218561E+21 | 6,150035E+21 | 9,617946E+21 |
| -470              | 1,373282E+22 | 1,739199E+22 | 1,957499E+22 | 1,957487E+22 | 1,739194E+22 | 1,373310E+22 | 9,618305E+21 | 6,150338E+21 | 4,218791E+21 | 4,218834E+21 | 6,150492E+21 | 9,618561E+21 |
| -469              | 1,373332E+22 | 1,739201E+22 | 1,957466E+22 | 1,957429E+22 | 1,739129E+22 | 1,373271E+22 | 9,618224E+21 | 6,150396E+21 | 4,218900E+21 | 4,218956E+21 | 6,150489E+21 | 9,618236E+21 |
| -468              | 1,373259E+22 | 1,739089E+22 | 1,957375E+22 | 1,957437E+22 | 1,739196E+22 | 1,373338E+22 | 9,618749E+21 | 6,150839E+21 | 4,219235E+21 | 4,219133E+21 | 6,150520E+21 | 9,618211E+21 |
| -467              | 1,373284E+22 | 1,739166E+22 | 1,957431E+22 | 1,957423E+22 | 1,739149E+22 | 1,373283E+22 | 9,618317E+21 | 6,150648E+21 | 4,219331E+21 | 4,219501E+21 | 6,151143E+21 | 9,618929E+21 |
| -466              | 1,373316E+22 | 1,739124E+22 | 1,957332E+22 | 1,957309E+22 | 1,739078E+22 | 1,373276E+22 | 9,618623E+21 | 6,151028E+21 | 4,219620E+21 | 4,219621E+21 | 6,150959E+21 | 9,618397E+21 |
| -465              | 1,373239E+22 | 1,739053E+22 | 1,957320E+22 | 1,957347E+22 | 1,739119E+22 | 1,373312E+22 | 9,619002E+21 | 6,151442E+21 | 4,220005E+21 | 4,219913E+21 | 6,151183E+21 | 9,618713E+21 |
| -464              | 1,373306E+22 | 1,739134E+22 | 1,957359E+22 | 1,957329E+22 | 1,739057E+22 | 1,373237E+22 | 9,618475E+21 | 6,151253E+21 | 4,220119E+21 | 4,220262E+21 | 6,151637E+21 | 9,618951E+21 |
| -463              | 1,373275E+22 | 1,739050E+22 | 1,957249E+22 | 1,957260E+22 | 1,739059E+22 | 1,373279E+22 | 9,618973E+21 | 6,151684E+21 | 4,220378E+21 | 4,220284E+21 | 6,151398E+21 | 9,618490E+21 |
| -462              | 1,373221E+22 | 1,739035E+22 | 1,957298E+22 | 1,957316E+22 | 1,739091E+22 | 1,373287E+22 | 9,618928E+21 | 6,151677E+21 | 4,220495E+21 | 4,220524E+21 | 6,151809E+21 | 9,619180E+21 |
| -461              | 1,373305E+22 | 1,739082E+22 | 1,957288E+22 | 1,957267E+22 | 1,739024E+22 | 1,373239E+22 | 9,618702E+21 | 6,151541E+21 | 4,220411E+21 | 4,220510E+21 | 6,151777E+21 | 9,618949E+21 |
| -460              | 1,373253E+22 | 1,738998E+22 | 1,957201E+22 | 1,957255E+22 | 1,739082E+22 | 1,373308E+22 | 9,619226E+21 | 6,151853E+21 | 4,220470E+21 | 4,220311E+21 | 6,151388E+21 | 9,618541E+21 |
| -459              | 1,373252E+22 | 1,739091E+22 | 1,957328E+22 | 1,957306E+22 | 1,739068E+22 | 1,373266E+22 | 9,618732E+21 | 6,151438E+21 | 4,220238E+21 | 4,220308E+21 | 6,151675E+21 | 9,619118E+21 |
| -458              | 1,373303E+22 | 1,739093E+22 | 1,957300E+22 | 1,957264E+22 | 1,739023E+22 | 1,373243E+22 | 9,618675E+21 | 6,151361E+21 | 4,220070E+21 | 4,220061E+21 | 6,151254E+21 | 9,618436E+21 |
| -457              | 1,373219E+22 | 1,739014E+22 | 1,957283E+22 | 1,957337E+22 | 1,739118E+22 | 1,373307E+22 | 9,618975E+21 | 6,151458E+21 | 4,220008E+21 | 4,219877E+21 | 6,151102E+21 | 9,618538E+21 |
| -456              | 1,373283E+22 | 1,739126E+22 | 1,957369E+22 | 1,957370E+22 | 1,739109E+22 | 1,373258E+22 | 9,618303E+21 | 6,150849E+21 | 4,219630E+21 | 4,219787E+21 | 6,151324E+21 | 9,618937E+21 |
| -455              | 1,373298E+22 | 1,739095E+22 | 1,957305E+22 | 1,957307E+22 | 1,739098E+22 | 1,373292E+22 | 9,618655E+21 | 6,150955E+21 | 4,219459E+21 | 4,219389E+21 | 6,150750E+21 | 9,618326E+21 |
| -454              | 1,373249E+22 | 1,739088E+22 | 1,957368E+22 | 1,957387E+22 | 1,739141E+22 | 1,373309E+22 | 9,618688E+21 | 6,150929E+21 | 4,219414E+21 | 4,219355E+21 | 6,150816E+21 | 9,618711E+21 |
| -453              | 1,373337E+22 | 1,739182E+22 | 1,957420E+22 | 1,957387E+22 | 1,739091E+22 | 1,373246E+22 | 9,618243E+21 | 6,150626E+21 | 4,219247E+21 | 4,219337E+21 | 6,150838E+21 | 9,618513E+21 |
| -452              | 1,373283E+22 | 1,739104E+22 | 1,957333E+22 | 1,957365E+22 | 1,739141E+22 | 1,373310E+22 | 9,618737E+21 | 6,150978E+21 | 4,219403E+21 | 4,219264E+21 | 6,150551E+21 | 9,618037E+21 |
| -451              | 1,373241E+22 | 1,739137E+22 | 1,957430E+22 | 1,957420E+22 | 1,739149E+22 | 1,373291E+22 | 9,618450E+21 | 6,150802E+21 | 4,219442E+21 | 4,219516E+21 | 6,151050E+21 | 9,618808E+21 |
| -450              | 1,373309E+22 | 1,739136E+22 | 1,957379E+22 | 1,957352E+22 | 1,739082E+22 | 1,373257E+22 | 9,618392E+21 | 6,150854E+21 | 4,219551E+21 | 4,219649E+21 | 6,151041E+21 | 9,618469E+21 |
| -449              | 1,373237E+22 | 1,739022E+22 | 1,957274E+22 | 1,957335E+22 | 1,739130E+22 | 1,373321E+22 | 9,619031E+21 | 6,151423E+21 | 4,219947E+21 | 4,219833E+21 | 6,151078E+21 | 9,618505E+21 |
| -448              | 1,373273E+22 | 1,739108E+22 | 1,957336E+22 | 1,957335E+22 | 1,739093E+22 | 1,373264E+22 | 9,618547E+21 | 6,151223E+21 | 4,220057E+21 | 4,220191E+21 | 6,151626E+21 | 9,619103E+21 |
| -447              | 1,373301E+22 | 1,739078E+22 | 1,957257E+22 | 1,957225E+22 | 1,739017E+22 | 1,373257E+22 | 9,618880E+21 | 6,151626E+21 | 4,220364E+21 | 4,220328E+21 | 6,151482E+21 | 9,618591E+21 |
| -446              | 1,373216E+22 | 1,738998E+22 | 1,957246E+22 | 1,957265E+22 | 1,739047E+22 | 1,373274E+22 | 9,619138E+21 | 6,152009E+21 | 4,220777E+21 | 4,220691E+21 | 6,151792E+21 | 9,618961E+21 |
| -445              | 1,373281E+22 | 1,739069E+22 | 1,957279E+22 | 1,957258E+22 | 1,739003E+22 | 1,373213E+22 | 9,618648E+21 | 6,151778E+21 | 4,220839E+21 | 4,221004E+21 | 6,152225E+21 | 9,619207E+21 |

| 1                 | 2            | 3            | 4            | 5            | 6            | 7            | 8            | 9            | 10           | 11           | 12           | 13           |
|-------------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|
| Longitude $\odot$ | 0° - 30°     | 30° - 60°    | 60° - 90°    | 90° - 120°   | 120° - 150°  | 150° - 180°  | 180° - 210°  | 210° - 240°  | 240° - 270°  | 270° - 300°  | 300° - 330°  | 330° - 360°  |
| Years             |              |              |              |              |              |              |              |              |              |              |              |              |
| -444              | 1,373254E+22 | 1,738983E+22 | 1,957153E+22 | 1,957176E+22 | 1,739016E+22 | 1,373273E+22 | 9,619218E+21 | 6,152195E+21 | 4,221060E+21 | 4,220996E+21 | 6,151975E+21 | 9,618747E+21 |
| -443              | 1,373206E+22 | 1,738988E+22 | 1,957220E+22 | 1,957226E+22 | 1,739028E+22 | 1,373267E+22 | 9,619111E+21 | 6,152124E+21 | 4,221074E+21 | 4,221103E+21 | 6,152255E+21 | 9,619396E+21 |
| -442              | 1,373299E+22 | 1,739044E+22 | 1,957219E+22 | 1,957186E+22 | 1,738966E+22 | 1,373216E+22 | 9,618831E+21 | 6,151964E+21 | 4,220982E+21 | 4,221068E+21 | 6,152136E+21 | 9,618988E+21 |
| -441              | 1,373227E+22 | 1,738952E+22 | 1,957137E+22 | 1,957178E+22 | 1,739021E+22 | 1,373284E+22 | 9,619403E+21 | 6,152340E+21 | 4,221078E+21 | 4,220893E+21 | 6,151799E+21 | 9,618640E+21 |
| -440              | 1,373223E+22 | 1,739028E+22 | 1,957259E+22 | 1,957256E+22 | 1,739036E+22 | 1,373247E+22 | 9,618841E+21 | 6,151861E+21 | 4,220816E+21 | 4,220874E+21 | 6,152076E+21 | 9,619219E+21 |
| -439              | 1,373276E+22 | 1,739034E+22 | 1,957227E+22 | 1,957205E+22 | 1,738994E+22 | 1,373239E+22 | 9,618860E+21 | 6,151768E+21 | 4,220603E+21 | 4,220596E+21 | 6,151709E+21 | 9,618691E+21 |
| -438              | 1,373204E+22 | 1,738958E+22 | 1,957204E+22 | 1,957255E+22 | 1,739061E+22 | 1,373285E+22 | 9,619118E+21 | 6,151861E+21 | 4,220542E+21 | 4,220426E+21 | 6,151566E+21 | 9,618824E+21 |
| -437              | 1,373281E+22 | 1,739084E+22 | 1,957302E+22 | 1,957296E+22 | 1,739051E+22 | 1,373238E+22 | 9,618501E+21 | 6,151281E+21 | 4,220160E+21 | 4,220303E+21 | 6,151705E+21 | 9,619103E+21 |
| -436              | 1,373292E+22 | 1,739062E+22 | 1,957239E+22 | 1,957231E+22 | 1,739048E+22 | 1,373278E+22 | 9,618856E+21 | 6,151417E+21 | 4,220047E+21 | 4,219964E+21 | 6,151148E+21 | 9,618397E+21 |
| -435              | 1,373228E+22 | 1,739060E+22 | 1,957326E+22 | 1,957320E+22 | 1,739081E+22 | 1,373280E+22 | 9,618801E+21 | 6,151357E+21 | 4,219995E+21 | 4,219932E+21 | 6,151221E+21 | 9,618801E+21 |
| -434              | 1,373313E+22 | 1,739136E+22 | 1,957368E+22 | 1,957338E+22 | 1,739052E+22 | 1,373222E+22 | 9,618305E+21 | 6,151051E+21 | 4,219880E+21 | 4,219990E+21 | 6,151308E+21 | 9,618600E+21 |
| -433              | 1,373245E+22 | 1,739030E+22 | 1,957249E+22 | 1,957290E+22 | 1,739098E+22 | 1,373296E+22 | 9,618934E+21 | 6,151494E+21 | 4,220094E+21 | 4,219976E+21 | 6,151139E+21 | 9,618323E+21 |
| -432              | 1,373216E+22 | 1,739052E+22 | 1,957325E+22 | 1,957344E+22 | 1,739113E+22 | 1,373285E+22 | 9,618695E+21 | 6,151323E+21 | 4,220119E+21 | 4,220195E+21 | 6,151579E+21 | 9,619072E+21 |
| -431              | 1,373297E+22 | 1,739077E+22 | 1,957282E+22 | 1,957254E+22 | 1,739026E+22 | 1,373249E+22 | 9,618706E+21 | 6,151433E+21 | 4,220238E+21 | 4,220309E+21 | 6,151570E+21 | 9,618757E+21 |
| -430              | 1,373227E+22 | 1,738971E+22 | 1,957185E+22 | 1,957223E+22 | 1,739041E+22 | 1,373284E+22 | 9,619233E+21 | 6,152019E+21 | 4,220702E+21 | 4,220563E+21 | 6,151619E+21 | 9,618731E+21 |
| -429              | 1,373260E+22 | 1,739062E+22 | 1,957269E+22 | 1,957251E+22 | 1,739016E+22 | 1,373229E+22 | 9,618742E+21 | 6,151803E+21 | 4,220820E+21 | 4,220944E+21 | 6,152161E+21 | 9,619250E+21 |
| -428              | 1,373275E+22 | 1,739020E+22 | 1,957180E+22 | 1,957150E+22 | 1,738965E+22 | 1,373234E+22 | 9,619039E+21 | 6,152174E+21 | 4,221133E+21 | 4,221122E+21 | 6,152086E+21 | 9,618760E+21 |
| -427              | 1,373185E+22 | 1,738939E+22 | 1,957171E+22 | 1,957188E+22 | 1,738996E+22 | 1,373253E+22 | 9,619257E+21 | 6,152462E+21 | 4,221440E+21 | 4,221391E+21 | 6,152365E+21 | 9,619243E+21 |
| -426              | 1,373266E+22 | 1,739011E+22 | 1,957200E+22 | 1,957186E+22 | 1,738960E+22 | 1,373198E+22 | 9,618794E+21 | 6,152221E+21 | 4,221466E+21 | 4,221648E+21 | 6,152711E+21 | 9,619397E+21 |
| -425              | 1,373234E+22 | 1,738921E+22 | 1,957064E+22 | 1,957085E+22 | 1,738960E+22 | 1,373260E+22 | 9,619494E+21 | 6,152739E+21 | 4,221704E+21 | 4,221613E+21 | 6,152441E+21 | 9,618953E+21 |
| -424              | 1,373190E+22 | 1,738927E+22 | 1,957138E+22 | 1,957154E+22 | 1,738983E+22 | 1,373256E+22 | 9,619357E+21 | 6,152642E+21 | 4,221698E+21 | 4,221678E+21 | 6,152621E+21 | 9,619448E+21 |
| -423              | 1,373276E+22 | 1,738999E+22 | 1,957156E+22 | 1,957116E+22 | 1,738914E+22 | 1,373202E+22 | 9,619078E+21 | 6,152478E+21 | 4,221597E+21 | 4,221649E+21 | 6,152567E+21 | 9,619110E+21 |
| -422              | 1,373197E+22 | 1,738892E+22 | 1,957066E+22 | 1,957101E+22 | 1,738956E+22 | 1,373250E+22 | 9,619501E+21 | 6,152803E+21 | 4,221712E+21 | 4,221536E+21 | 6,152313E+21 | 9,618862E+21 |
| -421              | 1,373203E+22 | 1,738967E+22 | 1,957183E+22 | 1,957185E+22 | 1,738986E+22 | 1,373228E+22 | 9,618968E+21 | 6,152260E+21 | 4,221389E+21 | 4,221478E+21 | 6,152566E+21 | 9,619461E+21 |
| -420              | 1,373266E+22 | 1,738980E+22 | 1,957144E+22 | 1,957126E+22 | 1,738949E+22 | 1,373228E+22 | 9,619021E+21 | 6,152165E+21 | 4,221150E+21 | 4,221173E+21 | 6,152179E+21 | 9,618918E+21 |
| -419              | 1,373202E+22 | 1,738930E+22 | 1,957145E+22 | 1,957177E+22 | 1,739000E+22 | 1,373259E+22 | 9,619207E+21 | 6,152212E+21 | 4,221022E+21 | 4,220909E+21 | 6,151935E+21 | 9,619013E+21 |
| -418              | 1,373280E+22 | 1,739062E+22 | 1,957257E+22 | 1,957235E+22 | 1,739001E+22 | 1,373212E+22 | 9,618566E+21 | 6,151656E+21 | 4,220686E+21 | 4,220808E+21 | 6,152012E+21 | 9,619098E+21 |
| -417              | 1,373264E+22 | 1,739020E+22 | 1,957192E+22 | 1,957174E+22 | 1,739001E+22 | 1,373259E+22 | 9,619030E+21 | 6,151888E+21 | 4,220649E+21 | 4,220551E+21 | 6,151567E+21 | 9,618481E+21 |
| -416              | 1,373195E+22 | 1,738989E+22 | 1,957258E+22 | 1,957280E+22 | 1,739061E+22 | 1,373272E+22 | 9,618972E+21 | 6,151815E+21 | 4,220612E+21 | 4,220546E+21 | 6,151656E+21 | 9,618879E+21 |
| -415              | 1,373278E+22 | 1,739066E+22 | 1,957286E+22 | 1,957272E+22 | 1,739024E+22 | 1,373227E+22 | 9,618586E+21 | 6,151546E+21 | 4,220503E+21 | 4,220623E+21 | 6,151845E+21 | 9,618873E+21 |
| -414              | 1,373223E+22 | 1,738958E+22 | 1,957151E+22 | 1,957190E+22 | 1,739031E+22 | 1,373277E+22 | 9,619172E+21 | 6,152035E+21 | 4,220782E+21 | 4,220671E+21 | 6,151716E+21 | 9,618661E+21 |
| -413              | 1,373213E+22 | 1,738993E+22 | 1,957227E+22 | 1,957238E+22 | 1,739040E+22 | 1,373264E+22 | 9,618960E+21 | 6,151888E+21 | 4,220826E+21 | 4,220887E+21 | 6,152095E+21 | 9,619298E+21 |
| -412              | 1,373289E+22 | 1,739029E+22 | 1,957195E+22 | 1,957153E+22 | 1,738954E+22 | 1,373225E+22 | 9,618934E+21 | 6,152019E+21 | 4,220996E+21 | 4,221063E+21 | 6,152123E+21 | 9,618925E+21 |
| -411              | 1,373211E+22 | 1,738936E+22 | 1,957127E+22 | 1,957138E+22 | 1,738959E+22 | 1,373240E+22 | 9,619301E+21 | 6,152514E+21 | 4,221412E+21 | 4,221290E+21 | 6,152175E+21 | 9,618934E+21 |
| -410              | 1,373240E+22 | 1,739009E+22 | 1,957204E+22 | 1,957186E+22 | 1,738962E+22 | 1,373195E+22 | 9,618773E+21 | 6,152272E+21 | 4,221539E+21 | 4,221688E+21 | 6,152719E+21 | 9,619415E+21 |
| -409              | 1,373243E+22 | 1,738949E+22 | 1,957095E+22 | 1,957073E+22 | 1,738919E+22 | 1,373221E+22 | 9,619236E+21 | 6,152687E+21 | 4,221840E+21 | 4,221859E+21 | 6,152692E+21 | 9,619062E+21 |



| 1                   | 2            | 3            | 4            | 5            | 6            | 7            | 8            | 9            | 10           | 11           | 12           | 13           |
|---------------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|
| Longitude $\ominus$ | 0° - 30°     | 30° - 60°    | 60° - 90°    | 90° - 120°   | 120° - 150°  | 150° - 180°  | 180° - 210°  | 210° - 240°  | 240° - 270°  | 270° - 300°  | 300° - 330°  | 330° - 360°  |
| Years               |              |              |              |              |              |              |              |              |              |              |              |              |
| -408                | 1,373167E+22 | 1,738863E+22 | 1,957073E+22 | 1,957115E+22 | 1,738959E+22 | 1,373249E+22 | 9,619517E+21 | 6,152977E+21 | 4,222095E+21 | 4,222034E+21 | 6,152830E+21 | 9,619413E+21 |
| -407                | 1,373252E+22 | 1,738959E+22 | 1,957114E+22 | 1,957099E+22 | 1,738910E+22 | 1,373196E+22 | 9,619137E+21 | 6,152791E+21 | 4,222110E+21 | 4,222244E+21 | 6,153151E+21 | 9,619561E+21 |
| -406                | 1,373214E+22 | 1,738868E+22 | 1,956986E+22 | 1,956989E+22 | 1,738882E+22 | 1,373231E+22 | 9,619719E+21 | 6,153314E+21 | 4,222407E+21 | 4,222270E+21 | 6,152896E+21 | 9,619080E+21 |
| -405                | 1,373166E+22 | 1,738870E+22 | 1,957067E+22 | 1,957077E+22 | 1,738919E+22 | 1,373230E+22 | 9,619559E+21 | 6,153170E+21 | 4,222379E+21 | 4,222343E+21 | 6,153084E+21 | 9,619525E+21 |
| -404                | 1,373243E+22 | 1,738933E+22 | 1,957078E+22 | 1,957047E+22 | 1,738870E+22 | 1,373185E+22 | 9,619228E+21 | 6,152946E+21 | 4,222250E+21 | 4,222333E+21 | 6,153107E+21 | 9,619281E+21 |
| -403                | 1,373174E+22 | 1,738841E+22 | 1,956996E+22 | 1,957027E+22 | 1,738901E+22 | 1,373225E+22 | 9,619552E+21 | 6,153137E+21 | 4,222233E+21 | 4,222111E+21 | 6,152815E+21 | 9,619158E+21 |
| -402                | 1,373201E+22 | 1,738925E+22 | 1,957116E+22 | 1,957118E+22 | 1,738940E+22 | 1,373208E+22 | 9,619029E+21 | 6,152596E+21 | 4,221886E+21 | 4,221991E+21 | 6,152962E+21 | 9,619643E+21 |
| -401                | 1,373259E+22 | 1,738941E+22 | 1,957078E+22 | 1,957054E+22 | 1,738901E+22 | 1,373214E+22 | 9,619197E+21 | 6,152576E+21 | 4,221667E+21 | 4,221679E+21 | 6,152565E+21 | 9,619093E+21 |
| -400                | 1,373193E+22 | 1,738888E+22 | 1,957089E+22 | 1,957127E+22 | 1,738964E+22 | 1,373248E+22 | 9,619388E+21 | 6,152630E+21 | 4,221549E+21 | 4,221399E+21 | 6,152238E+21 | 9,619020E+21 |
| -399                | 1,373258E+22 | 1,739024E+22 | 1,957210E+22 | 1,957187E+22 | 1,738965E+22 | 1,373205E+22 | 9,618801E+21 | 6,152126E+21 | 4,221250E+21 | 4,221352E+21 | 6,152423E+21 | 9,619193E+21 |
| -398                | 1,373230E+22 | 1,738953E+22 | 1,957120E+22 | 1,957107E+22 | 1,738949E+22 | 1,373237E+22 | 9,619184E+21 | 6,152376E+21 | 4,221303E+21 | 4,221215E+21 | 6,152103E+21 | 9,618714E+21 |
| -397                | 1,373173E+22 | 1,738915E+22 | 1,957164E+22 | 1,957198E+22 | 1,739013E+22 | 1,373266E+22 | 9,619214E+21 | 6,152297E+21 | 4,221262E+21 | 4,221224E+21 | 6,152205E+21 | 9,619125E+21 |
| -396                | 1,373263E+22 | 1,739001E+22 | 1,957185E+22 | 1,957173E+22 | 1,738964E+22 | 1,373216E+22 | 9,618844E+21 | 6,152067E+21 | 4,221175E+21 | 4,221315E+21 | 6,152394E+21 | 9,619118E+21 |
| -395                | 1,373219E+22 | 1,738920E+22 | 1,957070E+22 | 1,957086E+22 | 1,738946E+22 | 1,373241E+22 | 9,619292E+21 | 6,152506E+21 | 4,221420E+21 | 4,221313E+21 | 6,152208E+21 | 9,618896E+21 |
| -394                | 1,373211E+22 | 1,738963E+22 | 1,957165E+22 | 1,957156E+22 | 1,738965E+22 | 1,373224E+22 | 9,619016E+21 | 6,152371E+21 | 4,221512E+21 | 4,221554E+21 | 6,152543E+21 | 9,619374E+21 |
| -393                | 1,373263E+22 | 1,738978E+22 | 1,957130E+22 | 1,957082E+22 | 1,738892E+22 | 1,373194E+22 | 9,619073E+21 | 6,152550E+21 | 4,221721E+21 | 4,221793E+21 | 6,152676E+21 | 9,619098E+21 |
| -392                | 1,373181E+22 | 1,738863E+22 | 1,957052E+22 | 1,957089E+22 | 1,738928E+22 | 1,373226E+22 | 9,619464E+21 | 6,153009E+21 | 4,222102E+21 | 4,221990E+21 | 6,152695E+21 | 9,619083E+21 |
| -391                | 1,373211E+22 | 1,738942E+22 | 1,957123E+22 | 1,957117E+22 | 1,738928E+22 | 1,373199E+22 | 9,619084E+21 | 6,152811E+21 | 4,222206E+21 | 4,222365E+21 | 6,153284E+21 | 9,619672E+21 |
| -390                | 1,373218E+22 | 1,738875E+22 | 1,956999E+22 | 1,956979E+22 | 1,738855E+22 | 1,373206E+22 | 9,619533E+21 | 6,153282E+21 | 4,222566E+21 | 4,222570E+21 | 6,153246E+21 | 9,619333E+21 |
| -389                | 1,373157E+22 | 1,738801E+22 | 1,956976E+22 | 1,957015E+22 | 1,738896E+22 | 1,373240E+22 | 9,619844E+21 | 6,153573E+21 | 4,222820E+21 | 4,222728E+21 | 6,153313E+21 | 9,619530E+21 |
| -388                | 1,373230E+22 | 1,738905E+22 | 1,957029E+22 | 1,957004E+22 | 1,738845E+22 | 1,373179E+22 | 9,619413E+21 | 6,153388E+21 | 4,222855E+21 | 4,222968E+21 | 6,153657E+21 | 9,619659E+21 |
| -387                | 1,373189E+22 | 1,738823E+22 | 1,956921E+22 | 1,956910E+22 | 1,738805E+22 | 1,373190E+22 | 9,619790E+21 | 6,153780E+21 | 4,223069E+21 | 4,222951E+21 | 6,153434E+21 | 9,619294E+21 |
| -386                | 1,373147E+22 | 1,738815E+22 | 1,956995E+22 | 1,957013E+22 | 1,738867E+22 | 1,373196E+22 | 9,619553E+21 | 6,153563E+21 | 4,222998E+21 | 4,222990E+21 | 6,153601E+21 | 9,619729E+21 |
| -385                | 1,373221E+22 | 1,738870E+22 | 1,956995E+22 | 1,956974E+22 | 1,738824E+22 | 1,373170E+22 | 9,619359E+21 | 6,153336E+21 | 4,222806E+21 | 4,222934E+21 | 6,153646E+21 | 9,619619E+21 |
| -384                | 1,373171E+22 | 1,738787E+22 | 1,956920E+22 | 1,956966E+22 | 1,738863E+22 | 1,373215E+22 | 9,619705E+21 | 6,153495E+21 | 4,222709E+21 | 4,222589E+21 | 6,153180E+21 | 9,619332E+21 |
| -383                | 1,373199E+22 | 1,738899E+22 | 1,957059E+22 | 1,957053E+22 | 1,738896E+22 | 1,373203E+22 | 9,619275E+21 | 6,153017E+21 | 4,222364E+21 | 4,222440E+21 | 6,153299E+21 | 9,619755E+21 |
| -382                | 1,373242E+22 | 1,738906E+22 | 1,957029E+22 | 1,956989E+22 | 1,738840E+22 | 1,373189E+22 | 9,619366E+21 | 6,153037E+21 | 4,222242E+21 | 4,222217E+21 | 6,152926E+21 | 9,619168E+21 |
| -381                | 1,373173E+22 | 1,738841E+22 | 1,957029E+22 | 1,957068E+22 | 1,738919E+22 | 1,373235E+22 | 9,619587E+21 | 6,153091E+21 | 4,222152E+21 | 4,221990E+21 | 6,152635E+21 | 9,619025E+21 |
| -380                | 1,373219E+22 | 1,738957E+22 | 1,957133E+22 | 1,957126E+22 | 1,738932E+22 | 1,373200E+22 | 9,619022E+21 | 6,152606E+21 | 4,221886E+21 | 4,222001E+21 | 6,152914E+21 | 9,619326E+21 |
| -379                | 1,373204E+22 | 1,738897E+22 | 1,957041E+22 | 1,957028E+22 | 1,738889E+22 | 1,373213E+22 | 9,619306E+21 | 6,152782E+21 | 4,221878E+21 | 4,221829E+21 | 6,152630E+21 | 9,619011E+21 |
| -378                | 1,373166E+22 | 1,738862E+22 | 1,957076E+22 | 1,957112E+22 | 1,738951E+22 | 1,373239E+22 | 9,619333E+21 | 6,152747E+21 | 4,221870E+21 | 4,221828E+21 | 6,152671E+21 | 9,619320E+21 |
| -377                | 1,373250E+22 | 1,738951E+22 | 1,957100E+22 | 1,957081E+22 | 1,738899E+22 | 1,373194E+22 | 9,619054E+21 | 6,152578E+21 | 4,221825E+21 | 4,221962E+21 | 6,152904E+21 | 9,619351E+21 |
| -376                | 1,373207E+22 | 1,738873E+22 | 1,957004E+22 | 1,957018E+22 | 1,738887E+22 | 1,373214E+22 | 9,619445E+21 | 6,152996E+21 | 4,222076E+21 | 4,221955E+21 | 6,152649E+21 | 9,618981E+21 |
| -375                | 1,373188E+22 | 1,738920E+22 | 1,957108E+22 | 1,957096E+22 | 1,738914E+22 | 1,373205E+22 | 9,619220E+21 | 6,152906E+21 | 4,222200E+21 | 4,222248E+21 | 6,153093E+21 | 9,619545E+21 |
| -374                | 1,373228E+22 | 1,738906E+22 | 1,957049E+22 | 1,957011E+22 | 1,738837E+22 | 1,373169E+22 | 9,619228E+21 | 6,153098E+21 | 4,222483E+21 | 4,222571E+21 | 6,153301E+21 | 9,619386E+21 |
| -373                | 1,373160E+22 | 1,738788E+22 | 1,956948E+22 | 1,956999E+22 | 1,738880E+22 | 1,373224E+22 | 9,619760E+21 | 6,153567E+21 | 4,222843E+21 | 4,222749E+21 | 6,153287E+21 | 9,619317E+21 |

| 1                   | 2            | 3            | 4            | 5            | 6            | 7            | 8            | 9            | 10           | 11           | 12           | 13           |
|---------------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|
| Longitude $\ominus$ | 0° - 30°     | 30° - 60°    | 60° - 90°    | 90° - 120°   | 120° - 150°  | 150° - 180°  | 180° - 210°  | 210° - 240°  | 240° - 270°  | 270° - 300°  | 300° - 330°  | 330° - 360°  |
| Years               |              |              |              |              |              |              |              |              |              |              |              |              |
| -372                | 1,373189E+22 | 1,738873E+22 | 1,957018E+22 | 1,957019E+22 | 1,738871E+22 | 1,373194E+22 | 9,619443E+21 | 6,153435E+21 | 4,222962E+21 | 4,223108E+21 | 6,153835E+21 | 9,619877E+21 |
| -371                | 1,373206E+22 | 1,738829E+22 | 1,956912E+22 | 1,956877E+22 | 1,738772E+22 | 1,373174E+22 | 9,619732E+21 | 6,153835E+21 | 4,223273E+21 | 4,223264E+21 | 6,153764E+21 | 9,619536E+21 |
| -370                | 1,373144E+22 | 1,738757E+22 | 1,956900E+22 | 1,956931E+22 | 1,738824E+22 | 1,373203E+22 | 9,619960E+21 | 6,154103E+21 | 4,223535E+21 | 4,223417E+21 | 6,153789E+21 | 9,619607E+21 |
| -369                | 1,373195E+22 | 1,738843E+22 | 1,956953E+22 | 1,956931E+22 | 1,738787E+22 | 1,373153E+22 | 9,619559E+21 | 6,153890E+21 | 4,223540E+21 | 4,223672E+21 | 6,154221E+21 | 9,619875E+21 |
| -368                | 1,373162E+22 | 1,738752E+22 | 1,956843E+22 | 1,956855E+22 | 1,738769E+22 | 1,373173E+22 | 9,619896E+21 | 6,154181E+21 | 4,223651E+21 | 4,223558E+21 | 6,153920E+21 | 9,619503E+21 |
| -367                | 1,373132E+22 | 1,738766E+22 | 1,956924E+22 | 1,956947E+22 | 1,738827E+22 | 1,373191E+22 | 9,619774E+21 | 6,153975E+21 | 4,223513E+21 | 4,223529E+21 | 6,154084E+21 | 9,620006E+21 |
| -366                | 1,373209E+22 | 1,738819E+22 | 1,956916E+22 | 1,956895E+22 | 1,738766E+22 | 1,373151E+22 | 9,619551E+21 | 6,153789E+21 | 4,223363E+21 | 4,223470E+21 | 6,154066E+21 | 9,619859E+21 |
| -365                | 1,373171E+22 | 1,738753E+22 | 1,956850E+22 | 1,956890E+22 | 1,738815E+22 | 1,373208E+22 | 9,619953E+21 | 6,153949E+21 | 4,223263E+21 | 4,223110E+21 | 6,153522E+21 | 9,619379E+21 |
| -364                | 1,373179E+22 | 1,738864E+22 | 1,957005E+22 | 1,956987E+22 | 1,738845E+22 | 1,373190E+22 | 9,619519E+21 | 6,153509E+21 | 4,222963E+21 | 4,223006E+21 | 6,153657E+21 | 9,619754E+21 |
| -363                | 1,373214E+22 | 1,738865E+22 | 1,956976E+22 | 1,956933E+22 | 1,738782E+22 | 1,373156E+22 | 9,619435E+21 | 6,153439E+21 | 4,222811E+21 | 4,222800E+21 | 6,153372E+21 | 9,619307E+21 |
| -362                | 1,373148E+22 | 1,738785E+22 | 1,956955E+22 | 1,957010E+22 | 1,738880E+22 | 1,373211E+22 | 9,619627E+21 | 6,153476E+21 | 4,222734E+21 | 4,222590E+21 | 6,153108E+21 | 9,619184E+21 |
| -361                | 1,373188E+22 | 1,738887E+22 | 1,957040E+22 | 1,957047E+22 | 1,738886E+22 | 1,373189E+22 | 9,619207E+21 | 6,153031E+21 | 4,222461E+21 | 4,222611E+21 | 6,153446E+21 | 9,619632E+21 |
| -360                | 1,373194E+22 | 1,738837E+22 | 1,956955E+22 | 1,956955E+22 | 1,738838E+22 | 1,373196E+22 | 9,619488E+21 | 6,153212E+21 | 4,222430E+21 | 4,222376E+21 | 6,153049E+21 | 9,619207E+21 |
| -359                | 1,373162E+22 | 1,738832E+22 | 1,957010E+22 | 1,957032E+22 | 1,738889E+22 | 1,373220E+22 | 9,619564E+21 | 6,153243E+21 | 4,222461E+21 | 4,222405E+21 | 6,153118E+21 | 9,619476E+21 |
| -358                | 1,373228E+22 | 1,738905E+22 | 1,957035E+22 | 1,957003E+22 | 1,738826E+22 | 1,373160E+22 | 9,619211E+21 | 6,153120E+21 | 4,222532E+21 | 4,222648E+21 | 6,153405E+21 | 9,619518E+21 |
| -357                | 1,373185E+22 | 1,738819E+22 | 1,956930E+22 | 1,956949E+22 | 1,738839E+22 | 1,373199E+22 | 9,619636E+21 | 6,153516E+21 | 4,222798E+21 | 4,222689E+21 | 6,153189E+21 | 9,619099E+21 |
| -356                | 1,373151E+22 | 1,738850E+22 | 1,957021E+22 | 1,957023E+22 | 1,738874E+22 | 1,373199E+22 | 9,619484E+21 | 6,153466E+21 | 4,222946E+21 | 4,223011E+21 | 6,153676E+21 | 9,619758E+21 |
| -355                | 1,373206E+22 | 1,738844E+22 | 1,956958E+22 | 1,956925E+22 | 1,738776E+22 | 1,373148E+22 | 9,619426E+21 | 6,153612E+21 | 4,223178E+21 | 4,223294E+21 | 6,153899E+21 | 9,619709E+21 |
| -354                | 1,373153E+22 | 1,738732E+22 | 1,956851E+22 | 1,956907E+22 | 1,738818E+22 | 1,373201E+22 | 9,619966E+21 | 6,154131E+21 | 4,223564E+21 | 4,223446E+21 | 6,153804E+21 | 9,619502E+21 |
| -353                | 1,373167E+22 | 1,738814E+22 | 1,956925E+22 | 1,956922E+22 | 1,738805E+22 | 1,373176E+22 | 9,619727E+21 | 6,154036E+21 | 4,223699E+21 | 4,223826E+21 | 6,154378E+21 | 9,620088E+21 |
| -352                | 1,373185E+22 | 1,738773E+22 | 1,956840E+22 | 1,956806E+22 | 1,738709E+22 | 1,373147E+22 | 9,619927E+21 | 6,154377E+21 | 4,223969E+21 | 4,223942E+21 | 6,154250E+21 | 9,619660E+21 |
| -351                | 1,373119E+22 | 1,738706E+22 | 1,956832E+22 | 1,956862E+22 | 1,738769E+22 | 1,373180E+22 | 9,620147E+21 | 6,154618E+21 | 4,224199E+21 | 4,224103E+21 | 6,154362E+21 | 9,619826E+21 |
| -350                | 1,373163E+22 | 1,738771E+22 | 1,956866E+22 | 1,956853E+22 | 1,738731E+22 | 1,373128E+22 | 9,619691E+21 | 6,154372E+21 | 4,224214E+21 | 4,224368E+21 | 6,154805E+21 | 9,620214E+21 |
| -349                | 1,373154E+22 | 1,738696E+22 | 1,956750E+22 | 1,956765E+22 | 1,738720E+22 | 1,373166E+22 | 9,620099E+21 | 6,154615E+21 | 4,224247E+21 | 4,224171E+21 | 6,154398E+21 | 9,619720E+21 |
| -348                | 1,373122E+22 | 1,738721E+22 | 1,956845E+22 | 1,956863E+22 | 1,738774E+22 | 1,373181E+22 | 9,620034E+21 | 6,154469E+21 | 4,224107E+21 | 4,224089E+21 | 6,154466E+21 | 9,620145E+21 |
| -347                | 1,373205E+22 | 1,738794E+22 | 1,956860E+22 | 1,956823E+22 | 1,738700E+22 | 1,373118E+22 | 9,619652E+21 | 6,154204E+21 | 4,223909E+21 | 4,223991E+21 | 6,154417E+21 | 9,619955E+21 |
| -346                | 1,373156E+22 | 1,738722E+22 | 1,956801E+22 | 1,956835E+22 | 1,738763E+22 | 1,373175E+22 | 9,620022E+21 | 6,154374E+21 | 4,223834E+21 | 4,223647E+21 | 6,153862E+21 | 9,619353E+21 |
| -345                | 1,373137E+22 | 1,738803E+22 | 1,956942E+22 | 1,956937E+22 | 1,738812E+22 | 1,373176E+22 | 9,619676E+21 | 6,153938E+21 | 4,223535E+21 | 4,223591E+21 | 6,154114E+21 | 9,619883E+21 |
| -344                | 1,373178E+22 | 1,738794E+22 | 1,956906E+22 | 1,956885E+22 | 1,738755E+22 | 1,373147E+22 | 9,619578E+21 | 6,153810E+21 | 4,223328E+21 | 4,223340E+21 | 6,153805E+21 | 9,619482E+21 |
| -343                | 1,373128E+22 | 1,738732E+22 | 1,956877E+22 | 1,956938E+22 | 1,738839E+22 | 1,373206E+22 | 9,619871E+21 | 6,153897E+21 | 4,223247E+21 | 4,223135E+21 | 6,153596E+21 | 9,619448E+21 |
| -342                | 1,373172E+22 | 1,738827E+22 | 1,956949E+22 | 1,956957E+22 | 1,738824E+22 | 1,373168E+22 | 9,619408E+21 | 6,153523E+21 | 4,223073E+21 | 4,223207E+21 | 6,153918E+21 | 9,619910E+21 |
| -341                | 1,373194E+22 | 1,738799E+22 | 1,956873E+22 | 1,956861E+22 | 1,738778E+22 | 1,373181E+22 | 9,619701E+21 | 6,153707E+21 | 4,223074E+21 | 4,223004E+21 | 6,153491E+21 | 9,619329E+21 |
| -340                | 1,373142E+22 | 1,738792E+22 | 1,956949E+22 | 1,956957E+22 | 1,738826E+22 | 1,373195E+22 | 9,619783E+21 | 6,153801E+21 | 4,223173E+21 | 4,223096E+21 | 6,153600E+21 | 9,619605E+21 |
| -339                | 1,373206E+22 | 1,738858E+22 | 1,956971E+22 | 1,956937E+22 | 1,738763E+22 | 1,373121E+22 | 9,619271E+21 | 6,153593E+21 | 4,223222E+21 | 4,223368E+21 | 6,153983E+21 | 9,619773E+21 |
| -338                | 1,373166E+22 | 1,738760E+22 | 1,956848E+22 | 1,956878E+22 | 1,738792E+22 | 1,373174E+22 | 9,619742E+21 | 6,154001E+21 | 4,223496E+21 | 4,223410E+21 | 6,153766E+21 | 9,619337E+21 |
| -337                | 1,373125E+22 | 1,738778E+22 | 1,956922E+22 | 1,956934E+22 | 1,738824E+22 | 1,373191E+22 | 9,619764E+21 | 6,154008E+21 | 4,223642E+21 | 4,223727E+21 | 6,154264E+21 | 9,620059E+21 |

| 1                   | 2            | 3            | 4            | 5            | 6            | 7            | 8            | 9            | 10           | 11           | 12           | 13           |
|---------------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|
| Longitude $\ominus$ | 0° - 30°     | 30° - 60°    | 60° - 90°    | 90° - 120°   | 120° - 150°  | 150° - 180°  | 180° - 210°  | 210° - 240°  | 240° - 270°  | 270° - 300°  | 300° - 330°  | 330° - 360°  |
| Years               |              |              |              |              |              |              |              |              |              |              |              |              |
| -336                | 1,373191E+22 | 1,738782E+22 | 1,956869E+22 | 1,956843E+22 | 1,738720E+22 | 1,373133E+22 | 9,619692E+21 | 6,154164E+21 | 4,223856E+21 | 4,223946E+21 | 6,154369E+21 | 9,619883E+21 |
| -335                | 1,373140E+22 | 1,738695E+22 | 1,956777E+22 | 1,956818E+22 | 1,738754E+22 | 1,373183E+22 | 9,620253E+21 | 6,154720E+21 | 4,224266E+21 | 4,224128E+21 | 6,154314E+21 | 9,619643E+21 |
| -334                | 1,373133E+22 | 1,738748E+22 | 1,956843E+22 | 1,956835E+22 | 1,738733E+22 | 1,373143E+22 | 9,619924E+21 | 6,154645E+21 | 4,224478E+21 | 4,224574E+21 | 6,154921E+21 | 9,620266E+21 |
| -333                | 1,373158E+22 | 1,738706E+22 | 1,956750E+22 | 1,956724E+22 | 1,738661E+22 | 1,373131E+22 | 9,620116E+21 | 6,154913E+21 | 4,224705E+21 | 4,224686E+21 | 6,154812E+21 | 9,619830E+21 |
| -332                | 1,373087E+22 | 1,738639E+22 | 1,956746E+22 | 1,956781E+22 | 1,738718E+22 | 1,373166E+22 | 9,620368E+21 | 6,155142E+21 | 4,224891E+21 | 4,224802E+21 | 6,154904E+21 | 9,620079E+21 |
| -331                | 1,373150E+22 | 1,738716E+22 | 1,956781E+22 | 1,956766E+22 | 1,738666E+22 | 1,373100E+22 | 9,619818E+21 | 6,154805E+21 | 4,224809E+21 | 4,224983E+21 | 6,155312E+21 | 9,620513E+21 |
| -330                | 1,373155E+22 | 1,738659E+22 | 1,956677E+22 | 1,956688E+22 | 1,738665E+22 | 1,373140E+22 | 9,620220E+21 | 6,155053E+21 | 4,224820E+21 | 4,224721E+21 | 6,154788E+21 | 9,619845E+21 |
| -329                | 1,373105E+22 | 1,738681E+22 | 1,956781E+22 | 1,956791E+22 | 1,738723E+22 | 1,373165E+22 | 9,620232E+21 | 6,154926E+21 | 4,224679E+21 | 4,224642E+21 | 6,154854E+21 | 9,620240E+21 |
| -328                | 1,373181E+22 | 1,738748E+22 | 1,956815E+22 | 1,956781E+22 | 1,738660E+22 | 1,373097E+22 | 9,619786E+21 | 6,154616E+21 | 4,224448E+21 | 4,224510E+21 | 6,154766E+21 | 9,619988E+21 |
| -327                | 1,373127E+22 | 1,738676E+22 | 1,956748E+22 | 1,956787E+22 | 1,738731E+22 | 1,373162E+22 | 9,620169E+21 | 6,154776E+21 | 4,224368E+21 | 4,224212E+21 | 6,154337E+21 | 9,619509E+21 |
| -326                | 1,373098E+22 | 1,738722E+22 | 1,956852E+22 | 1,956866E+22 | 1,738770E+22 | 1,373163E+22 | 9,619832E+21 | 6,154368E+21 | 4,224119E+21 | 4,224193E+21 | 6,154620E+21 | 9,620175E+21 |
| -325                | 1,373168E+22 | 1,738733E+22 | 1,956808E+22 | 1,956792E+22 | 1,738710E+22 | 1,373145E+22 | 9,619808E+21 | 6,154242E+21 | 4,223890E+21 | 4,223917E+21 | 6,154266E+21 | 9,619710E+21 |
| -324                | 1,373120E+22 | 1,738689E+22 | 1,956797E+22 | 1,956844E+22 | 1,738775E+22 | 1,373189E+22 | 9,620120E+21 | 6,154403E+21 | 4,223855E+21 | 4,223711E+21 | 6,154003E+21 | 9,619639E+21 |
| -323                | 1,373172E+22 | 1,738800E+22 | 1,956888E+22 | 1,956871E+22 | 1,738746E+22 | 1,373128E+22 | 9,619493E+21 | 6,153971E+21 | 4,223682E+21 | 4,223807E+21 | 6,154354E+21 | 9,620088E+21 |
| -322                | 1,373186E+22 | 1,738768E+22 | 1,956822E+22 | 1,956798E+22 | 1,738718E+22 | 1,373141E+22 | 9,619740E+21 | 6,154161E+21 | 4,223717E+21 | 4,223640E+21 | 6,153939E+21 | 9,619409E+21 |
| -321                | 1,373108E+22 | 1,738732E+22 | 1,956882E+22 | 1,956899E+22 | 1,738788E+22 | 1,373178E+22 | 9,619924E+21 | 6,154272E+21 | 4,223833E+21 | 4,223782E+21 | 6,154145E+21 | 9,619813E+21 |
| -320                | 1,373176E+22 | 1,738789E+22 | 1,956899E+22 | 1,956882E+22 | 1,738731E+22 | 1,373111E+22 | 9,619457E+21 | 6,154051E+21 | 4,223845E+21 | 4,224007E+21 | 6,154485E+21 | 9,619990E+21 |
| -319                | 1,373148E+22 | 1,738704E+22 | 1,956767E+22 | 1,956799E+22 | 1,738747E+22 | 1,373169E+22 | 9,620053E+21 | 6,154542E+21 | 4,224148E+21 | 4,224077E+21 | 6,154317E+21 | 9,619576E+21 |
| -318                | 1,373100E+22 | 1,738705E+22 | 1,956822E+22 | 1,956837E+22 | 1,738762E+22 | 1,373176E+22 | 9,620078E+21 | 6,154648E+21 | 4,224405E+21 | 4,224449E+21 | 6,154792E+21 | 9,620281E+21 |
| -317                | 1,373177E+22 | 1,738729E+22 | 1,956775E+22 | 1,956737E+22 | 1,738656E+22 | 1,373121E+22 | 9,619990E+21 | 6,154794E+21 | 4,224643E+21 | 4,224701E+21 | 6,154886E+21 | 9,619981E+21 |
| -316                | 1,373108E+22 | 1,738635E+22 | 1,956699E+22 | 1,956726E+22 | 1,738682E+22 | 1,373156E+22 | 9,620511E+21 | 6,155369E+21 | 4,225084E+21 | 4,224917E+21 | 6,154871E+21 | 9,619817E+21 |
| -315                | 1,373108E+22 | 1,738681E+22 | 1,956757E+22 | 1,956751E+22 | 1,738663E+22 | 1,373102E+22 | 9,619975E+21 | 6,155147E+21 | 4,225222E+21 | 4,225351E+21 | 6,155555E+21 | 9,620585E+21 |
| -314                | 1,373144E+22 | 1,738643E+22 | 1,956659E+22 | 1,956639E+22 | 1,738602E+22 | 1,373099E+22 | 9,620181E+21 | 6,155369E+21 | 4,225377E+21 | 4,225391E+21 | 6,155388E+21 | 9,620116E+21 |
| -313                | 1,373071E+22 | 1,738577E+22 | 1,956655E+22 | 1,956694E+22 | 1,738664E+22 | 1,373151E+22 | 9,620563E+21 | 6,155605E+21 | 4,225504E+21 | 4,225437E+21 | 6,155429E+21 | 9,620370E+21 |
| -312                | 1,373144E+22 | 1,738673E+22 | 1,956717E+22 | 1,956698E+22 | 1,738614E+22 | 1,373081E+22 | 9,619991E+21 | 6,155241E+21 | 4,225359E+21 | 4,225506E+21 | 6,155672E+21 | 9,620624E+21 |
| -311                | 1,373144E+22 | 1,738634E+22 | 1,956633E+22 | 1,956626E+22 | 1,738617E+22 | 1,373124E+22 | 9,620422E+21 | 6,155496E+21 | 4,225367E+21 | 4,225261E+21 | 6,155172E+21 | 9,619887E+21 |
| -310                | 1,373069E+22 | 1,738621E+22 | 1,956719E+22 | 1,956733E+22 | 1,738678E+22 | 1,373146E+22 | 9,620405E+21 | 6,155405E+21 | 4,225293E+21 | 4,225232E+21 | 6,155261E+21 | 9,620322E+21 |
| -309                | 1,373151E+22 | 1,738685E+22 | 1,956735E+22 | 1,956715E+22 | 1,738635E+22 | 1,373098E+22 | 9,619973E+21 | 6,155047E+21 | 4,225034E+21 | 4,225104E+21 | 6,155204E+21 | 9,620090E+21 |
| -308                | 1,373095E+22 | 1,738610E+22 | 1,956668E+22 | 1,956711E+22 | 1,738690E+22 | 1,373158E+22 | 9,620419E+21 | 6,155241E+21 | 4,224950E+21 | 4,224790E+21 | 6,154787E+21 | 9,619757E+21 |
| -307                | 1,373091E+22 | 1,738665E+22 | 1,956765E+22 | 1,956777E+22 | 1,738707E+22 | 1,373136E+22 | 9,619957E+21 | 6,154775E+21 | 4,224662E+21 | 4,224748E+21 | 6,155079E+21 | 9,620469E+21 |
| -306                | 1,373173E+22 | 1,738699E+22 | 1,956736E+22 | 1,956709E+22 | 1,738647E+22 | 1,373114E+22 | 9,619914E+21 | 6,154676E+21 | 4,224451E+21 | 4,224463E+21 | 6,154671E+21 | 9,619872E+21 |
| -305                | 1,373110E+22 | 1,738655E+22 | 1,956740E+22 | 1,956769E+22 | 1,738713E+22 | 1,373164E+22 | 9,620260E+21 | 6,154851E+21 | 4,224448E+21 | 4,224305E+21 | 6,154447E+21 | 9,619786E+21 |
| -304                | 1,373151E+22 | 1,738759E+22 | 1,956848E+22 | 1,956824E+22 | 1,738697E+22 | 1,373099E+22 | 9,619584E+21 | 6,154394E+21 | 4,224269E+21 | 4,224395E+21 | 6,154778E+21 | 9,620191E+21 |
| -303                | 1,373163E+22 | 1,738724E+22 | 1,956773E+22 | 1,956750E+22 | 1,738686E+22 | 1,373126E+22 | 9,619869E+21 | 6,154581E+21 | 4,224322E+21 | 4,224296E+21 | 6,154483E+21 | 9,619604E+21 |
| -302                | 1,373075E+22 | 1,738652E+22 | 1,956788E+22 | 1,956821E+22 | 1,738745E+22 | 1,373169E+22 | 9,620144E+21 | 6,154784E+21 | 4,224515E+21 | 4,224472E+21 | 6,154687E+21 | 9,620076E+21 |
| -301                | 1,373162E+22 | 1,738722E+22 | 1,956792E+22 | 1,956783E+22 | 1,738687E+22 | 1,373114E+22 | 9,619779E+21 | 6,154622E+21 | 4,224552E+21 | 4,224697E+21 | 6,154987E+21 | 9,620166E+21 |

| 1                 | 2            | 3            | 4            | 5            | 6            | 7            | 8            | 9            | 10           | 11           | 12           | 13           |
|-------------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|
| Longitude $\odot$ | 0° - 30°     | 30° - 60°    | 60° - 90°    | 90° - 120°   | 120° - 150°  | 150° - 180°  | 180° - 210°  | 210° - 240°  | 240° - 270°  | 270° - 300°  | 300° - 330°  | 330° - 360°  |
| Years             |              |              |              |              |              |              |              |              |              |              |              |              |
| -300              | 1,373129E+22 | 1,738649E+22 | 1,956681E+22 | 1,956698E+22 | 1,738678E+22 | 1,373153E+22 | 9,620394E+21 | 6,155204E+21 | 4,224925E+21 | 4,224794E+21 | 6,154802E+21 | 9,619752E+21 |
| -299              | 1,373084E+22 | 1,738646E+22 | 1,956734E+22 | 1,956735E+22 | 1,738676E+22 | 1,373136E+22 | 9,620239E+21 | 6,155240E+21 | 4,225185E+21 | 4,225212E+21 | 6,155343E+21 | 9,620460E+21 |
| -298              | 1,373155E+22 | 1,738672E+22 | 1,956697E+22 | 1,956654E+22 | 1,738586E+22 | 1,373080E+22 | 9,620096E+21 | 6,155353E+21 | 4,225413E+21 | 4,225479E+21 | 6,155472E+21 | 9,620148E+21 |
| -297              | 1,373074E+22 | 1,738562E+22 | 1,956611E+22 | 1,956644E+22 | 1,738627E+22 | 1,373132E+22 | 9,620640E+21 | 6,155868E+21 | 4,225804E+21 | 4,225684E+21 | 6,155510E+21 | 9,620114E+21 |
| -296              | 1,373085E+22 | 1,738614E+22 | 1,956678E+22 | 1,956677E+22 | 1,738613E+22 | 1,373083E+22 | 9,620122E+21 | 6,155588E+21 | 4,225841E+21 | 4,225998E+21 | 6,156082E+21 | 9,620864E+21 |
| -295              | 1,373139E+22 | 1,738599E+22 | 1,956588E+22 | 1,956564E+22 | 1,738553E+22 | 1,373086E+22 | 9,620385E+21 | 6,155814E+21 | 4,225960E+21 | 4,226001E+21 | 6,155889E+21 | 9,620343E+21 |
| -294              | 1,373057E+22 | 1,738521E+22 | 1,956573E+22 | 1,956611E+22 | 1,738610E+22 | 1,373135E+22 | 9,620795E+21 | 6,156126E+21 | 4,226144E+21 | 4,226038E+21 | 6,155847E+21 | 9,620521E+21 |
| -293              | 1,373133E+22 | 1,738634E+22 | 1,956646E+22 | 1,956619E+22 | 1,738571E+22 | 1,373077E+22 | 9,620253E+21 | 6,155762E+21 | 4,225998E+21 | 4,226107E+21 | 6,156056E+21 | 9,620633E+21 |
| -292              | 1,373110E+22 | 1,738583E+22 | 1,956578E+22 | 1,956565E+22 | 1,738568E+22 | 1,373109E+22 | 9,620664E+21 | 6,156036E+21 | 4,226027E+21 | 4,225884E+21 | 6,155601E+21 | 9,620001E+21 |
| -291              | 1,373042E+22 | 1,738551E+22 | 1,956638E+22 | 1,956663E+22 | 1,738627E+22 | 1,373120E+22 | 9,620486E+21 | 6,155820E+21 | 4,225896E+21 | 4,225865E+21 | 6,155775E+21 | 9,620558E+21 |
| -290              | 1,373135E+22 | 1,738624E+22 | 1,956650E+22 | 1,956635E+22 | 1,738582E+22 | 1,373076E+22 | 9,620084E+21 | 6,155443E+21 | 4,225583E+21 | 4,225684E+21 | 6,155685E+21 | 9,620327E+21 |
| -289              | 1,373084E+22 | 1,738556E+22 | 1,956585E+22 | 1,956624E+22 | 1,738631E+22 | 1,373140E+22 | 9,620586E+21 | 6,155649E+21 | 4,225483E+21 | 4,225340E+21 | 6,155244E+21 | 9,620014E+21 |
| -288              | 1,373090E+22 | 1,738634E+22 | 1,956711E+22 | 1,956706E+22 | 1,738647E+22 | 1,373110E+22 | 9,620069E+21 | 6,155166E+21 | 4,225170E+21 | 4,225235E+21 | 6,155419E+21 | 9,620588E+21 |
| -287              | 1,373168E+22 | 1,738680E+22 | 1,956700E+22 | 1,956653E+22 | 1,738594E+22 | 1,373088E+22 | 9,620019E+21 | 6,155066E+21 | 4,224990E+21 | 4,225016E+21 | 6,155074E+21 | 9,619933E+21 |
| -286              | 1,373079E+22 | 1,738597E+22 | 1,956683E+22 | 1,956718E+22 | 1,738672E+22 | 1,373142E+22 | 9,620385E+21 | 6,155309E+21 | 4,225074E+21 | 4,224928E+21 | 6,154903E+21 | 9,619908E+21 |
| -285              | 1,373125E+22 | 1,738698E+22 | 1,956769E+22 | 1,956760E+22 | 1,738674E+22 | 1,373101E+22 | 9,619787E+21 | 6,154858E+21 | 4,224905E+21 | 4,225041E+21 | 6,155257E+21 | 9,620304E+21 |
| -284              | 1,373128E+22 | 1,738654E+22 | 1,956691E+22 | 1,956673E+22 | 1,738643E+22 | 1,373126E+22 | 9,620189E+21 | 6,155138E+21 | 4,225003E+21 | 4,224961E+21 | 6,154986E+21 | 9,619854E+21 |
| -283              | 1,373062E+22 | 1,738581E+22 | 1,956685E+22 | 1,956724E+22 | 1,738682E+22 | 1,373149E+22 | 9,620368E+21 | 6,155328E+21 | 4,225213E+21 | 4,225169E+21 | 6,155223E+21 | 9,620324E+21 |
| -282              | 1,373154E+22 | 1,738671E+22 | 1,956701E+22 | 1,956682E+22 | 1,738614E+22 | 1,373086E+22 | 9,619998E+21 | 6,155209E+21 | 4,225287E+21 | 4,225411E+21 | 6,155506E+21 | 9,620328E+21 |
| -281              | 1,373107E+22 | 1,738593E+22 | 1,956600E+22 | 1,956603E+22 | 1,738601E+22 | 1,373125E+22 | 9,620611E+21 | 6,155795E+21 | 4,225692E+21 | 4,225565E+21 | 6,155392E+21 | 9,619957E+21 |
| -280              | 1,373058E+22 | 1,738587E+22 | 1,956667E+22 | 1,956663E+22 | 1,738610E+22 | 1,373099E+22 | 9,620344E+21 | 6,155756E+21 | 4,225907E+21 | 4,225950E+21 | 6,155916E+21 | 9,620670E+21 |
| -279              | 1,373133E+22 | 1,738613E+22 | 1,956622E+22 | 1,956582E+22 | 1,738535E+22 | 1,373056E+22 | 9,620201E+21 | 6,155805E+21 | 4,226096E+21 | 4,226232E+21 | 6,156117E+21 | 9,620439E+21 |
| -278              | 1,373050E+22 | 1,738485E+22 | 1,956510E+22 | 1,956555E+22 | 1,738572E+22 | 1,373116E+22 | 9,620831E+21 | 6,156366E+21 | 4,226489E+21 | 4,226392E+21 | 6,156089E+21 | 9,620440E+21 |
| -277              | 1,373083E+22 | 1,738562E+22 | 1,956580E+22 | 1,956580E+22 | 1,738564E+22 | 1,373081E+22 | 9,620406E+21 | 6,156122E+21 | 4,226505E+21 | 4,226640E+21 | 6,156538E+21 | 9,621011E+21 |
| -276              | 1,373124E+22 | 1,738560E+22 | 1,956524E+22 | 1,956484E+22 | 1,738494E+22 | 1,373073E+22 | 9,620694E+21 | 6,156408E+21 | 4,226650E+21 | 4,226619E+21 | 6,156282E+21 | 9,620458E+21 |
| -275              | 1,373042E+22 | 1,738473E+22 | 1,956505E+22 | 1,956537E+22 | 1,738545E+22 | 1,373105E+22 | 9,620944E+21 | 6,156638E+21 | 4,226815E+21 | 4,226684E+21 | 6,156283E+21 | 9,620586E+21 |
| -274              | 1,373105E+22 | 1,738580E+22 | 1,956581E+22 | 1,956558E+22 | 1,738521E+22 | 1,373051E+22 | 9,620392E+21 | 6,156244E+21 | 4,226633E+21 | 4,226742E+21 | 6,156520E+21 | 9,620718E+21 |
| -273              | 1,373073E+22 | 1,738512E+22 | 1,956500E+22 | 1,956499E+22 | 1,738526E+22 | 1,373097E+22 | 9,620828E+21 | 6,156462E+21 | 4,226613E+21 | 4,226508E+21 | 6,156130E+21 | 9,620238E+21 |
| -272              | 1,373019E+22 | 1,738487E+22 | 1,956562E+22 | 1,956593E+22 | 1,738579E+22 | 1,373105E+22 | 9,620636E+21 | 6,156192E+21 | 4,226395E+21 | 4,226385E+21 | 6,156211E+21 | 9,620791E+21 |
| -271              | 1,373131E+22 | 1,738586E+22 | 1,956584E+22 | 1,956566E+22 | 1,738534E+22 | 1,373060E+22 | 9,620235E+21 | 6,155805E+21 | 4,226073E+21 | 4,226207E+21 | 6,156120E+21 | 9,620530E+21 |
| -270              | 1,373075E+22 | 1,738514E+22 | 1,956513E+22 | 1,956545E+22 | 1,738573E+22 | 1,373118E+22 | 9,620731E+21 | 6,156075E+21 | 4,226037E+21 | 4,225875E+21 | 6,155628E+21 | 9,620159E+21 |
| -269              | 1,373083E+22 | 1,738603E+22 | 1,956649E+22 | 1,956637E+22 | 1,738601E+22 | 1,373097E+22 | 9,620249E+21 | 6,155621E+21 | 4,225760E+21 | 4,225802E+21 | 6,155795E+21 | 9,620614E+21 |
| -268              | 1,373138E+22 | 1,738635E+22 | 1,956655E+22 | 1,956607E+22 | 1,738551E+22 | 1,373070E+22 | 9,620189E+21 | 6,155550E+21 | 4,225621E+21 | 4,225625E+21 | 6,155519E+21 | 9,620098E+21 |
| -267              | 1,373056E+22 | 1,738528E+22 | 1,956599E+22 | 1,956650E+22 | 1,738625E+22 | 1,373120E+22 | 9,620476E+21 | 6,155729E+21 | 4,225697E+21 | 4,225588E+21 | 6,155438E+21 | 9,620146E+21 |
| -266              | 1,373108E+22 | 1,738635E+22 | 1,956678E+22 | 1,956677E+22 | 1,738620E+22 | 1,373087E+22 | 9,620004E+21 | 6,155336E+21 | 4,225525E+21 | 4,225683E+21 | 6,155772E+21 | 9,620530E+21 |
| -265              | 1,373113E+22 | 1,738595E+22 | 1,956599E+22 | 1,956579E+22 | 1,738577E+22 | 1,373111E+22 | 9,620454E+21 | 6,155673E+21 | 4,225671E+21 | 4,225632E+21 | 6,155516E+21 | 9,620087E+21 |



| 1                 | 2            | 3            | 4            | 5            | 6            | 7            | 8            | 9            | 10           | 11           | 12           | 13           |
|-------------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|
| Longitude $\odot$ | 0° - 30°     | 30° - 60°    | 60° - 90°    | 90° - 120°   | 120° - 150°  | 150° - 180°  | 180° - 210°  | 210° - 240°  | 240° - 270°  | 270° - 300°  | 300° - 330°  | 330° - 360°  |
| Years             |              |              |              |              |              |              |              |              |              |              |              |              |
| -264              | 1,373050E+22 | 1,738535E+22 | 1,956611E+22 | 1,956634E+22 | 1,738608E+22 | 1,373121E+22 | 9,620566E+21 | 6,155859E+21 | 4,225887E+21 | 4,225821E+21 | 6,155686E+21 | 9,620452E+21 |
| -263              | 1,373136E+22 | 1,738630E+22 | 1,956641E+22 | 1,956609E+22 | 1,738548E+22 | 1,373056E+22 | 9,620144E+21 | 6,155715E+21 | 4,225996E+21 | 4,226146E+21 | 6,156057E+21 | 9,620454E+21 |
| -262              | 1,373071E+22 | 1,738519E+22 | 1,956514E+22 | 1,956527E+22 | 1,738542E+22 | 1,373097E+22 | 9,620752E+21 | 6,156336E+21 | 4,226446E+21 | 4,226331E+21 | 6,155987E+21 | 9,620187E+21 |
| -261              | 1,373036E+22 | 1,738520E+22 | 1,956568E+22 | 1,956578E+22 | 1,738567E+22 | 1,373092E+22 | 9,620567E+21 | 6,156291E+21 | 4,226633E+21 | 4,226689E+21 | 6,156491E+21 | 9,620885E+21 |
| -260              | 1,373109E+22 | 1,738549E+22 | 1,956538E+22 | 1,956501E+22 | 1,738480E+22 | 1,373046E+22 | 9,620502E+21 | 6,156391E+21 | 4,226815E+21 | 4,226927E+21 | 6,156657E+21 | 9,620745E+21 |
| -259              | 1,373045E+22 | 1,738425E+22 | 1,956414E+22 | 1,956461E+22 | 1,738506E+22 | 1,373093E+22 | 9,621037E+21 | 6,156908E+21 | 4,227190E+21 | 4,227083E+21 | 6,156610E+21 | 9,620665E+21 |
| -258              | 1,373075E+22 | 1,738523E+22 | 1,956505E+22 | 1,956492E+22 | 1,738496E+22 | 1,373058E+22 | 9,620655E+21 | 6,156691E+21 | 4,227200E+21 | 4,227308E+21 | 6,157000E+21 | 9,621102E+21 |
| -257              | 1,373096E+22 | 1,738508E+22 | 1,956459E+22 | 1,956412E+22 | 1,738433E+22 | 1,373052E+22 | 9,620921E+21 | 6,156957E+21 | 4,227352E+21 | 4,227316E+21 | 6,156795E+21 | 9,620578E+21 |
| -256              | 1,373009E+22 | 1,738414E+22 | 1,956443E+22 | 1,956480E+22 | 1,738497E+22 | 1,373079E+22 | 9,621053E+21 | 6,157088E+21 | 4,227440E+21 | 4,227322E+21 | 6,156778E+21 | 9,620738E+21 |
| -255              | 1,373077E+22 | 1,738518E+22 | 1,956505E+22 | 1,956495E+22 | 1,738482E+22 | 1,373036E+22 | 9,620490E+21 | 6,156609E+21 | 4,227199E+21 | 4,227370E+21 | 6,157054E+21 | 9,620950E+21 |
| -254              | 1,373048E+22 | 1,738437E+22 | 1,956401E+22 | 1,956415E+22 | 1,738474E+22 | 1,373083E+22 | 9,621008E+21 | 6,156880E+21 | 4,227167E+21 | 4,227079E+21 | 6,156612E+21 | 9,620532E+21 |
| -253              | 1,373021E+22 | 1,738446E+22 | 1,956472E+22 | 1,956502E+22 | 1,738527E+22 | 1,373095E+22 | 9,620852E+21 | 6,156633E+21 | 4,226935E+21 | 4,226900E+21 | 6,156581E+21 | 9,620914E+21 |
| -252              | 1,373119E+22 | 1,738556E+22 | 1,956530E+22 | 1,956495E+22 | 1,738474E+22 | 1,373040E+22 | 9,620447E+21 | 6,156288E+21 | 4,226647E+21 | 4,226721E+21 | 6,156466E+21 | 9,620662E+21 |
| -251              | 1,373064E+22 | 1,738474E+22 | 1,956455E+22 | 1,956483E+22 | 1,738515E+22 | 1,373085E+22 | 9,620789E+21 | 6,156474E+21 | 4,226612E+21 | 4,226455E+21 | 6,156044E+21 | 9,620258E+21 |
| -250              | 1,373062E+22 | 1,738559E+22 | 1,956592E+22 | 1,956583E+22 | 1,738555E+22 | 1,373074E+22 | 9,620360E+21 | 6,156035E+21 | 4,226331E+21 | 4,226392E+21 | 6,156242E+21 | 9,620719E+21 |
| -249              | 1,373106E+22 | 1,738571E+22 | 1,956581E+22 | 1,956547E+22 | 1,738514E+22 | 1,373062E+22 | 9,620376E+21 | 6,155974E+21 | 4,226202E+21 | 4,226239E+21 | 6,156030E+21 | 9,620322E+21 |
| -248              | 1,373036E+22 | 1,738471E+22 | 1,956523E+22 | 1,956579E+22 | 1,738576E+22 | 1,373107E+22 | 9,620675E+21 | 6,156164E+21 | 4,226257E+21 | 4,226156E+21 | 6,155891E+21 | 9,620346E+21 |
| -247              | 1,373096E+22 | 1,738589E+22 | 1,956603E+22 | 1,956600E+22 | 1,738568E+22 | 1,373073E+22 | 9,620217E+21 | 6,155804E+21 | 4,226137E+21 | 4,226308E+21 | 6,156245E+21 | 9,620685E+21 |
| -246              | 1,373092E+22 | 1,738537E+22 | 1,956512E+22 | 1,956489E+22 | 1,738511E+22 | 1,373090E+22 | 9,620702E+21 | 6,156242E+21 | 4,226380E+21 | 4,226319E+21 | 6,156021E+21 | 9,620260E+21 |
| -245              | 1,373033E+22 | 1,738487E+22 | 1,956527E+22 | 1,956548E+22 | 1,738548E+22 | 1,373102E+22 | 9,620811E+21 | 6,156452E+21 | 4,226642E+21 | 4,226556E+21 | 6,156212E+21 | 9,620555E+21 |
| -244              | 1,373100E+22 | 1,738567E+22 | 1,956568E+22 | 1,956540E+22 | 1,738493E+22 | 1,373033E+22 | 9,620355E+21 | 6,156313E+21 | 4,226776E+21 | 4,226911E+21 | 6,156661E+21 | 9,620751E+21 |
| -243              | 1,373052E+22 | 1,738444E+22 | 1,956411E+22 | 1,956437E+22 | 1,738481E+22 | 1,373068E+22 | 9,620855E+21 | 6,156829E+21 | 4,227183E+21 | 4,227115E+21 | 6,156637E+21 | 9,620527E+21 |
| -242              | 1,373027E+22 | 1,738462E+22 | 1,956471E+22 | 1,956481E+22 | 1,738498E+22 | 1,373071E+22 | 9,620800E+21 | 6,156833E+21 | 4,227334E+21 | 4,227407E+21 | 6,157065E+21 | 9,621158E+21 |
| -241              | 1,373097E+22 | 1,738497E+22 | 1,956453E+22 | 1,956412E+22 | 1,738415E+22 | 1,373027E+22 | 9,620762E+21 | 6,156961E+21 | 4,227529E+21 | 4,227629E+21 | 6,157188E+21 | 9,620954E+21 |
| -240              | 1,373030E+22 | 1,738387E+22 | 1,956351E+22 | 1,956383E+22 | 1,738440E+22 | 1,373066E+22 | 9,621231E+21 | 6,157440E+21 | 4,227867E+21 | 4,227733E+21 | 6,157057E+21 | 9,620746E+21 |
| -239              | 1,373048E+22 | 1,738478E+22 | 1,956451E+22 | 1,956436E+22 | 1,738447E+22 | 1,373037E+22 | 9,620815E+21 | 6,157174E+21 | 4,227870E+21 | 4,227994E+21 | 6,157491E+21 | 9,621169E+21 |
| -238              | 1,373054E+22 | 1,738431E+22 | 1,956373E+22 | 1,956346E+22 | 1,738390E+22 | 1,373036E+22 | 9,621097E+21 | 6,157445E+21 | 4,228012E+21 | 4,227989E+21 | 6,157323E+21 | 9,620771E+21 |
| -237              | 1,372984E+22 | 1,738344E+22 | 1,956339E+22 | 1,956397E+22 | 1,738461E+22 | 1,373077E+22 | 9,621289E+21 | 6,157553E+21 | 4,228044E+21 | 4,227934E+21 | 6,157259E+21 | 9,620926E+21 |
| -236              | 1,373053E+22 | 1,738457E+22 | 1,956422E+22 | 1,956419E+22 | 1,738433E+22 | 1,373026E+22 | 9,620746E+21 | 6,157093E+21 | 4,227775E+21 | 4,227914E+21 | 6,157497E+21 | 9,621254E+21 |
| -235              | 1,373049E+22 | 1,738388E+22 | 1,956312E+22 | 1,956323E+22 | 1,738407E+22 | 1,373053E+22 | 9,621115E+21 | 6,157293E+21 | 4,227723E+21 | 4,227631E+21 | 6,157035E+21 | 9,620747E+21 |
| -234              | 1,373022E+22 | 1,738424E+22 | 1,956415E+22 | 1,956422E+22 | 1,738456E+22 | 1,373066E+22 | 9,621015E+21 | 6,157076E+21 | 4,227487E+21 | 4,227439E+21 | 6,156965E+21 | 9,621010E+21 |
| -233              | 1,373099E+22 | 1,738521E+22 | 1,956486E+22 | 1,956442E+22 | 1,738419E+22 | 1,373013E+22 | 9,620573E+21 | 6,156718E+21 | 4,227224E+21 | 4,227304E+21 | 6,156904E+21 | 9,620773E+21 |
| -232              | 1,373037E+22 | 1,738432E+22 | 1,956408E+22 | 1,956438E+22 | 1,738474E+22 | 1,373060E+22 | 9,620840E+21 | 6,156832E+21 | 4,227143E+21 | 4,227012E+21 | 6,156485E+21 | 9,620408E+21 |
| -231              | 1,373037E+22 | 1,738507E+22 | 1,956527E+22 | 1,956530E+22 | 1,738526E+22 | 1,373065E+22 | 9,620475E+21 | 6,156377E+21 | 4,226860E+21 | 4,226974E+21 | 6,156709E+21 | 9,620896E+21 |
| -230              | 1,373081E+22 | 1,738503E+22 | 1,956487E+22 | 1,956467E+22 | 1,738468E+22 | 1,373054E+22 | 9,620624E+21 | 6,156443E+21 | 4,226788E+21 | 4,226823E+21 | 6,156490E+21 | 9,620553E+21 |
| -229              | 1,373029E+22 | 1,738425E+22 | 1,956427E+22 | 1,956487E+22 | 1,738526E+22 | 1,373099E+22 | 9,620976E+21 | 6,156720E+21 | 4,226910E+21 | 4,226762E+21 | 6,156304E+21 | 9,620440E+21 |

| 1                 | 2            | 3            | 4            | 5            | 6            | 7            | 8            | 9            | 10           | 11           | 12           | 13           |
|-------------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|
| Longitude $\odot$ | 0° - 30°     | 30° - 60°    | 60° - 90°    | 90° - 120°   | 120° - 150°  | 150° - 180°  | 180° - 210°  | 210° - 240°  | 240° - 270°  | 270° - 300°  | 300° - 330°  | 330° - 360°  |
| Years             |              |              |              |              |              |              |              |              |              |              |              |              |
| -228              | 1,373070E+22 | 1,738541E+22 | 1,956535E+22 | 1,956524E+22 | 1,738506E+22 | 1,373052E+22 | 9,620499E+21 | 6,156419E+21 | 4,226863E+21 | 4,226965E+21 | 6,156706E+21 | 9,620853E+21 |
| -227              | 1,373068E+22 | 1,738475E+22 | 1,956429E+22 | 1,956409E+22 | 1,738442E+22 | 1,373052E+22 | 9,620813E+21 | 6,156784E+21 | 4,227135E+21 | 4,227086E+21 | 6,156606E+21 | 9,620460E+21 |
| -226              | 1,373008E+22 | 1,738428E+22 | 1,956445E+22 | 1,956466E+22 | 1,738483E+22 | 1,373072E+22 | 9,620979E+21 | 6,156989E+21 | 4,227377E+21 | 4,227325E+21 | 6,156835E+21 | 9,620802E+21 |
| -225              | 1,373070E+22 | 1,738495E+22 | 1,956475E+22 | 1,956455E+22 | 1,738437E+22 | 1,373016E+22 | 9,620571E+21 | 6,156841E+21 | 4,227500E+21 | 4,227675E+21 | 6,157303E+21 | 9,621079E+21 |
| -224              | 1,373038E+22 | 1,738392E+22 | 1,956329E+22 | 1,956351E+22 | 1,738420E+22 | 1,373047E+22 | 9,621041E+21 | 6,157325E+21 | 4,227846E+21 | 4,227795E+21 | 6,157182E+21 | 9,620805E+21 |
| -223              | 1,373021E+22 | 1,738421E+22 | 1,956395E+22 | 1,956400E+22 | 1,738442E+22 | 1,373052E+22 | 9,620990E+21 | 6,157336E+21 | 4,228016E+21 | 4,228093E+21 | 6,157556E+21 | 9,621303E+21 |
| -222              | 1,373074E+22 | 1,738440E+22 | 1,956370E+22 | 1,956329E+22 | 1,738356E+22 | 1,373009E+22 | 9,621031E+21 | 6,157552E+21 | 4,228260E+21 | 4,228329E+21 | 6,157684E+21 | 9,621094E+21 |
| -221              | 1,373007E+22 | 1,738333E+22 | 1,956270E+22 | 1,956310E+22 | 1,738393E+22 | 1,373050E+22 | 9,621482E+21 | 6,158025E+21 | 4,228598E+21 | 4,228435E+21 | 6,157551E+21 | 9,620818E+21 |
| -220              | 1,373003E+22 | 1,738402E+22 | 1,956373E+22 | 1,956371E+22 | 1,738403E+22 | 1,373022E+22 | 9,621044E+21 | 6,157731E+21 | 4,228575E+21 | 4,228672E+21 | 6,158030E+21 | 9,621436E+21 |
| -219              | 1,373030E+22 | 1,738350E+22 | 1,956264E+22 | 1,956253E+22 | 1,738333E+22 | 1,373014E+22 | 9,621229E+21 | 6,157891E+21 | 4,228648E+21 | 4,228663E+21 | 6,157890E+21 | 9,621092E+21 |
| -218              | 1,372979E+22 | 1,738295E+22 | 1,956246E+22 | 1,956293E+22 | 1,738386E+22 | 1,373054E+22 | 9,621501E+21 | 6,158013E+21 | 4,228618E+21 | 4,228518E+21 | 6,157728E+21 | 9,621167E+21 |
| -217              | 1,373046E+22 | 1,738418E+22 | 1,956349E+22 | 1,956332E+22 | 1,738366E+22 | 1,373002E+22 | 9,620923E+21 | 6,157552E+21 | 4,228350E+21 | 4,228472E+21 | 6,157908E+21 | 9,621417E+21 |
| -216              | 1,373042E+22 | 1,738370E+22 | 1,956273E+22 | 1,956261E+22 | 1,738346E+22 | 1,373019E+22 | 9,621166E+21 | 6,157666E+21 | 4,228243E+21 | 4,228140E+21 | 6,157383E+21 | 9,620819E+21 |
| -215              | 1,373003E+22 | 1,738394E+22 | 1,956381E+22 | 1,956385E+22 | 1,738419E+22 | 1,373040E+22 | 9,621040E+21 | 6,157412E+21 | 4,228013E+21 | 4,227986E+21 | 6,157345E+21 | 9,621050E+21 |
| -214              | 1,373062E+22 | 1,738457E+22 | 1,956419E+22 | 1,956397E+22 | 1,738395E+22 | 1,373004E+22 | 9,620720E+21 | 6,157114E+21 | 4,227765E+21 | 4,227858E+21 | 6,157337E+21 | 9,620933E+21 |
| -213              | 1,373015E+22 | 1,738372E+22 | 1,956324E+22 | 1,956375E+22 | 1,738451E+22 | 1,373064E+22 | 9,621100E+21 | 6,157277E+21 | 4,227693E+21 | 4,227556E+21 | 6,156898E+21 | 9,620541E+21 |
| -212              | 1,373008E+22 | 1,738444E+22 | 1,956450E+22 | 1,956463E+22 | 1,738487E+22 | 1,373063E+22 | 9,620799E+21 | 6,156910E+21 | 4,227460E+21 | 4,227521E+21 | 6,157128E+21 | 9,621130E+21 |
| -211              | 1,373070E+22 | 1,738445E+22 | 1,956392E+22 | 1,956371E+22 | 1,738406E+22 | 1,373032E+22 | 9,620820E+21 | 6,156959E+21 | 4,227447E+21 | 4,227472E+21 | 6,156973E+21 | 9,620752E+21 |
| -210              | 1,373019E+22 | 1,738387E+22 | 1,956353E+22 | 1,956388E+22 | 1,738445E+22 | 1,373070E+22 | 9,621213E+21 | 6,157282E+21 | 4,227611E+21 | 4,227456E+21 | 6,156819E+21 | 9,620599E+21 |
| -209              | 1,373043E+22 | 1,738485E+22 | 1,956465E+22 | 1,956449E+22 | 1,738441E+22 | 1,373020E+22 | 9,620654E+21 | 6,156969E+21 | 4,227608E+21 | 4,227727E+21 | 6,157309E+21 | 9,621090E+21 |
| -208              | 1,373045E+22 | 1,738420E+22 | 1,956355E+22 | 1,956334E+22 | 1,738384E+22 | 1,373017E+22 | 9,620851E+21 | 6,157226E+21 | 4,227815E+21 | 4,227816E+21 | 6,157217E+21 | 9,620767E+21 |
| -207              | 1,372992E+22 | 1,738371E+22 | 1,956364E+22 | 1,956389E+22 | 1,738433E+22 | 1,373051E+22 | 9,621073E+21 | 6,157411E+21 | 4,228034E+21 | 4,228042E+21 | 6,157420E+21 | 9,621092E+21 |
| -206              | 1,373055E+22 | 1,738432E+22 | 1,956378E+22 | 1,956363E+22 | 1,738379E+22 | 1,373001E+22 | 9,620820E+21 | 6,157379E+21 | 4,228182E+21 | 4,228354E+21 | 6,157830E+21 | 9,621338E+21 |
| -205              | 1,373032E+22 | 1,738347E+22 | 1,956239E+22 | 1,956259E+22 | 1,738365E+22 | 1,373034E+22 | 9,621348E+21 | 6,157931E+21 | 4,228569E+21 | 4,228464E+21 | 6,157621E+21 | 9,620877E+21 |
| -204              | 1,372990E+22 | 1,738368E+22 | 1,956331E+22 | 1,956331E+22 | 1,738388E+22 | 1,373036E+22 | 9,621299E+21 | 6,157982E+21 | 4,228776E+21 | 4,228778E+21 | 6,158017E+21 | 9,621424E+21 |
| -203              | 1,373042E+22 | 1,738368E+22 | 1,956281E+22 | 1,956249E+22 | 1,738298E+22 | 1,372981E+22 | 9,621192E+21 | 6,158116E+21 | 4,229023E+21 | 4,229092E+21 | 6,158247E+21 | 9,621255E+21 |
| -202              | 1,372976E+22 | 1,738266E+22 | 1,956180E+22 | 1,956218E+22 | 1,738331E+22 | 1,373032E+22 | 9,621717E+21 | 6,158563E+21 | 4,229300E+21 | 4,229159E+21 | 6,158130E+21 | 9,621049E+21 |
| -201              | 1,372972E+22 | 1,738325E+22 | 1,956277E+22 | 1,956283E+22 | 1,738347E+22 | 1,373006E+22 | 9,621268E+21 | 6,158238E+21 | 4,229234E+21 | 4,229349E+21 | 6,158586E+21 | 9,621717E+21 |
| -200              | 1,373020E+22 | 1,738302E+22 | 1,956185E+22 | 1,956165E+22 | 1,738268E+22 | 1,372986E+22 | 9,621345E+21 | 6,158311E+21 | 4,229214E+21 | 4,229238E+21 | 6,158353E+21 | 9,621346E+21 |
| -199              | 1,372979E+22 | 1,738266E+22 | 1,956188E+22 | 1,956220E+22 | 1,738328E+22 | 1,373026E+22 | 9,621573E+21 | 6,158395E+21 | 4,229171E+21 | 4,229075E+21 | 6,158121E+21 | 9,621286E+21 |
| -198              | 1,373030E+22 | 1,738378E+22 | 1,956292E+22 | 1,956266E+22 | 1,738314E+22 | 1,372980E+22 | 9,621084E+21 | 6,157998E+21 | 4,228924E+21 | 4,229030E+21 | 6,158302E+21 | 9,621521E+21 |
| -197              | 1,373024E+22 | 1,738330E+22 | 1,956220E+22 | 1,956215E+22 | 1,738316E+22 | 1,373004E+22 | 9,621317E+21 | 6,158105E+21 | 4,228818E+21 | 4,228698E+21 | 6,157772E+21 | 9,620871E+21 |
| -196              | 1,372966E+22 | 1,738332E+22 | 1,956323E+22 | 1,956345E+22 | 1,738398E+22 | 1,373035E+22 | 9,621225E+21 | 6,157851E+21 | 4,228579E+21 | 4,228533E+21 | 6,157780E+21 | 9,621271E+21 |
| -195              | 1,373040E+22 | 1,738383E+22 | 1,956323E+22 | 1,956319E+22 | 1,738356E+22 | 1,372994E+22 | 9,620885E+21 | 6,157529E+21 | 4,228334E+21 | 4,228450E+21 | 6,157818E+21 | 9,621187E+21 |
| -194              | 1,373008E+22 | 1,738326E+22 | 1,956239E+22 | 1,956275E+22 | 1,738384E+22 | 1,373050E+22 | 9,621382E+21 | 6,157770E+21 | 4,228278E+21 | 4,228138E+21 | 6,157352E+21 | 9,620743E+21 |
| -193              | 1,372993E+22 | 1,738391E+22 | 1,956371E+22 | 1,956373E+22 | 1,738421E+22 | 1,373042E+22 | 9,621038E+21 | 6,157448E+21 | 4,228117E+21 | 4,228153E+21 | 6,157580E+21 | 9,621268E+21 |

| 1                 | 2            | 3            | 4            | 5            | 6            | 7            | 8            | 9            | 10           | 11           | 12           | 13           |
|-------------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|
| Longitude $\odot$ | 0° - 30°     | 30° - 60°    | 60° - 90°    | 90° - 120°   | 120° - 150°  | 150° - 180°  | 180° - 210°  | 210° - 240°  | 240° - 270°  | 270° - 300°  | 300° - 330°  | 330° - 360°  |
| Years             |              |              |              |              |              |              |              |              |              |              |              |              |
| -192              | 1,373054E+22 | 1,738412E+22 | 1,956336E+22 | 1,956294E+22 | 1,738337E+22 | 1,372995E+22 | 9,620906E+21 | 6,157418E+21 | 4,228090E+21 | 4,228121E+21 | 6,157455E+21 | 9,620913E+21 |
| -191              | 1,373000E+22 | 1,738344E+22 | 1,956297E+22 | 1,956326E+22 | 1,738390E+22 | 1,373035E+22 | 9,621221E+21 | 6,157695E+21 | 4,228266E+21 | 4,228150E+21 | 6,157342E+21 | 9,620759E+21 |
| -190              | 1,373012E+22 | 1,738413E+22 | 1,956377E+22 | 1,956373E+22 | 1,738396E+22 | 1,373004E+22 | 9,620814E+21 | 6,157444E+21 | 4,228271E+21 | 4,228418E+21 | 6,157875E+21 | 9,621372E+21 |
| -189              | 1,373031E+22 | 1,738358E+22 | 1,956266E+22 | 1,956257E+22 | 1,738343E+22 | 1,373007E+22 | 9,621085E+21 | 6,157732E+21 | 4,228472E+21 | 4,228472E+21 | 6,157719E+21 | 9,620979E+21 |
| -188              | 1,372972E+22 | 1,738311E+22 | 1,956284E+22 | 1,956313E+22 | 1,738385E+22 | 1,373042E+22 | 9,621374E+21 | 6,158000E+21 | 4,228726E+21 | 4,228679E+21 | 6,157896E+21 | 9,621333E+21 |
| -187              | 1,373043E+22 | 1,738373E+22 | 1,956282E+22 | 1,956264E+22 | 1,738316E+22 | 1,372981E+22 | 9,621069E+21 | 6,157979E+21 | 4,228940E+21 | 4,229085E+21 | 6,158346E+21 | 9,621496E+21 |
| -186              | 1,373014E+22 | 1,738303E+22 | 1,956168E+22 | 1,956162E+22 | 1,738286E+22 | 1,373011E+22 | 9,621662E+21 | 6,158574E+21 | 4,229356E+21 | 4,229232E+21 | 6,158171E+21 | 9,620994E+21 |
| -185              | 1,372949E+22 | 1,738292E+22 | 1,956250E+22 | 1,956255E+22 | 1,738331E+22 | 1,373012E+22 | 9,621525E+21 | 6,158601E+21 | 4,229582E+21 | 4,229584E+21 | 6,158622E+21 | 9,621594E+21 |
| -184              | 1,373009E+22 | 1,738300E+22 | 1,956193E+22 | 1,956165E+22 | 1,738242E+22 | 1,372954E+22 | 9,621284E+21 | 6,158585E+21 | 4,229719E+21 | 4,229832E+21 | 6,158862E+21 | 9,621562E+21 |
| -183              | 1,372960E+22 | 1,738204E+22 | 1,956089E+22 | 1,956129E+22 | 1,738272E+22 | 1,373008E+22 | 9,621800E+21 | 6,158974E+21 | 4,229926E+21 | 4,229827E+21 | 6,158671E+21 | 9,621331E+21 |
| -182              | 1,372962E+22 | 1,738265E+22 | 1,956181E+22 | 1,956186E+22 | 1,738284E+22 | 1,372987E+22 | 9,621479E+21 | 6,158719E+21 | 4,229836E+21 | 4,229942E+21 | 6,159049E+21 | 9,621967E+21 |
| -181              | 1,373021E+22 | 1,738268E+22 | 1,956118E+22 | 1,956090E+22 | 1,738214E+22 | 1,372965E+22 | 9,621529E+21 | 6,158788E+21 | 4,229804E+21 | 4,229786E+21 | 6,158711E+21 | 9,621408E+21 |
| -180              | 1,372956E+22 | 1,738229E+22 | 1,956149E+22 | 1,956175E+22 | 1,738286E+22 | 1,373008E+22 | 9,621748E+21 | 6,158870E+21 | 4,229758E+21 | 4,229615E+21 | 6,158500E+21 | 9,621395E+21 |
| -179              | 1,373005E+22 | 1,738320E+22 | 1,956224E+22 | 1,956209E+22 | 1,738277E+22 | 1,372961E+22 | 9,621185E+21 | 6,158414E+21 | 4,229517E+21 | 4,229637E+21 | 6,158757E+21 | 9,621651E+21 |
| -178              | 1,372998E+22 | 1,738276E+22 | 1,956151E+22 | 1,956143E+22 | 1,738273E+22 | 1,372999E+22 | 9,621546E+21 | 6,158529E+21 | 4,229375E+21 | 4,229281E+21 | 6,158240E+21 | 9,621055E+21 |
| -177              | 1,372940E+22 | 1,738262E+22 | 1,956240E+22 | 1,956273E+22 | 1,738358E+22 | 1,373031E+22 | 9,621476E+21 | 6,158311E+21 | 4,229150E+21 | 4,229107E+21 | 6,158225E+21 | 9,621455E+21 |
| -176              | 1,373031E+22 | 1,738340E+22 | 1,956246E+22 | 1,956234E+22 | 1,738297E+22 | 1,372972E+22 | 9,621024E+21 | 6,157940E+21 | 4,228876E+21 | 4,228991E+21 | 6,158235E+21 | 9,621387E+21 |
| -175              | 1,373003E+22 | 1,738293E+22 | 1,956178E+22 | 1,956194E+22 | 1,738321E+22 | 1,373023E+22 | 9,621472E+21 | 6,158187E+21 | 4,228864E+21 | 4,228722E+21 | 6,157764E+21 | 9,620862E+21 |
| -174              | 1,372974E+22 | 1,738342E+22 | 1,956304E+22 | 1,956295E+22 | 1,738358E+22 | 1,373016E+22 | 9,621202E+21 | 6,157938E+21 | 4,228753E+21 | 4,228786E+21 | 6,158053E+21 | 9,621421E+21 |
| -173              | 1,373034E+22 | 1,738357E+22 | 1,956269E+22 | 1,956234E+22 | 1,738291E+22 | 1,372970E+22 | 9,621025E+21 | 6,157895E+21 | 4,228747E+21 | 4,228783E+21 | 6,157956E+21 | 9,621064E+21 |
| -172              | 1,372969E+22 | 1,738278E+22 | 1,956226E+22 | 1,956267E+22 | 1,738355E+22 | 1,373022E+22 | 9,621379E+21 | 6,158166E+21 | 4,228912E+21 | 4,228805E+21 | 6,157890E+21 | 9,621068E+21 |
| -171              | 1,372998E+22 | 1,738341E+22 | 1,956273E+22 | 1,956277E+22 | 1,738340E+22 | 1,372987E+22 | 9,621002E+21 | 6,157941E+21 | 4,228951E+21 | 4,229118E+21 | 6,158430E+21 | 9,621650E+21 |
| -170              | 1,373026E+22 | 1,738314E+22 | 1,956182E+22 | 1,956151E+22 | 1,738268E+22 | 1,372992E+22 | 9,621404E+21 | 6,158322E+21 | 4,229187E+21 | 4,229168E+21 | 6,158229E+21 | 9,621157E+21 |
| -169              | 1,372952E+22 | 1,738255E+22 | 1,956205E+22 | 1,956226E+22 | 1,738320E+22 | 1,373022E+22 | 9,621664E+21 | 6,158646E+21 | 4,229518E+21 | 4,229428E+21 | 6,158392E+21 | 9,621401E+21 |
| -168              | 1,373015E+22 | 1,738323E+22 | 1,956215E+22 | 1,956185E+22 | 1,738250E+22 | 1,372950E+22 | 9,621221E+21 | 6,158543E+21 | 4,229706E+21 | 4,229848E+21 | 6,158898E+21 | 9,621632E+21 |
| -167              | 1,372981E+22 | 1,738238E+22 | 1,956095E+22 | 1,956091E+22 | 1,738233E+22 | 1,372984E+22 | 9,621757E+21 | 6,159083E+21 | 4,230107E+21 | 4,230011E+21 | 6,158765E+21 | 9,621180E+21 |
| -166              | 1,372913E+22 | 1,738203E+22 | 1,956143E+22 | 1,956165E+22 | 1,738280E+22 | 1,373000E+22 | 9,621758E+21 | 6,159131E+21 | 4,230290E+21 | 4,230321E+21 | 6,159233E+21 | 9,621896E+21 |
| -165              | 1,372993E+22 | 1,738229E+22 | 1,956094E+22 | 1,956079E+22 | 1,738191E+22 | 1,372942E+22 | 9,621525E+21 | 6,159103E+21 | 4,230375E+21 | 4,230488E+21 | 6,159380E+21 | 9,621811E+21 |
| -164              | 1,372949E+22 | 1,738151E+22 | 1,956010E+22 | 1,956050E+22 | 1,738219E+22 | 1,372992E+22 | 9,622021E+21 | 6,159486E+21 | 4,230548E+21 | 4,230416E+21 | 6,159135E+21 | 9,621594E+21 |
| -163              | 1,372958E+22 | 1,738220E+22 | 1,956098E+22 | 1,956093E+22 | 1,738218E+22 | 1,372963E+22 | 9,621649E+21 | 6,159214E+21 | 4,230483E+21 | 4,230573E+21 | 6,159503E+21 | 9,622128E+21 |
| -162              | 1,373011E+22 | 1,738240E+22 | 1,956070E+22 | 1,956016E+22 | 1,738147E+22 | 1,372942E+22 | 9,621742E+21 | 6,159280E+21 | 4,230433E+21 | 4,230410E+21 | 6,159167E+21 | 9,621515E+21 |
| -161              | 1,372926E+22 | 1,738169E+22 | 1,956088E+22 | 1,956124E+22 | 1,738248E+22 | 1,372990E+22 | 9,621900E+21 | 6,159336E+21 | 4,230385E+21 | 4,230247E+21 | 6,158966E+21 | 9,621505E+21 |
| -160              | 1,372980E+22 | 1,738268E+22 | 1,956154E+22 | 1,956145E+22 | 1,738239E+22 | 1,372947E+22 | 9,621271E+21 | 6,158763E+21 | 4,230047E+21 | 4,230207E+21 | 6,159229E+21 | 9,621879E+21 |
| -159              | 1,372987E+22 | 1,738227E+22 | 1,956080E+22 | 1,956070E+22 | 1,738223E+22 | 1,372982E+22 | 9,621642E+21 | 6,158877E+21 | 4,229883E+21 | 4,229809E+21 | 6,158647E+21 | 9,621232E+21 |
| -158              | 1,372927E+22 | 1,738206E+22 | 1,956151E+22 | 1,956184E+22 | 1,738301E+22 | 1,373018E+22 | 9,621710E+21 | 6,158768E+21 | 4,229695E+21 | 4,229631E+21 | 6,158608E+21 | 9,621595E+21 |
| -157              | 1,373020E+22 | 1,738299E+22 | 1,956184E+22 | 1,956167E+22 | 1,738244E+22 | 1,372951E+22 | 9,621205E+21 | 6,158409E+21 | 4,229457E+21 | 4,229533E+21 | 6,158588E+21 | 9,621426E+21 |

| 1                 | 2            | 3            | 4            | 5            | 6            | 7            | 8            | 9            | 10           | 11           | 12           | 13           |
|-------------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|
| Longitude $\odot$ | 0° - 30°     | 30° - 60°    | 60° - 90°    | 90° - 120°   | 120° - 150°  | 150° - 180°  | 180° - 210°  | 210° - 240°  | 240° - 270°  | 270° - 300°  | 300° - 330°  | 330° - 360°  |
| Years             |              |              |              |              |              |              |              |              |              |              |              |              |
| -156              | 1,372977E+22 | 1,738248E+22 | 1,956130E+22 | 1,956145E+22 | 1,738273E+22 | 1,372998E+22 | 9,621608E+21 | 6,158654E+21 | 4,229469E+21 | 4,229307E+21 | 6,158206E+21 | 9,621010E+21 |
| -155              | 1,372947E+22 | 1,738277E+22 | 1,956221E+22 | 1,956223E+22 | 1,738308E+22 | 1,372993E+22 | 9,621312E+21 | 6,158395E+21 | 4,229407E+21 | 4,229465E+21 | 6,158593E+21 | 9,621632E+21 |
| -154              | 1,373015E+22 | 1,738302E+22 | 1,956192E+22 | 1,956150E+22 | 1,738234E+22 | 1,372959E+22 | 9,621255E+21 | 6,158370E+21 | 4,229389E+21 | 4,229460E+21 | 6,158514E+21 | 9,621313E+21 |
| -153              | 1,372948E+22 | 1,738209E+22 | 1,956138E+22 | 1,956189E+22 | 1,738304E+22 | 1,373011E+22 | 9,621637E+21 | 6,158703E+21 | 4,229597E+21 | 4,229491E+21 | 6,158407E+21 | 9,621268E+21 |
| -152              | 1,372989E+22 | 1,738299E+22 | 1,956191E+22 | 1,956186E+22 | 1,738278E+22 | 1,372966E+22 | 9,621184E+21 | 6,158451E+21 | 4,229630E+21 | 4,229796E+21 | 6,158935E+21 | 9,621848E+21 |
| -151              | 1,373015E+22 | 1,738273E+22 | 1,956116E+22 | 1,956068E+22 | 1,738201E+22 | 1,372966E+22 | 9,621562E+21 | 6,158863E+21 | 4,229924E+21 | 4,229892E+21 | 6,158734E+21 | 9,621273E+21 |
| -150              | 1,372923E+22 | 1,738188E+22 | 1,956121E+22 | 1,956144E+22 | 1,738259E+22 | 1,373001E+22 | 9,621923E+21 | 6,159259E+21 | 4,230298E+21 | 4,230202E+21 | 6,158973E+21 | 9,621566E+21 |
| -149              | 1,372981E+22 | 1,738247E+22 | 1,956129E+22 | 1,956119E+22 | 1,738203E+22 | 1,372929E+22 | 9,621415E+21 | 6,159113E+21 | 4,230469E+21 | 4,230617E+21 | 6,159495E+21 | 9,621843E+21 |
| -148              | 1,372949E+22 | 1,738158E+22 | 1,956002E+22 | 1,956015E+22 | 1,738185E+22 | 1,372972E+22 | 9,621972E+21 | 6,159610E+21 | 4,230804E+21 | 4,230731E+21 | 6,159392E+21 | 9,621551E+21 |
| -147              | 1,372903E+22 | 1,738130E+22 | 1,956024E+22 | 1,956051E+22 | 1,738208E+22 | 1,372980E+22 | 9,621978E+21 | 6,159660E+21 | 4,230985E+21 | 4,231031E+21 | 6,159813E+21 | 9,622212E+21 |
| -146              | 1,372994E+22 | 1,738191E+22 | 1,956009E+22 | 1,955968E+22 | 1,738108E+22 | 1,372920E+22 | 9,621799E+21 | 6,159651E+21 | 4,231051E+21 | 4,231146E+21 | 6,159871E+21 | 9,622005E+21 |
| -145              | 1,372937E+22 | 1,738110E+22 | 1,955948E+22 | 1,955976E+22 | 1,738156E+22 | 1,372966E+22 | 9,622214E+21 | 6,160022E+21 | 4,231234E+21 | 4,231070E+21 | 6,159566E+21 | 9,621662E+21 |
| -144              | 1,372941E+22 | 1,738188E+22 | 1,956047E+22 | 1,956031E+22 | 1,738161E+22 | 1,372931E+22 | 9,621710E+21 | 6,159638E+21 | 4,231097E+21 | 4,231194E+21 | 6,159953E+21 | 9,622231E+21 |
| -143              | 1,372985E+22 | 1,738190E+22 | 1,956016E+22 | 1,955969E+22 | 1,738110E+22 | 1,372921E+22 | 9,621785E+21 | 6,159652E+21 | 4,231005E+21 | 4,230998E+21 | 6,159606E+21 | 9,621632E+21 |
| -142              | 1,372895E+22 | 1,738098E+22 | 1,956005E+22 | 1,956060E+22 | 1,738213E+22 | 1,372987E+22 | 9,622119E+21 | 6,159749E+21 | 4,230917E+21 | 4,230794E+21 | 6,159406E+21 | 9,621678E+21 |
| -141              | 1,372958E+22 | 1,738203E+22 | 1,956074E+22 | 1,956082E+22 | 1,738200E+22 | 1,372940E+22 | 9,621505E+21 | 6,159197E+21 | 4,230564E+21 | 4,230702E+21 | 6,159590E+21 | 9,621995E+21 |
| -140              | 1,372969E+22 | 1,738179E+22 | 1,956011E+22 | 1,956005E+22 | 1,738179E+22 | 1,372973E+22 | 9,621872E+21 | 6,159329E+21 | 4,230411E+21 | 4,230311E+21 | 6,159038E+21 | 9,621408E+21 |
| -139              | 1,372915E+22 | 1,738158E+22 | 1,956067E+22 | 1,956092E+22 | 1,738233E+22 | 1,372995E+22 | 9,621894E+21 | 6,159250E+21 | 4,230313E+21 | 4,230236E+21 | 6,159049E+21 | 9,621721E+21 |
| -138              | 1,373003E+22 | 1,738262E+22 | 1,956126E+22 | 1,956089E+22 | 1,738176E+22 | 1,372927E+22 | 9,621399E+21 | 6,158902E+21 | 4,230104E+21 | 4,230188E+21 | 6,159094E+21 | 9,621580E+21 |
| -137              | 1,372948E+22 | 1,738184E+22 | 1,956059E+22 | 1,956088E+22 | 1,738230E+22 | 1,372976E+22 | 9,621712E+21 | 6,159113E+21 | 4,230134E+21 | 4,229999E+21 | 6,158746E+21 | 9,621214E+21 |
| -136              | 1,372932E+22 | 1,738226E+22 | 1,956139E+22 | 1,956144E+22 | 1,738255E+22 | 1,372970E+22 | 9,621384E+21 | 6,158778E+21 | 4,230005E+21 | 4,230118E+21 | 6,159150E+21 | 9,621942E+21 |
| -135              | 1,373010E+22 | 1,738256E+22 | 1,956116E+22 | 1,956071E+22 | 1,738176E+22 | 1,372936E+22 | 9,621373E+21 | 6,158800E+21 | 4,229999E+21 | 4,230081E+21 | 6,158999E+21 | 9,621536E+21 |
| -134              | 1,372938E+22 | 1,738157E+22 | 1,956052E+22 | 1,956099E+22 | 1,738242E+22 | 1,372996E+22 | 9,621919E+21 | 6,159258E+21 | 4,230268E+21 | 4,230140E+21 | 6,158878E+21 | 9,621405E+21 |
| -133              | 1,372968E+22 | 1,738248E+22 | 1,956125E+22 | 1,956119E+22 | 1,738222E+22 | 1,372948E+22 | 9,621447E+21 | 6,159040E+21 | 4,230356E+21 | 4,230479E+21 | 6,159386E+21 | 9,621896E+21 |
| -132              | 1,372979E+22 | 1,738212E+22 | 1,956049E+22 | 1,956012E+22 | 1,738155E+22 | 1,372948E+22 | 9,621795E+21 | 6,159446E+21 | 4,230666E+21 | 4,230630E+21 | 6,159308E+21 | 9,621459E+21 |
| -131              | 1,372889E+22 | 1,738104E+22 | 1,956008E+22 | 1,956050E+22 | 1,738203E+22 | 1,372985E+22 | 9,622147E+21 | 6,159841E+21 | 4,231080E+21 | 4,231005E+21 | 6,159621E+21 | 9,621837E+21 |
| -130              | 1,372958E+22 | 1,738178E+22 | 1,956028E+22 | 1,956014E+22 | 1,738135E+22 | 1,372918E+22 | 9,621719E+21 | 6,159690E+21 | 4,231212E+21 | 4,231380E+21 | 6,160126E+21 | 9,622158E+21 |
| -129              | 1,372932E+22 | 1,738088E+22 | 1,955901E+22 | 1,955919E+22 | 1,738119E+22 | 1,372950E+22 | 9,622218E+21 | 6,160189E+21 | 4,231537E+21 | 4,231453E+21 | 6,159934E+21 | 9,621795E+21 |
| -128              | 1,372901E+22 | 1,738094E+22 | 1,955941E+22 | 1,955951E+22 | 1,738131E+22 | 1,372948E+22 | 9,622116E+21 | 6,160156E+21 | 4,231655E+21 | 4,231699E+21 | 6,160319E+21 | 9,622429E+21 |
| -127              | 1,372988E+22 | 1,738165E+22 | 1,955958E+22 | 1,955895E+22 | 1,738038E+22 | 1,372884E+22 | 9,621877E+21 | 6,160118E+21 | 4,231707E+21 | 4,231786E+21 | 6,160317E+21 | 9,622100E+21 |
| -126              | 1,372910E+22 | 1,738057E+22 | 1,955884E+22 | 1,955915E+22 | 1,738107E+22 | 1,372945E+22 | 9,622386E+21 | 6,160511E+21 | 4,231877E+21 | 4,231714E+21 | 6,160045E+21 | 9,621771E+21 |
| -125              | 1,372907E+22 | 1,738123E+22 | 1,955983E+22 | 1,955990E+22 | 1,738134E+22 | 1,372920E+22 | 9,621863E+21 | 6,160069E+21 | 4,231686E+21 | 4,231784E+21 | 6,160396E+21 | 9,622360E+21 |
| -124              | 1,372954E+22 | 1,738123E+22 | 1,955940E+22 | 1,955916E+22 | 1,738082E+22 | 1,372919E+22 | 9,621990E+21 | 6,160055E+21 | 4,231524E+21 | 4,231537E+21 | 6,160069E+21 | 9,621877E+21 |
| -123              | 1,372880E+22 | 1,738033E+22 | 1,955897E+22 | 1,955962E+22 | 1,738157E+22 | 1,372977E+22 | 9,622366E+21 | 6,160213E+21 | 4,231481E+21 | 4,231348E+21 | 6,159839E+21 | 9,621875E+21 |
| -122              | 1,372949E+22 | 1,738166E+22 | 1,955998E+22 | 1,955987E+22 | 1,738131E+22 | 1,372925E+22 | 9,621769E+21 | 6,159691E+21 | 4,231151E+21 | 4,231258E+21 | 6,159987E+21 | 9,622107E+21 |
| -121              | 1,372948E+22 | 1,738133E+22 | 1,955949E+22 | 1,955938E+22 | 1,738119E+22 | 1,372946E+22 | 9,622033E+21 | 6,159818E+21 | 4,231042E+21 | 4,230918E+21 | 6,159447E+21 | 9,621481E+21 |



| 1                 | 2            | 3            | 4            | 5            | 6            | 7            | 8            | 9            | 10           | 11           | 12           | 13           |
|-------------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|
| Longitude $\odot$ | 0° - 30°     | 30° - 60°    | 60° - 90°    | 90° - 120°   | 120° - 150°  | 150° - 180°  | 180° - 210°  | 210° - 240°  | 240° - 270°  | 270° - 300°  | 300° - 330°  | 330° - 360°  |
| Years             |              |              |              |              |              |              |              |              |              |              |              |              |
| -120              | 1,372897E+22 | 1,738123E+22 | 1,956008E+22 | 1,956026E+22 | 1,738173E+22 | 1,372960E+22 | 9,621922E+21 | 6,159635E+21 | 4,230901E+21 | 4,230860E+21 | 6,159548E+21 | 9,621910E+21 |
| -119              | 1,372983E+22 | 1,738216E+22 | 1,956065E+22 | 1,956031E+22 | 1,738130E+22 | 1,372900E+22 | 9,621415E+21 | 6,159259E+21 | 4,230673E+21 | 4,230792E+21 | 6,159590E+21 | 9,621804E+21 |
| -118              | 1,372929E+22 | 1,738124E+22 | 1,955975E+22 | 1,956016E+22 | 1,738188E+22 | 1,372967E+22 | 9,621912E+21 | 6,159533E+21 | 4,230696E+21 | 4,230591E+21 | 6,159243E+21 | 9,621470E+21 |
| -117              | 1,372920E+22 | 1,738171E+22 | 1,956064E+22 | 1,956082E+22 | 1,738212E+22 | 1,372959E+22 | 9,621615E+21 | 6,159253E+21 | 4,230589E+21 | 4,230678E+21 | 6,159558E+21 | 9,622097E+21 |
| -116              | 1,372995E+22 | 1,738212E+22 | 1,956048E+22 | 1,956007E+22 | 1,738131E+22 | 1,372926E+22 | 9,621640E+21 | 6,159328E+21 | 4,230629E+21 | 4,230691E+21 | 6,159461E+21 | 9,621702E+21 |
| -115              | 1,372918E+22 | 1,738104E+22 | 1,955963E+22 | 1,956005E+22 | 1,738173E+22 | 1,372977E+22 | 9,622205E+21 | 6,159878E+21 | 4,231031E+21 | 4,230878E+21 | 6,159413E+21 | 9,621533E+21 |
| -114              | 1,372935E+22 | 1,738189E+22 | 1,956047E+22 | 1,956033E+22 | 1,738155E+22 | 1,372929E+22 | 9,621738E+21 | 6,159679E+21 | 4,231164E+21 | 4,231279E+21 | 6,159992E+21 | 9,622067E+21 |
| -113              | 1,372940E+22 | 1,738129E+22 | 1,955953E+22 | 1,955935E+22 | 1,738104E+22 | 1,372929E+22 | 9,622011E+21 | 6,160049E+21 | 4,231482E+21 | 4,231462E+21 | 6,159952E+21 | 9,621730E+21 |
| -112              | 1,372873E+22 | 1,738042E+22 | 1,955899E+22 | 1,955939E+22 | 1,738128E+22 | 1,372956E+22 | 9,622285E+21 | 6,160341E+21 | 4,231801E+21 | 4,231773E+21 | 6,160268E+21 | 9,622199E+21 |
| -111              | 1,372953E+22 | 1,738127E+22 | 1,955935E+22 | 1,955911E+22 | 1,738057E+22 | 1,372884E+22 | 9,621847E+21 | 6,160201E+21 | 4,231907E+21 | 4,232066E+21 | 6,160657E+21 | 9,622416E+21 |
| -110              | 1,372924E+22 | 1,738042E+22 | 1,955818E+22 | 1,955827E+22 | 1,738049E+22 | 1,372924E+22 | 9,622419E+21 | 6,160724E+21 | 4,232223E+21 | 4,232119E+21 | 6,160416E+21 | 9,621953E+21 |
| -109              | 1,372881E+22 | 1,738049E+22 | 1,955888E+22 | 1,955896E+22 | 1,738075E+22 | 1,372920E+22 | 9,622276E+21 | 6,160673E+21 | 4,232325E+21 | 4,232335E+21 | 6,160739E+21 | 9,622478E+21 |
| -108              | 1,372954E+22 | 1,738109E+22 | 1,955904E+22 | 1,955858E+22 | 1,738009E+22 | 1,372871E+22 | 9,622049E+21 | 6,160588E+21 | 4,232328E+21 | 4,232421E+21 | 6,160815E+21 | 9,622241E+21 |
| -107              | 1,372875E+22 | 1,737984E+22 | 1,955789E+22 | 1,955840E+22 | 1,738068E+22 | 1,372938E+22 | 9,622610E+21 | 6,160993E+21 | 4,232515E+21 | 4,232367E+21 | 6,160565E+21 | 9,621964E+21 |
| -106              | 1,372879E+22 | 1,738058E+22 | 1,955895E+22 | 1,955903E+22 | 1,738086E+22 | 1,372921E+22 | 9,622180E+21 | 6,160567E+21 | 4,232289E+21 | 4,232383E+21 | 6,160864E+21 | 9,622556E+21 |
| -105              | 1,372933E+22 | 1,738058E+22 | 1,955849E+22 | 1,955837E+22 | 1,738035E+22 | 1,372908E+22 | 9,622244E+21 | 6,160561E+21 | 4,232133E+21 | 4,232118E+21 | 6,160480E+21 | 9,622044E+21 |
| -104              | 1,372878E+22 | 1,738001E+22 | 1,955814E+22 | 1,955864E+22 | 1,738086E+22 | 1,372948E+22 | 9,622486E+21 | 6,160635E+21 | 4,232048E+21 | 4,231917E+21 | 6,160275E+21 | 9,622067E+21 |
| -103              | 1,372941E+22 | 1,738137E+22 | 1,955946E+22 | 1,955916E+22 | 1,738063E+22 | 1,372886E+22 | 9,621822E+21 | 6,160105E+21 | 4,231726E+21 | 4,231822E+21 | 6,160408E+21 | 9,622249E+21 |
| -102              | 1,372926E+22 | 1,738085E+22 | 1,955889E+22 | 1,955880E+22 | 1,738070E+22 | 1,372918E+22 | 9,622117E+21 | 6,160223E+21 | 4,231614E+21 | 4,231516E+21 | 6,159936E+21 | 9,621678E+21 |
| -101              | 1,372873E+22 | 1,738068E+22 | 1,955951E+22 | 1,955983E+22 | 1,738139E+22 | 1,372940E+22 | 9,622001E+21 | 6,160003E+21 | 4,231440E+21 | 4,231422E+21 | 6,160004E+21 | 9,622123E+21 |
| -100              | 1,372967E+22 | 1,738165E+22 | 1,955997E+22 | 1,955977E+22 | 1,738099E+22 | 1,372894E+22 | 9,621596E+21 | 6,159638E+21 | 4,231177E+21 | 4,231333E+21 | 6,160060E+21 | 9,622064E+21 |
| -99               | 1,372920E+22 | 1,738072E+22 | 1,955879E+22 | 1,955921E+22 | 1,738131E+22 | 1,372956E+22 | 9,622184E+21 | 6,160045E+21 | 4,231312E+21 | 4,231187E+21 | 6,159686E+21 | 9,621643E+21 |
| -98               | 1,372907E+22 | 1,738134E+22 | 1,955994E+22 | 1,955992E+22 | 1,738149E+22 | 1,372948E+22 | 9,621942E+21 | 6,159850E+21 | 4,231290E+21 | 4,231324E+21 | 6,159981E+21 | 9,622159E+21 |
| -97               | 1,372963E+22 | 1,738154E+22 | 1,955978E+22 | 1,955939E+22 | 1,738077E+22 | 1,372904E+22 | 9,621891E+21 | 6,159953E+21 | 4,231412E+21 | 4,231432E+21 | 6,159943E+21 | 9,621771E+21 |
| -96               | 1,372888E+22 | 1,738046E+22 | 1,955876E+22 | 1,955919E+22 | 1,738110E+22 | 1,372946E+22 | 9,622343E+21 | 6,160420E+21 | 4,231791E+21 | 4,231666E+21 | 6,160038E+21 | 9,621771E+21 |
| -95               | 1,372905E+22 | 1,738118E+22 | 1,955958E+22 | 1,955950E+22 | 1,738095E+22 | 1,372899E+22 | 9,621853E+21 | 6,160192E+21 | 4,231895E+21 | 4,232032E+21 | 6,160608E+21 | 9,622354E+21 |
| -94               | 1,372916E+22 | 1,738052E+22 | 1,955845E+22 | 1,955836E+22 | 1,738041E+22 | 1,372909E+22 | 9,622238E+21 | 6,160585E+21 | 4,232189E+21 | 4,232194E+21 | 6,160563E+21 | 9,622052E+21 |
| -93               | 1,372860E+22 | 1,737982E+22 | 1,955814E+22 | 1,955856E+22 | 1,738065E+22 | 1,372931E+22 | 9,622479E+21 | 6,160869E+21 | 4,232481E+21 | 4,232437E+21 | 6,160767E+21 | 9,622423E+21 |
| -92               | 1,372943E+22 | 1,738085E+22 | 1,955865E+22 | 1,955835E+22 | 1,738001E+22 | 1,372864E+22 | 9,622055E+21 | 6,160718E+21 | 4,232569E+21 | 4,232730E+21 | 6,161163E+21 | 9,622599E+21 |
| -91               | 1,372905E+22 | 1,737993E+22 | 1,955739E+22 | 1,955740E+22 | 1,737984E+22 | 1,372900E+22 | 9,622650E+21 | 6,161302E+21 | 4,232958E+21 | 4,232839E+21 | 6,160941E+21 | 9,622097E+21 |
| -90               | 1,372852E+22 | 1,737994E+22 | 1,955819E+22 | 1,955826E+22 | 1,738027E+22 | 1,372906E+22 | 9,622512E+21 | 6,161235E+21 | 4,233052E+21 | 4,233051E+21 | 6,161268E+21 | 9,622624E+21 |
| -89               | 1,372917E+22 | 1,738030E+22 | 1,955816E+22 | 1,955795E+22 | 1,737977E+22 | 1,372862E+22 | 9,622267E+21 | 6,161107E+21 | 4,233019E+21 | 4,233114E+21 | 6,161332E+21 | 9,622458E+21 |
| -88               | 1,372862E+22 | 1,737927E+22 | 1,955689E+22 | 1,955740E+22 | 1,738007E+22 | 1,372921E+22 | 9,622780E+21 | 6,161426E+21 | 4,233105E+21 | 4,232989E+21 | 6,161088E+21 | 9,622254E+21 |
| -87               | 1,372871E+22 | 1,738011E+22 | 1,955814E+22 | 1,955811E+22 | 1,738017E+22 | 1,372892E+22 | 9,622324E+21 | 6,161015E+21 | 4,232855E+21 | 4,232923E+21 | 6,161263E+21 | 9,622722E+21 |
| -86               | 1,372921E+22 | 1,738016E+22 | 1,955778E+22 | 1,955754E+22 | 1,737971E+22 | 1,372882E+22 | 9,622411E+21 | 6,161017E+21 | 4,232706E+21 | 4,232673E+21 | 6,160880E+21 | 9,622169E+21 |
| -85               | 1,372859E+22 | 1,737962E+22 | 1,955773E+22 | 1,955814E+22 | 1,738031E+22 | 1,372915E+22 | 9,622558E+21 | 6,161041E+21 | 4,232600E+21 | 4,232453E+21 | 6,160649E+21 | 9,622151E+21 |

| 1<br>Longitude ☉<br>Years | 2<br>0° - 30° | 3<br>30° - 60° | 4<br>60° - 90° | 5<br>90° - 120° | 6<br>120° - 150° | 7<br>150° - 180° | 8<br>180° - 210° | 9<br>210° - 240° | 10<br>240° - 270° | 11<br>270° - 300° | 12<br>300° - 330° | 13<br>330° - 360° |
|---------------------------|---------------|----------------|----------------|-----------------|------------------|------------------|------------------|------------------|-------------------|-------------------|-------------------|-------------------|
| -84                       | 1,372916E+22  | 1,738090E+22   | 1,955898E+22   | 1,955879E+22    | 1,738035E+22     | 1,372869E+22     | 9,621909E+21     | 6,160463E+21     | 4,232238E+21      | 4,232373E+21      | 6,160869E+21      | 9,622433E+21      |
| -83                       | 1,372904E+22  | 1,738027E+22   | 1,955810E+22   | 1,955809E+22    | 1,738031E+22     | 1,372908E+22     | 9,622286E+21     | 6,160634E+21     | 4,232170E+21      | 4,232096E+21      | 6,160413E+21      | 9,621910E+21      |
| -82                       | 1,372858E+22  | 1,738017E+22   | 1,955876E+22   | 1,955905E+22    | 1,738095E+22     | 1,372938E+22     | 9,622269E+21     | 6,160478E+21     | 4,232018E+21      | 4,231983E+21      | 6,160423E+21      | 9,622289E+21      |
| -81                       | 1,372948E+22  | 1,738109E+22   | 1,955919E+22   | 1,955909E+22    | 1,738061E+22     | 1,372886E+22     | 9,621870E+21     | 6,160177E+21     | 4,231823E+21      | 4,231933E+21      | 6,160450E+21      | 9,622187E+21      |
| -80                       | 1,372913E+22  | 1,738039E+22   | 1,955803E+22   | 1,955825E+22    | 1,738061E+22     | 1,372930E+22     | 9,622366E+21     | 6,160560E+21     | 4,231986E+21      | 4,231854E+21      | 6,160171E+21      | 9,621787E+21      |
| -79                       | 1,372881E+22  | 1,738083E+22   | 1,955929E+22   | 1,955915E+22    | 1,738081E+22     | 1,372912E+22     | 9,622092E+21     | 6,160409E+21     | 4,232020E+21      | 4,232032E+21      | 6,160489E+21      | 9,622275E+21      |
| -78                       | 1,372926E+22  | 1,738081E+22   | 1,955893E+22   | 1,955865E+22    | 1,738026E+22     | 1,372880E+22     | 9,622051E+21     | 6,160498E+21     | 4,232162E+21      | 4,232210E+21      | 6,160574E+21      | 9,622030E+21      |
| -77                       | 1,372857E+22  | 1,737969E+22   | 1,955788E+22   | 1,955841E+22    | 1,738057E+22     | 1,372922E+22     | 9,622474E+21     | 6,160908E+21     | 4,232490E+21      | 4,232396E+21      | 6,160641E+21      | 9,622092E+21      |
| -76                       | 1,372891E+22  | 1,738051E+22   | 1,955862E+22   | 1,955861E+22    | 1,738041E+22     | 1,372884E+22     | 9,622065E+21     | 6,160676E+21     | 4,232541E+21      | 4,232725E+21      | 6,161207E+21      | 9,622695E+21      |
| -75                       | 1,372910E+22  | 1,737996E+22   | 1,955742E+22   | 1,955722E+22    | 1,737963E+22     | 1,372885E+22     | 9,622485E+21     | 6,161163E+21     | 4,232911E+21      | 4,232902E+21      | 6,161100E+21      | 9,622291E+21      |
| -74                       | 1,372850E+22  | 1,737943E+22   | 1,955742E+22   | 1,955761E+22    | 1,737995E+22     | 1,372909E+22     | 9,622735E+21     | 6,161477E+21     | 4,233239E+21      | 4,233150E+21      | 6,161245E+21      | 9,622521E+21      |
| -73                       | 1,372913E+22  | 1,738029E+22   | 1,955799E+22   | 1,955773E+22    | 1,737955E+22     | 1,372844E+22     | 9,622282E+21     | 6,161323E+21     | 4,233350E+21      | 4,233476E+21      | 6,161651E+21      | 9,622693E+21      |
| -72                       | 1,372880E+22  | 1,737937E+22   | 1,955658E+22   | 1,955660E+22    | 1,737931E+22     | 1,372878E+22     | 9,622790E+21     | 6,161803E+21     | 4,233669E+21      | 4,233579E+21      | 6,161526E+21      | 9,622319E+21      |
| -71                       | 1,372823E+22  | 1,737925E+22   | 1,955737E+22   | 1,955751E+22    | 1,737978E+22     | 1,372887E+22     | 9,622689E+21     | 6,161727E+21     | 4,233702E+21      | 4,233700E+21      | 6,161776E+21      | 9,622839E+21      |
| -70                       | 1,372894E+22  | 1,737960E+22   | 1,955720E+22   | 1,955709E+22    | 1,737928E+22     | 1,372852E+22     | 9,622513E+21     | 6,161598E+21     | 4,233627E+21      | 4,233726E+21      | 6,161823E+21      | 9,622693E+21      |
| -69                       | 1,372846E+22  | 1,737874E+22   | 1,955618E+22   | 1,955662E+22    | 1,737949E+22     | 1,372899E+22     | 9,622953E+21     | 6,161877E+21     | 4,233667E+21      | 4,233526E+21      | 6,161482E+21      | 9,622418E+21      |
| -68                       | 1,372861E+22  | 1,737973E+22   | 1,955755E+22   | 1,955741E+22    | 1,737965E+22     | 1,372874E+22     | 9,622486E+21     | 6,161428E+21     | 4,233388E+21      | 4,233466E+21      | 6,161679E+21      | 9,622852E+21      |
| -67                       | 1,372902E+22  | 1,737971E+22   | 1,955712E+22   | 1,955678E+22    | 1,737910E+22     | 1,372856E+22     | 9,622562E+21     | 6,161483E+21     | 4,233313E+21      | 4,233278E+21      | 6,161337E+21      | 9,622319E+21      |
| -66                       | 1,372837E+22  | 1,737916E+22   | 1,955717E+22   | 1,955756E+22    | 1,737992E+22     | 1,372899E+22     | 9,622680E+21     | 6,161477E+21     | 4,233203E+21      | 4,233061E+21      | 6,161114E+21      | 9,622321E+21      |
| -65                       | 1,372892E+22  | 1,738027E+22   | 1,955823E+22   | 1,955822E+22    | 1,738007E+22     | 1,372861E+22     | 9,622069E+21     | 6,160890E+21     | 4,232826E+21      | 4,232964E+21      | 6,161306E+21      | 9,622647E+21      |
| -64                       | 1,372900E+22  | 1,737982E+22   | 1,955726E+22   | 1,955718E+22    | 1,737974E+22     | 1,372890E+22     | 9,622432E+21     | 6,161029E+21     | 4,232715E+21      | 4,232664E+21      | 6,160876E+21      | 9,622159E+21      |
| -63                       | 1,372852E+22  | 1,737977E+22   | 1,955809E+22   | 1,955825E+22    | 1,738033E+22     | 1,372910E+22     | 9,622429E+21     | 6,160947E+21     | 4,232597E+21      | 4,232523E+21      | 6,160788E+21      | 9,622380E+21      |
| -62                       | 1,372928E+22  | 1,738060E+22   | 1,955851E+22   | 1,955832E+22    | 1,738004E+22     | 1,372865E+22     | 9,622068E+21     | 6,160690E+21     | 4,232473E+21      | 4,232561E+21      | 6,160886E+21      | 9,622263E+21      |
| -61                       | 1,372879E+22  | 1,737983E+22   | 1,955751E+22   | 1,955766E+22    | 1,738007E+22     | 1,372903E+22     | 9,622502E+21     | 6,161053E+21     | 4,232654E+21      | 4,232519E+21      | 6,160659E+21      | 9,621914E+21      |
| -60                       | 1,372849E+22  | 1,738013E+22   | 1,955852E+22   | 1,955852E+22    | 1,738044E+22     | 1,372899E+22     | 9,622249E+21     | 6,160867E+21     | 4,232671E+21      | 4,232740E+21      | 6,161081E+21      | 9,622509E+21      |
| -59                       | 1,372898E+22  | 1,738002E+22   | 1,955785E+22   | 1,955764E+22    | 1,737967E+22     | 1,372867E+22     | 9,622293E+21     | 6,161040E+21     | 4,232875E+21      | 4,232950E+21      | 6,161192E+21      | 9,622360E+21      |
| -58                       | 1,372845E+22  | 1,737907E+22   | 1,955692E+22   | 1,955740E+22    | 1,737994E+22     | 1,372907E+22     | 9,622731E+21     | 6,161482E+21     | 4,233215E+21      | 4,233106E+21      | 6,161184E+21      | 9,622352E+21      |
| -57                       | 1,372880E+22  | 1,737993E+22   | 1,955770E+22   | 1,955769E+22    | 1,737982E+22     | 1,372866E+22     | 9,622326E+21     | 6,161288E+21     | 4,233303E+21      | 4,233441E+21      | 6,161692E+21      | 9,622893E+21      |
| -56                       | 1,372908E+22  | 1,737962E+22   | 1,955665E+22   | 1,955620E+22    | 1,737882E+22     | 1,372852E+22     | 9,622655E+21     | 6,161721E+21     | 4,233661E+21      | 4,233653E+21      | 6,161659E+21      | 9,622484E+21      |
| -55                       | 1,372829E+22  | 1,737896E+22   | 1,955683E+22   | 1,955690E+22    | 1,737927E+22     | 1,372872E+22     | 9,622882E+21     | 6,162051E+21     | 4,233992E+21      | 4,233887E+21      | 6,161776E+21      | 9,622642E+21      |
| -54                       | 1,372877E+22  | 1,737957E+22   | 1,955718E+22   | 1,955706E+22    | 1,737914E+22     | 1,372829E+22     | 9,622467E+21     | 6,161864E+21     | 4,234089E+21      | 4,234237E+21      | 6,162251E+21      | 9,622913E+21      |
| -53                       | 1,372847E+22  | 1,737864E+22   | 1,955580E+22   | 1,955588E+22    | 1,737885E+22     | 1,372864E+22     | 9,622967E+21     | 6,162273E+21     | 4,234315E+21      | 4,234246E+21      | 6,162064E+21      | 9,622583E+21      |
| -52                       | 1,372808E+22  | 1,737858E+22   | 1,955644E+22   | 1,955668E+22    | 1,737931E+22     | 1,372879E+22     | 9,622926E+21     | 6,162180E+21     | 4,234283E+21      | 4,234307E+21      | 6,162268E+21      | 9,623052E+21      |
| -51                       | 1,372881E+22  | 1,737905E+22   | 1,955626E+22   | 1,955606E+22    | 1,737858E+22     | 1,372833E+22     | 9,622764E+21     | 6,162133E+21     | 4,234267E+21      | 4,234333E+21      | 6,162267E+21      | 9,622863E+21      |
| -50                       | 1,372834E+22  | 1,737835E+22   | 1,955553E+22   | 1,955578E+22    | 1,737885E+22     | 1,372876E+22     | 9,623136E+21     | 6,162391E+21     | 4,234312E+21      | 4,234129E+21      | 6,161879E+21      | 9,622484E+21      |
| -49                       | 1,372834E+22  | 1,737919E+22   | 1,955695E+22   | 1,955688E+22    | 1,737924E+22     | 1,372854E+22     | 9,622638E+21     | 6,161912E+21     | 4,234029E+21      | 4,234083E+21      | 6,162097E+21      | 9,622968E+21      |

| 1                 | 2            | 3            | 4            | 5            | 6            | 7            | 8            | 9            | 10           | 11           | 12           | 13           |
|-------------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|
| Longitude $\odot$ | 0° - 30°     | 30° - 60°    | 60° - 90°    | 90° - 120°   | 120° - 150°  | 150° - 180°  | 180° - 210°  | 210° - 240°  | 240° - 270°  | 270° - 300°  | 300° - 330°  | 330° - 360°  |
| Years             |              |              |              |              |              |              |              |              |              |              |              |              |
| -48               | 1,372886E+22 | 1,737924E+22 | 1,955644E+22 | 1,955607E+22 | 1,737860E+22 | 1,372831E+22 | 9,622607E+21 | 6,161842E+21 | 4,233875E+21 | 4,233890E+21 | 6,161851E+21 | 9,622555E+21 |
| -47               | 1,372820E+22 | 1,737862E+22 | 1,955650E+22 | 1,955691E+22 | 1,737944E+22 | 1,372878E+22 | 9,622789E+21 | 6,161855E+21 | 4,233722E+21 | 4,233594E+21 | 6,161539E+21 | 9,622514E+21 |
| -46               | 1,372877E+22 | 1,737971E+22 | 1,955745E+22 | 1,955751E+22 | 1,737968E+22 | 1,372854E+22 | 9,622269E+21 | 6,161309E+21 | 4,233359E+21 | 4,233500E+21 | 6,161721E+21 | 9,622821E+21 |
| -45               | 1,372887E+22 | 1,737941E+22 | 1,955670E+22 | 1,955650E+22 | 1,737922E+22 | 1,372872E+22 | 9,622590E+21 | 6,161449E+21 | 4,233254E+21 | 4,233182E+21 | 6,161241E+21 | 9,622278E+21 |
| -44               | 1,372839E+22 | 1,737935E+22 | 1,955750E+22 | 1,955761E+22 | 1,737986E+22 | 1,372897E+22 | 9,622631E+21 | 6,161393E+21 | 4,233176E+21 | 4,233114E+21 | 6,161218E+21 | 9,622444E+21 |
| -43               | 1,372896E+22 | 1,738000E+22 | 1,955777E+22 | 1,955755E+22 | 1,737944E+22 | 1,372843E+22 | 9,622281E+21 | 6,161238E+21 | 4,233173E+21 | 4,233258E+21 | 6,161419E+21 | 9,622434E+21 |
| -42               | 1,372850E+22 | 1,737916E+22 | 1,955669E+22 | 1,955690E+22 | 1,737959E+22 | 1,372887E+22 | 9,622679E+21 | 6,161586E+21 | 4,233379E+21 | 4,233254E+21 | 6,161234E+21 | 9,622149E+21 |
| -41               | 1,372825E+22 | 1,737936E+22 | 1,955751E+22 | 1,955766E+22 | 1,737997E+22 | 1,372890E+22 | 9,622491E+21 | 6,161410E+21 | 4,233393E+21 | 4,233466E+21 | 6,161641E+21 | 9,622816E+21 |
| -40               | 1,372900E+22 | 1,737951E+22 | 1,955682E+22 | 1,955647E+22 | 1,737886E+22 | 1,372838E+22 | 9,622464E+21 | 6,161551E+21 | 4,233572E+21 | 4,233673E+21 | 6,161782E+21 | 9,622678E+21 |
| -39               | 1,372844E+22 | 1,737868E+22 | 1,955617E+22 | 1,955645E+22 | 1,737912E+22 | 1,372869E+22 | 9,622892E+21 | 6,162044E+21 | 4,233930E+21 | 4,233790E+21 | 6,161665E+21 | 9,622503E+21 |
| -38               | 1,372862E+22 | 1,737946E+22 | 1,955702E+22 | 1,955691E+22 | 1,737919E+22 | 1,372840E+22 | 9,622522E+21 | 6,161869E+21 | 4,234064E+21 | 4,234188E+21 | 6,162220E+21 | 9,623001E+21 |
| -37               | 1,372873E+22 | 1,737905E+22 | 1,955615E+22 | 1,955566E+22 | 1,737831E+22 | 1,372825E+22 | 9,622796E+21 | 6,162247E+21 | 4,234387E+21 | 4,234384E+21 | 6,162201E+21 | 9,622637E+21 |
| -36               | 1,372798E+22 | 1,737824E+22 | 1,955605E+22 | 1,955631E+22 | 1,737896E+22 | 1,372866E+22 | 9,623087E+21 | 6,162531E+21 | 4,234666E+21 | 4,234611E+21 | 6,162359E+21 | 9,622824E+21 |
| -35               | 1,372843E+22 | 1,737874E+22 | 1,955612E+22 | 1,955611E+22 | 1,737861E+22 | 1,372825E+22 | 9,622787E+21 | 6,162435E+21 | 4,234794E+21 | 4,234943E+21 | 6,162819E+21 | 9,623179E+21 |
| -34               | 1,372830E+22 | 1,737798E+22 | 1,955482E+22 | 1,955495E+22 | 1,737831E+22 | 1,372857E+22 | 9,623262E+21 | 6,162845E+21 | 4,235005E+21 | 4,234905E+21 | 6,162549E+21 | 9,622783E+21 |
| -33               | 1,372794E+22 | 1,737799E+22 | 1,955551E+22 | 1,955577E+22 | 1,737873E+22 | 1,372865E+22 | 9,623188E+21 | 6,162743E+21 | 4,234968E+21 | 4,234941E+21 | 6,162690E+21 | 9,623203E+21 |
| -32               | 1,372875E+22 | 1,737866E+22 | 1,955549E+22 | 1,955507E+22 | 1,737777E+22 | 1,372797E+22 | 9,622882E+21 | 6,162606E+21 | 4,234914E+21 | 4,234989E+21 | 6,162774E+21 | 9,623054E+21 |
| -31               | 1,372818E+22 | 1,737794E+22 | 1,955501E+22 | 1,955519E+22 | 1,737821E+22 | 1,372833E+22 | 9,623172E+21 | 6,162819E+21 | 4,234912E+21 | 4,234738E+21 | 6,162349E+21 | 9,622645E+21 |
| -30               | 1,372811E+22 | 1,737860E+22 | 1,955624E+22 | 1,955629E+22 | 1,737885E+22 | 1,372835E+22 | 9,622715E+21 | 6,162290E+21 | 4,234596E+21 | 4,234693E+21 | 6,162607E+21 | 9,623198E+21 |
| -29               | 1,372866E+22 | 1,737872E+22 | 1,955586E+22 | 1,955550E+22 | 1,737818E+22 | 1,372817E+22 | 9,622704E+21 | 6,162161E+21 | 4,234346E+21 | 4,234396E+21 | 6,162278E+21 | 9,622796E+21 |
| -28               | 1,372817E+22 | 1,737820E+22 | 1,955582E+22 | 1,955625E+22 | 1,737904E+22 | 1,372871E+22 | 9,622971E+21 | 6,162196E+21 | 4,234177E+21 | 4,234074E+21 | 6,161904E+21 | 9,622615E+21 |
| -27               | 1,372862E+22 | 1,737928E+22 | 1,955672E+22 | 1,955667E+22 | 1,737909E+22 | 1,372842E+22 | 9,622529E+21 | 6,161805E+21 | 4,233940E+21 | 4,234036E+21 | 6,162076E+21 | 9,622883E+21 |
| -26               | 1,372865E+22 | 1,737899E+22 | 1,955612E+22 | 1,955586E+22 | 1,737873E+22 | 1,372857E+22 | 9,622804E+21 | 6,161975E+21 | 4,233907E+21 | 4,233793E+21 | 6,161634E+21 | 9,622302E+21 |
| -25               | 1,372804E+22 | 1,737867E+22 | 1,955673E+22 | 1,955702E+22 | 1,737948E+22 | 1,372884E+22 | 9,622852E+21 | 6,161938E+21 | 4,233879E+21 | 4,233792E+21 | 6,161695E+21 | 9,622579E+21 |
| -24               | 1,372872E+22 | 1,737934E+22 | 1,955684E+22 | 1,955665E+22 | 1,737884E+22 | 1,372821E+22 | 9,622425E+21 | 6,161714E+21 | 4,233853E+21 | 4,233987E+21 | 6,162042E+21 | 9,622746E+21 |
| -23               | 1,372834E+22 | 1,737853E+22 | 1,955583E+22 | 1,955604E+22 | 1,737890E+22 | 1,372857E+22 | 9,622841E+21 | 6,162086E+21 | 4,234037E+21 | 4,233932E+21 | 6,161790E+21 | 9,622428E+21 |
| -22               | 1,372814E+22 | 1,737878E+22 | 1,955657E+22 | 1,955673E+22 | 1,737933E+22 | 1,372869E+22 | 9,622704E+21 | 6,161945E+21 | 4,234089E+21 | 4,234169E+21 | 6,162195E+21 | 9,623062E+21 |
| -21               | 1,372888E+22 | 1,737912E+22 | 1,955621E+22 | 1,955566E+22 | 1,737817E+22 | 1,372809E+22 | 9,622612E+21 | 6,162052E+21 | 4,234252E+21 | 4,234350E+21 | 6,162286E+21 | 9,622867E+21 |
| -20               | 1,372831E+22 | 1,737825E+22 | 1,955556E+22 | 1,955576E+22 | 1,737857E+22 | 1,372849E+22 | 9,623081E+21 | 6,162550E+21 | 4,234631E+21 | 4,234517E+21 | 6,162198E+21 | 9,622598E+21 |
| -19               | 1,372827E+22 | 1,737880E+22 | 1,955623E+22 | 1,955617E+22 | 1,737865E+22 | 1,372822E+22 | 9,622775E+21 | 6,162485E+21 | 4,234857E+21 | 4,234976E+21 | 6,162822E+21 | 9,623200E+21 |
| -18               | 1,372841E+22 | 1,737828E+22 | 1,955521E+22 | 1,955492E+22 | 1,737792E+22 | 1,372817E+22 | 9,623038E+21 | 6,162834E+21 | 4,235167E+21 | 4,235164E+21 | 6,162800E+21 | 9,622869E+21 |
| -17               | 1,372770E+22 | 1,737739E+22 | 1,955490E+22 | 1,955540E+22 | 1,737852E+22 | 1,372865E+22 | 9,623420E+21 | 6,163129E+21 | 4,235408E+21 | 4,235336E+21 | 6,162912E+21 | 9,623101E+21 |
| -16               | 1,372836E+22 | 1,737814E+22 | 1,955504E+22 | 1,955492E+22 | 1,737778E+22 | 1,372798E+22 | 9,623006E+21 | 6,162974E+21 | 4,235484E+21 | 4,235639E+21 | 6,163375E+21 | 9,623451E+21 |
| -15               | 1,372822E+22 | 1,737754E+22 | 1,955404E+22 | 1,955397E+22 | 1,737742E+22 | 1,372815E+22 | 9,623417E+21 | 6,163375E+21 | 4,235667E+21 | 4,235539E+21 | 6,162998E+21 | 9,622915E+21 |
| -14               | 1,372775E+22 | 1,737754E+22 | 1,955482E+22 | 1,955500E+22 | 1,737807E+22 | 1,372835E+22 | 9,623321E+21 | 6,163229E+21 | 4,235626E+21 | 4,235602E+21 | 6,163175E+21 | 9,623320E+21 |
| -13               | 1,372847E+22 | 1,737822E+22 | 1,955503E+22 | 1,955456E+22 | 1,737728E+22 | 1,372767E+22 | 9,622907E+21 | 6,162973E+21 | 4,235475E+21 | 4,235580E+21 | 6,163245E+21 | 9,623239E+21 |

| 1<br>Longitude $\odot$<br>Years | 2<br>0° - 30° | 3<br>30° - 60° | 4<br>60° - 90° | 5<br>90° - 120° | 6<br>120° - 150° | 7<br>150° - 180° | 8<br>180° - 210° | 9<br>210° - 240° | 10<br>240° - 270° | 11<br>270° - 300° | 12<br>300° - 330° | 13<br>330° - 360° |
|---------------------------------|---------------|----------------|----------------|-----------------|------------------|------------------|------------------|------------------|-------------------|-------------------|-------------------|-------------------|
| -12                             | 1,372800E+22  | 1,737744E+22   | 1,955438E+22   | 1,955470E+22    | 1,737793E+22     | 1,372824E+22     | 9,623263E+21     | 6,163121E+21     | 4,235397E+21      | 4,235284E+21      | 6,162801E+21      | 9,622812E+21      |
| -11                             | 1,372789E+22  | 1,737803E+22   | 1,955545E+22   | 1,955558E+22    | 1,737843E+22     | 1,372831E+22     | 9,622960E+21     | 6,162720E+21     | 4,235120E+21      | 4,235211E+21      | 6,163018E+21      | 9,623395E+21      |
| -10                             | 1,372855E+22  | 1,737825E+22   | 1,955513E+22   | 1,955487E+22    | 1,737782E+22     | 1,372812E+22     | 9,622948E+21     | 6,162624E+21     | 4,234893E+21      | 4,234898E+21      | 6,162613E+21      | 9,622883E+21      |
| -9                              | 1,372800E+22  | 1,737774E+22   | 1,955509E+22   | 1,955557E+22    | 1,737863E+22     | 1,372867E+22     | 9,623264E+21     | 6,162715E+21     | 4,234780E+21      | 4,234615E+21      | 6,162245E+21      | 9,622670E+21      |
| -8                              | 1,372842E+22  | 1,737885E+22   | 1,955602E+22   | 1,955584E+22    | 1,737839E+22     | 1,372814E+22     | 9,622705E+21     | 6,162298E+21     | 4,234583E+21      | 4,234680E+21      | 6,162560E+21      | 9,623012E+21      |
| -7                              | 1,372837E+22  | 1,737845E+22   | 1,955548E+22   | 1,955524E+22    | 1,737810E+22     | 1,372820E+22     | 9,622917E+21     | 6,162467E+21     | 4,234568E+21      | 4,234467E+21      | 6,162167E+21      | 9,622494E+21      |
| -6                              | 1,372777E+22  | 1,737798E+22   | 1,955580E+22   | 1,955624E+22    | 1,737899E+22     | 1,372867E+22     | 9,622992E+21     | 6,162402E+21     | 4,234550E+21      | 4,234512E+21      | 6,162309E+21      | 9,622877E+21      |
| -5                              | 1,372853E+22  | 1,737876E+22   | 1,955603E+22   | 1,955582E+22    | 1,737823E+22     | 1,372798E+22     | 9,622548E+21     | 6,162131E+21     | 4,234453E+21      | 4,234629E+21      | 6,162601E+21      | 9,623095E+21      |
| -4                              | 1,372837E+22  | 1,737812E+22   | 1,955504E+22   | 1,955521E+22    | 1,737831E+22     | 1,372836E+22     | 9,622993E+21     | 6,162508E+21     | 4,234636E+21      | 4,234565E+21      | 6,162280E+21      | 9,622616E+21      |
| -3                              | 1,372801E+22  | 1,737835E+22   | 1,955580E+22   | 1,955581E+22    | 1,737860E+22     | 1,372845E+22     | 9,622953E+21     | 6,162526E+21     | 4,234806E+21      | 4,234851E+21      | 6,162678E+21      | 9,623198E+21      |
| -2                              | 1,372865E+22  | 1,737862E+22   | 1,955555E+22   | 1,955505E+22    | 1,737769E+22     | 1,372791E+22     | 9,622837E+21     | 6,162647E+21     | 4,235020E+21      | 4,235086E+21      | 6,162785E+21      | 9,622945E+21      |
| -1                              | 1,372794E+22  | 1,737755E+22   | 1,955472E+22   | 1,955513E+22    | 1,737821E+22     | 1,372842E+22     | 9,623361E+21     | 6,163163E+21     | 4,235418E+21      | 4,235282E+21      | 6,162753E+21      | 9,622764E+21      |
| 1                               | 1,372794E+22  | 1,737801E+22   | 1,955516E+22   | 1,955518E+22    | 1,737804E+22     | 1,372807E+22     | 9,623022E+21     | 6,163054E+21     | 4,235619E+21      | 4,235764E+21      | 6,163466E+21      | 9,623494E+21      |
| 2                               | 1,372819E+22  | 1,737756E+22   | 1,955420E+22   | 1,955398E+22    | 1,737721E+22     | 1,372793E+22     | 9,623301E+21     | 6,163416E+21     | 4,235885E+21      | 4,235881E+21      | 6,163367E+21      | 9,623138E+21      |
| 3                               | 1,372756E+22  | 1,737674E+22   | 1,955380E+22   | 1,955435E+22    | 1,737783E+22     | 1,372844E+22     | 9,623665E+21     | 6,163701E+21     | 4,236128E+21      | 4,236048E+21      | 6,163461E+21      | 9,623321E+21      |
| 4                               | 1,372818E+22  | 1,737772E+22   | 1,955435E+22   | 1,955401E+22    | 1,737701E+22     | 1,372765E+22     | 9,623142E+21     | 6,163457E+21     | 4,236130E+21      | 4,236281E+21      | 6,163865E+21      | 9,623654E+21      |
| 5                               | 1,372811E+22  | 1,737718E+22   | 1,955349E+22   | 1,955331E+22    | 1,737681E+22     | 1,372783E+22     | 9,623497E+21     | 6,163783E+21     | 4,236273E+21      | 4,236180E+21      | 6,163479E+21      | 9,623022E+21      |
| 6                               | 1,372745E+22  | 1,737699E+22   | 1,955416E+22   | 1,955436E+22    | 1,737755E+22     | 1,372810E+22     | 9,623462E+21     | 6,163704E+21     | 4,236265E+21      | 4,236247E+21      | 6,163686E+21      | 9,623524E+21      |
| 7                               | 1,372824E+22  | 1,737762E+22   | 1,955428E+22   | 1,955404E+22    | 1,737703E+22     | 1,372760E+22     | 9,623061E+21     | 6,163395E+21     | 4,236061E+21      | 4,236171E+21      | 6,163698E+21      | 9,623430E+21      |
| 8                               | 1,372783E+22  | 1,737686E+22   | 1,955353E+22   | 1,955403E+22    | 1,737762E+22     | 1,372827E+22     | 9,623539E+21     | 6,163580E+21     | 4,235951E+21      | 4,235809E+21      | 6,163188E+21      | 9,623002E+21      |
| 9                               | 1,372782E+22  | 1,737760E+22   | 1,955462E+22   | 1,955466E+22    | 1,737780E+22     | 1,372813E+22     | 9,623183E+21     | 6,163187E+21     | 4,235686E+21      | 4,235753E+21      | 6,163414E+21      | 9,623540E+21      |
| 10                              | 1,372841E+22  | 1,737788E+22   | 1,955455E+22   | 1,955417E+22    | 1,737714E+22     | 1,372781E+22     | 9,623134E+21     | 6,163116E+21     | 4,235483E+21      | 4,235451E+21      | 6,162978E+21      | 9,622929E+21      |
| 11                              | 1,372772E+22  | 1,737723E+22   | 1,955440E+22   | 1,955491E+22    | 1,737812E+22     | 1,372845E+22     | 9,623429E+21     | 6,163203E+21     | 4,235425E+21      | 4,235265E+21      | 6,162729E+21      | 9,622764E+21      |
| 12                              | 1,372804E+22  | 1,737828E+22   | 1,955543E+22   | 1,955527E+22    | 1,737792E+22     | 1,372788E+22     | 9,622773E+21     | 6,162690E+21     | 4,235168E+21      | 4,235309E+21      | 6,163092E+21      | 9,623259E+21      |
| 13                              | 1,372818E+22  | 1,737786E+22   | 1,955469E+22   | 1,955456E+22    | 1,737769E+22     | 1,372806E+22     | 9,623022E+21     | 6,162818E+21     | 4,235123E+21      | 4,235097E+21      | 6,162704E+21      | 9,622748E+21      |
| 14                              | 1,372760E+22  | 1,737739E+22   | 1,955490E+22   | 1,955535E+22    | 1,737840E+22     | 1,372851E+22     | 9,623234E+21     | 6,162903E+21     | 4,235173E+21      | 4,235139E+21      | 6,162827E+21      | 9,623176E+21      |
| 15                              | 1,372850E+22  | 1,737831E+22   | 1,955518E+22   | 1,955503E+22    | 1,737773E+22     | 1,372782E+22     | 9,622762E+21     | 6,162654E+21     | 4,235112E+21      | 4,235254E+21      | 6,163041E+21      | 9,623262E+21      |
| 16                              | 1,372824E+22  | 1,737770E+22   | 1,955427E+22   | 1,955442E+22    | 1,737778E+22     | 1,372824E+22     | 9,623279E+21     | 6,163092E+21     | 4,235347E+21      | 4,235223E+21      | 6,162731E+21      | 9,622752E+21      |
| 17                              | 1,372780E+22  | 1,737785E+22   | 1,955507E+22   | 1,955497E+22    | 1,737788E+22     | 1,372813E+22     | 9,623151E+21     | 6,163108E+21     | 4,235568E+21      | 4,235611E+21      | 6,163248E+21      | 9,623370E+21      |
| 18                              | 1,372833E+22  | 1,737796E+22   | 1,955478E+22   | 1,955437E+22    | 1,737708E+22     | 1,372759E+22     | 9,623023E+21     | 6,163233E+21     | 4,235793E+21      | 4,235868E+21      | 6,163388E+21      | 9,623152E+21      |
| 19                              | 1,372761E+22  | 1,737675E+22   | 1,955363E+22   | 1,955421E+22    | 1,737771E+22     | 1,372831E+22     | 9,623615E+21     | 6,163736E+21     | 4,236192E+21      | 4,236090E+21      | 6,163415E+21      | 9,623045E+21      |
| 20                              | 1,372768E+22  | 1,737734E+22   | 1,955421E+22   | 1,955418E+22    | 1,737735E+22     | 1,372785E+22     | 9,623227E+21     | 6,163569E+21     | 4,236303E+21      | 4,236468E+21      | 6,164041E+21      | 9,623802E+21      |
| 21                              | 1,372814E+22  | 1,737708E+22   | 1,955331E+22   | 1,955301E+22    | 1,737651E+22     | 1,372767E+22     | 9,623474E+21     | 6,163908E+21     | 4,236551E+21      | 4,236558E+21      | 6,163863E+21      | 9,623298E+21      |
| 22                              | 1,372738E+22  | 1,737627E+22   | 1,955301E+22   | 1,955338E+22    | 1,737705E+22     | 1,372813E+22     | 9,623882E+21     | 6,164282E+21     | 4,236849E+21      | 4,236732E+21      | 6,163950E+21      | 9,623474E+21      |
| 23                              | 1,372795E+22  | 1,737720E+22   | 1,955366E+22   | 1,955341E+22    | 1,737655E+22     | 1,372739E+22     | 9,623289E+21     | 6,163979E+21     | 4,236826E+21      | 4,236953E+21      | 6,164332E+21      | 9,623764E+21      |
| 24                              | 1,372781E+22  | 1,737657E+22   | 1,955277E+22   | 1,955276E+22    | 1,737652E+22     | 1,372776E+22     | 9,623696E+21     | 6,164268E+21     | 4,236914E+21      | 4,236811E+21      | 6,163966E+21      | 9,623231E+21      |



| 1                 | 2            | 3            | 4            | 5            | 6            | 7            | 8            | 9            | 10           | 11           | 12           | 13           |
|-------------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|
| Longitude $\odot$ | 0° - 30°     | 30° - 60°    | 60° - 90°    | 90° - 120°   | 120° - 150°  | 150° - 180°  | 180° - 210°  | 210° - 240°  | 240° - 270°  | 270° - 300°  | 300° - 330°  | 330° - 360°  |
| Years             |              |              |              |              |              |              |              |              |              |              |              |              |
| 25                | 1,372724E+22 | 1,737637E+22 | 1,955332E+22 | 1,955355E+22 | 1,737703E+22 | 1,372795E+22 | 9,623645E+21 | 6,164147E+21 | 4,236863E+21 | 4,236866E+21 | 6,164199E+21 | 9,623786E+21 |
| 26                | 1,372810E+22 | 1,737709E+22 | 1,955353E+22 | 1,955334E+22 | 1,737650E+22 | 1,372742E+22 | 9,623288E+21 | 6,163859E+21 | 4,236621E+21 | 4,236721E+21 | 6,164111E+21 | 9,623606E+21 |
| 27                | 1,372770E+22 | 1,737639E+22 | 1,955271E+22 | 1,955322E+22 | 1,737714E+22 | 1,372816E+22 | 9,623768E+21 | 6,164055E+21 | 4,236540E+21 | 4,236384E+21 | 6,163604E+21 | 9,623108E+21 |
| 28                | 1,372759E+22 | 1,737723E+22 | 1,955408E+22 | 1,955393E+22 | 1,737720E+22 | 1,372789E+22 | 9,623320E+21 | 6,163606E+21 | 4,236238E+21 | 4,236297E+21 | 6,163811E+21 | 9,623661E+21 |
| 29                | 1,372822E+22 | 1,737748E+22 | 1,955402E+22 | 1,955362E+22 | 1,737667E+22 | 1,372754E+22 | 9,623209E+21 | 6,163498E+21 | 4,236046E+21 | 4,236048E+21 | 6,163428E+21 | 9,623041E+21 |
| 30                | 1,372741E+22 | 1,737662E+22 | 1,955363E+22 | 1,955418E+22 | 1,737761E+22 | 1,372822E+22 | 9,623569E+21 | 6,163662E+21 | 4,236044E+21 | 4,235903E+21 | 6,163263E+21 | 9,623035E+21 |
| 31                | 1,372784E+22 | 1,737761E+22 | 1,955453E+22 | 1,955459E+22 | 1,737759E+22 | 1,372778E+22 | 9,622934E+21 | 6,163122E+21 | 4,235762E+21 | 4,235917E+21 | 6,163585E+21 | 9,623535E+21 |
| 32                | 1,372811E+22 | 1,737735E+22 | 1,955382E+22 | 1,955373E+22 | 1,737721E+22 | 1,372797E+22 | 9,623261E+21 | 6,163290E+21 | 4,235710E+21 | 4,235665E+21 | 6,163152E+21 | 9,623010E+21 |
| 33                | 1,372757E+22 | 1,737699E+22 | 1,955408E+22 | 1,955432E+22 | 1,737760E+22 | 1,372819E+22 | 9,623414E+21 | 6,163416E+21 | 4,235825E+21 | 4,235768E+21 | 6,163285E+21 | 9,623354E+21 |
| 34                | 1,372837E+22 | 1,737794E+22 | 1,955461E+22 | 1,955429E+22 | 1,737702E+22 | 1,372748E+22 | 9,622953E+21 | 6,163207E+21 | 4,235810E+21 | 4,235921E+21 | 6,163484E+21 | 9,623331E+21 |
| 35                | 1,372794E+22 | 1,737714E+22 | 1,955355E+22 | 1,955373E+22 | 1,737728E+22 | 1,372802E+22 | 9,623478E+21 | 6,163668E+21 | 4,236117E+21 | 4,235995E+21 | 6,163294E+21 | 9,622853E+21 |
| 36                | 1,372736E+22 | 1,737717E+22 | 1,955432E+22 | 1,955427E+22 | 1,737740E+22 | 1,372793E+22 | 9,623315E+21 | 6,163624E+21 | 4,236285E+21 | 4,236354E+21 | 6,163841E+21 | 9,623612E+21 |
| 37                | 1,372806E+22 | 1,737725E+22 | 1,955387E+22 | 1,955357E+22 | 1,737662E+22 | 1,372747E+22 | 9,623221E+21 | 6,163729E+21 | 4,236491E+21 | 4,236610E+21 | 6,163975E+21 | 9,623388E+21 |
| 38                | 1,372736E+22 | 1,737602E+22 | 1,955256E+22 | 1,955314E+22 | 1,737703E+22 | 1,372815E+22 | 9,623928E+21 | 6,164357E+21 | 4,236939E+21 | 4,236822E+21 | 6,163994E+21 | 9,623338E+21 |
| 39                | 1,372754E+22 | 1,737670E+22 | 1,955321E+22 | 1,955326E+22 | 1,737679E+22 | 1,372767E+22 | 9,623480E+21 | 6,164167E+21 | 4,237048E+21 | 4,237172E+21 | 6,164536E+21 | 9,623979E+21 |
| 40                | 1,372797E+22 | 1,737658E+22 | 1,955251E+22 | 1,955212E+22 | 1,737589E+22 | 1,372748E+22 | 9,623733E+21 | 6,164503E+21 | 4,237289E+21 | 4,237255E+21 | 6,164370E+21 | 9,623487E+21 |
| 41                | 1,372716E+22 | 1,737573E+22 | 1,955226E+22 | 1,955252E+22 | 1,737629E+22 | 1,372774E+22 | 9,624011E+21 | 6,164829E+21 | 4,237592E+21 | 4,237482E+21 | 6,164535E+21 | 9,623709E+21 |
| 42                | 1,372772E+22 | 1,737660E+22 | 1,955294E+22 | 1,955276E+22 | 1,737601E+22 | 1,372712E+22 | 9,623423E+21 | 6,164470E+21 | 4,237507E+21 | 4,237655E+21 | 6,164890E+21 | 9,624007E+21 |
| 43                | 1,372760E+22 | 1,737592E+22 | 1,955186E+22 | 1,955199E+22 | 1,737612E+22 | 1,372768E+22 | 9,623895E+21 | 6,164726E+21 | 4,237547E+21 | 4,237478E+21 | 6,164514E+21 | 9,623482E+21 |
| 44                | 1,372709E+22 | 1,737591E+22 | 1,955261E+22 | 1,955275E+22 | 1,737648E+22 | 1,372777E+22 | 9,623810E+21 | 6,164551E+21 | 4,237390E+21 | 4,237400E+21 | 6,164620E+21 | 9,624008E+21 |
| 45                | 1,372807E+22 | 1,737675E+22 | 1,955289E+22 | 1,955261E+22 | 1,737598E+22 | 1,372723E+22 | 9,623422E+21 | 6,164252E+21 | 4,237149E+21 | 4,237240E+21 | 6,164449E+21 | 9,623647E+21 |
| 46                | 1,372747E+22 | 1,737598E+22 | 1,955212E+22 | 1,955247E+22 | 1,737656E+22 | 1,372795E+22 | 9,623973E+21 | 6,164547E+21 | 4,237138E+21 | 4,236948E+21 | 6,163997E+21 | 9,623195E+21 |
| 47                | 1,372730E+22 | 1,737663E+22 | 1,955343E+22 | 1,955344E+22 | 1,737688E+22 | 1,372770E+22 | 9,623450E+21 | 6,164053E+21 | 4,236835E+21 | 4,236875E+21 | 6,164210E+21 | 9,623733E+21 |
| 48                | 1,372790E+22 | 1,737684E+22 | 1,955326E+22 | 1,955300E+22 | 1,737637E+22 | 1,372750E+22 | 9,623402E+21 | 6,163938E+21 | 4,236623E+21 | 4,236622E+21 | 6,163899E+21 | 9,623285E+21 |
| 49                | 1,372724E+22 | 1,737600E+22 | 1,955277E+22 | 1,955330E+22 | 1,737700E+22 | 1,372799E+22 | 9,623721E+21 | 6,164096E+21 | 4,236629E+21 | 4,236508E+21 | 6,163775E+21 | 9,623342E+21 |
| 50                | 1,372780E+22 | 1,737712E+22 | 1,955376E+22 | 1,955376E+22 | 1,737693E+22 | 1,372753E+22 | 9,623133E+21 | 6,163597E+21 | 4,236353E+21 | 4,236499E+21 | 6,164024E+21 | 9,623740E+21 |
| 51                | 1,372804E+22 | 1,737694E+22 | 1,955307E+22 | 1,955288E+22 | 1,737664E+22 | 1,372779E+22 | 9,623465E+21 | 6,163794E+21 | 4,236363E+21 | 4,236309E+21 | 6,163616E+21 | 9,623129E+21 |
| 52                | 1,372737E+22 | 1,737667E+22 | 1,955359E+22 | 1,955358E+22 | 1,737694E+22 | 1,372788E+22 | 9,623539E+21 | 6,163888E+21 | 4,236469E+21 | 4,236411E+21 | 6,163747E+21 | 9,623478E+21 |
| 53                | 1,372813E+22 | 1,737746E+22 | 1,955404E+22 | 1,955373E+22 | 1,737657E+22 | 1,372722E+22 | 9,623050E+21 | 6,163684E+21 | 4,236506E+21 | 4,236639E+21 | 6,164003E+21 | 9,623436E+21 |
| 54                | 1,372754E+22 | 1,737638E+22 | 1,955268E+22 | 1,955295E+22 | 1,737682E+22 | 1,372788E+22 | 9,623705E+21 | 6,164244E+21 | 4,236878E+21 | 4,236772E+21 | 6,163922E+21 | 9,623140E+21 |
| 55                | 1,372709E+22 | 1,737628E+22 | 1,955321E+22 | 1,955345E+22 | 1,737703E+22 | 1,372788E+22 | 9,623584E+21 | 6,164195E+21 | 4,237027E+21 | 4,237093E+21 | 6,164410E+21 | 9,623872E+21 |
| 56                | 1,372789E+22 | 1,737657E+22 | 1,955281E+22 | 1,955255E+22 | 1,737605E+22 | 1,372739E+22 | 9,623561E+21 | 6,164347E+21 | 4,237225E+21 | 4,237310E+21 | 6,164528E+21 | 9,623687E+21 |
| 57                | 1,372726E+22 | 1,737547E+22 | 1,955160E+22 | 1,955194E+22 | 1,737609E+22 | 1,372778E+22 | 9,624143E+21 | 6,164972E+21 | 4,237714E+21 | 4,237571E+21 | 6,164554E+21 | 9,623575E+21 |
| 58                | 1,372740E+22 | 1,737621E+22 | 1,955249E+22 | 1,955236E+22 | 1,737596E+22 | 1,372729E+22 | 9,623673E+21 | 6,164756E+21 | 4,237813E+21 | 4,237922E+21 | 6,165069E+21 | 9,624127E+21 |
| 59                | 1,372771E+22 | 1,737600E+22 | 1,955175E+22 | 1,955138E+22 | 1,737535E+22 | 1,372723E+22 | 9,623878E+21 | 6,165035E+21 | 4,238041E+21 | 4,238034E+21 | 6,164968E+21 | 9,623661E+21 |
| 60                | 1,372687E+22 | 1,737517E+22 | 1,955157E+22 | 1,955181E+22 | 1,737580E+22 | 1,372752E+22 | 9,624100E+21 | 6,165250E+21 | 4,238221E+21 | 4,238153E+21 | 6,165090E+21 | 9,623987E+21 |

| 1                 | 2            | 3            | 4            | 5            | 6            | 7            | 8            | 9            | 10           | 11           | 12           | 13           |
|-------------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|
| Longitude $\odot$ | 0° - 30°     | 30° - 60°    | 60° - 90°    | 90° - 120°   | 120° - 150°  | 150° - 180°  | 180° - 210°  | 210° - 240°  | 240° - 270°  | 270° - 300°  | 300° - 330°  | 330° - 360°  |
| Years             |              |              |              |              |              |              |              |              |              |              |              |              |
| 61                | 1,372760E+22 | 1,737607E+22 | 1,955220E+22 | 1,955209E+22 | 1,737563E+22 | 1,372700E+22 | 9,623562E+21 | 6,164872E+21 | 4,238084E+21 | 4,238259E+21 | 6,165353E+21 | 9,624199E+21 |
| 62                | 1,372744E+22 | 1,737538E+22 | 1,955106E+22 | 1,955114E+22 | 1,737559E+22 | 1,372757E+22 | 9,624156E+21 | 6,165231E+21 | 4,238142E+21 | 4,238045E+21 | 6,164939E+21 | 9,623672E+21 |
| 63                | 1,372695E+22 | 1,737536E+22 | 1,955183E+22 | 1,955207E+22 | 1,737609E+22 | 1,372768E+22 | 9,624047E+21 | 6,165043E+21 | 4,237976E+21 | 4,237931E+21 | 6,164945E+21 | 9,624036E+21 |
| 64                | 1,372784E+22 | 1,737631E+22 | 1,955230E+22 | 1,955196E+22 | 1,737552E+22 | 1,372712E+22 | 9,623663E+21 | 6,164746E+21 | 4,237736E+21 | 4,237784E+21 | 6,164837E+21 | 9,623741E+21 |
| 65                | 1,372717E+22 | 1,737540E+22 | 1,955143E+22 | 1,955169E+22 | 1,737589E+22 | 1,372760E+22 | 9,624077E+21 | 6,165013E+21 | 4,237769E+21 | 4,237586E+21 | 6,164499E+21 | 9,623392E+21 |
| 66                | 1,372707E+22 | 1,737598E+22 | 1,955266E+22 | 1,955273E+22 | 1,737637E+22 | 1,372750E+22 | 9,623582E+21 | 6,164475E+21 | 4,237433E+21 | 4,237504E+21 | 6,164717E+21 | 9,623973E+21 |
| 67                | 1,372776E+22 | 1,737623E+22 | 1,955237E+22 | 1,955216E+22 | 1,737589E+22 | 1,372737E+22 | 9,623562E+21 | 6,164357E+21 | 4,237213E+21 | 4,237251E+21 | 6,164418E+21 | 9,623535E+21 |
| 68                | 1,372718E+22 | 1,737565E+22 | 1,955209E+22 | 1,955245E+22 | 1,737634E+22 | 1,372771E+22 | 9,623814E+21 | 6,164483E+21 | 4,237164E+21 | 4,237054E+21 | 6,164204E+21 | 9,623572E+21 |
| 69                | 1,372781E+22 | 1,737686E+22 | 1,955322E+22 | 1,955306E+22 | 1,737637E+22 | 1,372725E+22 | 9,623214E+21 | 6,164013E+21 | 4,236938E+21 | 4,237072E+21 | 6,164395E+21 | 9,623786E+21 |
| 70                | 1,372779E+22 | 1,737650E+22 | 1,955252E+22 | 1,955220E+22 | 1,737609E+22 | 1,372757E+22 | 9,623656E+21 | 6,164323E+21 | 4,237038E+21 | 4,236968E+21 | 6,164084E+21 | 9,623233E+21 |
| 71                | 1,372703E+22 | 1,737595E+22 | 1,955286E+22 | 1,955311E+22 | 1,737668E+22 | 1,372778E+22 | 9,623736E+21 | 6,164414E+21 | 4,237169E+21 | 4,237101E+21 | 6,164232E+21 | 9,623564E+21 |
| 72                | 1,372775E+22 | 1,737670E+22 | 1,955315E+22 | 1,955301E+22 | 1,737627E+22 | 1,372726E+22 | 9,623353E+21 | 6,164241E+21 | 4,237211E+21 | 4,237345E+21 | 6,164580E+21 | 9,623706E+21 |
| 73                | 1,372728E+22 | 1,737558E+22 | 1,955162E+22 | 1,955187E+22 | 1,737610E+22 | 1,372770E+22 | 9,623985E+21 | 6,164845E+21 | 4,237637E+21 | 4,237538E+21 | 6,164549E+21 | 9,623484E+21 |
| 74                | 1,372700E+22 | 1,737561E+22 | 1,955216E+22 | 1,955236E+22 | 1,737627E+22 | 1,372766E+22 | 9,623876E+21 | 6,164812E+21 | 4,237791E+21 | 4,237843E+21 | 6,164973E+21 | 9,624118E+21 |
| 75                | 1,372778E+22 | 1,737602E+22 | 1,955183E+22 | 1,955146E+22 | 1,737530E+22 | 1,372715E+22 | 9,623806E+21 | 6,164964E+21 | 4,238023E+21 | 4,238103E+21 | 6,165116E+21 | 9,623879E+21 |
| 76                | 1,372710E+22 | 1,737509E+22 | 1,955096E+22 | 1,955105E+22 | 1,737526E+22 | 1,372734E+22 | 9,624233E+21 | 6,165488E+21 | 4,238440E+21 | 4,238313E+21 | 6,165127E+21 | 9,623807E+21 |
| 77                | 1,372724E+22 | 1,737573E+22 | 1,955185E+22 | 1,955170E+22 | 1,737539E+22 | 1,372694E+22 | 9,623712E+21 | 6,165227E+21 | 4,238525E+21 | 4,238660E+21 | 6,165625E+21 | 9,624299E+21 |
| 78                | 1,372742E+22 | 1,737533E+22 | 1,955096E+22 | 1,955066E+22 | 1,737490E+22 | 1,372709E+22 | 9,624061E+21 | 6,165536E+21 | 4,238728E+21 | 4,238748E+21 | 6,165554E+21 | 9,623954E+21 |
| 79                | 1,372670E+22 | 1,737447E+22 | 1,955067E+22 | 1,955114E+22 | 1,737547E+22 | 1,372747E+22 | 9,624327E+21 | 6,165722E+21 | 4,238834E+21 | 4,238757E+21 | 6,165527E+21 | 9,624144E+21 |
| 80                | 1,372745E+22 | 1,737556E+22 | 1,955138E+22 | 1,955127E+22 | 1,737519E+22 | 1,372700E+22 | 9,623879E+21 | 6,165393E+21 | 4,238675E+21 | 4,238799E+21 | 6,165743E+21 | 9,624342E+21 |
| 81                | 1,372726E+22 | 1,737489E+22 | 1,955032E+22 | 1,955023E+22 | 1,737486E+22 | 1,372730E+22 | 9,624366E+21 | 6,165760E+21 | 4,238786E+21 | 4,238645E+21 | 6,165348E+21 | 9,623776E+21 |
| 82                | 1,372673E+22 | 1,737482E+22 | 1,955116E+22 | 1,955135E+22 | 1,737546E+22 | 1,372743E+22 | 9,624239E+21 | 6,165543E+21 | 4,238617E+21 | 4,238551E+21 | 6,165365E+21 | 9,624079E+21 |
| 83                | 1,372749E+22 | 1,737565E+22 | 1,955154E+22 | 1,955130E+22 | 1,737509E+22 | 1,372695E+22 | 9,623811E+21 | 6,165204E+21 | 4,238372E+21 | 4,238448E+21 | 6,165356E+21 | 9,623886E+21 |
| 84                | 1,372691E+22 | 1,737487E+22 | 1,955074E+22 | 1,955097E+22 | 1,737534E+22 | 1,372736E+22 | 9,624124E+21 | 6,165349E+21 | 4,238294E+21 | 4,238165E+21 | 6,165008E+21 | 9,623687E+21 |
| 85                | 1,372703E+22 | 1,737553E+22 | 1,955194E+22 | 1,955202E+22 | 1,737588E+22 | 1,372729E+22 | 9,623653E+21 | 6,164820E+21 | 4,237947E+21 | 4,238044E+21 | 6,165142E+21 | 9,624173E+21 |
| 86                | 1,372768E+22 | 1,737581E+22 | 1,955166E+22 | 1,955138E+22 | 1,737536E+22 | 1,372721E+22 | 9,623746E+21 | 6,164795E+21 | 4,237768E+21 | 4,237800E+21 | 6,164846E+21 | 9,623744E+21 |
| 87                | 1,372712E+22 | 1,737521E+22 | 1,955145E+22 | 1,955186E+22 | 1,737594E+22 | 1,372758E+22 | 9,623990E+21 | 6,164931E+21 | 4,237742E+21 | 4,237600E+21 | 6,164552E+21 | 9,623608E+21 |
| 88                | 1,372759E+22 | 1,737645E+22 | 1,955269E+22 | 1,955249E+22 | 1,737596E+22 | 1,372717E+22 | 9,623466E+21 | 6,164531E+21 | 4,237568E+21 | 4,237673E+21 | 6,164840E+21 | 9,623901E+21 |
| 89                | 1,372745E+22 | 1,737584E+22 | 1,955179E+22 | 1,955148E+22 | 1,737550E+22 | 1,372731E+22 | 9,623829E+21 | 6,164869E+21 | 4,237768E+21 | 4,237705E+21 | 6,164668E+21 | 9,623471E+21 |
| 90                | 1,372677E+22 | 1,737516E+22 | 1,955188E+22 | 1,955226E+22 | 1,737616E+22 | 1,372768E+22 | 9,623999E+21 | 6,164964E+21 | 4,237904E+21 | 4,237861E+21 | 6,164836E+21 | 9,623816E+21 |
| 91                | 1,372754E+22 | 1,737595E+22 | 1,955205E+22 | 1,955198E+22 | 1,737566E+22 | 1,372717E+22 | 9,623649E+21 | 6,164825E+21 | 4,237964E+21 | 4,238121E+21 | 6,165201E+21 | 9,623982E+21 |
| 92                | 1,372720E+22 | 1,737512E+22 | 1,955071E+22 | 1,955075E+22 | 1,737521E+22 | 1,372734E+22 | 9,624150E+21 | 6,165378E+21 | 4,238346E+21 | 4,238250E+21 | 6,165105E+21 | 9,623761E+21 |
| 93                | 1,372699E+22 | 1,737525E+22 | 1,955143E+22 | 1,955143E+22 | 1,737548E+22 | 1,372728E+22 | 9,623978E+21 | 6,165346E+21 | 4,238532E+21 | 4,238566E+21 | 6,165468E+21 | 9,624228E+21 |
| 94                | 1,372754E+22 | 1,737551E+22 | 1,955115E+22 | 1,955067E+22 | 1,737461E+22 | 1,372682E+22 | 9,623959E+21 | 6,165532E+21 | 4,238788E+21 | 4,238866E+21 | 6,165689E+21 | 9,624059E+21 |
| 95                | 1,372680E+22 | 1,737436E+22 | 1,955018E+22 | 1,955052E+22 | 1,737492E+22 | 1,372717E+22 | 9,624376E+21 | 6,165995E+21 | 4,239153E+21 | 4,239029E+21 | 6,165652E+21 | 9,623954E+21 |
| 96                | 1,372694E+22 | 1,737506E+22 | 1,955105E+22 | 1,955104E+22 | 1,737507E+22 | 1,372696E+22 | 9,623992E+21 | 6,165748E+21 | 4,239183E+21 | 4,239323E+21 | 6,166172E+21 | 9,624554E+21 |

| 1<br>Longitude ☉ | 2            | 3            | 4            | 5            | 6            | 7            | 8            | 9            | 10           | 11           | 12           | 13           |
|------------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|
| Years            | 0° - 30°     | 30° - 60°    | 60° - 90°    | 90° - 120°   | 120° - 150°  | 150° - 180°  | 180° - 210°  | 210° - 240°  | 240° - 270°  | 270° - 300°  | 300° - 330°  | 330° - 360°  |
| 97               | 1,372717E+22 | 1,737461E+22 | 1,955002E+22 | 1,954975E+22 | 1,737426E+22 | 1,372692E+22 | 9,624328E+21 | 6,166092E+21 | 4,239416E+21 | 4,239423E+21 | 6,166082E+21 | 9,624206E+21 |
| 98               | 1,372659E+22 | 1,737387E+22 | 1,954974E+22 | 1,955022E+22 | 1,737488E+22 | 1,372738E+22 | 9,624640E+21 | 6,166279E+21 | 4,239507E+21 | 4,239399E+21 | 6,165969E+21 | 9,624243E+21 |
| 99               | 1,372722E+22 | 1,737503E+22 | 1,955056E+22 | 1,955038E+22 | 1,737459E+22 | 1,372687E+22 | 9,624144E+21 | 6,165945E+21 | 4,239363E+21 | 4,239468E+21 | 6,166204E+21 | 9,624406E+21 |
| 100              | 1,372700E+22 | 1,737447E+22 | 1,954971E+22 | 1,954948E+22 | 1,737413E+22 | 1,372693E+22 | 9,624445E+21 | 6,166199E+21 | 4,239403E+21 | 4,239277E+21 | 6,165842E+21 | 9,623959E+21 |
| 101              | 1,372654E+22 | 1,737430E+22 | 1,955048E+22 | 1,955075E+22 | 1,737497E+22 | 1,372711E+22 | 9,624238E+21 | 6,165920E+21 | 4,239211E+21 | 4,239173E+21 | 6,165857E+21 | 9,624261E+21 |
| 102              | 1,372725E+22 | 1,737502E+22 | 1,955071E+22 | 1,955058E+22 | 1,737464E+22 | 1,372680E+22 | 9,623936E+21 | 6,165591E+21 | 4,238927E+21 | 4,239049E+21 | 6,165893E+21 | 9,624218E+21 |
| 103              | 1,372686E+22 | 1,737430E+22 | 1,954994E+22 | 1,955034E+22 | 1,737496E+22 | 1,372724E+22 | 9,624269E+21 | 6,165711E+21 | 4,238784E+21 | 4,238664E+21 | 6,165398E+21 | 9,623885E+21 |
| 104              | 1,372702E+22 | 1,737525E+22 | 1,955132E+22 | 1,955131E+22 | 1,737539E+22 | 1,372721E+22 | 9,623891E+21 | 6,165256E+21 | 4,238451E+21 | 4,238519E+21 | 6,165506E+21 | 9,624318E+21 |
| 105              | 1,372754E+22 | 1,737546E+22 | 1,955110E+22 | 1,955065E+22 | 1,737468E+22 | 1,372693E+22 | 9,623918E+21 | 6,165282E+21 | 4,238383E+21 | 4,238382E+21 | 6,165244E+21 | 9,623840E+21 |
| 106              | 1,372691E+22 | 1,737474E+22 | 1,955085E+22 | 1,955124E+22 | 1,737544E+22 | 1,372741E+22 | 9,624207E+21 | 6,165437E+21 | 4,238404E+21 | 4,238250E+21 | 6,164994E+21 | 9,623632E+21 |
| 107              | 1,372719E+22 | 1,737575E+22 | 1,955188E+22 | 1,955183E+22 | 1,737560E+22 | 1,372711E+22 | 9,623709E+21 | 6,165066E+21 | 4,238280E+21 | 4,238400E+21 | 6,165388E+21 | 9,624040E+21 |
| 108              | 1,372716E+22 | 1,737521E+22 | 1,955093E+22 | 1,955067E+22 | 1,737491E+22 | 1,372711E+22 | 9,624000E+21 | 6,165346E+21 | 4,238430E+21 | 4,238404E+21 | 6,165260E+21 | 9,623795E+21 |
| 109              | 1,372669E+22 | 1,737457E+22 | 1,955091E+22 | 1,955133E+22 | 1,737551E+22 | 1,372744E+22 | 9,624169E+21 | 6,165482E+21 | 4,238594E+21 | 4,238549E+21 | 6,165366E+21 | 9,624037E+21 |
| 110              | 1,372737E+22 | 1,737536E+22 | 1,955110E+22 | 1,955098E+22 | 1,737495E+22 | 1,372695E+22 | 9,623898E+21 | 6,165407E+21 | 4,238694E+21 | 4,238843E+21 | 6,165769E+21 | 9,624243E+21 |
| 111              | 1,372708E+22 | 1,737458E+22 | 1,954994E+22 | 1,954998E+22 | 1,737457E+22 | 1,372706E+22 | 9,624318E+21 | 6,165915E+21 | 4,239062E+21 | 4,238949E+21 | 6,165592E+21 | 9,623873E+21 |
| 112              | 1,372675E+22 | 1,737478E+22 | 1,955078E+22 | 1,955071E+22 | 1,737488E+22 | 1,372705E+22 | 9,624192E+21 | 6,165914E+21 | 4,239260E+21 | 4,239292E+21 | 6,166036E+21 | 9,624413E+21 |
| 113              | 1,372720E+22 | 1,737479E+22 | 1,955032E+22 | 1,954991E+22 | 1,737401E+22 | 1,372654E+22 | 9,624108E+21 | 6,166092E+21 | 4,239568E+21 | 4,239661E+21 | 6,166325E+21 | 9,624349E+21 |
| 114              | 1,372660E+22 | 1,737363E+22 | 1,954918E+22 | 1,954965E+22 | 1,737443E+22 | 1,372711E+22 | 9,624638E+21 | 6,166533E+21 | 4,239885E+21 | 4,239782E+21 | 6,166239E+21 | 9,624189E+21 |
| 115              | 1,372673E+22 | 1,737437E+22 | 1,955001E+22 | 1,955008E+22 | 1,737453E+22 | 1,372692E+22 | 9,624330E+21 | 6,166337E+21 | 4,239906E+21 | 4,240038E+21 | 6,166705E+21 | 9,624752E+21 |
| 116              | 1,372706E+22 | 1,737418E+22 | 1,954921E+22 | 1,954879E+22 | 1,737349E+22 | 1,372663E+22 | 9,624515E+21 | 6,166604E+21 | 4,240069E+21 | 4,240062E+21 | 6,166558E+21 | 9,624398E+21 |
| 117              | 1,372648E+22 | 1,737347E+22 | 1,954904E+22 | 1,954942E+22 | 1,737420E+22 | 1,372704E+22 | 9,624749E+21 | 6,166769E+21 | 4,240165E+21 | 4,240028E+21 | 6,166390E+21 | 9,624284E+21 |
| 118              | 1,372687E+22 | 1,737445E+22 | 1,954986E+22 | 1,954970E+22 | 1,737404E+22 | 1,372662E+22 | 9,624291E+21 | 6,166422E+21 | 4,240004E+21 | 4,240120E+21 | 6,166715E+21 | 9,624578E+21 |
| 119              | 1,372671E+22 | 1,737377E+22 | 1,954896E+22 | 1,954897E+22 | 1,737380E+22 | 1,372676E+22 | 9,624537E+21 | 6,166578E+21 | 4,239956E+21 | 4,239855E+21 | 6,166298E+21 | 9,624135E+21 |
| 120              | 1,372635E+22 | 1,737379E+22 | 1,954975E+22 | 1,955008E+22 | 1,737458E+22 | 1,372707E+22 | 9,624452E+21 | 6,166318E+21 | 4,239710E+21 | 4,239695E+21 | 6,166326E+21 | 9,624537E+21 |
| 121              | 1,372714E+22 | 1,737450E+22 | 1,954992E+22 | 1,954978E+22 | 1,737404E+22 | 1,372658E+22 | 9,624117E+21 | 6,166034E+21 | 4,239481E+21 | 4,239590E+21 | 6,166328E+21 | 9,624478E+21 |
| 122              | 1,372687E+22 | 1,737395E+22 | 1,954922E+22 | 1,954956E+22 | 1,737444E+22 | 1,372713E+22 | 9,624500E+21 | 6,166164E+21 | 4,239350E+21 | 4,239204E+21 | 6,165764E+21 | 9,623965E+21 |
| 123              | 1,372684E+22 | 1,737489E+22 | 1,955074E+22 | 1,955063E+22 | 1,737488E+22 | 1,372708E+22 | 9,624140E+21 | 6,165765E+21 | 4,239080E+21 | 4,239123E+21 | 6,165903E+21 | 9,624348E+21 |
| 124              | 1,372729E+22 | 1,737508E+22 | 1,955059E+22 | 1,955006E+22 | 1,737406E+22 | 1,372659E+22 | 9,624015E+21 | 6,165729E+21 | 4,239003E+21 | 4,239014E+21 | 6,165729E+21 | 9,623996E+21 |
| 125              | 1,372666E+22 | 1,737418E+22 | 1,955012E+22 | 1,955065E+22 | 1,737502E+22 | 1,372718E+22 | 9,624289E+21 | 6,165890E+21 | 4,239066E+21 | 4,238927E+21 | 6,165517E+21 | 9,623795E+21 |
| 126              | 1,372685E+22 | 1,737500E+22 | 1,955091E+22 | 1,955101E+22 | 1,737511E+22 | 1,372700E+22 | 9,623931E+21 | 6,165563E+21 | 4,238948E+21 | 4,239101E+21 | 6,165978E+21 | 9,624348E+21 |
| 127              | 1,372701E+22 | 1,737450E+22 | 1,954993E+22 | 1,954984E+22 | 1,737437E+22 | 1,372694E+22 | 9,624217E+21 | 6,165850E+21 | 4,239078E+21 | 4,239047E+21 | 6,165752E+21 | 9,624014E+21 |
| 128              | 1,372660E+22 | 1,737415E+22 | 1,955009E+22 | 1,955040E+22 | 1,737484E+22 | 1,372725E+22 | 9,624435E+21 | 6,166044E+21 | 4,239268E+21 | 4,239203E+21 | 6,165876E+21 | 9,624240E+21 |
| 129              | 1,372715E+22 | 1,737483E+22 | 1,955031E+22 | 1,955004E+22 | 1,737412E+22 | 1,372656E+22 | 9,624073E+21 | 6,166005E+21 | 4,239472E+21 | 4,239599E+21 | 6,166325E+21 | 9,624438E+21 |
| 130              | 1,372685E+22 | 1,737400E+22 | 1,954914E+22 | 1,954919E+22 | 1,737398E+22 | 1,372685E+22 | 9,624517E+21 | 6,166477E+21 | 4,239838E+21 | 4,239737E+21 | 6,166172E+21 | 9,624012E+21 |
| 131              | 1,372639E+22 | 1,737406E+22 | 1,954988E+22 | 1,954995E+22 | 1,737442E+22 | 1,372695E+22 | 9,624441E+21 | 6,166490E+21 | 4,240040E+21 | 4,240093E+21 | 6,166652E+21 | 9,624630E+21 |
| 132              | 1,372696E+22 | 1,737417E+22 | 1,954941E+22 | 1,954905E+22 | 1,737339E+22 | 1,372632E+22 | 9,624300E+21 | 6,166603E+21 | 4,240266E+21 | 4,240391E+21 | 6,166928E+21 | 9,624672E+21 |

| 1                 | 2            | 3            | 4            | 5            | 6            | 7            | 8            | 9            | 10           | 11           | 12           | 13           |
|-------------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|
| Longitude $\odot$ | 0° - 30°     | 30° - 60°    | 60° - 90°    | 90° - 120°   | 120° - 150°  | 150° - 180°  | 180° - 210°  | 210° - 240°  | 240° - 270°  | 270° - 300°  | 300° - 330°  | 330° - 360°  |
| Years             |              |              |              |              |              |              |              |              |              |              |              |              |
| 133               | 1,372652E+22 | 1,737309E+22 | 1,954825E+22 | 1,954877E+22 | 1,737384E+22 | 1,372690E+22 | 9,624838E+21 | 6,167075E+21 | 4,240584E+21 | 4,240460E+21 | 6,166739E+21 | 9,624364E+21 |
| 134               | 1,372651E+22 | 1,737379E+22 | 1,954911E+22 | 1,954915E+22 | 1,737391E+22 | 1,372677E+22 | 9,624608E+21 | 6,166911E+21 | 4,240605E+21 | 4,240713E+21 | 6,167205E+21 | 9,624934E+21 |
| 135               | 1,372685E+22 | 1,737362E+22 | 1,954848E+22 | 1,954812E+22 | 1,737293E+22 | 1,372640E+22 | 9,624711E+21 | 6,167116E+21 | 4,240718E+21 | 4,240687E+21 | 6,166992E+21 | 9,624489E+21 |
| 136               | 1,372622E+22 | 1,737299E+22 | 1,954839E+22 | 1,954876E+22 | 1,737368E+22 | 1,372683E+22 | 9,624936E+21 | 6,167259E+21 | 4,240782E+21 | 4,240656E+21 | 6,166910E+21 | 9,624472E+21 |
| 137               | 1,372654E+22 | 1,737374E+22 | 1,954902E+22 | 1,954896E+22 | 1,737349E+22 | 1,372636E+22 | 9,624407E+21 | 6,166880E+21 | 4,240643E+21 | 4,240779E+21 | 6,167271E+21 | 9,624891E+21 |
| 138               | 1,372661E+22 | 1,737321E+22 | 1,954808E+22 | 1,954814E+22 | 1,737334E+22 | 1,372668E+22 | 9,624725E+21 | 6,166983E+21 | 4,240524E+21 | 4,240449E+21 | 6,166777E+21 | 9,624371E+21 |
| 139               | 1,372626E+22 | 1,737335E+22 | 1,954896E+22 | 1,954924E+22 | 1,737405E+22 | 1,372696E+22 | 9,624698E+21 | 6,166787E+21 | 4,240285E+21 | 4,240252E+21 | 6,166727E+21 | 9,624700E+21 |
| 140               | 1,372712E+22 | 1,737429E+22 | 1,954937E+22 | 1,954904E+22 | 1,737337E+22 | 1,372627E+22 | 9,624223E+21 | 6,166445E+21 | 4,240022E+21 | 4,240111E+21 | 6,166696E+21 | 9,624613E+21 |
| 141               | 1,372679E+22 | 1,737370E+22 | 1,954875E+22 | 1,954900E+22 | 1,737390E+22 | 1,372680E+22 | 9,624569E+21 | 6,166595E+21 | 4,239936E+21 | 4,239756E+21 | 6,166114E+21 | 9,623951E+21 |
| 142               | 1,372644E+22 | 1,737429E+22 | 1,955012E+22 | 1,955011E+22 | 1,737451E+22 | 1,372693E+22 | 9,624312E+21 | 6,166232E+21 | 4,239697E+21 | 4,239745E+21 | 6,166377E+21 | 9,624469E+21 |
| 143               | 1,372691E+22 | 1,737433E+22 | 1,954985E+22 | 1,954960E+22 | 1,737380E+22 | 1,372650E+22 | 9,624169E+21 | 6,166146E+21 | 4,239583E+21 | 4,239614E+21 | 6,166200E+21 | 9,624165E+21 |
| 144               | 1,372641E+22 | 1,737356E+22 | 1,954924E+22 | 1,954984E+22 | 1,737457E+22 | 1,372714E+22 | 9,624567E+21 | 6,166371E+21 | 4,239654E+21 | 4,239541E+21 | 6,166055E+21 | 9,624070E+21 |
| 145               | 1,372663E+22 | 1,737430E+22 | 1,954989E+22 | 1,955001E+22 | 1,737444E+22 | 1,372679E+22 | 9,624175E+21 | 6,166122E+21 | 4,239640E+21 | 4,239779E+21 | 6,166518E+21 | 9,624648E+21 |
| 146               | 1,372697E+22 | 1,737403E+22 | 1,954900E+22 | 1,954880E+22 | 1,737369E+22 | 1,372676E+22 | 9,624457E+21 | 6,166406E+21 | 4,239801E+21 | 4,239756E+21 | 6,166261E+21 | 9,624172E+21 |
| 147               | 1,372640E+22 | 1,737368E+22 | 1,954934E+22 | 1,954950E+22 | 1,737412E+22 | 1,372698E+22 | 9,624677E+21 | 6,166656E+21 | 4,240051E+21 | 4,239968E+21 | 6,166418E+21 | 9,624393E+21 |
| 148               | 1,372693E+22 | 1,737435E+22 | 1,954962E+22 | 1,954929E+22 | 1,737340E+22 | 1,372613E+22 | 9,624149E+21 | 6,166524E+21 | 4,240221E+21 | 4,240375E+21 | 6,166946E+21 | 9,624717E+21 |
| 149               | 1,372666E+22 | 1,737341E+22 | 1,954831E+22 | 1,954846E+22 | 1,737347E+22 | 1,372656E+22 | 9,624609E+21 | 6,166984E+21 | 4,240579E+21 | 4,240499E+21 | 6,166775E+21 | 9,624257E+21 |
| 150               | 1,372611E+22 | 1,737332E+22 | 1,954889E+22 | 1,954907E+22 | 1,737392E+22 | 1,372686E+22 | 9,624715E+21 | 6,167042E+21 | 4,240756E+21 | 4,240831E+21 | 6,167258E+21 | 9,624938E+21 |
| 151               | 1,372681E+22 | 1,737352E+22 | 1,954850E+22 | 1,954824E+22 | 1,737286E+22 | 1,372618E+22 | 9,624561E+21 | 6,167145E+21 | 4,240938E+21 | 4,241039E+21 | 6,167392E+21 | 9,624837E+21 |
| 152               | 1,372638E+22 | 1,737269E+22 | 1,954750E+22 | 1,954787E+22 | 1,737322E+22 | 1,372674E+22 | 9,625134E+21 | 6,167653E+21 | 4,241260E+21 | 4,241110E+21 | 6,167219E+21 | 9,624487E+21 |
| 153               | 1,372618E+22 | 1,737315E+22 | 1,954832E+22 | 1,954831E+22 | 1,737320E+22 | 1,372645E+22 | 9,624808E+21 | 6,167502E+21 | 4,241353E+21 | 4,241425E+21 | 6,167712E+21 | 9,625080E+21 |
| 154               | 1,372657E+22 | 1,737297E+22 | 1,954764E+22 | 1,954734E+22 | 1,737245E+22 | 1,372624E+22 | 9,624894E+21 | 6,167631E+21 | 4,241422E+21 | 4,241396E+21 | 6,167520E+21 | 9,624635E+21 |
| 155               | 1,372590E+22 | 1,737232E+22 | 1,954755E+22 | 1,954799E+22 | 1,737322E+22 | 1,372671E+22 | 9,625152E+21 | 6,167760E+21 | 4,241444E+21 | 4,241330E+21 | 6,167437E+21 | 9,624720E+21 |
| 156               | 1,372642E+22 | 1,737323E+22 | 1,954821E+22 | 1,954811E+22 | 1,737286E+22 | 1,372609E+22 | 9,624525E+21 | 6,167288E+21 | 4,241205E+21 | 4,241366E+21 | 6,167767E+21 | 9,625205E+21 |
| 157               | 1,372663E+22 | 1,737286E+22 | 1,954739E+22 | 1,954740E+22 | 1,737280E+22 | 1,372642E+22 | 9,624828E+21 | 6,167396E+21 | 4,241072E+21 | 4,240977E+21 | 6,167159E+21 | 9,624512E+21 |
| 158               | 1,372613E+22 | 1,737299E+22 | 1,954835E+22 | 1,954853E+22 | 1,737355E+22 | 1,372679E+22 | 9,624872E+21 | 6,167223E+21 | 4,240840E+21 | 4,240793E+21 | 6,167110E+21 | 9,624804E+21 |
| 159               | 1,372690E+22 | 1,737384E+22 | 1,954889E+22 | 1,954859E+22 | 1,737297E+22 | 1,372605E+22 | 9,624352E+21 | 6,166855E+21 | 4,240563E+21 | 4,240633E+21 | 6,167038E+21 | 9,624635E+21 |
| 160               | 1,372649E+22 | 1,737324E+22 | 1,954823E+22 | 1,954851E+22 | 1,737357E+22 | 1,372667E+22 | 9,624737E+21 | 6,167027E+21 | 4,240498E+21 | 4,240341E+21 | 6,166596E+21 | 9,624101E+21 |
| 161               | 1,372603E+22 | 1,737346E+22 | 1,954921E+22 | 1,954938E+22 | 1,737407E+22 | 1,372677E+22 | 9,624485E+21 | 6,166710E+21 | 4,240341E+21 | 4,240403E+21 | 6,166916E+21 | 9,624751E+21 |
| 162               | 1,372675E+22 | 1,737364E+22 | 1,954881E+22 | 1,954862E+22 | 1,737333E+22 | 1,372648E+22 | 9,624434E+21 | 6,166636E+21 | 4,240219E+21 | 4,240266E+21 | 6,166720E+21 | 9,624416E+21 |
| 163               | 1,372630E+22 | 1,737304E+22 | 1,954832E+22 | 1,954880E+22 | 1,737388E+22 | 1,372696E+22 | 9,624854E+21 | 6,166942E+21 | 4,240342E+21 | 4,240203E+21 | 6,166536E+21 | 9,624291E+21 |
| 164               | 1,372660E+22 | 1,737395E+22 | 1,954914E+22 | 1,954902E+22 | 1,737357E+22 | 1,372636E+22 | 9,624293E+21 | 6,166634E+21 | 4,240327E+21 | 4,240455E+21 | 6,167018E+21 | 9,624865E+21 |
| 165               | 1,372688E+22 | 1,737367E+22 | 1,954841E+22 | 1,954806E+22 | 1,737300E+22 | 1,372632E+22 | 9,624515E+21 | 6,166917E+21 | 4,240522E+21 | 4,240468E+21 | 6,166764E+21 | 9,624277E+21 |
| 166               | 1,372606E+22 | 1,737306E+22 | 1,954862E+22 | 1,954883E+22 | 1,737364E+22 | 1,372674E+22 | 9,624819E+21 | 6,167177E+21 | 4,240782E+21 | 4,240724E+21 | 6,167014E+21 | 9,624613E+21 |
| 167               | 1,372662E+22 | 1,737361E+22 | 1,954883E+22 | 1,954870E+22 | 1,737305E+22 | 1,372601E+22 | 9,624336E+21 | 6,167017E+21 | 4,240900E+21 | 4,241070E+21 | 6,167487E+21 | 9,624942E+21 |
| 168               | 1,372646E+22 | 1,737282E+22 | 1,954748E+22 | 1,954765E+22 | 1,737301E+22 | 1,372651E+22 | 9,624929E+21 | 6,167544E+21 | 4,241255E+21 | 4,241192E+21 | 6,167349E+21 | 9,624511E+21 |



| 1<br>Longitude ☉<br>Years | 2<br>0° - 30° | 3<br>30° - 60° | 4<br>60° - 90° | 5<br>90° - 120° | 6<br>120° - 150° | 7<br>150° - 180° | 8<br>180° - 210° | 9<br>210° - 240° | 10<br>240° - 270° | 11<br>270° - 300° | 12<br>300° - 330° | 13<br>330° - 360° |
|---------------------------|---------------|----------------|----------------|-----------------|------------------|------------------|------------------|------------------|-------------------|-------------------|-------------------|-------------------|
| 169                       | 1,372585E+22  | 1,737256E+22   | 1,954786E+22   | 1,954809E+22    | 1,737329E+22     | 1,372670E+22     | 9,625033E+21     | 6,167690E+21     | 4,241527E+21      | 4,241559E+21      | 6,167791E+21      | 9,625162E+21      |
| 170                       | 1,372667E+22  | 1,737298E+22   | 1,954756E+22   | 1,954721E+22    | 1,737225E+22     | 1,372609E+22     | 9,624875E+21     | 6,167770E+21     | 4,241711E+21      | 4,241778E+21      | 6,167902E+21      | 9,624942E+21      |
| 171                       | 1,372608E+22  | 1,737211E+22   | 1,954671E+22   | 1,954695E+22    | 1,737252E+22     | 1,372651E+22     | 9,625412E+21     | 6,168290E+21     | 4,242050E+21      | 4,241871E+21      | 6,167753E+21      | 9,624641E+21      |
| 172                       | 1,372592E+22  | 1,737253E+22   | 1,954752E+22   | 1,954750E+22    | 1,737253E+22     | 1,372606E+22     | 9,624875E+21     | 6,167993E+21     | 4,242063E+21      | 4,242163E+21      | 6,168314E+21      | 9,625381E+21      |
| 173                       | 1,372643E+22  | 1,737239E+22   | 1,954680E+22   | 1,954656E+22    | 1,737191E+22     | 1,372592E+22     | 9,624930E+21     | 6,168053E+21     | 4,242059E+21      | 4,242062E+21      | 6,168066E+21      | 9,624904E+21      |
| 174                       | 1,372574E+22  | 1,737171E+22   | 1,954667E+22   | 1,954715E+22    | 1,737269E+22     | 1,372654E+22     | 9,625314E+21     | 6,168183E+21     | 4,242017E+21      | 4,241928E+21      | 6,167941E+21      | 9,625016E+21      |
| 175                       | 1,372638E+22  | 1,737279E+22   | 1,954758E+22   | 1,954747E+22    | 1,737238E+22     | 1,372589E+22     | 9,624665E+21     | 6,167678E+21     | 4,241708E+21      | 4,241848E+21      | 6,168104E+21      | 9,625324E+21      |
| 176                       | 1,372657E+22  | 1,737264E+22   | 1,954696E+22   | 1,954677E+22    | 1,737230E+22     | 1,372625E+22     | 9,625005E+21     | 6,167808E+21     | 4,241579E+21      | 4,241477E+21      | 6,167516E+21      | 9,624553E+21      |
| 177                       | 1,372580E+22  | 1,737243E+22   | 1,954777E+22   | 1,954795E+22    | 1,737307E+22     | 1,372658E+22     | 9,625038E+21     | 6,167694E+21     | 4,241444E+21      | 4,241368E+21      | 6,167500E+21      | 9,624868E+21      |
| 178                       | 1,372660E+22  | 1,737323E+22   | 1,954815E+22   | 1,954796E+22    | 1,737271E+22     | 1,372604E+22     | 9,624539E+21     | 6,167299E+21     | 4,241167E+21      | 4,241243E+21      | 6,167479E+21      | 9,624718E+21      |
| 179                       | 1,372614E+22  | 1,737255E+22   | 1,954740E+22   | 1,954773E+22    | 1,737317E+22     | 1,372664E+22     | 9,625005E+21     | 6,167529E+21     | 4,241129E+21      | 4,240971E+21      | 6,167080E+21      | 9,624334E+21      |
| 180                       | 1,372592E+22  | 1,737284E+22   | 1,954828E+22   | 1,954845E+22    | 1,737342E+22     | 1,372653E+22     | 9,624645E+21     | 6,167169E+21     | 4,240948E+21      | 4,241022E+21      | 6,167425E+21      | 9,625061E+21      |
| 181                       | 1,372676E+22  | 1,737322E+22   | 1,954799E+22   | 1,954771E+22    | 1,737266E+22     | 1,372615E+22     | 9,624560E+21     | 6,167127E+21     | 4,240858E+21      | 4,240889E+21      | 6,167184E+21      | 9,624607E+21      |
| 182                       | 1,372618E+22  | 1,737261E+22   | 1,954762E+22   | 1,954793E+22    | 1,737319E+22     | 1,372668E+22     | 9,625019E+21     | 6,167455E+21     | 4,241016E+21      | 4,240877E+21      | 6,167046E+21      | 9,624479E+21      |
| 183                       | 1,372641E+22  | 1,737348E+22   | 1,954863E+22   | 1,954843E+22    | 1,737298E+22     | 1,372603E+22     | 9,624402E+21     | 6,167117E+21     | 4,240991E+21      | 4,241121E+21      | 6,167502E+21      | 9,624993E+21      |
| 184                       | 1,372663E+22  | 1,737318E+22   | 1,954784E+22   | 1,954748E+22    | 1,737258E+22     | 1,372613E+22     | 9,624661E+21     | 6,167401E+21     | 4,241202E+21      | 4,241195E+21      | 6,167364E+21      | 9,624492E+21      |
| 185                       | 1,372571E+22  | 1,737222E+22   | 1,954765E+22   | 1,954802E+22    | 1,737318E+22     | 1,372662E+22     | 9,625040E+21     | 6,167733E+21     | 4,241533E+21      | 4,241490E+21      | 6,167620E+21      | 9,624908E+21      |
| 186                       | 1,372647E+22  | 1,737290E+22   | 1,954773E+22   | 1,954768E+22    | 1,737260E+22     | 1,372605E+22     | 9,624673E+21     | 6,167620E+21     | 4,241657E+21      | 4,241817E+21      | 6,168042E+21      | 9,625150E+21      |
| 187                       | 1,372627E+22  | 1,737222E+22   | 1,954655E+22   | 1,954661E+22    | 1,737234E+22     | 1,372640E+22     | 9,625307E+21     | 6,168236E+21     | 4,242063E+21      | 4,241943E+21      | 6,167866E+21      | 9,624708E+21      |
| 188                       | 1,372572E+22  | 1,737200E+22   | 1,954697E+22   | 1,954706E+22    | 1,737244E+22     | 1,372632E+22     | 9,625219E+21     | 6,168299E+21     | 4,242315E+21      | 4,242323E+21      | 6,168338E+21      | 9,625338E+21      |
| 189                       | 1,372645E+22  | 1,737241E+22   | 1,954680E+22   | 1,954639E+22    | 1,737155E+22     | 1,372569E+22     | 9,624990E+21     | 6,168336E+21     | 4,242476E+21      | 4,242540E+21      | 6,168463E+21      | 9,625085E+21      |
| 190                       | 1,372572E+22  | 1,737139E+22   | 1,954587E+22   | 1,954616E+22    | 1,737197E+22     | 1,372626E+22     | 9,625529E+21     | 6,168775E+21     | 4,242749E+21      | 4,242612E+21      | 6,168368E+21      | 9,624916E+21      |
| 191                       | 1,372568E+22  | 1,737183E+22   | 1,954671E+22   | 1,954677E+22    | 1,737203E+22     | 1,372587E+22     | 9,624999E+21     | 6,168399E+21     | 4,242645E+21      | 4,242774E+21      | 6,168811E+21      | 9,625638E+21      |
| 192                       | 1,372637E+22  | 1,737195E+22   | 1,954610E+22   | 1,954583E+22    | 1,737144E+22     | 1,372580E+22     | 9,625119E+21     | 6,168458E+21     | 4,242587E+21      | 4,242622E+21      | 6,168537E+21      | 9,625132E+21      |
| 193                       | 1,372563E+22  | 1,737119E+22   | 1,954589E+22   | 1,954636E+22    | 1,737215E+22     | 1,372636E+22     | 9,625506E+21     | 6,168658E+21     | 4,242607E+21      | 4,242481E+21      | 6,168329E+21      | 9,625168E+21      |
| 194                       | 1,372631E+22  | 1,737244E+22   | 1,954691E+22   | 1,954670E+22    | 1,737196E+22     | 1,372586E+22     | 9,624905E+21     | 6,168160E+21     | 4,242304E+21      | 4,242406E+21      | 6,168453E+21      | 9,625326E+21      |
| 195                       | 1,372626E+22  | 1,737218E+22   | 1,954647E+22   | 1,954619E+22    | 1,737183E+22     | 1,372610E+22     | 9,625244E+21     | 6,168330E+21     | 4,242214E+21      | 4,242074E+21      | 6,167915E+21      | 9,624637E+21      |
| 196                       | 1,372554E+22  | 1,737178E+22   | 1,954703E+22   | 1,954730E+22    | 1,737258E+22     | 1,372632E+22     | 9,625121E+21     | 6,168118E+21     | 4,242051E+21      | 4,241998E+21      | 6,168001E+21      | 9,625075E+21      |
| 197                       | 1,372640E+22  | 1,737261E+22   | 1,954732E+22   | 1,954722E+22    | 1,737223E+22     | 1,372584E+22     | 9,624657E+21     | 6,167715E+21     | 4,241751E+21      | 4,241854E+21      | 6,167978E+21      | 9,624949E+21      |
| 198                       | 1,372598E+22  | 1,737195E+22   | 1,954651E+22   | 1,954681E+22    | 1,737256E+22     | 1,372648E+22     | 9,625194E+21     | 6,167973E+21     | 4,241712E+21      | 4,241579E+21      | 6,167587E+21      | 9,624612E+21      |
| 199                       | 1,372587E+22  | 1,737241E+22   | 1,954760E+22   | 1,954765E+22    | 1,737278E+22     | 1,372626E+22     | 9,624788E+21     | 6,167611E+21     | 4,241519E+21      | 4,241575E+21      | 6,167821E+21      | 9,625209E+21      |
| 200                       | 1,372671E+22  | 1,737296E+22   | 1,954751E+22   | 1,954702E+22    | 1,737205E+22     | 1,372588E+22     | 9,624692E+21     | 6,167576E+21     | 4,241467E+21      | 4,241512E+21      | 6,167651E+21      | 9,624712E+21      |
| 201                       | 1,372587E+22  | 1,737200E+22   | 1,954696E+22   | 1,954731E+22    | 1,737266E+22     | 1,372640E+22     | 9,625148E+21     | 6,167973E+21     | 4,241724E+21      | 4,241582E+21      | 6,167565E+21      | 9,624638E+21      |
| 202                       | 1,372614E+22  | 1,737283E+22   | 1,954779E+22   | 1,954772E+22    | 1,737268E+22     | 1,372602E+22     | 9,624620E+21     | 6,167641E+21     | 4,241709E+21      | 4,241852E+21      | 6,168054E+21      | 9,625152E+21      |
| 203                       | 1,372630E+22  | 1,737246E+22   | 1,954696E+22   | 1,954665E+22    | 1,737211E+22     | 1,372611E+22     | 9,625002E+21     | 6,168008E+21     | 4,241956E+21      | 4,241938E+21      | 6,167928E+21      | 9,624764E+21      |
| 204                       | 1,372558E+22  | 1,737152E+22   | 1,954660E+22   | 1,954702E+22    | 1,737252E+22     | 1,372643E+22     | 9,625296E+21     | 6,168322E+21     | 4,242285E+21      | 4,242239E+21      | 6,168198E+21      | 9,625180E+21      |

| 1<br>Longitude $\odot$<br>Years | 2<br>0° - 30° | 3<br>30° - 60° | 4<br>60° - 90° | 5<br>90° - 120° | 6<br>120° - 150° | 7<br>150° - 180° | 8<br>180° - 210° | 9<br>210° - 240° | 10<br>240° - 270° | 11<br>270° - 300° | 12<br>300° - 330° | 13<br>330° - 360° |
|---------------------------------|---------------|----------------|----------------|-----------------|------------------|------------------|------------------|------------------|-------------------|-------------------|-------------------|-------------------|
| 205                             | 1,372639E+22  | 1,737238E+22   | 1,954680E+22   | 1,954666E+22    | 1,737188E+22     | 1,372577E+22     | 9,624900E+21     | 6,168234E+21     | 4,242427E+21      | 4,242561E+21      | 6,168575E+21      | 9,625311E+21      |
| 206                             | 1,372603E+22  | 1,737163E+22   | 1,954569E+22   | 1,954560E+22    | 1,737156E+22     | 1,372612E+22     | 9,625538E+21     | 6,168844E+21     | 4,242848E+21      | 4,242724E+21      | 6,168455E+21      | 9,624906E+21      |
| 207                             | 1,372544E+22  | 1,737136E+22   | 1,954625E+22   | 1,954632E+22    | 1,737177E+22     | 1,372597E+22     | 9,625339E+21     | 6,168821E+21     | 4,243033E+21      | 4,243049E+21      | 6,168891E+21      | 9,625524E+21      |
| 208                             | 1,372620E+22  | 1,737182E+22   | 1,954605E+22   | 1,954567E+22    | 1,737103E+22     | 1,372544E+22     | 9,625091E+21     | 6,168784E+21     | 4,243142E+21      | 4,243269E+21      | 6,169087E+21      | 9,625358E+21      |
| 209                             | 1,372547E+22  | 1,737061E+22   | 1,954488E+22   | 1,954530E+22    | 1,737142E+22     | 1,372608E+22     | 9,625693E+21     | 6,169249E+21     | 4,243407E+21      | 4,243294E+21      | 6,168933E+21      | 9,625240E+21      |
| 210                             | 1,372566E+22  | 1,737133E+22   | 1,954577E+22   | 1,954582E+22    | 1,737155E+22     | 1,372584E+22     | 9,625255E+21     | 6,168888E+21     | 4,243261E+21      | 4,243376E+21      | 6,169249E+21      | 9,625796E+21      |
| 211                             | 1,372625E+22  | 1,737158E+22   | 1,954548E+22   | 1,954504E+22    | 1,737085E+22     | 1,372567E+22     | 9,625401E+21     | 6,169003E+21     | 4,243223E+21      | 4,243193E+21      | 6,168894E+21      | 9,625234E+21      |
| 212                             | 1,372552E+22  | 1,737080E+22   | 1,954529E+22   | 1,954565E+22    | 1,737151E+22     | 1,372606E+22     | 9,625631E+21     | 6,169126E+21     | 4,243226E+21      | 4,243075E+21      | 6,168720E+21      | 9,625215E+21      |
| 213                             | 1,372605E+22  | 1,737197E+22   | 1,954634E+22   | 1,954616E+22    | 1,737149E+22     | 1,372559E+22     | 9,625017E+21     | 6,168615E+21     | 4,242912E+21      | 4,243006E+21      | 6,168873E+21      | 9,625365E+21      |
| 214                             | 1,372586E+22  | 1,737148E+22   | 1,954573E+22   | 1,954558E+22    | 1,737144E+22     | 1,372599E+22     | 9,625403E+21     | 6,168756E+21     | 4,242802E+21      | 4,242697E+21      | 6,168434E+21      | 9,624852E+21      |
| 215                             | 1,372527E+22  | 1,737109E+22   | 1,954624E+22   | 1,954662E+22    | 1,737212E+22     | 1,372619E+22     | 9,625280E+21     | 6,168504E+21     | 4,242571E+21      | 4,242543E+21      | 6,168454E+21      | 9,625297E+21      |
| 216                             | 1,372630E+22  | 1,737213E+22   | 1,954659E+22   | 1,954647E+22    | 1,737172E+22     | 1,372570E+22     | 9,624841E+21     | 6,168117E+21     | 4,242281E+21      | 4,242420E+21      | 6,168456E+21      | 9,625170E+21      |
| 217                             | 1,372586E+22  | 1,737144E+22   | 1,954570E+22   | 1,954596E+22    | 1,737194E+22     | 1,372625E+22     | 9,625364E+21     | 6,168449E+21     | 4,242331E+21      | 4,242183E+21      | 6,168038E+21      | 9,624809E+21      |
| 218                             | 1,372581E+22  | 1,737206E+22   | 1,954687E+22   | 1,954682E+22    | 1,737224E+22     | 1,372613E+22     | 9,624996E+21     | 6,168119E+21     | 4,242180E+21      | 4,242218E+21      | 6,168265E+21      | 9,625285E+21      |
| 219                             | 1,372644E+22  | 1,737250E+22   | 1,954697E+22   | 1,954644E+22    | 1,737154E+22     | 1,372567E+22     | 9,624900E+21     | 6,168130E+21     | 4,242184E+21      | 4,242208E+21      | 6,168162E+21      | 9,624909E+21      |
| 220                             | 1,372567E+22  | 1,737133E+22   | 1,954611E+22   | 1,954657E+22    | 1,737212E+22     | 1,372613E+22     | 9,625247E+21     | 6,168453E+21     | 4,242432E+21      | 4,242324E+21      | 6,168162E+21      | 9,624908E+21      |
| 221                             | 1,372596E+22  | 1,737217E+22   | 1,954684E+22   | 1,954685E+22    | 1,737213E+22     | 1,372586E+22     | 9,624839E+21     | 6,168173E+21     | 4,242411E+21      | 4,242574E+21      | 6,168629E+21      | 9,625403E+21      |
| 222                             | 1,372611E+22  | 1,737180E+22   | 1,954599E+22   | 1,954568E+22    | 1,737144E+22     | 1,372596E+22     | 9,625283E+21     | 6,168587E+21     | 4,242682E+21      | 4,242672E+21      | 6,168510E+21      | 9,625024E+21      |
| 223                             | 1,372543E+22  | 1,737097E+22   | 1,954576E+22   | 1,954606E+22    | 1,737176E+22     | 1,372615E+22     | 9,625518E+21     | 6,168890E+21     | 4,243001E+21      | 4,242929E+21      | 6,168684E+21      | 9,625307E+21      |
| 224                             | 1,372617E+22  | 1,737191E+22   | 1,954613E+22   | 1,954586E+22    | 1,737119E+22     | 1,372549E+22     | 9,625087E+21     | 6,168776E+21     | 4,243162E+21      | 4,243313E+21      | 6,169132E+21      | 9,625426E+21      |
| 225                             | 1,372565E+22  | 1,737087E+22   | 1,954481E+22   | 1,954481E+22    | 1,737093E+22     | 1,372582E+22     | 9,625689E+21     | 6,169408E+21     | 4,243622E+21      | 4,243503E+21      | 6,169050E+21      | 9,625120E+21      |
| 226                             | 1,372519E+22  | 1,737067E+22   | 1,954523E+22   | 1,954544E+22    | 1,737133E+22     | 1,372590E+22     | 9,625557E+21     | 6,169356E+21     | 4,243761E+21      | 4,243788E+21      | 6,169462E+21      | 9,625732E+21      |
| 227                             | 1,372595E+22  | 1,737117E+22   | 1,954518E+22   | 1,954485E+22    | 1,737050E+22     | 1,372534E+22     | 9,625381E+21     | 6,169348E+21     | 4,243839E+21      | 4,243945E+21      | 6,169614E+21      | 9,625661E+21      |
| 228                             | 1,372544E+22  | 1,737006E+22   | 1,954396E+22   | 1,954439E+22    | 1,737077E+22     | 1,372582E+22     | 9,625862E+21     | 6,169745E+21     | 4,244057E+21      | 4,243938E+21      | 6,169425E+21      | 9,625473E+21      |
| 229                             | 1,372562E+22  | 1,737098E+22   | 1,954508E+22   | 1,954501E+22    | 1,737091E+22     | 1,372561E+22     | 9,625460E+21     | 6,169401E+21     | 4,243895E+21      | 4,243983E+21      | 6,169668E+21      | 9,625882E+21      |
| 230                             | 1,372601E+22  | 1,737113E+22   | 1,954489E+22   | 1,954438E+22    | 1,737027E+22     | 1,372546E+22     | 9,625599E+21     | 6,169495E+21     | 4,243857E+21      | 4,243824E+21      | 6,169355E+21      | 9,625330E+21      |
| 231                             | 1,372520E+22  | 1,737026E+22   | 1,954474E+22   | 1,954515E+22    | 1,737105E+22     | 1,372582E+22     | 9,625734E+21     | 6,169542E+21     | 4,243802E+21      | 4,243660E+21      | 6,169160E+21      | 9,625317E+21      |
| 232                             | 1,372575E+22  | 1,737138E+22   | 1,954566E+22   | 1,954562E+22    | 1,737116E+22     | 1,372547E+22     | 9,625120E+21     | 6,168969E+21     | 4,243456E+21      | 4,243611E+21      | 6,169387E+21      | 9,625569E+21      |
| 233                             | 1,372559E+22  | 1,737072E+22   | 1,954474E+22   | 1,954478E+22    | 1,737096E+22     | 1,372587E+22     | 9,625588E+21     | 6,169179E+21     | 4,243368E+21      | 4,243284E+21      | 6,168933E+21      | 9,625158E+21      |
| 234                             | 1,372528E+22  | 1,737064E+22   | 1,954527E+22   | 1,954568E+22    | 1,737161E+22     | 1,372613E+22     | 9,625530E+21     | 6,168972E+21     | 4,243143E+21      | 4,243098E+21      | 6,168869E+21      | 9,625467E+21      |
| 235                             | 1,372621E+22  | 1,737181E+22   | 1,954596E+22   | 1,954567E+22    | 1,737106E+22     | 1,372550E+22     | 9,625085E+21     | 6,168645E+21     | 4,242905E+21      | 4,242988E+21      | 6,168849E+21      | 9,625336E+21      |
| 236                             | 1,372578E+22  | 1,737106E+22   | 1,954507E+22   | 1,954524E+22    | 1,737125E+22     | 1,372588E+22     | 9,625436E+21     | 6,168898E+21     | 4,242969E+21      | 4,242825E+21      | 6,168504E+21      | 9,624940E+21      |
| 237                             | 1,372561E+22  | 1,737164E+22   | 1,954629E+22   | 1,954622E+22    | 1,737169E+22     | 1,372583E+22     | 9,625097E+21     | 6,168582E+21     | 4,242826E+21      | 4,242882E+21      | 6,168763E+21      | 9,625403E+21      |
| 238                             | 1,372609E+22  | 1,737181E+22   | 1,954617E+22   | 1,954577E+22    | 1,737109E+22     | 1,372555E+22     | 9,625081E+21     | 6,168601E+21     | 4,242843E+21      | 4,242906E+21      | 6,168735E+21      | 9,625149E+21      |
| 239                             | 1,372542E+22  | 1,737068E+22   | 1,954527E+22   | 1,954581E+22    | 1,737161E+22     | 1,372600E+22     | 9,625467E+21     | 6,168936E+21     | 4,243063E+21      | 4,242966E+21      | 6,168670E+21      | 9,625123E+21      |
| 240                             | 1,372581E+22  | 1,737163E+22   | 1,954600E+22   | 1,954603E+22    | 1,737157E+22     | 1,372572E+22     | 9,625089E+21     | 6,168697E+21     | 4,243089E+21      | 4,243262E+21      | 6,169150E+21      | 9,625574E+21      |

| 1                 | 2            | 3            | 4            | 5            | 6            | 7            | 8            | 9            | 10           | 11           | 12           | 13           |
|-------------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|
| Longitude $\odot$ | 0° - 30°     | 30° - 60°    | 60° - 90°    | 90° - 120°   | 120° - 150°  | 150° - 180°  | 180° - 210°  | 210° - 240°  | 240° - 270°  | 270° - 300°  | 300° - 330°  | 330° - 360°  |
| Years             |              |              |              |              |              |              |              |              |              |              |              |              |
| 241               | 1,372587E+22 | 1,737115E+22 | 1,954502E+22 | 1,954472E+22 | 1,737075E+22 | 1,372575E+22 | 9,625564E+21 | 6,169214E+21 | 4,243456E+21 | 4,243415E+21 | 6,169052E+21 | 9,625214E+21 |
| 242               | 1,372525E+22 | 1,737044E+22 | 1,954483E+22 | 1,954510E+22 | 1,737112E+22 | 1,372598E+22 | 9,625797E+21 | 6,169527E+21 | 4,243802E+21 | 4,243705E+21 | 6,169236E+21 | 9,625413E+21 |
| 243               | 1,372579E+22 | 1,737124E+22 | 1,954534E+22 | 1,954510E+22 | 1,737058E+22 | 1,372524E+22 | 9,625323E+21 | 6,169412E+21 | 4,243979E+21 | 4,244108E+21 | 6,169744E+21 | 9,625703E+21 |
| 244               | 1,372544E+22 | 1,737011E+22 | 1,954378E+22 | 1,954390E+22 | 1,737029E+22 | 1,372551E+22 | 9,625783E+21 | 6,169910E+21 | 4,244374E+21 | 4,244301E+21 | 6,169711E+21 | 9,625465E+21 |
| 245               | 1,372510E+22 | 1,737008E+22 | 1,954427E+22 | 1,954447E+22 | 1,737064E+22 | 1,372566E+22 | 9,625757E+21 | 6,169879E+21 | 4,244452E+21 | 4,244502E+21 | 6,170037E+21 | 9,626008E+21 |
| 246               | 1,372584E+22 | 1,737064E+22 | 1,954432E+22 | 1,954396E+22 | 1,736985E+22 | 1,372515E+22 | 9,625615E+21 | 6,169879E+21 | 4,244514E+21 | 4,244615E+21 | 6,170130E+21 | 9,625885E+21 |
| 247               | 1,372532E+22 | 1,736970E+22 | 1,954336E+22 | 1,954365E+22 | 1,737013E+22 | 1,372555E+22 | 9,626024E+21 | 6,170224E+21 | 4,244673E+21 | 4,244529E+21 | 6,169827E+21 | 9,625548E+21 |
| 248               | 1,372538E+22 | 1,737059E+22 | 1,954460E+22 | 1,954448E+22 | 1,737044E+22 | 1,372540E+22 | 9,625609E+21 | 6,169842E+21 | 4,244503E+21 | 4,244605E+21 | 6,170107E+21 | 9,625920E+21 |
| 249               | 1,372559E+22 | 1,737041E+22 | 1,954413E+22 | 1,954382E+22 | 1,736989E+22 | 1,372531E+22 | 9,625768E+21 | 6,169958E+21 | 4,244479E+21 | 4,244454E+21 | 6,169845E+21 | 9,625499E+21 |
| 250               | 1,372494E+22 | 1,736959E+22 | 1,954375E+22 | 1,954437E+22 | 1,737076E+22 | 1,372584E+22 | 9,625977E+21 | 6,169994E+21 | 4,244387E+21 | 4,244254E+21 | 6,169626E+21 | 9,625487E+21 |
| 251               | 1,372548E+22 | 1,737076E+22 | 1,954483E+22 | 1,954487E+22 | 1,737070E+22 | 1,372541E+22 | 9,625408E+21 | 6,169466E+21 | 4,244036E+21 | 4,244162E+21 | 6,169830E+21 | 9,625863E+21 |
| 252               | 1,372559E+22 | 1,737024E+22 | 1,954385E+22 | 1,954387E+22 | 1,737029E+22 | 1,372557E+22 | 9,625703E+21 | 6,169607E+21 | 4,243942E+21 | 4,243855E+21 | 6,169378E+21 | 9,625391E+21 |
| 253               | 1,372528E+22 | 1,737038E+22 | 1,954463E+22 | 1,954482E+22 | 1,737087E+22 | 1,372581E+22 | 9,625688E+21 | 6,169440E+21 | 4,243732E+21 | 4,243672E+21 | 6,169281E+21 | 9,625583E+21 |
| 254               | 1,372601E+22 | 1,737143E+22 | 1,954544E+22 | 1,954505E+22 | 1,737046E+22 | 1,372520E+22 | 9,625214E+21 | 6,169102E+21 | 4,243523E+21 | 4,243617E+21 | 6,169328E+21 | 9,625478E+21 |
| 255               | 1,372551E+22 | 1,737060E+22 | 1,954457E+22 | 1,954473E+22 | 1,737077E+22 | 1,372557E+22 | 9,625485E+21 | 6,169293E+21 | 4,243554E+21 | 4,243437E+21 | 6,168984E+21 | 9,625097E+21 |
| 256               | 1,372535E+22 | 1,737107E+22 | 1,954560E+22 | 1,954566E+22 | 1,737135E+22 | 1,372572E+22 | 9,625230E+21 | 6,168971E+21 | 4,243421E+21 | 4,243536E+21 | 6,169291E+21 | 9,625603E+21 |
| 257               | 1,372582E+22 | 1,737107E+22 | 1,954517E+22 | 1,954494E+22 | 1,737062E+22 | 1,372546E+22 | 9,625346E+21 | 6,169120E+21 | 4,243504E+21 | 4,243572E+21 | 6,169262E+21 | 9,625409E+21 |
| 258               | 1,372533E+22 | 1,737015E+22 | 1,954422E+22 | 1,954479E+22 | 1,737107E+22 | 1,372595E+22 | 9,625809E+21 | 6,169549E+21 | 4,243786E+21 | 4,243645E+21 | 6,169142E+21 | 9,625241E+21 |
| 259               | 1,372553E+22 | 1,737110E+22 | 1,954523E+22 | 1,954516E+22 | 1,737091E+22 | 1,372553E+22 | 9,625417E+21 | 6,169373E+21 | 4,243883E+21 | 4,243982E+21 | 6,169646E+21 | 9,625745E+21 |
| 260               | 1,372564E+22 | 1,737050E+22 | 1,954412E+22 | 1,954382E+22 | 1,736999E+22 | 1,372535E+22 | 9,625701E+21 | 6,169805E+21 | 4,244268E+21 | 4,244230E+21 | 6,169664E+21 | 9,625416E+21 |
| 261               | 1,372498E+22 | 1,736981E+22 | 1,954396E+22 | 1,954423E+22 | 1,737043E+22 | 1,372565E+22 | 9,625968E+21 | 6,170102E+21 | 4,244582E+21 | 4,244513E+21 | 6,169883E+21 | 9,625659E+21 |
| 262               | 1,372547E+22 | 1,737048E+22 | 1,954437E+22 | 1,954421E+22 | 1,736998E+22 | 1,372505E+22 | 9,625526E+21 | 6,169947E+21 | 4,244721E+21 | 4,244894E+21 | 6,170410E+21 | 9,626042E+21 |
| 263               | 1,372528E+22 | 1,736954E+22 | 1,954293E+22 | 1,954303E+22 | 1,736967E+22 | 1,372528E+22 | 9,625954E+21 | 6,170389E+21 | 4,245023E+21 | 4,244973E+21 | 6,170255E+21 | 9,625750E+21 |
| 264               | 1,372505E+22 | 1,736968E+22 | 1,954354E+22 | 1,954369E+22 | 1,737010E+22 | 1,372546E+22 | 9,625934E+21 | 6,170349E+21 | 4,245096E+21 | 4,245158E+21 | 6,170519E+21 | 9,626171E+21 |
| 265               | 1,372565E+22 | 1,737012E+22 | 1,954353E+22 | 1,954317E+22 | 1,736930E+22 | 1,372498E+22 | 9,625860E+21 | 6,170427E+21 | 4,245195E+21 | 4,245267E+21 | 6,170591E+21 | 9,626023E+21 |
| 266               | 1,372513E+22 | 1,736925E+22 | 1,954262E+22 | 1,954296E+22 | 1,736971E+22 | 1,372544E+22 | 9,626281E+21 | 6,170774E+21 | 4,245351E+21 | 4,245174E+21 | 6,170271E+21 | 9,625600E+21 |
| 267               | 1,372496E+22 | 1,736992E+22 | 1,954392E+22 | 1,954391E+22 | 1,737004E+22 | 1,372527E+22 | 9,625842E+21 | 6,170381E+21 | 4,245170E+21 | 4,245235E+21 | 6,170589E+21 | 9,626136E+21 |
| 268               | 1,372535E+22 | 1,736964E+22 | 1,954313E+22 | 1,954298E+22 | 1,736938E+22 | 1,372510E+22 | 9,625890E+21 | 6,170387E+21 | 4,245090E+21 | 4,245099E+21 | 6,170385E+21 | 9,625796E+21 |
| 269               | 1,372487E+22 | 1,736910E+22 | 1,954286E+22 | 1,954339E+22 | 1,737006E+22 | 1,372562E+22 | 9,626175E+21 | 6,170436E+21 | 4,244945E+21 | 4,244828E+21 | 6,170094E+21 | 9,625727E+21 |
| 270               | 1,372539E+22 | 1,737032E+22 | 1,954404E+22 | 1,954395E+22 | 1,737002E+22 | 1,372516E+22 | 9,625581E+21 | 6,169918E+21 | 4,244610E+21 | 4,244726E+21 | 6,170258E+21 | 9,626045E+21 |
| 271               | 1,372551E+22 | 1,737001E+22 | 1,954340E+22 | 1,954317E+22 | 1,736964E+22 | 1,372521E+22 | 9,625756E+21 | 6,169988E+21 | 4,244474E+21 | 4,244380E+21 | 6,169741E+21 | 9,625477E+21 |
| 272               | 1,372511E+22 | 1,737008E+22 | 1,954426E+22 | 1,954438E+22 | 1,737042E+22 | 1,372551E+22 | 9,625716E+21 | 6,169800E+21 | 4,244292E+21 | 4,244258E+21 | 6,169694E+21 | 9,625634E+21 |
| 273               | 1,372564E+22 | 1,737077E+22 | 1,954475E+22 | 1,954455E+22 | 1,737015E+22 | 1,372506E+22 | 9,625361E+21 | 6,169540E+21 | 4,244127E+21 | 4,244232E+21 | 6,169807E+21 | 9,625657E+21 |
| 274               | 1,372528E+22 | 1,736997E+22 | 1,954367E+22 | 1,954404E+22 | 1,737052E+22 | 1,372561E+22 | 9,625760E+21 | 6,169785E+21 | 4,244175E+21 | 4,244056E+21 | 6,169456E+21 | 9,625253E+21 |
| 275               | 1,372503E+22 | 1,737038E+22 | 1,954475E+22 | 1,954491E+22 | 1,737092E+22 | 1,372570E+22 | 9,625591E+21 | 6,169569E+21 | 4,244101E+21 | 4,244161E+21 | 6,169763E+21 | 9,625851E+21 |
| 276               | 1,372569E+22 | 1,737043E+22 | 1,954414E+22 | 1,954393E+22 | 1,736996E+22 | 1,372523E+22 | 9,625578E+21 | 6,169699E+21 | 4,244242E+21 | 4,244296E+21 | 6,169804E+21 | 9,625634E+21 |

| 1                 | 2            | 3            | 4            | 5            | 6            | 7            | 8            | 9            | 10           | 11           | 12           | 13           |
|-------------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|
| Longitude $\odot$ | 0° - 30°     | 30° - 60°    | 60° - 90°    | 90° - 120°   | 120° - 150°  | 150° - 180°  | 180° - 210°  | 210° - 240°  | 240° - 270°  | 270° - 300°  | 300° - 330°  | 330° - 360°  |
| Years             |              |              |              |              |              |              |              |              |              |              |              |              |
| 277               | 1,372521E+22 | 1,736971E+22 | 1,954338E+22 | 1,954372E+22 | 1,737023E+22 | 1,372565E+22 | 9,626076E+21 | 6,170171E+21 | 4,244560E+21 | 4,244410E+21 | 6,169705E+21 | 9,625411E+21 |
| 278               | 1,372523E+22 | 1,737045E+22 | 1,954441E+22 | 1,954429E+22 | 1,737019E+22 | 1,372520E+22 | 9,625609E+21 | 6,169979E+21 | 4,244693E+21 | 4,244805E+21 | 6,170292E+21 | 9,625985E+21 |
| 279               | 1,372536E+22 | 1,736988E+22 | 1,954334E+22 | 1,954303E+22 | 1,736935E+22 | 1,372497E+22 | 9,625755E+21 | 6,170293E+21 | 4,245001E+21 | 4,245009E+21 | 6,170309E+21 | 9,625730E+21 |
| 280               | 1,372480E+22 | 1,736918E+22 | 1,954310E+22 | 1,954342E+22 | 1,736989E+22 | 1,372541E+22 | 9,626067E+21 | 6,170549E+21 | 4,245275E+21 | 4,245271E+21 | 6,170509E+21 | 9,625976E+21 |
| 281               | 1,372532E+22 | 1,736981E+22 | 1,954336E+22 | 1,954327E+22 | 1,736940E+22 | 1,372490E+22 | 9,625780E+21 | 6,170493E+21 | 4,245415E+21 | 4,245593E+21 | 6,170968E+21 | 9,626349E+21 |
| 282               | 1,372527E+22 | 1,736913E+22 | 1,954204E+22 | 1,954209E+22 | 1,736912E+22 | 1,372517E+22 | 9,626259E+21 | 6,170979E+21 | 4,245726E+21 | 4,245625E+21 | 6,170691E+21 | 9,625842E+21 |
| 283               | 1,372479E+22 | 1,736922E+22 | 1,954295E+22 | 1,954302E+22 | 1,736956E+22 | 1,372532E+22 | 9,626246E+21 | 6,170976E+21 | 4,245822E+21 | 4,245801E+21 | 6,170937E+21 | 9,626272E+21 |
| 284               | 1,372537E+22 | 1,736950E+22 | 1,954275E+22 | 1,954244E+22 | 1,736876E+22 | 1,372469E+22 | 9,625997E+21 | 6,170954E+21 | 4,245910E+21 | 4,245975E+21 | 6,171095E+21 | 9,626135E+21 |
| 285               | 1,372480E+22 | 1,736861E+22 | 1,954180E+22 | 1,954214E+22 | 1,736916E+22 | 1,372525E+22 | 9,626484E+21 | 6,171277E+21 | 4,246011E+21 | 4,245850E+21 | 6,170800E+21 | 9,625776E+21 |
| 286               | 1,372461E+22 | 1,736913E+22 | 1,954298E+22 | 1,954309E+22 | 1,736955E+22 | 1,372515E+22 | 9,626052E+21 | 6,170848E+21 | 4,245785E+21 | 4,245872E+21 | 6,171115E+21 | 9,626392E+21 |
| 287               | 1,372520E+22 | 1,736912E+22 | 1,954235E+22 | 1,954213E+22 | 1,736876E+22 | 1,372483E+22 | 9,625999E+21 | 6,170779E+21 | 4,245618E+21 | 4,245640E+21 | 6,170824E+21 | 9,626041E+21 |
| 288               | 1,372485E+22 | 1,736878E+22 | 1,954225E+22 | 1,954265E+22 | 1,736948E+22 | 1,372535E+22 | 9,626252E+21 | 6,170806E+21 | 4,245474E+21 | 4,245369E+21 | 6,170487E+21 | 9,625865E+21 |
| 289               | 1,372526E+22 | 1,736992E+22 | 1,954344E+22 | 1,954325E+22 | 1,736947E+22 | 1,372493E+22 | 9,625737E+21 | 6,170358E+21 | 4,245179E+21 | 4,245283E+21 | 6,170659E+21 | 9,626174E+21 |
| 290               | 1,372536E+22 | 1,736963E+22 | 1,954285E+22 | 1,954264E+22 | 1,736928E+22 | 1,372505E+22 | 9,625909E+21 | 6,170435E+21 | 4,245063E+21 | 4,244955E+21 | 6,170141E+21 | 9,625536E+21 |
| 291               | 1,372475E+22 | 1,736949E+22 | 1,954370E+22 | 1,954395E+22 | 1,737017E+22 | 1,372542E+22 | 9,625901E+21 | 6,170272E+21 | 4,244904E+21 | 4,244845E+21 | 6,170150E+21 | 9,625854E+21 |
| 292               | 1,372542E+22 | 1,737003E+22 | 1,954377E+22 | 1,954376E+22 | 1,736975E+22 | 1,372494E+22 | 9,625521E+21 | 6,169988E+21 | 4,244754E+21 | 4,244885E+21 | 6,170333E+21 | 9,625926E+21 |
| 293               | 1,372518E+22 | 1,736944E+22 | 1,954276E+22 | 1,954302E+22 | 1,736985E+22 | 1,372546E+22 | 9,626063E+21 | 6,170331E+21 | 4,244830E+21 | 4,244711E+21 | 6,169967E+21 | 9,625481E+21 |
| 294               | 1,372486E+22 | 1,736978E+22 | 1,954386E+22 | 1,954393E+22 | 1,737022E+22 | 1,372548E+22 | 9,625862E+21 | 6,170166E+21 | 4,244829E+21 | 4,244865E+21 | 6,170277E+21 | 9,626013E+21 |
| 295               | 1,372548E+22 | 1,737001E+22 | 1,954349E+22 | 1,954304E+22 | 1,736920E+22 | 1,372486E+22 | 9,625703E+21 | 6,170226E+21 | 4,244957E+21 | 4,245012E+21 | 6,170332E+21 | 9,625804E+21 |
| 296               | 1,372498E+22 | 1,736922E+22 | 1,954275E+22 | 1,954300E+22 | 1,736961E+22 | 1,372529E+22 | 9,626133E+21 | 6,170651E+21 | 4,245290E+21 | 4,245179E+21 | 6,170287E+21 | 9,625592E+21 |
| 297               | 1,372491E+22 | 1,736968E+22 | 1,954345E+22 | 1,954345E+22 | 1,736967E+22 | 1,372501E+22 | 9,625786E+21 | 6,170511E+21 | 4,245429E+21 | 4,245570E+21 | 6,170916E+21 | 9,626296E+21 |
| 298               | 1,372522E+22 | 1,736923E+22 | 1,954237E+22 | 1,954218E+22 | 1,736891E+22 | 1,372488E+22 | 9,626012E+21 | 6,170841E+21 | 4,245713E+21 | 4,245722E+21 | 6,170863E+21 | 9,625976E+21 |
| 299               | 1,372462E+22 | 1,736859E+22 | 1,954227E+22 | 1,954262E+22 | 1,736937E+22 | 1,372529E+22 | 9,626371E+21 | 6,171160E+21 | 4,245998E+21 | 4,245937E+21 | 6,171008E+21 | 9,626241E+21 |
| 300               | 1,372522E+22 | 1,736922E+22 | 1,954241E+22 | 1,954228E+22 | 1,736876E+22 | 1,372468E+22 | 9,626013E+21 | 6,171090E+21 | 4,246173E+21 | 4,246321E+21 | 6,171482E+21 | 9,626518E+21 |
| 301               | 1,372511E+22 | 1,736871E+22 | 1,954136E+22 | 1,954116E+22 | 1,736836E+22 | 1,372494E+22 | 9,626549E+21 | 6,171593E+21 | 4,246479E+21 | 4,246358E+21 | 6,171208E+21 | 9,625938E+21 |
| 302               | 1,372439E+22 | 1,736849E+22 | 1,954218E+22 | 1,954229E+22 | 1,736898E+22 | 1,372507E+22 | 9,626459E+21 | 6,171562E+21 | 4,246582E+21 | 4,246557E+21 | 6,171494E+21 | 9,626396E+21 |
| 303               | 1,372500E+22 | 1,736882E+22 | 1,954196E+22 | 1,954169E+22 | 1,736824E+22 | 1,372444E+22 | 9,626078E+21 | 6,171390E+21 | 4,246558E+21 | 4,246662E+21 | 6,171657E+21 | 9,626392E+21 |
| 304               | 1,372462E+22 | 1,736798E+22 | 1,954095E+22 | 1,954131E+22 | 1,736863E+22 | 1,372505E+22 | 9,626561E+21 | 6,171651E+21 | 4,246594E+21 | 4,246484E+21 | 6,171317E+21 | 9,626036E+21 |
| 305               | 1,372449E+22 | 1,736850E+22 | 1,954201E+22 | 1,954214E+22 | 1,736896E+22 | 1,372499E+22 | 9,626257E+21 | 6,171302E+21 | 4,246354E+21 | 4,246437E+21 | 6,171565E+21 | 9,626651E+21 |
| 306               | 1,372522E+22 | 1,736878E+22 | 1,954163E+22 | 1,954135E+22 | 1,736824E+22 | 1,372464E+22 | 9,626183E+21 | 6,171237E+21 | 4,246183E+21 | 4,246165E+21 | 6,171174E+21 | 9,626121E+21 |
| 307               | 1,372467E+22 | 1,736843E+22 | 1,954185E+22 | 1,954215E+22 | 1,736901E+22 | 1,372513E+22 | 9,626417E+21 | 6,171278E+21 | 4,246056E+21 | 4,245898E+21 | 6,170854E+21 | 9,625979E+21 |
| 308               | 1,372504E+22 | 1,736937E+22 | 1,954279E+22 | 1,954268E+22 | 1,736905E+22 | 1,372470E+22 | 9,625822E+21 | 6,170782E+21 | 4,245784E+21 | 4,245900E+21 | 6,171120E+21 | 9,626305E+21 |
| 309               | 1,372512E+22 | 1,736911E+22 | 1,954219E+22 | 1,954194E+22 | 1,736882E+22 | 1,372495E+22 | 9,626119E+21 | 6,170873E+21 | 4,245650E+21 | 4,245572E+21 | 6,170633E+21 | 9,625714E+21 |
| 310               | 1,372446E+22 | 1,736876E+22 | 1,954283E+22 | 1,954320E+22 | 1,736975E+22 | 1,372538E+22 | 9,626160E+21 | 6,170760E+21 | 4,245521E+21 | 4,245472E+21 | 6,170637E+21 | 9,626046E+21 |
| 311               | 1,372527E+22 | 1,736954E+22 | 1,954298E+22 | 1,954289E+22 | 1,736917E+22 | 1,372474E+22 | 9,625687E+21 | 6,170446E+21 | 4,245355E+21 | 4,245487E+21 | 6,170797E+21 | 9,626144E+21 |
| 312               | 1,372511E+22 | 1,736904E+22 | 1,954206E+22 | 1,954215E+22 | 1,736920E+22 | 1,372521E+22 | 9,626199E+21 | 6,170812E+21 | 4,245492E+21 | 4,245373E+21 | 6,170441E+21 | 9,625632E+21 |



| 1<br>Longitude $\odot$<br>Years | 2<br>0° - 30° | 3<br>30° - 60° | 4<br>60° - 90° | 5<br>90° - 120° | 6<br>120° - 150° | 7<br>150° - 180° | 8<br>180° - 210° | 9<br>210° - 240° | 10<br>240° - 270° | 11<br>270° - 300° | 12<br>300° - 330° | 13<br>330° - 360° |
|---------------------------------|---------------|----------------|----------------|-----------------|------------------|------------------|------------------|------------------|-------------------|-------------------|-------------------|-------------------|
| 313                             | 1,372466E+22  | 1,736921E+22   | 1,954307E+22   | 1,954306E+22    | 1,736956E+22     | 1,372524E+22     | 9,626086E+21     | 6,170734E+21     | 4,245550E+21      | 4,245577E+21      | 6,170811E+21      | 9,626206E+21      |
| 314                             | 1,372528E+22  | 1,736943E+22   | 1,954272E+22   | 1,954233E+22    | 1,736867E+22     | 1,372460E+22     | 9,625874E+21     | 6,170785E+21     | 4,245702E+21      | 4,245754E+21      | 6,170891E+21      | 9,625974E+21      |
| 315                             | 1,372466E+22  | 1,736851E+22   | 1,954197E+22   | 1,954234E+22    | 1,736916E+22     | 1,372511E+22     | 9,626317E+21     | 6,171198E+21     | 4,246025E+21      | 4,245912E+21      | 6,170891E+21      | 9,625928E+21      |
| 316                             | 1,372476E+22  | 1,736893E+22   | 1,954237E+22   | 1,954244E+22    | 1,736906E+22     | 1,372480E+22     | 9,625966E+21     | 6,171040E+21     | 4,246166E+21      | 4,246334E+21      | 6,171528E+21      | 9,626608E+21      |
| 317                             | 1,372516E+22  | 1,736874E+22   | 1,954146E+22   | 1,954107E+22    | 1,736812E+22     | 1,372469E+22     | 9,626318E+21     | 6,171440E+21     | 4,246453E+21      | 4,246454E+21      | 6,171405E+21      | 9,626179E+21      |
| 318                             | 1,372444E+22  | 1,736802E+22   | 1,954144E+22   | 1,954171E+22    | 1,736870E+22     | 1,372509E+22     | 9,626648E+21     | 6,171794E+21     | 4,246784E+21      | 4,246683E+21      | 6,171509E+21      | 9,626326E+21      |
| 319                             | 1,372495E+22  | 1,736876E+22   | 1,954176E+22   | 1,954150E+22    | 1,736810E+22     | 1,372436E+22     | 9,626153E+21     | 6,171632E+21     | 4,246911E+21      | 4,247049E+21      | 6,171995E+21      | 9,626627E+21      |
| 320                             | 1,372478E+22  | 1,736809E+22   | 1,954069E+22   | 1,954052E+22    | 1,736786E+22     | 1,372468E+22     | 9,626644E+21     | 6,172079E+21     | 4,247193E+21      | 4,247097E+21      | 6,171760E+21      | 9,626086E+21      |
| 321                             | 1,372401E+22  | 1,736761E+22   | 1,954116E+22   | 1,954147E+22    | 1,736853E+22     | 1,372498E+22     | 9,626679E+21     | 6,172063E+21     | 4,247250E+21      | 4,247249E+21      | 6,172064E+21      | 9,626664E+21      |
| 322                             | 1,372481E+22  | 1,736810E+22   | 1,954096E+22   | 1,954086E+22    | 1,736779E+22     | 1,372436E+22     | 9,626322E+21     | 6,171875E+21     | 4,247168E+21      | 4,247272E+21      | 6,172138E+21      | 9,626615E+21      |
| 323                             | 1,372448E+22  | 1,736745E+22   | 1,954019E+22   | 1,954055E+22    | 1,736811E+22     | 1,372490E+22     | 9,626783E+21     | 6,172138E+21     | 4,247175E+21      | 4,247028E+21      | 6,171747E+21      | 9,626298E+21      |
| 324                             | 1,372448E+22  | 1,736807E+22   | 1,954118E+22   | 1,954122E+22    | 1,736830E+22     | 1,372473E+22     | 9,626398E+21     | 6,171760E+21     | 4,246961E+21      | 4,247030E+21      | 6,171994E+21      | 9,626810E+21      |
| 325                             | 1,372516E+22  | 1,736853E+22   | 1,954116E+22   | 1,954061E+22    | 1,736755E+22     | 1,372439E+22     | 9,626375E+21     | 6,171702E+21     | 4,246782E+21      | 4,246762E+21      | 6,171608E+21      | 9,626222E+21      |
| 326                             | 1,372439E+22  | 1,736789E+22   | 1,954129E+22   | 1,954165E+22    | 1,736859E+22     | 1,372491E+22     | 9,626543E+21     | 6,171728E+21     | 4,246674E+21      | 4,246523E+21      | 6,171318E+21      | 9,626087E+21      |
| 327                             | 1,372477E+22  | 1,736885E+22   | 1,954214E+22   | 1,954207E+22    | 1,736866E+22     | 1,372453E+22     | 9,625888E+21     | 6,171137E+21     | 4,246331E+21      | 4,246487E+21      | 6,171601E+21      | 9,626528E+21      |
| 328                             | 1,372498E+22  | 1,736860E+22   | 1,954148E+22   | 1,954124E+22    | 1,736836E+22     | 1,372482E+22     | 9,626236E+21     | 6,171247E+21     | 4,246199E+21      | 4,246153E+21      | 6,171091E+21      | 9,625922E+21      |
| 329                             | 1,372433E+22  | 1,736814E+22   | 1,954188E+22   | 1,954227E+22    | 1,736918E+22     | 1,372528E+22     | 9,626436E+21     | 6,171269E+21     | 4,246129E+21      | 4,246061E+21      | 6,171077E+21      | 9,626220E+21      |
| 330                             | 1,372517E+22  | 1,736909E+22   | 1,954225E+22   | 1,954212E+22    | 1,736861E+22     | 1,372456E+22     | 9,625930E+21     | 6,170992E+21     | 4,246018E+21      | 4,246105E+21      | 6,171205E+21      | 9,626207E+21      |
| 331                             | 1,372485E+22  | 1,736855E+22   | 1,954150E+22   | 1,954155E+22    | 1,736863E+22     | 1,372494E+22     | 9,626379E+21     | 6,171365E+21     | 4,246195E+21      | 4,246040E+21      | 6,170933E+21      | 9,625793E+21      |
| 332                             | 1,372437E+22  | 1,736849E+22   | 1,954214E+22   | 1,954223E+22    | 1,736897E+22     | 1,372496E+22     | 9,626212E+21     | 6,171265E+21     | 4,246302E+21      | 4,246349E+21      | 6,171412E+21      | 9,626429E+21      |
| 333                             | 1,372505E+22  | 1,736879E+22   | 1,954185E+22   | 1,954142E+22    | 1,736804E+22     | 1,372444E+22     | 9,626107E+21     | 6,171316E+21     | 4,246429E+21      | 4,246519E+21      | 6,171518E+21      | 9,626251E+21      |
| 334                             | 1,372442E+22  | 1,736775E+22   | 1,954099E+22   | 1,954145E+22    | 1,736857E+22     | 1,372496E+22     | 9,626567E+21     | 6,171770E+21     | 4,246770E+21      | 4,246667E+21      | 6,171475E+21      | 9,626167E+21      |
| 335                             | 1,372464E+22  | 1,736844E+22   | 1,954150E+22   | 1,954148E+22    | 1,736839E+22     | 1,372457E+22     | 9,626153E+21     | 6,171576E+21     | 4,246881E+21      | 4,247052E+21      | 6,172072E+21      | 9,626838E+21      |
| 336                             | 1,372506E+22  | 1,736832E+22   | 1,954077E+22   | 1,954022E+22    | 1,736745E+22     | 1,372443E+22     | 9,626479E+21     | 6,171984E+21     | 4,247201E+21      | 4,247194E+21      | 6,171923E+21      | 9,626306E+21      |
| 337                             | 1,372416E+22  | 1,736737E+22   | 1,954060E+22   | 1,954088E+22    | 1,736809E+22     | 1,372490E+22     | 9,626914E+21     | 6,172405E+21     | 4,247555E+21      | 4,247443E+21      | 6,172068E+21      | 9,626470E+21      |
| 338                             | 1,372463E+22  | 1,736804E+22   | 1,954093E+22   | 1,954085E+22    | 1,736766E+22     | 1,372418E+22     | 9,626362E+21     | 6,172199E+21     | 4,247656E+21      | 4,247787E+21      | 6,172550E+21      | 9,626794E+21      |
| 339                             | 1,372443E+22  | 1,736730E+22   | 1,953980E+22   | 1,953981E+22    | 1,736742E+22     | 1,372456E+22     | 9,626855E+21     | 6,172596E+21     | 4,247871E+21      | 4,247783E+21      | 6,172346E+21      | 9,626428E+21      |
| 340                             | 1,372388E+22  | 1,736686E+22   | 1,953998E+22   | 1,954038E+22    | 1,736787E+22     | 1,372480E+22     | 9,626889E+21     | 6,172562E+21     | 4,247907E+21      | 4,247924E+21      | 6,172620E+21      | 9,626973E+21      |
| 341                             | 1,372482E+22  | 1,736772E+22   | 1,954013E+22   | 1,953978E+22    | 1,736697E+22     | 1,372414E+22     | 9,626581E+21     | 6,172384E+21     | 4,247793E+21      | 4,247887E+21      | 6,172608E+21      | 9,626810E+21      |
| 342                             | 1,372438E+22  | 1,736707E+22   | 1,953956E+22   | 1,953979E+22    | 1,736746E+22     | 1,372463E+22     | 9,626948E+21     | 6,172632E+21     | 4,247812E+21      | 4,247638E+21      | 6,172154E+21      | 9,626364E+21      |
| 343                             | 1,372432E+22  | 1,736782E+22   | 1,954075E+22   | 1,954063E+22    | 1,736773E+22     | 1,372440E+22     | 9,626435E+21     | 6,172148E+21     | 4,247534E+21      | 4,247613E+21      | 6,172415E+21      | 9,626907E+21      |
| 344                             | 1,372492E+22  | 1,736810E+22   | 1,954069E+22   | 1,954019E+22    | 1,736719E+22     | 1,372417E+22     | 9,626395E+21     | 6,172050E+21     | 4,247336E+21      | 4,247339E+21      | 6,172039E+21      | 9,626333E+21      |
| 345                             | 1,372409E+22  | 1,736720E+22   | 1,954049E+22   | 1,954105E+22    | 1,736829E+22     | 1,372491E+22     | 9,626763E+21     | 6,172142E+21     | 4,247214E+21      | 4,247081E+21      | 6,171769E+21      | 9,626275E+21      |
| 346                             | 1,372457E+22  | 1,736823E+22   | 1,954132E+22   | 1,954145E+22    | 1,736830E+22     | 1,372449E+22     | 9,626151E+21     | 6,171596E+21     | 4,246877E+21      | 4,247011E+21      | 6,171982E+21      | 9,626652E+21      |
| 347                             | 1,372478E+22  | 1,736807E+22   | 1,954075E+22   | 1,954057E+22    | 1,736790E+22     | 1,372473E+22     | 9,626502E+21     | 6,171755E+21     | 4,246786E+21      | 4,246702E+21      | 6,171517E+21      | 9,626121E+21      |
| 348                             | 1,372420E+22  | 1,736762E+22   | 1,954097E+22   | 1,954131E+22    | 1,736848E+22     | 1,372504E+22     | 9,626642E+21     | 6,171799E+21     | 4,246809E+21      | 4,246728E+21      | 6,171565E+21      | 9,626364E+21      |

| 1<br>Longitude $\odot$<br>Years | 2<br>0° - 30° | 3<br>30° - 60° | 4<br>60° - 90° | 5<br>90° - 120° | 6<br>120° - 150° | 7<br>150° - 180° | 8<br>180° - 210° | 9<br>210° - 240° | 10<br>240° - 270° | 11<br>270° - 300° | 12<br>300° - 330° | 13<br>330° - 360° |
|---------------------------------|---------------|----------------|----------------|-----------------|------------------|------------------|------------------|------------------|-------------------|-------------------|-------------------|-------------------|
| 349                             | 1,372497E+22  | 1,736865E+22   | 1,954156E+22   | 1,954123E+22    | 1,736783E+22     | 1,372429E+22     | 9,626155E+21     | 6,171541E+21     | 4,246736E+21      | 4,246832E+21      | 6,171760E+21      | 9,626368E+21      |
| 350                             | 1,372452E+22  | 1,736786E+22   | 1,954070E+22   | 1,954086E+22    | 1,736809E+22     | 1,372467E+22     | 9,626502E+21     | 6,171887E+21     | 4,246941E+21      | 4,246813E+21      | 6,171536E+21      | 9,626011E+21      |
| 351                             | 1,372417E+22  | 1,736792E+22   | 1,954125E+22   | 1,954136E+22    | 1,736836E+22     | 1,372469E+22     | 9,626281E+21     | 6,171698E+21     | 4,246978E+21      | 4,247083E+21      | 6,172033E+21      | 9,626766E+21      |
| 352                             | 1,372498E+22  | 1,736827E+22   | 1,954099E+22   | 1,954055E+22    | 1,736742E+22     | 1,372420E+22     | 9,626230E+21     | 6,171783E+21     | 4,247104E+21      | 4,247219E+21      | 6,172072E+21      | 9,626521E+21      |
| 353                             | 1,372432E+22  | 1,736719E+22   | 1,954005E+22   | 1,954048E+22    | 1,736792E+22     | 1,372480E+22     | 9,626855E+21     | 6,172352E+21     | 4,247484E+21      | 4,247364E+21      | 6,171991E+21      | 9,626353E+21      |
| 354                             | 1,372447E+22  | 1,736793E+22   | 1,954077E+22   | 1,954074E+22    | 1,736780E+22     | 1,372438E+22     | 9,626431E+21     | 6,172189E+21     | 4,247633E+21      | 4,247755E+21      | 6,172533E+21      | 9,626889E+21      |
| 355                             | 1,372471E+22  | 1,736772E+22   | 1,954012E+22   | 1,953965E+22    | 1,736696E+22     | 1,372425E+22     | 9,626732E+21     | 6,172590E+21     | 4,247959E+21      | 4,247931E+21      | 6,172479E+21      | 9,626474E+21      |
| 356                             | 1,372380E+22  | 1,736654E+22   | 1,953950E+22   | 1,953996E+22    | 1,736754E+22     | 1,372472E+22     | 9,627129E+21     | 6,172984E+21     | 4,248335E+21      | 4,248239E+21      | 6,172694E+21      | 9,626697E+21      |
| 357                             | 1,372434E+22  | 1,736732E+22   | 1,953992E+22   | 1,953983E+22    | 1,736701E+22     | 1,372408E+22     | 9,626662E+21     | 6,172761E+21     | 4,248381E+21      | 4,248532E+21      | 6,173159E+21      | 9,627074E+21      |
| 358                             | 1,372422E+22  | 1,736658E+22   | 1,953879E+22   | 1,953889E+22    | 1,736678E+22     | 1,372436E+22     | 9,627091E+21     | 6,173147E+21     | 4,248570E+21      | 4,248476E+21      | 6,172877E+21      | 9,626668E+21      |
| 359                             | 1,372384E+22  | 1,736650E+22   | 1,953916E+22   | 1,953941E+22    | 1,736712E+22     | 1,372447E+22     | 9,627008E+21     | 6,173023E+21     | 4,248532E+21      | 4,248549E+21      | 6,173100E+21      | 9,627199E+21      |
| 360                             | 1,372479E+22  | 1,736747E+22   | 1,953962E+22   | 1,953908E+22    | 1,736632E+22     | 1,372381E+22     | 9,626647E+21     | 6,172812E+21     | 4,248402E+21      | 4,248487E+21      | 6,173034E+21      | 9,626926E+21      |
| 361                             | 1,372417E+22  | 1,736663E+22   | 1,953897E+22   | 1,953921E+22    | 1,736696E+22     | 1,372441E+22     | 9,627105E+21     | 6,173085E+21     | 4,248410E+21      | 4,248238E+21      | 6,172603E+21      | 9,626478E+21      |
| 362                             | 1,372403E+22  | 1,736725E+22   | 1,954017E+22   | 1,954026E+22    | 1,736747E+22     | 1,372428E+22     | 9,626580E+21     | 6,172566E+21     | 4,248103E+21      | 4,248181E+21      | 6,172835E+21      | 9,627017E+21      |
| 363                             | 1,372462E+22  | 1,736747E+22   | 1,954001E+22   | 1,953973E+22    | 1,736695E+22     | 1,372415E+22     | 9,626584E+21     | 6,172449E+21     | 4,247858E+21      | 4,247877E+21      | 6,172496E+21      | 9,626570E+21      |
| 364                             | 1,372393E+22  | 1,736653E+22   | 1,953940E+22   | 1,954008E+22    | 1,736775E+22     | 1,372481E+22     | 9,627007E+21     | 6,172612E+21     | 4,247798E+21      | 4,247662E+21      | 6,172223E+21      | 9,626472E+21      |
| 365                             | 1,372446E+22  | 1,736779E+22   | 1,954051E+22   | 1,954047E+22    | 1,736760E+22     | 1,372435E+22     | 9,626446E+21     | 6,172119E+21     | 4,247500E+21      | 4,247606E+21      | 6,172410E+21      | 9,626775E+21      |
| 366                             | 1,372456E+22  | 1,736756E+22   | 1,954003E+22   | 1,953980E+22    | 1,736725E+22     | 1,372444E+22     | 9,626688E+21     | 6,172292E+21     | 4,247473E+21      | 4,247366E+21      | 6,171970E+21      | 9,626207E+21      |
| 367                             | 1,372399E+22  | 1,736721E+22   | 1,954029E+22   | 1,954054E+22    | 1,736779E+22     | 1,372466E+22     | 9,626702E+21     | 6,172248E+21     | 4,247469E+21      | 4,247419E+21      | 6,172111E+21      | 9,626565E+21      |
| 368                             | 1,372474E+22  | 1,736813E+22   | 1,954087E+22   | 1,954057E+22    | 1,736730E+22     | 1,372399E+22     | 9,626187E+21     | 6,171956E+21     | 4,247387E+21      | 4,247524E+21      | 6,172326E+21      | 9,626615E+21      |
| 369                             | 1,372430E+22  | 1,736718E+22   | 1,953976E+22   | 1,954004E+22    | 1,736759E+22     | 1,372455E+22     | 9,626709E+21     | 6,172356E+21     | 4,247581E+21      | 4,247490E+21      | 6,172103E+21      | 9,626303E+21      |
| 370                             | 1,372405E+22  | 1,736733E+22   | 1,954041E+22   | 1,954064E+22    | 1,736787E+22     | 1,372456E+22     | 9,626531E+21     | 6,172223E+21     | 4,247633E+21      | 4,247718E+21      | 6,172503E+21      | 9,626954E+21      |
| 371                             | 1,372484E+22  | 1,736778E+22   | 1,954024E+22   | 1,953985E+22    | 1,736692E+22     | 1,372408E+22     | 9,626509E+21     | 6,172358E+21     | 4,247795E+21      | 4,247881E+21      | 6,172572E+21      | 9,626717E+21      |
| 372                             | 1,372413E+22  | 1,736663E+22   | 1,953911E+22   | 1,953949E+22    | 1,736722E+22     | 1,372461E+22     | 9,627154E+21     | 6,172999E+21     | 4,248285E+21      | 4,248137E+21      | 6,172545E+21      | 9,626485E+21      |
| 373                             | 1,372415E+22  | 1,736734E+22   | 1,954000E+22   | 1,953986E+22    | 1,736709E+22     | 1,372418E+22     | 9,626747E+21     | 6,172852E+21     | 4,248461E+21      | 4,248570E+21      | 6,173137E+21      | 9,627037E+21      |
| 374                             | 1,372428E+22  | 1,736687E+22   | 1,953916E+22   | 1,953888E+22    | 1,736644E+22     | 1,372405E+22     | 9,626955E+21     | 6,173207E+21     | 4,248785E+21      | 4,248768E+21      | 6,173123E+21      | 9,626716E+21      |
| 375                             | 1,372359E+22  | 1,736589E+22   | 1,953842E+22   | 1,953890E+22    | 1,736685E+22     | 1,372446E+22     | 9,627271E+21     | 6,173476E+21     | 4,249047E+21      | 4,249002E+21      | 6,173343E+21      | 9,627062E+21      |
| 376                             | 1,372428E+22  | 1,736678E+22   | 1,953898E+22   | 1,953882E+22    | 1,736627E+22     | 1,372378E+22     | 9,626790E+21     | 6,173246E+21     | 4,249047E+21      | 4,249203E+21      | 6,173691E+21      | 9,627352E+21      |
| 377                             | 1,372417E+22  | 1,736613E+22   | 1,953795E+22   | 1,953796E+22    | 1,736610E+22     | 1,372412E+22     | 9,627289E+21     | 6,173653E+21     | 4,249212E+21      | 4,249101E+21      | 6,173342E+21      | 9,626855E+21      |
| 378                             | 1,372373E+22  | 1,736613E+22   | 1,953866E+22   | 1,953885E+22    | 1,736655E+22     | 1,372418E+22     | 9,627151E+21     | 6,173503E+21     | 4,249152E+21      | 4,249130E+21      | 6,173477E+21      | 9,627240E+21      |
| 379                             | 1,372449E+22  | 1,736700E+22   | 1,953916E+22   | 1,953875E+22    | 1,736602E+22     | 1,372364E+22     | 9,626791E+21     | 6,173252E+21     | 4,248979E+21      | 4,249065E+21      | 6,173480E+21      | 9,627050E+21      |
| 380                             | 1,372384E+22  | 1,736595E+22   | 1,953812E+22   | 1,953855E+22    | 1,736661E+22     | 1,372432E+22     | 9,627282E+21     | 6,173523E+21     | 4,249005E+21      | 4,248850E+21      | 6,173087E+21      | 9,626644E+21      |
| 381                             | 1,372375E+22  | 1,736662E+22   | 1,953933E+22   | 1,953944E+22    | 1,736701E+22     | 1,372429E+22     | 9,626882E+21     | 6,173033E+21     | 4,248678E+21      | 4,248757E+21      | 6,173283E+21      | 9,627186E+21      |
| 382                             | 1,372437E+22  | 1,736680E+22   | 1,953911E+22   | 1,953896E+22    | 1,736649E+22     | 1,372405E+22     | 9,626847E+21     | 6,172950E+21     | 4,248461E+21      | 4,248458E+21      | 6,172910E+21      | 9,626728E+21      |
| 383                             | 1,372387E+22  | 1,736619E+22   | 1,953856E+22   | 1,953910E+22    | 1,736705E+22     | 1,372454E+22     | 9,627140E+21     | 6,173049E+21     | 4,248384E+21      | 4,248250E+21      | 6,172673E+21      | 9,626665E+21      |
| 384                             | 1,372435E+22  | 1,736746E+22   | 1,953991E+22   | 1,953970E+22    | 1,736691E+22     | 1,372399E+22     | 9,626522E+21     | 6,172566E+21     | 4,248118E+21      | 4,248215E+21      | 6,172862E+21      | 9,626923E+21      |

| 1                 | 2            | 3            | 4            | 5            | 6            | 7            | 8            | 9            | 10           | 11           | 12           | 13           |
|-------------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|
| Longitude $\odot$ | 0° - 30°     | 30° - 60°    | 60° - 90°    | 90° - 120°   | 120° - 150°  | 150° - 180°  | 180° - 210°  | 210° - 240°  | 240° - 270°  | 270° - 300°  | 300° - 330°  | 330° - 360°  |
| Years             |              |              |              |              |              |              |              |              |              |              |              |              |
| 385               | 1,372433E+22 | 1,736705E+22 | 1,953937E+22 | 1,953914E+22 | 1,736669E+22 | 1,372414E+22 | 9,626802E+21 | 6,172751E+21 | 4,248108E+21 | 4,248023E+21 | 6,172502E+21 | 9,626423E+21 |
| 386               | 1,372374E+22 | 1,736661E+22 | 1,953964E+22 | 1,954002E+22 | 1,736737E+22 | 1,372442E+22 | 9,626797E+21 | 6,172680E+21 | 4,248090E+21 | 4,248059E+21 | 6,172624E+21 | 9,626791E+21 |
| 387               | 1,372454E+22 | 1,736754E+22 | 1,954011E+22 | 1,953994E+22 | 1,736693E+22 | 1,372390E+22 | 9,626381E+21 | 6,172398E+21 | 4,247979E+21 | 4,248152E+21 | 6,172872E+21 | 9,626924E+21 |
| 388               | 1,372420E+22 | 1,736660E+22 | 1,953873E+22 | 1,953901E+22 | 1,736696E+22 | 1,372441E+22 | 9,626984E+21 | 6,172909E+21 | 4,248268E+21 | 4,248169E+21 | 6,172619E+21 | 9,626519E+21 |
| 389               | 1,372392E+22 | 1,736691E+22 | 1,953962E+22 | 1,953964E+22 | 1,736717E+22 | 1,372442E+22 | 9,626880E+21 | 6,172863E+21 | 4,248395E+21 | 4,248431E+21 | 6,172982E+21 | 9,627045E+21 |
| 390               | 1,372452E+22 | 1,736718E+22 | 1,953949E+22 | 1,953911E+22 | 1,736634E+22 | 1,372384E+22 | 9,626780E+21 | 6,173026E+21 | 4,248633E+21 | 4,248677E+21 | 6,173093E+21 | 9,626789E+21 |
| 391               | 1,372382E+22 | 1,736604E+22 | 1,953823E+22 | 1,953862E+22 | 1,736657E+22 | 1,372430E+22 | 9,627311E+21 | 6,173579E+21 | 4,249091E+21 | 4,248963E+21 | 6,173189E+21 | 9,626712E+21 |
| 392               | 1,372381E+22 | 1,736659E+22 | 1,953908E+22 | 1,953904E+22 | 1,736653E+22 | 1,372392E+22 | 9,626886E+21 | 6,173396E+21 | 4,249229E+21 | 4,249358E+21 | 6,173776E+21 | 9,627322E+21 |
| 393               | 1,372402E+22 | 1,736606E+22 | 1,953805E+22 | 1,953788E+22 | 1,736582E+22 | 1,372388E+22 | 9,627201E+21 | 6,173758E+21 | 4,249503E+21 | 4,249512E+21 | 6,173749E+21 | 9,627052E+21 |
| 394               | 1,372346E+22 | 1,736525E+22 | 1,953753E+22 | 1,953805E+22 | 1,736621E+22 | 1,372422E+22 | 9,627482E+21 | 6,174009E+21 | 4,249720E+21 | 4,249656E+21 | 6,173840E+21 | 9,627295E+21 |
| 395               | 1,372419E+22 | 1,736637E+22 | 1,953829E+22 | 1,953806E+22 | 1,736572E+22 | 1,372358E+22 | 9,626983E+21 | 6,173740E+21 | 4,249676E+21 | 4,249828E+21 | 6,174175E+21 | 9,627551E+21 |
| 396               | 1,372402E+22 | 1,736567E+22 | 1,953718E+22 | 1,953707E+22 | 1,736543E+22 | 1,372387E+22 | 9,627482E+21 | 6,174177E+21 | 4,249892E+21 | 4,249768E+21 | 6,173823E+21 | 9,626983E+21 |
| 397               | 1,372347E+22 | 1,736566E+22 | 1,953806E+22 | 1,953818E+22 | 1,736606E+22 | 1,372402E+22 | 9,627363E+21 | 6,174016E+21 | 4,249819E+21 | 4,249785E+21 | 6,173954E+21 | 9,627356E+21 |
| 398               | 1,372413E+22 | 1,736627E+22 | 1,953837E+22 | 1,953820E+22 | 1,736573E+22 | 1,372353E+22 | 9,626966E+21 | 6,173727E+21 | 4,249623E+21 | 4,249710E+21 | 6,173952E+21 | 9,627223E+21 |
| 399               | 1,372368E+22 | 1,736540E+22 | 1,953721E+22 | 1,953764E+22 | 1,736607E+22 | 1,372416E+22 | 9,627434E+21 | 6,173924E+21 | 4,249560E+21 | 4,249440E+21 | 6,173583E+21 | 9,626916E+21 |
| 400               | 1,372366E+22 | 1,736613E+22 | 1,953855E+22 | 1,953858E+22 | 1,736639E+22 | 1,372404E+22 | 9,627031E+21 | 6,173468E+21 | 4,249229E+21 | 4,249288E+21 | 6,173680E+21 | 9,627350E+21 |
| 401               | 1,372424E+22 | 1,736636E+22 | 1,953837E+22 | 1,953810E+22 | 1,736586E+22 | 1,372382E+22 | 9,627035E+21 | 6,173417E+21 | 4,249040E+21 | 4,249017E+21 | 6,173316E+21 | 9,626860E+21 |
| 402               | 1,372369E+22 | 1,736579E+22 | 1,953809E+22 | 1,953853E+22 | 1,736648E+22 | 1,372422E+22 | 9,627247E+21 | 6,173492E+21 | 4,248971E+21 | 4,248817E+21 | 6,173063E+21 | 9,626746E+21 |
| 403               | 1,372409E+22 | 1,736696E+22 | 1,953938E+22 | 1,953925E+22 | 1,736656E+22 | 1,372379E+22 | 9,626624E+21 | 6,172974E+21 | 4,248689E+21 | 4,248817E+21 | 6,173359E+21 | 9,627118E+21 |
| 404               | 1,372407E+22 | 1,736640E+22 | 1,953849E+22 | 1,953836E+22 | 1,736624E+22 | 1,372401E+22 | 9,626967E+21 | 6,173203E+21 | 4,248735E+21 | 4,248677E+21 | 6,173039E+21 | 9,626677E+21 |
| 405               | 1,372357E+22 | 1,736605E+22 | 1,953883E+22 | 1,953916E+22 | 1,736686E+22 | 1,372435E+22 | 9,627074E+21 | 6,173199E+21 | 4,248738E+21 | 4,248702E+21 | 6,173117E+21 | 9,627003E+21 |
| 406               | 1,372435E+22 | 1,736691E+22 | 1,953925E+22 | 1,953917E+22 | 1,736647E+22 | 1,372378E+22 | 9,626665E+21 | 6,172987E+21 | 4,248696E+21 | 4,248830E+21 | 6,173335E+21 | 9,627089E+21 |
| 407               | 1,372412E+22 | 1,736623E+22 | 1,953791E+22 | 1,953800E+22 | 1,736625E+22 | 1,372415E+22 | 9,627195E+21 | 6,173473E+21 | 4,249005E+21 | 4,248901E+21 | 6,173163E+21 | 9,626710E+21 |
| 408               | 1,372370E+22 | 1,736640E+22 | 1,953892E+22 | 1,953881E+22 | 1,736647E+22 | 1,372409E+22 | 9,627068E+21 | 6,173469E+21 | 4,249182E+21 | 4,249194E+21 | 6,173530E+21 | 9,627178E+21 |
| 409               | 1,372415E+22 | 1,736645E+22 | 1,953862E+22 | 1,953832E+22 | 1,736580E+22 | 1,372361E+22 | 9,626986E+21 | 6,173627E+21 | 4,249436E+21 | 4,249497E+21 | 6,173747E+21 | 9,627046E+21 |
| 410               | 1,372350E+22 | 1,736525E+22 | 1,953734E+22 | 1,953783E+22 | 1,736603E+22 | 1,372406E+22 | 9,627462E+21 | 6,174108E+21 | 4,249834E+21 | 4,249729E+21 | 6,173809E+21 | 9,627015E+21 |
| 411               | 1,372361E+22 | 1,736584E+22 | 1,953805E+22 | 1,953813E+22 | 1,736599E+22 | 1,372377E+22 | 9,627104E+21 | 6,173901E+21 | 4,249901E+21 | 4,250069E+21 | 6,174391E+21 | 9,627675E+21 |
| 412               | 1,372394E+22 | 1,736545E+22 | 1,953696E+22 | 1,953671E+22 | 1,736505E+22 | 1,372364E+22 | 9,627440E+21 | 6,174325E+21 | 4,250216E+21 | 4,250215E+21 | 6,174291E+21 | 9,627313E+21 |
| 413               | 1,372339E+22 | 1,736487E+22 | 1,953679E+22 | 1,953705E+22 | 1,736544E+22 | 1,372397E+22 | 9,627722E+21 | 6,174592E+21 | 4,250444E+21 | 4,250338E+21 | 6,174302E+21 | 9,627401E+21 |
| 414               | 1,372393E+22 | 1,736585E+22 | 1,953766E+22 | 1,953743E+22 | 1,736521E+22 | 1,372334E+22 | 9,627186E+21 | 6,174309E+21 | 4,250409E+21 | 4,250525E+21 | 6,174623E+21 | 9,627621E+21 |
| 415               | 1,372378E+22 | 1,736521E+22 | 1,953649E+22 | 1,953635E+22 | 1,736492E+22 | 1,372361E+22 | 9,627579E+21 | 6,174626E+21 | 4,250543E+21 | 4,250449E+21 | 6,174353E+21 | 9,627166E+21 |
| 416               | 1,372319E+22 | 1,736503E+22 | 1,953733E+22 | 1,953752E+22 | 1,736563E+22 | 1,372384E+22 | 9,627498E+21 | 6,174454E+21 | 4,250417E+21 | 4,250385E+21 | 6,174416E+21 | 9,627532E+21 |
| 417               | 1,372389E+22 | 1,736559E+22 | 1,953747E+22 | 1,953742E+22 | 1,736531E+22 | 1,372346E+22 | 9,627199E+21 | 6,174180E+21 | 4,250187E+21 | 4,250278E+21 | 6,174406E+21 | 9,627437E+21 |
| 418               | 1,372352E+22 | 1,736487E+22 | 1,953650E+22 | 1,953691E+22 | 1,736554E+22 | 1,372397E+22 | 9,627614E+21 | 6,174365E+21 | 4,250103E+21 | 4,249955E+21 | 6,173954E+21 | 9,627063E+21 |
| 419               | 1,372354E+22 | 1,736571E+22 | 1,953792E+22 | 1,953789E+22 | 1,736590E+22 | 1,372388E+22 | 9,627210E+21 | 6,173896E+21 | 4,249767E+21 | 4,249828E+21 | 6,174095E+21 | 9,627484E+21 |
| 420               | 1,372404E+22 | 1,736588E+22 | 1,953767E+22 | 1,953729E+22 | 1,736522E+22 | 1,372356E+22 | 9,627200E+21 | 6,173902E+21 | 4,249669E+21 | 4,249645E+21 | 6,173791E+21 | 9,627013E+21 |

| 1                 | 2            | 3            | 4            | 5            | 6            | 7            | 8            | 9            | 10           | 11           | 12           | 13           |
|-------------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|
| Longitude $\odot$ | 0° - 30°     | 30° - 60°    | 60° - 90°    | 90° - 120°   | 120° - 150°  | 150° - 180°  | 180° - 210°  | 210° - 240°  | 240° - 270°  | 270° - 300°  | 300° - 330°  | 330° - 360°  |
| Years             |              |              |              |              |              |              |              |              |              |              |              |              |
| 421               | 1,372345E+22 | 1,736530E+22 | 1,953750E+22 | 1,953787E+22 | 1,736598E+22 | 1,372401E+22 | 9,627386E+21 | 6,173968E+21 | 4,249623E+21 | 4,249474E+21 | 6,173568E+21 | 9,626925E+21 |
| 422               | 1,372382E+22 | 1,736627E+22 | 1,953859E+22 | 1,953863E+22 | 1,736623E+22 | 1,372367E+22 | 9,626786E+21 | 6,173443E+21 | 4,249344E+21 | 4,249485E+21 | 6,173864E+21 | 9,627364E+21 |
| 423               | 1,372403E+22 | 1,736591E+22 | 1,953758E+22 | 1,953739E+22 | 1,736564E+22 | 1,372381E+22 | 9,627115E+21 | 6,173638E+21 | 4,249349E+21 | 4,249329E+21 | 6,173580E+21 | 9,626980E+21 |
| 424               | 1,372353E+22 | 1,736562E+22 | 1,953808E+22 | 1,953830E+22 | 1,736622E+22 | 1,372409E+22 | 9,627257E+21 | 6,173719E+21 | 4,249393E+21 | 4,249325E+21 | 6,173562E+21 | 9,627160E+21 |
| 425               | 1,372418E+22 | 1,736642E+22 | 1,953849E+22 | 1,953832E+22 | 1,736585E+22 | 1,372356E+22 | 9,626897E+21 | 6,173562E+21 | 4,249418E+21 | 4,249527E+21 | 6,173825E+21 | 9,627204E+21 |
| 426               | 1,372380E+22 | 1,736564E+22 | 1,953733E+22 | 1,953735E+22 | 1,736565E+22 | 1,372387E+22 | 9,627376E+21 | 6,174042E+21 | 4,249750E+21 | 4,249631E+21 | 6,173686E+21 | 9,626833E+21 |
| 427               | 1,372334E+22 | 1,736565E+22 | 1,953812E+22 | 1,953817E+22 | 1,736607E+22 | 1,372394E+22 | 9,627253E+21 | 6,173991E+21 | 4,249902E+21 | 4,249958E+21 | 6,174155E+21 | 9,627403E+21 |
| 428               | 1,372381E+22 | 1,736558E+22 | 1,953747E+22 | 1,953725E+22 | 1,736518E+22 | 1,372347E+22 | 9,627240E+21 | 6,174207E+21 | 4,250201E+21 | 4,250288E+21 | 6,174397E+21 | 9,627367E+21 |
| 429               | 1,372333E+22 | 1,736457E+22 | 1,953630E+22 | 1,953673E+22 | 1,736534E+22 | 1,372391E+22 | 9,627747E+21 | 6,174708E+21 | 4,250587E+21 | 4,250472E+21 | 6,174382E+21 | 9,627289E+21 |
| 430               | 1,372349E+22 | 1,736522E+22 | 1,953708E+22 | 1,953716E+22 | 1,736536E+22 | 1,372357E+22 | 9,627360E+21 | 6,174516E+21 | 4,250669E+21 | 4,250794E+21 | 6,174886E+21 | 9,627881E+21 |
| 431               | 1,372393E+22 | 1,736511E+22 | 1,953617E+22 | 1,953568E+22 | 1,736424E+22 | 1,372329E+22 | 9,627591E+21 | 6,174860E+21 | 4,250941E+21 | 4,250941E+21 | 6,174832E+21 | 9,627515E+21 |
| 432               | 1,372323E+22 | 1,736446E+22 | 1,953625E+22 | 1,953637E+22 | 1,736478E+22 | 1,372359E+22 | 9,627839E+21 | 6,175126E+21 | 4,251154E+21 | 4,251029E+21 | 6,174797E+21 | 9,627514E+21 |
| 433               | 1,372360E+22 | 1,736520E+22 | 1,953694E+22 | 1,953682E+22 | 1,736482E+22 | 1,372317E+22 | 9,627342E+21 | 6,174806E+21 | 4,251092E+21 | 4,251225E+21 | 6,175172E+21 | 9,627809E+21 |
| 434               | 1,372346E+22 | 1,736450E+22 | 1,953580E+22 | 1,953576E+22 | 1,736454E+22 | 1,372350E+22 | 9,627731E+21 | 6,175049E+21 | 4,251136E+21 | 4,251062E+21 | 6,174842E+21 | 9,627390E+21 |
| 435               | 1,372302E+22 | 1,736438E+22 | 1,953647E+22 | 1,953678E+22 | 1,736524E+22 | 1,372380E+22 | 9,627721E+21 | 6,174865E+21 | 4,250944E+21 | 4,250942E+21 | 6,174874E+21 | 9,627727E+21 |
| 436               | 1,372375E+22 | 1,736503E+22 | 1,953654E+22 | 1,953642E+22 | 1,736466E+22 | 1,372331E+22 | 9,627448E+21 | 6,174683E+21 | 4,250787E+21 | 4,250849E+21 | 6,174822E+21 | 9,627594E+21 |
| 437               | 1,372341E+22 | 1,736449E+22 | 1,953587E+22 | 1,953606E+22 | 1,736489E+22 | 1,372376E+22 | 9,627808E+21 | 6,174870E+21 | 4,250731E+21 | 4,250541E+21 | 6,174344E+21 | 9,627134E+21 |
| 438               | 1,372328E+22 | 1,736516E+22 | 1,953730E+22 | 1,953731E+22 | 1,736545E+22 | 1,372366E+22 | 9,627365E+21 | 6,174391E+21 | 4,250419E+21 | 4,250456E+21 | 6,174518E+21 | 9,627597E+21 |
| 439               | 1,372388E+22 | 1,736541E+22 | 1,953698E+22 | 1,953658E+22 | 1,736470E+22 | 1,372329E+22 | 9,627249E+21 | 6,174286E+21 | 4,250264E+21 | 4,250293E+21 | 6,174340E+21 | 9,627276E+21 |
| 440               | 1,372330E+22 | 1,736476E+22 | 1,953679E+22 | 1,953718E+22 | 1,736548E+22 | 1,372378E+22 | 9,627486E+21 | 6,174372E+21 | 4,250192E+21 | 4,250065E+21 | 6,174050E+21 | 9,627157E+21 |
| 441               | 1,372367E+22 | 1,736570E+22 | 1,953776E+22 | 1,953785E+22 | 1,736578E+22 | 1,372358E+22 | 9,627005E+21 | 6,173906E+21 | 4,249936E+21 | 4,250085E+21 | 6,174340E+21 | 9,627587E+21 |
| 442               | 1,372391E+22 | 1,736547E+22 | 1,953698E+22 | 1,953668E+22 | 1,736509E+22 | 1,372361E+22 | 9,627286E+21 | 6,174106E+21 | 4,249954E+21 | 4,249914E+21 | 6,173996E+21 | 9,627120E+21 |
| 443               | 1,372339E+22 | 1,736515E+22 | 1,953740E+22 | 1,953757E+22 | 1,736570E+22 | 1,372394E+22 | 9,627482E+21 | 6,174222E+21 | 4,250041E+21 | 4,249978E+21 | 6,174035E+21 | 9,627240E+21 |
| 444               | 1,372386E+22 | 1,736578E+22 | 1,953767E+22 | 1,953747E+22 | 1,736522E+22 | 1,372335E+22 | 9,627145E+21 | 6,174168E+21 | 4,250187E+21 | 4,250286E+21 | 6,174392E+21 | 9,627372E+21 |
| 445               | 1,372348E+22 | 1,736492E+22 | 1,953646E+22 | 1,953652E+22 | 1,736509E+22 | 1,372369E+22 | 9,627589E+21 | 6,174643E+21 | 4,250550E+21 | 4,250432E+21 | 6,174303E+21 | 9,627062E+21 |
| 446               | 1,372303E+22 | 1,736477E+22 | 1,953701E+22 | 1,953725E+22 | 1,736556E+22 | 1,372383E+22 | 9,627515E+21 | 6,174591E+21 | 4,250693E+21 | 4,250753E+21 | 6,174764E+21 | 9,627714E+21 |
| 447               | 1,372377E+22 | 1,736499E+22 | 1,953636E+22 | 1,953603E+22 | 1,736434E+22 | 1,372318E+22 | 9,627426E+21 | 6,174748E+21 | 4,250941E+21 | 4,251059E+21 | 6,175033E+21 | 9,627716E+21 |
| 448               | 1,372332E+22 | 1,736413E+22 | 1,953548E+22 | 1,953571E+22 | 1,736449E+22 | 1,372351E+22 | 9,627902E+21 | 6,175280E+21 | 4,251323E+21 | 4,251179E+21 | 6,174891E+21 | 9,627472E+21 |
| 449               | 1,372334E+22 | 1,736476E+22 | 1,953637E+22 | 1,953632E+22 | 1,736468E+22 | 1,372328E+22 | 9,627547E+21 | 6,175092E+21 | 4,251422E+21 | 4,251531E+21 | 6,175408E+21 | 9,628002E+21 |
| 450               | 1,372363E+22 | 1,736458E+22 | 1,953569E+22 | 1,953516E+22 | 1,736371E+22 | 1,372300E+22 | 9,627707E+21 | 6,175362E+21 | 4,251642E+21 | 4,251640E+21 | 6,175337E+21 | 9,627634E+21 |
| 451               | 1,372291E+22 | 1,736378E+22 | 1,953554E+22 | 1,953586E+22 | 1,736451E+22 | 1,372352E+22 | 9,628014E+21 | 6,175572E+21 | 4,251786E+21 | 4,251707E+21 | 6,175339E+21 | 9,627669E+21 |
| 452               | 1,372325E+22 | 1,736440E+22 | 1,953594E+22 | 1,953595E+22 | 1,736436E+22 | 1,372316E+22 | 9,627632E+21 | 6,175328E+21 | 4,251744E+21 | 4,251882E+21 | 6,175697E+21 | 9,628042E+21 |
| 453               | 1,372326E+22 | 1,736385E+22 | 1,953487E+22 | 1,953487E+22 | 1,736402E+22 | 1,372345E+22 | 9,628027E+21 | 6,175586E+21 | 4,251775E+21 | 4,251674E+21 | 6,175296E+21 | 9,627573E+21 |
| 454               | 1,372286E+22 | 1,736378E+22 | 1,953555E+22 | 1,953593E+22 | 1,736472E+22 | 1,372370E+22 | 9,627990E+21 | 6,175405E+21 | 4,251593E+21 | 4,251544E+21 | 6,175275E+21 | 9,627873E+21 |
| 455               | 1,372370E+22 | 1,736466E+22 | 1,953578E+22 | 1,953545E+22 | 1,736389E+22 | 1,372299E+22 | 9,627576E+21 | 6,175140E+21 | 4,251408E+21 | 4,251482E+21 | 6,175315E+21 | 9,627788E+21 |
| 456               | 1,372328E+22 | 1,736412E+22 | 1,953536E+22 | 1,953545E+22 | 1,736424E+22 | 1,372334E+22 | 9,627856E+21 | 6,175306E+21 | 4,251334E+21 | 4,251149E+21 | 6,174815E+21 | 9,627301E+21 |



| 1                 | 2            | 3            | 4            | 5            | 6            | 7            | 8            | 9            | 10           | 11           | 12           | 13           |
|-------------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|
| Longitude $\odot$ | 0° - 30°     | 30° - 60°    | 60° - 90°    | 90° - 120°   | 120° - 150°  | 150° - 180°  | 180° - 210°  | 210° - 240°  | 240° - 270°  | 270° - 300°  | 300° - 330°  | 330° - 360°  |
| Years             |              |              |              |              |              |              |              |              |              |              |              |              |
| 457               | 1,372307E+22 | 1,736463E+22 | 1,953661E+22 | 1,953671E+22 | 1,736502E+22 | 1,372344E+22 | 9,627434E+21 | 6,174786E+21 | 4,251009E+21 | 4,251084E+21 | 6,175040E+21 | 9,627833E+21 |
| 458               | 1,372368E+22 | 1,736487E+22 | 1,953636E+22 | 1,953600E+22 | 1,736426E+22 | 1,372312E+22 | 9,627334E+21 | 6,174628E+21 | 4,250778E+21 | 4,250844E+21 | 6,174801E+21 | 9,627530E+21 |
| 459               | 1,372325E+22 | 1,736430E+22 | 1,953608E+22 | 1,953652E+22 | 1,736507E+22 | 1,372370E+22 | 9,627666E+21 | 6,174739E+21 | 4,250690E+21 | 4,250596E+21 | 6,174471E+21 | 9,627303E+21 |
| 460               | 1,372352E+22 | 1,736522E+22 | 1,953695E+22 | 1,953693E+22 | 1,736514E+22 | 1,372344E+22 | 9,627276E+21 | 6,174439E+21 | 4,250570E+21 | 4,250678E+21 | 6,174742E+21 | 9,627676E+21 |
| 461               | 1,372370E+22 | 1,736502E+22 | 1,953633E+22 | 1,953593E+22 | 1,736451E+22 | 1,372346E+22 | 9,627543E+21 | 6,174691E+21 | 4,250676E+21 | 4,250591E+21 | 6,174434E+21 | 9,627155E+21 |
| 462               | 1,372302E+22 | 1,736444E+22 | 1,953659E+22 | 1,953691E+22 | 1,736526E+22 | 1,372380E+22 | 9,627734E+21 | 6,174834E+21 | 4,250825E+21 | 4,250731E+21 | 6,174551E+21 | 9,627358E+21 |
| 463               | 1,372356E+22 | 1,736505E+22 | 1,953667E+22 | 1,953653E+22 | 1,736459E+22 | 1,372312E+22 | 9,627311E+21 | 6,174705E+21 | 4,250948E+21 | 4,251090E+21 | 6,175060E+21 | 9,627682E+21 |
| 464               | 1,372327E+22 | 1,736421E+22 | 1,953551E+22 | 1,953559E+22 | 1,736438E+22 | 1,372339E+22 | 9,627772E+21 | 6,175196E+21 | 4,251282E+21 | 4,251181E+21 | 6,174914E+21 | 9,627368E+21 |
| 465               | 1,372290E+22 | 1,736411E+22 | 1,953597E+22 | 1,953622E+22 | 1,736486E+22 | 1,372360E+22 | 9,627745E+21 | 6,175166E+21 | 4,251437E+21 | 4,251505E+21 | 6,175363E+21 | 9,627993E+21 |
| 466               | 1,372365E+22 | 1,736452E+22 | 1,953565E+22 | 1,953517E+22 | 1,736362E+22 | 1,372288E+22 | 9,627582E+21 | 6,175274E+21 | 4,251649E+21 | 4,251763E+21 | 6,175562E+21 | 9,627929E+21 |
| 467               | 1,372320E+22 | 1,736372E+22 | 1,953483E+22 | 1,953498E+22 | 1,736390E+22 | 1,372329E+22 | 9,628078E+21 | 6,175778E+21 | 4,252016E+21 | 4,251901E+21 | 6,175428E+21 | 9,627587E+21 |
| 468               | 1,372302E+22 | 1,736414E+22 | 1,953560E+22 | 1,953556E+22 | 1,736411E+22 | 1,372309E+22 | 9,627785E+21 | 6,175686E+21 | 4,252190E+21 | 4,252293E+21 | 6,175982E+21 | 9,628181E+21 |
| 469               | 1,372331E+22 | 1,736388E+22 | 1,953485E+22 | 1,953449E+22 | 1,736333E+22 | 1,372293E+22 | 9,627930E+21 | 6,175918E+21 | 4,252385E+21 | 4,252383E+21 | 6,175903E+21 | 9,627841E+21 |
| 470               | 1,372262E+22 | 1,736295E+22 | 1,953445E+22 | 1,953504E+22 | 1,736414E+22 | 1,372353E+22 | 9,628322E+21 | 6,176128E+21 | 4,252484E+21 | 4,252391E+21 | 6,175852E+21 | 9,627918E+21 |
| 471               | 1,372317E+22 | 1,736383E+22 | 1,953490E+22 | 1,953485E+22 | 1,736363E+22 | 1,372295E+22 | 9,627858E+21 | 6,175830E+21 | 4,252383E+21 | 4,252530E+21 | 6,176221E+21 | 9,628314E+21 |
| 472               | 1,372322E+22 | 1,736345E+22 | 1,953413E+22 | 1,953395E+22 | 1,736319E+22 | 1,372306E+22 | 9,628182E+21 | 6,176091E+21 | 4,252395E+21 | 4,252262E+21 | 6,175717E+21 | 9,627706E+21 |
| 473               | 1,372270E+22 | 1,736335E+22 | 1,953487E+22 | 1,953515E+22 | 1,736406E+22 | 1,372340E+22 | 9,628129E+21 | 6,175878E+21 | 4,252221E+21 | 4,252169E+21 | 6,175733E+21 | 9,627984E+21 |
| 474               | 1,372343E+22 | 1,736424E+22 | 1,953535E+22 | 1,953497E+22 | 1,736338E+22 | 1,372266E+22 | 9,627591E+21 | 6,175497E+21 | 4,251956E+21 | 4,252059E+21 | 6,175768E+21 | 9,627948E+21 |
| 475               | 1,372307E+22 | 1,736362E+22 | 1,953474E+22 | 1,953496E+22 | 1,736393E+22 | 1,372321E+22 | 9,627918E+21 | 6,175600E+21 | 4,251821E+21 | 4,251704E+21 | 6,175278E+21 | 9,627467E+21 |
| 476               | 1,372284E+22 | 1,736403E+22 | 1,953579E+22 | 1,953597E+22 | 1,736458E+22 | 1,372338E+22 | 9,627664E+21 | 6,175216E+21 | 4,251552E+21 | 4,251630E+21 | 6,175477E+21 | 9,628043E+21 |
| 477               | 1,372356E+22 | 1,736438E+22 | 1,953560E+22 | 1,953531E+22 | 1,736385E+22 | 1,372305E+22 | 9,627580E+21 | 6,175113E+21 | 4,251361E+21 | 4,251389E+21 | 6,175175E+21 | 9,627642E+21 |
| 478               | 1,372308E+22 | 1,736379E+22 | 1,953528E+22 | 1,953578E+22 | 1,736463E+22 | 1,372365E+22 | 9,627974E+21 | 6,175301E+21 | 4,251349E+21 | 4,251193E+21 | 6,174848E+21 | 9,627374E+21 |
| 479               | 1,372334E+22 | 1,736477E+22 | 1,953621E+22 | 1,953605E+22 | 1,736442E+22 | 1,372318E+22 | 9,627487E+21 | 6,174984E+21 | 4,251278E+21 | 4,251384E+21 | 6,175267E+21 | 9,627816E+21 |
| 480               | 1,372340E+22 | 1,736444E+22 | 1,953564E+22 | 1,953525E+22 | 1,736384E+22 | 1,372308E+22 | 9,627692E+21 | 6,175255E+21 | 4,251420E+21 | 4,251341E+21 | 6,175015E+21 | 9,627348E+21 |
| 481               | 1,372270E+22 | 1,736367E+22 | 1,953557E+22 | 1,953607E+22 | 1,736473E+22 | 1,372361E+22 | 9,627908E+21 | 6,175370E+21 | 4,251582E+21 | 4,251535E+21 | 6,175224E+21 | 9,627668E+21 |
| 482               | 1,372332E+22 | 1,736436E+22 | 1,953576E+22 | 1,953563E+22 | 1,736394E+22 | 1,372288E+22 | 9,627455E+21 | 6,175179E+21 | 4,251630E+21 | 4,251818E+21 | 6,175684E+21 | 9,628044E+21 |
| 483               | 1,372325E+22 | 1,736370E+22 | 1,953459E+22 | 1,953466E+22 | 1,736373E+22 | 1,372316E+22 | 9,627943E+21 | 6,175664E+21 | 4,251942E+21 | 4,251880E+21 | 6,175471E+21 | 9,627606E+21 |
| 484               | 1,372278E+22 | 1,736364E+22 | 1,953510E+22 | 1,953520E+22 | 1,736406E+22 | 1,372333E+22 | 9,627997E+21 | 6,175774E+21 | 4,252194E+21 | 4,252230E+21 | 6,175888E+21 | 9,628171E+21 |
| 485               | 1,372345E+22 | 1,736404E+22 | 1,953496E+22 | 1,953446E+22 | 1,736305E+22 | 1,372266E+22 | 9,627809E+21 | 6,175886E+21 | 4,252437E+21 | 4,252517E+21 | 6,176076E+21 | 9,628022E+21 |
| 486               | 1,372285E+22 | 1,736304E+22 | 1,953403E+22 | 1,953437E+22 | 1,736353E+22 | 1,372320E+22 | 9,628352E+21 | 6,176391E+21 | 4,252805E+21 | 4,252665E+21 | 6,175974E+21 | 9,627747E+21 |
| 487               | 1,372273E+22 | 1,736341E+22 | 1,953460E+22 | 1,953464E+22 | 1,736354E+22 | 1,372296E+22 | 9,628024E+21 | 6,176235E+21 | 4,252929E+21 | 4,253060E+21 | 6,176605E+21 | 9,628459E+21 |
| 488               | 1,372310E+22 | 1,736319E+22 | 1,953391E+22 | 1,953362E+22 | 1,736270E+22 | 1,372272E+22 | 9,628191E+21 | 6,176477E+21 | 4,253068E+21 | 4,253063E+21 | 6,176440E+21 | 9,628091E+21 |
| 489               | 1,372248E+22 | 1,736234E+22 | 1,953342E+22 | 1,953405E+22 | 1,736350E+22 | 1,372334E+22 | 9,628560E+21 | 6,176667E+21 | 4,253156E+21 | 4,253052E+21 | 6,176359E+21 | 9,628114E+21 |
| 490               | 1,372298E+22 | 1,736339E+22 | 1,953421E+22 | 1,953400E+22 | 1,736291E+22 | 1,372264E+22 | 9,627983E+21 | 6,176280E+21 | 4,252982E+21 | 4,253120E+21 | 6,176662E+21 | 9,628485E+21 |
| 491               | 1,372309E+22 | 1,736310E+22 | 1,953359E+22 | 1,953332E+22 | 1,736262E+22 | 1,372276E+22 | 9,628258E+21 | 6,176465E+21 | 4,252950E+21 | 4,252853E+21 | 6,176164E+21 | 9,627805E+21 |
| 492               | 1,372242E+22 | 1,736284E+22 | 1,953423E+22 | 1,953450E+22 | 1,736350E+22 | 1,372313E+22 | 9,628255E+21 | 6,176329E+21 | 4,252827E+21 | 4,252780E+21 | 6,176217E+21 | 9,628170E+21 |

| 1                 | 2            | 3            | 4            | 5            | 6            | 7            | 8            | 9            | 10           | 11           | 12           | 13           |
|-------------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|
| Longitude $\odot$ | 0° - 30°     | 30° - 60°    | 60° - 90°    | 90° - 120°   | 120° - 150°  | 150° - 180°  | 180° - 210°  | 210° - 240°  | 240° - 270°  | 270° - 300°  | 300° - 330°  | 330° - 360°  |
| Years             |              |              |              |              |              |              |              |              |              |              |              |              |
| 493               | 1,372319E+22 | 1,736367E+22 | 1,953464E+22 | 1,953444E+22 | 1,736310E+22 | 1,372258E+22 | 9,627730E+21 | 6,175907E+21 | 4,252531E+21 | 4,252643E+21 | 6,176222E+21 | 9,628144E+21 |
| 494               | 1,372290E+22 | 1,736304E+22 | 1,953390E+22 | 1,953429E+22 | 1,736363E+22 | 1,372323E+22 | 9,628171E+21 | 6,176042E+21 | 4,252376E+21 | 4,252243E+21 | 6,175679E+21 | 9,627672E+21 |
| 495               | 1,372279E+22 | 1,736360E+22 | 1,953494E+22 | 1,953503E+22 | 1,736393E+22 | 1,372320E+22 | 9,627882E+21 | 6,175683E+21 | 4,252131E+21 | 4,252195E+21 | 6,175899E+21 | 9,628215E+21 |
| 496               | 1,372345E+22 | 1,736402E+22 | 1,953500E+22 | 1,953459E+22 | 1,736316E+22 | 1,372274E+22 | 9,627776E+21 | 6,175633E+21 | 4,251989E+21 | 4,251976E+21 | 6,175568E+21 | 9,627710E+21 |
| 497               | 1,372281E+22 | 1,736328E+22 | 1,953455E+22 | 1,953506E+22 | 1,736406E+22 | 1,372341E+22 | 9,628165E+21 | 6,175838E+21 | 4,252052E+21 | 4,251894E+21 | 6,175359E+21 | 9,627465E+21 |
| 498               | 1,372291E+22 | 1,736413E+22 | 1,953556E+22 | 1,953544E+22 | 1,736392E+22 | 1,372291E+22 | 9,627591E+21 | 6,175445E+21 | 4,251941E+21 | 4,252083E+21 | 6,175836E+21 | 9,628044E+21 |
| 499               | 1,372315E+22 | 1,736377E+22 | 1,953477E+22 | 1,953452E+22 | 1,736339E+22 | 1,372292E+22 | 9,627825E+21 | 6,175669E+21 | 4,252055E+21 | 4,252052E+21 | 6,175620E+21 | 9,627617E+21 |
| 500               | 1,372247E+22 | 1,736298E+22 | 1,953453E+22 | 1,953504E+22 | 1,736405E+22 | 1,372344E+22 | 9,628180E+21 | 6,175929E+21 | 4,252284E+21 | 4,252245E+21 | 6,175812E+21 | 9,627998E+21 |
| 501               | 1,372325E+22 | 1,736383E+22 | 1,953480E+22 | 1,953470E+22 | 1,736337E+22 | 1,372270E+22 | 9,627699E+21 | 6,175758E+21 | 4,252359E+21 | 4,252519E+21 | 6,176197E+21 | 9,628265E+21 |
| 502               | 1,372314E+22 | 1,736323E+22 | 1,953374E+22 | 1,953377E+22 | 1,736315E+22 | 1,372302E+22 | 9,628233E+21 | 6,176281E+21 | 4,252705E+21 | 4,252596E+21 | 6,175965E+21 | 9,627780E+21 |
| 503               | 1,372263E+22 | 1,736318E+22 | 1,953434E+22 | 1,953430E+22 | 1,736330E+22 | 1,372301E+22 | 9,628209E+21 | 6,176380E+21 | 4,252988E+21 | 4,253022E+21 | 6,176483E+21 | 9,628371E+21 |
| 504               | 1,372318E+22 | 1,736344E+22 | 1,953425E+22 | 1,953381E+22 | 1,736243E+22 | 1,372231E+22 | 9,627990E+21 | 6,176488E+21 | 4,253225E+21 | 4,253306E+21 | 6,176676E+21 | 9,628220E+21 |
| 505               | 1,372252E+22 | 1,736225E+22 | 1,953299E+22 | 1,953351E+22 | 1,736306E+22 | 1,372309E+22 | 9,628593E+21 | 6,176961E+21 | 4,253574E+21 | 4,253464E+21 | 6,176620E+21 | 9,628006E+21 |
| 506               | 1,372242E+22 | 1,736271E+22 | 1,953370E+22 | 1,953373E+22 | 1,736292E+22 | 1,372276E+22 | 9,628222E+21 | 6,176725E+21 | 4,253585E+21 | 4,253736E+21 | 6,177153E+21 | 9,628737E+21 |
| 507               | 1,372300E+22 | 1,736267E+22 | 1,953301E+22 | 1,953268E+22 | 1,736205E+22 | 1,372249E+22 | 9,628363E+21 | 6,176934E+21 | 4,253687E+21 | 4,253697E+21 | 6,176909E+21 | 9,628239E+21 |
| 508               | 1,372229E+22 | 1,736186E+22 | 1,953260E+22 | 1,953306E+22 | 1,736274E+22 | 1,372306E+22 | 9,628779E+21 | 6,177216E+21 | 4,253828E+21 | 4,253687E+21 | 6,176810E+21 | 9,628252E+21 |
| 509               | 1,372276E+22 | 1,736290E+22 | 1,953355E+22 | 1,953338E+22 | 1,736244E+22 | 1,372239E+22 | 9,628118E+21 | 6,176774E+21 | 4,253638E+21 | 4,253748E+21 | 6,177094E+21 | 9,628573E+21 |
| 510               | 1,372279E+22 | 1,736251E+22 | 1,953290E+22 | 1,953280E+22 | 1,736232E+22 | 1,372266E+22 | 9,628426E+21 | 6,176922E+21 | 4,253564E+21 | 4,253454E+21 | 6,176618E+21 | 9,627995E+21 |
| 511               | 1,372222E+22 | 1,736226E+22 | 1,953344E+22 | 1,953373E+22 | 1,736300E+22 | 1,372296E+22 | 9,628405E+21 | 6,176742E+21 | 4,253400E+21 | 4,253384E+21 | 6,176725E+21 | 9,628438E+21 |
| 512               | 1,372307E+22 | 1,736315E+22 | 1,953391E+22 | 1,953376E+22 | 1,736257E+22 | 1,372238E+22 | 9,627936E+21 | 6,176357E+21 | 4,253080E+21 | 4,253187E+21 | 6,176641E+21 | 9,628332E+21 |
| 513               | 1,372278E+22 | 1,736257E+22 | 1,953308E+22 | 1,953349E+22 | 1,736315E+22 | 1,372311E+22 | 9,628401E+21 | 6,176521E+21 | 4,252972E+21 | 4,252827E+21 | 6,176109E+21 | 9,627797E+21 |
| 514               | 1,372256E+22 | 1,736321E+22 | 1,953439E+22 | 1,953430E+22 | 1,736334E+22 | 1,372296E+22 | 9,628034E+21 | 6,176124E+21 | 4,252709E+21 | 4,252766E+21 | 6,176310E+21 | 9,628327E+21 |
| 515               | 1,372325E+22 | 1,736359E+22 | 1,953443E+22 | 1,953398E+22 | 1,736267E+22 | 1,372249E+22 | 9,627889E+21 | 6,176057E+21 | 4,252598E+21 | 4,252620E+21 | 6,176049E+21 | 9,627818E+21 |
| 516               | 1,372247E+22 | 1,736263E+22 | 1,953374E+22 | 1,953429E+22 | 1,736352E+22 | 1,372318E+22 | 9,628342E+21 | 6,176361E+21 | 4,252746E+21 | 4,252601E+21 | 6,175939E+21 | 9,627738E+21 |
| 517               | 1,372267E+22 | 1,736338E+22 | 1,953457E+22 | 1,953468E+22 | 1,736354E+22 | 1,372280E+22 | 9,627781E+21 | 6,175947E+21 | 4,252626E+21 | 4,252782E+21 | 6,176401E+21 | 9,628343E+21 |
| 518               | 1,372302E+22 | 1,736314E+22 | 1,953378E+22 | 1,953361E+22 | 1,736288E+22 | 1,372284E+22 | 9,628102E+21 | 6,176212E+21 | 4,252734E+21 | 4,252717E+21 | 6,176151E+21 | 9,627937E+21 |
| 519               | 1,372247E+22 | 1,736254E+22 | 1,953362E+22 | 1,953390E+22 | 1,736317E+22 | 1,372310E+22 | 9,628390E+21 | 6,176500E+21 | 4,253010E+21 | 4,252956E+21 | 6,176350E+21 | 9,628241E+21 |
| 520               | 1,372316E+22 | 1,736345E+22 | 1,953416E+22 | 1,953387E+22 | 1,736257E+22 | 1,372233E+22 | 9,627909E+21 | 6,176366E+21 | 4,253121E+21 | 4,253250E+21 | 6,176696E+21 | 9,628378E+21 |
| 521               | 1,372286E+22 | 1,736270E+22 | 1,953302E+22 | 1,953303E+22 | 1,736257E+22 | 1,372276E+22 | 9,628428E+21 | 6,176881E+21 | 4,253512E+21 | 4,253404E+21 | 6,176551E+21 | 9,627886E+21 |
| 522               | 1,372218E+22 | 1,736248E+22 | 1,953361E+22 | 1,953361E+22 | 1,736280E+22 | 1,372278E+22 | 9,628359E+21 | 6,176905E+21 | 4,253727E+21 | 4,253782E+21 | 6,177076E+21 | 9,628586E+21 |
| 523               | 1,372288E+22 | 1,736271E+22 | 1,953333E+22 | 1,953304E+22 | 1,736202E+22 | 1,372221E+22 | 9,628188E+21 | 6,176972E+21 | 4,253915E+21 | 4,254042E+21 | 6,177258E+21 | 9,628442E+21 |
| 524               | 1,372224E+22 | 1,736149E+22 | 1,953192E+22 | 1,953245E+22 | 1,736241E+22 | 1,372295E+22 | 9,628907E+21 | 6,177564E+21 | 4,254296E+21 | 4,254169E+21 | 6,177179E+21 | 9,628280E+21 |
| 525               | 1,372226E+22 | 1,736204E+22 | 1,953269E+22 | 1,953281E+22 | 1,736238E+22 | 1,372261E+22 | 9,628484E+21 | 6,177307E+21 | 4,254295E+21 | 4,254400E+21 | 6,177619E+21 | 9,628899E+21 |
| 526               | 1,372283E+22 | 1,736217E+22 | 1,953220E+22 | 1,953181E+22 | 1,736146E+22 | 1,372232E+22 | 9,628618E+21 | 6,177496E+21 | 4,254377E+21 | 4,254344E+21 | 6,177372E+21 | 9,628415E+21 |
| 527               | 1,372212E+22 | 1,736138E+22 | 1,953190E+22 | 1,953220E+22 | 1,736197E+22 | 1,372267E+22 | 9,628899E+21 | 6,177724E+21 | 4,254516E+21 | 4,254382E+21 | 6,177352E+21 | 9,628471E+21 |
| 528               | 1,372257E+22 | 1,736237E+22 | 1,953291E+22 | 1,953278E+22 | 1,736190E+22 | 1,372208E+22 | 9,628220E+21 | 6,177231E+21 | 4,254273E+21 | 4,254403E+21 | 6,177613E+21 | 9,628801E+21 |

| 1<br>Longitude ☉<br>Years | 2<br>0° - 30° | 3<br>30° - 60° | 4<br>60° - 90° | 5<br>90° - 120° | 6<br>120° - 150° | 7<br>150° - 180° | 8<br>180° - 210° | 9<br>210° - 240° | 10<br>240° - 270° | 11<br>270° - 300° | 12<br>300° - 330° | 13<br>330° - 360° |
|---------------------------|---------------|----------------|----------------|-----------------|------------------|------------------|------------------|------------------|-------------------|-------------------|-------------------|-------------------|
| 529                       | 1,372260E+22  | 1,736190E+22   | 1,953207E+22   | 1,953207E+22    | 1,736194E+22     | 1,372255E+22     | 9,628575E+21     | 6,177332E+21     | 4,254154E+21      | 4,254085E+21      | 6,177140E+21      | 9,628237E+21      |
| 530                       | 1,372206E+22  | 1,736180E+22   | 1,953277E+22   | 1,953298E+22    | 1,736249E+22     | 1,372279E+22     | 9,628542E+21     | 6,177112E+21     | 4,253899E+21      | 4,253896E+21      | 6,177133E+21      | 9,628659E+21      |
| 531                       | 1,372304E+22  | 1,736282E+22   | 1,953329E+22   | 1,953305E+22    | 1,736209E+22     | 1,372219E+22     | 9,628066E+21     | 6,176734E+21     | 4,253591E+21      | 4,253697E+21      | 6,176982E+21      | 9,628386E+21      |
| 532                       | 1,372256E+22  | 1,736215E+22   | 1,953248E+22   | 1,953270E+22    | 1,736254E+22     | 1,372290E+22     | 9,628622E+21     | 6,177032E+21     | 4,253587E+21      | 4,253407E+21      | 6,176511E+21      | 9,627883E+21      |
| 533                       | 1,372226E+22  | 1,736260E+22   | 1,953372E+22   | 1,953377E+22    | 1,736300E+22     | 1,372280E+22     | 9,628207E+21     | 6,176623E+21     | 4,253360E+21      | 4,253393E+21      | 6,176740E+21      | 9,628398E+21      |
| 534                       | 1,372289E+22  | 1,736291E+22   | 1,953362E+22   | 1,953333E+22    | 1,736236E+22     | 1,372244E+22     | 9,628115E+21     | 6,176562E+21     | 4,253254E+21      | 4,253268E+21      | 6,176567E+21      | 9,628069E+21      |
| 535                       | 1,372228E+22  | 1,736196E+22   | 1,953280E+22   | 1,953331E+22    | 1,736287E+22     | 1,372296E+22     | 9,628535E+21     | 6,176866E+21     | 4,253420E+21      | 4,253298E+21      | 6,176527E+21      | 9,628080E+21      |
| 536                       | 1,372261E+22  | 1,736284E+22   | 1,953372E+22   | 1,953376E+22    | 1,736281E+22     | 1,372251E+22     | 9,628002E+21     | 6,176492E+21     | 4,253305E+21      | 4,253453E+21      | 6,176917E+21      | 9,628596E+21      |
| 537                       | 1,372294E+22  | 1,736265E+22   | 1,953290E+22   | 1,953264E+22    | 1,736223E+22     | 1,372260E+22     | 9,628312E+21     | 6,176774E+21     | 4,253467E+21      | 4,253443E+21      | 6,176684E+21      | 9,628102E+21      |
| 538                       | 1,372227E+22  | 1,736215E+22   | 1,953305E+22   | 1,953309E+22    | 1,736246E+22     | 1,372276E+22     | 9,628517E+21     | 6,177012E+21     | 4,253715E+21      | 4,253662E+21      | 6,176866E+21      | 9,628394E+21      |
| 539                       | 1,372292E+22  | 1,736295E+22   | 1,953354E+22   | 1,953323E+22    | 1,736205E+22     | 1,372204E+22     | 9,628021E+21     | 6,176874E+21     | 4,253860E+21      | 4,254015E+21      | 6,177252E+21      | 9,628491E+21      |
| 540                       | 1,372245E+22  | 1,736193E+22   | 1,953214E+22   | 1,953222E+22    | 1,736208E+22     | 1,372261E+22     | 9,628671E+21     | 6,177487E+21     | 4,254309E+21      | 4,254213E+21      | 6,177196E+21      | 9,628163E+21      |
| 541                       | 1,372188E+22  | 1,736158E+22   | 1,953249E+22   | 1,953279E+22    | 1,736245E+22     | 1,372274E+22     | 9,628634E+21     | 6,177491E+21     | 4,254489E+21      | 4,254542E+21      | 6,177656E+21      | 9,628832E+21      |
| 542                       | 1,372267E+22  | 1,736197E+22   | 1,953223E+22   | 1,953202E+22    | 1,736148E+22     | 1,372217E+22     | 9,628537E+21     | 6,177590E+21     | 4,254649E+21      | 4,254740E+21      | 6,177800E+21      | 9,628736E+21      |
| 543                       | 1,372215E+22  | 1,736093E+22   | 1,953093E+22   | 1,953125E+22    | 1,736149E+22     | 1,372261E+22     | 9,629134E+21     | 6,178166E+21     | 4,255047E+21      | 4,254894E+21      | 6,177722E+21      | 9,628521E+21      |
| 544                       | 1,372214E+22  | 1,736157E+22   | 1,953197E+22   | 1,953191E+22    | 1,736154E+22     | 1,372222E+22     | 9,628668E+21     | 6,177878E+21     | 4,255022E+21      | 4,255107E+21      | 6,178116E+21      | 9,629034E+21      |
| 545                       | 1,372258E+22  | 1,736161E+22   | 1,953148E+22   | 1,953109E+22    | 1,736091E+22     | 1,372205E+22     | 9,628743E+21     | 6,177997E+21     | 4,255084E+21      | 4,255073E+21      | 6,177929E+21      | 9,628568E+21      |
| 546                       | 1,372182E+22  | 1,736085E+22   | 1,953129E+22   | 1,953156E+22    | 1,736149E+22     | 1,372241E+22     | 9,628944E+21     | 6,178098E+21     | 4,255095E+21      | 4,255005E+21      | 6,177868E+21      | 9,628722E+21      |
| 547                       | 1,372243E+22  | 1,736186E+22   | 1,953222E+22   | 1,953214E+22    | 1,736155E+22     | 1,372197E+22     | 9,628330E+21     | 6,177580E+21     | 4,254796E+21      | 4,254965E+21      | 6,178050E+21      | 9,628979E+21      |
| 548                       | 1,372245E+22  | 1,736139E+22   | 1,953131E+22   | 1,953128E+22    | 1,736146E+22     | 1,372246E+22     | 9,628819E+21     | 6,177800E+21     | 4,254709E+21      | 4,254619E+21      | 6,177545E+21      | 9,628427E+21      |
| 549                       | 1,372196E+22  | 1,736128E+22   | 1,953200E+22   | 1,953232E+22    | 1,736214E+22     | 1,372272E+22     | 9,628774E+21     | 6,177590E+21     | 4,254470E+21      | 4,254412E+21      | 6,177448E+21      | 9,628691E+21      |
| 550                       | 1,372283E+22  | 1,736239E+22   | 1,953270E+22   | 1,953242E+22    | 1,736167E+22     | 1,372213E+22     | 9,628333E+21     | 6,177245E+21     | 4,254192E+21      | 4,254247E+21      | 6,177365E+21      | 9,628488E+21      |
| 551                       | 1,372230E+22  | 1,736161E+22   | 1,953181E+22   | 1,953192E+22    | 1,736186E+22     | 1,372257E+22     | 9,628765E+21     | 6,177540E+21     | 4,254257E+21      | 4,254079E+21      | 6,177036E+21      | 9,628081E+21      |
| 552                       | 1,372201E+22  | 1,736193E+22   | 1,953293E+22   | 1,953305E+22    | 1,736245E+22     | 1,372257E+22     | 9,628367E+21     | 6,177109E+21     | 4,254025E+21      | 4,254082E+21      | 6,177292E+21      | 9,628646E+21      |
| 553                       | 1,372270E+22  | 1,736223E+22   | 1,953266E+22   | 1,953244E+22    | 1,736184E+22     | 1,372230E+22     | 9,628285E+21     | 6,177027E+21     | 4,253916E+21      | 4,253976E+21      | 6,177154E+21      | 9,628348E+21      |
| 554                       | 1,372217E+22  | 1,736150E+22   | 1,953201E+22   | 1,953235E+22    | 1,736213E+22     | 1,372264E+22     | 9,628634E+21     | 6,177299E+21     | 4,254026E+21      | 4,253923E+21      | 6,177027E+21      | 9,628351E+21      |
| 555                       | 1,372262E+22  | 1,736250E+22   | 1,953304E+22   | 1,953293E+22    | 1,736217E+22     | 1,372221E+22     | 9,628102E+21     | 6,176949E+21     | 4,253952E+21      | 4,254097E+21      | 6,177355E+21      | 9,628695E+21      |
| 556                       | 1,372272E+22  | 1,736218E+22   | 1,953228E+22   | 1,953186E+22    | 1,736157E+22     | 1,372233E+22     | 9,628511E+21     | 6,177346E+21     | 4,254204E+21      | 4,254161E+21      | 6,177195E+21      | 9,628230E+21      |
| 557                       | 1,372194E+22  | 1,736143E+22   | 1,953228E+22   | 1,953254E+22    | 1,736214E+22     | 1,372262E+22     | 9,628723E+21     | 6,177586E+21     | 4,254476E+21      | 4,254406E+21      | 6,177385E+21      | 9,628488E+21      |
| 558                       | 1,372253E+22  | 1,736216E+22   | 1,953263E+22   | 1,953251E+22    | 1,736175E+22     | 1,372207E+22     | 9,628333E+21     | 6,177468E+21     | 4,254615E+21      | 4,254761E+21      | 6,177848E+21      | 9,628757E+21      |
| 559                       | 1,372218E+22  | 1,736110E+22   | 1,953104E+22   | 1,953113E+22    | 1,736136E+22     | 1,372244E+22     | 9,628971E+21     | 6,178110E+21     | 4,255094E+21      | 4,255005E+21      | 6,177841E+21      | 9,628503E+21      |
| 560                       | 1,372176E+22  | 1,736087E+22   | 1,953142E+22   | 1,953170E+22    | 1,736168E+22     | 1,372253E+22     | 9,628945E+21     | 6,178125E+21     | 4,255262E+21      | 4,255296E+21      | 6,178220E+21      | 9,629072E+21      |
| 561                       | 1,372254E+22  | 1,736139E+22   | 1,953123E+22   | 1,953092E+22    | 1,736074E+22     | 1,372194E+22     | 9,628779E+21     | 6,178198E+21     | 4,255433E+21      | 4,255515E+21      | 6,178374E+21      | 9,628916E+21      |
| 562                       | 1,372197E+22  | 1,736054E+22   | 1,953029E+22   | 1,953034E+22    | 1,736065E+22     | 1,372218E+22     | 9,629218E+21     | 6,178661E+21     | 4,255742E+21      | 4,255600E+21      | 6,178264E+21      | 9,628737E+21      |
| 563                       | 1,372199E+22  | 1,736113E+22   | 1,953138E+22   | 1,953127E+22    | 1,736097E+22     | 1,372186E+22     | 9,628692E+21     | 6,178310E+21     | 4,255685E+21      | 4,255799E+21      | 6,178637E+21      | 9,629194E+21      |
| 564                       | 1,372230E+22  | 1,736099E+22   | 1,953075E+22   | 1,953042E+22    | 1,736046E+22     | 1,372188E+22     | 9,628887E+21     | 6,178456E+21     | 4,255723E+21      | 4,255740E+21      | 6,178482E+21      | 9,628847E+21      |

| 1                 | 2            | 3            | 4            | 5            | 6            | 7            | 8            | 9            | 10           | 11           | 12           | 13           |
|-------------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|
| Longitude $\odot$ | 0° - 30°     | 30° - 60°    | 60° - 90°    | 90° - 120°   | 120° - 150°  | 150° - 180°  | 180° - 210°  | 210° - 240°  | 240° - 270°  | 270° - 300°  | 300° - 330°  | 330° - 360°  |
| Years             |              |              |              |              |              |              |              |              |              |              |              |              |
| 565               | 1,372167E+22 | 1,736019E+22 | 1,953044E+22 | 1,953096E+22 | 1,736122E+22 | 1,372238E+22 | 9,629144E+21 | 6,178527E+21 | 4,255664E+21 | 4,255571E+21 | 6,178289E+21 | 9,628892E+21 |
| 566               | 1,372232E+22 | 1,736139E+22 | 1,953144E+22 | 1,953138E+22 | 1,736116E+22 | 1,372199E+22 | 9,628636E+21 | 6,178067E+21 | 4,255350E+21 | 4,255469E+21 | 6,178416E+21 | 9,629132E+21 |
| 567               | 1,372231E+22 | 1,736096E+22 | 1,953063E+22 | 1,953041E+22 | 1,736075E+22 | 1,372222E+22 | 9,629037E+21 | 6,178317E+21 | 4,255332E+21 | 4,255199E+21 | 6,177941E+21 | 9,628532E+21 |
| 568               | 1,372177E+22 | 1,736081E+22 | 1,953139E+22 | 1,953164E+22 | 1,736151E+22 | 1,372246E+22 | 9,628969E+21 | 6,178098E+21 | 4,255115E+21 | 4,255029E+21 | 6,177855E+21 | 9,628712E+21 |
| 569               | 1,372245E+22 | 1,736171E+22 | 1,953193E+22 | 1,953176E+22 | 1,736122E+22 | 1,372195E+22 | 9,628486E+21 | 6,177727E+21 | 4,254860E+21 | 4,254937E+21 | 6,177892E+21 | 9,628610E+21 |
| 570               | 1,372197E+22 | 1,736100E+22 | 1,953108E+22 | 1,953119E+22 | 1,736131E+22 | 1,372232E+22 | 9,628821E+21 | 6,177912E+21 | 4,254832E+21 | 4,254709E+21 | 6,177582E+21 | 9,628380E+21 |
| 571               | 1,372192E+22 | 1,736139E+22 | 1,953211E+22 | 1,953225E+22 | 1,736191E+22 | 1,372236E+22 | 9,628457E+21 | 6,177492E+21 | 4,254595E+21 | 4,254690E+21 | 6,177778E+21 | 9,628874E+21 |
| 572               | 1,372260E+22 | 1,736171E+22 | 1,953183E+22 | 1,953154E+22 | 1,736122E+22 | 1,372211E+22 | 9,628494E+21 | 6,177520E+21 | 4,254540E+21 | 4,254600E+21 | 6,177649E+21 | 9,628602E+21 |
| 573               | 1,372212E+22 | 1,736102E+22 | 1,953125E+22 | 1,953165E+22 | 1,736167E+22 | 1,372247E+22 | 9,628820E+21 | 6,177797E+21 | 4,254677E+21 | 4,254546E+21 | 6,177441E+21 | 9,628435E+21 |
| 574               | 1,372241E+22 | 1,736206E+22 | 1,953243E+22 | 1,953225E+22 | 1,736168E+22 | 1,372211E+22 | 9,628372E+21 | 6,177520E+21 | 4,254653E+21 | 4,254765E+21 | 6,177845E+21 | 9,628839E+21 |
| 575               | 1,372241E+22 | 1,736153E+22 | 1,953152E+22 | 1,953109E+22 | 1,736093E+22 | 1,372205E+22 | 9,628707E+21 | 6,177947E+21 | 4,255000E+21 | 4,254959E+21 | 6,177816E+21 | 9,628473E+21 |
| 576               | 1,372167E+22 | 1,736064E+22 | 1,953129E+22 | 1,953169E+22 | 1,736159E+22 | 1,372249E+22 | 9,628995E+21 | 6,178184E+21 | 4,255270E+21 | 4,255217E+21 | 6,178016E+21 | 9,628732E+21 |
| 577               | 1,372226E+22 | 1,736134E+22 | 1,953149E+22 | 1,953146E+22 | 1,736115E+22 | 1,372199E+22 | 9,628645E+21 | 6,178084E+21 | 4,255410E+21 | 4,255578E+21 | 6,178496E+21 | 9,629030E+21 |
| 578               | 1,372204E+22 | 1,736056E+22 | 1,953010E+22 | 1,953000E+22 | 1,736048E+22 | 1,372210E+22 | 9,629155E+21 | 6,178661E+21 | 4,255820E+21 | 4,255735E+21 | 6,178416E+21 | 9,628788E+21 |
| 579               | 1,372172E+22 | 1,736045E+22 | 1,953061E+22 | 1,953072E+22 | 1,736088E+22 | 1,372216E+22 | 9,629064E+21 | 6,178658E+21 | 4,255997E+21 | 4,256019E+21 | 6,178719E+21 | 9,629188E+21 |
| 580               | 1,372230E+22 | 1,736088E+22 | 1,953052E+22 | 1,953009E+22 | 1,736003E+22 | 1,372161E+22 | 9,628942E+21 | 6,178760E+21 | 4,256180E+21 | 4,256260E+21 | 6,178933E+21 | 9,629099E+21 |
| 581               | 1,372171E+22 | 1,735986E+22 | 1,952953E+22 | 1,952982E+22 | 1,736031E+22 | 1,372198E+22 | 9,629338E+21 | 6,179145E+21 | 4,256426E+21 | 4,256286E+21 | 6,178768E+21 | 9,628880E+21 |
| 582               | 1,372172E+22 | 1,736051E+22 | 1,953062E+22 | 1,953066E+22 | 1,736069E+22 | 1,372189E+22 | 9,628950E+21 | 6,178797E+21 | 4,256305E+21 | 4,256417E+21 | 6,179151E+21 | 9,629455E+21 |
| 583               | 1,372211E+22 | 1,736035E+22 | 1,952990E+22 | 1,952959E+22 | 1,735987E+22 | 1,372172E+22 | 9,629127E+21 | 6,178963E+21 | 4,256355E+21 | 4,256363E+21 | 6,178973E+21 | 9,629093E+21 |
| 584               | 1,372157E+22 | 1,735965E+22 | 1,952961E+22 | 1,953013E+22 | 1,736065E+22 | 1,372228E+22 | 9,629432E+21 | 6,179045E+21 | 4,256282E+21 | 4,256157E+21 | 6,178689E+21 | 9,628978E+21 |
| 585               | 1,372210E+22 | 1,736090E+22 | 1,953068E+22 | 1,953057E+22 | 1,736062E+22 | 1,372188E+22 | 9,628881E+21 | 6,178576E+21 | 4,255990E+21 | 4,256091E+21 | 6,178837E+21 | 9,629168E+21 |
| 586               | 1,372204E+22 | 1,736056E+22 | 1,953006E+22 | 1,952967E+22 | 1,736004E+22 | 1,372186E+22 | 9,629117E+21 | 6,178736E+21 | 4,255922E+21 | 4,255804E+21 | 6,178406E+21 | 9,628686E+21 |
| 587               | 1,372156E+22 | 1,736028E+22 | 1,953070E+22 | 1,953103E+22 | 1,736102E+22 | 1,372216E+22 | 9,628988E+21 | 6,178482E+21 | 4,255711E+21 | 4,255657E+21 | 6,178345E+21 | 9,628872E+21 |
| 588               | 1,372218E+22 | 1,736104E+22 | 1,953108E+22 | 1,953102E+22 | 1,736075E+22 | 1,372178E+22 | 9,628617E+21 | 6,178139E+21 | 4,255451E+21 | 4,255574E+21 | 6,178453E+21 | 9,628940E+21 |
| 589               | 1,372189E+22 | 1,736038E+22 | 1,953018E+22 | 1,953050E+22 | 1,736090E+22 | 1,372219E+22 | 9,628972E+21 | 6,178309E+21 | 4,255378E+21 | 4,255268E+21 | 6,178025E+21 | 9,628610E+21 |
| 590               | 1,372190E+22 | 1,736104E+22 | 1,953139E+22 | 1,953145E+22 | 1,736136E+22 | 1,372226E+22 | 9,628709E+21 | 6,177973E+21 | 4,255163E+21 | 4,255228E+21 | 6,178197E+21 | 9,629074E+21 |
| 591               | 1,372249E+22 | 1,736133E+22 | 1,953118E+22 | 1,953069E+22 | 1,736045E+22 | 1,372179E+22 | 9,628676E+21 | 6,178055E+21 | 4,255222E+21 | 4,255251E+21 | 6,178108E+21 | 9,628736E+21 |
| 592               | 1,372192E+22 | 1,736055E+22 | 1,953062E+22 | 1,953096E+22 | 1,736107E+22 | 1,372226E+22 | 9,629052E+21 | 6,178357E+21 | 4,255410E+21 | 4,255265E+21 | 6,177931E+21 | 9,628480E+21 |
| 593               | 1,372200E+22 | 1,736135E+22 | 1,953158E+22 | 1,953154E+22 | 1,736126E+22 | 1,372202E+22 | 9,628620E+21 | 6,178104E+21 | 4,255437E+21 | 4,255564E+21 | 6,178439E+21 | 9,628971E+21 |
| 594               | 1,372206E+22 | 1,736084E+22 | 1,953062E+22 | 1,953023E+22 | 1,736032E+22 | 1,372185E+22 | 9,628895E+21 | 6,178472E+21 | 4,255729E+21 | 4,255725E+21 | 6,178451E+21 | 9,628791E+21 |
| 595               | 1,372153E+22 | 1,735997E+22 | 1,953025E+22 | 1,953073E+22 | 1,736096E+22 | 1,372228E+22 | 9,629194E+21 | 6,178737E+21 | 4,256010E+21 | 4,255962E+21 | 6,178589E+21 | 9,628965E+21 |
| 596               | 1,372206E+22 | 1,736067E+22 | 1,953045E+22 | 1,953041E+22 | 1,736042E+22 | 1,372178E+22 | 9,628920E+21 | 6,178705E+21 | 4,256181E+21 | 4,256337E+21 | 6,179091E+21 | 9,629307E+21 |
| 597               | 1,372191E+22 | 1,735997E+22 | 1,952923E+22 | 1,952918E+22 | 1,735984E+22 | 1,372184E+22 | 9,629352E+21 | 6,179229E+21 | 4,256563E+21 | 4,256458E+21 | 6,178927E+21 | 9,628932E+21 |
| 598               | 1,372151E+22 | 1,735999E+22 | 1,952992E+22 | 1,952995E+22 | 1,736024E+22 | 1,372194E+22 | 9,629297E+21 | 6,179240E+21 | 4,256731E+21 | 4,256739E+21 | 6,179282E+21 | 9,629390E+21 |
| 599               | 1,372200E+22 | 1,736022E+22 | 1,952973E+22 | 1,952933E+22 | 1,735940E+22 | 1,372131E+22 | 9,629087E+21 | 6,179314E+21 | 4,256946E+21 | 4,257039E+21 | 6,179558E+21 | 9,629386E+21 |
| 600               | 1,372152E+22 | 1,735920E+22 | 1,952863E+22 | 1,952903E+22 | 1,735984E+22 | 1,372188E+22 | 9,629553E+21 | 6,179640E+21 | 4,257119E+21 | 4,257005E+21 | 6,179328E+21 | 9,629107E+21 |



| 1<br>Longitude ☉<br>Years | 2<br>0° - 30° | 3<br>30° - 60° | 4<br>60° - 90° | 5<br>90° - 120° | 6<br>120° - 150° | 7<br>150° - 180° | 8<br>180° - 210° | 9<br>210° - 240° | 10<br>240° - 270° | 11<br>270° - 300° | 12<br>300° - 330° | 13<br>330° - 360° |
|---------------------------|---------------|----------------|----------------|-----------------|------------------|------------------|------------------|------------------|-------------------|-------------------|-------------------|-------------------|
| 601                       | 1,372151E+22  | 1,735984E+22   | 1,952962E+22   | 1,952975E+22    | 1,736018E+22     | 1,372185E+22     | 9,629241E+21     | 6,179325E+21     | 4,256972E+21      | 4,257086E+21      | 6,179653E+21      | 9,629636E+21      |
| 602                       | 1,372199E+22  | 1,735994E+22   | 1,952914E+22   | 1,952871E+22    | 1,735916E+22     | 1,372145E+22     | 9,629289E+21     | 6,179417E+21     | 4,256942E+21      | 4,256940E+21      | 6,179402E+21      | 9,629271E+21      |
| 603                       | 1,372149E+22  | 1,735930E+22   | 1,952895E+22   | 1,952938E+22    | 1,736002E+22     | 1,372197E+22     | 9,629530E+21     | 6,179491E+21     | 4,256884E+21      | 4,256733E+21      | 6,179062E+21      | 9,628990E+21      |
| 604                       | 1,372175E+22  | 1,736033E+22   | 1,953002E+22   | 1,952992E+22    | 1,736008E+22     | 1,372165E+22     | 9,629038E+21     | 6,179044E+21     | 4,256604E+21      | 4,256709E+21      | 6,179310E+21      | 9,629302E+21      |
| 605                       | 1,372173E+22  | 1,735987E+22   | 1,952932E+22   | 1,952921E+22    | 1,735973E+22     | 1,372170E+22     | 9,629217E+21     | 6,179124E+21     | 4,256480E+21      | 4,256382E+21      | 6,178856E+21      | 9,628845E+21      |
| 606                       | 1,372133E+22  | 1,735973E+22   | 1,952993E+22   | 1,953033E+22    | 1,736064E+22     | 1,372213E+22     | 9,629213E+21     | 6,178899E+21     | 4,256237E+21      | 4,256202E+21      | 6,178831E+21      | 9,629157E+21      |
| 607                       | 1,372205E+22  | 1,736049E+22   | 1,953023E+22   | 1,953015E+22    | 1,736012E+22     | 1,372157E+22     | 9,628814E+21     | 6,178609E+21     | 4,256042E+21      | 4,256161E+21      | 6,178934E+21      | 9,629227E+21      |
| 608                       | 1,372190E+22  | 1,736000E+22   | 1,952941E+22   | 1,952965E+22    | 1,736031E+22     | 1,372203E+22     | 9,629197E+21     | 6,178790E+21     | 4,255992E+21      | 4,255862E+21      | 6,178440E+21      | 9,628726E+21      |
| 609                       | 1,372174E+22  | 1,736064E+22   | 1,953072E+22   | 1,953068E+22    | 1,736079E+22     | 1,372210E+22     | 9,628957E+21     | 6,178516E+21     | 4,255848E+21      | 4,255893E+21      | 6,178646E+21      | 9,629130E+21      |
| 610                       | 1,372224E+22  | 1,736095E+22   | 1,953064E+22   | 1,953006E+22    | 1,735978E+22     | 1,372143E+22     | 9,628786E+21     | 6,178543E+21     | 4,255900E+21      | 4,255943E+21      | 6,178640E+21      | 9,628910E+21      |
| 611                       | 1,372166E+22  | 1,735996E+22   | 1,952987E+22   | 1,953033E+22    | 1,736060E+22     | 1,372201E+22     | 9,629156E+21     | 6,178861E+21     | 4,256138E+21      | 4,256010E+21      | 6,178502E+21      | 9,628649E+21      |
| 612                       | 1,372163E+22  | 1,736053E+22   | 1,953057E+22   | 1,953069E+22    | 1,736077E+22     | 1,372193E+22     | 9,628883E+21     | 6,178660E+21     | 4,256178E+21      | 4,256337E+21      | 6,179085E+21      | 9,629298E+21      |
| 613                       | 1,372188E+22  | 1,736007E+22   | 1,952952E+22   | 1,952935E+22    | 1,735979E+22     | 1,372171E+22     | 9,629156E+21     | 6,179033E+21     | 4,256445E+21      | 4,256437E+21      | 6,179000E+21      | 9,629041E+21      |
| 614                       | 1,372144E+22  | 1,735949E+22   | 1,952932E+22   | 1,952971E+22    | 1,736026E+22     | 1,372212E+22     | 9,629507E+21     | 6,179354E+21     | 4,256739E+21      | 4,256662E+21      | 6,179137E+21      | 9,629208E+21      |
| 615                       | 1,372187E+22  | 1,736013E+22   | 1,952960E+22   | 1,952940E+22    | 1,735953E+22     | 1,372137E+22     | 9,629113E+21     | 6,179334E+21     | 4,256993E+21      | 4,257121E+21      | 6,179667E+21      | 9,629516E+21      |
| 616                       | 1,372169E+22  | 1,735940E+22   | 1,952843E+22   | 1,952835E+22    | 1,735918E+22     | 1,372157E+22     | 9,629540E+21     | 6,179802E+21     | 4,257351E+21      | 4,257250E+21      | 6,179504E+21      | 9,629071E+21      |
| 617                       | 1,372116E+22  | 1,735928E+22   | 1,952906E+22   | 1,952920E+22    | 1,735977E+22     | 1,372179E+22     | 9,629510E+21     | 6,179795E+21     | 4,257495E+21      | 4,257527E+21      | 6,179887E+21      | 9,629589E+21      |
| 618                       | 1,372174E+22  | 1,735962E+22   | 1,952886E+22   | 1,952850E+22    | 1,735880E+22     | 1,372108E+22     | 9,629239E+21     | 6,179777E+21     | 4,257599E+21      | 4,257729E+21      | 6,180131E+21      | 9,629694E+21      |
| 619                       | 1,372144E+22  | 1,735868E+22   | 1,952775E+22   | 1,952820E+22    | 1,735929E+22     | 1,372169E+22     | 9,629729E+21     | 6,180124E+21     | 4,257753E+21      | 4,257625E+21      | 6,179784E+21      | 9,629264E+21      |
| 620                       | 1,372131E+22  | 1,735931E+22   | 1,952878E+22   | 1,952889E+22    | 1,735961E+22     | 1,372171E+22     | 9,629500E+21     | 6,179848E+21     | 4,257606E+21      | 4,257695E+21      | 6,180097E+21      | 9,629790E+21      |
| 621                       | 1,372180E+22  | 1,735941E+22   | 1,952844E+22   | 1,952808E+22    | 1,735867E+22     | 1,372125E+22     | 9,629475E+21     | 6,179890E+21     | 4,257538E+21      | 4,257506E+21      | 6,179782E+21      | 9,629329E+21      |
| 622                       | 1,372123E+22  | 1,735886E+22   | 1,952835E+22   | 1,952876E+22    | 1,735953E+22     | 1,372179E+22     | 9,629729E+21     | 6,179965E+21     | 4,257467E+21      | 4,257314E+21      | 6,179534E+21      | 9,629154E+21      |
| 623                       | 1,372141E+22  | 1,735964E+22   | 1,952921E+22   | 1,952921E+22    | 1,735955E+22     | 1,372138E+22     | 9,629152E+21     | 6,179501E+21     | 4,257235E+21      | 4,257356E+21      | 6,179851E+21      | 9,629588E+21      |
| 624                       | 1,372159E+22  | 1,735928E+22   | 1,952844E+22   | 1,952839E+22    | 1,735926E+22     | 1,372160E+22     | 9,629401E+21     | 6,179536E+21     | 4,257061E+21      | 4,256994E+21      | 6,179354E+21      | 9,629089E+21      |
| 625                       | 1,372122E+22  | 1,735925E+22   | 1,952909E+22   | 1,952945E+22    | 1,736007E+22     | 1,372200E+22     | 9,629451E+21     | 6,179375E+21     | 4,256836E+21      | 4,256798E+21      | 6,179276E+21      | 9,629341E+21      |
| 626                       | 1,372201E+22  | 1,736025E+22   | 1,952961E+22   | 1,952933E+22    | 1,735939E+22     | 1,372123E+22     | 9,628922E+21     | 6,179040E+21     | 4,256619E+21      | 4,256728E+21      | 6,179349E+21      | 9,629401E+21      |
| 627                       | 1,372184E+22  | 1,735974E+22   | 1,952890E+22   | 1,952902E+22    | 1,735973E+22     | 1,372170E+22     | 9,629271E+21     | 6,179248E+21     | 4,256627E+21      | 4,256471E+21      | 6,178839E+21      | 9,628747E+21      |
| 628                       | 1,372136E+22  | 1,736004E+22   | 1,953006E+22   | 1,953011E+22    | 1,736036E+22     | 1,372191E+22     | 9,629147E+21     | 6,179034E+21     | 4,256535E+21      | 4,256583E+21      | 6,179168E+21      | 9,629272E+21      |
| 629                       | 1,372186E+22  | 1,736016E+22   | 1,952984E+22   | 1,952957E+22    | 1,735953E+22     | 1,372134E+22     | 9,628976E+21     | 6,179032E+21     | 4,256567E+21      | 4,256627E+21      | 6,179171E+21      | 9,629102E+21      |
| 630                       | 1,372139E+22  | 1,735929E+22   | 1,952893E+22   | 1,952948E+22    | 1,736014E+22     | 1,372199E+22     | 9,629484E+21     | 6,179419E+21     | 4,256812E+21      | 4,256702E+21      | 6,179099E+21      | 9,628948E+21      |
| 631                       | 1,372137E+22  | 1,735975E+22   | 1,952946E+22   | 1,952962E+22    | 1,736005E+22     | 1,372171E+22     | 9,629177E+21     | 6,179293E+21     | 4,256951E+21      | 4,257093E+21      | 6,179684E+21      | 9,629614E+21      |
| 632                       | 1,372180E+22  | 1,735952E+22   | 1,952852E+22   | 1,952824E+22    | 1,735905E+22     | 1,372151E+22     | 9,629423E+21     | 6,179640E+21     | 4,257230E+21      | 4,257207E+21      | 6,179556E+21      | 9,629222E+21      |
| 633                       | 1,372122E+22  | 1,735896E+22   | 1,952846E+22   | 1,952868E+22    | 1,735946E+22     | 1,372183E+22     | 9,629757E+21     | 6,179993E+21     | 4,257561E+21      | 4,257470E+21      | 6,179712E+21      | 9,629365E+21      |
| 634                       | 1,372164E+22  | 1,735964E+22   | 1,952887E+22   | 1,952857E+22    | 1,735876E+22     | 1,372093E+22     | 9,629195E+21     | 6,179866E+21     | 4,257756E+21      | 4,257909E+21      | 6,180296E+21      | 9,629799E+21      |
| 635                       | 1,372151E+22  | 1,735882E+22   | 1,952763E+22   | 1,952762E+22    | 1,735865E+22     | 1,372125E+22     | 9,629601E+21     | 6,180291E+21     | 4,258084E+21      | 4,258005E+21      | 6,180097E+21      | 9,629308E+21      |
| 636                       | 1,372089E+22  | 1,735855E+22   | 1,952810E+22   | 1,952836E+22    | 1,735929E+22     | 1,372169E+22     | 9,629754E+21     | 6,180317E+21     | 4,258183E+21      | 4,258239E+21      | 6,180474E+21      | 9,629894E+21      |

| 1                 | 2            | 3            | 4            | 5            | 6            | 7            | 8            | 9            | 10           | 11           | 12           | 13           |
|-------------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|
| Longitude $\odot$ | 0° - 30°     | 30° - 60°    | 60° - 90°    | 90° - 120°   | 120° - 150°  | 150° - 180°  | 180° - 210°  | 210° - 240°  | 240° - 270°  | 270° - 300°  | 300° - 330°  | 330° - 360°  |
| Years             |              |              |              |              |              |              |              |              |              |              |              |              |
| 637               | 1,372161E+22 | 1,735898E+22 | 1,952798E+22 | 1,952777E+22 | 1,735834E+22 | 1,372096E+22 | 9,629483E+21 | 6,180279E+21 | 4,258221E+21 | 4,258329E+21 | 6,180562E+21 | 9,629848E+21 |
| 638               | 1,372131E+22 | 1,735831E+22 | 1,952704E+22 | 1,952736E+22 | 1,735872E+22 | 1,372157E+22 | 9,630020E+21 | 6,180662E+21 | 4,258369E+21 | 4,258209E+21 | 6,180210E+21 | 9,629370E+21 |
| 639               | 1,372099E+22 | 1,735872E+22 | 1,952806E+22 | 1,952809E+22 | 1,735894E+22 | 1,372142E+22 | 9,629702E+21 | 6,180406E+21 | 4,258299E+21 | 4,258348E+21 | 6,180549E+21 | 9,629894E+21 |
| 640               | 1,372151E+22 | 1,735881E+22 | 1,952768E+22 | 1,952736E+22 | 1,735821E+22 | 1,372109E+22 | 9,629648E+21 | 6,180376E+21 | 4,258199E+21 | 4,258168E+21 | 6,180264E+21 | 9,629432E+21 |
| 641               | 1,372088E+22 | 1,735818E+22 | 1,952751E+22 | 1,952801E+22 | 1,735910E+22 | 1,372167E+22 | 9,629929E+21 | 6,180443E+21 | 4,258106E+21 | 4,257968E+21 | 6,180046E+21 | 9,629374E+21 |
| 642               | 1,372126E+22 | 1,735912E+22 | 1,952841E+22 | 1,952838E+22 | 1,735894E+22 | 1,372111E+22 | 9,629258E+21 | 6,179890E+21 | 4,257782E+21 | 4,257935E+21 | 6,180353E+21 | 9,629918E+21 |
| 643               | 1,372161E+22 | 1,735890E+22 | 1,952773E+22 | 1,952764E+22 | 1,735871E+22 | 1,372133E+22 | 9,629489E+21 | 6,179939E+21 | 4,257609E+21 | 4,257531E+21 | 6,179759E+21 | 9,629261E+21 |
| 644               | 1,372112E+22 | 1,735887E+22 | 1,952846E+22 | 1,952872E+22 | 1,735954E+22 | 1,372181E+22 | 9,629629E+21 | 6,179826E+21 | 4,257414E+21 | 4,257366E+21 | 6,179696E+21 | 9,629493E+21 |
| 645               | 1,372184E+22 | 1,735981E+22 | 1,952910E+22 | 1,952883E+22 | 1,735896E+22 | 1,372101E+22 | 9,629071E+21 | 6,179482E+21 | 4,257200E+21 | 4,257291E+21 | 6,179728E+21 | 9,629455E+21 |
| 646               | 1,372157E+22 | 1,735930E+22 | 1,952837E+22 | 1,952848E+22 | 1,735936E+22 | 1,372156E+22 | 9,629481E+21 | 6,179742E+21 | 4,257251E+21 | 4,257110E+21 | 6,179357E+21 | 9,628914E+21 |
| 647               | 1,372096E+22 | 1,735923E+22 | 1,952915E+22 | 1,952936E+22 | 1,735989E+22 | 1,372174E+22 | 9,629343E+21 | 6,179575E+21 | 4,257257E+21 | 4,257313E+21 | 6,179753E+21 | 9,629549E+21 |
| 648               | 1,372165E+22 | 1,735941E+22 | 1,952873E+22 | 1,952855E+22 | 1,735902E+22 | 1,372130E+22 | 9,629264E+21 | 6,179582E+21 | 4,257287E+21 | 4,257361E+21 | 6,179748E+21 | 9,629362E+21 |
| 649               | 1,372122E+22 | 1,735865E+22 | 1,952789E+22 | 1,952834E+22 | 1,735941E+22 | 1,372182E+22 | 9,629804E+21 | 6,180046E+21 | 4,257573E+21 | 4,257442E+21 | 6,179644E+21 | 9,629188E+21 |
| 650               | 1,372131E+22 | 1,735932E+22 | 1,952860E+22 | 1,952851E+22 | 1,735911E+22 | 1,372127E+22 | 9,629316E+21 | 6,179853E+21 | 4,257697E+21 | 4,257829E+21 | 6,180236E+21 | 9,629857E+21 |
| 651               | 1,372170E+22 | 1,735911E+22 | 1,952784E+22 | 1,952740E+22 | 1,735828E+22 | 1,372105E+22 | 9,629497E+21 | 6,180189E+21 | 4,257999E+21 | 4,257965E+21 | 6,180095E+21 | 9,629345E+21 |
| 652               | 1,372089E+22 | 1,735832E+22 | 1,952771E+22 | 1,952795E+22 | 1,735891E+22 | 1,372154E+22 | 9,629897E+21 | 6,180541E+21 | 4,258327E+21 | 4,258260E+21 | 6,180333E+21 | 9,629596E+21 |
| 653               | 1,372133E+22 | 1,735888E+22 | 1,952805E+22 | 1,952796E+22 | 1,735839E+22 | 1,372079E+22 | 9,629367E+21 | 6,180364E+21 | 4,258450E+21 | 4,258620E+21 | 6,180846E+21 | 9,630022E+21 |
| 654               | 1,372131E+22 | 1,735824E+22 | 1,952681E+22 | 1,952683E+22 | 1,735822E+22 | 1,372122E+22 | 9,629913E+21 | 6,180836E+21 | 4,258744E+21 | 4,258679E+21 | 6,180656E+21 | 9,629564E+21 |
| 655               | 1,372065E+22 | 1,735782E+22 | 1,952711E+22 | 1,952743E+22 | 1,735868E+22 | 1,372152E+22 | 9,630055E+21 | 6,180936E+21 | 4,258917E+21 | 4,258929E+21 | 6,180973E+21 | 9,630097E+21 |
| 656               | 1,372147E+22 | 1,735845E+22 | 1,952709E+22 | 1,952680E+22 | 1,735778E+22 | 1,372088E+22 | 9,629783E+21 | 6,180866E+21 | 4,258944E+21 | 4,259015E+21 | 6,181024E+21 | 9,629926E+21 |
| 657               | 1,372100E+22 | 1,735775E+22 | 1,952631E+22 | 1,952648E+22 | 1,735807E+22 | 1,372137E+22 | 9,630288E+21 | 6,181258E+21 | 4,259104E+21 | 4,258916E+21 | 6,180700E+21 | 9,629479E+21 |
| 658               | 1,372072E+22 | 1,735812E+22 | 1,952731E+22 | 1,952732E+22 | 1,735829E+22 | 1,372104E+22 | 9,629765E+21 | 6,180865E+21 | 4,258961E+21 | 4,259037E+21 | 6,181109E+21 | 9,630160E+21 |
| 659               | 1,372135E+22 | 1,735823E+22 | 1,952690E+22 | 1,952665E+22 | 1,735772E+22 | 1,372080E+22 | 9,629674E+21 | 6,180771E+21 | 4,258807E+21 | 4,258810E+21 | 6,180796E+21 | 9,629700E+21 |
| 660               | 1,372074E+22 | 1,735757E+22 | 1,952664E+22 | 1,952717E+22 | 1,735859E+22 | 1,372151E+22 | 9,630081E+21 | 6,180849E+21 | 4,258663E+21 | 4,258560E+21 | 6,180559E+21 | 9,629698E+21 |
| 661               | 1,372126E+22 | 1,735868E+22 | 1,952774E+22 | 1,952772E+22 | 1,735846E+22 | 1,372093E+22 | 9,629406E+21 | 6,180284E+21 | 4,258287E+21 | 4,258424E+21 | 6,180708E+21 | 9,630079E+21 |
| 662               | 1,372160E+22 | 1,735871E+22 | 1,952730E+22 | 1,952698E+22 | 1,735818E+22 | 1,372114E+22 | 9,629669E+21 | 6,180366E+21 | 4,258129E+21 | 4,258041E+21 | 6,180130E+21 | 9,629335E+21 |
| 663               | 1,372083E+22 | 1,735834E+22 | 1,952788E+22 | 1,952810E+22 | 1,735901E+22 | 1,372157E+22 | 9,629797E+21 | 6,180329E+21 | 4,258054E+21 | 4,257974E+21 | 6,180107E+21 | 9,629561E+21 |
| 664               | 1,372154E+22 | 1,735921E+22 | 1,952838E+22 | 1,952820E+22 | 1,735866E+22 | 1,372097E+22 | 9,629266E+21 | 6,179964E+21 | 4,257857E+21 | 4,257951E+21 | 6,180198E+21 | 9,629532E+21 |
| 665               | 1,372117E+22 | 1,735855E+22 | 1,952749E+22 | 1,952766E+22 | 1,735892E+22 | 1,372152E+22 | 9,629765E+21 | 6,180292E+21 | 4,257953E+21 | 4,257814E+21 | 6,179889E+21 | 9,629132E+21 |
| 666               | 1,372077E+22 | 1,735852E+22 | 1,952814E+22 | 1,952835E+22 | 1,735922E+22 | 1,372151E+22 | 9,629545E+21 | 6,180095E+21 | 4,257937E+21 | 4,258006E+21 | 6,180318E+21 | 9,629868E+21 |
| 667               | 1,372161E+22 | 1,735889E+22 | 1,952782E+22 | 1,952755E+22 | 1,735831E+22 | 1,372098E+22 | 9,629419E+21 | 6,180131E+21 | 4,258002E+21 | 4,258058E+21 | 6,180269E+21 | 9,629575E+21 |
| 668               | 1,372107E+22 | 1,735814E+22 | 1,952706E+22 | 1,952735E+22 | 1,735865E+22 | 1,372152E+22 | 9,629997E+21 | 6,180617E+21 | 4,258318E+21 | 4,258183E+21 | 6,180207E+21 | 9,629413E+21 |
| 669               | 1,372112E+22 | 1,735878E+22 | 1,952797E+22 | 1,952782E+22 | 1,735846E+22 | 1,372093E+22 | 9,629450E+21 | 6,180384E+21 | 4,258418E+21 | 4,258547E+21 | 6,180761E+21 | 9,630012E+21 |
| 670               | 1,372146E+22 | 1,735859E+22 | 1,952722E+22 | 1,952675E+22 | 1,735778E+22 | 1,372082E+22 | 9,629655E+21 | 6,180712E+21 | 4,258719E+21 | 4,258724E+21 | 6,180720E+21 | 9,629577E+21 |
| 671               | 1,372054E+22 | 1,735749E+22 | 1,952675E+22 | 1,952714E+22 | 1,735842E+22 | 1,372138E+22 | 9,630105E+21 | 6,181109E+21 | 4,259102E+21 | 4,259049E+21 | 6,180960E+21 | 9,629899E+21 |
| 672               | 1,372117E+22 | 1,735818E+22 | 1,952698E+22 | 1,952695E+22 | 1,735794E+22 | 1,372081E+22 | 9,629689E+21 | 6,180950E+21 | 4,259198E+21 | 4,259366E+21 | 6,181402E+21 | 9,630230E+21 |

| 1                 | 2            | 3            | 4            | 5            | 6            | 7            | 8            | 9            | 10           | 11           | 12           | 13           |
|-------------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|
| Longitude $\odot$ | 0° - 30°     | 30° - 60°    | 60° - 90°    | 90° - 120°   | 120° - 150°  | 150° - 180°  | 180° - 210°  | 210° - 240°  | 240° - 270°  | 270° - 300°  | 300° - 330°  | 330° - 360°  |
| Years             |              |              |              |              |              |              |              |              |              |              |              |              |
| 673               | 1,372111E+22 | 1,735763E+22 | 1,952588E+22 | 1,952580E+22 | 1,735757E+22 | 1,372112E+22 | 9,630278E+21 | 6,181497E+21 | 4,259520E+21 | 4,259403E+21 | 6,181151E+21 | 9,629739E+21 |
| 674               | 1,372051E+22 | 1,735731E+22 | 1,952627E+22 | 1,952644E+22 | 1,735788E+22 | 1,372117E+22 | 9,630233E+21 | 6,181507E+21 | 4,259654E+21 | 4,259639E+21 | 6,181477E+21 | 9,630254E+21 |
| 675               | 1,372126E+22 | 1,735792E+22 | 1,952638E+22 | 1,952603E+22 | 1,735712E+22 | 1,372051E+22 | 9,629885E+21 | 6,181393E+21 | 4,259658E+21 | 4,259717E+21 | 6,181531E+21 | 9,630037E+21 |
| 676               | 1,372065E+22 | 1,735706E+22 | 1,952553E+22 | 1,952576E+22 | 1,735755E+22 | 1,372113E+22 | 9,630408E+21 | 6,181721E+21 | 4,259761E+21 | 4,259611E+21 | 6,181280E+21 | 9,629742E+21 |
| 677               | 1,372048E+22 | 1,735743E+22 | 1,952652E+22 | 1,952664E+22 | 1,735784E+22 | 1,372088E+22 | 9,629884E+21 | 6,181246E+21 | 4,259508E+21 | 4,259612E+21 | 6,181584E+21 | 9,630410E+21 |
| 678               | 1,372128E+22 | 1,735780E+22 | 1,952621E+22 | 1,952593E+22 | 1,735726E+22 | 1,372069E+22 | 9,629865E+21 | 6,181161E+21 | 4,259306E+21 | 4,259342E+21 | 6,181256E+21 | 9,629941E+21 |
| 679               | 1,372064E+22 | 1,735709E+22 | 1,952590E+22 | 1,952640E+22 | 1,735803E+22 | 1,372130E+22 | 9,630243E+21 | 6,181302E+21 | 4,259235E+21 | 4,259100E+21 | 6,180944E+21 | 9,629859E+21 |
| 680               | 1,372120E+22 | 1,735834E+22 | 1,952707E+22 | 1,952693E+22 | 1,735800E+22 | 1,372086E+22 | 9,629621E+21 | 6,180752E+21 | 4,258880E+21 | 4,258982E+21 | 6,181058E+21 | 9,630086E+21 |
| 681               | 1,372131E+22 | 1,735827E+22 | 1,952680E+22 | 1,952636E+22 | 1,735769E+22 | 1,372099E+22 | 9,629908E+21 | 6,180893E+21 | 4,258779E+21 | 4,258656E+21 | 6,180536E+21 | 9,629407E+21 |
| 682               | 1,372055E+22 | 1,735773E+22 | 1,952716E+22 | 1,952744E+22 | 1,735849E+22 | 1,372128E+22 | 9,629885E+21 | 6,180782E+21 | 4,258700E+21 | 4,258638E+21 | 6,180625E+21 | 9,629757E+21 |
| 683               | 1,372130E+22 | 1,735854E+22 | 1,952753E+22 | 1,952745E+22 | 1,735819E+22 | 1,372078E+22 | 9,629397E+21 | 6,180428E+21 | 4,258507E+21 | 4,258623E+21 | 6,180737E+21 | 9,629763E+21 |
| 684               | 1,372096E+22 | 1,735786E+22 | 1,952652E+22 | 1,952670E+22 | 1,735829E+22 | 1,372137E+22 | 9,629993E+21 | 6,180799E+21 | 4,258615E+21 | 4,258502E+21 | 6,180462E+21 | 9,629441E+21 |
| 685               | 1,372069E+22 | 1,735797E+22 | 1,952730E+22 | 1,952745E+22 | 1,735853E+22 | 1,372125E+22 | 9,629730E+21 | 6,180603E+21 | 4,258590E+21 | 4,258642E+21 | 6,180780E+21 | 9,630049E+21 |
| 686               | 1,372154E+22 | 1,735855E+22 | 1,952720E+22 | 1,952673E+22 | 1,735763E+22 | 1,372070E+22 | 9,629592E+21 | 6,180652E+21 | 4,258690E+21 | 4,258755E+21 | 6,180797E+21 | 9,629718E+21 |
| 687               | 1,372077E+22 | 1,735749E+22 | 1,952630E+22 | 1,952660E+22 | 1,735801E+22 | 1,372118E+22 | 9,630133E+21 | 6,181192E+21 | 4,259102E+21 | 4,258960E+21 | 6,180779E+21 | 9,629594E+21 |
| 688               | 1,372085E+22 | 1,735810E+22 | 1,952707E+22 | 1,952703E+22 | 1,735807E+22 | 1,372086E+22 | 9,629668E+21 | 6,180950E+21 | 4,259198E+21 | 4,259340E+21 | 6,181358E+21 | 9,630189E+21 |
| 689               | 1,372112E+22 | 1,735783E+22 | 1,952631E+22 | 1,952591E+22 | 1,735729E+22 | 1,372078E+22 | 9,629984E+21 | 6,181334E+21 | 4,259506E+21 | 4,259508E+21 | 6,181317E+21 | 9,629852E+21 |
| 690               | 1,372039E+22 | 1,735678E+22 | 1,952570E+22 | 1,952613E+22 | 1,735775E+22 | 1,372118E+22 | 9,630355E+21 | 6,181696E+21 | 4,259856E+21 | 4,259804E+21 | 6,181549E+21 | 9,630183E+21 |
| 691               | 1,372108E+22 | 1,735765E+22 | 1,952606E+22 | 1,952597E+22 | 1,735727E+22 | 1,372057E+22 | 9,629922E+21 | 6,181554E+21 | 4,259955E+21 | 4,260094E+21 | 6,181925E+21 | 9,630396E+21 |
| 692               | 1,372090E+22 | 1,735706E+22 | 1,952503E+22 | 1,952483E+22 | 1,735683E+22 | 1,372089E+22 | 9,630523E+21 | 6,182089E+21 | 4,260273E+21 | 4,260151E+21 | 6,181715E+21 | 9,629932E+21 |
| 693               | 1,372026E+22 | 1,735669E+22 | 1,952556E+22 | 1,952575E+22 | 1,735725E+22 | 1,372087E+22 | 9,630375E+21 | 6,182017E+21 | 4,260336E+21 | 4,260320E+21 | 6,181987E+21 | 9,630414E+21 |
| 694               | 1,372102E+22 | 1,735737E+22 | 1,952570E+22 | 1,952538E+22 | 1,735663E+22 | 1,372026E+22 | 9,629988E+21 | 6,181825E+21 | 4,260283E+21 | 4,260395E+21 | 6,182110E+21 | 9,630282E+21 |
| 695               | 1,372039E+22 | 1,735631E+22 | 1,952458E+22 | 1,952494E+22 | 1,735702E+22 | 1,372094E+22 | 9,630542E+21 | 6,182165E+21 | 4,260383E+21 | 4,260256E+21 | 6,181815E+21 | 9,630051E+21 |
| 696               | 1,372046E+22 | 1,735695E+22 | 1,952562E+22 | 1,952573E+22 | 1,735737E+22 | 1,372085E+22 | 9,630112E+21 | 6,181692E+21 | 4,260079E+21 | 4,260179E+21 | 6,182004E+21 | 9,630573E+21 |
| 697               | 1,372119E+22 | 1,735744E+22 | 1,952558E+22 | 1,952514E+22 | 1,735666E+22 | 1,372054E+22 | 9,630117E+21 | 6,181664E+21 | 4,259903E+21 | 4,259883E+21 | 6,181598E+21 | 9,630039E+21 |
| 698               | 1,372056E+22 | 1,735675E+22 | 1,952533E+22 | 1,952569E+22 | 1,735738E+22 | 1,372099E+22 | 9,630351E+21 | 6,181743E+21 | 4,259827E+21 | 4,259671E+21 | 6,181321E+21 | 9,629913E+21 |
| 699               | 1,372097E+22 | 1,735791E+22 | 1,952655E+22 | 1,952641E+22 | 1,735754E+22 | 1,372059E+22 | 9,629717E+21 | 6,181201E+21 | 4,259490E+21 | 4,259581E+21 | 6,181468E+21 | 9,630110E+21 |
| 700               | 1,372091E+22 | 1,735757E+22 | 1,952606E+22 | 1,952578E+22 | 1,735730E+22 | 1,372088E+22 | 9,630070E+21 | 6,181340E+21 | 4,259398E+21 | 4,259308E+21 | 6,181070E+21 | 9,629617E+21 |
| 701               | 1,372026E+22 | 1,735698E+22 | 1,952631E+22 | 1,952677E+22 | 1,735806E+22 | 1,372118E+22 | 9,630073E+21 | 6,181211E+21 | 4,259273E+21 | 4,259233E+21 | 6,181109E+21 | 9,629980E+21 |
| 702               | 1,372116E+22 | 1,735799E+22 | 1,952671E+22 | 1,952665E+22 | 1,735765E+22 | 1,372065E+22 | 9,629625E+21 | 6,180890E+21 | 4,259099E+21 | 4,259248E+21 | 6,181262E+21 | 9,630001E+21 |
| 703               | 1,372081E+22 | 1,735726E+22 | 1,952560E+22 | 1,952576E+22 | 1,735760E+22 | 1,372112E+22 | 9,630193E+21 | 6,181344E+21 | 4,259312E+21 | 4,259181E+21 | 6,180973E+21 | 9,629667E+21 |
| 704               | 1,372062E+22 | 1,735756E+22 | 1,952648E+22 | 1,952648E+22 | 1,735789E+22 | 1,372110E+22 | 9,629961E+21 | 6,181165E+21 | 4,259323E+21 | 4,259360E+21 | 6,181283E+21 | 9,630154E+21 |
| 705               | 1,372126E+22 | 1,735803E+22 | 1,952655E+22 | 1,952601E+22 | 1,735701E+22 | 1,372046E+22 | 9,629817E+21 | 6,181258E+21 | 4,259477E+21 | 4,259527E+21 | 6,181362E+21 | 9,629926E+21 |
| 706               | 1,372056E+22 | 1,735683E+22 | 1,952543E+22 | 1,952582E+22 | 1,735742E+22 | 1,372087E+22 | 9,630227E+21 | 6,181708E+21 | 4,259868E+21 | 4,259763E+21 | 6,181428E+21 | 9,629898E+21 |
| 707               | 1,372068E+22 | 1,735743E+22 | 1,952610E+22 | 1,952616E+22 | 1,735752E+22 | 1,372068E+22 | 9,629874E+21 | 6,181505E+21 | 4,259947E+21 | 4,260112E+21 | 6,181974E+21 | 9,630469E+21 |
| 708               | 1,372094E+22 | 1,735716E+22 | 1,952532E+22 | 1,952493E+22 | 1,735664E+22 | 1,372064E+22 | 9,630285E+21 | 6,181934E+21 | 4,260257E+21 | 4,260269E+21 | 6,181927E+21 | 9,630146E+21 |

| 1                 | 2            | 3            | 4            | 5            | 6            | 7            | 8            | 9            | 10           | 11           | 12           | 13           |
|-------------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|
| Longitude $\odot$ | 0° - 30°     | 30° - 60°    | 60° - 90°    | 90° - 120°   | 120° - 150°  | 150° - 180°  | 180° - 210°  | 210° - 240°  | 240° - 270°  | 270° - 300°  | 300° - 330°  | 330° - 360°  |
| Years             |              |              |              |              |              |              |              |              |              |              |              |              |
| 709               | 1,372027E+22 | 1,735623E+22 | 1,952485E+22 | 1,952520E+22 | 1,735701E+22 | 1,372093E+22 | 9,630593E+21 | 6,182273E+21 | 4,260574E+21 | 4,260491E+21 | 6,182029E+21 | 9,630306E+21 |
| 710               | 1,372087E+22 | 1,735720E+22 | 1,952540E+22 | 1,952518E+22 | 1,735659E+22 | 1,372032E+22 | 9,630132E+21 | 6,182103E+21 | 4,260674E+21 | 4,260817E+21 | 6,182454E+21 | 9,630490E+21 |
| 711               | 1,372051E+22 | 1,735632E+22 | 1,952419E+22 | 1,952408E+22 | 1,735621E+22 | 1,372058E+22 | 9,630669E+21 | 6,182640E+21 | 4,261021E+21 | 4,260897E+21 | 6,182274E+21 | 9,630111E+21 |
| 712               | 1,371998E+22 | 1,735599E+22 | 1,952456E+22 | 1,952487E+22 | 1,735681E+22 | 1,372079E+22 | 9,630572E+21 | 6,182522E+21 | 4,261029E+21 | 4,261024E+21 | 6,182524E+21 | 9,630589E+21 |
| 713               | 1,372074E+22 | 1,735670E+22 | 1,952482E+22 | 1,952457E+22 | 1,735613E+22 | 1,372018E+22 | 9,630259E+21 | 6,182348E+21 | 4,260936E+21 | 4,261034E+21 | 6,182607E+21 | 9,630563E+21 |
| 714               | 1,372036E+22 | 1,735579E+22 | 1,952370E+22 | 1,952407E+22 | 1,735638E+22 | 1,372066E+22 | 9,630673E+21 | 6,182610E+21 | 4,260981E+21 | 4,260853E+21 | 6,182279E+21 | 9,630288E+21 |
| 715               | 1,372045E+22 | 1,735663E+22 | 1,952496E+22 | 1,952496E+22 | 1,735676E+22 | 1,372060E+22 | 9,630273E+21 | 6,182162E+21 | 4,260670E+21 | 4,260743E+21 | 6,182395E+21 | 9,630661E+21 |
| 716               | 1,372098E+22 | 1,735704E+22 | 1,952504E+22 | 1,952451E+22 | 1,735610E+22 | 1,372033E+22 | 9,630296E+21 | 6,182125E+21 | 4,260502E+21 | 4,260483E+21 | 6,182037E+21 | 9,630137E+21 |
| 717               | 1,372026E+22 | 1,735624E+22 | 1,952482E+22 | 1,952522E+22 | 1,735693E+22 | 1,372075E+22 | 9,630459E+21 | 6,182154E+21 | 4,260393E+21 | 4,260243E+21 | 6,181742E+21 | 9,629991E+21 |
| 718               | 1,372065E+22 | 1,735734E+22 | 1,952590E+22 | 1,952590E+22 | 1,735722E+22 | 1,372048E+22 | 9,629847E+21 | 6,181581E+21 | 4,260054E+21 | 4,260202E+21 | 6,181987E+21 | 9,630295E+21 |
| 719               | 1,372060E+22 | 1,735678E+22 | 1,952505E+22 | 1,952497E+22 | 1,735683E+22 | 1,372076E+22 | 9,630271E+21 | 6,181800E+21 | 4,260016E+21 | 4,259949E+21 | 6,181607E+21 | 9,629923E+21 |
| 720               | 1,372022E+22 | 1,735644E+22 | 1,952524E+22 | 1,952573E+22 | 1,735751E+22 | 1,372114E+22 | 9,630356E+21 | 6,181729E+21 | 4,259912E+21 | 4,259858E+21 | 6,181581E+21 | 9,630172E+21 |
| 721               | 1,372103E+22 | 1,735757E+22 | 1,952595E+22 | 1,952574E+22 | 1,735694E+22 | 1,372043E+22 | 9,629898E+21 | 6,181474E+21 | 4,259798E+21 | 4,259897E+21 | 6,181719E+21 | 9,630198E+21 |
| 722               | 1,372073E+22 | 1,735683E+22 | 1,952488E+22 | 1,952492E+22 | 1,735682E+22 | 1,372070E+22 | 9,630279E+21 | 6,181849E+21 | 4,260026E+21 | 4,259899E+21 | 6,181504E+21 | 9,629839E+21 |
| 723               | 1,372042E+22 | 1,735710E+22 | 1,952583E+22 | 1,952581E+22 | 1,735727E+22 | 1,372075E+22 | 9,630075E+21 | 6,181689E+21 | 4,260050E+21 | 4,260104E+21 | 6,181848E+21 | 9,630313E+21 |
| 724               | 1,372092E+22 | 1,735733E+22 | 1,952570E+22 | 1,952527E+22 | 1,735651E+22 | 1,372030E+22 | 9,630011E+21 | 6,181781E+21 | 4,260210E+21 | 4,260301E+21 | 6,181999E+21 | 9,630205E+21 |
| 725               | 1,372031E+22 | 1,735614E+22 | 1,952456E+22 | 1,952503E+22 | 1,735689E+22 | 1,372075E+22 | 9,630470E+21 | 6,182232E+21 | 4,260554E+21 | 4,260463E+21 | 6,181978E+21 | 9,630136E+21 |
| 726               | 1,372053E+22 | 1,735688E+22 | 1,952525E+22 | 1,952532E+22 | 1,735695E+22 | 1,372055E+22 | 9,630147E+21 | 6,182058E+21 | 4,260655E+21 | 4,260827E+21 | 6,182518E+21 | 9,630647E+21 |
| 727               | 1,372069E+22 | 1,735648E+22 | 1,952431E+22 | 1,952396E+22 | 1,735594E+22 | 1,372043E+22 | 9,630571E+21 | 6,182576E+21 | 4,261048E+21 | 4,261023E+21 | 6,182468E+21 | 9,630328E+21 |
| 728               | 1,372007E+22 | 1,735568E+22 | 1,952389E+22 | 1,952421E+22 | 1,735639E+22 | 1,372079E+22 | 9,630885E+21 | 6,182906E+21 | 4,261365E+21 | 4,261253E+21 | 6,182562E+21 | 9,630393E+21 |
| 729               | 1,372047E+22 | 1,735651E+22 | 1,952461E+22 | 1,952441E+22 | 1,735597E+22 | 1,372007E+22 | 9,630372E+21 | 6,182727E+21 | 4,261467E+21 | 4,261584E+21 | 6,183030E+21 | 9,630725E+21 |
| 730               | 1,372027E+22 | 1,735558E+22 | 1,952320E+22 | 1,952320E+22 | 1,735558E+22 | 1,372026E+22 | 9,630748E+21 | 6,183117E+21 | 4,261738E+21 | 4,261657E+21 | 6,182906E+21 | 9,630443E+21 |
| 731               | 1,371988E+22 | 1,735543E+22 | 1,952364E+22 | 1,952396E+22 | 1,735616E+22 | 1,372054E+22 | 9,630740E+21 | 6,182999E+21 | 4,261672E+21 | 4,261694E+21 | 6,183071E+21 | 9,630865E+21 |
| 732               | 1,372065E+22 | 1,735621E+22 | 1,952398E+22 | 1,952369E+22 | 1,735550E+22 | 1,371999E+22 | 9,630463E+21 | 6,182826E+21 | 4,261550E+21 | 4,261653E+21 | 6,183096E+21 | 9,630799E+21 |
| 733               | 1,372028E+22 | 1,735547E+22 | 1,952315E+22 | 1,952338E+22 | 1,735578E+22 | 1,372039E+22 | 9,630806E+21 | 6,183035E+21 | 4,261535E+21 | 4,261383E+21 | 6,182636E+21 | 9,630360E+21 |
| 734               | 1,372026E+22 | 1,735632E+22 | 1,952454E+22 | 1,952447E+22 | 1,735630E+22 | 1,372039E+22 | 9,630406E+21 | 6,182565E+21 | 4,261228E+21 | 4,261312E+21 | 6,182791E+21 | 9,630677E+21 |
| 735               | 1,372057E+22 | 1,735636E+22 | 1,952434E+22 | 1,952401E+22 | 1,735574E+22 | 1,372017E+22 | 9,630451E+21 | 6,182576E+21 | 4,261106E+21 | 4,261090E+21 | 6,182498E+21 | 9,630275E+21 |
| 736               | 1,371998E+22 | 1,735559E+22 | 1,952387E+22 | 1,952448E+22 | 1,735665E+22 | 1,372079E+22 | 9,630701E+21 | 6,182607E+21 | 4,260986E+21 | 4,260846E+21 | 6,182211E+21 | 9,630138E+21 |
| 737               | 1,372033E+22 | 1,735665E+22 | 1,952503E+22 | 1,952512E+22 | 1,735676E+22 | 1,372045E+22 | 9,630161E+21 | 6,182103E+21 | 4,260668E+21 | 4,260792E+21 | 6,182452E+21 | 9,630573E+21 |
| 738               | 1,372057E+22 | 1,735625E+22 | 1,952410E+22 | 1,952401E+22 | 1,735614E+22 | 1,372047E+22 | 9,630419E+21 | 6,182273E+21 | 4,260642E+21 | 4,260577E+21 | 6,182106E+21 | 9,630193E+21 |
| 739               | 1,372023E+22 | 1,735613E+22 | 1,952450E+22 | 1,952479E+22 | 1,735674E+22 | 1,372080E+22 | 9,630532E+21 | 6,182250E+21 | 4,260569E+21 | 4,260503E+21 | 6,182056E+21 | 9,630332E+21 |
| 740               | 1,372086E+22 | 1,735716E+22 | 1,952533E+22 | 1,952499E+22 | 1,735626E+22 | 1,372012E+22 | 9,630063E+21 | 6,181994E+21 | 4,260494E+21 | 4,260604E+21 | 6,182269E+21 | 9,630396E+21 |
| 741               | 1,372048E+22 | 1,735636E+22 | 1,952433E+22 | 1,952434E+22 | 1,735625E+22 | 1,372035E+22 | 9,630343E+21 | 6,182302E+21 | 4,260687E+21 | 4,260586E+21 | 6,182039E+21 | 9,630022E+21 |
| 742               | 1,372016E+22 | 1,735651E+22 | 1,952511E+22 | 1,952519E+22 | 1,735687E+22 | 1,372060E+22 | 9,630219E+21 | 6,182136E+21 | 4,260721E+21 | 4,260833E+21 | 6,182438E+21 | 9,630536E+21 |
| 743               | 1,372062E+22 | 1,735654E+22 | 1,952466E+22 | 1,952443E+22 | 1,735601E+22 | 1,372020E+22 | 9,630281E+21 | 6,182340E+21 | 4,260936E+21 | 4,261035E+21 | 6,182580E+21 | 9,630484E+21 |
| 744               | 1,372020E+22 | 1,735556E+22 | 1,952344E+22 | 1,952394E+22 | 1,735632E+22 | 1,372070E+22 | 9,630829E+21 | 6,182875E+21 | 4,261322E+21 | 4,261191E+21 | 6,182487E+21 | 9,630260E+21 |



| 1                 | 2            | 3            | 4            | 5            | 6            | 7            | 8            | 9            | 10           | 11           | 12           | 13           |
|-------------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|
| Longitude $\odot$ | 0° - 30°     | 30° - 60°    | 60° - 90°    | 90° - 120°   | 120° - 150°  | 150° - 180°  | 180° - 210°  | 210° - 240°  | 240° - 270°  | 270° - 300°  | 300° - 330°  | 330° - 360°  |
| Years             |              |              |              |              |              |              |              |              |              |              |              |              |
| 745               | 1,372023E+22 | 1,735628E+22 | 1,952440E+22 | 1,952439E+22 | 1,735627E+22 | 1,372038E+22 | 9,630507E+21 | 6,182765E+21 | 4,261481E+21 | 4,261576E+21 | 6,183021E+21 | 9,630802E+21 |
| 746               | 1,372045E+22 | 1,735583E+22 | 1,952339E+22 | 1,952302E+22 | 1,735517E+22 | 1,372003E+22 | 9,630721E+21 | 6,183182E+21 | 4,261872E+21 | 4,261842E+21 | 6,183074E+21 | 9,630518E+21 |
| 747               | 1,371979E+22 | 1,735503E+22 | 1,952300E+22 | 1,952334E+22 | 1,735570E+22 | 1,372045E+22 | 9,631048E+21 | 6,183485E+21 | 4,262145E+21 | 4,262054E+21 | 6,183194E+21 | 9,630623E+21 |
| 748               | 1,372014E+22 | 1,735573E+22 | 1,952363E+22 | 1,952353E+22 | 1,735539E+22 | 1,371988E+22 | 9,630562E+21 | 6,183245E+21 | 4,262186E+21 | 4,262349E+21 | 6,183684E+21 | 9,631065E+21 |
| 749               | 1,372010E+22 | 1,735499E+22 | 1,952238E+22 | 1,952236E+22 | 1,735496E+22 | 1,372002E+22 | 9,630896E+21 | 6,183556E+21 | 4,262341E+21 | 4,262285E+21 | 6,183421E+21 | 9,630722E+21 |
| 750               | 1,371985E+22 | 1,735505E+22 | 1,952297E+22 | 1,952322E+22 | 1,735563E+22 | 1,372035E+22 | 9,630901E+21 | 6,183426E+21 | 4,262256E+21 | 4,262293E+21 | 6,183520E+21 | 9,631025E+21 |
| 751               | 1,372048E+22 | 1,735574E+22 | 1,952325E+22 | 1,952295E+22 | 1,735497E+22 | 1,371981E+22 | 9,630670E+21 | 6,183320E+21 | 4,262171E+21 | 4,262246E+21 | 6,183510E+21 | 9,630920E+21 |
| 752               | 1,372012E+22 | 1,735508E+22 | 1,952247E+22 | 1,952270E+22 | 1,735537E+22 | 1,372030E+22 | 9,631043E+21 | 6,183541E+21 | 4,262159E+21 | 4,261975E+21 | 6,183031E+21 | 9,630380E+21 |
| 753               | 1,371986E+22 | 1,735570E+22 | 1,952393E+22 | 1,952397E+22 | 1,735595E+22 | 1,372027E+22 | 9,630638E+21 | 6,183085E+21 | 4,261866E+21 | 4,261911E+21 | 6,183233E+21 | 9,630854E+21 |
| 754               | 1,372032E+22 | 1,735563E+22 | 1,952340E+22 | 1,952324E+22 | 1,735528E+22 | 1,371997E+22 | 9,630570E+21 | 6,183001E+21 | 4,261715E+21 | 4,261732E+21 | 6,183034E+21 | 9,630564E+21 |
| 755               | 1,371989E+22 | 1,735507E+22 | 1,952298E+22 | 1,952352E+22 | 1,735601E+22 | 1,372060E+22 | 9,630921E+21 | 6,183076E+21 | 4,261570E+21 | 4,261450E+21 | 6,182710E+21 | 9,630401E+21 |
| 756               | 1,372024E+22 | 1,735616E+22 | 1,952418E+22 | 1,952417E+22 | 1,735606E+22 | 1,372021E+22 | 9,630367E+21 | 6,182593E+21 | 4,261284E+21 | 4,261403E+21 | 6,182932E+21 | 9,630796E+21 |
| 757               | 1,372047E+22 | 1,735596E+22 | 1,952358E+22 | 1,952324E+22 | 1,735543E+22 | 1,372010E+22 | 9,630500E+21 | 6,182702E+21 | 4,261231E+21 | 4,261160E+21 | 6,182519E+21 | 9,630313E+21 |
| 758               | 1,372006E+22 | 1,735582E+22 | 1,952409E+22 | 1,952426E+22 | 1,735620E+22 | 1,372046E+22 | 9,630578E+21 | 6,182658E+21 | 4,261192E+21 | 4,261154E+21 | 6,182524E+21 | 9,630406E+21 |
| 759               | 1,372048E+22 | 1,735646E+22 | 1,952456E+22 | 1,952440E+22 | 1,735586E+22 | 1,371993E+22 | 9,630204E+21 | 6,182481E+21 | 4,261173E+21 | 4,261296E+21 | 6,182805E+21 | 9,630595E+21 |
| 760               | 1,372023E+22 | 1,735568E+22 | 1,952336E+22 | 1,952356E+22 | 1,735596E+22 | 1,372037E+22 | 9,630625E+21 | 6,182835E+21 | 4,261375E+21 | 4,261277E+21 | 6,182565E+21 | 9,630200E+21 |
| 761               | 1,371983E+22 | 1,735576E+22 | 1,952418E+22 | 1,952438E+22 | 1,735640E+22 | 1,372056E+22 | 9,630599E+21 | 6,182777E+21 | 4,261460E+21 | 4,261520E+21 | 6,182951E+21 | 9,630794E+21 |
| 762               | 1,372049E+22 | 1,735586E+22 | 1,952359E+22 | 1,952338E+22 | 1,735533E+22 | 1,371996E+22 | 9,630534E+21 | 6,182963E+21 | 4,261723E+21 | 4,261805E+21 | 6,183155E+21 | 9,630722E+21 |
| 763               | 1,372006E+22 | 1,735508E+22 | 1,952255E+22 | 1,952284E+22 | 1,735548E+22 | 1,372042E+22 | 9,631117E+21 | 6,183531E+21 | 4,262131E+21 | 4,261986E+21 | 6,183070E+21 | 9,630432E+21 |
| 764               | 1,371991E+22 | 1,735560E+22 | 1,952353E+22 | 1,952346E+22 | 1,735552E+22 | 1,372006E+22 | 9,630724E+21 | 6,183394E+21 | 4,262309E+21 | 4,262414E+21 | 6,183672E+21 | 9,631031E+21 |
| 765               | 1,372014E+22 | 1,735518E+22 | 1,952260E+22 | 1,952222E+22 | 1,735452E+22 | 1,371965E+22 | 9,630788E+21 | 6,183682E+21 | 4,262610E+21 | 4,262619E+21 | 6,183709E+21 | 9,630815E+21 |
| 766               | 1,371960E+22 | 1,735441E+22 | 1,952214E+22 | 1,952253E+22 | 1,735515E+22 | 1,372020E+22 | 9,631139E+21 | 6,183919E+21 | 4,262823E+21 | 4,262798E+21 | 6,183813E+21 | 9,630933E+21 |
| 767               | 1,371998E+22 | 1,735505E+22 | 1,952262E+22 | 1,952259E+22 | 1,735481E+22 | 1,371972E+22 | 9,630792E+21 | 6,183759E+21 | 4,262848E+21 | 4,263018E+21 | 6,184226E+21 | 9,631379E+21 |
| 768               | 1,372012E+22 | 1,735460E+22 | 1,952152E+22 | 1,952144E+22 | 1,735444E+22 | 1,371992E+22 | 9,631166E+21 | 6,184092E+21 | 4,262985E+21 | 4,262886E+21 | 6,183826E+21 | 9,630817E+21 |
| 769               | 1,371963E+22 | 1,735464E+22 | 1,952243E+22 | 1,952256E+22 | 1,735510E+22 | 1,372019E+22 | 9,631181E+21 | 6,184000E+21 | 4,262921E+21 | 4,262877E+21 | 6,183887E+21 | 9,631107E+21 |
| 770               | 1,372025E+22 | 1,735520E+22 | 1,952257E+22 | 1,952231E+22 | 1,735447E+22 | 1,371954E+22 | 9,630792E+21 | 6,183806E+21 | 4,262831E+21 | 4,262898E+21 | 6,183969E+21 | 9,631013E+21 |
| 771               | 1,371982E+22 | 1,735451E+22 | 1,952175E+22 | 1,952199E+22 | 1,735488E+22 | 1,372012E+22 | 9,631233E+21 | 6,184022E+21 | 4,262788E+21 | 4,262618E+21 | 6,183529E+21 | 9,630529E+21 |
| 772               | 1,371950E+22 | 1,735492E+22 | 1,952303E+22 | 1,952320E+22 | 1,735552E+22 | 1,372018E+22 | 9,630860E+21 | 6,183553E+21 | 4,262477E+21 | 4,262543E+21 | 6,183755E+21 | 9,631099E+21 |
| 773               | 1,372014E+22 | 1,735508E+22 | 1,952264E+22 | 1,952242E+22 | 1,735469E+22 | 1,371972E+22 | 9,630694E+21 | 6,183404E+21 | 4,262253E+21 | 4,262282E+21 | 6,183480E+21 | 9,630808E+21 |
| 774               | 1,371985E+22 | 1,735470E+22 | 1,952231E+22 | 1,952273E+22 | 1,735541E+22 | 1,372032E+22 | 9,631018E+21 | 6,183472E+21 | 4,262131E+21 | 4,262024E+21 | 6,183136E+21 | 9,630558E+21 |
| 775               | 1,372009E+22 | 1,735571E+22 | 1,952350E+22 | 1,952339E+22 | 1,735547E+22 | 1,371996E+22 | 9,630529E+21 | 6,183065E+21 | 4,261897E+21 | 4,262007E+21 | 6,183376E+21 | 9,630958E+21 |
| 776               | 1,372033E+22 | 1,735555E+22 | 1,952294E+22 | 1,952259E+22 | 1,735498E+22 | 1,371991E+22 | 9,630661E+21 | 6,183185E+21 | 4,261874E+21 | 4,261792E+21 | 6,182967E+21 | 9,630392E+21 |
| 777               | 1,371970E+22 | 1,735519E+22 | 1,952346E+22 | 1,952374E+22 | 1,735586E+22 | 1,372032E+22 | 9,630776E+21 | 6,183184E+21 | 4,261875E+21 | 4,261813E+21 | 6,183030E+21 | 9,630643E+21 |
| 778               | 1,372026E+22 | 1,735570E+22 | 1,952356E+22 | 1,952356E+22 | 1,735542E+22 | 1,371977E+22 | 9,630369E+21 | 6,182976E+21 | 4,261873E+21 | 4,262027E+21 | 6,183394E+21 | 9,630892E+21 |
| 779               | 1,372012E+22 | 1,735510E+22 | 1,952239E+22 | 1,952250E+22 | 1,735527E+22 | 1,372022E+22 | 9,630946E+21 | 6,183434E+21 | 4,262102E+21 | 4,262005E+21 | 6,183134E+21 | 9,630454E+21 |
| 780               | 1,371965E+22 | 1,735512E+22 | 1,952321E+22 | 1,952334E+22 | 1,735568E+22 | 1,372035E+22 | 9,630906E+21 | 6,183427E+21 | 4,262250E+21 | 4,262283E+21 | 6,183511E+21 | 9,630981E+21 |

| 1                 | 2            | 3            | 4            | 5            | 6            | 7            | 8            | 9            | 10           | 11           | 12           | 13           |
|-------------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|
| Longitude $\odot$ | 0° - 30°     | 30° - 60°    | 60° - 90°    | 90° - 120°   | 120° - 150°  | 150° - 180°  | 180° - 210°  | 210° - 240°  | 240° - 270°  | 270° - 300°  | 300° - 330°  | 330° - 360°  |
| Years             |              |              |              |              |              |              |              |              |              |              |              |              |
| 781               | 1,372026E+22 | 1,735537E+22 | 1,952287E+22 | 1,952244E+22 | 1,735454E+22 | 1,371958E+22 | 9,630689E+21 | 6,183536E+21 | 4,262485E+21 | 4,262560E+21 | 6,183703E+21 | 9,630886E+21 |
| 782               | 1,371981E+22 | 1,735454E+22 | 1,952188E+22 | 1,952207E+22 | 1,735482E+22 | 1,372006E+22 | 9,631211E+21 | 6,184051E+21 | 4,262897E+21 | 4,262786E+21 | 6,183672E+21 | 9,630605E+21 |
| 783               | 1,371955E+22 | 1,735478E+22 | 1,952254E+22 | 1,952259E+22 | 1,735497E+22 | 1,371984E+22 | 9,630901E+21 | 6,183943E+21 | 4,263068E+21 | 4,263198E+21 | 6,184308E+21 | 9,631335E+21 |
| 784               | 1,371996E+22 | 1,735449E+22 | 1,952157E+22 | 1,952131E+22 | 1,735407E+22 | 1,371957E+22 | 9,631038E+21 | 6,184223E+21 | 4,263320E+21 | 4,263334E+21 | 6,184266E+21 | 9,631061E+21 |
| 785               | 1,371942E+22 | 1,735380E+22 | 1,952131E+22 | 1,952173E+22 | 1,735463E+22 | 1,372007E+22 | 9,631432E+21 | 6,184510E+21 | 4,263523E+21 | 4,263444E+21 | 6,184301E+21 | 9,631210E+21 |
| 786               | 1,371993E+22 | 1,735452E+22 | 1,952171E+22 | 1,952165E+22 | 1,735420E+22 | 1,371949E+22 | 9,630996E+21 | 6,184313E+21 | 4,263558E+21 | 4,263701E+21 | 6,184713E+21 | 9,631561E+21 |
| 787               | 1,372001E+22 | 1,735426E+22 | 1,952092E+22 | 1,952059E+22 | 1,735375E+22 | 1,371970E+22 | 9,631435E+21 | 6,184662E+21 | 4,263677E+21 | 4,263558E+21 | 6,184298E+21 | 9,630909E+21 |
| 788               | 1,371929E+22 | 1,735402E+22 | 1,952177E+22 | 1,952191E+22 | 1,735456E+22 | 1,371996E+22 | 9,631381E+21 | 6,184543E+21 | 4,263618E+21 | 4,263565E+21 | 6,184390E+21 | 9,631203E+21 |
| 789               | 1,371987E+22 | 1,735456E+22 | 1,952189E+22 | 1,952167E+22 | 1,735402E+22 | 1,371930E+22 | 9,630861E+21 | 6,184211E+21 | 4,263432E+21 | 4,263529E+21 | 6,184475E+21 | 9,631223E+21 |
| 790               | 1,371960E+22 | 1,735390E+22 | 1,952098E+22 | 1,952125E+22 | 1,735443E+22 | 1,371995E+22 | 9,631310E+21 | 6,184370E+21 | 4,263338E+21 | 4,263226E+21 | 6,184025E+21 | 9,630766E+21 |
| 791               | 1,371934E+22 | 1,735424E+22 | 1,952203E+22 | 1,952224E+22 | 1,735494E+22 | 1,372004E+22 | 9,631062E+21 | 6,183996E+21 | 4,263038E+21 | 4,263105E+21 | 6,184205E+21 | 9,631356E+21 |
| 792               | 1,372014E+22 | 1,735470E+22 | 1,952185E+22 | 1,952157E+22 | 1,735416E+22 | 1,371956E+22 | 9,630892E+21 | 6,183870E+21 | 4,262828E+21 | 4,262820E+21 | 6,183845E+21 | 9,630905E+21 |
| 793               | 1,371968E+22 | 1,735434E+22 | 1,952184E+22 | 1,952215E+22 | 1,735487E+22 | 1,372007E+22 | 9,631184E+21 | 6,183968E+21 | 4,262745E+21 | 4,262582E+21 | 6,183520E+21 | 9,630689E+21 |
| 794               | 1,371989E+22 | 1,735516E+22 | 1,952282E+22 | 1,952274E+22 | 1,735496E+22 | 1,371967E+22 | 9,630611E+21 | 6,183523E+21 | 4,262549E+21 | 4,262669E+21 | 6,183872E+21 | 9,631110E+21 |
| 795               | 1,372009E+22 | 1,735501E+22 | 1,952226E+22 | 1,952187E+22 | 1,735448E+22 | 1,371976E+22 | 9,630863E+21 | 6,183663E+21 | 4,262521E+21 | 4,262471E+21 | 6,183507E+21 | 9,630588E+21 |
| 796               | 1,371940E+22 | 1,735443E+22 | 1,952255E+22 | 1,952293E+22 | 1,735539E+22 | 1,372026E+22 | 9,631046E+21 | 6,183714E+21 | 4,262557E+21 | 4,262509E+21 | 6,183574E+21 | 9,630859E+21 |
| 797               | 1,372007E+22 | 1,735514E+22 | 1,952272E+22 | 1,952265E+22 | 1,735482E+22 | 1,371958E+22 | 9,630567E+21 | 6,183488E+21 | 4,262540E+21 | 4,262693E+21 | 6,183902E+21 | 9,631121E+21 |
| 798               | 1,372002E+22 | 1,735464E+22 | 1,952162E+22 | 1,952158E+22 | 1,735459E+22 | 1,371997E+22 | 9,631119E+21 | 6,183970E+21 | 4,262829E+21 | 4,262732E+21 | 6,183655E+21 | 9,630613E+21 |
| 799               | 1,371941E+22 | 1,735446E+22 | 1,952231E+22 | 1,952238E+22 | 1,735497E+22 | 1,372012E+22 | 9,631160E+21 | 6,184049E+21 | 4,263035E+21 | 4,263052E+21 | 6,184081E+21 | 9,631177E+21 |
| 800               | 1,372003E+22 | 1,735474E+22 | 1,952202E+22 | 1,952164E+22 | 1,735397E+22 | 1,371933E+22 | 9,630894E+21 | 6,184143E+21 | 4,263281E+21 | 4,263347E+21 | 6,184292E+21 | 9,631062E+21 |
| 801               | 1,371946E+22 | 1,735379E+22 | 1,952105E+22 | 1,952135E+22 | 1,735431E+22 | 1,371985E+22 | 9,631406E+21 | 6,184638E+21 | 4,263675E+21 | 4,263555E+21 | 6,184299E+21 | 9,630951E+21 |
| 802               | 1,371939E+22 | 1,735401E+22 | 1,952143E+22 | 1,952157E+22 | 1,735434E+22 | 1,371963E+22 | 9,631085E+21 | 6,184486E+21 | 4,263825E+21 | 4,263986E+21 | 6,184950E+21 | 9,631683E+21 |
| 803               | 1,371994E+22 | 1,735401E+22 | 1,952067E+22 | 1,952023E+22 | 1,735328E+22 | 1,371937E+22 | 9,631335E+21 | 6,184812E+21 | 4,264050E+21 | 4,264061E+21 | 6,184818E+21 | 9,631291E+21 |
| 804               | 1,371928E+22 | 1,735328E+22 | 1,952052E+22 | 1,952084E+22 | 1,735398E+22 | 1,371986E+22 | 9,631691E+21 | 6,185116E+21 | 4,264275E+21 | 4,264159E+21 | 6,184789E+21 | 9,631308E+21 |
| 805               | 1,371970E+22 | 1,735412E+22 | 1,952115E+22 | 1,952093E+22 | 1,735357E+22 | 1,371917E+22 | 9,631107E+21 | 6,184810E+21 | 4,264241E+21 | 4,264370E+21 | 6,185172E+21 | 9,631638E+21 |
| 806               | 1,371970E+22 | 1,735369E+22 | 1,952032E+22 | 1,952002E+22 | 1,735327E+22 | 1,371945E+22 | 9,631509E+21 | 6,185101E+21 | 4,264334E+21 | 4,264239E+21 | 6,184794E+21 | 9,631010E+21 |
| 807               | 1,371888E+22 | 1,735316E+22 | 1,952080E+22 | 1,952118E+22 | 1,735418E+22 | 1,371989E+22 | 9,631584E+21 | 6,185006E+21 | 4,264237E+21 | 4,264206E+21 | 6,184912E+21 | 9,631430E+21 |
| 808               | 1,371966E+22 | 1,735384E+22 | 1,952091E+22 | 1,952087E+22 | 1,735362E+22 | 1,371925E+22 | 9,631102E+21 | 6,184666E+21 | 4,264004E+21 | 4,264102E+21 | 6,184925E+21 | 9,631417E+21 |
| 809               | 1,371944E+22 | 1,735335E+22 | 1,952021E+22 | 1,952049E+22 | 1,735390E+22 | 1,371982E+22 | 9,631546E+21 | 6,184854E+21 | 4,263906E+21 | 4,263752E+21 | 6,184441E+21 | 9,631026E+21 |
| 810               | 1,371934E+22 | 1,735381E+22 | 1,952119E+22 | 1,952130E+22 | 1,735428E+22 | 1,371978E+22 | 9,631201E+21 | 6,184453E+21 | 4,263643E+21 | 4,263700E+21 | 6,184641E+21 | 9,631531E+21 |
| 811               | 1,372010E+22 | 1,735444E+22 | 1,952133E+22 | 1,952078E+22 | 1,735343E+22 | 1,371929E+22 | 9,631080E+21 | 6,184346E+21 | 4,263443E+21 | 4,263436E+21 | 6,184296E+21 | 9,631021E+21 |
| 812               | 1,371943E+22 | 1,735381E+22 | 1,952127E+22 | 1,952161E+22 | 1,735439E+22 | 1,371982E+22 | 9,631306E+21 | 6,184440E+21 | 4,263396E+21 | 4,263242E+21 | 6,184016E+21 | 9,630817E+21 |
| 813               | 1,371962E+22 | 1,735463E+22 | 1,952217E+22 | 1,952213E+22 | 1,735454E+22 | 1,371946E+22 | 9,630671E+21 | 6,183911E+21 | 4,263145E+21 | 4,263305E+21 | 6,184386E+21 | 9,631341E+21 |
| 814               | 1,371993E+22 | 1,735446E+22 | 1,952152E+22 | 1,952115E+22 | 1,735401E+22 | 1,371963E+22 | 9,630998E+21 | 6,184078E+21 | 4,263131E+21 | 4,263121E+21 | 6,184020E+21 | 9,630813E+21 |
| 815               | 1,371923E+22 | 1,735376E+22 | 1,952155E+22 | 1,952197E+22 | 1,735480E+22 | 1,372016E+22 | 9,631346E+21 | 6,184272E+21 | 4,263230E+21 | 4,263166E+21 | 6,184069E+21 | 9,631056E+21 |
| 816               | 1,371993E+22 | 1,735463E+22 | 1,952187E+22 | 1,952177E+22 | 1,735423E+22 | 1,371942E+22 | 9,630851E+21 | 6,184091E+21 | 4,263272E+21 | 4,263377E+21 | 6,184358E+21 | 9,631198E+21 |

| 1                 | 2            | 3            | 4            | 5            | 6            | 7            | 8            | 9            | 10           | 11           | 12           | 13           |
|-------------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|
| Longitude $\odot$ | 0° - 30°     | 30° - 60°    | 60° - 90°    | 90° - 120°   | 120° - 150°  | 150° - 180°  | 180° - 210°  | 210° - 240°  | 240° - 270°  | 270° - 300°  | 300° - 330°  | 330° - 360°  |
| Years             |              |              |              |              |              |              |              |              |              |              |              |              |
| 817               | 1,371973E+22 | 1,735409E+22 | 1,952097E+22 | 1,952088E+22 | 1,735397E+22 | 1,371972E+22 | 9,631354E+21 | 6,184595E+21 | 4,263608E+21 | 4,263466E+21 | 6,184192E+21 | 9,630797E+21 |
| 818               | 1,371912E+22 | 1,735371E+22 | 1,952130E+22 | 1,952147E+22 | 1,735433E+22 | 1,371982E+22 | 9,631314E+21 | 6,184636E+21 | 4,263853E+21 | 4,263886E+21 | 6,184729E+21 | 9,631422E+21 |
| 819               | 1,371979E+22 | 1,735407E+22 | 1,952108E+22 | 1,952068E+22 | 1,735331E+22 | 1,371916E+22 | 9,631148E+21 | 6,184723E+21 | 4,264063E+21 | 4,264165E+21 | 6,184961E+21 | 9,631368E+21 |
| 820               | 1,371923E+22 | 1,735302E+22 | 1,952003E+22 | 1,952041E+22 | 1,735368E+22 | 1,371966E+22 | 9,631650E+21 | 6,185223E+21 | 4,264445E+21 | 4,264337E+21 | 6,184914E+21 | 9,631220E+21 |
| 821               | 1,371928E+22 | 1,735351E+22 | 1,952057E+22 | 1,952061E+22 | 1,735364E+22 | 1,371936E+22 | 9,631256E+21 | 6,185016E+21 | 4,264534E+21 | 4,264695E+21 | 6,185489E+21 | 9,631920E+21 |
| 822               | 1,371986E+22 | 1,735362E+22 | 1,952001E+22 | 1,951943E+22 | 1,735264E+22 | 1,371912E+22 | 9,631473E+21 | 6,185315E+21 | 4,264755E+21 | 4,264766E+21 | 6,185310E+21 | 9,631407E+21 |
| 823               | 1,371901E+22 | 1,735267E+22 | 1,951972E+22 | 1,952003E+22 | 1,735338E+22 | 1,371967E+22 | 9,631930E+21 | 6,185676E+21 | 4,264988E+21 | 4,264859E+21 | 6,185292E+21 | 9,631419E+21 |
| 824               | 1,371938E+22 | 1,735346E+22 | 1,952037E+22 | 1,952031E+22 | 1,735318E+22 | 1,371903E+22 | 9,631313E+21 | 6,185336E+21 | 4,264925E+21 | 4,265041E+21 | 6,185661E+21 | 9,631750E+21 |
| 825               | 1,371933E+22 | 1,735294E+22 | 1,951950E+22 | 1,951941E+22 | 1,735289E+22 | 1,371935E+22 | 9,631709E+21 | 6,185586E+21 | 4,264966E+21 | 4,264867E+21 | 6,185323E+21 | 9,631312E+21 |
| 826               | 1,371874E+22 | 1,735241E+22 | 1,951965E+22 | 1,952015E+22 | 1,735357E+22 | 1,371973E+22 | 9,631782E+21 | 6,185472E+21 | 4,264855E+21 | 4,264843E+21 | 6,185438E+21 | 9,631726E+21 |
| 827               | 1,371966E+22 | 1,735345E+22 | 1,952008E+22 | 1,951984E+22 | 1,735284E+22 | 1,371905E+22 | 9,631360E+21 | 6,185157E+21 | 4,264599E+21 | 4,264691E+21 | 6,185381E+21 | 9,631616E+21 |
| 828               | 1,371934E+22 | 1,735297E+22 | 1,951956E+22 | 1,951971E+22 | 1,735322E+22 | 1,371953E+22 | 9,631697E+21 | 6,185333E+21 | 4,264527E+21 | 4,264349E+21 | 6,184849E+21 | 9,631103E+21 |
| 829               | 1,371918E+22 | 1,735357E+22 | 1,952076E+22 | 1,952069E+22 | 1,735365E+22 | 1,371942E+22 | 9,631229E+21 | 6,184840E+21 | 4,264218E+21 | 4,264284E+21 | 6,185062E+21 | 9,631627E+21 |
| 830               | 1,371987E+22 | 1,735404E+22 | 1,952088E+22 | 1,952035E+22 | 1,735303E+22 | 1,371904E+22 | 9,631085E+21 | 6,184697E+21 | 4,264016E+21 | 4,264043E+21 | 6,184749E+21 | 9,631131E+21 |
| 831               | 1,371911E+22 | 1,735310E+22 | 1,952043E+22 | 1,952097E+22 | 1,735407E+22 | 1,371979E+22 | 9,631514E+21 | 6,184875E+21 | 4,263980E+21 | 4,263848E+21 | 6,184503E+21 | 9,631015E+21 |
| 832               | 1,371941E+22 | 1,735397E+22 | 1,952129E+22 | 1,952145E+22 | 1,735419E+22 | 1,371945E+22 | 9,630958E+21 | 6,184410E+21 | 4,263751E+21 | 4,263890E+21 | 6,184815E+21 | 9,631486E+21 |
| 833               | 1,371972E+22 | 1,735386E+22 | 1,952071E+22 | 1,952043E+22 | 1,735353E+22 | 1,371954E+22 | 9,631303E+21 | 6,184654E+21 | 4,263798E+21 | 4,263742E+21 | 6,184497E+21 | 9,631044E+21 |
| 834               | 1,371910E+22 | 1,735317E+22 | 1,952054E+22 | 1,952094E+22 | 1,735409E+22 | 1,371995E+22 | 9,631602E+21 | 6,184876E+21 | 4,263994E+21 | 4,263914E+21 | 6,184621E+21 | 9,631236E+21 |
| 835               | 1,371974E+22 | 1,735414E+22 | 1,952111E+22 | 1,952081E+22 | 1,735338E+22 | 1,371914E+22 | 9,631127E+21 | 6,184716E+21 | 4,264072E+21 | 4,264182E+21 | 6,184969E+21 | 9,631379E+21 |
| 836               | 1,371938E+22 | 1,735335E+22 | 1,952010E+22 | 1,952010E+22 | 1,735334E+22 | 1,371941E+22 | 9,631511E+21 | 6,185188E+21 | 4,264434E+21 | 4,264313E+21 | 6,184851E+21 | 9,631034E+21 |
| 837               | 1,371889E+22 | 1,735310E+22 | 1,952038E+22 | 1,952055E+22 | 1,735367E+22 | 1,371952E+22 | 9,631384E+21 | 6,185110E+21 | 4,264588E+21 | 4,264679E+21 | 6,185393E+21 | 9,631771E+21 |
| 838               | 1,371970E+22 | 1,735349E+22 | 1,952015E+22 | 1,951975E+22 | 1,735264E+22 | 1,371890E+22 | 9,631264E+21 | 6,185203E+21 | 4,264773E+21 | 4,264909E+21 | 6,185554E+21 | 9,631659E+21 |
| 839               | 1,371913E+22 | 1,735243E+22 | 1,951904E+22 | 1,951941E+22 | 1,735302E+22 | 1,371950E+22 | 9,631924E+21 | 6,185799E+21 | 4,265162E+21 | 4,265039E+21 | 6,185441E+21 | 9,631435E+21 |
| 840               | 1,371915E+22 | 1,735303E+22 | 1,951982E+22 | 1,951984E+22 | 1,735305E+22 | 1,371918E+22 | 9,631522E+21 | 6,185611E+21 | 4,265263E+21 | 4,265373E+21 | 6,185928E+21 | 9,631965E+21 |
| 841               | 1,371952E+22 | 1,735305E+22 | 1,951941E+22 | 1,951889E+22 | 1,735215E+22 | 1,371893E+22 | 9,631721E+21 | 6,185903E+21 | 4,265479E+21 | 4,265455E+21 | 6,185816E+21 | 9,631546E+21 |
| 842               | 1,371866E+22 | 1,735190E+22 | 1,951871E+22 | 1,951921E+22 | 1,735287E+22 | 1,371950E+22 | 9,632130E+21 | 6,186221E+21 | 4,265721E+21 | 4,265604E+21 | 6,185866E+21 | 9,631602E+21 |
| 843               | 1,371907E+22 | 1,735276E+22 | 1,951942E+22 | 1,951938E+22 | 1,735258E+22 | 1,371895E+22 | 9,631606E+21 | 6,185862E+21 | 4,265600E+21 | 4,265735E+21 | 6,186219E+21 | 9,631986E+21 |
| 844               | 1,371909E+22 | 1,735222E+22 | 1,951852E+22 | 1,951853E+22 | 1,735231E+22 | 1,371918E+22 | 9,631943E+21 | 6,186103E+21 | 4,265618E+21 | 4,265515E+21 | 6,185823E+21 | 9,631532E+21 |
| 845               | 1,371868E+22 | 1,735205E+22 | 1,951885E+22 | 1,951921E+22 | 1,735285E+22 | 1,371942E+22 | 9,631887E+21 | 6,185898E+21 | 4,265435E+21 | 4,265424E+21 | 6,185888E+21 | 9,631942E+21 |
| 846               | 1,371963E+22 | 1,735320E+22 | 1,951955E+22 | 1,951914E+22 | 1,735220E+22 | 1,371873E+22 | 9,631413E+21 | 6,185554E+21 | 4,265174E+21 | 4,265265E+21 | 6,185794E+21 | 9,631737E+21 |
| 847               | 1,371916E+22 | 1,735255E+22 | 1,951899E+22 | 1,951911E+22 | 1,735270E+22 | 1,371929E+22 | 9,631831E+21 | 6,185761E+21 | 4,265101E+21 | 4,264932E+21 | 6,185292E+21 | 9,631230E+21 |
| 848               | 1,371892E+22 | 1,735303E+22 | 1,952019E+22 | 1,952031E+22 | 1,735337E+22 | 1,371927E+22 | 9,631361E+21 | 6,185257E+21 | 4,264791E+21 | 4,264857E+21 | 6,185488E+21 | 9,631737E+21 |
| 849               | 1,371956E+22 | 1,735341E+22 | 1,952021E+22 | 1,951991E+22 | 1,735279E+22 | 1,371901E+22 | 9,631286E+21 | 6,185121E+21 | 4,264574E+21 | 4,264613E+21 | 6,185234E+21 | 9,631396E+21 |
| 850               | 1,371896E+22 | 1,735243E+22 | 1,951934E+22 | 1,952000E+22 | 1,735353E+22 | 1,371971E+22 | 9,631783E+21 | 6,185381E+21 | 4,264615E+21 | 4,264486E+21 | 6,185004E+21 | 9,631240E+21 |
| 851               | 1,371930E+22 | 1,735351E+22 | 1,952043E+22 | 1,952044E+22 | 1,735347E+22 | 1,371933E+22 | 9,631305E+21 | 6,184996E+21 | 4,264443E+21 | 4,264552E+21 | 6,185293E+21 | 9,631634E+21 |
| 852               | 1,371950E+22 | 1,735333E+22 | 1,951992E+22 | 1,951959E+22 | 1,735283E+22 | 1,371925E+22 | 9,631524E+21 | 6,185256E+21 | 4,264563E+21 | 4,264479E+21 | 6,185005E+21 | 9,631144E+21 |

| 1                 | 2            | 3            | 4            | 5            | 6            | 7            | 8            | 9            | 10           | 11           | 12           | 13           |
|-------------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|
| Longitude $\odot$ | 0° - 30°     | 30° - 60°    | 60° - 90°    | 90° - 120°   | 120° - 150°  | 150° - 180°  | 180° - 210°  | 210° - 240°  | 240° - 270°  | 270° - 300°  | 300° - 330°  | 330° - 360°  |
| Years             |              |              |              |              |              |              |              |              |              |              |              |              |
| 853               | 1,371885E+22 | 1,735271E+22 | 1,951978E+22 | 1,952007E+22 | 1,735332E+22 | 1,371954E+22 | 9,631689E+21 | 6,185391E+21 | 4,264732E+21 | 4,264675E+21 | 6,185211E+21 | 9,631441E+21 |
| 854               | 1,371947E+22 | 1,735354E+22 | 1,952033E+22 | 1,952008E+22 | 1,735281E+22 | 1,371882E+22 | 9,631173E+21 | 6,185182E+21 | 4,264796E+21 | 4,264950E+21 | 6,185593E+21 | 9,631637E+21 |
| 855               | 1,371911E+22 | 1,735259E+22 | 1,951907E+22 | 1,951918E+22 | 1,735277E+22 | 1,371925E+22 | 9,631714E+21 | 6,185691E+21 | 4,265133E+21 | 4,265054E+21 | 6,185471E+21 | 9,631351E+21 |
| 856               | 1,371875E+22 | 1,735245E+22 | 1,951945E+22 | 1,951973E+22 | 1,735312E+22 | 1,371936E+22 | 9,631646E+21 | 6,185665E+21 | 4,265285E+21 | 4,265361E+21 | 6,185902E+21 | 9,631982E+21 |
| 857               | 1,371955E+22 | 1,735299E+22 | 1,951938E+22 | 1,951901E+22 | 1,735212E+22 | 1,371876E+22 | 9,631543E+21 | 6,185795E+21 | 4,265488E+21 | 4,265588E+21 | 6,186067E+21 | 9,631877E+21 |
| 858               | 1,371897E+22 | 1,735189E+22 | 1,951810E+22 | 1,951842E+22 | 1,735233E+22 | 1,371930E+22 | 9,632209E+21 | 6,186434E+21 | 4,265956E+21 | 4,265805E+21 | 6,185984E+21 | 9,631567E+21 |
| 859               | 1,371886E+22 | 1,735249E+22 | 1,951909E+22 | 1,951899E+22 | 1,735236E+22 | 1,371899E+22 | 9,631846E+21 | 6,186259E+21 | 4,266064E+21 | 4,266155E+21 | 6,186494E+21 | 9,632086E+21 |
| 860               | 1,371909E+22 | 1,735223E+22 | 1,951850E+22 | 1,951818E+22 | 1,735166E+22 | 1,371872E+22 | 9,631932E+21 | 6,186497E+21 | 4,266268E+21 | 4,266248E+21 | 6,186416E+21 | 9,631742E+21 |
| 861               | 1,371840E+22 | 1,735124E+22 | 1,951770E+22 | 1,951823E+22 | 1,735225E+22 | 1,371927E+22 | 9,632260E+21 | 6,186680E+21 | 4,266389E+21 | 4,266319E+21 | 6,186472E+21 | 9,631928E+21 |
| 862               | 1,371897E+22 | 1,735221E+22 | 1,951852E+22 | 1,951844E+22 | 1,735192E+22 | 1,371868E+22 | 9,631720E+21 | 6,186300E+21 | 4,266216E+21 | 4,266366E+21 | 6,186727E+21 | 9,632247E+21 |
| 863               | 1,371901E+22 | 1,735175E+22 | 1,951768E+22 | 1,951760E+22 | 1,735164E+22 | 1,371894E+22 | 9,632122E+21 | 6,186569E+21 | 4,266213E+21 | 4,266100E+21 | 6,186265E+21 | 9,631724E+21 |
| 864               | 1,371860E+22 | 1,735171E+22 | 1,951834E+22 | 1,951863E+22 | 1,735230E+22 | 1,371914E+22 | 9,632022E+21 | 6,186349E+21 | 4,266019E+21 | 4,265973E+21 | 6,186247E+21 | 9,631993E+21 |
| 865               | 1,371937E+22 | 1,735278E+22 | 1,951913E+22 | 1,951880E+22 | 1,735187E+22 | 1,371854E+22 | 9,631547E+21 | 6,185983E+21 | 4,265736E+21 | 4,265823E+21 | 6,186227E+21 | 9,631880E+21 |
| 866               | 1,371887E+22 | 1,735192E+22 | 1,951819E+22 | 1,951848E+22 | 1,735236E+22 | 1,371919E+22 | 9,632000E+21 | 6,186199E+21 | 4,265701E+21 | 4,265550E+21 | 6,185784E+21 | 9,631413E+21 |
| 867               | 1,371868E+22 | 1,735244E+22 | 1,951939E+22 | 1,951952E+22 | 1,735290E+22 | 1,371927E+22 | 9,631672E+21 | 6,185739E+21 | 4,265387E+21 | 4,265458E+21 | 6,185956E+21 | 9,631913E+21 |
| 868               | 1,371931E+22 | 1,735273E+22 | 1,951930E+22 | 1,951913E+22 | 1,735232E+22 | 1,371891E+22 | 9,631570E+21 | 6,185657E+21 | 4,265220E+21 | 4,265239E+21 | 6,185685E+21 | 9,631558E+21 |
| 869               | 1,371886E+22 | 1,735206E+22 | 1,951849E+22 | 1,951900E+22 | 1,735283E+22 | 1,371944E+22 | 9,631941E+21 | 6,185862E+21 | 4,265256E+21 | 4,265127E+21 | 6,185490E+21 | 9,631434E+21 |
| 870               | 1,371915E+22 | 1,735310E+22 | 1,951974E+22 | 1,951959E+22 | 1,735274E+22 | 1,371898E+22 | 9,631409E+21 | 6,185491E+21 | 4,265128E+21 | 4,265231E+21 | 6,185791E+21 | 9,631780E+21 |
| 871               | 1,371923E+22 | 1,735274E+22 | 1,951914E+22 | 1,951881E+22 | 1,735220E+22 | 1,371894E+22 | 9,631675E+21 | 6,185778E+21 | 4,265272E+21 | 4,265207E+21 | 6,185587E+21 | 9,631376E+21 |
| 872               | 1,371860E+22 | 1,735204E+22 | 1,951901E+22 | 1,951944E+22 | 1,735283E+22 | 1,371927E+22 | 9,631809E+21 | 6,185887E+21 | 4,265433E+21 | 4,265391E+21 | 6,185777E+21 | 9,631683E+21 |
| 873               | 1,371924E+22 | 1,735287E+22 | 1,951948E+22 | 1,951936E+22 | 1,735237E+22 | 1,371870E+22 | 9,631382E+21 | 6,185684E+21 | 4,265464E+21 | 4,265650E+21 | 6,186198E+21 | 9,631989E+21 |
| 874               | 1,371902E+22 | 1,735196E+22 | 1,951798E+22 | 1,951810E+22 | 1,735209E+22 | 1,371909E+22 | 9,631993E+21 | 6,186273E+21 | 4,265869E+21 | 4,265788E+21 | 6,186041E+21 | 9,631609E+21 |
| 875               | 1,371865E+22 | 1,735202E+22 | 1,951862E+22 | 1,951869E+22 | 1,735236E+22 | 1,371920E+22 | 9,632002E+21 | 6,186320E+21 | 4,266072E+21 | 4,266104E+21 | 6,186410E+21 | 9,632097E+21 |
| 876               | 1,371926E+22 | 1,735240E+22 | 1,951862E+22 | 1,951825E+22 | 1,735152E+22 | 1,371852E+22 | 9,631817E+21 | 6,186467E+21 | 4,266330E+21 | 4,266387E+21 | 6,186586E+21 | 9,631936E+21 |
| 877               | 1,371865E+22 | 1,735133E+22 | 1,951728E+22 | 1,951757E+22 | 1,735168E+22 | 1,371899E+22 | 9,632357E+21 | 6,187001E+21 | 4,266743E+21 | 4,266607E+21 | 6,186595E+21 | 9,631751E+21 |
| 878               | 1,371848E+22 | 1,735173E+22 | 1,951821E+22 | 1,951822E+22 | 1,735185E+22 | 1,371875E+22 | 9,631974E+21 | 6,186779E+21 | 4,266805E+21 | 4,266913E+21 | 6,187097E+21 | 9,632327E+21 |
| 879               | 1,371878E+22 | 1,735141E+22 | 1,951741E+22 | 1,951722E+22 | 1,735111E+22 | 1,371859E+22 | 9,632171E+21 | 6,187014E+21 | 4,266942E+21 | 4,266948E+21 | 6,187008E+21 | 9,632064E+21 |
| 880               | 1,371827E+22 | 1,735060E+22 | 1,951679E+22 | 1,951739E+22 | 1,735165E+22 | 1,371905E+22 | 9,632470E+21 | 6,187181E+21 | 4,267012E+21 | 4,266924E+21 | 6,186937E+21 | 9,632155E+21 |
| 881               | 1,371889E+22 | 1,735180E+22 | 1,951784E+22 | 1,951770E+22 | 1,735139E+22 | 1,371850E+22 | 9,631914E+21 | 6,186769E+21 | 4,266799E+21 | 4,266940E+21 | 6,187183E+21 | 9,632470E+21 |
| 882               | 1,371892E+22 | 1,735136E+22 | 1,951696E+22 | 1,951674E+22 | 1,735099E+22 | 1,371869E+22 | 9,632296E+21 | 6,187052E+21 | 4,266843E+21 | 4,266721E+21 | 6,186718E+21 | 9,631861E+21 |
| 883               | 1,371840E+22 | 1,735133E+22 | 1,951783E+22 | 1,951799E+22 | 1,735178E+22 | 1,371895E+22 | 9,632224E+21 | 6,186839E+21 | 4,266652E+21 | 4,266595E+21 | 6,186699E+21 | 9,632102E+21 |
| 884               | 1,371904E+22 | 1,735212E+22 | 1,951843E+22 | 1,951831E+22 | 1,735160E+22 | 1,371840E+22 | 9,631691E+21 | 6,186437E+21 | 4,266364E+21 | 4,266452E+21 | 6,186684E+21 | 9,632029E+21 |
| 885               | 1,371869E+22 | 1,735140E+22 | 1,951731E+22 | 1,951761E+22 | 1,735185E+22 | 1,371902E+22 | 9,632132E+21 | 6,186591E+21 | 4,266260E+21 | 4,266146E+21 | 6,186279E+21 | 9,631674E+21 |
| 886               | 1,371856E+22 | 1,735192E+22 | 1,951859E+22 | 1,951867E+22 | 1,735232E+22 | 1,371905E+22 | 9,631834E+21 | 6,186187E+21 | 4,265962E+21 | 4,266018E+21 | 6,186375E+21 | 9,632080E+21 |
| 887               | 1,371915E+22 | 1,735224E+22 | 1,951850E+22 | 1,951822E+22 | 1,735167E+22 | 1,371868E+22 | 9,631779E+21 | 6,186160E+21 | 4,265842E+21 | 4,265840E+21 | 6,186125E+21 | 9,631703E+21 |
| 888               | 1,371866E+22 | 1,735159E+22 | 1,951792E+22 | 1,951833E+22 | 1,735220E+22 | 1,371913E+22 | 9,632091E+21 | 6,186366E+21 | 4,265910E+21 | 4,265756E+21 | 6,185923E+21 | 9,631521E+21 |



| 1                 | 2            | 3            | 4            | 5            | 6            | 7            | 8            | 9            | 10           | 11           | 12           | 13           |
|-------------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|
| Longitude $\odot$ | 0° - 30°     | 30° - 60°    | 60° - 90°    | 90° - 120°   | 120° - 150°  | 150° - 180°  | 180° - 210°  | 210° - 240°  | 240° - 270°  | 270° - 300°  | 300° - 330°  | 330° - 360°  |
| Years             |              |              |              |              |              |              |              |              |              |              |              |              |
| 889               | 1,371885E+22 | 1,735253E+22 | 1,951913E+22 | 1,951904E+22 | 1,735232E+22 | 1,371875E+22 | 9,631545E+21 | 6,185972E+21 | 4,265780E+21 | 4,265907E+21 | 6,186341E+21 | 9,631997E+21 |
| 890               | 1,371894E+22 | 1,735201E+22 | 1,951816E+22 | 1,951794E+22 | 1,735169E+22 | 1,371877E+22 | 9,631851E+21 | 6,186290E+21 | 4,265985E+21 | 4,265949E+21 | 6,186191E+21 | 9,631655E+21 |
| 891               | 1,371840E+22 | 1,735142E+22 | 1,951811E+22 | 1,951849E+22 | 1,735223E+22 | 1,371916E+22 | 9,632106E+21 | 6,186460E+21 | 4,266160E+21 | 4,266118E+21 | 6,186342E+21 | 9,631934E+21 |
| 892               | 1,371904E+22 | 1,735219E+22 | 1,951853E+22 | 1,951850E+22 | 1,735183E+22 | 1,371854E+22 | 9,631673E+21 | 6,186315E+21 | 4,266244E+21 | 4,266396E+21 | 6,186721E+21 | 9,632180E+21 |
| 893               | 1,371892E+22 | 1,735155E+22 | 1,951712E+22 | 1,951705E+22 | 1,735135E+22 | 1,371881E+22 | 9,632205E+21 | 6,186863E+21 | 4,266643E+21 | 4,266559E+21 | 6,186615E+21 | 9,631816E+21 |
| 894               | 1,371844E+22 | 1,735150E+22 | 1,951791E+22 | 1,951785E+22 | 1,735167E+22 | 1,371888E+22 | 9,632190E+21 | 6,186932E+21 | 4,266873E+21 | 4,266884E+21 | 6,186969E+21 | 9,632227E+21 |
| 895               | 1,371888E+22 | 1,735166E+22 | 1,951774E+22 | 1,951744E+22 | 1,735096E+22 | 1,371829E+22 | 9,632034E+21 | 6,187072E+21 | 4,267130E+21 | 4,267201E+21 | 6,187227E+21 | 9,632173E+21 |
| 896               | 1,371831E+22 | 1,735053E+22 | 1,951639E+22 | 1,951682E+22 | 1,735119E+22 | 1,371879E+22 | 9,632527E+21 | 6,187532E+21 | 4,267479E+21 | 4,267362E+21 | 6,187201E+21 | 9,632034E+21 |
| 897               | 1,371827E+22 | 1,735096E+22 | 1,951719E+22 | 1,951735E+22 | 1,735136E+22 | 1,371864E+22 | 9,632204E+21 | 6,187279E+21 | 4,267457E+21 | 4,267600E+21 | 6,187698E+21 | 9,632684E+21 |
| 898               | 1,371872E+22 | 1,735079E+22 | 1,951633E+22 | 1,951609E+22 | 1,735038E+22 | 1,371838E+22 | 9,632417E+21 | 6,187562E+21 | 4,267623E+21 | 4,267619E+21 | 6,187536E+21 | 9,632344E+21 |
| 899               | 1,371826E+22 | 1,735027E+22 | 1,951611E+22 | 1,951641E+22 | 1,735087E+22 | 1,371879E+22 | 9,632700E+21 | 6,187733E+21 | 4,267690E+21 | 4,267560E+21 | 6,187370E+21 | 9,632267E+21 |
| 900               | 1,371867E+22 | 1,735133E+22 | 1,951725E+22 | 1,951708E+22 | 1,735086E+22 | 1,371824E+22 | 9,632084E+21 | 6,187299E+21 | 4,267483E+21 | 4,267588E+21 | 6,187594E+21 | 9,632520E+21 |
| 901               | 1,371871E+22 | 1,735096E+22 | 1,951638E+22 | 1,951610E+22 | 1,735049E+22 | 1,371841E+22 | 9,632349E+21 | 6,187449E+21 | 4,267441E+21 | 4,267351E+21 | 6,187204E+21 | 9,632016E+21 |
| 902               | 1,371813E+22 | 1,735074E+22 | 1,951716E+22 | 1,951739E+22 | 1,735139E+22 | 1,371877E+22 | 9,632313E+21 | 6,187231E+21 | 4,267214E+21 | 4,267166E+21 | 6,187135E+21 | 9,632251E+21 |
| 903               | 1,371878E+22 | 1,735144E+22 | 1,951755E+22 | 1,951755E+22 | 1,735121E+22 | 1,371836E+22 | 9,631920E+21 | 6,186874E+21 | 4,266912E+21 | 4,267006E+21 | 6,187125E+21 | 9,632231E+21 |
| 904               | 1,371853E+22 | 1,735084E+22 | 1,951660E+22 | 1,951691E+22 | 1,735135E+22 | 1,371886E+22 | 9,632331E+21 | 6,187047E+21 | 4,266817E+21 | 4,266672E+21 | 6,186656E+21 | 9,631814E+21 |
| 905               | 1,371841E+22 | 1,735144E+22 | 1,951791E+22 | 1,951796E+22 | 1,735184E+22 | 1,371891E+22 | 9,632043E+21 | 6,186658E+21 | 4,266540E+21 | 4,266588E+21 | 6,186812E+21 | 9,632229E+21 |
| 906               | 1,371894E+22 | 1,735171E+22 | 1,951773E+22 | 1,951735E+22 | 1,735101E+22 | 1,371843E+22 | 9,631978E+21 | 6,186694E+21 | 4,266524E+21 | 4,266518E+21 | 6,186638E+21 | 9,631875E+21 |
| 907               | 1,371843E+22 | 1,735107E+22 | 1,951726E+22 | 1,951757E+22 | 1,735160E+22 | 1,371888E+22 | 9,632266E+21 | 6,186903E+21 | 4,266628E+21 | 4,266478E+21 | 6,186477E+21 | 9,631714E+21 |
| 908               | 1,371855E+22 | 1,735179E+22 | 1,951826E+22 | 1,951833E+22 | 1,735191E+22 | 1,371859E+22 | 9,631720E+21 | 6,186498E+21 | 4,266513E+21 | 4,266655E+21 | 6,186910E+21 | 9,632262E+21 |
| 909               | 1,371886E+22 | 1,735148E+22 | 1,951720E+22 | 1,951691E+22 | 1,735103E+22 | 1,371853E+22 | 9,631994E+21 | 6,186762E+21 | 4,266665E+21 | 4,266676E+21 | 6,186796E+21 | 9,631989E+21 |
| 910               | 1,371835E+22 | 1,735093E+22 | 1,951728E+22 | 1,951754E+22 | 1,735154E+22 | 1,371888E+22 | 9,632283E+21 | 6,187011E+21 | 4,266873E+21 | 4,266807E+21 | 6,186848E+21 | 9,632130E+21 |
| 911               | 1,371888E+22 | 1,735167E+22 | 1,951771E+22 | 1,951758E+22 | 1,735119E+22 | 1,371832E+22 | 9,631918E+21 | 6,186922E+21 | 4,267009E+21 | 4,267137E+21 | 6,187250E+21 | 9,632331E+21 |
| 912               | 1,371864E+22 | 1,735095E+22 | 1,951649E+22 | 1,951638E+22 | 1,735075E+22 | 1,371854E+22 | 9,632411E+21 | 6,187464E+21 | 4,267421E+21 | 4,267316E+21 | 6,187151E+21 | 9,631939E+21 |
| 913               | 1,371807E+22 | 1,735075E+22 | 1,951711E+22 | 1,951721E+22 | 1,735127E+22 | 1,371874E+22 | 9,632409E+21 | 6,187494E+21 | 4,267620E+21 | 4,267660E+21 | 6,187600E+21 | 9,632451E+21 |
| 914               | 1,371853E+22 | 1,735079E+22 | 1,951660E+22 | 1,951640E+22 | 1,735037E+22 | 1,371816E+22 | 9,632302E+21 | 6,187663E+21 | 4,267903E+21 | 4,267994E+21 | 6,187874E+21 | 9,632481E+21 |
| 915               | 1,371812E+22 | 1,734983E+22 | 1,951536E+22 | 1,951571E+22 | 1,735049E+22 | 1,371866E+22 | 9,632834E+21 | 6,188132E+21 | 4,268222E+21 | 4,268094E+21 | 6,187767E+21 | 9,632301E+21 |
| 916               | 1,371813E+22 | 1,735033E+22 | 1,951622E+22 | 1,951639E+22 | 1,735073E+22 | 1,371843E+22 | 9,632445E+21 | 6,187868E+21 | 4,268192E+21 | 4,268294E+21 | 6,188170E+21 | 9,632874E+21 |
| 917               | 1,371871E+22 | 1,735047E+22 | 1,951554E+22 | 1,951506E+22 | 1,734957E+22 | 1,371803E+22 | 9,632528E+21 | 6,188047E+21 | 4,268295E+21 | 4,268294E+21 | 6,188038E+21 | 9,632533E+21 |
| 918               | 1,371812E+22 | 1,734991E+22 | 1,951560E+22 | 1,951576E+22 | 1,735023E+22 | 1,371841E+22 | 9,632778E+21 | 6,188209E+21 | 4,268339E+21 | 4,268192E+21 | 6,187820E+21 | 9,632370E+21 |
| 919               | 1,371838E+22 | 1,735075E+22 | 1,951661E+22 | 1,951652E+22 | 1,735047E+22 | 1,371804E+22 | 9,632203E+21 | 6,187749E+21 | 4,268107E+21 | 4,268227E+21 | 6,188092E+21 | 9,632684E+21 |
| 920               | 1,371840E+22 | 1,735030E+22 | 1,951575E+22 | 1,951560E+22 | 1,735015E+22 | 1,371829E+22 | 9,632477E+21 | 6,187841E+21 | 4,267995E+21 | 4,267923E+21 | 6,187656E+21 | 9,632209E+21 |
| 921               | 1,371794E+22 | 1,735011E+22 | 1,951636E+22 | 1,951673E+22 | 1,735106E+22 | 1,371876E+22 | 9,632537E+21 | 6,187629E+21 | 4,267721E+21 | 4,267702E+21 | 6,187580E+21 | 9,632442E+21 |
| 922               | 1,371862E+22 | 1,735086E+22 | 1,951662E+22 | 1,951657E+22 | 1,735060E+22 | 1,371823E+22 | 9,632179E+21 | 6,187380E+21 | 4,267515E+21 | 4,267583E+21 | 6,187543E+21 | 9,632386E+21 |
| 923               | 1,371841E+22 | 1,735045E+22 | 1,951594E+22 | 1,951602E+22 | 1,735067E+22 | 1,371866E+22 | 9,632560E+21 | 6,187584E+21 | 4,267477E+21 | 4,267290E+21 | 6,187069E+21 | 9,631892E+21 |
| 924               | 1,371814E+22 | 1,735086E+22 | 1,951721E+22 | 1,951730E+22 | 1,735133E+22 | 1,371867E+22 | 9,632217E+21 | 6,187197E+21 | 4,267247E+21 | 4,267270E+21 | 6,187269E+21 | 9,632337E+21 |

| 1                 | 2            | 3            | 4            | 5            | 6            | 7            | 8            | 9            | 10           | 11           | 12           | 13           |
|-------------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|
| Longitude $\odot$ | 0° - 30°     | 30° - 60°    | 60° - 90°    | 90° - 120°   | 120° - 150°  | 150° - 180°  | 180° - 210°  | 210° - 240°  | 240° - 270°  | 270° - 300°  | 300° - 330°  | 330° - 360°  |
| Years             |              |              |              |              |              |              |              |              |              |              |              |              |
| 925               | 1,371874E+22 | 1,735119E+22 | 1,951696E+22 | 1,951656E+22 | 1,735043E+22 | 1,371814E+22 | 9,632038E+21 | 6,187129E+21 | 4,267187E+21 | 4,267235E+21 | 6,187235E+21 | 9,632152E+21 |
| 926               | 1,371824E+22 | 1,735046E+22 | 1,951648E+22 | 1,951682E+22 | 1,735105E+22 | 1,371861E+22 | 9,632357E+21 | 6,187350E+21 | 4,267272E+21 | 4,267150E+21 | 6,187030E+21 | 9,631985E+21 |
| 927               | 1,371840E+22 | 1,735115E+22 | 1,951733E+22 | 1,951745E+22 | 1,735137E+22 | 1,371846E+22 | 9,631949E+21 | 6,187007E+21 | 4,267174E+21 | 4,267332E+21 | 6,187458E+21 | 9,632536E+21 |
| 928               | 1,371875E+22 | 1,735097E+22 | 1,951651E+22 | 1,951614E+22 | 1,735043E+22 | 1,371833E+22 | 9,632198E+21 | 6,187287E+21 | 4,267340E+21 | 4,267334E+21 | 6,187274E+21 | 9,632172E+21 |
| 929               | 1,371822E+22 | 1,735046E+22 | 1,951656E+22 | 1,951676E+22 | 1,735100E+22 | 1,371874E+22 | 9,632539E+21 | 6,187567E+21 | 4,267580E+21 | 4,267515E+21 | 6,187367E+21 | 9,632249E+21 |
| 930               | 1,371858E+22 | 1,735103E+22 | 1,951686E+22 | 1,951669E+22 | 1,735054E+22 | 1,371813E+22 | 9,632203E+21 | 6,187577E+21 | 4,267831E+21 | 4,267939E+21 | 6,187841E+21 | 9,632504E+21 |
| 931               | 1,371832E+22 | 1,735025E+22 | 1,951564E+22 | 1,951553E+22 | 1,735015E+22 | 1,371835E+22 | 9,632655E+21 | 6,188106E+21 | 4,268261E+21 | 4,268146E+21 | 6,187778E+21 | 9,632155E+21 |
| 932               | 1,371772E+22 | 1,734982E+22 | 1,951596E+22 | 1,951629E+22 | 1,735076E+22 | 1,371862E+22 | 9,632673E+21 | 6,188113E+21 | 4,268436E+21 | 4,268475E+21 | 6,188213E+21 | 9,632736E+21 |
| 933               | 1,371843E+22 | 1,735015E+22 | 1,951547E+22 | 1,951520E+22 | 1,734956E+22 | 1,371790E+22 | 9,632487E+21 | 6,188194E+21 | 4,268632E+21 | 4,268758E+21 | 6,188508E+21 | 9,632830E+21 |
| 934               | 1,371810E+22 | 1,734938E+22 | 1,951451E+22 | 1,951468E+22 | 1,734963E+22 | 1,371825E+22 | 9,632967E+21 | 6,188673E+21 | 4,268925E+21 | 4,268773E+21 | 6,188264E+21 | 9,632492E+21 |
| 935               | 1,371800E+22 | 1,734990E+22 | 1,951551E+22 | 1,951552E+22 | 1,735003E+22 | 1,371814E+22 | 9,632614E+21 | 6,188403E+21 | 4,268892E+21 | 4,268979E+21 | 6,188656E+21 | 9,632998E+21 |
| 936               | 1,371845E+22 | 1,735000E+22 | 1,951511E+22 | 1,951459E+22 | 1,734906E+22 | 1,371773E+22 | 9,632614E+21 | 6,188500E+21 | 4,268934E+21 | 4,268929E+21 | 6,188489E+21 | 9,632625E+21 |
| 937               | 1,371782E+22 | 1,734930E+22 | 1,951497E+22 | 1,951533E+22 | 1,734999E+22 | 1,371833E+22 | 9,632915E+21 | 6,188607E+21 | 4,268911E+21 | 4,268803E+21 | 6,188311E+21 | 9,632507E+21 |
| 938               | 1,371804E+22 | 1,735001E+22 | 1,951568E+22 | 1,951574E+22 | 1,735009E+22 | 1,371805E+22 | 9,632467E+21 | 6,188223E+21 | 4,268706E+21 | 4,268831E+21 | 6,188572E+21 | 9,632892E+21 |
| 939               | 1,371820E+22 | 1,734968E+22 | 1,951489E+22 | 1,951476E+22 | 1,734966E+22 | 1,371827E+22 | 9,632772E+21 | 6,188351E+21 | 4,268598E+21 | 4,268499E+21 | 6,188081E+21 | 9,632369E+21 |
| 940               | 1,371776E+22 | 1,734950E+22 | 1,951545E+22 | 1,951591E+22 | 1,735056E+22 | 1,371867E+22 | 9,632812E+21 | 6,188164E+21 | 4,268361E+21 | 4,268294E+21 | 6,187967E+21 | 9,632563E+21 |
| 941               | 1,371855E+22 | 1,735049E+22 | 1,951585E+22 | 1,951561E+22 | 1,734983E+22 | 1,371793E+22 | 9,632314E+21 | 6,187837E+21 | 4,268141E+21 | 4,268224E+21 | 6,188038E+21 | 9,632573E+21 |
| 942               | 1,371826E+22 | 1,735005E+22 | 1,951538E+22 | 1,951535E+22 | 1,734998E+22 | 1,371824E+22 | 9,632616E+21 | 6,188044E+21 | 4,268113E+21 | 4,267932E+21 | 6,187566E+21 | 9,632065E+21 |
| 943               | 1,371791E+22 | 1,735029E+22 | 1,951647E+22 | 1,951663E+22 | 1,735084E+22 | 1,371843E+22 | 9,632303E+21 | 6,187635E+21 | 4,267889E+21 | 4,267952E+21 | 6,187837E+21 | 9,632602E+21 |
| 944               | 1,371855E+22 | 1,735059E+22 | 1,951626E+22 | 1,951593E+22 | 1,734996E+22 | 1,371794E+22 | 9,632133E+21 | 6,187519E+21 | 4,267773E+21 | 4,267861E+21 | 6,187762E+21 | 9,632445E+21 |
| 945               | 1,371819E+22 | 1,734996E+22 | 1,951569E+22 | 1,951609E+22 | 1,735061E+22 | 1,371853E+22 | 9,632562E+21 | 6,187777E+21 | 4,267845E+21 | 4,267759E+21 | 6,187531E+21 | 9,632204E+21 |
| 946               | 1,371828E+22 | 1,735065E+22 | 1,951646E+22 | 1,951647E+22 | 1,735068E+22 | 1,371830E+22 | 9,632239E+21 | 6,187595E+21 | 4,267881E+21 | 4,268000E+21 | 6,187926E+21 | 9,632672E+21 |
| 947               | 1,371856E+22 | 1,735051E+22 | 1,951582E+22 | 1,951531E+22 | 1,734978E+22 | 1,371815E+22 | 9,632486E+21 | 6,187931E+21 | 4,268133E+21 | 4,268077E+21 | 6,187759E+21 | 9,632221E+21 |
| 948               | 1,371784E+22 | 1,734973E+22 | 1,951572E+22 | 1,951606E+22 | 1,735052E+22 | 1,371858E+22 | 9,632810E+21 | 6,188226E+21 | 4,268423E+21 | 4,268323E+21 | 6,187907E+21 | 9,632343E+21 |
| 949               | 1,371823E+22 | 1,735027E+22 | 1,951582E+22 | 1,951572E+22 | 1,734989E+22 | 1,371788E+22 | 9,632376E+21 | 6,188147E+21 | 4,268638E+21 | 4,268785E+21 | 6,188524E+21 | 9,632788E+21 |
| 950               | 1,371805E+22 | 1,734947E+22 | 1,951461E+22 | 1,951457E+22 | 1,734944E+22 | 1,371806E+22 | 9,632849E+21 | 6,188683E+21 | 4,269026E+21 | 4,268925E+21 | 6,188410E+21 | 9,632460E+21 |
| 951               | 1,371756E+22 | 1,734910E+22 | 1,951484E+22 | 1,951521E+22 | 1,735004E+22 | 1,371840E+22 | 9,632912E+21 | 6,188697E+21 | 4,269187E+21 | 4,269233E+21 | 6,188820E+21 | 9,633029E+21 |
| 952               | 1,371831E+22 | 1,734963E+22 | 1,951470E+22 | 1,951432E+22 | 1,734883E+22 | 1,371759E+22 | 9,632643E+21 | 6,188717E+21 | 4,269329E+21 | 4,269448E+21 | 6,189029E+21 | 9,633050E+21 |
| 953               | 1,371800E+22 | 1,734898E+22 | 1,951387E+22 | 1,951396E+22 | 1,734906E+22 | 1,371802E+22 | 9,633125E+21 | 6,189143E+21 | 4,269578E+21 | 4,269452E+21 | 6,188780E+21 | 9,632622E+21 |
| 954               | 1,371773E+22 | 1,734935E+22 | 1,951479E+22 | 1,951479E+22 | 1,734944E+22 | 1,371793E+22 | 9,632826E+21 | 6,188951E+21 | 4,269604E+21 | 4,269684E+21 | 6,189184E+21 | 9,633158E+21 |
| 955               | 1,371816E+22 | 1,734938E+22 | 1,951439E+22 | 1,951399E+22 | 1,734870E+22 | 1,371764E+22 | 9,632814E+21 | 6,189010E+21 | 4,269619E+21 | 4,269613E+21 | 6,189001E+21 | 9,632794E+21 |
| 956               | 1,371753E+22 | 1,734853E+22 | 1,951399E+22 | 1,951461E+22 | 1,734967E+22 | 1,371834E+22 | 9,633187E+21 | 6,189112E+21 | 4,269556E+21 | 4,269438E+21 | 6,188774E+21 | 9,632707E+21 |
| 957               | 1,371795E+22 | 1,734945E+22 | 1,951468E+22 | 1,951471E+22 | 1,734942E+22 | 1,371788E+22 | 9,632681E+21 | 6,188684E+21 | 4,269301E+21 | 4,269437E+21 | 6,189059E+21 | 9,633137E+21 |
| 958               | 1,371815E+22 | 1,734929E+22 | 1,951417E+22 | 1,951390E+22 | 1,734890E+22 | 1,371791E+22 | 9,632927E+21 | 6,188838E+21 | 4,269195E+21 | 4,269066E+21 | 6,188489E+21 | 9,632507E+21 |
| 959               | 1,371761E+22 | 1,734907E+22 | 1,951474E+22 | 1,951511E+22 | 1,734989E+22 | 1,371839E+22 | 9,632963E+21 | 6,188643E+21 | 4,268988E+21 | 4,268917E+21 | 6,188428E+21 | 9,632683E+21 |
| 960               | 1,371827E+22 | 1,735004E+22 | 1,951540E+22 | 1,951512E+22 | 1,734930E+22 | 1,371761E+22 | 9,632362E+21 | 6,188229E+21 | 4,268720E+21 | 4,268828E+21 | 6,188516E+21 | 9,632743E+21 |

| 1                 | 2            | 3            | 4            | 5            | 6            | 7            | 8            | 9            | 10           | 11           | 12           | 13           |
|-------------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|
| Longitude $\odot$ | 0° - 30°     | 30° - 60°    | 60° - 90°    | 90° - 120°   | 120° - 150°  | 150° - 180°  | 180° - 210°  | 210° - 240°  | 240° - 270°  | 270° - 300°  | 300° - 330°  | 330° - 360°  |
| Years             |              |              |              |              |              |              |              |              |              |              |              |              |
| 961               | 1,371805E+22 | 1,734954E+22 | 1,951474E+22 | 1,951482E+22 | 1,734964E+22 | 1,371809E+22 | 9,632692E+21 | 6,188377E+21 | 4,268648E+21 | 4,268537E+21 | 6,188078E+21 | 9,632262E+21 |
| 962               | 1,371768E+22 | 1,734967E+22 | 1,951560E+22 | 1,951582E+22 | 1,735034E+22 | 1,371835E+22 | 9,632543E+21 | 6,188108E+21 | 4,268496E+21 | 4,268566E+21 | 6,188332E+21 | 9,632846E+21 |
| 963               | 1,371844E+22 | 1,735009E+22 | 1,951546E+22 | 1,951516E+22 | 1,734947E+22 | 1,371785E+22 | 9,632390E+21 | 6,188047E+21 | 4,268422E+21 | 4,268477E+21 | 6,188197E+21 | 9,632589E+21 |
| 964               | 1,371801E+22 | 1,734940E+22 | 1,951481E+22 | 1,951529E+22 | 1,735011E+22 | 1,371844E+22 | 9,632874E+21 | 6,188382E+21 | 4,268572E+21 | 4,268427E+21 | 6,187953E+21 | 9,632292E+21 |
| 965               | 1,371809E+22 | 1,735016E+22 | 1,951565E+22 | 1,951552E+22 | 1,734993E+22 | 1,371805E+22 | 9,632475E+21 | 6,188183E+21 | 4,268644E+21 | 4,268761E+21 | 6,188488E+21 | 9,632826E+21 |
| 966               | 1,371826E+22 | 1,734990E+22 | 1,951508E+22 | 1,951458E+22 | 1,734906E+22 | 1,371776E+22 | 9,632660E+21 | 6,188545E+21 | 4,268934E+21 | 4,268876E+21 | 6,188370E+21 | 9,632410E+21 |
| 967               | 1,371749E+22 | 1,734891E+22 | 1,951465E+22 | 1,951517E+22 | 1,734995E+22 | 1,371838E+22 | 9,633011E+21 | 6,188810E+21 | 4,269233E+21 | 4,269172E+21 | 6,188607E+21 | 9,632648E+21 |
| 968               | 1,371794E+22 | 1,734949E+22 | 1,951485E+22 | 1,951480E+22 | 1,734924E+22 | 1,371765E+22 | 9,632542E+21 | 6,188656E+21 | 4,269361E+21 | 4,269553E+21 | 6,189173E+21 | 9,633148E+21 |
| 969               | 1,371799E+22 | 1,734889E+22 | 1,951362E+22 | 1,951358E+22 | 1,734878E+22 | 1,371785E+22 | 9,633034E+21 | 6,189170E+21 | 4,269703E+21 | 4,269642E+21 | 6,188992E+21 | 9,632725E+21 |
| 970               | 1,371746E+22 | 1,734861E+22 | 1,951393E+22 | 1,951414E+22 | 1,734922E+22 | 1,371812E+22 | 9,633164E+21 | 6,189303E+21 | 4,269941E+21 | 4,269954E+21 | 6,189344E+21 | 9,633224E+21 |
| 971               | 1,371815E+22 | 1,734920E+22 | 1,951402E+22 | 1,951356E+22 | 1,734822E+22 | 1,371735E+22 | 9,632853E+21 | 6,189307E+21 | 4,270089E+21 | 4,270172E+21 | 6,189518E+21 | 9,633138E+21 |
| 972               | 1,371767E+22 | 1,734835E+22 | 1,951314E+22 | 1,951339E+22 | 1,734869E+22 | 1,371790E+22 | 9,633360E+21 | 6,189715E+21 | 4,270321E+21 | 4,270169E+21 | 6,189277E+21 | 9,632748E+21 |
| 973               | 1,371745E+22 | 1,734868E+22 | 1,951390E+22 | 1,951396E+22 | 1,734892E+22 | 1,371779E+22 | 9,633020E+21 | 6,189440E+21 | 4,270280E+21 | 4,270391E+21 | 6,189758E+21 | 9,633404E+21 |
| 974               | 1,371793E+22 | 1,734872E+22 | 1,951352E+22 | 1,951321E+22 | 1,734813E+22 | 1,371745E+22 | 9,633042E+21 | 6,189512E+21 | 4,270240E+21 | 4,270236E+21 | 6,189493E+21 | 9,633015E+21 |
| 975               | 1,371737E+22 | 1,734794E+22 | 1,951301E+22 | 1,951369E+22 | 1,734910E+22 | 1,371820E+22 | 9,633430E+21 | 6,189615E+21 | 4,270176E+21 | 4,270051E+21 | 6,189246E+21 | 9,632894E+21 |
| 976               | 1,371776E+22 | 1,734901E+22 | 1,951402E+22 | 1,951393E+22 | 1,734878E+22 | 1,371761E+22 | 9,632817E+21 | 6,189120E+21 | 4,269873E+21 | 4,269997E+21 | 6,189474E+21 | 9,633292E+21 |
| 977               | 1,371802E+22 | 1,734895E+22 | 1,951362E+22 | 1,951328E+22 | 1,734836E+22 | 1,371765E+22 | 9,633031E+21 | 6,189222E+21 | 4,269746E+21 | 4,269648E+21 | 6,188939E+21 | 9,632623E+21 |
| 978               | 1,371735E+22 | 1,734858E+22 | 1,951410E+22 | 1,951443E+22 | 1,734931E+22 | 1,371810E+22 | 9,633100E+21 | 6,189113E+21 | 4,269612E+21 | 4,269543E+21 | 6,188923E+21 | 9,632874E+21 |
| 979               | 1,371804E+22 | 1,734946E+22 | 1,951466E+22 | 1,951453E+22 | 1,734896E+22 | 1,371749E+22 | 9,632501E+21 | 6,188669E+21 | 4,269337E+21 | 4,269455E+21 | 6,189007E+21 | 9,632951E+21 |
| 980               | 1,371785E+22 | 1,734891E+22 | 1,951386E+22 | 1,951413E+22 | 1,734931E+22 | 1,371807E+22 | 9,632931E+21 | 6,188837E+21 | 4,269251E+21 | 4,269136E+21 | 6,188527E+21 | 9,632487E+21 |
| 981               | 1,371763E+22 | 1,734920E+22 | 1,951469E+22 | 1,951482E+22 | 1,734965E+22 | 1,371814E+22 | 9,632757E+21 | 6,188598E+21 | 4,269126E+21 | 4,269195E+21 | 6,188812E+21 | 9,633051E+21 |
| 982               | 1,371833E+22 | 1,734969E+22 | 1,951478E+22 | 1,951437E+22 | 1,734875E+22 | 1,371752E+22 | 9,632599E+21 | 6,188612E+21 | 4,269112E+21 | 4,269130E+21 | 6,188643E+21 | 9,632686E+21 |
| 983               | 1,371774E+22 | 1,734886E+22 | 1,951403E+22 | 1,951449E+22 | 1,734949E+22 | 1,371819E+22 | 9,633094E+21 | 6,188974E+21 | 4,269343E+21 | 4,269190E+21 | 6,188507E+21 | 9,632395E+21 |
| 984               | 1,371764E+22 | 1,734946E+22 | 1,951494E+22 | 1,951487E+22 | 1,734939E+22 | 1,371777E+22 | 9,632617E+21 | 6,188711E+21 | 4,269385E+21 | 4,269525E+21 | 6,189091E+21 | 9,633041E+21 |
| 985               | 1,371795E+22 | 1,734916E+22 | 1,951414E+22 | 1,951381E+22 | 1,734861E+22 | 1,371762E+22 | 9,632831E+21 | 6,189023E+21 | 4,269639E+21 | 4,269651E+21 | 6,189024E+21 | 9,632692E+21 |
| 986               | 1,371723E+22 | 1,734814E+22 | 1,951351E+22 | 1,951405E+22 | 1,734923E+22 | 1,371822E+22 | 9,633311E+21 | 6,189414E+21 | 4,269989E+21 | 4,269937E+21 | 6,189238E+21 | 9,632992E+21 |
| 987               | 1,371784E+22 | 1,734890E+22 | 1,951381E+22 | 1,951378E+22 | 1,734860E+22 | 1,371747E+22 | 9,632811E+21 | 6,189269E+21 | 4,270127E+21 | 4,270291E+21 | 6,189719E+21 | 9,633386E+21 |
| 988               | 1,371787E+22 | 1,734839E+22 | 1,951274E+22 | 1,951265E+22 | 1,734816E+22 | 1,371767E+22 | 9,633308E+21 | 6,189785E+21 | 4,270475E+21 | 4,270370E+21 | 6,189490E+21 | 9,632904E+21 |
| 989               | 1,371733E+22 | 1,734817E+22 | 1,951317E+22 | 1,951321E+22 | 1,734842E+22 | 1,371778E+22 | 9,633351E+21 | 6,189884E+21 | 4,270713E+21 | 4,270725E+21 | 6,189924E+21 | 9,633421E+21 |
| 990               | 1,371791E+22 | 1,734866E+22 | 1,951338E+22 | 1,951296E+22 | 1,734763E+22 | 1,371699E+22 | 9,633009E+21 | 6,189876E+21 | 4,270837E+21 | 4,270917E+21 | 6,190084E+21 | 9,633325E+21 |
| 991               | 1,371736E+22 | 1,734762E+22 | 1,951219E+22 | 1,951262E+22 | 1,734827E+22 | 1,371779E+22 | 9,633569E+21 | 6,190239E+21 | 4,271036E+21 | 4,270913E+21 | 6,189878E+21 | 9,632990E+21 |
| 992               | 1,371715E+22 | 1,734800E+22 | 1,951308E+22 | 1,951317E+22 | 1,734840E+22 | 1,371764E+22 | 9,633221E+21 | 6,189894E+21 | 4,270882E+21 | 4,271013E+21 | 6,190265E+21 | 9,633662E+21 |
| 993               | 1,371785E+22 | 1,734824E+22 | 1,951269E+22 | 1,951236E+22 | 1,734757E+22 | 1,371727E+22 | 9,633225E+21 | 6,189935E+21 | 4,270803E+21 | 4,270815E+21 | 6,189931E+21 | 9,633159E+21 |
| 994               | 1,371720E+22 | 1,734749E+22 | 1,951222E+22 | 1,951272E+22 | 1,734838E+22 | 1,371795E+22 | 9,633657E+21 | 6,190143E+21 | 4,270810E+21 | 4,270646E+21 | 6,189665E+21 | 9,633020E+21 |
| 995               | 1,371755E+22 | 1,734855E+22 | 1,951339E+22 | 1,951330E+22 | 1,734830E+22 | 1,371737E+22 | 9,632951E+21 | 6,189599E+21 | 4,270506E+21 | 4,270601E+21 | 6,189884E+21 | 9,633361E+21 |
| 996               | 1,371771E+22 | 1,734835E+22 | 1,951293E+22 | 1,951274E+22 | 1,734803E+22 | 1,371751E+22 | 9,633175E+21 | 6,189671E+21 | 4,270358E+21 | 4,270250E+21 | 6,189382E+21 | 9,632794E+21 |

| 1<br>Longitude $\odot$<br>Years | 2<br>0° - 30° | 3<br>30° - 60° | 4<br>60° - 90° | 5<br>90° - 120° | 6<br>120° - 150° | 7<br>150° - 180° | 8<br>180° - 210° | 9<br>210° - 240° | 10<br>240° - 270° | 11<br>270° - 300° | 12<br>300° - 330° | 13<br>330° - 360° |
|---------------------------------|---------------|----------------|----------------|-----------------|------------------|------------------|------------------|------------------|-------------------|-------------------|-------------------|-------------------|
| 997                             | 1,371715E+22  | 1,734799E+22   | 1,951329E+22   | 1,951364E+22    | 1,734879E+22     | 1,371791E+22     | 9,633231E+21     | 6,189524E+21     | 4,270197E+21      | 4,270165E+21      | 6,189448E+21      | 9,633153E+21      |
| 998                             | 1,371791E+22  | 1,734893E+22   | 1,951392E+22   | 1,951381E+22    | 1,734840E+22     | 1,371726E+22     | 9,632694E+21     | 6,189131E+21     | 4,269910E+21      | 4,270030E+21      | 6,189459E+21      | 9,633168E+21      |
| 999                             | 1,371774E+22  | 1,734841E+22   | 1,951301E+22   | 1,951327E+22    | 1,734878E+22     | 1,371793E+22     | 9,633165E+21     | 6,189343E+21     | 4,269884E+21      | 4,269760E+21      | 6,188995E+21      | 9,632643E+21      |
| 1000                            | 1,371741E+22  | 1,734878E+22   | 1,951410E+22   | 1,951407E+22    | 1,734904E+22     | 1,371790E+22     | 9,632934E+21     | 6,189079E+21     | 4,269755E+21      | 4,269816E+21      | 6,189257E+21      | 9,633176E+21      |
| 1001                            | 1,371812E+22  | 1,734924E+22   | 1,951416E+22   | 1,951370E+22    | 1,734823E+22     | 1,371728E+22     | 9,632754E+21     | 6,189089E+21     | 4,269782E+21      | 4,269831E+21      | 6,189165E+21      | 9,632800E+21      |
| 1002                            | 1,371738E+22  | 1,734818E+22   | 1,951317E+22   | 1,951365E+22    | 1,734890E+22     | 1,371796E+22     | 9,633315E+21     | 6,189567E+21     | 4,270112E+21      | 4,269963E+21      | 6,189125E+21      | 9,632658E+21      |
| 1003                            | 1,371735E+22  | 1,734866E+22   | 1,951389E+22   | 1,951403E+22    | 1,734896E+22     | 1,371765E+22     | 9,632834E+21     | 6,189277E+21     | 4,270149E+21      | 4,270299E+21      | 6,189706E+21      | 9,633334E+21      |
| 1004                            | 1,371775E+22  | 1,734842E+22   | 1,951304E+22   | 1,951281E+22    | 1,734806E+22     | 1,371751E+22     | 9,633127E+21     | 6,189616E+21     | 4,270387E+21      | 4,270388E+21      | 6,189604E+21      | 9,633028E+21      |
| 1005                            | 1,371721E+22  | 1,734763E+22   | 1,951251E+22   | 1,951283E+22    | 1,734831E+22     | 1,371786E+22     | 9,633529E+21     | 6,190013E+21     | 4,270756E+21      | 4,270696E+21      | 6,189828E+21      | 9,633278E+21      |
| 1006                            | 1,371777E+22  | 1,734849E+22   | 1,951311E+22   | 1,951287E+22    | 1,734774E+22     | 1,371706E+22     | 9,633015E+21     | 6,189892E+21     | 4,270910E+21      | 4,271044E+21      | 6,190246E+21      | 9,633532E+21      |
| 1007                            | 1,371763E+22  | 1,734788E+22   | 1,951203E+22   | 1,951189E+22    | 1,734755E+22     | 1,371740E+22     | 9,633500E+21     | 6,190380E+21     | 4,271277E+21      | 4,271176E+21      | 6,190077E+21      | 9,633027E+21      |
| 1008                            | 1,371692E+22  | 1,734753E+22   | 1,951251E+22   | 1,951258E+22    | 1,734794E+22     | 1,371754E+22     | 9,633486E+21     | 6,190392E+21     | 4,271431E+21      | 4,271464E+21      | 6,190494E+21      | 9,633618E+21      |
| 1009                            | 1,371762E+22  | 1,734797E+22   | 1,951252E+22   | 1,951228E+22    | 1,734730E+22     | 1,371692E+22     | 9,633199E+21     | 6,190333E+21     | 4,271491E+21      | 4,271616E+21      | 6,190636E+21      | 9,633528E+21      |
| 1010                            | 1,371708E+22  | 1,734689E+22   | 1,951119E+22   | 1,951164E+22    | 1,734769E+22     | 1,371768E+22     | 9,633874E+21     | 6,190806E+21     | 4,271711E+21      | 4,271570E+21      | 6,190393E+21      | 9,633233E+21      |
| 1011                            | 1,371697E+22  | 1,734734E+22   | 1,951210E+22   | 1,951228E+22    | 1,734790E+22     | 1,371752E+22     | 9,633477E+21     | 6,190446E+21     | 4,271546E+21      | 4,271628E+21      | 6,190688E+21      | 9,633791E+21      |
| 1012                            | 1,371765E+22  | 1,734772E+22   | 1,951190E+22   | 1,951153E+22    | 1,734704E+22     | 1,371714E+22     | 9,633472E+21     | 6,190464E+21     | 4,271448E+21      | 4,271416E+21      | 6,190351E+21      | 9,633312E+21      |
| 1013                            | 1,371704E+22  | 1,734703E+22   | 1,951153E+22   | 1,951184E+22    | 1,734760E+22     | 1,371756E+22     | 9,633769E+21     | 6,190619E+21     | 4,271456E+21      | 4,271303E+21      | 6,190181E+21      | 9,633227E+21      |
| 1014                            | 1,371736E+22  | 1,734805E+22   | 1,951278E+22   | 1,951269E+22    | 1,734774E+22     | 1,371703E+22     | 9,633041E+21     | 6,190048E+21     | 4,271123E+21      | 4,271238E+21      | 6,190392E+21      | 9,633586E+21      |
| 1015                            | 1,371752E+22  | 1,734776E+22   | 1,951212E+22   | 1,951202E+22    | 1,734763E+22     | 1,371737E+22     | 9,633297E+21     | 6,190069E+21     | 4,270947E+21      | 4,270886E+21      | 6,189913E+21      | 9,633047E+21      |
| 1016                            | 1,371699E+22  | 1,734751E+22   | 1,951261E+22   | 1,951290E+22    | 1,734827E+22     | 1,371771E+22     | 9,633355E+21     | 6,189897E+21     | 4,270713E+21      | 4,270701E+21      | 6,189882E+21      | 9,633394E+21      |
| 1017                            | 1,371789E+22  | 1,734858E+22   | 1,951326E+22   | 1,951308E+22    | 1,734792E+22     | 1,371708E+22     | 9,632843E+21     | 6,189531E+21     | 4,270451E+21      | 4,270575E+21      | 6,189837E+21      | 9,633258E+21      |
| 1018                            | 1,371754E+22  | 1,734799E+22   | 1,951236E+22   | 1,951243E+22    | 1,734814E+22     | 1,371771E+22     | 9,633410E+21     | 6,189898E+21     | 4,270551E+21      | 4,270388E+21      | 6,189429E+21      | 9,632737E+21      |
| 1019                            | 1,371710E+22  | 1,734815E+22   | 1,951338E+22   | 1,951346E+22    | 1,734864E+22     | 1,371774E+22     | 9,633147E+21     | 6,189645E+21     | 4,270477E+21      | 4,270506E+21      | 6,189725E+21      | 9,633237E+21      |
| 1020                            | 1,371771E+22  | 1,734850E+22   | 1,951331E+22   | 1,951301E+22    | 1,734788E+22     | 1,371722E+22     | 9,633003E+21     | 6,189655E+21     | 4,270518E+21      | 4,270556E+21      | 6,189726E+21      | 9,633041E+21      |
| 1021                            | 1,371713E+22  | 1,734742E+22   | 1,951213E+22   | 1,951257E+22    | 1,734820E+22     | 1,371774E+22     | 9,633535E+21     | 6,190127E+21     | 4,270861E+21      | 4,270741E+21      | 6,189775E+21      | 9,633016E+21      |
| 1022                            | 1,371725E+22  | 1,734802E+22   | 1,951292E+22   | 1,951302E+22    | 1,734820E+22     | 1,371736E+22     | 9,633082E+21     | 6,189877E+21     | 4,270896E+21      | 4,271042E+21      | 6,190287E+21      | 9,633633E+21      |
| 1023                            | 1,371767E+22  | 1,734786E+22   | 1,951206E+22   | 1,951176E+22    | 1,734735E+22     | 1,371726E+22     | 9,633353E+21     | 6,190219E+21     | 4,271172E+21      | 4,271167E+21      | 6,190192E+21      | 9,633248E+21      |
| 1024                            | 1,371703E+22  | 1,734721E+22   | 1,951189E+22   | 1,951198E+22    | 1,734757E+22     | 1,371750E+22     | 9,633671E+21     | 6,190557E+21     | 4,271495E+21      | 4,271436E+21      | 6,190378E+21      | 9,633473E+21      |
| 1025                            | 1,371758E+22  | 1,734803E+22   | 1,951251E+22   | 1,951222E+22    | 1,734719E+22     | 1,371676E+22     | 9,633139E+21     | 6,190407E+21     | 4,271651E+21      | 4,271812E+21      | 6,190810E+21      | 9,633659E+21      |
| 1026                            | 1,371725E+22  | 1,734716E+22   | 1,951120E+22   | 1,951111E+22    | 1,734705E+22     | 1,371723E+22     | 9,633732E+21     | 6,190977E+21     | 4,272060E+21      | 4,271963E+21      | 6,190698E+21      | 9,633279E+21      |
| 1027                            | 1,371662E+22  | 1,734668E+22   | 1,951147E+22   | 1,951182E+22    | 1,734764E+22     | 1,371751E+22     | 9,633740E+21     | 6,190945E+21     | 4,272158E+21      | 4,272188E+21      | 6,191037E+21      | 9,633827E+21      |
| 1028                            | 1,371738E+22  | 1,734723E+22   | 1,951145E+22   | 1,951131E+22    | 1,734682E+22     | 1,371691E+22     | 9,633526E+21     | 6,190904E+21     | 4,272174E+21      | 4,272264E+21      | 6,191128E+21      | 9,633782E+21      |
| 1029                            | 1,371699E+22  | 1,734634E+22   | 1,951022E+22   | 1,951047E+22    | 1,734682E+22     | 1,371738E+22     | 9,634097E+21     | 6,191365E+21     | 4,272402E+21      | 4,272236E+21      | 6,190893E+21      | 9,633456E+21      |
| 1030                            | 1,371686E+22  | 1,734689E+22   | 1,951140E+22   | 1,951141E+22    | 1,734710E+22     | 1,371714E+22     | 9,633648E+21     | 6,190981E+21     | 4,272218E+21      | 4,272275E+21      | 6,191138E+21      | 9,633909E+21      |
| 1031                            | 1,371741E+22  | 1,734718E+22   | 1,951121E+22   | 1,951083E+22    | 1,734648E+22     | 1,371685E+22     | 9,633580E+21     | 6,190936E+21     | 4,272111E+21      | 4,272097E+21      | 6,190871E+21      | 9,633451E+21      |
| 1032                            | 1,371674E+22  | 1,734652E+22   | 1,951098E+22   | 1,951126E+22    | 1,734712E+22     | 1,371728E+22     | 9,633789E+21     | 6,190970E+21     | 4,272007E+21      | 4,271898E+21      | 6,190678E+21      | 9,633468E+21      |



| 1                   | 2            | 3            | 4            | 5            | 6            | 7            | 8            | 9            | 10           | 11           | 12           | 13           |
|---------------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|
| Longitude $\ominus$ | 0° - 30°     | 30° - 60°    | 60° - 90°    | 90° - 120°   | 120° - 150°  | 150° - 180°  | 180° - 210°  | 210° - 240°  | 240° - 270°  | 270° - 300°  | 300° - 330°  | 330° - 360°  |
| Years               |              |              |              |              |              |              |              |              |              |              |              |              |
| 1033                | 1,371723E+22 | 1,734755E+22 | 1,951211E+22 | 1,951207E+22 | 1,734738E+22 | 1,371691E+22 | 9,633134E+21 | 6,190373E+21 | 4,271627E+21 | 4,271791E+21 | 6,190830E+21 | 9,633770E+21 |
| 1034                | 1,371737E+22 | 1,734725E+22 | 1,951138E+22 | 1,951122E+22 | 1,734714E+22 | 1,371727E+22 | 9,633536E+21 | 6,190532E+21 | 4,271503E+21 | 4,271425E+21 | 6,190326E+21 | 9,633243E+21 |
| 1035                | 1,371689E+22 | 1,734701E+22 | 1,951185E+22 | 1,951221E+22 | 1,734791E+22 | 1,371763E+22 | 9,633582E+21 | 6,190388E+21 | 4,271308E+21 | 4,271242E+21 | 6,190215E+21 | 9,633429E+21 |
| 1036                | 1,371766E+22 | 1,734812E+22 | 1,951262E+22 | 1,951240E+22 | 1,734750E+22 | 1,371702E+22 | 9,633121E+21 | 6,190074E+21 | 4,271099E+21 | 4,271167E+21 | 6,190238E+21 | 9,633358E+21 |
| 1037                | 1,371727E+22 | 1,734742E+22 | 1,951166E+22 | 1,951161E+22 | 1,734743E+22 | 1,371739E+22 | 9,633589E+21 | 6,190460E+21 | 4,271282E+21 | 4,271119E+21 | 6,189996E+21 | 9,632948E+21 |
| 1038                | 1,371682E+22 | 1,734742E+22 | 1,951254E+22 | 1,951270E+22 | 1,734805E+22 | 1,371748E+22 | 9,633335E+21 | 6,190204E+21 | 4,271224E+21 | 4,271271E+21 | 6,190334E+21 | 9,633497E+21 |
| 1039                | 1,371747E+22 | 1,734772E+22 | 1,951226E+22 | 1,951205E+22 | 1,734734E+22 | 1,371708E+22 | 9,633215E+21 | 6,190193E+21 | 4,271268E+21 | 4,271354E+21 | 6,190391E+21 | 9,633364E+21 |
| 1040                | 1,371700E+22 | 1,734688E+22 | 1,951126E+22 | 1,951153E+22 | 1,734741E+22 | 1,371741E+22 | 9,633671E+21 | 6,190624E+21 | 4,271548E+21 | 4,271453E+21 | 6,190352E+21 | 9,633337E+21 |
| 1041                | 1,371726E+22 | 1,734763E+22 | 1,951214E+22 | 1,951208E+22 | 1,734749E+22 | 1,371705E+22 | 9,633214E+21 | 6,190387E+21 | 4,271609E+21 | 4,271758E+21 | 6,190794E+21 | 9,633784E+21 |
| 1042                | 1,371748E+22 | 1,734739E+22 | 1,951138E+22 | 1,951090E+22 | 1,734663E+22 | 1,371695E+22 | 9,633553E+21 | 6,190822E+21 | 4,271955E+21 | 4,271929E+21 | 6,190734E+21 | 9,633396E+21 |
| 1043                | 1,371672E+22 | 1,734652E+22 | 1,951109E+22 | 1,951137E+22 | 1,734718E+22 | 1,371732E+22 | 9,633862E+21 | 6,191145E+21 | 4,272283E+21 | 4,272202E+21 | 6,190906E+21 | 9,633563E+21 |
| 1044                | 1,371717E+22 | 1,734723E+22 | 1,951160E+22 | 1,951151E+22 | 1,734690E+22 | 1,371679E+22 | 9,633438E+21 | 6,191001E+21 | 4,272410E+21 | 4,272556E+21 | 6,191389E+21 | 9,633905E+21 |
| 1045                | 1,371697E+22 | 1,734633E+22 | 1,951013E+22 | 1,951005E+22 | 1,734636E+22 | 1,371708E+22 | 9,634022E+21 | 6,191576E+21 | 4,272818E+21 | 4,272732E+21 | 6,191322E+21 | 9,633597E+21 |
| 1046                | 1,371647E+22 | 1,734596E+22 | 1,951042E+22 | 1,951079E+22 | 1,734690E+22 | 1,371731E+22 | 9,634054E+21 | 6,191560E+21 | 4,272891E+21 | 4,272899E+21 | 6,191566E+21 | 9,634041E+21 |
| 1047                | 1,371723E+22 | 1,734664E+22 | 1,951048E+22 | 1,951026E+22 | 1,734612E+22 | 1,371670E+22 | 9,633764E+21 | 6,191477E+21 | 4,272906E+21 | 4,272986E+21 | 6,191658E+21 | 9,633941E+21 |
| 1048                | 1,371680E+22 | 1,734595E+22 | 1,950961E+22 | 1,950960E+22 | 1,734601E+22 | 1,371698E+22 | 9,634174E+21 | 6,191822E+21 | 4,273042E+21 | 4,272885E+21 | 6,191386E+21 | 9,633646E+21 |
| 1049                | 1,371673E+22 | 1,734649E+22 | 1,951084E+22 | 1,951081E+22 | 1,734655E+22 | 1,371680E+22 | 9,633671E+21 | 6,191376E+21 | 4,272827E+21 | 4,272913E+21 | 6,191618E+21 | 9,634052E+21 |
| 1050                | 1,371715E+22 | 1,734660E+22 | 1,951053E+22 | 1,951020E+22 | 1,734604E+22 | 1,371665E+22 | 9,633694E+21 | 6,191361E+21 | 4,272711E+21 | 4,272723E+21 | 6,191388E+21 | 9,633710E+21 |
| 1051                | 1,371659E+22 | 1,734589E+22 | 1,951017E+22 | 1,951069E+22 | 1,734688E+22 | 1,371724E+22 | 9,633955E+21 | 6,191369E+21 | 4,272551E+21 | 4,272445E+21 | 6,191090E+21 | 9,633640E+21 |
| 1052                | 1,371711E+22 | 1,734707E+22 | 1,951135E+22 | 1,951135E+22 | 1,734701E+22 | 1,371694E+22 | 9,633419E+21 | 6,190839E+21 | 4,272167E+21 | 4,272288E+21 | 6,191196E+21 | 9,633937E+21 |
| 1053                | 1,371727E+22 | 1,734683E+22 | 1,951068E+22 | 1,951033E+22 | 1,734642E+22 | 1,371704E+22 | 9,633754E+21 | 6,191046E+21 | 4,272129E+21 | 4,272016E+21 | 6,190737E+21 | 9,633365E+21 |
| 1054                | 1,371672E+22 | 1,734655E+22 | 1,951123E+22 | 1,951151E+22 | 1,734727E+22 | 1,371738E+22 | 9,633803E+21 | 6,190930E+21 | 4,271985E+21 | 4,271890E+21 | 6,190643E+21 | 9,633460E+21 |
| 1055                | 1,371730E+22 | 1,734745E+22 | 1,951184E+22 | 1,951172E+22 | 1,734703E+22 | 1,371685E+22 | 9,633303E+21 | 6,190606E+21 | 4,271825E+21 | 4,271909E+21 | 6,190798E+21 | 9,633485E+21 |
| 1056                | 1,371691E+22 | 1,734676E+22 | 1,951089E+22 | 1,951086E+22 | 1,734687E+22 | 1,371714E+22 | 9,633685E+21 | 6,190904E+21 | 4,271940E+21 | 4,271825E+21 | 6,190596E+21 | 9,633263E+21 |
| 1057                | 1,371670E+22 | 1,734681E+22 | 1,951163E+22 | 1,951183E+22 | 1,734748E+22 | 1,371728E+22 | 9,633463E+21 | 6,190647E+21 | 4,271871E+21 | 4,271960E+21 | 6,190887E+21 | 9,633758E+21 |
| 1058                | 1,371734E+22 | 1,734711E+22 | 1,951129E+22 | 1,951104E+22 | 1,734663E+22 | 1,371686E+22 | 9,633448E+21 | 6,190749E+21 | 4,271972E+21 | 4,272056E+21 | 6,190951E+21 | 9,633651E+21 |
| 1059                | 1,371693E+22 | 1,734635E+22 | 1,951039E+22 | 1,951072E+22 | 1,734687E+22 | 1,371721E+22 | 9,633860E+21 | 6,191166E+21 | 4,272264E+21 | 4,272141E+21 | 6,190823E+21 | 9,633459E+21 |
| 1060                | 1,371706E+22 | 1,734716E+22 | 1,951144E+22 | 1,951129E+22 | 1,734692E+22 | 1,371691E+22 | 9,633482E+21 | 6,190985E+21 | 4,272357E+21 | 4,272472E+21 | 6,191314E+21 | 9,633948E+21 |
| 1061                | 1,371720E+22 | 1,734675E+22 | 1,951060E+22 | 1,951007E+22 | 1,734592E+22 | 1,371665E+22 | 9,633756E+21 | 6,191444E+21 | 4,272777E+21 | 4,272752E+21 | 6,191369E+21 | 9,633636E+21 |
| 1062                | 1,371645E+22 | 1,734575E+22 | 1,951014E+22 | 1,951055E+22 | 1,734663E+22 | 1,371716E+22 | 9,634121E+21 | 6,191752E+21 | 4,273089E+21 | 4,273019E+21 | 6,191533E+21 | 9,633792E+21 |
| 1063                | 1,371688E+22 | 1,734640E+22 | 1,951046E+22 | 1,951050E+22 | 1,734635E+22 | 1,371672E+22 | 9,633745E+21 | 6,191608E+21 | 4,273198E+21 | 4,273363E+21 | 6,192025E+21 | 9,634163E+21 |
| 1064                | 1,371679E+22 | 1,734576E+22 | 1,950920E+22 | 1,950898E+22 | 1,734553E+22 | 1,371678E+22 | 9,634217E+21 | 6,192113E+21 | 4,273516E+21 | 4,273433E+21 | 6,191876E+21 | 9,633874E+21 |
| 1065                | 1,371643E+22 | 1,734553E+22 | 1,950960E+22 | 1,950983E+22 | 1,734613E+22 | 1,371698E+22 | 9,634180E+21 | 6,192065E+21 | 4,273582E+21 | 4,273578E+21 | 6,192033E+21 | 9,634145E+21 |
| 1066                | 1,371699E+22 | 1,734614E+22 | 1,950978E+22 | 1,950944E+22 | 1,734541E+22 | 1,371639E+22 | 9,633925E+21 | 6,192011E+21 | 4,273608E+21 | 4,273680E+21 | 6,192172E+21 | 9,634098E+21 |
| 1067                | 1,371655E+22 | 1,734534E+22 | 1,950890E+22 | 1,950910E+22 | 1,734567E+22 | 1,371676E+22 | 9,634261E+21 | 6,192267E+21 | 4,273681E+21 | 4,273525E+21 | 6,191851E+21 | 9,633761E+21 |
| 1068                | 1,371645E+22 | 1,734590E+22 | 1,951011E+22 | 1,951022E+22 | 1,734627E+22 | 1,371680E+22 | 9,633884E+21 | 6,191820E+21 | 4,273407E+21 | 4,273492E+21 | 6,192096E+21 | 9,634298E+21 |

| 1<br>Longitude ☉<br>Years | 2<br>0° - 30° | 3<br>30° - 60° | 4<br>60° - 90° | 5<br>90° - 120° | 6<br>120° - 150° | 7<br>150° - 180° | 8<br>180° - 210° | 9<br>210° - 240° | 10<br>240° - 270° | 11<br>270° - 300° | 12<br>300° - 330° | 13<br>330° - 360° |
|---------------------------|---------------|----------------|----------------|-----------------|------------------|------------------|------------------|------------------|-------------------|-------------------|-------------------|-------------------|
| 1069                      | 1,371698E+22  | 1,734600E+22   | 1,950970E+22   | 1,950941E+22    | 1,734548E+22     | 1,371651E+22     | 9,633908E+21     | 6,191825E+21     | 4,273303E+21      | 4,273317E+21      | 6,191869E+21      | 9,633968E+21      |
| 1070                      | 1,371653E+22  | 1,734539E+22   | 1,950937E+22   | 1,950991E+22    | 1,734632E+22     | 1,371712E+22     | 9,634227E+21     | 6,191867E+21     | 4,273147E+21      | 4,273013E+21      | 6,191486E+21      | 9,633747E+21      |
| 1071                      | 1,371693E+22  | 1,734659E+22   | 1,951060E+22   | 1,951056E+22    | 1,734650E+22     | 1,371685E+22     | 9,633677E+21     | 6,191354E+21     | 4,272810E+21      | 4,272913E+21      | 6,191626E+21      | 9,633991E+21      |
| 1072                      | 1,371701E+22  | 1,734645E+22   | 1,951015E+22   | 1,950962E+22    | 1,734571E+22     | 1,371670E+22     | 9,633864E+21     | 6,191492E+21     | 4,272744E+21      | 4,272644E+21      | 6,191217E+21      | 9,633522E+21      |
| 1073                      | 1,371650E+22  | 1,734603E+22   | 1,951053E+22   | 1,951088E+22    | 1,734676E+22     | 1,371711E+22     | 9,633866E+21     | 6,191363E+21     | 4,272632E+21      | 4,272566E+21      | 6,191161E+21      | 9,633614E+21      |
| 1074                      | 1,371698E+22  | 1,734673E+22   | 1,951095E+22   | 1,951095E+22    | 1,734653E+22     | 1,371667E+22     | 9,633455E+21     | 6,191072E+21     | 4,272486E+21      | 4,272613E+21      | 6,191401E+21      | 9,633810E+21      |
| 1075                      | 1,371678E+22  | 1,734605E+22   | 1,950987E+22   | 1,951007E+22    | 1,734641E+22     | 1,371699E+22     | 9,633847E+21     | 6,191356E+21     | 4,272568E+21      | 4,272469E+21      | 6,191105E+21      | 9,633516E+21      |
| 1076                      | 1,371664E+22  | 1,734635E+22   | 1,951076E+22   | 1,951090E+22    | 1,734686E+22     | 1,371716E+22     | 9,633741E+21     | 6,191186E+21     | 4,272517E+21      | 4,272575E+21      | 6,191368E+21      | 9,634007E+21      |
| 1077                      | 1,371725E+22  | 1,734669E+22   | 1,951053E+22   | 1,951006E+22    | 1,734577E+22     | 1,371651E+22     | 9,633642E+21     | 6,191333E+21     | 4,272720E+21      | 4,272777E+21      | 6,191471E+21      | 9,633828E+21      |
| 1078                      | 1,371676E+22  | 1,734586E+22   | 1,950971E+22   | 1,950996E+22    | 1,734618E+22     | 1,371694E+22     | 9,634095E+21     | 6,191770E+21     | 4,273053E+21      | 4,272914E+21      | 6,191354E+21      | 9,633532E+21      |
| 1079                      | 1,371667E+22  | 1,734644E+22   | 1,951059E+22   | 1,951057E+22    | 1,734646E+22     | 1,371679E+22     | 9,633733E+21     | 6,191599E+21     | 4,273184E+21      | 4,273312E+21      | 6,191936E+21      | 9,634082E+21      |
| 1080                      | 1,371681E+22  | 1,734604E+22   | 1,950971E+22   | 1,950924E+22    | 1,734533E+22     | 1,371645E+22     | 9,633947E+21     | 6,191984E+21     | 4,273529E+21      | 4,273540E+21      | 6,192012E+21      | 9,633938E+21      |
| 1081                      | 1,371628E+22  | 1,734506E+22   | 1,950910E+22   | 1,950961E+22    | 1,734603E+22     | 1,371700E+22     | 9,634339E+21     | 6,192305E+21     | 4,273829E+21      | 4,273767E+21      | 6,192102E+21      | 9,634009E+21      |
| 1082                      | 1,371665E+22  | 1,734571E+22   | 1,950942E+22   | 1,950946E+22    | 1,734564E+22     | 1,371652E+22     | 9,634027E+21     | 6,192222E+21     | 4,273953E+21      | 4,274100E+21      | 6,192594E+21      | 9,634417E+21      |
| 1083                      | 1,371664E+22  | 1,734515E+22   | 1,950829E+22   | 1,950815E+22    | 1,734493E+22     | 1,371653E+22     | 9,634413E+21     | 6,192665E+21     | 4,274231E+21      | 4,274120E+21      | 6,192358E+21      | 9,634007E+21      |
| 1084                      | 1,371622E+22  | 1,734506E+22   | 1,950891E+22   | 1,950906E+22    | 1,734551E+22     | 1,371677E+22     | 9,634409E+21     | 6,192615E+21     | 4,274267E+21      | 4,274245E+21      | 6,192554E+21      | 9,634344E+21      |
| 1085                      | 1,371672E+22  | 1,734554E+22   | 1,950903E+22   | 1,950870E+22    | 1,734477E+22     | 1,371606E+22     | 9,634051E+21     | 6,192525E+21     | 4,274317E+21      | 4,274404E+21      | 6,192761E+21      | 9,634375E+21      |
| 1086                      | 1,371638E+22  | 1,734474E+22   | 1,950809E+22   | 1,950840E+22    | 1,734522E+22     | 1,371663E+22     | 9,634444E+21     | 6,192717E+21     | 4,274321E+21      | 4,274196E+21      | 6,192383E+21      | 9,633994E+21      |
| 1087                      | 1,371628E+22  | 1,734530E+22   | 1,950920E+22   | 1,950938E+22    | 1,734581E+22     | 1,371677E+22     | 9,634142E+21     | 6,192297E+21     | 4,274025E+21      | 4,274121E+21      | 6,192580E+21      | 9,634482E+21      |
| 1088                      | 1,371688E+22  | 1,734564E+22   | 1,950902E+22   | 1,950860E+22    | 1,734482E+22     | 1,371625E+22     | 9,634059E+21     | 6,192250E+21     | 4,273854E+21      | 4,273860E+21      | 6,192278E+21      | 9,634150E+21      |
| 1089                      | 1,371648E+22  | 1,734509E+22   | 1,950877E+22   | 1,950920E+22    | 1,734572E+22     | 1,371684E+22     | 9,634323E+21     | 6,192293E+21     | 4,273729E+21      | 4,273570E+21      | 6,191839E+21      | 9,633748E+21      |
| 1090                      | 1,371658E+22  | 1,734605E+22   | 1,950995E+22   | 1,950991E+22    | 1,734595E+22     | 1,371661E+22     | 9,633846E+21     | 6,191836E+21     | 4,273437E+21      | 4,273535E+21      | 6,192084E+21      | 9,634093E+21      |
| 1091                      | 1,371667E+22  | 1,734574E+22   | 1,950937E+22   | 1,950914E+22    | 1,734542E+22     | 1,371654E+22     | 9,633981E+21     | 6,191916E+21     | 4,273344E+21      | 4,273259E+21      | 6,191688E+21      | 9,633666E+21      |
| 1092                      | 1,371623E+22  | 1,734540E+22   | 1,950967E+22   | 1,951013E+22    | 1,734635E+22     | 1,371707E+22     | 9,634107E+21     | 6,191822E+21     | 4,273219E+21      | 4,273169E+21      | 6,191688E+21      | 9,633908E+21      |
| 1093                      | 1,371681E+22  | 1,734609E+22   | 1,950998E+22   | 1,950997E+22    | 1,734582E+22     | 1,371645E+22     | 9,633682E+21     | 6,191595E+21     | 4,273147E+21      | 4,273277E+21      | 6,191948E+21      | 9,634128E+21      |
| 1094                      | 1,371677E+22  | 1,734560E+22   | 1,950901E+22   | 1,950913E+22    | 1,734572E+22     | 1,371678E+22     | 9,634082E+21     | 6,191889E+21     | 4,273254E+21      | 4,273140E+21      | 6,191585E+21      | 9,633674E+21      |
| 1095                      | 1,371648E+22  | 1,734591E+22   | 1,950999E+22   | 1,951002E+22    | 1,734621E+22     | 1,371696E+22     | 9,633989E+21     | 6,191772E+21     | 4,273273E+21      | 4,273314E+21      | 6,191881E+21      | 9,634099E+21      |
| 1096                      | 1,371700E+22  | 1,734628E+22   | 1,950995E+22   | 1,950935E+22    | 1,734505E+22     | 1,371613E+22     | 9,633768E+21     | 6,191867E+21     | 4,273458E+21      | 4,273529E+21      | 6,192047E+21      | 9,634025E+21      |
| 1097                      | 1,371650E+22  | 1,734527E+22   | 1,950895E+22   | 1,950930E+22    | 1,734568E+22     | 1,371668E+22     | 9,634213E+21     | 6,192310E+21     | 4,273829E+21      | 4,273707E+21      | 6,191955E+21      | 9,633699E+21      |
| 1098                      | 1,371626E+22  | 1,734559E+22   | 1,950956E+22   | 1,950972E+22    | 1,734596E+22     | 1,371670E+22     | 9,634010E+21     | 6,192190E+21     | 4,273968E+21      | 4,274125E+21      | 6,192603E+21      | 9,634398E+21      |
| 1099                      | 1,371660E+22  | 1,734522E+22   | 1,950858E+22   | 1,950835E+22    | 1,734482E+22     | 1,371633E+22     | 9,634222E+21     | 6,192560E+21     | 4,274268E+21      | 4,274279E+21      | 6,192580E+21      | 9,634187E+21      |
| 1100                      | 1,371615E+22  | 1,734451E+22   | 1,950809E+22   | 1,950854E+22    | 1,734535E+22     | 1,371686E+22     | 9,634667E+21     | 6,192928E+21     | 4,274561E+21      | 4,274468E+21      | 6,192651E+21      | 9,634259E+21      |
| 1101                      | 1,371647E+22  | 1,734514E+22   | 1,950853E+22   | 1,950841E+22    | 1,734475E+22     | 1,371615E+22     | 9,634235E+21     | 6,192846E+21     | 4,274749E+21      | 4,274868E+21      | 6,193162E+21      | 9,634634E+21      |
| 1102                      | 1,371646E+22  | 1,734461E+22   | 1,950752E+22   | 1,950733E+22    | 1,734425E+22     | 1,371624E+22     | 9,634594E+21     | 6,193222E+21     | 4,274991E+21      | 4,274881E+21      | 6,192911E+21      | 9,634151E+21      |
| 1103                      | 1,371590E+22  | 1,734441E+22   | 1,950811E+22   | 1,950835E+22    | 1,734505E+22     | 1,371660E+22     | 9,634603E+21     | 6,193145E+21     | 4,274996E+21      | 4,274995E+21      | 6,193135E+21      | 9,634538E+21      |
| 1104                      | 1,371649E+22  | 1,734500E+22   | 1,950827E+22   | 1,950795E+22    | 1,734421E+22     | 1,371583E+22     | 9,634169E+21     | 6,192941E+21     | 4,274918E+21      | 4,275044E+21      | 6,193302E+21      | 9,634676E+21      |

| 1<br>Longitude ☉<br>Years | 2<br>0° - 30° | 3<br>30° - 60° | 4<br>60° - 90° | 5<br>90° - 120° | 6<br>120° - 150° | 7<br>150° - 180° | 8<br>180° - 210° | 9<br>210° - 240° | 10<br>240° - 270° | 11<br>270° - 300° | 12<br>300° - 330° | 13<br>330° - 360° |
|---------------------------|---------------|----------------|----------------|-----------------|------------------|------------------|------------------|------------------|-------------------|-------------------|-------------------|-------------------|
| 1105                      | 1,371631E+22  | 1,734427E+22   | 1,950729E+22   | 1,950763E+22    | 1,734471E+22     | 1,371646E+22     | 9,634592E+21     | 6,193145E+21     | 4,274895E+21      | 4,274764E+21      | 6,192801E+21      | 9,634141E+21      |
| 1106                      | 1,371610E+22  | 1,734481E+22   | 1,950843E+22   | 1,950859E+22    | 1,734529E+22     | 1,371663E+22     | 9,634379E+21     | 6,192775E+21     | 4,274606E+21      | 4,274680E+21      | 6,192981E+21      | 9,634614E+21      |
| 1107                      | 1,371670E+22  | 1,734514E+22   | 1,950834E+22   | 1,950801E+22    | 1,734438E+22     | 1,371607E+22     | 9,634229E+21     | 6,192693E+21     | 4,274419E+21      | 4,274395E+21      | 6,192624E+21      | 9,634179E+21      |
| 1108                      | 1,371621E+22  | 1,734466E+22   | 1,950817E+22   | 1,950857E+22    | 1,734526E+22     | 1,371669E+22     | 9,634544E+21     | 6,192774E+21     | 4,274309E+21      | 4,274138E+21      | 6,192289E+21      | 9,633893E+21      |
| 1109                      | 1,371623E+22  | 1,734535E+22   | 1,950915E+22   | 1,950920E+22    | 1,734541E+22     | 1,371634E+22     | 9,633979E+21     | 6,192321E+21     | 4,274095E+21      | 4,274205E+21      | 6,192635E+21      | 9,634362E+21      |
| 1110                      | 1,371649E+22  | 1,734510E+22   | 1,950847E+22   | 1,950832E+22    | 1,734492E+22     | 1,371642E+22     | 9,634177E+21     | 6,192367E+21     | 4,273976E+21      | 4,273923E+21      | 6,192229E+21      | 9,633928E+21      |
| 1111                      | 1,371609E+22  | 1,734483E+22   | 1,950875E+22   | 1,950918E+22    | 1,734574E+22     | 1,371692E+22     | 9,634363E+21     | 6,192339E+21     | 4,273876E+21      | 4,273834E+21      | 6,192202E+21      | 9,634131E+21      |
| 1112                      | 1,371676E+22  | 1,734579E+22   | 1,950927E+22   | 1,950904E+22    | 1,734503E+22     | 1,371608E+22     | 9,633807E+21     | 6,192067E+21     | 4,273781E+21      | 4,273911E+21      | 6,192431E+21      | 9,634353E+21      |
| 1113                      | 1,371672E+22  | 1,734532E+22   | 1,950843E+22   | 1,950839E+22    | 1,734507E+22     | 1,371643E+22     | 9,634169E+21     | 6,192383E+21     | 4,273946E+21      | 4,273814E+21      | 6,192037E+21      | 9,633729E+21      |
| 1114                      | 1,371613E+22  | 1,734532E+22   | 1,950930E+22   | 1,950937E+22    | 1,734570E+22     | 1,371672E+22     | 9,634181E+21     | 6,192331E+21     | 4,274019E+21      | 4,274063E+21      | 6,192441E+21      | 9,634249E+21      |
| 1115                      | 1,371662E+22  | 1,734547E+22   | 1,950908E+22   | 1,950883E+22    | 1,734477E+22     | 1,371600E+22     | 9,633963E+21     | 6,192399E+21     | 4,274189E+21      | 4,274271E+21      | 6,192611E+21      | 9,634211E+21      |
| 1116                      | 1,371618E+22  | 1,734454E+22   | 1,950796E+22   | 1,950843E+22    | 1,734523E+22     | 1,371668E+22     | 9,634564E+21     | 6,192905E+21     | 4,274551E+21      | 4,274442E+21      | 6,192579E+21      | 9,634012E+21      |
| 1117                      | 1,371599E+22  | 1,734475E+22   | 1,950840E+22   | 1,950861E+22    | 1,734522E+22     | 1,371650E+22     | 9,634336E+21     | 6,192856E+21     | 4,274773E+21      | 4,274911E+21      | 6,193227E+21      | 9,634720E+21      |
| 1118                      | 1,371650E+22  | 1,734463E+22   | 1,950754E+22   | 1,950723E+22    | 1,734408E+22     | 1,371614E+22     | 9,634526E+21     | 6,193197E+21     | 4,275072E+21      | 4,275063E+21      | 6,193154E+21      | 9,634390E+21      |
| 1119                      | 1,371596E+22  | 1,734398E+22   | 1,950720E+22   | 1,950747E+22    | 1,734454E+22     | 1,371658E+22     | 9,634930E+21     | 6,193569E+21     | 4,275381E+21      | 4,275273E+21      | 6,193228E+21      | 9,634418E+21      |
| 1120                      | 1,371625E+22  | 1,734469E+22   | 1,950783E+22   | 1,950757E+22    | 1,734396E+22     | 1,371570E+22     | 9,634319E+21     | 6,193367E+21     | 4,275488E+21      | 4,275629E+21      | 6,193769E+21      | 9,634911E+21      |
| 1121                      | 1,371630E+22  | 1,734410E+22   | 1,950681E+22   | 1,950666E+22    | 1,734374E+22     | 1,371590E+22     | 9,634613E+21     | 6,193665E+21     | 4,275679E+21      | 4,275591E+21      | 6,193465E+21      | 9,634366E+21      |
| 1122                      | 1,371564E+22  | 1,734372E+22   | 1,950722E+22   | 1,950757E+22    | 1,734458E+22     | 1,371647E+22     | 9,634792E+21     | 6,193610E+21     | 4,275630E+21      | 4,275656E+21      | 6,193679E+21      | 9,634823E+21      |
| 1123                      | 1,371636E+22  | 1,734438E+22   | 1,950742E+22   | 1,950728E+22    | 1,734383E+22     | 1,371573E+22     | 9,634381E+21     | 6,193386E+21     | 4,275476E+21      | 4,275585E+21      | 6,193690E+21      | 9,634818E+21      |
| 1124                      | 1,371620E+22  | 1,734392E+22   | 1,950664E+22   | 1,950685E+22    | 1,734419E+22     | 1,371635E+22     | 9,634866E+21     | 6,193639E+21     | 4,275453E+21      | 4,275284E+21      | 6,193179E+21      | 9,634237E+21      |
| 1125                      | 1,371581E+22  | 1,734426E+22   | 1,950775E+22   | 1,950782E+22    | 1,734464E+22     | 1,371637E+22     | 9,634585E+21     | 6,193312E+21     | 4,275263E+21      | 4,275292E+21      | 6,193395E+21      | 9,634688E+21      |
| 1126                      | 1,371640E+22  | 1,734458E+22   | 1,950766E+22   | 1,950733E+22    | 1,734392E+22     | 1,371590E+22     | 9,634412E+21     | 6,193178E+21     | 4,275071E+21      | 4,275045E+21      | 6,193086E+21      | 9,634256E+21      |
| 1127                      | 1,371583E+22  | 1,734396E+22   | 1,950733E+22   | 1,950782E+22    | 1,734483E+22     | 1,371657E+22     | 9,634745E+21     | 6,193264E+21     | 4,274969E+21      | 4,274816E+21      | 6,192816E+21      | 9,634091E+21      |
| 1128                      | 1,371603E+22  | 1,734478E+22   | 1,950830E+22   | 1,950834E+22    | 1,734480E+22     | 1,371609E+22     | 9,634099E+21     | 6,192735E+21     | 4,274679E+21      | 4,274825E+21      | 6,193174E+21      | 9,634709E+21      |
| 1129                      | 1,371649E+22  | 1,734466E+22   | 1,950768E+22   | 1,950749E+22    | 1,734433E+22     | 1,371613E+22     | 9,634272E+21     | 6,192800E+21     | 4,274571E+21      | 4,274516E+21      | 6,192685E+21      | 9,634134E+21      |
| 1130                      | 1,371597E+22  | 1,734438E+22   | 1,950802E+22   | 1,950835E+22    | 1,734513E+22     | 1,371669E+22     | 9,634546E+21     | 6,192834E+21     | 4,274514E+21      | 4,274466E+21      | 6,192680E+21      | 9,634324E+21      |
| 1131                      | 1,371660E+22  | 1,734531E+22   | 1,950867E+22   | 1,950846E+22    | 1,734455E+22     | 1,371585E+22     | 9,633967E+21     | 6,192550E+21     | 4,274424E+21      | 4,274541E+21      | 6,192869E+21      | 9,634444E+21      |
| 1132                      | 1,371646E+22  | 1,734485E+22   | 1,950784E+22   | 1,950777E+22    | 1,734462E+22     | 1,371627E+22     | 9,634406E+21     | 6,192930E+21     | 4,274634E+21      | 4,274511E+21      | 6,192598E+21      | 9,633919E+21      |
| 1133                      | 1,371574E+22  | 1,734450E+22   | 1,950837E+22   | 1,950859E+22    | 1,734520E+22     | 1,371655E+22     | 9,634411E+21     | 6,192933E+21     | 4,274812E+21      | 4,274862E+21      | 6,193075E+21      | 9,634540E+21      |
| 1134                      | 1,371639E+22  | 1,734469E+22   | 1,950797E+22   | 1,950780E+22    | 1,734426E+22     | 1,371597E+22     | 9,634281E+21     | 6,193002E+21     | 4,274976E+21      | 4,275071E+21      | 6,193238E+21      | 9,634488E+21      |
| 1135                      | 1,371599E+22  | 1,734385E+22   | 1,950686E+22   | 1,950726E+22    | 1,734451E+22     | 1,371654E+22     | 9,634926E+21     | 6,193581E+21     | 4,275368E+21      | 4,275238E+21      | 6,193174E+21      | 9,634269E+21      |
| 1136                      | 1,371590E+22  | 1,734428E+22   | 1,950749E+22   | 1,950747E+22    | 1,734428E+22     | 1,371606E+22     | 9,634499E+21     | 6,193447E+21     | 4,275548E+21      | 4,275673E+21      | 6,193800E+21      | 9,634975E+21      |
| 1137                      | 1,371639E+22  | 1,734419E+22   | 1,950681E+22   | 1,950632E+22    | 1,734328E+22     | 1,371568E+22     | 9,634603E+21     | 6,193755E+21     | 4,275851E+21      | 4,275826E+21      | 6,193693E+21      | 9,634513E+21      |
| 1138                      | 1,371562E+22  | 1,734335E+22   | 1,950645E+22   | 1,950673E+22    | 1,734394E+22     | 1,371626E+22     | 9,635057E+21     | 6,194106E+21     | 4,276132E+21      | 4,276046E+21      | 6,193832E+21      | 9,634638E+21      |
| 1139                      | 1,371594E+22  | 1,734394E+22   | 1,950702E+22   | 1,950697E+22    | 1,734360E+22     | 1,371553E+22     | 9,634454E+21     | 6,193828E+21     | 4,276147E+21      | 4,276308E+21      | 6,194293E+21      | 9,635115E+21      |
| 1140                      | 1,371609E+22  | 1,734352E+22   | 1,950602E+22   | 1,950591E+22    | 1,734333E+22     | 1,371588E+22     | 9,634897E+21     | 6,194159E+21     | 4,276280E+21      | 4,276207E+21      | 6,193980E+21      | 9,634612E+21      |

| 1                 | 2            | 3            | 4            | 5            | 6            | 7            | 8            | 9            | 10           | 11           | 12           | 13           |
|-------------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|
| Longitude $\odot$ | 0° - 30°     | 30° - 60°    | 60° - 90°    | 90° - 120°   | 120° - 150°  | 150° - 180°  | 180° - 210°  | 210° - 240°  | 240° - 270°  | 270° - 300°  | 300° - 330°  | 330° - 360°  |
| Years             |              |              |              |              |              |              |              |              |              |              |              |              |
| 1141              | 1,371543E+22 | 1,734306E+22 | 1,950630E+22 | 1,950670E+22 | 1,734401E+22 | 1,371631E+22 | 9,635064E+21 | 6,194172E+21 | 4,276296E+21 | 4,276280E+21 | 6,194129E+21 | 9,635010E+21 |
| 1142              | 1,371624E+22 | 1,734389E+22 | 1,950660E+22 | 1,950639E+22 | 1,734332E+22 | 1,371566E+22 | 9,634658E+21 | 6,193924E+21 | 4,276136E+21 | 4,276204E+21 | 6,194096E+21 | 9,634873E+21 |
| 1143              | 1,371591E+22 | 1,734341E+22 | 1,950596E+22 | 1,950603E+22 | 1,734360E+22 | 1,371619E+22 | 9,635130E+21 | 6,194199E+21 | 4,276136E+21 | 4,275939E+21 | 6,193625E+21 | 9,634312E+21 |
| 1144              | 1,371552E+22 | 1,734371E+22 | 1,950707E+22 | 1,950709E+22 | 1,734400E+22 | 1,371600E+22 | 9,634656E+21 | 6,193757E+21 | 4,275893E+21 | 4,275945E+21 | 6,193921E+21 | 9,634918E+21 |
| 1145              | 1,371620E+22 | 1,734399E+22 | 1,950690E+22 | 1,950665E+22 | 1,734346E+22 | 1,371563E+22 | 9,634437E+21 | 6,193571E+21 | 4,275677E+21 | 4,275684E+21 | 6,193611E+21 | 9,634505E+21 |
| 1146              | 1,371566E+22 | 1,734333E+22 | 1,950646E+22 | 1,950697E+22 | 1,734430E+22 | 1,371640E+22 | 9,634889E+21 | 6,193674E+21 | 4,275543E+21 | 4,275433E+21 | 6,193355E+21 | 9,634428E+21 |
| 1147              | 1,371601E+22 | 1,734427E+22 | 1,950753E+22 | 1,950760E+22 | 1,734429E+22 | 1,371589E+22 | 9,634247E+21 | 6,193146E+21 | 4,275216E+21 | 4,275356E+21 | 6,193573E+21 | 9,634905E+21 |
| 1148              | 1,371649E+22 | 1,734443E+22 | 1,950715E+22 | 1,950675E+22 | 1,734376E+22 | 1,371594E+22 | 9,634466E+21 | 6,193259E+21 | 4,275135E+21 | 4,275070E+21 | 6,193102E+21 | 9,634266E+21 |
| 1149              | 1,371573E+22 | 1,734388E+22 | 1,950739E+22 | 1,950765E+22 | 1,734453E+22 | 1,371641E+22 | 9,634723E+21 | 6,193382E+21 | 4,275214E+21 | 4,275134E+21 | 6,193142E+21 | 9,634430E+21 |
| 1150              | 1,371632E+22 | 1,734472E+22 | 1,950795E+22 | 1,950779E+22 | 1,734419E+22 | 1,371577E+22 | 9,634194E+21 | 6,193098E+21 | 4,275158E+21 | 4,275272E+21 | 6,193393E+21 | 9,634547E+21 |
| 1151              | 1,371606E+22 | 1,734408E+22 | 1,950695E+22 | 1,950693E+22 | 1,734416E+22 | 1,371622E+22 | 9,634715E+21 | 6,193542E+21 | 4,275416E+21 | 4,275295E+21 | 6,193189E+21 | 9,634139E+21 |
| 1152              | 1,371549E+22 | 1,734375E+22 | 1,950731E+22 | 1,950754E+22 | 1,734451E+22 | 1,371633E+22 | 9,634650E+21 | 6,193510E+21 | 4,275562E+21 | 4,275625E+21 | 6,193690E+21 | 9,634865E+21 |
| 1153              | 1,371631E+22 | 1,734410E+22 | 1,950699E+22 | 1,950676E+22 | 1,734354E+22 | 1,371566E+22 | 9,634458E+21 | 6,193592E+21 | 4,275746E+21 | 4,275821E+21 | 6,193795E+21 | 9,634706E+21 |
| 1154              | 1,371581E+22 | 1,734325E+22 | 1,950592E+22 | 1,950617E+22 | 1,734370E+22 | 1,371622E+22 | 9,635130E+21 | 6,194184E+21 | 4,276153E+21 | 4,276017E+21 | 6,193763E+21 | 9,634505E+21 |
| 1155              | 1,371571E+22 | 1,734367E+22 | 1,950674E+22 | 1,950669E+22 | 1,734360E+22 | 1,371572E+22 | 9,634649E+21 | 6,193998E+21 | 4,276290E+21 | 4,276407E+21 | 6,194334E+21 | 9,635138E+21 |
| 1156              | 1,371616E+22 | 1,734367E+22 | 1,950616E+22 | 1,950565E+22 | 1,734273E+22 | 1,371542E+22 | 9,634762E+21 | 6,194285E+21 | 4,276567E+21 | 4,276573E+21 | 6,194308E+21 | 9,634749E+21 |
| 1157              | 1,371529E+22 | 1,734254E+22 | 1,950553E+22 | 1,950595E+22 | 1,734344E+22 | 1,371606E+22 | 9,635233E+21 | 6,194659E+21 | 4,276891E+21 | 4,276817E+21 | 6,194448E+21 | 9,634937E+21 |
| 1158              | 1,371579E+22 | 1,734328E+22 | 1,950602E+22 | 1,950603E+22 | 1,734317E+22 | 1,371556E+22 | 9,634751E+21 | 6,194372E+21 | 4,276853E+21 | 4,277017E+21 | 6,194827E+21 | 9,635322E+21 |
| 1159              | 1,371591E+22 | 1,734295E+22 | 1,950513E+22 | 1,950493E+22 | 1,734273E+22 | 1,371580E+22 | 9,635237E+21 | 6,194764E+21 | 4,276994E+21 | 4,276880E+21 | 6,194440E+21 | 9,634763E+21 |
| 1160              | 1,371530E+22 | 1,734260E+22 | 1,950553E+22 | 1,950577E+22 | 1,734326E+22 | 1,371599E+22 | 9,635229E+21 | 6,194694E+21 | 4,276967E+21 | 4,276923E+21 | 6,194577E+21 | 9,635140E+21 |
| 1161              | 1,371605E+22 | 1,734343E+22 | 1,950596E+22 | 1,950569E+22 | 1,734271E+22 | 1,371531E+22 | 9,634739E+21 | 6,194405E+21 | 4,276795E+21 | 4,276846E+21 | 6,194542E+21 | 9,634938E+21 |
| 1162              | 1,371555E+22 | 1,734273E+22 | 1,950522E+22 | 1,950536E+22 | 1,734309E+22 | 1,371595E+22 | 9,635243E+21 | 6,194644E+21 | 4,276763E+21 | 4,276600E+21 | 6,194169E+21 | 9,634542E+21 |
| 1163              | 1,371527E+22 | 1,734298E+22 | 1,950626E+22 | 1,950647E+22 | 1,734361E+22 | 1,371586E+22 | 9,634767E+21 | 6,194128E+21 | 4,276429E+21 | 4,276512E+21 | 6,194393E+21 | 9,635163E+21 |
| 1164              | 1,371611E+22 | 1,734351E+22 | 1,950617E+22 | 1,950591E+22 | 1,734299E+22 | 1,371553E+22 | 9,634640E+21 | 6,193968E+21 | 4,276181E+21 | 4,276223E+21 | 6,194091E+21 | 9,634776E+21 |
| 1165              | 1,371558E+22 | 1,734283E+22 | 1,950567E+22 | 1,950615E+22 | 1,734371E+22 | 1,371618E+22 | 9,635065E+21 | 6,194153E+21 | 4,276144E+21 | 4,276008E+21 | 6,193782E+21 | 9,634636E+21 |
| 1166              | 1,371600E+22 | 1,734395E+22 | 1,950685E+22 | 1,950676E+22 | 1,734377E+22 | 1,371579E+22 | 9,634473E+21 | 6,193645E+21 | 4,275852E+21 | 4,275960E+21 | 6,193967E+21 | 9,634954E+21 |
| 1167              | 1,371624E+22 | 1,734400E+22 | 1,950662E+22 | 1,950608E+22 | 1,734322E+22 | 1,371578E+22 | 9,634722E+21 | 6,193828E+21 | 4,275842E+21 | 4,275745E+21 | 6,193553E+21 | 9,634350E+21 |
| 1168              | 1,371547E+22 | 1,734330E+22 | 1,950669E+22 | 1,950697E+22 | 1,734396E+22 | 1,371610E+22 | 9,634826E+21 | 6,193884E+21 | 4,275921E+21 | 4,275853E+21 | 6,193694E+21 | 9,634629E+21 |
| 1169              | 1,371605E+22 | 1,734401E+22 | 1,950706E+22 | 1,950702E+22 | 1,734371E+22 | 1,371557E+22 | 9,634329E+21 | 6,193611E+21 | 4,275881E+21 | 4,276013E+21 | 6,193974E+21 | 9,634776E+21 |
| 1170              | 1,371580E+22 | 1,734330E+22 | 1,950590E+22 | 1,950593E+22 | 1,734353E+22 | 1,371608E+22 | 9,634975E+21 | 6,194103E+21 | 4,276146E+21 | 4,276053E+21 | 6,193818E+21 | 9,634468E+21 |
| 1171              | 1,371537E+22 | 1,734307E+22 | 1,950633E+22 | 1,950656E+22 | 1,734379E+22 | 1,371608E+22 | 9,634868E+21 | 6,194067E+21 | 4,276273E+21 | 4,276319E+21 | 6,194202E+21 | 9,635068E+21 |
| 1172              | 1,371620E+22 | 1,734367E+22 | 1,950625E+22 | 1,950583E+22 | 1,734279E+22 | 1,371539E+22 | 9,634673E+21 | 6,194165E+21 | 4,276479E+21 | 4,276557E+21 | 6,194356E+21 | 9,634877E+21 |
| 1173              | 1,371552E+22 | 1,734260E+22 | 1,950512E+22 | 1,950534E+22 | 1,734297E+22 | 1,371585E+22 | 9,635275E+21 | 6,194790E+21 | 4,276971E+21 | 4,276821E+21 | 6,194353E+21 | 9,634696E+21 |
| 1174              | 1,371545E+22 | 1,734301E+22 | 1,950585E+22 | 1,950587E+22 | 1,734314E+22 | 1,371561E+22 | 9,634854E+21 | 6,194572E+21 | 4,277085E+21 | 4,277211E+21 | 6,194934E+21 | 9,635315E+21 |
| 1175              | 1,371582E+22 | 1,734292E+22 | 1,950526E+22 | 1,950482E+22 | 1,734226E+22 | 1,371537E+22 | 9,635065E+21 | 6,194887E+21 | 4,277341E+21 | 4,277348E+21 | 6,194896E+21 | 9,635012E+21 |
| 1176              | 1,371515E+22 | 1,734188E+22 | 1,950454E+22 | 1,950499E+22 | 1,734278E+22 | 1,371585E+22 | 9,635453E+21 | 6,195202E+21 | 4,277598E+21 | 4,277529E+21 | 6,195008E+21 | 9,635213E+21 |



| 1<br>Longitude $\odot$<br>Years | 2<br>0° - 30° | 3<br>30° - 60° | 4<br>60° - 90° | 5<br>90° - 120° | 6<br>120° - 150° | 7<br>150° - 180° | 8<br>180° - 210° | 9<br>210° - 240° | 10<br>240° - 270° | 11<br>270° - 300° | 12<br>300° - 330° | 13<br>330° - 360° |
|---------------------------------|---------------|----------------|----------------|-----------------|------------------|------------------|------------------|------------------|-------------------|-------------------|-------------------|-------------------|
| 1177                            | 1,371571E+22  | 1,734277E+22   | 1,950516E+22   | 1,950513E+22    | 1,734255E+22     | 1,371534E+22     | 9,634957E+21     | 6,194925E+21     | 4,277551E+21      | 4,277683E+21      | 6,195300E+21      | 9,635462E+21      |
| 1178                            | 1,371570E+22  | 1,734241E+22   | 1,950435E+22   | 1,950405E+22    | 1,734206E+22     | 1,371559E+22     | 9,635460E+21     | 6,195300E+21     | 4,277677E+21      | 4,277559E+21      | 6,194947E+21      | 9,634928E+21      |
| 1179                            | 1,371506E+22  | 1,734200E+22   | 1,950485E+22   | 1,950513E+22    | 1,734268E+22     | 1,371572E+22     | 9,635366E+21     | 6,195160E+21     | 4,277588E+21      | 4,277540E+21      | 6,195028E+21      | 9,635255E+21      |
| 1180                            | 1,371580E+22  | 1,734290E+22   | 1,950533E+22   | 1,950511E+22    | 1,734227E+22     | 1,371510E+22     | 9,634856E+21     | 6,194820E+21     | 4,277378E+21      | 4,277474E+21      | 6,195081E+21      | 9,635162E+21      |
| 1181                            | 1,371529E+22  | 1,734201E+22   | 1,950432E+22   | 1,950460E+22    | 1,734259E+22     | 1,371575E+22     | 9,635368E+21     | 6,195078E+21     | 4,277373E+21      | 4,277231E+21      | 6,194697E+21      | 9,634853E+21      |
| 1182                            | 1,371525E+22  | 1,734250E+22   | 1,950537E+22   | 1,950556E+22    | 1,734314E+22     | 1,371584E+22     | 9,635002E+21     | 6,194576E+21     | 4,277006E+21      | 4,277089E+21      | 6,194834E+21      | 9,635358E+21      |
| 1183                            | 1,371605E+22  | 1,734316E+22   | 1,950552E+22   | 1,950510E+22    | 1,734237E+22     | 1,371537E+22     | 9,634888E+21     | 6,194477E+21     | 4,276792E+21      | 4,276790E+21      | 6,194465E+21      | 9,634901E+21      |
| 1184                            | 1,371552E+22  | 1,734252E+22   | 1,950508E+22   | 1,950539E+22    | 1,734301E+22     | 1,371583E+22     | 9,635162E+21     | 6,194607E+21     | 4,276762E+21      | 4,276608E+21      | 6,194188E+21      | 9,634718E+21      |
| 1185                            | 1,371578E+22  | 1,734354E+22   | 1,950633E+22   | 1,950622E+22    | 1,734327E+22     | 1,371550E+22     | 9,634560E+21     | 6,194115E+21     | 4,276504E+21      | 4,276601E+21      | 6,194403E+21      | 9,634981E+21      |
| 1186                            | 1,371582E+22  | 1,734328E+22   | 1,950586E+22   | 1,950545E+22    | 1,734278E+22     | 1,371562E+22     | 9,634882E+21     | 6,194315E+21     | 4,276523E+21      | 4,276459E+21      | 6,194126E+21      | 9,634555E+21      |
| 1187                            | 1,371513E+22  | 1,734246E+22   | 1,950576E+22   | 1,950626E+22    | 1,734353E+22     | 1,371601E+22     | 9,635041E+21     | 6,194366E+21     | 4,276569E+21      | 4,276520E+21      | 6,194224E+21      | 9,634852E+21      |
| 1188                            | 1,371586E+22  | 1,734337E+22   | 1,950615E+22   | 1,950615E+22    | 1,734315E+22     | 1,371546E+22     | 9,634604E+21     | 6,194139E+21     | 4,276546E+21      | 4,276704E+21      | 6,194550E+21      | 9,635035E+21      |
| 1189                            | 1,371560E+22  | 1,734260E+22   | 1,950487E+22   | 1,950491E+22    | 1,734278E+22     | 1,371582E+22     | 9,635214E+21     | 6,194719E+21     | 4,276921E+21      | 4,276804E+21      | 6,194385E+21      | 9,634724E+21      |
| 1190                            | 1,371529E+22  | 1,734259E+22   | 1,950540E+22   | 1,950549E+22    | 1,734308E+22     | 1,371592E+22     | 9,635132E+21     | 6,194682E+21     | 4,277069E+21      | 4,277098E+21      | 6,194756E+21      | 9,635205E+21      |
| 1191                            | 1,371592E+22  | 1,734312E+22   | 1,950550E+22   | 1,950498E+22    | 1,734209E+22     | 1,371512E+22     | 9,634920E+21     | 6,194808E+21     | 4,277312E+21      | 4,277375E+21      | 6,194952E+21      | 9,635089E+21      |
| 1192                            | 1,371532E+22  | 1,734197E+22   | 1,950424E+22   | 1,950451E+22    | 1,734232E+22     | 1,371550E+22     | 9,635360E+21     | 6,195323E+21     | 4,277760E+21      | 4,277646E+21      | 6,195018E+21      | 9,635008E+21      |
| 1193                            | 1,371529E+22  | 1,734236E+22   | 1,950492E+22   | 1,950502E+22    | 1,734259E+22     | 1,371539E+22     | 9,635018E+21     | 6,195109E+21     | 4,277835E+21      | 4,277985E+21      | 6,195551E+21      | 9,635590E+21      |
| 1194                            | 1,371563E+22  | 1,734224E+22   | 1,950428E+22   | 1,950388E+22    | 1,734163E+22     | 1,371523E+22     | 9,635340E+21     | 6,195452E+21     | 4,278063E+21      | 4,278085E+21      | 6,195490E+21      | 9,635305E+21      |
| 1195                            | 1,371503E+22  | 1,734133E+22   | 1,950371E+22   | 1,950413E+22    | 1,734213E+22     | 1,371564E+22     | 9,635682E+21     | 6,195738E+21     | 4,278262E+21      | 4,278162E+21      | 6,195448E+21      | 9,635329E+21      |
| 1196                            | 1,371552E+22  | 1,734236E+22   | 1,950454E+22   | 1,950437E+22    | 1,734193E+22     | 1,371512E+22     | 9,635175E+21     | 6,195441E+21     | 4,278207E+21      | 4,278336E+21      | 6,195774E+21      | 9,635535E+21      |
| 1197                            | 1,371533E+22  | 1,734174E+22   | 1,950359E+22   | 1,950337E+22    | 1,734147E+22     | 1,371532E+22     | 9,635620E+21     | 6,195832E+21     | 4,278380E+21      | 4,278251E+21      | 6,195461E+21      | 9,635084E+21      |
| 1198                            | 1,371479E+22  | 1,734137E+22   | 1,950393E+22   | 1,950432E+22    | 1,734227E+22     | 1,371566E+22     | 9,635563E+21     | 6,195641E+21     | 4,278244E+21      | 4,278206E+21      | 6,195535E+21      | 9,635409E+21      |
| 1199                            | 1,371551E+22  | 1,734224E+22   | 1,950447E+22   | 1,950433E+22    | 1,734180E+22     | 1,371504E+22     | 9,635120E+21     | 6,195321E+21     | 4,278006E+21      | 4,278096E+21      | 6,195565E+21      | 9,635427E+21      |
| 1200                            | 1,371525E+22  | 1,734152E+22   | 1,950347E+22   | 1,950375E+22    | 1,734195E+22     | 1,371547E+22     | 9,635474E+21     | 6,195492E+21     | 4,277943E+21      | 4,277808E+21      | 6,195156E+21      | 9,635103E+21      |
| 1201                            | 1,371525E+22  | 1,734219E+22   | 1,950469E+22   | 1,950478E+22    | 1,734251E+22     | 1,371555E+22     | 9,635125E+21     | 6,195024E+21     | 4,277586E+21      | 4,277646E+21      | 6,195222E+21      | 9,635458E+21      |
| 1202                            | 1,371586E+22  | 1,734276E+22   | 1,950494E+22   | 1,950444E+22    | 1,734179E+22     | 1,371515E+22     | 9,635054E+21     | 6,194931E+21     | 4,277390E+21      | 4,277393E+21      | 6,194913E+21      | 9,635019E+21      |
| 1203                            | 1,371524E+22  | 1,734201E+22   | 1,950455E+22   | 1,950491E+22    | 1,734253E+22     | 1,371558E+22     | 9,635279E+21     | 6,195033E+21     | 4,277347E+21      | 4,277198E+21      | 6,194619E+21      | 9,634794E+21      |
| 1204                            | 1,371546E+22  | 1,734295E+22   | 1,950568E+22   | 1,950569E+22    | 1,734293E+22     | 1,371539E+22     | 9,634722E+21     | 6,194544E+21     | 4,277115E+21      | 4,277260E+21      | 6,194945E+21      | 9,635163E+21      |
| 1205                            | 1,371548E+22  | 1,734246E+22   | 1,950483E+22   | 1,950464E+22    | 1,734230E+22     | 1,371551E+22     | 9,635108E+21     | 6,194829E+21     | 4,277212E+21      | 4,277170E+21      | 6,194710E+21      | 9,634867E+21      |
| 1206                            | 1,371505E+22  | 1,734185E+22   | 1,950460E+22   | 1,950514E+22    | 1,734296E+22     | 1,371598E+22     | 9,635361E+21     | 6,194942E+21     | 4,277282E+21      | 4,277223E+21      | 6,194757E+21      | 9,635064E+21      |
| 1207                            | 1,371571E+22  | 1,734285E+22   | 1,950525E+22   | 1,950513E+22    | 1,734239E+22     | 1,371525E+22     | 9,634917E+21     | 6,194785E+21     | 4,277320E+21      | 4,277430E+21      | 6,195061E+21      | 9,635250E+21      |
| 1208                            | 1,371552E+22  | 1,734214E+22   | 1,950405E+22   | 1,950395E+22    | 1,734190E+22     | 1,371536E+22     | 9,635315E+21     | 6,195275E+21     | 4,277698E+21      | 4,277582E+21      | 6,194960E+21      | 9,634921E+21      |
| 1209                            | 1,371509E+22  | 1,734210E+22   | 1,950469E+22   | 1,950473E+22    | 1,734238E+22     | 1,371552E+22     | 9,635243E+21     | 6,195248E+21     | 4,277853E+21      | 4,277894E+21      | 6,195355E+21      | 9,635373E+21      |
| 1210                            | 1,371557E+22  | 1,734240E+22   | 1,950463E+22   | 1,950423E+22    | 1,734155E+22     | 1,371492E+22     | 9,635096E+21     | 6,195348E+21     | 4,278079E+21      | 4,278189E+21      | 6,195624E+21      | 9,635385E+21      |
| 1211                            | 1,371505E+22  | 1,734124E+22   | 1,950334E+22   | 1,950372E+22    | 1,734180E+22     | 1,371536E+22     | 9,635586E+21     | 6,195838E+21     | 4,278453E+21      | 4,278359E+21      | 6,195582E+21      | 9,635258E+21      |
| 1212                            | 1,371513E+22  | 1,734181E+22   | 1,950408E+22   | 1,950420E+22    | 1,734205E+22     | 1,371530E+22     | 9,635310E+21     | 6,195658E+21     | 4,278525E+21      | 4,278685E+21      | 6,196093E+21      | 9,635785E+21      |

|       | 1                 | 2            | 3            | 4            | 5            | 6            | 7            | 8            | 9            | 10           | 11           | 12           | 13 |
|-------|-------------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|----|
| Years | Longitude $\odot$ |              |              |              |              |              |              |              |              |              |              |              |    |
|       | 0° - 30°          | 30° - 60°    | 60° - 90°    | 90° - 120°   | 120° - 150°  | 150° - 180°  | 180° - 210°  | 210° - 240°  | 240° - 270°  | 270° - 300°  | 300° - 330°  | 330° - 360°  |    |
| 1213  | 1,371541E+22      | 1,734159E+22 | 1,950331E+22 | 1,950295E+22 | 1,734098E+22 | 1,371504E+22 | 9,635625E+21 | 6,196077E+21 | 4,278827E+21 | 4,278807E+21 | 6,196004E+21 | 9,635481E+21 |    |
| 1214  | 1,371486E+22      | 1,734082E+22 | 1,950280E+22 | 1,950318E+22 | 1,734155E+22 | 1,371554E+22 | 9,635983E+21 | 6,196350E+21 | 4,279016E+21 | 4,278881E+21 | 6,195939E+21 | 9,635393E+21 |    |
| 1215  | 1,371514E+22      | 1,734173E+22 | 1,950381E+22 | 1,950366E+22 | 1,734134E+22 | 1,371489E+22 | 9,635416E+21 | 6,196040E+21 | 4,278955E+21 | 4,279054E+21 | 6,196296E+21 | 9,635717E+21 |    |
| 1216  | 1,371507E+22      | 1,734103E+22 | 1,950267E+22 | 1,950256E+22 | 1,734086E+22 | 1,371498E+22 | 9,635676E+21 | 6,196280E+21 | 4,279056E+21 | 4,278965E+21 | 6,196055E+21 | 9,635386E+21 |    |
| 1217  | 1,371467E+22      | 1,734080E+22 | 1,950305E+22 | 1,950347E+22 | 1,734168E+22 | 1,371542E+22 | 9,635697E+21 | 6,196075E+21 | 4,278846E+21 | 4,278842E+21 | 6,196062E+21 | 9,635679E+21 |    |
| 1218  | 1,371540E+22      | 1,734173E+22 | 1,950362E+22 | 1,950344E+22 | 1,734117E+22 | 1,371484E+22 | 9,635297E+21 | 6,195757E+21 | 4,278580E+21 | 4,278689E+21 | 6,196051E+21 | 9,635683E+21 |    |
| 1219  | 1,371519E+22      | 1,734119E+22 | 1,950290E+22 | 1,950304E+22 | 1,734135E+22 | 1,371520E+22 | 9,635590E+21 | 6,195888E+21 | 4,278468E+21 | 4,278316E+21 | 6,195505E+21 | 9,635192E+21 |    |
| 1220  | 1,371511E+22      | 1,734192E+22 | 1,950429E+22 | 1,950427E+22 | 1,734203E+22 | 1,371532E+22 | 9,635254E+21 | 6,195421E+21 | 4,278135E+21 | 4,278205E+21 | 6,195614E+21 | 9,635481E+21 |    |
| 1221  | 1,371547E+22      | 1,734212E+22 | 1,950428E+22 | 1,950394E+22 | 1,734140E+22 | 1,371495E+22 | 9,635208E+21 | 6,195402E+21 | 4,278021E+21 | 4,278020E+21 | 6,195379E+21 | 9,635149E+21 |    |
| 1222  | 1,371495E+22      | 1,734135E+22 | 1,950362E+22 | 1,950417E+22 | 1,734225E+22 | 1,371562E+22 | 9,635537E+21 | 6,195525E+21 | 4,277990E+21 | 4,277849E+21 | 6,195115E+21 | 9,634932E+21 |    |
| 1223  | 1,371509E+22      | 1,734221E+22 | 1,950475E+22 | 1,950487E+22 | 1,734246E+22 | 1,371537E+22 | 9,635071E+21 | 6,195116E+21 | 4,277795E+21 | 4,277918E+21 | 6,195451E+21 | 9,635427E+21 |    |
| 1224  | 1,371539E+22      | 1,734185E+22 | 1,950380E+22 | 1,950362E+22 | 1,734158E+22 | 1,371522E+22 | 9,635298E+21 | 6,195365E+21 | 4,277911E+21 | 4,277871E+21 | 6,195267E+21 | 9,635158E+21 |    |
| 1225  | 1,371503E+22      | 1,734146E+22 | 1,950376E+22 | 1,950411E+22 | 1,734214E+22 | 1,371563E+22 | 9,635552E+21 | 6,195516E+21 | 4,278013E+21 | 4,277942E+21 | 6,195290E+21 | 9,635250E+21 |    |
| 1226  | 1,371551E+22      | 1,734236E+22 | 1,950449E+22 | 1,950424E+22 | 1,734162E+22 | 1,371492E+22 | 9,635098E+21 | 6,195353E+21 | 4,278083E+21 | 4,278208E+21 | 6,195671E+21 | 9,635479E+21 |    |
| 1227  | 1,371526E+22      | 1,734161E+22 | 1,950342E+22 | 1,950329E+22 | 1,734128E+22 | 1,371499E+22 | 9,635398E+21 | 6,195771E+21 | 4,278416E+21 | 4,278325E+21 | 6,195539E+21 | 9,635135E+21 |    |
| 1228  | 1,371484E+22      | 1,734150E+22 | 1,950395E+22 | 1,950408E+22 | 1,734193E+22 | 1,371533E+22 | 9,635392E+21 | 6,195731E+21 | 4,278569E+21 | 4,278667E+21 | 6,195989E+21 | 9,635627E+21 |    |
| 1229  | 1,371529E+22      | 1,734160E+22 | 1,950360E+22 | 1,950339E+22 | 1,734106E+22 | 1,371482E+22 | 9,635375E+21 | 6,195932E+21 | 4,278837E+21 | 4,278957E+21 | 6,196240E+21 | 9,635697E+21 |    |
| 1230  | 1,371496E+22      | 1,734067E+22 | 1,950225E+22 | 1,950265E+22 | 1,734124E+22 | 1,371534E+22 | 9,635954E+21 | 6,196478E+21 | 4,279219E+21 | 4,279091E+21 | 6,196100E+21 | 9,635398E+21 |    |
| 1231  | 1,371485E+22      | 1,734122E+22 | 1,950322E+22 | 1,950326E+22 | 1,734138E+22 | 1,371515E+22 | 9,635682E+21 | 6,196356E+21 | 4,279332E+21 | 4,279412E+21 | 6,196567E+21 | 9,635917E+21 |    |
| 1232  | 1,371519E+22      | 1,734099E+22 | 1,950244E+22 | 1,950205E+22 | 1,734024E+22 | 1,371466E+22 | 9,635766E+21 | 6,196653E+21 | 4,279606E+21 | 4,279576E+21 | 6,196561E+21 | 9,635635E+21 |    |
| 1233  | 1,371457E+22      | 1,734020E+22 | 1,950195E+22 | 1,950234E+22 | 1,734089E+22 | 1,371518E+22 | 9,636115E+21 | 6,196891E+21 | 4,279749E+21 | 4,279628E+21 | 6,196516E+21 | 9,635575E+21 |    |
| 1234  | 1,371477E+22      | 1,734094E+22 | 1,950285E+22 | 1,950282E+22 | 1,734081E+22 | 1,371471E+22 | 9,635581E+21 | 6,196514E+21 | 4,279622E+21 | 4,279767E+21 | 6,196909E+21 | 9,636037E+21 |    |
| 1235  | 1,371489E+22      | 1,734042E+22 | 1,950186E+22 | 1,950176E+22 | 1,734029E+22 | 1,371475E+22 | 9,635798E+21 | 6,196669E+21 | 4,279599E+21 | 4,279539E+21 | 6,196534E+21 | 9,635658E+21 |    |
| 1236  | 1,371464E+22      | 1,734044E+22 | 1,950241E+22 | 1,950274E+22 | 1,734115E+22 | 1,371522E+22 | 9,635846E+21 | 6,196467E+21 | 4,279376E+21 | 4,279390E+21 | 6,196488E+21 | 9,635847E+21 |    |
| 1237  | 1,371527E+22      | 1,734130E+22 | 1,950294E+22 | 1,950273E+22 | 1,734066E+22 | 1,371465E+22 | 9,635483E+21 | 6,196219E+21 | 4,279164E+21 | 4,279247E+21 | 6,196442E+21 | 9,635812E+21 |    |
| 1238  | 1,371507E+22      | 1,734086E+22 | 1,950226E+22 | 1,950234E+22 | 1,734093E+22 | 1,371511E+22 | 9,635817E+21 | 6,196370E+21 | 4,279069E+21 | 4,278889E+21 | 6,195882E+21 | 9,635201E+21 |    |
| 1239  | 1,371472E+22      | 1,734135E+22 | 1,950372E+22 | 1,950378E+22 | 1,734167E+22 | 1,371520E+22 | 9,635497E+21 | 6,195952E+21 | 4,278783E+21 | 4,278810E+21 | 6,196042E+21 | 9,635623E+21 |    |
| 1240  | 1,371521E+22      | 1,734141E+22 | 1,950338E+22 | 1,950321E+22 | 1,734095E+22 | 1,371473E+22 | 9,635322E+21 | 6,195849E+21 | 4,278665E+21 | 4,278694E+21 | 6,195931E+21 | 9,635422E+21 |    |
| 1241  | 1,371481E+22      | 1,734077E+22 | 1,950269E+22 | 1,950321E+22 | 1,734162E+22 | 1,371543E+22 | 9,635767E+21 | 6,196034E+21 | 4,278634E+21 | 4,278513E+21 | 6,195660E+21 | 9,635202E+21 |    |
| 1242  | 1,371495E+22      | 1,734161E+22 | 1,950380E+22 | 1,950386E+22 | 1,734174E+22 | 1,371514E+22 | 9,635309E+21 | 6,195657E+21 | 4,278474E+21 | 4,278601E+21 | 6,196000E+21 | 9,635692E+21 |    |
| 1243  | 1,371527E+22      | 1,734145E+22 | 1,950314E+22 | 1,950274E+22 | 1,734081E+22 | 1,371485E+22 | 9,635414E+21 | 6,195852E+21 | 4,278572E+21 | 4,278527E+21 | 6,195746E+21 | 9,635321E+21 |    |
| 1244  | 1,371487E+22      | 1,734110E+22 | 1,950325E+22 | 1,950345E+22 | 1,734150E+22 | 1,371527E+22 | 9,635649E+21 | 6,195996E+21 | 4,278711E+21 | 4,278669E+21 | 6,195827E+21 | 9,635372E+21 |    |
| 1245  | 1,371515E+22      | 1,734166E+22 | 1,950369E+22 | 1,950355E+22 | 1,734113E+22 | 1,371467E+22 | 9,635256E+21 | 6,195903E+21 | 4,278844E+21 | 4,278981E+21 | 6,196271E+21 | 9,635712E+21 |    |
| 1246  | 1,371501E+22      | 1,734092E+22 | 1,950242E+22 | 1,950245E+22 | 1,734094E+22 | 1,371499E+22 | 9,635683E+21 | 6,196345E+21 | 4,279171E+21 | 4,279085E+21 | 6,196121E+21 | 9,635338E+21 |    |
| 1247  | 1,371452E+22      | 1,734075E+22 | 1,950299E+22 | 1,950324E+22 | 1,734145E+22 | 1,371528E+22 | 9,635774E+21 | 6,196393E+21 | 4,279348E+21 | 4,279399E+21 | 6,196531E+21 | 9,635893E+21 |    |
| 1248  | 1,371515E+22      | 1,734090E+22 | 1,950250E+22 | 1,950233E+22 | 1,734036E+22 | 1,371456E+22 | 9,635624E+21 | 6,196563E+21 | 4,279637E+21 | 4,279737E+21 | 6,196821E+21 | 9,635936E+21 |    |

| 1<br>Longitude ⊙<br>Years | 2<br>0° - 30° | 3<br>30° - 60° | 4<br>60° - 90° | 5<br>90° - 120° | 6<br>120° - 150° | 7<br>150° - 180° | 8<br>180° - 210° | 9<br>210° - 240° | 10<br>240° - 270° | 11<br>270° - 300° | 12<br>300° - 330° | 13<br>330° - 360° |
|---------------------------|---------------|----------------|----------------|-----------------|------------------|------------------|------------------|------------------|-------------------|-------------------|-------------------|-------------------|
| 1249                      | 1,371482E+22  | 1,734016E+22   | 1,950136E+22   | 1,950157E+22    | 1,734044E+22     | 1,371507E+22     | 9,636238E+21     | 6,197128E+21     | 4,280017E+21      | 4,279869E+21      | 6,196667E+21      | 9,635554E+21      |
| 1250                      | 1,371452E+22  | 1,734054E+22   | 1,950235E+22   | 1,950233E+22    | 1,734063E+22     | 1,371485E+22     | 9,635906E+21     | 6,196966E+21     | 4,280127E+21      | 4,280214E+21      | 6,197185E+21      | 9,636118E+21      |
| 1251                      | 1,371485E+22  | 1,734034E+22   | 1,950169E+22   | 1,950128E+22    | 1,733960E+22     | 1,371430E+22     | 9,635841E+21     | 6,197134E+21     | 4,280303E+21      | 4,280305E+21      | 6,197149E+21      | 9,635896E+21      |
| 1252                      | 1,371437E+22  | 1,733960E+22   | 1,950116E+22   | 1,950159E+22    | 1,734037E+22     | 1,371494E+22     | 9,636196E+21     | 6,197294E+21     | 4,280381E+21      | 4,280324E+21      | 6,197101E+21      | 9,635864E+21      |
| 1253                      | 1,371461E+22  | 1,734027E+22   | 1,950187E+22   | 1,950192E+22    | 1,734027E+22     | 1,371455E+22     | 9,635782E+21     | 6,196983E+21     | 4,280236E+21      | 4,280392E+21      | 6,197423E+21      | 9,636352E+21      |
| 1254                      | 1,371493E+22  | 1,734006E+22   | 1,950104E+22   | 1,950087E+22    | 1,733980E+22     | 1,371466E+22     | 9,636044E+21     | 6,197154E+21     | 4,280186E+21      | 4,280089E+21      | 6,196909E+21      | 9,635762E+21      |
| 1255                      | 1,371447E+22  | 1,734009E+22   | 1,950190E+22   | 1,950210E+22    | 1,734062E+22     | 1,371504E+22     | 9,636098E+21     | 6,197000E+21     | 4,279993E+21      | 4,279927E+21      | 6,196815E+21      | 9,635916E+21      |
| 1256                      | 1,371507E+22  | 1,734083E+22   | 1,950233E+22   | 1,950212E+22    | 1,734015E+22     | 1,371435E+22     | 9,635585E+21     | 6,196679E+21     | 4,279793E+21      | 4,279864E+21      | 6,196869E+21      | 9,635883E+21      |
| 1257                      | 1,371478E+22  | 1,734034E+22   | 1,950163E+22   | 1,950171E+22    | 1,734048E+22     | 1,371492E+22     | 9,635985E+21     | 6,196843E+21     | 4,279693E+21      | 4,279528E+21      | 6,196368E+21      | 9,635325E+21      |
| 1258                      | 1,371433E+22  | 1,734054E+22   | 1,950281E+22   | 1,950302E+22    | 1,734126E+22     | 1,371513E+22     | 9,635721E+21     | 6,196430E+21     | 4,279414E+21      | 4,279468E+21      | 6,196584E+21      | 9,635861E+21      |
| 1259                      | 1,371497E+22  | 1,734079E+22   | 1,950257E+22   | 1,950237E+22    | 1,734039E+22     | 1,371454E+22     | 9,635487E+21     | 6,196287E+21     | 4,279243E+21      | 4,279288E+21      | 6,196415E+21      | 9,635688E+21      |
| 1260                      | 1,371476E+22  | 1,734035E+22   | 1,950195E+22   | 1,950235E+22    | 1,734099E+22     | 1,371517E+22     | 9,635914E+21     | 6,196487E+21     | 4,279252E+21      | 4,279147E+21      | 6,196143E+21      | 9,635400E+21      |
| 1261                      | 1,371480E+22  | 1,734110E+22   | 1,950301E+22   | 1,950298E+22    | 1,734110E+22     | 1,371489E+22     | 9,635509E+21     | 6,196196E+21     | 4,279163E+21      | 4,279277E+21      | 6,196507E+21      | 9,635905E+21      |
| 1262                      | 1,371515E+22  | 1,734102E+22   | 1,950243E+22   | 1,950197E+22    | 1,734028E+22     | 1,371463E+22     | 9,635600E+21     | 6,196393E+21     | 4,279286E+21      | 4,279231E+21      | 6,196253E+21      | 9,635432E+21      |
| 1263                      | 1,371451E+22  | 1,734046E+22   | 1,950257E+22   | 1,950284E+22    | 1,734105E+22     | 1,371507E+22     | 9,635858E+21     | 6,196579E+21     | 4,279470E+21      | 4,279402E+21      | 6,196382E+21      | 9,635621E+21      |
| 1264                      | 1,371492E+22  | 1,734089E+22   | 1,950267E+22   | 1,950269E+22    | 1,734065E+22     | 1,371448E+22     | 9,635411E+21     | 6,196430E+21     | 4,279601E+21      | 4,279774E+21      | 6,196909E+21      | 9,636028E+21      |
| 1265                      | 1,371489E+22  | 1,734030E+22   | 1,950142E+22   | 1,950137E+22    | 1,734023E+22     | 1,371482E+22     | 9,635990E+21     | 6,196959E+21     | 4,279933E+21      | 4,279857E+21      | 6,196725E+21      | 9,635603E+21      |
| 1266                      | 1,371432E+22  | 1,734006E+22   | 1,950196E+22   | 1,950215E+22    | 1,734072E+22     | 1,371509E+22     | 9,636095E+21     | 6,197056E+21     | 4,280153E+21      | 4,280179E+21      | 6,197107E+21      | 9,636094E+21      |
| 1267                      | 1,371492E+22  | 1,734039E+22   | 1,950176E+22   | 1,950138E+22    | 1,733958E+22     | 1,371421E+22     | 9,635794E+21     | 6,197140E+21     | 4,280396E+21      | 4,280480E+21      | 6,197350E+21      | 9,636085E+21      |
| 1268                      | 1,371456E+22  | 1,733962E+22   | 1,950069E+22   | 1,950079E+22    | 1,733977E+22     | 1,371472E+22     | 9,636353E+21     | 6,197651E+21     | 4,280768E+21      | 4,280647E+21      | 6,197244E+21      | 9,635699E+21      |
| 1269                      | 1,371414E+22  | 1,733971E+22   | 1,950139E+22   | 1,950150E+22    | 1,734010E+22     | 1,371463E+22     | 9,636078E+21     | 6,197505E+21     | 4,280865E+21      | 4,280972E+21      | 6,197794E+21      | 9,636394E+21      |
| 1270                      | 1,371466E+22  | 1,733964E+22   | 1,950067E+22   | 1,950038E+22    | 1,733917E+22     | 1,371423E+22     | 9,636074E+21     | 6,197642E+21     | 4,280975E+21      | 4,280986E+21      | 6,197682E+21      | 9,636125E+21      |
| 1271                      | 1,371418E+22  | 1,733900E+22   | 1,950035E+22   | 1,950080E+22    | 1,733986E+22     | 1,371482E+22     | 9,636472E+21     | 6,197846E+21     | 4,281033E+21      | 4,280927E+21      | 6,197555E+21      | 9,636132E+21      |
| 1272                      | 1,371460E+22  | 1,733978E+22   | 1,950101E+22   | 1,950103E+22    | 1,733966E+22     | 1,371430E+22     | 9,635940E+21     | 6,197482E+21     | 4,280886E+21      | 4,281018E+21      | 6,197874E+21      | 9,636531E+21      |
| 1273                      | 1,371485E+22  | 1,733976E+22   | 1,950048E+22   | 1,950007E+22    | 1,733914E+22     | 1,371442E+22     | 9,636264E+21     | 6,197668E+21     | 4,280821E+21      | 4,280705E+21      | 6,197337E+21      | 9,635840E+21      |
| 1274                      | 1,371416E+22  | 1,733953E+22   | 1,950131E+22   | 1,950149E+22    | 1,734011E+22     | 1,371483E+22     | 9,636280E+21     | 6,197503E+21     | 4,280643E+21      | 4,280571E+21      | 6,197286E+21      | 9,636005E+21      |
| 1275                      | 1,371471E+22  | 1,734023E+22   | 1,950173E+22   | 1,950156E+22    | 1,733974E+22     | 1,371413E+22     | 9,635650E+21     | 6,197075E+21     | 4,280376E+21      | 4,280474E+21      | 6,197353E+21      | 9,636072E+21      |
| 1276                      | 1,371455E+22  | 1,733973E+22   | 1,950090E+22   | 1,950103E+22    | 1,734007E+22     | 1,371479E+22     | 9,636095E+21     | 6,197212E+21     | 4,280263E+21      | 4,280158E+21      | 6,196889E+21      | 9,635572E+21      |
| 1277                      | 1,371415E+22  | 1,733983E+22   | 1,950179E+22   | 1,950207E+22    | 1,734070E+22     | 1,371501E+22     | 9,635956E+21     | 6,196910E+21     | 4,280018E+21      | 4,280079E+21      | 6,197080E+21      | 9,636144E+21      |
| 1278                      | 1,371497E+22  | 1,734035E+22   | 1,950168E+22   | 1,950142E+22    | 1,733983E+22     | 1,371440E+22     | 9,635723E+21     | 6,196805E+21     | 4,279878E+21      | 4,279889E+21      | 6,196837E+21      | 9,635822E+21      |
| 1279                      | 1,371460E+22  | 1,733994E+22   | 1,950138E+22   | 1,950165E+22    | 1,734037E+22     | 1,371489E+22     | 9,636100E+21     | 6,197036E+21     | 4,279935E+21      | 4,279771E+21      | 6,196573E+21      | 9,635556E+21      |
| 1280                      | 1,371462E+22  | 1,734053E+22   | 1,950225E+22   | 1,950221E+22    | 1,734047E+22     | 1,371453E+22     | 9,635590E+21     | 6,196703E+21     | 4,279887E+21      | 4,280010E+21      | 6,197053E+21      | 9,636081E+21      |
| 1281                      | 1,371491E+22  | 1,734044E+22   | 1,950169E+22   | 1,950120E+22    | 1,733971E+22     | 1,371442E+22     | 9,635793E+21     | 6,196920E+21     | 4,280003E+21      | 4,279981E+21      | 6,196845E+21      | 9,635646E+21      |
| 1282                      | 1,371419E+22  | 1,733966E+22   | 1,950160E+22   | 1,950198E+22    | 1,734054E+22     | 1,371498E+22     | 9,636122E+21     | 6,197142E+21     | 4,280210E+21      | 4,280162E+21      | 6,196985E+21      | 9,635867E+21      |
| 1283                      | 1,371470E+22  | 1,734027E+22   | 1,950179E+22   | 1,950175E+22    | 1,734003E+22     | 1,371429E+22     | 9,635634E+21     | 6,196979E+21     | 4,280313E+21      | 4,280486E+21      | 6,197453E+21      | 9,636271E+21      |
| 1284                      | 1,371478E+22  | 1,733981E+22   | 1,950062E+22   | 1,950044E+22    | 1,733956E+22     | 1,371459E+22     | 9,636200E+21     | 6,197527E+21     | 4,280691E+21      | 4,280615E+21      | 6,197268E+21      | 9,635768E+21      |

| 1           | 2            | 3            | 4            | 5            | 6            | 7            | 8            | 9            | 10           | 11           | 12           | 13           |
|-------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|
| Longitude ☉ | 0° - 30°     | 30° - 60°    | 60° - 90°    | 90° - 120°   | 120° - 150°  | 150° - 180°  | 180° - 210°  | 210° - 240°  | 240° - 270°  | 270° - 300°  | 300° - 330°  | 330° - 360°  |
| Years       |              |              |              |              |              |              |              |              |              |              |              |              |
| 1285        | 1,371407E+22 | 1,733937E+22 | 1,950101E+22 | 1,950116E+22 | 1,734002E+22 | 1,371487E+22 | 9,636368E+21 | 6,197699E+21 | 4,280959E+21 | 4,280961E+21 | 6,197677E+21 | 9,636276E+21 |
| 1286        | 1,371467E+22 | 1,733976E+22 | 1,950088E+22 | 1,950054E+22 | 1,733901E+22 | 1,371399E+22 | 9,636027E+21 | 6,197760E+21 | 4,281193E+21 | 4,281259E+21 | 6,197921E+21 | 9,636237E+21 |
| 1287        | 1,371419E+22 | 1,733888E+22 | 1,949987E+22 | 1,950007E+22 | 1,733924E+22 | 1,371450E+22 | 9,636548E+21 | 6,198238E+21 | 4,281538E+21 | 4,281398E+21 | 6,197844E+21 | 9,636018E+21 |
| 1288        | 1,371397E+22 | 1,733893E+22 | 1,950030E+22 | 1,950051E+22 | 1,733949E+22 | 1,371440E+22 | 9,636235E+21 | 6,198019E+21 | 4,281591E+21 | 4,281729E+21 | 6,198417E+21 | 9,636738E+21 |
| 1289        | 1,371463E+22 | 1,733917E+22 | 1,949979E+22 | 1,949937E+22 | 1,733843E+22 | 1,371403E+22 | 9,636333E+21 | 6,198177E+21 | 4,281646E+21 | 4,281665E+21 | 6,198213E+21 | 9,636368E+21 |
| 1290        | 1,371407E+22 | 1,733852E+22 | 1,949957E+22 | 1,949993E+22 | 1,733921E+22 | 1,371460E+22 | 9,636692E+21 | 6,198386E+21 | 4,281712E+21 | 4,281579E+21 | 6,198012E+21 | 9,636249E+21 |
| 1291        | 1,371441E+22 | 1,733946E+22 | 1,950054E+22 | 1,950035E+22 | 1,733906E+22 | 1,371401E+22 | 9,636037E+21 | 6,197928E+21 | 4,281499E+21 | 4,281618E+21 | 6,198281E+21 | 9,636599E+21 |
| 1292        | 1,371460E+22 | 1,733931E+22 | 1,950000E+22 | 1,949958E+22 | 1,733870E+22 | 1,371419E+22 | 9,636329E+21 | 6,198071E+21 | 4,281426E+21 | 4,281335E+21 | 6,197787E+21 | 9,635912E+21 |
| 1293        | 1,371377E+22 | 1,733873E+22 | 1,950043E+22 | 1,950086E+22 | 1,733979E+22 | 1,371477E+22 | 9,636475E+21 | 6,197954E+21 | 4,281246E+21 | 4,281189E+21 | 6,197779E+21 | 9,636205E+21 |
| 1294        | 1,371448E+22 | 1,733953E+22 | 1,950079E+22 | 1,950080E+22 | 1,733940E+22 | 1,371412E+22 | 9,635896E+21 | 6,197528E+21 | 4,280947E+21 | 4,281045E+21 | 6,197795E+21 | 9,636247E+21 |
| 1295        | 1,371435E+22 | 1,733913E+22 | 1,950009E+22 | 1,950025E+22 | 1,733952E+22 | 1,371466E+22 | 9,636352E+21 | 6,197723E+21 | 4,280857E+21 | 4,280706E+21 | 6,197319E+21 | 9,635833E+21 |
| 1296        | 1,371413E+22 | 1,733934E+22 | 1,950088E+22 | 1,950108E+22 | 1,734001E+22 | 1,371475E+22 | 9,636109E+21 | 6,197395E+21 | 4,280660E+21 | 4,280711E+21 | 6,197549E+21 | 9,636341E+21 |
| 1297        | 1,371492E+22 | 1,734005E+22 | 1,950107E+22 | 1,950054E+22 | 1,733904E+22 | 1,371410E+22 | 9,635912E+21 | 6,197313E+21 | 4,280540E+21 | 4,280557E+21 | 6,197330E+21 | 9,635960E+21 |
| 1298        | 1,371434E+22 | 1,733939E+22 | 1,950073E+22 | 1,950099E+22 | 1,733979E+22 | 1,371460E+22 | 9,636229E+21 | 6,197552E+21 | 4,280646E+21 | 4,280492E+21 | 6,197120E+21 | 9,635711E+21 |
| 1299        | 1,371434E+22 | 1,733998E+22 | 1,950158E+22 | 1,950155E+22 | 1,733998E+22 | 1,371427E+22 | 9,635649E+21 | 6,197138E+21 | 4,280550E+21 | 4,280710E+21 | 6,197615E+21 | 9,636330E+21 |
| 1300        | 1,371473E+22 | 1,733985E+22 | 1,950090E+22 | 1,950045E+22 | 1,733922E+22 | 1,371427E+22 | 9,635937E+21 | 6,197378E+21 | 4,280681E+21 | 4,280705E+21 | 6,197416E+21 | 9,635894E+21 |
| 1301        | 1,371400E+22 | 1,733893E+22 | 1,950055E+22 | 1,950099E+22 | 1,733994E+22 | 1,371489E+22 | 9,636444E+21 | 6,197744E+21 | 4,280942E+21 | 4,280880E+21 | 6,197530E+21 | 9,636094E+21 |
| 1302        | 1,371457E+22 | 1,733971E+22 | 1,950085E+22 | 1,950079E+22 | 1,733941E+22 | 1,371415E+22 | 9,635950E+21 | 6,197625E+21 | 4,281093E+21 | 4,281213E+21 | 6,197938E+21 | 9,636355E+21 |
| 1303        | 1,371446E+22 | 1,733921E+22 | 1,949991E+22 | 1,949968E+22 | 1,733889E+22 | 1,371435E+22 | 9,636475E+21 | 6,198198E+21 | 4,281513E+21 | 4,281378E+21 | 6,197813E+21 | 9,635945E+21 |
| 1304        | 1,371378E+22 | 1,733860E+22 | 1,949999E+22 | 1,950023E+22 | 1,733934E+22 | 1,371455E+22 | 9,636525E+21 | 6,198306E+21 | 4,281799E+21 | 4,281814E+21 | 6,198331E+21 | 9,636505E+21 |
| 1305        | 1,371440E+22 | 1,733904E+22 | 1,949990E+22 | 1,949957E+22 | 1,733834E+22 | 1,371379E+22 | 9,636264E+21 | 6,198342E+21 | 4,281982E+21 | 4,282084E+21 | 6,198593E+21 | 9,636532E+21 |
| 1306        | 1,371395E+22 | 1,733809E+22 | 1,949882E+22 | 1,949913E+22 | 1,733863E+22 | 1,371432E+22 | 9,636776E+21 | 6,198800E+21 | 4,282286E+21 | 4,282166E+21 | 6,198465E+21 | 9,636313E+21 |
| 1307        | 1,371387E+22 | 1,733845E+22 | 1,949946E+22 | 1,949957E+22 | 1,733879E+22 | 1,371414E+22 | 9,636390E+21 | 6,198514E+21 | 4,282253E+21 | 4,282395E+21 | 6,198935E+21 | 9,636995E+21 |
| 1308        | 1,371460E+22 | 1,733883E+22 | 1,949919E+22 | 1,949863E+22 | 1,733783E+22 | 1,371379E+22 | 9,636461E+21 | 6,198637E+21 | 4,282293E+21 | 4,282316E+21 | 6,198673E+21 | 9,636495E+21 |
| 1309        | 1,371387E+22 | 1,733802E+22 | 1,949888E+22 | 1,949920E+22 | 1,733865E+22 | 1,371442E+22 | 9,636907E+21 | 6,198895E+21 | 4,282360E+21 | 4,282214E+21 | 6,198464E+21 | 9,636346E+21 |
| 1310        | 1,371414E+22 | 1,733889E+22 | 1,949984E+22 | 1,949979E+22 | 1,733871E+22 | 1,371389E+22 | 9,636236E+21 | 6,198417E+21 | 4,282129E+21 | 4,282230E+21 | 6,198711E+21 | 9,636665E+21 |
| 1311        | 1,371422E+22 | 1,733862E+22 | 1,949929E+22 | 1,949908E+22 | 1,733837E+22 | 1,371410E+22 | 9,636516E+21 | 6,198532E+21 | 4,282028E+21 | 4,281924E+21 | 6,198270E+21 | 9,636170E+21 |
| 1312        | 1,371360E+22 | 1,733798E+22 | 1,949930E+22 | 1,949989E+22 | 1,733923E+22 | 1,371463E+22 | 9,636656E+21 | 6,198401E+21 | 4,281851E+21 | 4,281817E+21 | 6,198296E+21 | 9,636481E+21 |
| 1313        | 1,371444E+22 | 1,733907E+22 | 1,949991E+22 | 1,949979E+22 | 1,733864E+22 | 1,371394E+22 | 9,636167E+21 | 6,198024E+21 | 4,281547E+21 | 4,281644E+21 | 6,198263E+21 | 9,636457E+21 |
| 1314        | 1,371425E+22 | 1,733870E+22 | 1,949937E+22 | 1,949940E+22 | 1,733880E+22 | 1,371435E+22 | 9,636511E+21 | 6,198220E+21 | 4,281499E+21 | 4,281329E+21 | 6,197758E+21 | 9,635940E+21 |
| 1315        | 1,371397E+22 | 1,733907E+22 | 1,950040E+22 | 1,950038E+22 | 1,733930E+22 | 1,371436E+22 | 9,636148E+21 | 6,197817E+21 | 4,281275E+21 | 4,281332E+21 | 6,197999E+21 | 9,636454E+21 |
| 1316        | 1,371470E+22 | 1,733964E+22 | 1,950059E+22 | 1,950006E+22 | 1,733858E+22 | 1,371381E+22 | 9,635929E+21 | 6,197702E+21 | 4,281168E+21 | 4,281225E+21 | 6,197832E+21 | 9,636087E+21 |
| 1317        | 1,371401E+22 | 1,733866E+22 | 1,949986E+22 | 1,950031E+22 | 1,733942E+22 | 1,371453E+22 | 9,636428E+21 | 6,198022E+21 | 4,281295E+21 | 4,281168E+21 | 6,197661E+21 | 9,635933E+21 |
| 1318        | 1,371412E+22 | 1,733928E+22 | 1,950063E+22 | 1,950080E+22 | 1,733961E+22 | 1,371428E+22 | 9,635957E+21 | 6,197680E+21 | 4,281220E+21 | 4,281364E+21 | 6,198098E+21 | 9,636498E+21 |
| 1319        | 1,371450E+22 | 1,733921E+22 | 1,950004E+22 | 1,949969E+22 | 1,733870E+22 | 1,371417E+22 | 9,636270E+21 | 6,198005E+21 | 4,281412E+21 | 4,281383E+21 | 6,197930E+21 | 9,636142E+21 |
| 1320        | 1,371385E+22 | 1,733828E+22 | 1,949945E+22 | 1,949989E+22 | 1,733921E+22 | 1,371467E+22 | 9,636720E+21 | 6,198392E+21 | 4,281760E+21 | 4,281676E+21 | 6,198112E+21 | 9,636282E+21 |



| 1<br>Longitude ☉<br>Years | 2<br>0° - 30° | 3<br>30° - 60° | 4<br>60° - 90° | 5<br>90° - 120° | 6<br>120° - 150° | 7<br>150° - 180° | 8<br>180° - 210° | 9<br>210° - 240° | 10<br>240° - 270° | 11<br>270° - 300° | 12<br>300° - 330° | 13<br>330° - 360° |
|---------------------------|---------------|----------------|----------------|-----------------|------------------|------------------|------------------|------------------|-------------------|-------------------|-------------------|-------------------|
| 1321                      | 1,371435E+22  | 1,733917E+22   | 1,950002E+22   | 1,949979E+22    | 1,733856E+22     | 1,371388E+22     | 9,636255E+21     | 6,198287E+21     | 4,281929E+21      | 4,282050E+21      | 6,198569E+21      | 9,636539E+21      |
| 1322                      | 1,371411E+22  | 1,733844E+22   | 1,949899E+22   | 1,949884E+22    | 1,733821E+22     | 1,371402E+22     | 9,636655E+21     | 6,198822E+21     | 4,282365E+21      | 4,282248E+21      | 6,198493E+21      | 9,636188E+21      |
| 1323                      | 1,371352E+22  | 1,733796E+22   | 1,949906E+22   | 1,949931E+22    | 1,733867E+22     | 1,371424E+22     | 9,636610E+21     | 6,198799E+21     | 4,282548E+21      | 4,282618E+21      | 6,199004E+21      | 9,636864E+21      |
| 1324                      | 1,371431E+22  | 1,733848E+22   | 1,949900E+22   | 1,949865E+22    | 1,733769E+22     | 1,371355E+22     | 9,636379E+21     | 6,198810E+21     | 4,282681E+21      | 4,282829E+21      | 6,199197E+21      | 9,636844E+21      |
| 1325                      | 1,371387E+22  | 1,733753E+22   | 1,949785E+22   | 1,949814E+22    | 1,733798E+22     | 1,371415E+22     | 9,637026E+21     | 6,199342E+21     | 4,282969E+21      | 4,282839E+21      | 6,198979E+21      | 9,636552E+21      |
| 1326                      | 1,371380E+22  | 1,733804E+22   | 1,949875E+22   | 1,949883E+22    | 1,733823E+22     | 1,371395E+22     | 9,636626E+21     | 6,199058E+21     | 4,282924E+21      | 4,283014E+21      | 6,199327E+21      | 9,637030E+21      |
| 1327                      | 1,371430E+22  | 1,733833E+22   | 1,949866E+22   | 1,949813E+22    | 1,733734E+22     | 1,371359E+22     | 9,636676E+21     | 6,199177E+21     | 4,282956E+21      | 4,282931E+21      | 6,199106E+21      | 9,636593E+21      |
| 1328                      | 1,371353E+22  | 1,733730E+22   | 1,949799E+22   | 1,949848E+22    | 1,733819E+22     | 1,371425E+22     | 9,637078E+21     | 6,199391E+21     | 4,283033E+21      | 4,282893E+21      | 6,198974E+21      | 9,636476E+21      |
| 1329                      | 1,371380E+22  | 1,733821E+22   | 1,949897E+22   | 1,949896E+22    | 1,733818E+22     | 1,371382E+22     | 9,636508E+21     | 6,198902E+21     | 4,282758E+21      | 4,282879E+21      | 6,199225E+21      | 9,636852E+21      |
| 1330                      | 1,371394E+22  | 1,733788E+22   | 1,949832E+22   | 1,949823E+22    | 1,733782E+22     | 1,371396E+22     | 9,636755E+21     | 6,199030E+21     | 4,282653E+21      | 4,282551E+21      | 6,198759E+21      | 9,636379E+21      |
| 1331                      | 1,371352E+22  | 1,733760E+22   | 1,949850E+22   | 1,949895E+22    | 1,733853E+22     | 1,371433E+22     | 9,636771E+21     | 6,198826E+21     | 4,282424E+21      | 4,282392E+21      | 6,198744E+21      | 9,636700E+21      |
| 1332                      | 1,371441E+22  | 1,733880E+22   | 1,949933E+22   | 1,949905E+22    | 1,733799E+22     | 1,371362E+22     | 9,636228E+21     | 6,198428E+21     | 4,282136E+21      | 4,282239E+21      | 6,198697E+21      | 9,636594E+21      |
| 1333                      | 1,371407E+22  | 1,733828E+22   | 1,949875E+22   | 1,949874E+22    | 1,733824E+22     | 1,371409E+22     | 9,636646E+21     | 6,198666E+21     | 4,282105E+21      | 4,281945E+21      | 6,198228E+21      | 9,636091E+21      |
| 1334                      | 1,371374E+22  | 1,733854E+22   | 1,949979E+22   | 1,949993E+22    | 1,733894E+22     | 1,371416E+22     | 9,636283E+21     | 6,198269E+21     | 4,281896E+21      | 4,281953E+21      | 6,198460E+21      | 9,636572E+21      |
| 1335                      | 1,371437E+22  | 1,733899E+22   | 1,949989E+22   | 1,949958E+22    | 1,733828E+22     | 1,371375E+22     | 9,636133E+21     | 6,198173E+21     | 4,281795E+21      | 4,281861E+21      | 6,198364E+21      | 9,636373E+21      |
| 1336                      | 1,371384E+22  | 1,733794E+22   | 1,949874E+22   | 1,949933E+22    | 1,733887E+22     | 1,371444E+22     | 9,636704E+21     | 6,198563E+21     | 4,281993E+21      | 4,281880E+21      | 6,198226E+21      | 9,636190E+21      |
| 1337                      | 1,371399E+22  | 1,733875E+22   | 1,949968E+22   | 1,949972E+22    | 1,733885E+22     | 1,371416E+22     | 9,636336E+21     | 6,198315E+21     | 4,281975E+21      | 4,282096E+21      | 6,198633E+21      | 9,636674E+21      |
| 1338                      | 1,371428E+22  | 1,733862E+22   | 1,949915E+22   | 1,949876E+22    | 1,733796E+22     | 1,371390E+22     | 9,636537E+21     | 6,198667E+21     | 4,282243E+21      | 4,282184E+21      | 6,198491E+21      | 9,636272E+21      |
| 1339                      | 1,371361E+22  | 1,733780E+22   | 1,949865E+22   | 1,949895E+22    | 1,733840E+22     | 1,371427E+22     | 9,636846E+21     | 6,198963E+21     | 4,282557E+21      | 4,282488E+21      | 6,198733E+21      | 9,636495E+21      |
| 1340                      | 1,371407E+22  | 1,733853E+22   | 1,949921E+22   | 1,949903E+22    | 1,733795E+22     | 1,371356E+22     | 9,636332E+21     | 6,198805E+21     | 4,282709E+21      | 4,282872E+21      | 6,199227E+21      | 9,636802E+21      |
| 1341                      | 1,371382E+22  | 1,733766E+22   | 1,949794E+22   | 1,949791E+22    | 1,733762E+22     | 1,371384E+22     | 9,636851E+21     | 6,199346E+21     | 4,283097E+21      | 4,283021E+21      | 6,199139E+21      | 9,636519E+21      |
| 1342                      | 1,371338E+22  | 1,733729E+22   | 1,949808E+22   | 1,949843E+22    | 1,733810E+22     | 1,371408E+22     | 9,636870E+21     | 6,199354E+21     | 4,283250E+21      | 4,283306E+21      | 6,199523E+21      | 9,637083E+21      |
| 1343                      | 1,371417E+22  | 1,733797E+22   | 1,949822E+22   | 1,949791E+22    | 1,733717E+22     | 1,371340E+22     | 9,636644E+21     | 6,199380E+21     | 4,283370E+21      | 4,283479E+21      | 6,199686E+21      | 9,637069E+21      |
| 1344                      | 1,371374E+22  | 1,733702E+22   | 1,949694E+22   | 1,949718E+22    | 1,733731E+22     | 1,371394E+22     | 9,637266E+21     | 6,199922E+21     | 4,283707E+21      | 4,283551E+21      | 6,199477E+21      | 9,636668E+21      |
| 1345                      | 1,371355E+22  | 1,733756E+22   | 1,949809E+22   | 1,949803E+22    | 1,733756E+22     | 1,371377E+22     | 9,636935E+21     | 6,199654E+21     | 4,283656E+21      | 4,283724E+21      | 6,199829E+21      | 9,637115E+21      |
| 1346                      | 1,371389E+22  | 1,733759E+22   | 1,949786E+22   | 1,949752E+22    | 1,733691E+22     | 1,371338E+22     | 9,636866E+21     | 6,199723E+21     | 4,283679E+21      | 4,283654E+21      | 6,199644E+21      | 9,636741E+21      |
| 1347                      | 1,371324E+22  | 1,733668E+22   | 1,949707E+22   | 1,949762E+22    | 1,733764E+22     | 1,371403E+22     | 9,637189E+21     | 6,199811E+21     | 4,283648E+21      | 4,283552E+21      | 6,199530E+21      | 9,636762E+21      |
| 1348                      | 1,371367E+22  | 1,733765E+22   | 1,949810E+22   | 1,949811E+22    | 1,733760E+22     | 1,371361E+22     | 9,636624E+21     | 6,199306E+21     | 4,283332E+21      | 4,283478E+21      | 6,199714E+21      | 9,637102E+21      |
| 1349                      | 1,371384E+22  | 1,733739E+22   | 1,949746E+22   | 1,949730E+22    | 1,733718E+22     | 1,371373E+22     | 9,636935E+21     | 6,199475E+21     | 4,283222E+21      | 4,283115E+21      | 6,199197E+21      | 9,636586E+21      |
| 1350                      | 1,371345E+22  | 1,733726E+22   | 1,949794E+22   | 1,949830E+22    | 1,733795E+22     | 1,371405E+22     | 9,636914E+21     | 6,199276E+21     | 4,283002E+21      | 4,282937E+21      | 6,199104E+21      | 9,636759E+21      |
| 1351                      | 1,371417E+22  | 1,733840E+22   | 1,949890E+22   | 1,949865E+22    | 1,733760E+22     | 1,371339E+22     | 9,636354E+21     | 6,198869E+21     | 4,282716E+21      | 4,282809E+21      | 6,199136E+21      | 9,636748E+21      |
| 1352                      | 1,371379E+22  | 1,733765E+22   | 1,949794E+22   | 1,949808E+22    | 1,733785E+22     | 1,371394E+22     | 9,636789E+21     | 6,199115E+21     | 4,282738E+21      | 4,282601E+21      | 6,198748E+21      | 9,636283E+21      |
| 1353                      | 1,371349E+22  | 1,733793E+22   | 1,949898E+22   | 1,949913E+22    | 1,733847E+22     | 1,371414E+22     | 9,636594E+21     | 6,198776E+21     | 4,282537E+21      | 4,282609E+21      | 6,198976E+21      | 9,636777E+21      |
| 1354                      | 1,371411E+22  | 1,733827E+22   | 1,949893E+22   | 1,949876E+22    | 1,733779E+22     | 1,371364E+22     | 9,636439E+21     | 6,198751E+21     | 4,282498E+21      | 4,282549E+21      | 6,198875E+21      | 9,636564E+21      |
| 1355                      | 1,371372E+22  | 1,733752E+22   | 1,949785E+22   | 1,949830E+22    | 1,733815E+22     | 1,371419E+22     | 9,636913E+21     | 6,199110E+21     | 4,282702E+21      | 4,282585E+21      | 6,198763E+21      | 9,636411E+21      |
| 1356                      | 1,371384E+22  | 1,733831E+22   | 1,949894E+22   | 1,949882E+22    | 1,733811E+22     | 1,371383E+22     | 9,636488E+21     | 6,198870E+21     | 4,282731E+21      | 4,282845E+21      | 6,199179E+21      | 9,636830E+21      |

| 1<br>Longitude ☉<br>Years | 2<br>0° - 30° | 3<br>30° - 60° | 4<br>60° - 90° | 5<br>90° - 120° | 6<br>120° - 150° | 7<br>150° - 180° | 8<br>180° - 210° | 9<br>210° - 240° | 10<br>240° - 270° | 11<br>270° - 300° | 12<br>300° - 330° | 13<br>330° - 360° |
|---------------------------|---------------|----------------|----------------|-----------------|------------------|------------------|------------------|------------------|-------------------|-------------------|-------------------|-------------------|
| 1357                      | 1,371399E+22  | 1,733799E+22   | 1,949830E+22   | 1,949788E+22    | 1,733728E+22     | 1,371359E+22     | 9,636730E+21     | 6,199253E+21     | 4,283022E+21      | 4,282975E+21      | 6,199114E+21      | 9,636511E+21      |
| 1358                      | 1,371334E+22  | 1,733711E+22   | 1,949781E+22   | 1,949824E+22    | 1,733786E+22     | 1,371397E+22     | 9,636985E+21     | 6,199508E+21     | 4,283316E+21      | 4,283256E+21      | 6,199332E+21      | 9,636735E+21      |
| 1359                      | 1,371379E+22  | 1,733780E+22   | 1,949829E+22   | 1,949825E+22    | 1,733746E+22     | 1,371339E+22     | 9,636533E+21     | 6,199336E+21     | 4,283425E+21      | 4,283612E+21      | 6,199860E+21      | 9,637172E+21      |
| 1360                      | 1,371370E+22  | 1,733697E+22   | 1,949680E+22   | 1,949678E+22    | 1,733693E+22     | 1,371366E+22     | 9,637115E+21     | 6,199924E+21     | 4,283842E+21      | 4,283773E+21      | 6,199733E+21      | 9,636807E+21      |
| 1361                      | 1,371330E+22  | 1,733686E+22   | 1,949725E+22   | 1,949738E+22    | 1,733731E+22     | 1,371389E+22     | 9,637208E+21     | 6,199989E+21     | 4,284016E+21      | 4,284035E+21      | 6,200030E+21      | 9,637216E+21      |
| 1362                      | 1,371390E+22  | 1,733741E+22   | 1,949747E+22   | 1,949714E+22    | 1,733656E+22     | 1,371315E+22     | 9,636901E+21     | 6,200020E+21     | 4,284172E+21      | 4,284236E+21      | 6,200175E+21      | 9,637114E+21      |
| 1363                      | 1,371343E+22  | 1,733654E+22   | 1,949624E+22   | 1,949641E+22    | 1,733670E+22     | 1,371363E+22     | 9,637395E+21     | 6,200447E+21     | 4,284439E+21      | 4,284294E+21      | 6,200029E+21      | 9,636808E+21      |
| 1364                      | 1,371318E+22  | 1,733685E+22   | 1,949730E+22   | 1,949736E+22    | 1,733712E+22     | 1,371356E+22     | 9,637040E+21     | 6,200128E+21     | 4,284343E+21      | 4,284429E+21      | 6,200377E+21      | 9,637300E+21      |
| 1365                      | 1,371355E+22  | 1,733677E+22   | 1,949682E+22   | 1,949665E+22    | 1,733644E+22     | 1,371329E+22     | 9,637092E+21     | 6,200197E+21     | 4,284302E+21      | 4,284303E+21      | 6,200193E+21      | 9,637035E+21      |
| 1366                      | 1,371310E+22  | 1,733604E+22   | 1,949617E+22   | 1,949679E+22    | 1,733709E+22     | 1,371385E+22     | 9,637399E+21     | 6,200280E+21     | 4,284225E+21      | 4,284114E+21      | 6,199963E+21      | 9,636973E+21      |
| 1367                      | 1,371357E+22  | 1,733721E+22   | 1,949740E+22   | 1,949737E+22    | 1,733709E+22     | 1,371343E+22     | 9,636814E+21     | 6,199763E+21     | 4,283888E+21      | 4,284018E+21      | 6,200149E+21      | 9,637335E+21      |
| 1368                      | 1,371377E+22  | 1,733700E+22   | 1,949673E+22   | 1,949643E+22    | 1,733653E+22     | 1,371348E+22     | 9,637091E+21     | 6,199936E+21     | 4,283831E+21      | 4,283722E+21      | 6,199649E+21      | 9,636742E+21      |
| 1369                      | 1,371329E+22  | 1,733691E+22   | 1,949744E+22   | 1,949763E+22    | 1,733736E+22     | 1,371383E+22     | 9,637112E+21     | 6,199762E+21     | 4,283633E+21      | 4,283564E+21      | 6,199566E+21      | 9,636881E+21      |
| 1370                      | 1,371386E+22  | 1,733778E+22   | 1,949823E+22   | 1,949814E+22    | 1,733728E+22     | 1,371323E+22     | 9,636503E+21     | 6,199345E+21     | 4,283370E+21      | 4,283468E+21      | 6,199625E+21      | 9,636914E+21      |
| 1371                      | 1,371362E+22  | 1,733716E+22   | 1,949711E+22   | 1,949724E+22    | 1,733735E+22     | 1,371377E+22     | 9,636924E+21     | 6,199534E+21     | 4,283342E+21      | 4,283245E+21      | 6,199282E+21      | 9,636563E+21      |
| 1372                      | 1,371337E+22  | 1,733740E+22   | 1,949815E+22   | 1,949828E+22    | 1,733791E+22     | 1,371395E+22     | 9,636786E+21     | 6,199268E+21     | 4,283174E+21      | 4,283235E+21      | 6,199449E+21      | 9,636972E+21      |
| 1373                      | 1,371395E+22  | 1,733774E+22   | 1,949807E+22   | 1,949781E+22    | 1,733714E+22     | 1,371342E+22     | 9,636679E+21     | 6,199307E+21     | 4,283184E+21      | 4,283213E+21      | 6,199364E+21      | 9,636734E+21      |
| 1374                      | 1,371351E+22  | 1,733700E+22   | 1,949717E+22   | 1,949752E+22    | 1,733747E+22     | 1,371387E+22     | 9,637106E+21     | 6,199680E+21     | 4,283428E+21      | 4,283279E+21      | 6,199237E+21      | 9,636498E+21      |
| 1375                      | 1,371349E+22  | 1,733767E+22   | 1,949824E+22   | 1,949819E+22    | 1,733763E+22     | 1,371359E+22     | 9,636661E+21     | 6,199417E+21     | 4,283456E+21      | 4,283582E+21      | 6,199768E+21      | 9,637051E+21      |
| 1376                      | 1,371365E+22  | 1,733718E+22   | 1,949724E+22   | 1,949693E+22    | 1,733671E+22     | 1,371338E+22     | 9,636908E+21     | 6,199808E+21     | 4,283798E+21      | 4,283782E+21      | 6,199766E+21      | 9,636800E+21      |
| 1377                      | 1,371312E+22  | 1,733641E+22   | 1,949683E+22   | 1,949721E+22    | 1,733719E+22     | 1,371384E+22     | 9,637292E+21     | 6,200111E+21     | 4,284088E+21      | 4,284034E+21      | 6,199944E+21      | 9,637014E+21      |
| 1378                      | 1,371360E+22  | 1,733709E+22   | 1,949729E+22   | 1,949732E+22    | 1,733687E+22     | 1,371321E+22     | 9,636825E+21     | 6,199979E+21     | 4,284223E+21      | 4,284382E+21      | 6,200413E+21      | 9,637388E+21      |
| 1379                      | 1,371362E+22  | 1,733657E+22   | 1,949594E+22   | 1,949574E+22    | 1,733618E+22     | 1,371337E+22     | 9,637309E+21     | 6,200499E+21     | 4,284603E+21      | 4,284530E+21      | 6,200295E+21      | 9,637021E+21      |
| 1380                      | 1,371313E+22  | 1,733639E+22   | 1,949657E+22   | 1,949659E+22    | 1,733665E+22     | 1,371359E+22     | 9,637380E+21     | 6,200566E+21     | 4,284780E+21      | 4,284778E+21      | 6,200557E+21      | 9,637331E+21      |
| 1381                      | 1,371355E+22  | 1,733674E+22   | 1,949667E+22   | 1,949639E+22    | 1,733603E+22     | 1,371293E+22     | 9,637106E+21     | 6,200586E+21     | 4,284917E+21      | 4,284989E+21      | 6,200759E+21      | 9,637308E+21      |
| 1382                      | 1,371309E+22  | 1,733577E+22   | 1,949542E+22   | 1,949574E+22    | 1,733627E+22     | 1,371345E+22     | 9,637558E+21     | 6,200945E+21     | 4,285121E+21      | 4,284988E+21      | 6,200574E+21      | 9,637033E+21      |
| 1383                      | 1,371291E+22  | 1,733610E+22   | 1,949636E+22   | 1,949658E+22    | 1,733671E+22     | 1,371348E+22     | 9,637253E+21     | 6,200587E+21     | 4,284942E+21      | 4,285059E+21      | 6,200930E+21      | 9,637628E+21      |
| 1384                      | 1,371345E+22  | 1,733613E+22   | 1,949574E+22   | 1,949554E+22    | 1,733576E+22     | 1,371311E+22     | 9,637321E+21     | 6,200700E+21     | 4,284929E+21      | 4,284927E+21      | 6,200693E+21      | 9,637309E+21      |
| 1385                      | 1,371310E+22  | 1,733572E+22   | 1,949548E+22   | 1,949581E+22    | 1,733632E+22     | 1,371360E+22     | 9,637633E+21     | 6,200801E+21     | 4,284858E+21      | 4,284710E+21      | 6,200379E+21      | 9,637108E+21      |
| 1386                      | 1,371341E+22  | 1,733679E+22   | 1,949683E+22   | 1,949672E+22    | 1,733653E+22     | 1,371315E+22     | 9,636973E+21     | 6,200274E+21     | 4,284545E+21      | 4,284641E+21      | 6,200549E+21      | 9,637395E+21      |
| 1387                      | 1,371359E+22  | 1,733666E+22   | 1,949623E+22   | 1,949582E+22    | 1,733601E+22     | 1,371317E+22     | 9,637133E+21     | 6,200329E+21     | 4,284422E+21      | 4,284344E+21      | 6,200130E+21      | 9,636901E+21      |
| 1388                      | 1,371305E+22  | 1,733638E+22   | 1,949684E+22   | 1,949709E+22    | 1,733699E+22     | 1,371362E+22     | 9,637176E+21     | 6,200152E+21     | 4,284212E+21      | 4,284157E+21      | 6,200021E+21      | 9,637032E+21      |
| 1389                      | 1,371358E+22  | 1,733708E+22   | 1,949735E+22   | 1,949738E+22    | 1,733691E+22     | 1,371318E+22     | 9,636732E+21     | 6,199797E+21     | 4,283951E+21      | 4,284060E+21      | 6,200096E+21      | 9,637129E+21      |
| 1390                      | 1,371345E+22  | 1,733655E+22   | 1,949634E+22   | 1,949651E+22    | 1,733686E+22     | 1,371362E+22     | 9,637148E+21     | 6,200029E+21     | 4,283947E+21      | 4,283821E+21      | 6,199695E+21      | 9,636708E+21      |
| 1391                      | 1,371319E+22  | 1,733684E+22   | 1,949737E+22   | 1,949751E+22    | 1,733740E+22     | 1,371381E+22     | 9,637023E+21     | 6,199797E+21     | 4,283818E+21      | 4,283862E+21      | 6,199923E+21      | 9,637134E+21      |
| 1392                      | 1,371371E+22  | 1,733713E+22   | 1,949719E+22   | 1,949684E+22    | 1,733643E+22     | 1,371318E+22     | 9,636915E+21     | 6,199900E+21     | 4,283937E+21      | 4,283959E+21      | 6,199923E+21      | 9,636920E+21      |

| 1           | 2            | 3            | 4            | 5            | 6            | 7            | 8            | 9            | 10           | 11           | 12           | 13           |
|-------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|
| Longitude ☉ | 0° - 30°     | 30° - 60°    | 60° - 90°    | 90° - 120°   | 120° - 150°  | 150° - 180°  | 180° - 210°  | 210° - 240°  | 240° - 270°  | 270° - 300°  | 300° - 330°  | 330° - 360°  |
| Years       |              |              |              |              |              |              |              |              |              |              |              |              |
| 1393        | 1,371326E+22 | 1,733642E+22 | 1,949643E+22 | 1,949664E+22 | 1,733677E+22 | 1,371360E+22 | 9,637324E+21 | 6,200284E+21 | 4,284221E+21 | 4,284071E+21 | 6,199843E+21 | 9,636706E+21 |
| 1394        | 1,371317E+22 | 1,733686E+22 | 1,949728E+22 | 1,949739E+22 | 1,733713E+22 | 1,371338E+22 | 9,636849E+21 | 6,200003E+21 | 4,284266E+21 | 4,284406E+21 | 6,200398E+21 | 9,637332E+21 |
| 1395        | 1,371354E+22 | 1,733659E+22 | 1,949622E+22 | 1,949586E+22 | 1,733601E+22 | 1,371312E+22 | 9,637056E+21 | 6,200313E+21 | 4,284533E+21 | 4,284571E+21 | 6,200426E+21 | 9,637169E+21 |
| 1396        | 1,371307E+22 | 1,733590E+22 | 1,949594E+22 | 1,949622E+22 | 1,733647E+22 | 1,371354E+22 | 9,637462E+21 | 6,200673E+21 | 4,284833E+21 | 4,284767E+21 | 6,200496E+21 | 9,637248E+21 |
| 1397        | 1,371346E+22 | 1,733657E+22 | 1,949643E+22 | 1,949636E+22 | 1,733620E+22 | 1,371298E+22 | 9,637071E+21 | 6,200589E+21 | 4,284994E+21 | 4,285129E+21 | 6,200951E+21 | 9,637559E+21 |
| 1398        | 1,371338E+22 | 1,733601E+22 | 1,949532E+22 | 1,949506E+22 | 1,733557E+22 | 1,371309E+22 | 9,637508E+21 | 6,201087E+21 | 4,285364E+21 | 4,285263E+21 | 6,200802E+21 | 9,637118E+21 |
| 1399        | 1,371275E+22 | 1,733566E+22 | 1,949582E+22 | 1,949599E+22 | 1,733627E+22 | 1,371344E+22 | 9,637589E+21 | 6,201116E+21 | 4,285498E+21 | 4,285512E+21 | 6,201138E+21 | 9,637517E+21 |
| 1400        | 1,371318E+22 | 1,733587E+22 | 1,949559E+22 | 1,949544E+22 | 1,733551E+22 | 1,371283E+22 | 9,637354E+21 | 6,201141E+21 | 4,285646E+21 | 4,285736E+21 | 6,201364E+21 | 9,637582E+21 |
| 1401        | 1,371288E+22 | 1,733507E+22 | 1,949444E+22 | 1,949468E+22 | 1,733561E+22 | 1,371336E+22 | 9,637869E+21 | 6,201507E+21 | 4,285813E+21 | 4,285673E+21 | 6,201111E+21 | 9,637286E+21 |
| 1402        | 1,371277E+22 | 1,733546E+22 | 1,949541E+22 | 1,949565E+22 | 1,733612E+22 | 1,371331E+22 | 9,637506E+21 | 6,201149E+21 | 4,285629E+21 | 4,285709E+21 | 6,201380E+21 | 9,637818E+21 |
| 1403        | 1,371346E+22 | 1,733585E+22 | 1,949501E+22 | 1,949457E+22 | 1,733500E+22 | 1,371277E+22 | 9,637420E+21 | 6,201150E+21 | 4,285554E+21 | 4,285557E+21 | 6,201165E+21 | 9,637504E+21 |
| 1404        | 1,371302E+22 | 1,733542E+22 | 1,949502E+22 | 1,949519E+22 | 1,733570E+22 | 1,371323E+22 | 9,637684E+21 | 6,201242E+21 | 4,285471E+21 | 4,285307E+21 | 6,200808E+21 | 9,637215E+21 |
| 1405        | 1,371316E+22 | 1,733629E+22 | 1,949626E+22 | 1,949620E+22 | 1,733612E+22 | 1,371292E+22 | 9,637066E+21 | 6,200697E+21 | 4,285140E+21 | 4,285251E+21 | 6,201024E+21 | 9,637553E+21 |
| 1406        | 1,371330E+22 | 1,733602E+22 | 1,949563E+22 | 1,949536E+22 | 1,733568E+22 | 1,371302E+22 | 9,637233E+21 | 6,200709E+21 | 4,284972E+21 | 4,284911E+21 | 6,200573E+21 | 9,637075E+21 |
| 1407        | 1,371283E+22 | 1,733573E+22 | 1,949605E+22 | 1,949645E+22 | 1,733668E+22 | 1,371363E+22 | 9,637401E+21 | 6,200558E+21 | 4,284732E+21 | 4,284705E+21 | 6,200479E+21 | 9,637236E+21 |
| 1408        | 1,371341E+22 | 1,733647E+22 | 1,949637E+22 | 1,949638E+22 | 1,733630E+22 | 1,371308E+22 | 9,637006E+21 | 6,200322E+21 | 4,284583E+21 | 4,284669E+21 | 6,200543E+21 | 9,637299E+21 |
| 1409        | 1,371332E+22 | 1,733612E+22 | 1,949562E+22 | 1,949554E+22 | 1,733613E+22 | 1,371344E+22 | 9,637425E+21 | 6,200618E+21 | 4,284660E+21 | 4,284490E+21 | 6,200146E+21 | 9,636804E+21 |
| 1410        | 1,371291E+22 | 1,733621E+22 | 1,949660E+22 | 1,949676E+22 | 1,733682E+22 | 1,371356E+22 | 9,637233E+21 | 6,200398E+21 | 4,284594E+21 | 4,284607E+21 | 6,200422E+21 | 9,637241E+21 |
| 1411        | 1,371348E+22 | 1,733656E+22 | 1,949635E+22 | 1,949598E+22 | 1,733578E+22 | 1,371285E+22 | 9,636994E+21 | 6,200395E+21 | 4,284677E+21 | 4,284745E+21 | 6,200565E+21 | 9,637202E+21 |
| 1412        | 1,371304E+22 | 1,733576E+22 | 1,949557E+22 | 1,949583E+22 | 1,733618E+22 | 1,371331E+22 | 9,637416E+21 | 6,200780E+21 | 4,284940E+21 | 4,284820E+21 | 6,200456E+21 | 9,637003E+21 |
| 1413        | 1,371299E+22 | 1,733615E+22 | 1,949627E+22 | 1,949641E+22 | 1,733651E+22 | 1,371321E+22 | 9,637082E+21 | 6,200549E+21 | 4,284981E+21 | 4,285142E+21 | 6,201001E+21 | 9,637643E+21 |
| 1414        | 1,371343E+22 | 1,733603E+22 | 1,949544E+22 | 1,949504E+22 | 1,733537E+22 | 1,371289E+22 | 9,637269E+21 | 6,200869E+21 | 4,285247E+21 | 4,285267E+21 | 6,200938E+21 | 9,637370E+21 |
| 1415        | 1,371294E+22 | 1,733541E+22 | 1,949520E+22 | 1,949542E+22 | 1,733593E+22 | 1,371339E+22 | 9,637712E+21 | 6,201239E+21 | 4,285553E+21 | 4,285485E+21 | 6,201028E+21 | 9,637390E+21 |
| 1416        | 1,371317E+22 | 1,733594E+22 | 1,949557E+22 | 1,949544E+22 | 1,733555E+22 | 1,371280E+22 | 9,637355E+21 | 6,201238E+21 | 4,285809E+21 | 4,285923E+21 | 6,201529E+21 | 9,637718E+21 |
| 1417        | 1,371307E+22 | 1,733534E+22 | 1,949452E+22 | 1,949424E+22 | 1,733498E+22 | 1,371293E+22 | 9,637775E+21 | 6,201728E+21 | 4,286187E+21 | 4,286070E+21 | 6,201406E+21 | 9,637313E+21 |
| 1418        | 1,371240E+22 | 1,733476E+22 | 1,949473E+22 | 1,949514E+22 | 1,733580E+22 | 1,371334E+22 | 9,637849E+21 | 6,201723E+21 | 4,286293E+21 | 4,286301E+21 | 6,201726E+21 | 9,637771E+21 |
| 1419        | 1,371306E+22 | 1,733524E+22 | 1,949451E+22 | 1,949432E+22 | 1,733478E+22 | 1,371260E+22 | 9,637542E+21 | 6,201649E+21 | 4,286339E+21 | 4,286464E+21 | 6,201974E+21 | 9,637926E+21 |
| 1420        | 1,371287E+22 | 1,733464E+22 | 1,949363E+22 | 1,949372E+22 | 1,733480E+22 | 1,371297E+22 | 9,637984E+21 | 6,202009E+21 | 4,286468E+21 | 4,286308E+21 | 6,201585E+21 | 9,637482E+21 |
| 1421        | 1,371266E+22 | 1,733505E+22 | 1,949469E+22 | 1,949478E+22 | 1,733540E+22 | 1,371301E+22 | 9,637654E+21 | 6,201641E+21 | 4,286275E+21 | 4,286340E+21 | 6,201831E+21 | 9,637944E+21 |
| 1422        | 1,371325E+22 | 1,733543E+22 | 1,949460E+22 | 1,949412E+22 | 1,733449E+22 | 1,371246E+22 | 9,637480E+21 | 6,201558E+21 | 4,286140E+21 | 4,286141E+21 | 6,201573E+21 | 9,637573E+21 |
| 1423        | 1,371273E+22 | 1,733487E+22 | 1,949445E+22 | 1,949480E+22 | 1,733545E+22 | 1,371311E+22 | 9,637778E+21 | 6,201605E+21 | 4,286006E+21 | 4,285882E+21 | 6,201270E+21 | 9,637339E+21 |
| 1424        | 1,371283E+22 | 1,733556E+22 | 1,949535E+22 | 1,949546E+22 | 1,733576E+22 | 1,371292E+22 | 9,637302E+21 | 6,201147E+21 | 4,285725E+21 | 4,285844E+21 | 6,201493E+21 | 9,637751E+21 |
| 1425        | 1,371310E+22 | 1,733542E+22 | 1,949479E+22 | 1,949454E+22 | 1,733519E+22 | 1,371302E+22 | 9,637538E+21 | 6,201219E+21 | 4,285578E+21 | 4,285496E+21 | 6,201006E+21 | 9,637241E+21 |
| 1426        | 1,371264E+22 | 1,733508E+22 | 1,949511E+22 | 1,949561E+22 | 1,733619E+22 | 1,371355E+22 | 9,637695E+21 | 6,201124E+21 | 4,285404E+21 | 4,285327E+21 | 6,200885E+21 | 9,637352E+21 |
| 1427        | 1,371331E+22 | 1,733607E+22 | 1,949557E+22 | 1,949540E+22 | 1,733554E+22 | 1,371280E+22 | 9,637172E+21 | 6,200820E+21 | 4,285255E+21 | 4,285352E+21 | 6,201065E+21 | 9,637492E+21 |
| 1428        | 1,371316E+22 | 1,733568E+22 | 1,949499E+22 | 1,949480E+22 | 1,733538E+22 | 1,371301E+22 | 9,637512E+21 | 6,201128E+21 | 4,285360E+21 | 4,285193E+21 | 6,200685E+21 | 9,636984E+21 |

| 1<br>Longitude ☉<br>Years | 2<br>0° - 30° | 3<br>30° - 60° | 4<br>60° - 90° | 5<br>90° - 120° | 6<br>120° - 150° | 7<br>150° - 180° | 8<br>180° - 210° | 9<br>210° - 240° | 10<br>240° - 270° | 11<br>270° - 300° | 12<br>300° - 330° | 13<br>330° - 360° |
|---------------------------|---------------|----------------|----------------|-----------------|------------------|------------------|------------------|------------------|-------------------|-------------------|-------------------|-------------------|
| 1429                      | 1,371265E+22  | 1,733559E+22   | 1,949578E+22   | 1,949599E+22    | 1,733624E+22     | 1,371329E+22     | 9,637349E+21     | 6,200898E+21     | 4,285309E+21      | 4,285359E+21      | 6,201039E+21      | 9,637518E+21      |
| 1430                      | 1,371326E+22  | 1,733590E+22   | 1,949557E+22   | 1,949528E+22    | 1,733526E+22     | 1,371262E+22     | 9,637093E+21     | 6,200838E+21     | 4,285341E+21      | 4,285451E+21      | 6,201152E+21      | 9,637512E+21      |
| 1431                      | 1,371295E+22  | 1,733517E+22   | 1,949468E+22   | 1,949502E+22    | 1,733568E+22     | 1,371318E+22     | 9,637619E+21     | 6,201249E+21     | 4,285578E+21      | 4,285499E+21      | 6,201024E+21      | 9,637276E+21      |
| 1432                      | 1,371288E+22  | 1,733561E+22   | 1,949532E+22   | 1,949537E+22    | 1,733580E+22     | 1,371305E+22     | 9,637382E+21     | 6,201168E+21     | 4,285735E+21      | 4,285864E+21      | 6,201525E+21      | 9,637834E+21      |
| 1433                      | 1,371328E+22  | 1,733557E+22   | 1,949472E+22   | 1,949415E+22    | 1,733466E+22     | 1,371271E+22     | 9,637579E+21     | 6,201541E+21     | 4,286070E+21      | 4,286039E+21      | 6,201450E+21      | 9,637445E+21      |
| 1434                      | 1,371258E+22  | 1,733471E+22   | 1,949438E+22   | 1,949471E+22    | 1,733542E+22     | 1,371324E+22     | 9,638006E+21     | 6,201922E+21     | 4,286417E+21      | 4,286308E+21      | 6,201569E+21      | 9,637471E+21      |
| 1435                      | 1,371283E+22  | 1,733523E+22   | 1,949461E+22   | 1,949453E+22    | 1,733492E+22     | 1,371257E+22     | 9,637534E+21     | 6,201812E+21     | 4,286616E+21      | 4,286762E+21      | 6,202195E+21      | 9,637975E+21      |
| 1436                      | 1,371277E+22  | 1,733456E+22   | 1,949351E+22   | 1,949334E+22    | 1,733434E+22     | 1,371267E+22     | 9,637964E+21     | 6,202292E+21     | 4,286938E+21      | 4,286835E+21      | 6,202023E+21      | 9,637601E+21      |
| 1437                      | 1,371221E+22  | 1,733402E+22   | 1,949360E+22   | 1,949409E+22    | 1,733512E+22     | 1,371314E+22     | 9,638084E+21     | 6,202273E+21     | 4,287001E+21      | 4,287017E+21      | 6,202303E+21      | 9,638057E+21      |
| 1438                      | 1,371293E+22  | 1,733470E+22   | 1,949370E+22   | 1,949346E+22    | 1,733407E+22     | 1,371229E+22     | 9,637680E+21     | 6,202133E+21     | 4,286982E+21      | 4,287098E+21      | 6,202452E+21      | 9,638131E+21      |
| 1439                      | 1,371278E+22  | 1,733426E+22   | 1,949300E+22   | 1,949302E+22    | 1,733425E+22     | 1,371274E+22     | 9,638117E+21     | 6,202432E+21     | 4,287055E+21      | 4,286918E+21      | 6,202056E+21      | 9,637615E+21      |
| 1440                      | 1,371244E+22  | 1,733458E+22   | 1,949404E+22   | 1,949406E+22    | 1,733481E+22     | 1,371278E+22     | 9,637832E+21     | 6,202134E+21     | 4,286919E+21      | 4,286978E+21      | 6,202309E+21      | 9,638085E+21      |
| 1441                      | 1,371299E+22  | 1,733490E+22   | 1,949397E+22   | 1,949356E+22    | 1,733411E+22     | 1,371235E+22     | 9,637656E+21     | 6,202029E+21     | 4,286774E+21      | 4,286772E+21      | 6,202042E+21      | 9,637717E+21      |
| 1442                      | 1,371244E+22  | 1,733416E+22   | 1,949357E+22   | 1,949416E+22    | 1,733518E+22     | 1,371312E+22     | 9,638023E+21     | 6,202075E+21     | 4,286622E+21      | 4,286492E+21      | 6,201706E+21      | 9,637513E+21      |
| 1443                      | 1,371272E+22  | 1,733503E+22   | 1,949440E+22   | 1,949449E+22    | 1,733515E+22     | 1,371279E+22     | 9,637510E+21     | 6,201589E+21     | 4,286306E+21      | 4,286441E+21      | 6,201971E+21      | 9,637985E+21      |
| 1444                      | 1,371304E+22  | 1,733502E+22   | 1,949405E+22   | 1,949370E+22    | 1,733446E+22     | 1,371269E+22     | 9,637707E+21     | 6,201717E+21     | 4,286191E+21      | 4,286078E+21      | 6,201427E+21      | 9,637387E+21      |
| 1445                      | 1,371249E+22  | 1,733464E+22   | 1,949434E+22   | 1,949476E+22    | 1,733549E+22     | 1,371326E+22     | 9,637867E+21     | 6,201634E+21     | 4,286065E+21      | 4,285982E+21      | 6,201366E+21      | 9,637476E+21      |
| 1446                      | 1,371302E+22  | 1,733554E+22   | 1,949503E+22   | 1,949485E+22    | 1,733495E+22     | 1,371246E+22     | 9,637246E+21     | 6,201266E+21     | 4,285894E+21      | 4,286011E+21      | 6,201574E+21      | 9,637652E+21      |
| 1447                      | 1,371290E+22  | 1,733510E+22   | 1,949429E+22   | 1,949423E+22    | 1,733499E+22     | 1,371283E+22     | 9,637597E+21     | 6,201517E+21     | 4,285966E+21      | 4,285868E+21      | 6,201258E+21      | 9,637208E+21      |
| 1448                      | 1,371239E+22  | 1,733490E+22   | 1,949481E+22   | 1,949508E+22    | 1,733567E+22     | 1,371318E+22     | 9,637594E+21     | 6,201417E+21     | 4,285991E+21      | 4,286057E+21      | 6,201607E+21      | 9,637802E+21      |
| 1449                      | 1,371314E+22  | 1,733535E+22   | 1,949469E+22   | 1,949440E+22    | 1,733470E+22     | 1,371253E+22     | 9,637385E+21     | 6,201423E+21     | 4,286063E+21      | 4,286149E+21      | 6,201664E+21      | 9,637714E+21      |
| 1450                      | 1,371279E+22  | 1,733460E+22   | 1,949376E+22   | 1,949415E+22    | 1,733513E+22     | 1,371308E+22     | 9,637943E+21     | 6,201900E+21     | 4,286371E+21      | 4,286235E+21      | 6,201501E+21      | 9,637404E+21      |
| 1451                      | 1,371273E+22  | 1,733513E+22   | 1,949447E+22   | 1,949439E+22    | 1,733504E+22     | 1,371280E+22     | 9,637635E+21     | 6,201793E+21     | 4,286548E+21      | 4,286671E+21      | 6,202119E+21      | 9,638011E+21      |
| 1452                      | 1,371300E+22  | 1,733499E+22   | 1,949400E+22   | 1,949342E+22    | 1,733395E+22     | 1,371232E+22     | 9,637762E+21     | 6,202178E+21     | 4,286900E+21      | 4,286862E+21      | 6,202068E+21      | 9,637624E+21      |
| 1453                      | 1,371220E+22  | 1,733388E+22   | 1,949331E+22   | 1,949381E+22    | 1,733484E+22     | 1,371302E+22     | 9,638209E+21     | 6,202521E+21     | 4,287240E+21      | 4,287163E+21      | 6,202263E+21      | 9,637750E+21      |
| 1454                      | 1,371249E+22  | 1,733439E+22   | 1,949361E+22   | 1,949365E+22    | 1,733432E+22     | 1,371236E+22     | 9,637707E+21     | 6,202317E+21     | 4,287333E+21      | 4,287522E+21      | 6,202829E+21      | 9,638307E+21      |
| 1455                      | 1,371266E+22  | 1,733393E+22   | 1,949250E+22   | 1,949236E+22    | 1,733370E+22     | 1,371247E+22     | 9,638149E+21     | 6,202760E+21     | 4,287585E+21      | 4,287525E+21      | 6,202597E+21      | 9,637874E+21      |
| 1456                      | 1,371211E+22  | 1,733352E+22   | 1,949266E+22   | 1,949299E+22    | 1,733430E+22     | 1,371287E+22     | 9,638330E+21     | 6,202850E+21     | 4,287710E+21      | 4,287694E+21      | 6,202801E+21      | 9,638259E+21      |
| 1457                      | 1,371282E+22  | 1,733433E+22   | 1,949306E+22   | 1,949268E+22    | 1,733344E+22     | 1,371205E+22     | 9,637875E+21     | 6,202681E+21     | 4,287687E+21      | 4,287764E+21      | 6,202898E+21      | 9,638214E+21      |
| 1458                      | 1,371249E+22  | 1,733370E+22   | 1,949234E+22   | 1,949248E+22    | 1,733387E+22     | 1,371258E+22     | 9,638308E+21     | 6,202952E+21     | 4,287739E+21      | 4,287575E+21      | 6,202495E+21      | 9,637710E+21      |
| 1459                      | 1,371219E+22  | 1,733401E+22   | 1,949326E+22   | 1,949335E+22    | 1,733434E+22     | 1,371263E+22     | 9,637981E+21     | 6,202569E+21     | 4,287538E+21      | 4,287629E+21      | 6,202835E+21      | 9,638302E+21      |
| 1460                      | 1,371276E+22  | 1,733429E+22   | 1,949319E+22   | 1,949289E+22    | 1,733361E+22     | 1,371217E+22     | 9,637850E+21     | 6,202484E+21     | 4,287351E+21      | 4,287354E+21      | 6,202502E+21      | 9,637912E+21      |
| 1461                      | 1,371226E+22  | 1,733357E+22   | 1,949263E+22   | 1,949329E+22    | 1,733464E+22     | 1,371300E+22     | 9,638270E+21     | 6,202560E+21     | 4,287215E+21      | 4,287080E+21      | 6,202159E+21      | 9,637684E+21      |
| 1462                      | 1,371252E+22  | 1,733455E+22   | 1,949374E+22   | 1,949375E+22    | 1,733455E+22     | 1,371254E+22     | 9,637661E+21     | 6,202028E+21     | 4,286877E+21      | 4,287000E+21      | 6,202378E+21      | 9,638119E+21      |
| 1463                      | 1,371289E+22  | 1,733463E+22   | 1,949345E+22   | 1,949303E+22    | 1,733393E+22     | 1,371245E+22     | 9,637835E+21     | 6,202126E+21     | 4,286765E+21      | 4,286682E+21      | 6,201898E+21      | 9,637514E+21      |
| 1464                      | 1,371223E+22  | 1,733412E+22   | 1,949363E+22   | 1,949400E+22    | 1,733486E+22     | 1,371298E+22     | 9,638041E+21     | 6,202148E+21     | 4,286736E+21      | 4,286654E+21      | 6,201898E+21      | 9,637690E+21      |



| 1                 | 2            | 3            | 4            | 5            | 6            | 7            | 8            | 9            | 10           | 11           | 12           | 13           |
|-------------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|
| Longitude $\odot$ | 0° - 30°     | 30° - 60°    | 60° - 90°    | 90° - 120°   | 120° - 150°  | 150° - 180°  | 180° - 210°  | 210° - 240°  | 240° - 270°  | 270° - 300°  | 300° - 330°  | 330° - 360°  |
| Years             |              |              |              |              |              |              |              |              |              |              |              |              |
| 1465              | 1,371278E+22 | 1,733495E+22 | 1,949425E+22 | 1,949417E+22 | 1,733453E+22 | 1,371231E+22 | 9,637411E+21 | 6,201763E+21 | 4,286579E+21 | 4,286707E+21 | 6,202125E+21 | 9,637895E+21 |
| 1466              | 1,371268E+22 | 1,733443E+22 | 1,949336E+22 | 1,949348E+22 | 1,733461E+22 | 1,371278E+22 | 9,637847E+21 | 6,202030E+21 | 4,286647E+21 | 4,286552E+21 | 6,201779E+21 | 9,637477E+21 |
| 1467              | 1,371236E+22 | 1,733442E+22 | 1,949387E+22 | 1,949403E+22 | 1,733493E+22 | 1,371294E+22 | 9,637815E+21 | 6,201945E+21 | 4,286685E+21 | 4,286760E+21 | 6,202159E+21 | 9,638062E+21 |
| 1468              | 1,371305E+22 | 1,733493E+22 | 1,949394E+22 | 1,949354E+22 | 1,733394E+22 | 1,371218E+22 | 9,637601E+21 | 6,202027E+21 | 4,286813E+21 | 4,286864E+21 | 6,202163E+21 | 9,637845E+21 |
| 1469              | 1,371255E+22 | 1,733405E+22 | 1,949294E+22 | 1,949330E+22 | 1,733448E+22 | 1,371282E+22 | 9,638177E+21 | 6,202521E+21 | 4,287180E+21 | 4,287035E+21 | 6,202075E+21 | 9,637510E+21 |
| 1470              | 1,371228E+22 | 1,733440E+22 | 1,949373E+22 | 1,949371E+22 | 1,733446E+22 | 1,371251E+22 | 9,637790E+21 | 6,202352E+21 | 4,287324E+21 | 4,287462E+21 | 6,202721E+21 | 9,638191E+21 |
| 1471              | 1,371264E+22 | 1,733419E+22 | 1,949303E+22 | 1,949264E+22 | 1,733351E+22 | 1,371218E+22 | 9,637951E+21 | 6,202683E+21 | 4,287627E+21 | 4,287651E+21 | 6,202728E+21 | 9,637893E+21 |
| 1472              | 1,371191E+22 | 1,733306E+22 | 1,949212E+22 | 1,949267E+22 | 1,733414E+22 | 1,371288E+22 | 9,638518E+21 | 6,203129E+21 | 4,287999E+21 | 4,287929E+21 | 6,202895E+21 | 9,638086E+21 |
| 1473              | 1,371236E+22 | 1,733375E+22 | 1,949256E+22 | 1,949259E+22 | 1,733365E+22 | 1,371219E+22 | 9,637988E+21 | 6,202928E+21 | 4,288085E+21 | 4,288244E+21 | 6,203368E+21 | 9,638544E+21 |
| 1474              | 1,371254E+22 | 1,733342E+22 | 1,949161E+22 | 1,949144E+22 | 1,733308E+22 | 1,371229E+22 | 9,638406E+21 | 6,203348E+21 | 4,288324E+21 | 4,288219E+21 | 6,203066E+21 | 9,638048E+21 |
| 1475              | 1,371203E+22 | 1,733315E+22 | 1,949195E+22 | 1,949206E+22 | 1,733350E+22 | 1,371252E+22 | 9,638487E+21 | 6,203380E+21 | 4,288424E+21 | 4,288411E+21 | 6,203338E+21 | 9,638443E+21 |
| 1476              | 1,371262E+22 | 1,733387E+22 | 1,949250E+22 | 1,949213E+22 | 1,733287E+22 | 1,371169E+22 | 9,637994E+21 | 6,203199E+21 | 4,288371E+21 | 4,288444E+21 | 6,203409E+21 | 9,638374E+21 |
| 1477              | 1,371220E+22 | 1,733306E+22 | 1,949152E+22 | 1,949182E+22 | 1,733349E+22 | 1,371245E+22 | 9,638466E+21 | 6,203416E+21 | 4,288390E+21 | 4,288254E+21 | 6,203041E+21 | 9,637920E+21 |
| 1478              | 1,371188E+22 | 1,733334E+22 | 1,949250E+22 | 1,949266E+22 | 1,733390E+22 | 1,371250E+22 | 9,638154E+21 | 6,202975E+21 | 4,288089E+21 | 4,288203E+21 | 6,203299E+21 | 9,638527E+21 |
| 1479              | 1,371265E+22 | 1,733379E+22 | 1,949241E+22 | 1,949212E+22 | 1,733314E+22 | 1,371203E+22 | 9,638036E+21 | 6,202880E+21 | 4,287874E+21 | 4,287899E+21 | 6,202928E+21 | 9,638062E+21 |
| 1480              | 1,371209E+22 | 1,733311E+22 | 1,949183E+22 | 1,949232E+22 | 1,733394E+22 | 1,371279E+22 | 9,638514E+21 | 6,203085E+21 | 4,287840E+21 | 4,287668E+21 | 6,202579E+21 | 9,637817E+21 |
| 1481              | 1,371231E+22 | 1,733410E+22 | 1,949310E+22 | 1,949306E+22 | 1,733404E+22 | 1,371233E+22 | 9,637839E+21 | 6,202541E+21 | 4,287535E+21 | 4,287629E+21 | 6,202809E+21 | 9,638198E+21 |
| 1482              | 1,371257E+22 | 1,733404E+22 | 1,949275E+22 | 1,949245E+22 | 1,733356E+22 | 1,371228E+22 | 9,637994E+21 | 6,202617E+21 | 4,287430E+21 | 4,287338E+21 | 6,202376E+21 | 9,637691E+21 |
| 1483              | 1,371202E+22 | 1,733351E+22 | 1,949278E+22 | 1,949317E+22 | 1,733430E+22 | 1,371275E+22 | 9,638174E+21 | 6,202602E+21 | 4,287388E+21 | 4,287346E+21 | 6,202483E+21 | 9,637998E+21 |
| 1484              | 1,371265E+22 | 1,733438E+22 | 1,949345E+22 | 1,949339E+22 | 1,733393E+22 | 1,371205E+22 | 9,637601E+21 | 6,202260E+21 | 4,287217E+21 | 4,287355E+21 | 6,202645E+21 | 9,638157E+21 |
| 1485              | 1,371257E+22 | 1,733387E+22 | 1,949242E+22 | 1,949253E+22 | 1,733400E+22 | 1,371259E+22 | 9,638082E+21 | 6,202573E+21 | 4,287337E+21 | 4,287241E+21 | 6,202305E+21 | 9,637672E+21 |
| 1486              | 1,371214E+22 | 1,733393E+22 | 1,949319E+22 | 1,949322E+22 | 1,733429E+22 | 1,371269E+22 | 9,638010E+21 | 6,202469E+21 | 4,287370E+21 | 4,287436E+21 | 6,202646E+21 | 9,638206E+21 |
| 1487              | 1,371284E+22 | 1,733445E+22 | 1,949326E+22 | 1,949281E+22 | 1,733339E+22 | 1,371194E+22 | 9,637785E+21 | 6,202546E+21 | 4,287530E+21 | 4,287610E+21 | 6,202720E+21 | 9,637967E+21 |
| 1488              | 1,371217E+22 | 1,733335E+22 | 1,949205E+22 | 1,949240E+22 | 1,733384E+22 | 1,371260E+22 | 9,638437E+21 | 6,203163E+21 | 4,287999E+21 | 4,287849E+21 | 6,202712E+21 | 9,637757E+21 |
| 1489              | 1,371195E+22 | 1,733357E+22 | 1,949267E+22 | 1,949285E+22 | 1,733401E+22 | 1,371240E+22 | 9,638034E+21 | 6,202960E+21 | 4,288134E+21 | 4,288274E+21 | 6,203353E+21 | 9,638464E+21 |
| 1490              | 1,371239E+22 | 1,733339E+22 | 1,949188E+22 | 1,949163E+22 | 1,733297E+22 | 1,371209E+22 | 9,638257E+21 | 6,203296E+21 | 4,288405E+21 | 4,288416E+21 | 6,203320E+21 | 9,638225E+21 |
| 1491              | 1,371188E+22 | 1,733251E+22 | 1,949107E+22 | 1,949143E+22 | 1,733322E+22 | 1,371253E+22 | 9,638744E+21 | 6,203727E+21 | 4,288762E+21 | 4,288689E+21 | 6,203493E+21 | 9,638393E+21 |
| 1492              | 1,371232E+22 | 1,733336E+22 | 1,949183E+22 | 1,949166E+22 | 1,733278E+22 | 1,371176E+22 | 9,638173E+21 | 6,203530E+21 | 4,288839E+21 | 4,288967E+21 | 6,203881E+21 | 9,638702E+21 |
| 1493              | 1,371233E+22 | 1,733294E+22 | 1,949093E+22 | 1,949067E+22 | 1,733245E+22 | 1,371199E+22 | 9,638566E+21 | 6,203897E+21 | 4,289071E+21 | 4,288970E+21 | 6,203611E+21 | 9,638161E+21 |
| 1494              | 1,371164E+22 | 1,733256E+22 | 1,949140E+22 | 1,949154E+22 | 1,733305E+22 | 1,371225E+22 | 9,638577E+21 | 6,203828E+21 | 4,289076E+21 | 4,289085E+21 | 6,203853E+21 | 9,638607E+21 |
| 1495              | 1,371233E+22 | 1,733322E+22 | 1,949173E+22 | 1,949154E+22 | 1,733261E+22 | 1,371163E+22 | 9,638146E+21 | 6,203592E+21 | 4,288952E+21 | 4,289076E+21 | 6,203914E+21 | 9,638552E+21 |
| 1496              | 1,371193E+22 | 1,733236E+22 | 1,949058E+22 | 1,949092E+22 | 1,733299E+22 | 1,371239E+22 | 9,638767E+21 | 6,203936E+21 | 4,289004E+21 | 4,288853E+21 | 6,203514E+21 | 9,638151E+21 |
| 1497              | 1,371172E+22 | 1,733273E+22 | 1,949158E+22 | 1,949182E+22 | 1,733345E+22 | 1,371242E+22 | 9,638424E+21 | 6,203508E+21 | 4,288714E+21 | 4,288776E+21 | 6,203690E+21 | 9,638645E+21 |
| 1498              | 1,371246E+22 | 1,733328E+22 | 1,949164E+22 | 1,949133E+22 | 1,733266E+22 | 1,371193E+22 | 9,638297E+21 | 6,203409E+21 | 4,288508E+21 | 4,288483E+21 | 6,203326E+21 | 9,638207E+21 |
| 1499              | 1,371197E+22 | 1,733270E+22 | 1,949117E+22 | 1,949143E+22 | 1,733317E+22 | 1,371241E+22 | 9,638636E+21 | 6,203565E+21 | 4,288486E+21 | 4,288324E+21 | 6,203095E+21 | 9,638023E+21 |
| 1500              | 1,371212E+22 | 1,733359E+22 | 1,949247E+22 | 1,949242E+22 | 1,733344E+22 | 1,371195E+22 | 9,637928E+21 | 6,203011E+21 | 4,288177E+21 | 4,288287E+21 | 6,203333E+21 | 9,638425E+21 |

| 1<br>Longitude $\odot$<br>Years | 2<br>0° - 30° | 3<br>30° - 60° | 4<br>60° - 90° | 5<br>90° - 120° | 6<br>120° - 150° | 7<br>150° - 180° | 8<br>180° - 210° | 9<br>210° - 240° | 10<br>240° - 270° | 11<br>270° - 300° | 12<br>300° - 330° | 13<br>330° - 360° |
|---------------------------------|---------------|----------------|----------------|-----------------|------------------|------------------|------------------|------------------|-------------------|-------------------|-------------------|-------------------|
| 1501                            | 1,371237E+22  | 1,733341E+22   | 1,949191E+22   | 1,949171E+22    | 1,733313E+22     | 1,371212E+22     | 9,638105E+21     | 6,203032E+21     | 4,288054E+21      | 4,288014E+21      | 6,202943E+21      | 9,637963E+21      |
| 1502                            | 1,371184E+22  | 1,733296E+22   | 1,949205E+22   | 1,949238E+22    | 1,733374E+22     | 1,371252E+22     | 9,638286E+21     | 6,202996E+21     | 4,287950E+21      | 4,287939E+21      | 6,202967E+21      | 9,638263E+21      |
| 1503                            | 1,371262E+22  | 1,733398E+22   | 1,949271E+22   | 1,949259E+22    | 1,733341E+22     | 1,371187E+22     | 9,637769E+21     | 6,202698E+21     | 4,287808E+21      | 4,287957E+21      | 6,203084E+21      | 9,638294E+21      |
| 1504                            | 1,371239E+22  | 1,733342E+22   | 1,949171E+22   | 1,949162E+22    | 1,733331E+22     | 1,371236E+22     | 9,638350E+21     | 6,203174E+21     | 4,288063E+21      | 4,287924E+21      | 6,202779E+21      | 9,637791E+21      |
| 1505                            | 1,371184E+22  | 1,733331E+22   | 1,949243E+22   | 1,949253E+22    | 1,733383E+22     | 1,371252E+22     | 9,638256E+21     | 6,203095E+21     | 4,288157E+21      | 4,288183E+21      | 6,203146E+21      | 9,638263E+21      |
| 1506                            | 1,371240E+22  | 1,733366E+22   | 1,949238E+22   | 1,949210E+22    | 1,733302E+22     | 1,371186E+22     | 9,638059E+21     | 6,203169E+21     | 4,288334E+21      | 4,288394E+21      | 6,203305E+21      | 9,638186E+21      |
| 1507                            | 1,371188E+22  | 1,733254E+22   | 1,949096E+22   | 1,949129E+22    | 1,733312E+22     | 1,371238E+22     | 9,638675E+21     | 6,203761E+21     | 4,288800E+21      | 4,288680E+21      | 6,203398E+21      | 9,638110E+21      |
| 1508                            | 1,371179E+22  | 1,733285E+22   | 1,949162E+22   | 1,949178E+22    | 1,733324E+22     | 1,371211E+22     | 9,638299E+21     | 6,203591E+21     | 4,288916E+21      | 4,289053E+21      | 6,203966E+21      | 9,638772E+21      |
| 1509                            | 1,371228E+22  | 1,733277E+22   | 1,949084E+22   | 1,949053E+22    | 1,733223E+22     | 1,371182E+22     | 9,638479E+21     | 6,203904E+21     | 4,289198E+21      | 4,289206E+21      | 6,203924E+21      | 9,638465E+21      |
| 1510                            | 1,371170E+22  | 1,733206E+22   | 1,949040E+22   | 1,949055E+22    | 1,733245E+22     | 1,371215E+22     | 9,638865E+21     | 6,204255E+21     | 4,289488E+21      | 4,289416E+21      | 6,204035E+21      | 9,638596E+21      |
| 1511                            | 1,371216E+22  | 1,733292E+22   | 1,949125E+22   | 1,949100E+22    | 1,733224E+22     | 1,371147E+22     | 9,638291E+21     | 6,204013E+21     | 4,289536E+21      | 4,289696E+21      | 6,204424E+21      | 9,638841E+21      |
| 1512                            | 1,371200E+22  | 1,733229E+22   | 1,949019E+22   | 1,948995E+22    | 1,733196E+22     | 1,371181E+22     | 9,638774E+21     | 6,204453E+21     | 4,289799E+21      | 4,289701E+21      | 6,204188E+21      | 9,638394E+21      |
| 1513                            | 1,371137E+22  | 1,733180E+22   | 1,949047E+22   | 1,949086E+22    | 1,733280E+22     | 1,371225E+22     | 9,638816E+21     | 6,204342E+21     | 4,289751E+21      | 4,289756E+21      | 6,204355E+21      | 9,638797E+21      |
| 1514                            | 1,371210E+22  | 1,733254E+22   | 1,949077E+22   | 1,949069E+22    | 1,733222E+22     | 1,371165E+22     | 9,638457E+21     | 6,204117E+21     | 4,289583E+21      | 4,289674E+21      | 6,204360E+21      | 9,638780E+21      |
| 1515                            | 1,371185E+22  | 1,733185E+22   | 1,948967E+22   | 1,948981E+22    | 1,733219E+22     | 1,371213E+22     | 9,638988E+21     | 6,204462E+21     | 4,289649E+21      | 4,289477E+21      | 6,203984E+21      | 9,638362E+21      |
| 1516                            | 1,371163E+22  | 1,733230E+22   | 1,949091E+22   | 1,949099E+22    | 1,733269E+22     | 1,371205E+22     | 9,638587E+21     | 6,204023E+21     | 4,289355E+21      | 4,289388E+21      | 6,204112E+21      | 9,638748E+21      |
| 1517                            | 1,371222E+22  | 1,733275E+22   | 1,949095E+22   | 1,949061E+22    | 1,733207E+22     | 1,371163E+22     | 9,638396E+21     | 6,203871E+21     | 4,289158E+21      | 4,289149E+21      | 6,203830E+21      | 9,638335E+21      |
| 1518                            | 1,371165E+22  | 1,733215E+22   | 1,949061E+22   | 1,949085E+22    | 1,733267E+22     | 1,371210E+22     | 9,638650E+21     | 6,203924E+21     | 4,289047E+21      | 4,288929E+21      | 6,203597E+21      | 9,638259E+21      |
| 1519                            | 1,371197E+22  | 1,733306E+22   | 1,949177E+22   | 1,949178E+22    | 1,733306E+22     | 1,371182E+22     | 9,638018E+21     | 6,203346E+21     | 4,288703E+21      | 4,288870E+21      | 6,203808E+21      | 9,638632E+21      |
| 1520                            | 1,371221E+22  | 1,733286E+22   | 1,949111E+22   | 1,949085E+22    | 1,733258E+22     | 1,371200E+22     | 9,638351E+21     | 6,203519E+21     | 4,288649E+21      | 4,288599E+21      | 6,203397E+21      | 9,638186E+21      |
| 1521                            | 1,371174E+22  | 1,733246E+22   | 1,949125E+22   | 1,949164E+22    | 1,733334E+22     | 1,371244E+22     | 9,638527E+21     | 6,203527E+21     | 4,288598E+21      | 4,288534E+21      | 6,203346E+21      | 9,638327E+21      |
| 1522                            | 1,371239E+22  | 1,733349E+22   | 1,949200E+22   | 1,949184E+22    | 1,733297E+22     | 1,371181E+22     | 9,638064E+21     | 6,203285E+21     | 4,288518E+21      | 4,288608E+21      | 6,203518E+21      | 9,638403E+21      |
| 1523                            | 1,371214E+22  | 1,733284E+22   | 1,949095E+22   | 1,949074E+22    | 1,733257E+22     | 1,371206E+22     | 9,638568E+21     | 6,203791E+21     | 4,288857E+21      | 4,288713E+21      | 6,203383E+21      | 9,638005E+21      |
| 1524                            | 1,371154E+22  | 1,733255E+22   | 1,949156E+22   | 1,949174E+22    | 1,733320E+22     | 1,371223E+22     | 9,638466E+21     | 6,203715E+21     | 4,288969E+21      | 4,289004E+21      | 6,203789E+21      | 9,638516E+21      |
| 1525                            | 1,371209E+22  | 1,733280E+22   | 1,949126E+22   | 1,949110E+22    | 1,733244E+22     | 1,371171E+22     | 9,638287E+21     | 6,203754E+21     | 4,289141E+21      | 4,289247E+21      | 6,204012E+21      | 9,638518E+21      |
| 1526                            | 1,371169E+22  | 1,733190E+22   | 1,949002E+22   | 1,949022E+22    | 1,733232E+22     | 1,371206E+22     | 9,638832E+21     | 6,204285E+21     | 4,289522E+21      | 4,289432E+21      | 6,204018E+21      | 9,638461E+21      |
| 1527                            | 1,371179E+22  | 1,733240E+22   | 1,949075E+22   | 1,949077E+22    | 1,733249E+22     | 1,371180E+22     | 9,638449E+21     | 6,204110E+21     | 4,289639E+21      | 4,289788E+21      | 6,204504E+21      | 9,638965E+21      |
| 1528                            | 1,371213E+22  | 1,733231E+22   | 1,949011E+22   | 1,948961E+22    | 1,733147E+22     | 1,371152E+22     | 9,638690E+21     | 6,204510E+21     | 4,289976E+21      | 4,289962E+21      | 6,204467E+21      | 9,638638E+21      |
| 1529                            | 1,371147E+22  | 1,733146E+22   | 1,948966E+22   | 1,948994E+22    | 1,733204E+22     | 1,371195E+22     | 9,639041E+21     | 6,204830E+21     | 4,290256E+21      | 4,290157E+21      | 6,204544E+21      | 9,638684E+21      |
| 1530                            | 1,371178E+22  | 1,733220E+22   | 1,949043E+22   | 1,949038E+22    | 1,733198E+22     | 1,371149E+22     | 9,638563E+21     | 6,204578E+21     | 4,290262E+21      | 4,290400E+21      | 6,204958E+21      | 9,639061E+21      |
| 1531                            | 1,371174E+22  | 1,733154E+22   | 1,948923E+22   | 1,948901E+22    | 1,733135E+22     | 1,371168E+22     | 9,639028E+21     | 6,204995E+21     | 4,290497E+21      | 4,290412E+21      | 6,204764E+21      | 9,638679E+21      |
| 1532                            | 1,371121E+22  | 1,733111E+22   | 1,948949E+22   | 1,948992E+22    | 1,733211E+22     | 1,371206E+22     | 9,639106E+21     | 6,204908E+21     | 4,290419E+21      | 4,290400E+21      | 6,204830E+21      | 9,638975E+21      |
| 1533                            | 1,371193E+22  | 1,733195E+22   | 1,948983E+22   | 1,948972E+22    | 1,733159E+22     | 1,371148E+22     | 9,638686E+21     | 6,204644E+21     | 4,290251E+21      | 4,290330E+21      | 6,204837E+21      | 9,638910E+21      |
| 1534                            | 1,371164E+22  | 1,733146E+22   | 1,948910E+22   | 1,948899E+22    | 1,733142E+22     | 1,371175E+22     | 9,639059E+21     | 6,204883E+21     | 4,290240E+21      | 4,290076E+21      | 6,204435E+21      | 9,638525E+21      |
| 1535                            | 1,371149E+22  | 1,733191E+22   | 1,949035E+22   | 1,949037E+22    | 1,733214E+22     | 1,371174E+22     | 9,638621E+21     | 6,204401E+21     | 4,289933E+21      | 4,289998E+21      | 6,204571E+21      | 9,638879E+21      |
| 1536                            | 1,371197E+22  | 1,733219E+22   | 1,949028E+22   | 1,948998E+22    | 1,733161E+22     | 1,371142E+22     | 9,638501E+21     | 6,204296E+21     | 4,289757E+21      | 4,289772E+21      | 6,204344E+21      | 9,638591E+21      |

| 1                 | 2            | 3            | 4            | 5            | 6            | 7            | 8            | 9            | 10           | 11           | 12           | 13           |
|-------------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|
| Longitude $\odot$ | 0° - 30°     | 30° - 60°    | 60° - 90°    | 90° - 120°   | 120° - 150°  | 150° - 180°  | 180° - 210°  | 210° - 240°  | 240° - 270°  | 270° - 300°  | 300° - 330°  | 330° - 360°  |
| Years             |              |              |              |              |              |              |              |              |              |              |              |              |
| 1537              | 1,371150E+22 | 1,733153E+22 | 1,948978E+22 | 1,949026E+22 | 1,733240E+22 | 1,371204E+22 | 9,638794E+21 | 6,204330E+21 | 4,289614E+21 | 4,289504E+21 | 6,204035E+21 | 9,638449E+21 |
| 1538              | 1,371185E+22 | 1,733255E+22 | 1,949098E+22 | 1,949104E+22 | 1,733267E+22 | 1,371183E+22 | 9,638301E+21 | 6,203832E+21 | 4,289278E+21 | 4,289408E+21 | 6,204209E+21 | 9,638831E+21 |
| 1539              | 1,371214E+22 | 1,733244E+22 | 1,949037E+22 | 1,948992E+22 | 1,733182E+22 | 1,371175E+22 | 9,638575E+21 | 6,204059E+21 | 4,289317E+21 | 4,289238E+21 | 6,203853E+21 | 9,638335E+21 |
| 1540              | 1,371157E+22 | 1,733199E+22 | 1,949059E+22 | 1,949088E+22 | 1,733265E+22 | 1,371217E+22 | 9,638768E+21 | 6,204117E+21 | 4,289331E+21 | 4,289236E+21 | 6,203809E+21 | 9,638369E+21 |
| 1541              | 1,371201E+22 | 1,733279E+22 | 1,949119E+22 | 1,949111E+22 | 1,733245E+22 | 1,371162E+22 | 9,638266E+21 | 6,203867E+21 | 4,289309E+21 | 4,289412E+21 | 6,204116E+21 | 9,638527E+21 |
| 1542              | 1,371172E+22 | 1,733210E+22 | 1,949013E+22 | 1,948995E+22 | 1,733198E+22 | 1,371180E+22 | 9,638688E+21 | 6,204295E+21 | 4,289590E+21 | 4,289491E+21 | 6,204030E+21 | 9,638320E+21 |
| 1543              | 1,371136E+22 | 1,733184E+22 | 1,949053E+22 | 1,949080E+22 | 1,733262E+22 | 1,371206E+22 | 9,638639E+21 | 6,204211E+21 | 4,289682E+21 | 4,289765E+21 | 6,204406E+21 | 9,638813E+21 |
| 1544              | 1,371194E+22 | 1,733211E+22 | 1,949019E+22 | 1,948999E+22 | 1,733168E+22 | 1,371150E+22 | 9,638559E+21 | 6,204365E+21 | 4,289903E+21 | 4,290007E+21 | 6,204623E+21 | 9,638847E+21 |
| 1545              | 1,371163E+22 | 1,733134E+22 | 1,948908E+22 | 1,948932E+22 | 1,733173E+22 | 1,371184E+22 | 9,639043E+21 | 6,204875E+21 | 4,290285E+21 | 4,290164E+21 | 6,204532E+21 | 9,638627E+21 |
| 1546              | 1,371163E+22 | 1,733195E+22 | 1,949004E+22 | 1,948995E+22 | 1,733188E+22 | 1,371163E+22 | 9,638715E+21 | 6,204722E+21 | 4,290406E+21 | 4,290516E+21 | 6,205030E+21 | 9,639144E+21 |
| 1547              | 1,371189E+22 | 1,733173E+22 | 1,948936E+22 | 1,948878E+22 | 1,733074E+22 | 1,371119E+22 | 9,638881E+21 | 6,205119E+21 | 4,290784E+21 | 4,290771E+21 | 6,205086E+21 | 9,638865E+21 |
| 1548              | 1,371120E+22 | 1,733076E+22 | 1,948882E+22 | 1,948921E+22 | 1,733152E+22 | 1,371177E+22 | 9,639261E+21 | 6,205403E+21 | 4,291024E+21 | 4,290934E+21 | 6,205130E+21 | 9,638882E+21 |
| 1549              | 1,371148E+22 | 1,733139E+22 | 1,948935E+22 | 1,948945E+22 | 1,733149E+22 | 1,371143E+22 | 9,638832E+21 | 6,205130E+21 | 4,290995E+21 | 4,291152E+21 | 6,205547E+21 | 9,639283E+21 |
| 1550              | 1,371153E+22 | 1,733096E+22 | 1,948835E+22 | 1,948804E+22 | 1,733061E+22 | 1,371142E+22 | 9,639217E+21 | 6,205484E+21 | 4,291129E+21 | 4,291049E+21 | 6,205268E+21 | 9,638933E+21 |
| 1551              | 1,371116E+22 | 1,733069E+22 | 1,948870E+22 | 1,948902E+22 | 1,733141E+22 | 1,371177E+22 | 9,639236E+21 | 6,205368E+21 | 4,291040E+21 | 4,291013E+21 | 6,205251E+21 | 9,639063E+21 |
| 1552              | 1,371169E+22 | 1,733147E+22 | 1,948915E+22 | 1,948892E+22 | 1,733089E+22 | 1,371118E+22 | 9,638848E+21 | 6,205147E+21 | 4,290901E+21 | 4,290967E+21 | 6,205302E+21 | 9,639040E+21 |
| 1553              | 1,371139E+22 | 1,733089E+22 | 1,948843E+22 | 1,948851E+22 | 1,733107E+22 | 1,371153E+22 | 9,639138E+21 | 6,205307E+21 | 4,290848E+21 | 4,290683E+21 | 6,204871E+21 | 9,638622E+21 |
| 1554              | 1,371121E+22 | 1,733133E+22 | 1,948964E+22 | 1,948980E+22 | 1,733185E+22 | 1,371172E+22 | 9,638809E+21 | 6,204826E+21 | 4,290501E+21 | 4,290564E+21 | 6,205033E+21 | 9,639113E+21 |
| 1555              | 1,371180E+22 | 1,733160E+22 | 1,948945E+22 | 1,948918E+22 | 1,733105E+22 | 1,371126E+22 | 9,638699E+21 | 6,204746E+21 | 4,290345E+21 | 4,290372E+21 | 6,204837E+21 | 9,638862E+21 |
| 1556              | 1,371144E+22 | 1,733104E+22 | 1,948899E+22 | 1,948949E+22 | 1,733183E+22 | 1,371188E+22 | 9,639046E+21 | 6,204827E+21 | 4,290220E+21 | 4,290086E+21 | 6,204449E+21 | 9,638580E+21 |
| 1557              | 1,371167E+22 | 1,733205E+22 | 1,949019E+22 | 1,949022E+22 | 1,733214E+22 | 1,371172E+22 | 9,638553E+21 | 6,204363E+21 | 4,289949E+21 | 4,290061E+21 | 6,204662E+21 | 9,638902E+21 |
| 1558              | 1,371187E+22 | 1,733203E+22 | 1,948982E+22 | 1,948919E+22 | 1,733112E+22 | 1,371143E+22 | 9,638709E+21 | 6,204540E+21 | 4,289973E+21 | 4,289906E+21 | 6,204364E+21 | 9,638504E+21 |
| 1559              | 1,371135E+22 | 1,733144E+22 | 1,948986E+22 | 1,949020E+22 | 1,733211E+22 | 1,371190E+22 | 9,638877E+21 | 6,204601E+21 | 4,290034E+21 | 4,289968E+21 | 6,204367E+21 | 9,638526E+21 |
| 1560              | 1,371166E+22 | 1,733203E+22 | 1,949026E+22 | 1,949030E+22 | 1,733193E+22 | 1,371146E+22 | 9,638467E+21 | 6,204407E+21 | 4,290050E+21 | 4,290189E+21 | 6,204766E+21 | 9,638862E+21 |
| 1561              | 1,371156E+22 | 1,733134E+22 | 1,948904E+22 | 1,948909E+22 | 1,733149E+22 | 1,371165E+22 | 9,638885E+21 | 6,204816E+21 | 4,290302E+21 | 4,290218E+21 | 6,204605E+21 | 9,638601E+21 |
| 1562              | 1,371128E+22 | 1,733130E+22 | 1,948955E+22 | 1,948978E+22 | 1,733196E+22 | 1,371194E+22 | 9,638945E+21 | 6,204807E+21 | 4,290402E+21 | 4,290451E+21 | 6,204943E+21 | 9,639104E+21 |
| 1563              | 1,371189E+22 | 1,733166E+22 | 1,948934E+22 | 1,948893E+22 | 1,733077E+22 | 1,371111E+22 | 9,638759E+21 | 6,204979E+21 | 4,290696E+21 | 4,290775E+21 | 6,205186E+21 | 9,639060E+21 |
| 1564              | 1,371148E+22 | 1,733086E+22 | 1,948837E+22 | 1,948850E+22 | 1,733096E+22 | 1,371150E+22 | 9,639254E+21 | 6,205488E+21 | 4,291094E+21 | 4,290956E+21 | 6,205077E+21 | 9,638715E+21 |
| 1565              | 1,371125E+22 | 1,733124E+22 | 1,948921E+22 | 1,948922E+22 | 1,733138E+22 | 1,371147E+22 | 9,638945E+21 | 6,205328E+21 | 4,291229E+21 | 4,291351E+21 | 6,205646E+21 | 9,639267E+21 |
| 1566              | 1,371149E+22 | 1,733103E+22 | 1,948854E+22 | 1,948801E+22 | 1,733017E+22 | 1,371098E+22 | 9,639045E+21 | 6,205628E+21 | 4,291509E+21 | 4,291532E+21 | 6,205702E+21 | 9,639138E+21 |
| 1567              | 1,371100E+22 | 1,733007E+22 | 1,948781E+22 | 1,948833E+22 | 1,733099E+22 | 1,371164E+22 | 9,639475E+21 | 6,205916E+21 | 4,291716E+21 | 4,291639E+21 | 6,205661E+21 | 9,639070E+21 |
| 1568              | 1,371123E+22 | 1,733071E+22 | 1,948835E+22 | 1,948846E+22 | 1,733084E+22 | 1,371128E+22 | 9,639117E+21 | 6,205710E+21 | 4,291696E+21 | 4,291831E+21 | 6,206062E+21 | 9,639504E+21 |
| 1569              | 1,371138E+22 | 1,733037E+22 | 1,948744E+22 | 1,948724E+22 | 1,733007E+22 | 1,371121E+22 | 9,639407E+21 | 6,206003E+21 | 4,291795E+21 | 4,291681E+21 | 6,205702E+21 | 9,639042E+21 |
| 1570              | 1,371095E+22 | 1,733024E+22 | 1,948801E+22 | 1,948827E+22 | 1,733084E+22 | 1,371160E+22 | 9,639465E+21 | 6,205886E+21 | 4,291679E+21 | 4,291625E+21 | 6,205722E+21 | 9,639245E+21 |
| 1571              | 1,371146E+22 | 1,733091E+22 | 1,948844E+22 | 1,948819E+22 | 1,733024E+22 | 1,371084E+22 | 9,638960E+21 | 6,205632E+21 | 4,291567E+21 | 4,291649E+21 | 6,205862E+21 | 9,639300E+21 |
| 1572              | 1,371122E+22 | 1,733033E+22 | 1,948767E+22 | 1,948785E+22 | 1,733060E+22 | 1,371136E+22 | 9,639283E+21 | 6,205729E+21 | 4,291460E+21 | 4,291328E+21 | 6,205389E+21 | 9,638852E+21 |

| 1<br>Longitude ☉<br>Years | 2<br>0° - 30° | 3<br>30° - 60° | 4<br>60° - 90° | 5<br>90° - 120° | 6<br>120° - 150° | 7<br>150° - 180° | 8<br>180° - 210° | 9<br>210° - 240° | 10<br>240° - 270° | 11<br>270° - 300° | 12<br>300° - 330° | 13<br>330° - 360° |
|---------------------------|---------------|----------------|----------------|-----------------|------------------|------------------|------------------|------------------|-------------------|-------------------|-------------------|-------------------|
| 1573                      | 1,371104E+22  | 1,733075E+22   | 1,948876E+22   | 1,948900E+22    | 1,733140E+22     | 1,371166E+22     | 9,639032E+21     | 6,205270E+21     | 4,291098E+21      | 4,291189E+21      | 6,205527E+21      | 9,639313E+21      |
| 1574                      | 1,371170E+22  | 1,733124E+22   | 1,948877E+22   | 1,948838E+22    | 1,733039E+22     | 1,371101E+22     | 9,638840E+21     | 6,205157E+21     | 4,290891E+21      | 4,290922E+21      | 6,205262E+21      | 9,639068E+21      |
| 1575                      | 1,371142E+22  | 1,733076E+22   | 1,948838E+22   | 1,948876E+22    | 1,733124E+22     | 1,371163E+22     | 9,639169E+21     | 6,205269E+21     | 4,290819E+21      | 4,290668E+21      | 6,204827E+21      | 9,638609E+21      |
| 1576                      | 1,371136E+22  | 1,733154E+22   | 1,948954E+22   | 1,948953E+22    | 1,733156E+22     | 1,371149E+22     | 9,638761E+21     | 6,204892E+21     | 4,290626E+21      | 4,290724E+21      | 6,205142E+21      | 9,639010E+21      |
| 1577                      | 1,371153E+22  | 1,733132E+22   | 1,948902E+22   | 1,948869E+22    | 1,733081E+22     | 1,371127E+22     | 9,638868E+21     | 6,205038E+21     | 4,290653E+21      | 4,290591E+21      | 6,204878E+21      | 9,638651E+21      |
| 1578                      | 1,371104E+22  | 1,733076E+22   | 1,948894E+22   | 1,948942E+22    | 1,733168E+22     | 1,371187E+22     | 9,639147E+21     | 6,205127E+21     | 4,290706E+21      | 4,290647E+21      | 6,204943E+21      | 9,638828E+21      |
| 1579                      | 1,371145E+22  | 1,733130E+22   | 1,948918E+22   | 1,948922E+22    | 1,733116E+22     | 1,371122E+22     | 9,638724E+21     | 6,204987E+21     | 4,290788E+21      | 4,290934E+21      | 6,205380E+21      | 9,639200E+21      |
| 1580                      | 1,371150E+22  | 1,733081E+22   | 1,948809E+22   | 1,948807E+22    | 1,733074E+22     | 1,371140E+22     | 9,639136E+21     | 6,205397E+21     | 4,291052E+21      | 4,290955E+21      | 6,205141E+21      | 9,638794E+21      |
| 1581                      | 1,371112E+22  | 1,733080E+22   | 1,948868E+22   | 1,948879E+22    | 1,733123E+22     | 1,371169E+22     | 9,639186E+21     | 6,205420E+21     | 4,291205E+21      | 4,291241E+21      | 6,205501E+21      | 9,639222E+21      |
| 1582                      | 1,371163E+22  | 1,733123E+22   | 1,948871E+22   | 1,948815E+22    | 1,733000E+22     | 1,371072E+22     | 9,638891E+21     | 6,205531E+21     | 4,291460E+21      | 4,291551E+21      | 6,205780E+21      | 9,639273E+21      |
| 1583                      | 1,371125E+22  | 1,733030E+22   | 1,948763E+22   | 1,948784E+22    | 1,733045E+22     | 1,371123E+22     | 9,639370E+21     | 6,206025E+21     | 4,291870E+21      | 4,291749E+21      | 6,205672E+21      | 9,638881E+21      |
| 1584                      | 1,371086E+22  | 1,733041E+22   | 1,948822E+22   | 1,948841E+22    | 1,733090E+22     | 1,371138E+22     | 9,639212E+21     | 6,205910E+21     | 4,292001E+21      | 4,292145E+21      | 6,206290E+21      | 9,639562E+21      |
| 1585                      | 1,371126E+22  | 1,733021E+22   | 1,948743E+22   | 1,948719E+22    | 1,732975E+22     | 1,371091E+22     | 9,639320E+21     | 6,206182E+21     | 4,292216E+21      | 4,292237E+21      | 6,206241E+21      | 9,639366E+21      |
| 1586                      | 1,371085E+22  | 1,732951E+22   | 1,948682E+22   | 1,948730E+22    | 1,733036E+22     | 1,371154E+22     | 9,639806E+21     | 6,206506E+21     | 4,292401E+21      | 4,292286E+21      | 6,206162E+21      | 9,639297E+21      |
| 1587                      | 1,371105E+22  | 1,733016E+22   | 1,948747E+22   | 1,948743E+22    | 1,732999E+22     | 1,371093E+22     | 9,639325E+21     | 6,206298E+21     | 4,292435E+21      | 4,292541E+21      | 6,206581E+21      | 9,639692E+21      |
| 1588                      | 1,371120E+22  | 1,732988E+22   | 1,948674E+22   | 1,948647E+22    | 1,732939E+22     | 1,371089E+22     | 9,639564E+21     | 6,206517E+21     | 4,292496E+21      | 4,292380E+21      | 6,206205E+21      | 9,639160E+21      |
| 1589                      | 1,371064E+22  | 1,732962E+22   | 1,948725E+22   | 1,948758E+22    | 1,733037E+22     | 1,371140E+22     | 9,639621E+21     | 6,206371E+21     | 4,292356E+21      | 4,292326E+21      | 6,206266E+21      | 9,639418E+21      |
| 1590                      | 1,371121E+22  | 1,733040E+22   | 1,948774E+22   | 1,948750E+22    | 1,732973E+22     | 1,371061E+22     | 9,639049E+21     | 6,206004E+21     | 4,292121E+21      | 4,292250E+21      | 6,206382E+21      | 9,639608E+21      |
| 1591                      | 1,371118E+22  | 1,732989E+22   | 1,948692E+22   | 1,948712E+22    | 1,733013E+22     | 1,371119E+22     | 9,639414E+21     | 6,206117E+21     | 4,291994E+21      | 4,291871E+21      | 6,205800E+21      | 9,639017E+21      |
| 1592                      | 1,371090E+22  | 1,733029E+22   | 1,948803E+22   | 1,948824E+22    | 1,733089E+22     | 1,371153E+22     | 9,639274E+21     | 6,205745E+21     | 4,291672E+21      | 4,291739E+21      | 6,205928E+21      | 9,639461E+21      |
| 1593                      | 1,371155E+22  | 1,733079E+22   | 1,948812E+22   | 1,948780E+22    | 1,732999E+22     | 1,371083E+22     | 9,639018E+21     | 6,205614E+21     | 4,291474E+21      | 4,291473E+21      | 6,205616E+21      | 9,639099E+21      |
| 1594                      | 1,371115E+22  | 1,733032E+22   | 1,948777E+22   | 1,948811E+22    | 1,733076E+22     | 1,371150E+22     | 9,639421E+21     | 6,205789E+21     | 4,291444E+21      | 4,291270E+21      | 6,205289E+21      | 9,638745E+21      |
| 1595                      | 1,371100E+22  | 1,733083E+22   | 1,948872E+22   | 1,948881E+22    | 1,733100E+22     | 1,371122E+22     | 9,638923E+21     | 6,205427E+21     | 4,291342E+21      | 4,291448E+21      | 6,205722E+21      | 9,639262E+21      |
| 1596                      | 1,371129E+22  | 1,733061E+22   | 1,948805E+22   | 1,948782E+22    | 1,733027E+22     | 1,371111E+22     | 9,639076E+21     | 6,205545E+21     | 4,291361E+21      | 4,291330E+21      | 6,205473E+21      | 9,638922E+21      |
| 1597                      | 1,371085E+22  | 1,733008E+22   | 1,948789E+22   | 1,948836E+22    | 1,733102E+22     | 1,371171E+22     | 9,639426E+21     | 6,205698E+21     | 4,291437E+21      | 4,291393E+21      | 6,205531E+21      | 9,639085E+21      |
| 1598                      | 1,371137E+22  | 1,733090E+22   | 1,948836E+22   | 1,948818E+22    | 1,733029E+22     | 1,371083E+22     | 9,638867E+21     | 6,205506E+21     | 4,291487E+21      | 4,291640E+21      | 6,205932E+21      | 9,639472E+21      |
| 1599                      | 1,371146E+22  | 1,733047E+22   | 1,948741E+22   | 1,948722E+22    | 1,733000E+22     | 1,371102E+22     | 9,639234E+21     | 6,205924E+21     | 4,291796E+21      | 4,291689E+21      | 6,205643E+21      | 9,638887E+21      |
| 1600                      | 1,371079E+22  | 1,733021E+22   | 1,948797E+22   | 1,948808E+22    | 1,733064E+22     | 1,371142E+22     | 9,639381E+21     | 6,206009E+21     | 4,291994E+21      | 4,292034E+21      | 6,206090E+21      | 9,639386E+21      |
| 1601                      | 1,371126E+22  | 1,733042E+22   | 1,948783E+22   | 1,948760E+22    | 1,732971E+22     | 1,371058E+22     | 9,639079E+21     | 6,206083E+21     | 4,292222E+21      | 4,292321E+21      | 6,206357E+21      | 9,639447E+21      |
| 1602                      | 1,371091E+22  | 1,732954E+22   | 1,948663E+22   | 1,948699E+22    | 1,733004E+22     | 1,371125E+22     | 9,639724E+21     | 6,206625E+21     | 4,292602E+21      | 4,292486E+21      | 6,206288E+21      | 9,639183E+21      |
| 1603                      | 1,371058E+22  | 1,732956E+22   | 1,948707E+22   | 1,948732E+22    | 1,733018E+22     | 1,371119E+22     | 9,639545E+21     | 6,206567E+21     | 4,292789E+21      | 4,292913E+21      | 6,206894E+21      | 9,639862E+21      |
| 1604                      | 1,371114E+22  | 1,732960E+22   | 1,948640E+22   | 1,948610E+22    | 1,732902E+22     | 1,371072E+22     | 9,639625E+21     | 6,206803E+21     | 4,292987E+21      | 4,292983E+21      | 6,206783E+21      | 9,639552E+21      |
| 1605                      | 1,371066E+22  | 1,732898E+22   | 1,948594E+22   | 1,948625E+22    | 1,732959E+22     | 1,371129E+22     | 9,640060E+21     | 6,207110E+21     | 4,293169E+21      | 4,293042E+21      | 6,206707E+21      | 9,639441E+21      |
| 1606                      | 1,371083E+22  | 1,732974E+22   | 1,948682E+22   | 1,948660E+22    | 1,732921E+22     | 1,371050E+22     | 9,639399E+21     | 6,206775E+21     | 4,293113E+21      | 4,293242E+21      | 6,207146E+21      | 9,639954E+21      |
| 1607                      | 1,371107E+22  | 1,732942E+22   | 1,948610E+22   | 1,948585E+22    | 1,732891E+22     | 1,371057E+22     | 9,639569E+21     | 6,206919E+21     | 4,293127E+21      | 4,293038E+21      | 6,206723E+21      | 9,639371E+21      |
| 1608                      | 1,371042E+22  | 1,732901E+22   | 1,948646E+22   | 1,948687E+22    | 1,732992E+22     | 1,371125E+22     | 9,639776E+21     | 6,206794E+21     | 4,292946E+21      | 4,292945E+21      | 6,206784E+21      | 9,639704E+21      |



| 1                 | 2            | 3            | 4            | 5            | 6            | 7            | 8            | 9            | 10           | 11           | 12           | 13           |
|-------------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|
| Longitude $\odot$ | 0° - 30°     | 30° - 60°    | 60° - 90°    | 90° - 120°   | 120° - 150°  | 150° - 180°  | 180° - 210°  | 210° - 240°  | 240° - 270°  | 270° - 300°  | 300° - 330°  | 330° - 360°  |
| Years             |              |              |              |              |              |              |              |              |              |              |              |              |
| 1609              | 1,371112E+22 | 1,732982E+22 | 1,948694E+22 | 1,948689E+22 | 1,732940E+22 | 1,371052E+22 | 9,639243E+21 | 6,206418E+21 | 4,292647E+21 | 4,292763E+21 | 6,206756E+21 | 9,639761E+21 |
| 1610              | 1,371110E+22 | 1,732957E+22 | 1,948631E+22 | 1,948639E+22 | 1,732965E+22 | 1,371110E+22 | 9,639676E+21 | 6,206590E+21 | 4,292526E+21 | 4,292363E+21 | 6,206158E+21 | 9,639121E+21 |
| 1611              | 1,371064E+22 | 1,732978E+22 | 1,948736E+22 | 1,948746E+22 | 1,733023E+22 | 1,371126E+22 | 9,639483E+21 | 6,206281E+21 | 4,292324E+21 | 4,292346E+21 | 6,206333E+21 | 9,639520E+21 |
| 1612              | 1,371124E+22 | 1,733023E+22 | 1,948745E+22 | 1,948714E+22 | 1,732951E+22 | 1,371066E+22 | 9,639220E+21 | 6,206119E+21 | 4,292146E+21 | 4,292139E+21 | 6,206083E+21 | 9,639160E+21 |
| 1613              | 1,371074E+22 | 1,732959E+22 | 1,948691E+22 | 1,948733E+22 | 1,733032E+22 | 1,371137E+22 | 9,639632E+21 | 6,206312E+21 | 4,292149E+21 | 4,291994E+21 | 6,205848E+21 | 9,638928E+21 |
| 1614              | 1,371072E+22 | 1,733017E+22 | 1,948780E+22 | 1,948788E+22 | 1,733038E+22 | 1,371098E+22 | 9,639067E+21 | 6,205885E+21 | 4,291985E+21 | 4,292130E+21 | 6,206310E+21 | 9,639620E+21 |
| 1615              | 1,371126E+22 | 1,733009E+22 | 1,948716E+22 | 1,948691E+22 | 1,732964E+22 | 1,371082E+22 | 9,639196E+21 | 6,206023E+21 | 4,292019E+21 | 4,291992E+21 | 6,205987E+21 | 9,639165E+21 |
| 1616              | 1,371073E+22 | 1,732957E+22 | 1,948705E+22 | 1,948742E+22 | 1,733033E+22 | 1,371143E+22 | 9,639624E+21 | 6,206245E+21 | 4,292143E+21 | 4,292092E+21 | 6,206064E+21 | 9,639320E+21 |
| 1617              | 1,371123E+22 | 1,733039E+22 | 1,948765E+22 | 1,948750E+22 | 1,732976E+22 | 1,371058E+22 | 9,639042E+21 | 6,206036E+21 | 4,292191E+21 | 4,292330E+21 | 6,206420E+21 | 9,639597E+21 |
| 1618              | 1,371121E+22 | 1,733000E+22 | 1,948679E+22 | 1,948653E+22 | 1,732949E+22 | 1,371085E+22 | 9,639484E+21 | 6,206505E+21 | 4,292526E+21 | 4,292422E+21 | 6,206227E+21 | 9,639089E+21 |
| 1619              | 1,371041E+22 | 1,732941E+22 | 1,948704E+22 | 1,948727E+22 | 1,733011E+22 | 1,371121E+22 | 9,639617E+21 | 6,206637E+21 | 4,292820E+21 | 4,292862E+21 | 6,206740E+21 | 9,639666E+21 |
| 1620              | 1,371102E+22 | 1,732964E+22 | 1,948675E+22 | 1,948662E+22 | 1,732921E+22 | 1,371054E+22 | 9,639393E+21 | 6,206691E+21 | 4,293023E+21 | 4,293136E+21 | 6,206990E+21 | 9,639712E+21 |
| 1621              | 1,371069E+22 | 1,732881E+22 | 1,948550E+22 | 1,948582E+22 | 1,732934E+22 | 1,371114E+22 | 9,640087E+21 | 6,207293E+21 | 4,293413E+21 | 4,293281E+21 | 6,206885E+21 | 9,639427E+21 |
| 1622              | 1,371045E+22 | 1,732906E+22 | 1,948614E+22 | 1,948619E+22 | 1,732928E+22 | 1,371080E+22 | 9,639728E+21 | 6,207149E+21 | 4,293540E+21 | 4,293649E+21 | 6,207452E+21 | 9,640121E+21 |
| 1623              | 1,371105E+22 | 1,732918E+22 | 1,948568E+22 | 1,948520E+22 | 1,732824E+22 | 1,371029E+22 | 9,639707E+21 | 6,207339E+21 | 4,293728E+21 | 4,293707E+21 | 6,207293E+21 | 9,639674E+21 |
| 1624              | 1,371036E+22 | 1,732839E+22 | 1,948525E+22 | 1,948554E+22 | 1,732898E+22 | 1,371096E+22 | 9,640183E+21 | 6,207627E+21 | 4,293881E+21 | 4,293770E+21 | 6,207278E+21 | 9,639653E+21 |
| 1625              | 1,371057E+22 | 1,732905E+22 | 1,948607E+22 | 1,948608E+22 | 1,732888E+22 | 1,371032E+22 | 9,639501E+21 | 6,207196E+21 | 4,293726E+21 | 4,293873E+21 | 6,207634E+21 | 9,640142E+21 |
| 1626              | 1,371086E+22 | 1,732887E+22 | 1,948537E+22 | 1,948515E+22 | 1,732854E+22 | 1,371056E+22 | 9,639815E+21 | 6,207360E+21 | 4,293674E+21 | 4,293600E+21 | 6,207196E+21 | 9,639607E+21 |
| 1627              | 1,371024E+22 | 1,732839E+22 | 1,948561E+22 | 1,948606E+22 | 1,732939E+22 | 1,371110E+22 | 9,640015E+21 | 6,207304E+21 | 4,293556E+21 | 4,293519E+21 | 6,207199E+21 | 9,639878E+21 |
| 1628              | 1,371101E+22 | 1,732937E+22 | 1,948616E+22 | 1,948606E+22 | 1,732891E+22 | 1,371043E+22 | 9,639492E+21 | 6,206920E+21 | 4,293268E+21 | 4,293343E+21 | 6,207128E+21 | 9,639800E+21 |
| 1629              | 1,371082E+22 | 1,732907E+22 | 1,948564E+22 | 1,948558E+22 | 1,732908E+22 | 1,371096E+22 | 9,639942E+21 | 6,207139E+21 | 4,293196E+21 | 4,293005E+21 | 6,206591E+21 | 9,639178E+21 |
| 1630              | 1,371034E+22 | 1,732924E+22 | 1,948670E+22 | 1,948674E+22 | 1,732961E+22 | 1,371092E+22 | 9,639574E+21 | 6,206743E+21 | 4,292965E+21 | 4,293004E+21 | 6,206858E+21 | 9,639732E+21 |
| 1631              | 1,371101E+22 | 1,732961E+22 | 1,948670E+22 | 1,948645E+22 | 1,732904E+22 | 1,371039E+22 | 9,639263E+21 | 6,206545E+21 | 4,292791E+21 | 4,292814E+21 | 6,206632E+21 | 9,639404E+21 |
| 1632              | 1,371052E+22 | 1,732891E+22 | 1,948598E+22 | 1,948644E+22 | 1,732976E+22 | 1,371119E+22 | 9,639801E+21 | 6,206767E+21 | 4,292782E+21 | 4,292674E+21 | 6,206437E+21 | 9,639285E+21 |
| 1633              | 1,371069E+22 | 1,732958E+22 | 1,948690E+22 | 1,948704E+22 | 1,732982E+22 | 1,371077E+22 | 9,639238E+21 | 6,206345E+21 | 4,292588E+21 | 4,292733E+21 | 6,206774E+21 | 9,639856E+21 |
| 1634              | 1,371125E+22 | 1,732978E+22 | 1,948651E+22 | 1,948605E+22 | 1,732900E+22 | 1,371061E+22 | 9,639413E+21 | 6,206537E+21 | 4,292651E+21 | 4,292611E+21 | 6,206460E+21 | 9,639343E+21 |
| 1635              | 1,371052E+22 | 1,732905E+22 | 1,948636E+22 | 1,948663E+22 | 1,732963E+22 | 1,371109E+22 | 9,639801E+21 | 6,206836E+21 | 4,292906E+21 | 4,292824E+21 | 6,206578E+21 | 9,639456E+21 |
| 1636              | 1,371095E+22 | 1,732978E+22 | 1,948690E+22 | 1,948677E+22 | 1,732931E+22 | 1,371044E+22 | 9,639275E+21 | 6,206627E+21 | 4,292983E+21 | 4,293118E+21 | 6,206984E+21 | 9,639713E+21 |
| 1637              | 1,371080E+22 | 1,732920E+22 | 1,948587E+22 | 1,948569E+22 | 1,732903E+22 | 1,371079E+22 | 9,639800E+21 | 6,207148E+21 | 4,293353E+21 | 4,293254E+21 | 6,206856E+21 | 9,639309E+21 |
| 1638              | 1,371013E+22 | 1,732864E+22 | 1,948597E+22 | 1,948623E+22 | 1,732943E+22 | 1,371102E+22 | 9,639873E+21 | 6,207234E+21 | 4,293595E+21 | 4,293651E+21 | 6,207377E+21 | 9,639993E+21 |
| 1639              | 1,371090E+22 | 1,732903E+22 | 1,948575E+22 | 1,948558E+22 | 1,732852E+22 | 1,371028E+22 | 9,639605E+21 | 6,207299E+21 | 4,293805E+21 | 4,293897E+21 | 6,207555E+21 | 9,639936E+21 |
| 1640              | 1,371051E+22 | 1,732821E+22 | 1,948457E+22 | 1,948474E+22 | 1,732854E+22 | 1,371084E+22 | 9,640310E+21 | 6,207903E+21 | 4,294194E+21 | 4,294052E+21 | 6,207468E+21 | 9,639664E+21 |
| 1641              | 1,371027E+22 | 1,732845E+22 | 1,948535E+22 | 1,948541E+22 | 1,732863E+22 | 1,371049E+22 | 9,639884E+21 | 6,207690E+21 | 4,294261E+21 | 4,294357E+21 | 6,207963E+21 | 9,640277E+21 |
| 1642              | 1,371083E+22 | 1,732868E+22 | 1,948506E+22 | 1,948455E+22 | 1,732771E+22 | 1,371003E+22 | 9,639856E+21 | 6,207841E+21 | 4,294398E+21 | 4,294399E+21 | 6,207863E+21 | 9,639901E+21 |
| 1643              | 1,371005E+22 | 1,732764E+22 | 1,948438E+22 | 1,948480E+22 | 1,732847E+22 | 1,371071E+22 | 9,640311E+21 | 6,208132E+21 | 4,294584E+21 | 4,294485E+21 | 6,207851E+21 | 9,639934E+21 |
| 1644              | 1,371042E+22 | 1,732842E+22 | 1,948515E+22 | 1,948521E+22 | 1,732848E+22 | 1,371033E+22 | 9,639762E+21 | 6,207679E+21 | 4,294364E+21 | 4,294521E+21 | 6,208127E+21 | 9,640339E+21 |

| 1                 | 2            | 3            | 4            | 5            | 6            | 7            | 8            | 9            | 10           | 11           | 12           | 13           |
|-------------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|
| Longitude $\odot$ | 0° - 30°     | 30° - 60°    | 60° - 90°    | 90° - 120°   | 120° - 150°  | 150° - 180°  | 180° - 210°  | 210° - 240°  | 240° - 270°  | 270° - 300°  | 300° - 330°  | 330° - 360°  |
| Years             |              |              |              |              |              |              |              |              |              |              |              |              |
| 1645              | 1,371070E+22 | 1,732834E+22 | 1,948454E+22 | 1,948425E+22 | 1,732798E+22 | 1,371048E+22 | 9,640119E+21 | 6,207899E+21 | 4,294317E+21 | 4,294211E+21 | 6,207615E+21 | 9,639738E+21 |
| 1646              | 1,371012E+22 | 1,732801E+22 | 1,948491E+22 | 1,948518E+22 | 1,732868E+22 | 1,371080E+22 | 9,640163E+21 | 6,207781E+21 | 4,294168E+21 | 4,294104E+21 | 6,207600E+21 | 9,639989E+21 |
| 1647              | 1,371084E+22 | 1,732896E+22 | 1,948560E+22 | 1,948541E+22 | 1,732835E+22 | 1,371012E+22 | 9,639565E+21 | 6,207374E+21 | 4,293896E+21 | 4,293949E+21 | 6,207533E+21 | 9,639834E+21 |
| 1648              | 1,371045E+22 | 1,732842E+22 | 1,948494E+22 | 1,948494E+22 | 1,732859E+22 | 1,371072E+22 | 9,640060E+21 | 6,207590E+21 | 4,293827E+21 | 4,293663E+21 | 6,207121E+21 | 9,639383E+21 |
| 1649              | 1,371005E+22 | 1,732846E+22 | 1,948586E+22 | 1,948614E+22 | 1,732925E+22 | 1,371079E+22 | 9,639700E+21 | 6,207141E+21 | 4,293532E+21 | 4,293600E+21 | 6,207345E+21 | 9,639969E+21 |
| 1650              | 1,371088E+22 | 1,732906E+22 | 1,948590E+22 | 1,948565E+22 | 1,732855E+22 | 1,371031E+22 | 9,639488E+21 | 6,206980E+21 | 4,293338E+21 | 4,293396E+21 | 6,207150E+21 | 9,639698E+21 |
| 1651              | 1,371042E+22 | 1,732833E+22 | 1,948510E+22 | 1,948552E+22 | 1,732908E+22 | 1,371094E+22 | 9,639990E+21 | 6,207292E+21 | 4,293441E+21 | 4,293310E+21 | 6,206920E+21 | 9,639527E+21 |
| 1652              | 1,371066E+22 | 1,732921E+22 | 1,948615E+22 | 1,948612E+22 | 1,732922E+22 | 1,371063E+22 | 9,639470E+21 | 6,206883E+21 | 4,293283E+21 | 4,293403E+21 | 6,207227E+21 | 9,639949E+21 |
| 1653              | 1,371101E+22 | 1,732932E+22 | 1,948589E+22 | 1,948527E+22 | 1,732838E+22 | 1,371042E+22 | 9,639672E+21 | 6,207142E+21 | 4,293417E+21 | 4,293353E+21 | 6,206967E+21 | 9,639449E+21 |
| 1654              | 1,371026E+22 | 1,732849E+22 | 1,948565E+22 | 1,948590E+22 | 1,732902E+22 | 1,371077E+22 | 9,639927E+21 | 6,207386E+21 | 4,293672E+21 | 4,293601E+21 | 6,207177E+21 | 9,639684E+21 |
| 1655              | 1,371070E+22 | 1,732909E+22 | 1,948602E+22 | 1,948600E+22 | 1,732883E+22 | 1,371024E+22 | 9,639423E+21 | 6,207184E+21 | 4,293768E+21 | 4,293915E+21 | 6,207602E+21 | 9,639954E+21 |
| 1656              | 1,371052E+22 | 1,732838E+22 | 1,948481E+22 | 1,948470E+22 | 1,732840E+22 | 1,371066E+22 | 9,640092E+21 | 6,207756E+21 | 4,294136E+21 | 4,294062E+21 | 6,207524E+21 | 9,639656E+21 |
| 1657              | 1,371000E+22 | 1,732790E+22 | 1,948493E+22 | 1,948525E+22 | 1,732874E+22 | 1,371079E+22 | 9,640117E+21 | 6,207821E+21 | 4,294337E+21 | 4,294374E+21 | 6,207912E+21 | 9,640202E+21 |
| 1658              | 1,371076E+22 | 1,732854E+22 | 1,948494E+22 | 1,948460E+22 | 1,732775E+22 | 1,371001E+22 | 9,639843E+21 | 6,207890E+21 | 4,294547E+21 | 4,294633E+21 | 6,208115E+21 | 9,640112E+21 |
| 1659              | 1,371022E+22 | 1,732756E+22 | 1,948374E+22 | 1,948386E+22 | 1,732778E+22 | 1,371046E+22 | 9,640458E+21 | 6,208503E+21 | 4,294999E+21 | 4,294841E+21 | 6,208044E+21 | 9,639846E+21 |
| 1660              | 1,371002E+22 | 1,732781E+22 | 1,948449E+22 | 1,948457E+22 | 1,732812E+22 | 1,371034E+22 | 9,640064E+21 | 6,208236E+21 | 4,295025E+21 | 4,295129E+21 | 6,208535E+21 | 9,640437E+21 |
| 1661              | 1,371050E+22 | 1,732795E+22 | 1,948417E+22 | 1,948375E+22 | 1,732725E+22 | 1,370997E+22 | 9,640120E+21 | 6,208395E+21 | 4,295125E+21 | 4,295131E+21 | 6,208420E+21 | 9,640142E+21 |
| 1662              | 1,370991E+22 | 1,732705E+22 | 1,948347E+22 | 1,948391E+22 | 1,732786E+22 | 1,371051E+22 | 9,640492E+21 | 6,208613E+21 | 4,295223E+21 | 4,295133E+21 | 6,208367E+21 | 9,640206E+21 |
| 1663              | 1,371037E+22 | 1,732797E+22 | 1,948437E+22 | 1,948438E+22 | 1,732791E+22 | 1,371012E+22 | 9,639932E+21 | 6,208174E+21 | 4,294994E+21 | 4,295119E+21 | 6,208546E+21 | 9,640459E+21 |
| 1664              | 1,371051E+22 | 1,732786E+22 | 1,948384E+22 | 1,948345E+22 | 1,732736E+22 | 1,371029E+22 | 9,640326E+21 | 6,208391E+21 | 4,294942E+21 | 4,294830E+21 | 6,208073E+21 | 9,639879E+21 |
| 1665              | 1,370989E+22 | 1,732745E+22 | 1,948427E+22 | 1,948459E+22 | 1,732816E+22 | 1,371057E+22 | 9,640303E+21 | 6,208219E+21 | 4,294749E+21 | 4,294679E+21 | 6,208008E+21 | 9,640063E+21 |
| 1666              | 1,371056E+22 | 1,732844E+22 | 1,948500E+22 | 1,948486E+22 | 1,732793E+22 | 1,370994E+22 | 9,639703E+21 | 6,207794E+21 | 4,294466E+21 | 4,294554E+21 | 6,208045E+21 | 9,640028E+21 |
| 1667              | 1,371017E+22 | 1,732769E+22 | 1,948406E+22 | 1,948421E+22 | 1,732808E+22 | 1,371052E+22 | 9,640184E+21 | 6,208036E+21 | 4,294454E+21 | 4,294311E+21 | 6,207661E+21 | 9,639687E+21 |
| 1668              | 1,371000E+22 | 1,732792E+22 | 1,948490E+22 | 1,948518E+22 | 1,732874E+22 | 1,371075E+22 | 9,639943E+21 | 6,207610E+21 | 4,294144E+21 | 4,294218E+21 | 6,207825E+21 | 9,640190E+21 |
| 1669              | 1,371080E+22 | 1,732864E+22 | 1,948513E+22 | 1,948476E+22 | 1,732790E+22 | 1,371015E+22 | 9,639754E+21 | 6,207522E+21 | 4,293995E+21 | 4,294020E+21 | 6,207586E+21 | 9,639870E+21 |
| 1670              | 1,371038E+22 | 1,732802E+22 | 1,948445E+22 | 1,948468E+22 | 1,732832E+22 | 1,371056E+22 | 9,640094E+21 | 6,207782E+21 | 4,294111E+21 | 4,293966E+21 | 6,207385E+21 | 9,639666E+21 |
| 1671              | 1,371049E+22 | 1,732882E+22 | 1,948562E+22 | 1,948552E+22 | 1,732865E+22 | 1,371032E+22 | 9,639574E+21 | 6,207402E+21 | 4,294001E+21 | 4,294108E+21 | 6,207716E+21 | 9,640015E+21 |
| 1672              | 1,371062E+22 | 1,732863E+22 | 1,948514E+22 | 1,948464E+22 | 1,732790E+22 | 1,371023E+22 | 9,639845E+21 | 6,207678E+21 | 4,294165E+21 | 4,294133E+21 | 6,207584E+21 | 9,639666E+21 |
| 1673              | 1,370991E+22 | 1,732762E+22 | 1,948467E+22 | 1,948517E+22 | 1,732860E+22 | 1,371070E+22 | 9,640161E+21 | 6,207915E+21 | 4,294383E+21 | 4,294328E+21 | 6,207743E+21 | 9,639904E+21 |
| 1674              | 1,371046E+22 | 1,732838E+22 | 1,948505E+22 | 1,948511E+22 | 1,732828E+22 | 1,371017E+22 | 9,639733E+21 | 6,207755E+21 | 4,294477E+21 | 4,294643E+21 | 6,208201E+21 | 9,640217E+21 |
| 1675              | 1,371029E+22 | 1,732762E+22 | 1,948369E+22 | 1,948362E+22 | 1,732761E+22 | 1,371039E+22 | 9,640353E+21 | 6,208408E+21 | 4,294948E+21 | 4,294843E+21 | 6,208109E+21 | 9,639915E+21 |
| 1676              | 1,370989E+22 | 1,732735E+22 | 1,948392E+22 | 1,948411E+22 | 1,732800E+22 | 1,371063E+22 | 9,640403E+21 | 6,208457E+21 | 4,295150E+21 | 4,295165E+21 | 6,208473E+21 | 9,640344E+21 |
| 1677              | 1,371049E+22 | 1,732796E+22 | 1,948415E+22 | 1,948370E+22 | 1,732701E+22 | 1,370974E+22 | 9,640096E+21 | 6,208534E+21 | 4,295374E+21 | 4,295445E+21 | 6,208705E+21 | 9,640310E+21 |
| 1678              | 1,371001E+22 | 1,732696E+22 | 1,948290E+22 | 1,948303E+22 | 1,732709E+22 | 1,371007E+22 | 9,640521E+21 | 6,209016E+21 | 4,295761E+21 | 4,295636E+21 | 6,208685E+21 | 9,640151E+21 |
| 1679              | 1,370987E+22 | 1,732722E+22 | 1,948364E+22 | 1,948379E+22 | 1,732760E+22 | 1,371011E+22 | 9,640186E+21 | 6,208727E+21 | 4,295730E+21 | 4,295859E+21 | 6,209116E+21 | 9,640698E+21 |
| 1680              | 1,371033E+22 | 1,732732E+22 | 1,948325E+22 | 1,948288E+22 | 1,732667E+22 | 1,370983E+22 | 9,640354E+21 | 6,208898E+21 | 4,295781E+21 | 4,295809E+21 | 6,208970E+21 | 9,640421E+21 |

| 1                 | 2            | 3            | 4            | 5            | 6            | 7            | 8            | 9            | 10           | 11           | 12           | 13           |
|-------------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|
| Longitude $\odot$ | 0° - 30°     | 30° - 60°    | 60° - 90°    | 90° - 120°   | 120° - 150°  | 150° - 180°  | 180° - 210°  | 210° - 240°  | 240° - 270°  | 270° - 300°  | 300° - 330°  | 330° - 360°  |
| Years             |              |              |              |              |              |              |              |              |              |              |              |              |
| 1681              | 1,370981E+22 | 1,732652E+22 | 1,948269E+22 | 1,948315E+22 | 1,732728E+22 | 1,371032E+22 | 9,640699E+21 | 6,209092E+21 | 4,295817E+21 | 4,295695E+21 | 6,208750E+21 | 9,640301E+21 |
| 1682              | 1,371021E+22 | 1,732762E+22 | 1,948381E+22 | 1,948370E+22 | 1,732734E+22 | 1,370993E+22 | 9,640139E+21 | 6,208645E+21 | 4,295581E+21 | 4,295696E+21 | 6,208958E+21 | 9,640502E+21 |
| 1683              | 1,371014E+22 | 1,732722E+22 | 1,948314E+22 | 1,948283E+22 | 1,732680E+22 | 1,371002E+22 | 9,640479E+21 | 6,208896E+21 | 4,295603E+21 | 4,295475E+21 | 6,208541E+21 | 9,639996E+21 |
| 1684              | 1,370961E+22 | 1,732682E+22 | 1,948340E+22 | 1,948384E+22 | 1,732778E+22 | 1,371052E+22 | 9,640499E+21 | 6,208685E+21 | 4,295387E+21 | 4,295327E+21 | 6,208499E+21 | 9,640197E+21 |
| 1685              | 1,371024E+22 | 1,732774E+22 | 1,948412E+22 | 1,948408E+22 | 1,732748E+22 | 1,370989E+22 | 9,639970E+21 | 6,208293E+21 | 4,295099E+21 | 4,295191E+21 | 6,208542E+21 | 9,640283E+21 |
| 1686              | 1,371011E+22 | 1,732719E+22 | 1,948318E+22 | 1,948332E+22 | 1,732743E+22 | 1,371024E+22 | 9,640307E+21 | 6,208470E+21 | 4,295048E+21 | 4,294920E+21 | 6,208157E+21 | 9,639974E+21 |
| 1687              | 1,371003E+22 | 1,732761E+22 | 1,948420E+22 | 1,948436E+22 | 1,732807E+22 | 1,371044E+22 | 9,640065E+21 | 6,208086E+21 | 4,294770E+21 | 4,294822E+21 | 6,208258E+21 | 9,640330E+21 |
| 1688              | 1,371064E+22 | 1,732823E+22 | 1,948450E+22 | 1,948403E+22 | 1,732728E+22 | 1,370990E+22 | 9,639926E+21 | 6,208013E+21 | 4,294650E+21 | 4,294683E+21 | 6,208086E+21 | 9,640034E+21 |
| 1689              | 1,371014E+22 | 1,732750E+22 | 1,948389E+22 | 1,948416E+22 | 1,732780E+22 | 1,371029E+22 | 9,640219E+21 | 6,208245E+21 | 4,294750E+21 | 4,294611E+21 | 6,207856E+21 | 9,639763E+21 |
| 1690              | 1,371017E+22 | 1,732821E+22 | 1,948493E+22 | 1,948494E+22 | 1,732825E+22 | 1,371019E+22 | 9,639758E+21 | 6,207885E+21 | 4,294673E+21 | 4,294822E+21 | 6,208298E+21 | 9,640205E+21 |
| 1691              | 1,371025E+22 | 1,732775E+22 | 1,948407E+22 | 1,948380E+22 | 1,732740E+22 | 1,371012E+22 | 9,640097E+21 | 6,208246E+21 | 4,294922E+21 | 4,294910E+21 | 6,208214E+21 | 9,639982E+21 |
| 1692              | 1,370978E+22 | 1,732693E+22 | 1,948345E+22 | 1,948399E+22 | 1,732799E+22 | 1,371068E+22 | 9,640511E+21 | 6,208534E+21 | 4,295154E+21 | 4,295092E+21 | 6,208320E+21 | 9,640124E+21 |
| 1693              | 1,371027E+22 | 1,732777E+22 | 1,948404E+22 | 1,948400E+22 | 1,732750E+22 | 1,370997E+22 | 9,640080E+21 | 6,208447E+21 | 4,295303E+21 | 4,295420E+21 | 6,208744E+21 | 9,640431E+21 |
| 1694              | 1,371019E+22 | 1,732714E+22 | 1,948281E+22 | 1,948259E+22 | 1,732670E+22 | 1,370992E+22 | 9,640472E+21 | 6,208997E+21 | 4,295759E+21 | 4,295647E+21 | 6,208703E+21 | 9,640129E+21 |
| 1695              | 1,370970E+22 | 1,732686E+22 | 1,948318E+22 | 1,948330E+22 | 1,732725E+22 | 1,371020E+22 | 9,640506E+21 | 6,209035E+21 | 4,295951E+21 | 4,295971E+21 | 6,209074E+21 | 9,640513E+21 |
| 1696              | 1,371014E+22 | 1,732725E+22 | 1,948329E+22 | 1,948294E+22 | 1,732646E+22 | 1,370952E+22 | 9,640256E+21 | 6,209067E+21 | 4,296133E+21 | 4,296249E+21 | 6,209370E+21 | 9,640607E+21 |
| 1697              | 1,370975E+22 | 1,732624E+22 | 1,948203E+22 | 1,948229E+22 | 1,732660E+22 | 1,370994E+22 | 9,640712E+21 | 6,209489E+21 | 4,296414E+21 | 4,296313E+21 | 6,209224E+21 | 9,640392E+21 |
| 1698              | 1,370972E+22 | 1,732670E+22 | 1,948285E+22 | 1,948302E+22 | 1,732709E+22 | 1,371003E+22 | 9,640462E+21 | 6,209230E+21 | 4,296358E+21 | 4,296497E+21 | 6,209616E+21 | 9,640880E+21 |
| 1699              | 1,371012E+22 | 1,732672E+22 | 1,948237E+22 | 1,948205E+22 | 1,732608E+22 | 1,370965E+22 | 9,640609E+21 | 6,209465E+21 | 4,296474E+21 | 4,296460E+21 | 6,209428E+21 | 9,640569E+21 |
| 1700              | 1,370965E+22 | 1,732606E+22 | 1,948184E+22 | 1,948225E+22 | 1,732675E+22 | 1,371025E+22 | 9,640982E+21 | 6,209647E+21 | 4,296500E+21 | 4,296343E+21 | 6,209180E+21 | 9,640330E+21 |
| 1701              | 1,370982E+22 | 1,732702E+22 | 1,948313E+22 | 1,948304E+22 | 1,732682E+22 | 1,370976E+22 | 9,640395E+21 | 6,209211E+21 | 4,296276E+21 | 4,296358E+21 | 6,209426E+21 | 9,640645E+21 |
| 1702              | 1,370990E+22 | 1,732658E+22 | 1,948230E+22 | 1,948209E+22 | 1,732624E+22 | 1,370970E+22 | 9,640537E+21 | 6,209330E+21 | 4,296246E+21 | 4,296153E+21 | 6,209108E+21 | 9,640290E+21 |
| 1703              | 1,370949E+22 | 1,732627E+22 | 1,948256E+22 | 1,948304E+22 | 1,732723E+22 | 1,371029E+22 | 9,640630E+21 | 6,209116E+21 | 4,295985E+21 | 4,295958E+21 | 6,209030E+21 | 9,640478E+21 |
| 1704              | 1,371014E+22 | 1,732724E+22 | 1,948327E+22 | 1,948320E+22 | 1,732685E+22 | 1,370969E+22 | 9,640147E+21 | 6,208727E+21 | 4,295677E+21 | 4,295797E+21 | 6,209054E+21 | 9,640571E+21 |
| 1705              | 1,371006E+22 | 1,732683E+22 | 1,948255E+22 | 1,948258E+22 | 1,732680E+22 | 1,370996E+22 | 9,640415E+21 | 6,208869E+21 | 4,295589E+21 | 4,295452E+21 | 6,208531E+21 | 9,640089E+21 |
| 1706              | 1,370991E+22 | 1,732734E+22 | 1,948377E+22 | 1,948380E+22 | 1,732755E+22 | 1,371020E+22 | 9,640197E+21 | 6,208502E+21 | 4,295343E+21 | 4,295406E+21 | 6,208675E+21 | 9,640372E+21 |
| 1707              | 1,371028E+22 | 1,732761E+22 | 1,948381E+22 | 1,948349E+22 | 1,732682E+22 | 1,370966E+22 | 9,640074E+21 | 6,208514E+21 | 4,295329E+21 | 4,295356E+21 | 6,208581E+21 | 9,640164E+21 |
| 1708              | 1,370983E+22 | 1,732682E+22 | 1,948294E+22 | 1,948339E+22 | 1,732748E+22 | 1,371032E+22 | 9,640496E+21 | 6,208785E+21 | 4,295456E+21 | 4,295321E+21 | 6,208389E+21 | 9,639901E+21 |
| 1709              | 1,370977E+22 | 1,732740E+22 | 1,948393E+22 | 1,948407E+22 | 1,732776E+22 | 1,371018E+22 | 9,640141E+21 | 6,208510E+21 | 4,295420E+21 | 4,295547E+21 | 6,208844E+21 | 9,640461E+21 |
| 1710              | 1,371012E+22 | 1,732708E+22 | 1,948297E+22 | 1,948272E+22 | 1,732664E+22 | 1,370983E+22 | 9,640324E+21 | 6,208840E+21 | 4,295686E+21 | 4,295672E+21 | 6,208816E+21 | 9,640285E+21 |
| 1711              | 1,370972E+22 | 1,732648E+22 | 1,948252E+22 | 1,948290E+22 | 1,732715E+22 | 1,371033E+22 | 9,640727E+21 | 6,209157E+21 | 4,295945E+21 | 4,295866E+21 | 6,208892E+21 | 9,640323E+21 |
| 1712              | 1,371005E+22 | 1,732722E+22 | 1,948319E+22 | 1,948302E+22 | 1,732668E+22 | 1,370963E+22 | 9,640277E+21 | 6,209048E+21 | 4,296107E+21 | 4,296241E+21 | 6,209386E+21 | 9,640672E+21 |
| 1713              | 1,370993E+22 | 1,732655E+22 | 1,948213E+22 | 1,948187E+22 | 1,732603E+22 | 1,370954E+22 | 9,640562E+21 | 6,209511E+21 | 4,296499E+21 | 4,296409E+21 | 6,209292E+21 | 9,640344E+21 |
| 1714              | 1,370946E+22 | 1,732627E+22 | 1,948245E+22 | 1,948264E+22 | 1,732677E+22 | 1,370997E+22 | 9,640640E+21 | 6,209520E+21 | 4,296667E+21 | 4,296740E+21 | 6,209708E+21 | 9,640769E+21 |
| 1715              | 1,370986E+22 | 1,732645E+22 | 1,948227E+22 | 1,948212E+22 | 1,732597E+22 | 1,370939E+22 | 9,640503E+21 | 6,209625E+21 | 4,296871E+21 | 4,297001E+21 | 6,209975E+21 | 9,640919E+21 |
| 1716              | 1,370967E+22 | 1,732569E+22 | 1,948099E+22 | 1,948127E+22 | 1,732609E+22 | 1,370994E+22 | 9,641062E+21 | 6,210085E+21 | 4,297131E+21 | 4,297002E+21 | 6,209718E+21 | 9,640536E+21 |

| 1<br>Longitude ☉<br>Years | 2<br>0° - 30° | 3<br>30° - 60° | 4<br>60° - 90° | 5<br>90° - 120° | 6<br>120° - 150° | 7<br>150° - 180° | 8<br>180° - 210° | 9<br>210° - 240° | 10<br>240° - 270° | 11<br>270° - 300° | 12<br>300° - 330° | 13<br>330° - 360° |
|---------------------------|---------------|----------------|----------------|-----------------|------------------|------------------|------------------|------------------|-------------------|-------------------|-------------------|-------------------|
| 1717                      | 1,370948E+22  | 1,732615E+22   | 1,948204E+22   | 1,948213E+22    | 1,732646E+22     | 1,370990E+22     | 9,640827E+21     | 6,209882E+21     | 4,297104E+21      | 4,297168E+21      | 6,210044E+21      | 9,640990E+21      |
| 1718                      | 1,370992E+22  | 1,732621E+22   | 1,948160E+22   | 1,948122E+22    | 1,732540E+22     | 1,370930E+22     | 9,640752E+21     | 6,210004E+21     | 4,297194E+21      | 4,297168E+21      | 6,209934E+21      | 9,640704E+21      |
| 1719                      | 1,370940E+22  | 1,732553E+22   | 1,948112E+22   | 1,948150E+22    | 1,732615E+22     | 1,370991E+22     | 9,641100E+21     | 6,210156E+21     | 4,297188E+21      | 4,297039E+21      | 6,209710E+21      | 9,640475E+21      |
| 1720                      | 1,370945E+22  | 1,732625E+22   | 1,948221E+22   | 1,948227E+22    | 1,732634E+22     | 1,370959E+22     | 9,640546E+21     | 6,209662E+21     | 4,296913E+21      | 4,297041E+21      | 6,210015E+21      | 9,640945E+21      |
| 1721                      | 1,370969E+22  | 1,732595E+22   | 1,948150E+22   | 1,948135E+22    | 1,732572E+22     | 1,370949E+22     | 9,640647E+21     | 6,209692E+21     | 4,296764E+21      | 4,296705E+21      | 6,209574E+21      | 9,640559E+21      |
| 1722                      | 1,370945E+22  | 1,732589E+22   | 1,948189E+22   | 1,948228E+22    | 1,732666E+22     | 1,371007E+22     | 9,640776E+21     | 6,209501E+21     | 4,296501E+21      | 4,296496E+21      | 6,209461E+21      | 9,640660E+21      |
| 1723                      | 1,371002E+22  | 1,732680E+22   | 1,948255E+22   | 1,948244E+22    | 1,732629E+22     | 1,370948E+22     | 9,640328E+21     | 6,209194E+21     | 4,296268E+21      | 4,296364E+21      | 6,209461E+21      | 9,640723E+21      |
| 1724                      | 1,370996E+22  | 1,732651E+22   | 1,948191E+22   | 1,948182E+22    | 1,732634E+22     | 1,370986E+22     | 9,640640E+21     | 6,209356E+21     | 4,296208E+21      | 4,296047E+21      | 6,208928E+21      | 9,640111E+21      |
| 1725                      | 1,370953E+22  | 1,732678E+22   | 1,948318E+22   | 1,948325E+22    | 1,732714E+22     | 1,371006E+22     | 9,640457E+21     | 6,209065E+21     | 4,296032E+21      | 4,296054E+21      | 6,209122E+21      | 9,640503E+21      |
| 1726                      | 1,371001E+22  | 1,732692E+22   | 1,948293E+22   | 1,948275E+22    | 1,732637E+22     | 1,370943E+22     | 9,640201E+21     | 6,209006E+21     | 4,296031E+21      | 4,296084E+21      | 6,209166E+21      | 9,640437E+21      |
| 1727                      | 1,370965E+22  | 1,732618E+22   | 1,948196E+22   | 1,948242E+22    | 1,732687E+22     | 1,371013E+22     | 9,640744E+21     | 6,209344E+21     | 4,296171E+21      | 4,296054E+21      | 6,208980E+21      | 9,640175E+21      |
| 1728                      | 1,370957E+22  | 1,732671E+22   | 1,948289E+22   | 1,948300E+22    | 1,732704E+22     | 1,370997E+22     | 9,640420E+21     | 6,209109E+21     | 4,296167E+21      | 4,296299E+21      | 6,209448E+21      | 9,640748E+21      |
| 1729                      | 1,370996E+22  | 1,732658E+22   | 1,948220E+22   | 1,948176E+22    | 1,732584E+22     | 1,370945E+22     | 9,640473E+21     | 6,209381E+21     | 4,296407E+21      | 4,296386E+21      | 6,209341E+21      | 9,640469E+21      |
| 1730                      | 1,370955E+22  | 1,732605E+22   | 1,948191E+22   | 1,948212E+22    | 1,732643E+22     | 1,370995E+22     | 9,640856E+21     | 6,209684E+21     | 4,296690E+21      | 4,296637E+21      | 6,209471E+21      | 9,640467E+21      |
| 1731                      | 1,370968E+22  | 1,732650E+22   | 1,948234E+22   | 1,948227E+22    | 1,732612E+22     | 1,370934E+22     | 9,640435E+21     | 6,209622E+21     | 4,296903E+21      | 4,297050E+21      | 6,210016E+21      | 9,640922E+21      |
| 1732                      | 1,370968E+22  | 1,732585E+22   | 1,948111E+22   | 1,948099E+22    | 1,732565E+22     | 1,370952E+22     | 9,640828E+21     | 6,210080E+21     | 4,297263E+21      | 4,297185E+21      | 6,209888E+21      | 9,640558E+21      |
| 1733                      | 1,370916E+22  | 1,732552E+22   | 1,948150E+22   | 1,948180E+22    | 1,732630E+22     | 1,370994E+22     | 9,641017E+21     | 6,210168E+21     | 4,297435E+21      | 4,297467E+21      | 6,210245E+21      | 9,641041E+21      |
| 1734                      | 1,370976E+22  | 1,732582E+22   | 1,948123E+22   | 1,948111E+22    | 1,732532E+22     | 1,370915E+22     | 9,640743E+21     | 6,210230E+21     | 4,297634E+21      | 4,297742E+21      | 6,210527E+21      | 9,641160E+21      |
| 1735                      | 1,370956E+22  | 1,732523E+22   | 1,948017E+22   | 1,948028E+22    | 1,732537E+22     | 1,370969E+22     | 9,641329E+21     | 6,210702E+21     | 4,297881E+21      | 4,297727E+21      | 6,210238E+21      | 9,640671E+21      |
| 1736                      | 1,370917E+22  | 1,732552E+22   | 1,948126E+22   | 1,948128E+22    | 1,732578E+22     | 1,370964E+22     | 9,641041E+21     | 6,210448E+21     | 4,297835E+21      | 4,297902E+21      | 6,210604E+21      | 9,641155E+21      |
| 1737                      | 1,370957E+22  | 1,732556E+22   | 1,948091E+22   | 1,948052E+22    | 1,732481E+22     | 1,370896E+22     | 9,640820E+21     | 6,210444E+21     | 4,297829E+21      | 4,297828E+21      | 6,210459E+21      | 9,640915E+21      |
| 1738                      | 1,370918E+22  | 1,732495E+22   | 1,948039E+22   | 1,948080E+22    | 1,732568E+22     | 1,370970E+22     | 9,641177E+21     | 6,210522E+21     | 4,297763E+21      | 4,297680E+21      | 6,210253E+21      | 9,640736E+21      |
| 1739                      | 1,370928E+22  | 1,732558E+22   | 1,948125E+22   | 1,948139E+22    | 1,732582E+22     | 1,370943E+22     | 9,640719E+21     | 6,210093E+21     | 4,297488E+21      | 4,297632E+21      | 6,210508E+21      | 9,641255E+21      |
| 1740                      | 1,370973E+22  | 1,732557E+22   | 1,948066E+22   | 1,948043E+22    | 1,732522E+22     | 1,370940E+22     | 9,640878E+21     | 6,210151E+21     | 4,297324E+21      | 4,297234E+21      | 6,209943E+21      | 9,640680E+21      |
| 1741                      | 1,370932E+22  | 1,732556E+22   | 1,948138E+22   | 1,948162E+22    | 1,732612E+22     | 1,370987E+22     | 9,641012E+21     | 6,210024E+21     | 4,297111E+21      | 4,297030E+21      | 6,209786E+21      | 9,640739E+21      |
| 1742                      | 1,370985E+22  | 1,732637E+22   | 1,948197E+22   | 1,948181E+22    | 1,732575E+22     | 1,370915E+22     | 9,640419E+21     | 6,209660E+21     | 4,296907E+21      | 4,296991E+21      | 6,209896E+21      | 9,640804E+21      |
| 1743                      | 1,370968E+22  | 1,732600E+22   | 1,948131E+22   | 1,948121E+22    | 1,732587E+22     | 1,370964E+22     | 9,640805E+21     | 6,209856E+21     | 4,296868E+21      | 4,296719E+21      | 6,209434E+21      | 9,640229E+21      |
| 1744                      | 1,370912E+22  | 1,732596E+22   | 1,948225E+22   | 1,948248E+22    | 1,732672E+22     | 1,370998E+22     | 9,640694E+21     | 6,209580E+21     | 4,296715E+21      | 4,296766E+21      | 6,209702E+21      | 9,640739E+21      |
| 1745                      | 1,370971E+22  | 1,732620E+22   | 1,948205E+22   | 1,948189E+22    | 1,732581E+22     | 1,370926E+22     | 9,640401E+21     | 6,209494E+21     | 4,296673E+21      | 4,296742E+21      | 6,209694E+21      | 9,640703E+21      |
| 1746                      | 1,370955E+22  | 1,732568E+22   | 1,948114E+22   | 1,948148E+22    | 1,732621E+22     | 1,370988E+22     | 9,640934E+21     | 6,209857E+21     | 4,296856E+21      | 4,296754E+21      | 6,209520E+21      | 9,640392E+21      |
| 1747                      | 1,370939E+22  | 1,732609E+22   | 1,948195E+22   | 1,948201E+22    | 1,732634E+22     | 1,370970E+22     | 9,640642E+21     | 6,209704E+21     | 4,296930E+21      | 4,297046E+21      | 6,210012E+21      | 9,640990E+21      |
| 1748                      | 1,370983E+22  | 1,732608E+22   | 1,948137E+22   | 1,948086E+22    | 1,732524E+22     | 1,370924E+22     | 9,640695E+21     | 6,209974E+21     | 4,297182E+21      | 4,297152E+21      | 6,209903E+21      | 9,640622E+21      |
| 1749                      | 1,370921E+22  | 1,732539E+22   | 1,948118E+22   | 1,948143E+22    | 1,732590E+22     | 1,370971E+22     | 9,641082E+21     | 6,210314E+21     | 4,297501E+21      | 4,297422E+21      | 6,210067E+21      | 9,640741E+21      |
| 1750                      | 1,370949E+22  | 1,732575E+22   | 1,948134E+22   | 1,948139E+22    | 1,732559E+22     | 1,370912E+22     | 9,640596E+21     | 6,210178E+21     | 4,297697E+21      | 4,297879E+21      | 6,210689E+21      | 9,641269E+21      |
| 1751                      | 1,370958E+22  | 1,732527E+22   | 1,948016E+22   | 1,947996E+22    | 1,732497E+22     | 1,370934E+22     | 9,641117E+21     | 6,210688E+21     | 4,298029E+21      | 4,297966E+21      | 6,210502E+21      | 9,640832E+21      |
| 1752                      | 1,370897E+22  | 1,732486E+22   | 1,948049E+22   | 1,948074E+22    | 1,732559E+22     | 1,370975E+22     | 9,641326E+21     | 6,210810E+21     | 4,298216E+21      | 4,298226E+21      | 6,210807E+21      | 9,641240E+21      |



| 1                 | 2            | 3            | 4            | 5            | 6            | 7            | 8            | 9            | 10           | 11           | 12           | 13           |
|-------------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|
| Longitude $\odot$ | 0° - 30°     | 30° - 60°    | 60° - 90°    | 90° - 120°   | 120° - 150°  | 150° - 180°  | 180° - 210°  | 210° - 240°  | 240° - 270°  | 270° - 300°  | 300° - 330°  | 330° - 360°  |
| Years             |              |              |              |              |              |              |              |              |              |              |              |              |
| 1753              | 1,370954E+22 | 1,732532E+22 | 1,948053E+22 | 1,948023E+22 | 1,732460E+22 | 1,370883E+22 | 9,640902E+21 | 6,210770E+21 | 4,298345E+21 | 4,298430E+21 | 6,211003E+21 | 9,641275E+21 |
| 1754              | 1,370930E+22 | 1,732472E+22 | 1,947955E+22 | 1,947955E+22 | 1,732473E+22 | 1,370935E+22 | 9,641438E+21 | 6,211187E+21 | 4,298573E+21 | 4,298440E+21 | 6,210758E+21 | 9,640772E+21 |
| 1755              | 1,370876E+22 | 1,732470E+22 | 1,948034E+22 | 1,948051E+22 | 1,732529E+22 | 1,370943E+22 | 9,641205E+21 | 6,210956E+21 | 4,298521E+21 | 4,298600E+21 | 6,211160E+21 | 9,641390E+21 |
| 1756              | 1,370935E+22 | 1,732487E+22 | 1,947992E+22 | 1,947967E+22 | 1,732442E+22 | 1,370893E+22 | 9,641038E+21 | 6,210911E+21 | 4,298449E+21 | 4,298457E+21 | 6,210954E+21 | 9,641121E+21 |
| 1757              | 1,370897E+22 | 1,732435E+22 | 1,947959E+22 | 1,948003E+22 | 1,732517E+22 | 1,370958E+22 | 9,641442E+21 | 6,211038E+21 | 4,298370E+21 | 4,298241E+21 | 6,210675E+21 | 9,640993E+21 |
| 1758              | 1,370929E+22 | 1,732513E+22 | 1,948044E+22 | 1,948051E+22 | 1,732521E+22 | 1,370916E+22 | 9,640857E+21 | 6,210559E+21 | 4,298098E+21 | 4,298223E+21 | 6,210938E+21 | 9,641442E+21 |
| 1759              | 1,370969E+22 | 1,732531E+22 | 1,948013E+22 | 1,947966E+22 | 1,732457E+22 | 1,370914E+22 | 9,641061E+21 | 6,210635E+21 | 4,297931E+21 | 4,297827E+21 | 6,210354E+21 | 9,640757E+21 |
| 1760              | 1,370904E+22 | 1,732505E+22 | 1,948080E+22 | 1,948102E+22 | 1,732561E+22 | 1,370965E+22 | 9,641184E+21 | 6,210515E+21 | 4,297751E+21 | 4,297665E+21 | 6,210251E+21 | 9,640832E+21 |
| 1761              | 1,370949E+22 | 1,732578E+22 | 1,948142E+22 | 1,948128E+22 | 1,732535E+22 | 1,370891E+22 | 9,640485E+21 | 6,210067E+21 | 4,297502E+21 | 4,297608E+21 | 6,210376E+21 | 9,640977E+21 |
| 1762              | 1,370942E+22 | 1,732537E+22 | 1,948058E+22 | 1,948055E+22 | 1,732547E+22 | 1,370951E+22 | 9,640936E+21 | 6,210260E+21 | 4,297477E+21 | 4,297387E+21 | 6,209984E+21 | 9,640473E+21 |
| 1763              | 1,370889E+22 | 1,732517E+22 | 1,948118E+22 | 1,948151E+22 | 1,732617E+22 | 1,370989E+22 | 9,640962E+21 | 6,210106E+21 | 4,297376E+21 | 4,297435E+21 | 6,210248E+21 | 9,641041E+21 |
| 1764              | 1,370967E+22 | 1,732569E+22 | 1,948105E+22 | 1,948083E+22 | 1,732520E+22 | 1,370914E+22 | 9,640680E+21 | 6,210067E+21 | 4,297373E+21 | 4,297411E+21 | 6,210175E+21 | 9,640869E+21 |
| 1765              | 1,370938E+22 | 1,732522E+22 | 1,948047E+22 | 1,948065E+22 | 1,732551E+22 | 1,370960E+22 | 9,641171E+21 | 6,210477E+21 | 4,297616E+21 | 4,297453E+21 | 6,210005E+21 | 9,640582E+21 |
| 1766              | 1,370924E+22 | 1,732554E+22 | 1,948115E+22 | 1,948114E+22 | 1,732561E+22 | 1,370930E+22 | 9,640742E+21 | 6,210268E+21 | 4,297725E+21 | 4,297848E+21 | 6,210613E+21 | 9,641201E+21 |
| 1767              | 1,370960E+22 | 1,732549E+22 | 1,948059E+22 | 1,948006E+22 | 1,732462E+22 | 1,370898E+22 | 9,640881E+21 | 6,210548E+21 | 4,297964E+21 | 4,297963E+21 | 6,210541E+21 | 9,640860E+21 |
| 1768              | 1,370889E+22 | 1,732459E+22 | 1,948020E+22 | 1,948056E+22 | 1,732537E+22 | 1,370959E+22 | 9,641326E+21 | 6,210890E+21 | 4,298275E+21 | 4,298222E+21 | 6,210708E+21 | 9,641014E+21 |
| 1769              | 1,370925E+22 | 1,732508E+22 | 1,948044E+22 | 1,948044E+22 | 1,732495E+22 | 1,370892E+22 | 9,640814E+21 | 6,210729E+21 | 4,298416E+21 | 4,298598E+21 | 6,211240E+21 | 9,641512E+21 |
| 1770              | 1,370945E+22 | 1,732476E+22 | 1,947936E+22 | 1,947905E+22 | 1,732432E+22 | 1,370913E+22 | 9,641339E+21 | 6,211245E+21 | 4,298767E+21 | 4,298703E+21 | 6,211031E+21 | 9,640985E+21 |
| 1771              | 1,370871E+22 | 1,732418E+22 | 1,947955E+22 | 1,947978E+22 | 1,732492E+22 | 1,370955E+22 | 9,641592E+21 | 6,211428E+21 | 4,298988E+21 | 4,298970E+21 | 6,211338E+21 | 9,641390E+21 |
| 1772              | 1,370928E+22 | 1,732471E+22 | 1,947966E+22 | 1,947939E+22 | 1,732406E+22 | 1,370865E+22 | 9,641142E+21 | 6,211363E+21 | 4,299096E+21 | 4,299157E+21 | 6,211522E+21 | 9,641385E+21 |
| 1773              | 1,370892E+22 | 1,732400E+22 | 1,947878E+22 | 1,947889E+22 | 1,732423E+22 | 1,370914E+22 | 9,641633E+21 | 6,211750E+21 | 4,299300E+21 | 4,299139E+21 | 6,211302E+21 | 9,641051E+21 |
| 1774              | 1,370859E+22 | 1,732395E+22 | 1,947929E+22 | 1,947958E+22 | 1,732471E+22 | 1,370921E+22 | 9,641335E+21 | 6,211428E+21 | 4,299198E+21 | 4,299309E+21 | 6,211746E+21 | 9,641720E+21 |
| 1775              | 1,370933E+22 | 1,732440E+22 | 1,947908E+22 | 1,947872E+22 | 1,732373E+22 | 1,370872E+22 | 9,641267E+21 | 6,211403E+21 | 4,299068E+21 | 4,299090E+21 | 6,211460E+21 | 9,641368E+21 |
| 1776              | 1,370889E+22 | 1,732390E+22 | 1,947884E+22 | 1,947918E+22 | 1,732452E+22 | 1,370934E+22 | 9,641625E+21 | 6,211531E+21 | 4,298998E+21 | 4,298851E+21 | 6,211117E+21 | 9,641128E+21 |
| 1777              | 1,370912E+22 | 1,732483E+22 | 1,948000E+22 | 1,947986E+22 | 1,732461E+22 | 1,370886E+22 | 9,640931E+21 | 6,210970E+21 | 4,298672E+21 | 4,298787E+21 | 6,211319E+21 | 9,641505E+21 |
| 1778              | 1,370946E+22 | 1,732492E+22 | 1,947973E+22 | 1,947921E+22 | 1,732413E+22 | 1,370890E+22 | 9,641116E+21 | 6,211015E+21 | 4,298514E+21 | 4,298440E+21 | 6,210792E+21 | 9,640816E+21 |
| 1779              | 1,370865E+22 | 1,732426E+22 | 1,947995E+22 | 1,948040E+22 | 1,732529E+22 | 1,370959E+22 | 9,641367E+21 | 6,210970E+21 | 4,298366E+21 | 4,298295E+21 | 6,210746E+21 | 9,641019E+21 |
| 1780              | 1,370924E+22 | 1,732506E+22 | 1,948043E+22 | 1,948051E+22 | 1,732504E+22 | 1,370896E+22 | 9,640761E+21 | 6,210551E+21 | 4,298112E+21 | 4,298217E+21 | 6,210846E+21 | 9,641163E+21 |
| 1781              | 1,370921E+22 | 1,732472E+22 | 1,947971E+22 | 1,947972E+22 | 1,732491E+22 | 1,370940E+22 | 9,641245E+21 | 6,210832E+21 | 4,298136E+21 | 4,297997E+21 | 6,210458E+21 | 9,640756E+21 |
| 1782              | 1,370887E+22 | 1,732462E+22 | 1,948019E+22 | 1,948047E+22 | 1,732543E+22 | 1,370962E+22 | 9,641159E+21 | 6,210663E+21 | 4,298096E+21 | 4,298141E+21 | 6,210778E+21 | 9,641277E+21 |
| 1783              | 1,370962E+22 | 1,732534E+22 | 1,948036E+22 | 1,947988E+22 | 1,732436E+22 | 1,370882E+22 | 9,640890E+21 | 6,210635E+21 | 4,298110E+21 | 4,298155E+21 | 6,210728E+21 | 9,641038E+21 |
| 1784              | 1,370912E+22 | 1,732463E+22 | 1,947972E+22 | 1,947987E+22 | 1,732482E+22 | 1,370926E+22 | 9,641309E+21 | 6,211043E+21 | 4,298394E+21 | 4,298245E+21 | 6,210609E+21 | 9,640769E+21 |
| 1785              | 1,370895E+22 | 1,732495E+22 | 1,948044E+22 | 1,948043E+22 | 1,732506E+22 | 1,370900E+22 | 9,640802E+21 | 6,210742E+21 | 4,298442E+21 | 4,298602E+21 | 6,211213E+21 | 9,641463E+21 |
| 1786              | 1,370941E+22 | 1,732487E+22 | 1,947977E+22 | 1,947929E+22 | 1,732410E+22 | 1,370880E+22 | 9,641020E+21 | 6,211022E+21 | 4,298678E+21 | 4,298730E+21 | 6,211146E+21 | 9,641118E+21 |
| 1787              | 1,370869E+22 | 1,732383E+22 | 1,947910E+22 | 1,947954E+22 | 1,732477E+22 | 1,370949E+22 | 9,641649E+21 | 6,211503E+21 | 4,299027E+21 | 4,298961E+21 | 6,211271E+21 | 9,641259E+21 |
| 1788              | 1,370912E+22 | 1,732452E+22 | 1,947947E+22 | 1,947946E+22 | 1,732436E+22 | 1,370882E+22 | 9,641145E+21 | 6,211378E+21 | 4,299191E+21 | 4,299318E+21 | 6,211717E+21 | 9,641595E+21 |

| 1                 | 2            | 3            | 4            | 5            | 6            | 7            | 8            | 9            | 10           | 11           | 12           | 13           |
|-------------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|
| Longitude $\odot$ | 0° - 30°     | 30° - 60°    | 60° - 90°    | 90° - 120°   | 120° - 150°  | 150° - 180°  | 180° - 210°  | 210° - 240°  | 240° - 270°  | 270° - 300°  | 300° - 330°  | 330° - 360°  |
| Years             |              |              |              |              |              |              |              |              |              |              |              |              |
| 1789              | 1,370914E+22 | 1,732417E+22 | 1,947864E+22 | 1,947828E+22 | 1,732365E+22 | 1,370891E+22 | 9,641631E+21 | 6,211916E+21 | 4,299573E+21 | 4,299441E+21 | 6,211543E+21 | 9,641138E+21 |
| 1790              | 1,370842E+22 | 1,732344E+22 | 1,947857E+22 | 1,947889E+22 | 1,732426E+22 | 1,370924E+22 | 9,641752E+21 | 6,212018E+21 | 4,299796E+21 | 4,299784E+21 | 6,211951E+21 | 9,641587E+21 |
| 1791              | 1,370899E+22 | 1,732401E+22 | 1,947874E+22 | 1,947849E+22 | 1,732342E+22 | 1,370845E+22 | 9,641357E+21 | 6,211913E+21 | 4,299840E+21 | 4,299935E+21 | 6,212151E+21 | 9,641644E+21 |
| 1792              | 1,370865E+22 | 1,732322E+22 | 1,947776E+22 | 1,947798E+22 | 1,732364E+22 | 1,370897E+22 | 9,641836E+21 | 6,212265E+21 | 4,299992E+21 | 4,299854E+21 | 6,211888E+21 | 9,641334E+21 |
| 1793              | 1,370848E+22 | 1,732348E+22 | 1,947850E+22 | 1,947869E+22 | 1,732404E+22 | 1,370894E+22 | 9,641459E+21 | 6,211866E+21 | 4,299792E+21 | 4,299908E+21 | 6,212216E+21 | 9,641966E+21 |
| 1794              | 1,370932E+22 | 1,732410E+22 | 1,947850E+22 | 1,947802E+22 | 1,732315E+22 | 1,370848E+22 | 9,641364E+21 | 6,211806E+21 | 4,299647E+21 | 4,299680E+21 | 6,211879E+21 | 9,641489E+21 |
| 1795              | 1,370871E+22 | 1,732345E+22 | 1,947820E+22 | 1,947850E+22 | 1,732400E+22 | 1,370917E+22 | 9,641812E+21 | 6,211990E+21 | 4,299590E+21 | 4,299433E+21 | 6,211534E+21 | 9,641228E+21 |
| 1796              | 1,370889E+22 | 1,732434E+22 | 1,947936E+22 | 1,947933E+22 | 1,732428E+22 | 1,370877E+22 | 9,641128E+21 | 6,211435E+21 | 4,299269E+21 | 4,299365E+21 | 6,211720E+21 | 9,641554E+21 |
| 1797              | 1,370910E+22 | 1,732428E+22 | 1,947908E+22 | 1,947876E+22 | 1,732383E+22 | 1,370883E+22 | 9,641323E+21 | 6,211492E+21 | 4,299126E+21 | 4,299031E+21 | 6,211265E+21 | 9,641063E+21 |
| 1798              | 1,370849E+22 | 1,732355E+22 | 1,947888E+22 | 1,947948E+22 | 1,732476E+22 | 1,370946E+22 | 9,641560E+21 | 6,211440E+21 | 4,299005E+21 | 4,298956E+21 | 6,211284E+21 | 9,641293E+21 |
| 1799              | 1,370917E+22 | 1,732456E+22 | 1,947952E+22 | 1,947949E+22 | 1,732429E+22 | 1,370879E+22 | 9,641054E+21 | 6,211088E+21 | 4,298764E+21 | 4,298869E+21 | 6,211353E+21 | 9,641387E+21 |
| 1800              | 1,370909E+22 | 1,732424E+22 | 1,947890E+22 | 1,947881E+22 | 1,732415E+22 | 1,370909E+22 | 9,641423E+21 | 6,211375E+21 | 4,298837E+21 | 4,298680E+21 | 6,210950E+21 | 9,640897E+21 |
| 1801              | 1,370869E+22 | 1,732427E+22 | 1,947961E+22 | 1,947965E+22 | 1,732464E+22 | 1,370919E+22 | 9,641211E+21 | 6,211133E+21 | 4,298773E+21 | 4,298823E+21 | 6,211273E+21 | 9,641410E+21 |
| 1802              | 1,370939E+22 | 1,732487E+22 | 1,947979E+22 | 1,947930E+22 | 1,732381E+22 | 1,370849E+22 | 9,640927E+21 | 6,211075E+21 | 4,298804E+21 | 4,298894E+21 | 6,211287E+21 | 9,641189E+21 |
| 1803              | 1,370877E+22 | 1,732386E+22 | 1,947879E+22 | 1,947913E+22 | 1,732439E+22 | 1,370914E+22 | 9,641497E+21 | 6,211548E+21 | 4,299107E+21 | 4,298988E+21 | 6,211205E+21 | 9,641019E+21 |
| 1804              | 1,370871E+22 | 1,732421E+22 | 1,947941E+22 | 1,947960E+22 | 1,732465E+22 | 1,370900E+22 | 9,641118E+21 | 6,211318E+21 | 4,299166E+21 | 4,299314E+21 | 6,211742E+21 | 9,641651E+21 |
| 1805              | 1,370917E+22 | 1,732420E+22 | 1,947887E+22 | 1,947849E+22 | 1,732356E+22 | 1,370871E+22 | 9,641373E+21 | 6,211684E+21 | 4,299451E+21 | 4,299444E+21 | 6,211680E+21 | 9,641373E+21 |
| 1806              | 1,370855E+22 | 1,732317E+22 | 1,947799E+22 | 1,947844E+22 | 1,732404E+22 | 1,370928E+22 | 9,641930E+21 | 6,212165E+21 | 4,299865E+21 | 4,299772E+21 | 6,211855E+21 | 9,641442E+21 |
| 1807              | 1,370889E+22 | 1,732397E+22 | 1,947863E+22 | 1,947846E+22 | 1,732353E+22 | 1,370857E+22 | 9,641464E+21 | 6,212048E+21 | 4,300027E+21 | 4,300148E+21 | 6,212331E+21 | 9,641760E+21 |
| 1808              | 1,370878E+22 | 1,732340E+22 | 1,947773E+22 | 1,947744E+22 | 1,732296E+22 | 1,370858E+22 | 9,641818E+21 | 6,212534E+21 | 4,300405E+21 | 4,300287E+21 | 6,212203E+21 | 9,641363E+21 |
| 1809              | 1,370813E+22 | 1,732278E+22 | 1,947767E+22 | 1,947799E+22 | 1,732360E+22 | 1,370893E+22 | 9,641829E+21 | 6,212491E+21 | 4,300512E+21 | 4,300550E+21 | 6,212592E+21 | 9,641921E+21 |
| 1810              | 1,370889E+22 | 1,732345E+22 | 1,947785E+22 | 1,947762E+22 | 1,732283E+22 | 1,370823E+22 | 9,641458E+21 | 6,212333E+21 | 4,300486E+21 | 4,300639E+21 | 6,212734E+21 | 9,641954E+21 |
| 1811              | 1,370859E+22 | 1,732268E+22 | 1,947681E+22 | 1,947702E+22 | 1,732302E+22 | 1,370880E+22 | 9,642047E+21 | 6,212747E+21 | 4,300612E+21 | 4,300473E+21 | 6,212373E+21 | 9,641586E+21 |
| 1812              | 1,370847E+22 | 1,732315E+22 | 1,947782E+22 | 1,947795E+22 | 1,732351E+22 | 1,370877E+22 | 9,641677E+21 | 6,212362E+21 | 4,300401E+21 | 4,300468E+21 | 6,212571E+21 | 9,642011E+21 |
| 1813              | 1,370909E+22 | 1,732372E+22 | 1,947806E+22 | 1,947758E+22 | 1,732269E+22 | 1,370827E+22 | 9,641562E+21 | 6,212309E+21 | 4,300262E+21 | 4,300240E+21 | 6,212263E+21 | 9,641578E+21 |
| 1814              | 1,370842E+22 | 1,732283E+22 | 1,947743E+22 | 1,947788E+22 | 1,732358E+22 | 1,370899E+22 | 9,641968E+21 | 6,212465E+21 | 4,300233E+21 | 4,300079E+21 | 6,212012E+21 | 9,641339E+21 |
| 1815              | 1,370857E+22 | 1,732371E+22 | 1,947857E+22 | 1,947861E+22 | 1,732380E+22 | 1,370870E+22 | 9,641391E+21 | 6,211909E+21 | 4,299886E+21 | 4,300001E+21 | 6,212218E+21 | 9,641714E+21 |
| 1816              | 1,370878E+22 | 1,732352E+22 | 1,947810E+22 | 1,947792E+22 | 1,732330E+22 | 1,370871E+22 | 9,641572E+21 | 6,211994E+21 | 4,299761E+21 | 4,299674E+21 | 6,211770E+21 | 9,641267E+21 |
| 1817              | 1,370835E+22 | 1,732309E+22 | 1,947803E+22 | 1,947852E+22 | 1,732406E+22 | 1,370918E+22 | 9,641703E+21 | 6,211889E+21 | 4,299603E+21 | 4,299558E+21 | 6,211752E+21 | 9,641514E+21 |
| 1818              | 1,370912E+22 | 1,732422E+22 | 1,947885E+22 | 1,947869E+22 | 1,732361E+22 | 1,370847E+22 | 9,641135E+21 | 6,211522E+21 | 4,299394E+21 | 4,299513E+21 | 6,211827E+21 | 9,641538E+21 |
| 1819              | 1,370889E+22 | 1,732375E+22 | 1,947818E+22 | 1,947804E+22 | 1,732352E+22 | 1,370881E+22 | 9,641570E+21 | 6,211861E+21 | 4,299499E+21 | 4,299352E+21 | 6,211465E+21 | 9,641078E+21 |
| 1820              | 1,370847E+22 | 1,732374E+22 | 1,947893E+22 | 1,947908E+22 | 1,732420E+22 | 1,370897E+22 | 9,641364E+21 | 6,211635E+21 | 4,299456E+21 | 4,299504E+21 | 6,211779E+21 | 9,641552E+21 |
| 1821              | 1,370906E+22 | 1,732420E+22 | 1,947905E+22 | 1,947876E+22 | 1,732346E+22 | 1,370839E+22 | 9,641136E+21 | 6,211598E+21 | 4,299502E+21 | 4,299593E+21 | 6,211864E+21 | 9,641497E+21 |
| 1822              | 1,370860E+22 | 1,732312E+22 | 1,947766E+22 | 1,947813E+22 | 1,732382E+22 | 1,370905E+22 | 9,641780E+21 | 6,212122E+21 | 4,299859E+21 | 4,299758E+21 | 6,211818E+21 | 9,641302E+21 |
| 1823              | 1,370859E+22 | 1,732366E+22 | 1,947844E+22 | 1,947850E+22 | 1,732387E+22 | 1,370888E+22 | 9,641515E+21 | 6,211981E+21 | 4,299959E+21 | 4,300087E+21 | 6,212309E+21 | 9,641840E+21 |
| 1824              | 1,370893E+22 | 1,732358E+22 | 1,947794E+22 | 1,947752E+22 | 1,732281E+22 | 1,370844E+22 | 9,641662E+21 | 6,212370E+21 | 4,300307E+21 | 4,300267E+21 | 6,212255E+21 | 9,641501E+21 |

| 1           | 2            | 3            | 4            | 5            | 6            | 7            | 8            | 9            | 10           | 11           | 12           | 13           |
|-------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|
| Longitude ☉ | 0° - 30°     | 30° - 60°    | 60° - 90°    | 90° - 120°   | 120° - 150°  | 150° - 180°  | 180° - 210°  | 210° - 240°  | 240° - 270°  | 270° - 300°  | 300° - 330°  | 330° - 360°  |
| Years       |              |              |              |              |              |              |              |              |              |              |              |              |
| 1825        | 1,370828E+22 | 1,732267E+22 | 1,947718E+22 | 1,947749E+22 | 1,732323E+22 | 1,370888E+22 | 9,642064E+21 | 6,212744E+21 | 4,300668E+21 | 4,300583E+21 | 6,212464E+21 | 9,641629E+21 |
| 1826        | 1,370859E+22 | 1,732331E+22 | 1,947781E+22 | 1,947770E+22 | 1,732292E+22 | 1,370824E+22 | 9,641544E+21 | 6,212562E+21 | 4,300801E+21 | 4,300961E+21 | 6,212972E+21 | 9,641997E+21 |
| 1827        | 1,370845E+22 | 1,732258E+22 | 1,947666E+22 | 1,947653E+22 | 1,732241E+22 | 1,370841E+22 | 9,642008E+21 | 6,213045E+21 | 4,301117E+21 | 4,301037E+21 | 6,212837E+21 | 9,641701E+21 |
| 1828        | 1,370800E+22 | 1,732213E+22 | 1,947668E+22 | 1,947711E+22 | 1,732305E+22 | 1,370879E+22 | 9,642086E+21 | 6,213019E+21 | 4,301175E+21 | 4,301201E+21 | 6,213092E+21 | 9,642149E+21 |
| 1829        | 1,370877E+22 | 1,732298E+22 | 1,947713E+22 | 1,947690E+22 | 1,732231E+22 | 1,370808E+22 | 9,641718E+21 | 6,212876E+21 | 4,301131E+21 | 4,301237E+21 | 6,213189E+21 | 9,642193E+21 |
| 1830        | 1,370852E+22 | 1,732227E+22 | 1,947601E+22 | 1,947613E+22 | 1,732239E+22 | 1,370858E+22 | 9,642245E+21 | 6,213268E+21 | 4,301286E+21 | 4,301124E+21 | 6,212827E+21 | 9,641697E+21 |
| 1831        | 1,370827E+22 | 1,732276E+22 | 1,947725E+22 | 1,947723E+22 | 1,732287E+22 | 1,370859E+22 | 9,641953E+21 | 6,212903E+21 | 4,301070E+21 | 4,301117E+21 | 6,213021E+21 | 9,642067E+21 |
| 1832        | 1,370869E+22 | 1,732304E+22 | 1,947736E+22 | 1,947705E+22 | 1,732230E+22 | 1,370807E+22 | 9,641727E+21 | 6,212811E+21 | 4,300932E+21 | 4,300909E+21 | 6,212753E+21 | 9,641686E+21 |
| 1833        | 1,370811E+22 | 1,732223E+22 | 1,947659E+22 | 1,947710E+22 | 1,732308E+22 | 1,370878E+22 | 9,642059E+21 | 6,212858E+21 | 4,300820E+21 | 4,300707E+21 | 6,212532E+21 | 9,641585E+21 |
| 1834        | 1,370839E+22 | 1,732311E+22 | 1,947771E+22 | 1,947779E+22 | 1,732328E+22 | 1,370853E+22 | 9,641524E+21 | 6,212312E+21 | 4,300457E+21 | 4,300604E+21 | 6,212708E+21 | 9,641950E+21 |
| 1835        | 1,370865E+22 | 1,732298E+22 | 1,947719E+22 | 1,947697E+22 | 1,732266E+22 | 1,370850E+22 | 9,641770E+21 | 6,212459E+21 | 4,300350E+21 | 4,300262E+21 | 6,212235E+21 | 9,641496E+21 |
| 1836        | 1,370828E+22 | 1,732272E+22 | 1,947736E+22 | 1,947776E+22 | 1,732344E+22 | 1,370891E+22 | 9,641873E+21 | 6,212377E+21 | 4,300224E+21 | 4,300147E+21 | 6,212150E+21 | 9,641596E+21 |
| 1837        | 1,370888E+22 | 1,732380E+22 | 1,947835E+22 | 1,947817E+22 | 1,732313E+22 | 1,370822E+22 | 9,641283E+21 | 6,212013E+21 | 4,300035E+21 | 4,300140E+21 | 6,212309E+21 | 9,641720E+21 |
| 1838        | 1,370863E+22 | 1,732311E+22 | 1,947732E+22 | 1,947731E+22 | 1,732305E+22 | 1,370860E+22 | 9,641704E+21 | 6,212347E+21 | 4,300197E+21 | 4,300077E+21 | 6,212037E+21 | 9,641290E+21 |
| 1839        | 1,370821E+22 | 1,732310E+22 | 1,947807E+22 | 1,947825E+22 | 1,732367E+22 | 1,370890E+22 | 9,641674E+21 | 6,212182E+21 | 4,300164E+21 | 4,300231E+21 | 6,212352E+21 | 9,641783E+21 |
| 1840        | 1,370880E+22 | 1,732344E+22 | 1,947803E+22 | 1,947789E+22 | 1,732293E+22 | 1,370826E+22 | 9,641451E+21 | 6,212214E+21 | 4,300262E+21 | 4,300343E+21 | 6,212429E+21 | 9,641710E+21 |
| 1841        | 1,370845E+22 | 1,732263E+22 | 1,947673E+22 | 1,947707E+22 | 1,732307E+22 | 1,370879E+22 | 9,642010E+21 | 6,212711E+21 | 4,300615E+21 | 4,300508E+21 | 6,212385E+21 | 9,641527E+21 |
| 1842        | 1,370842E+22 | 1,732316E+22 | 1,947764E+22 | 1,947758E+22 | 1,732315E+22 | 1,370858E+22 | 9,641700E+21 | 6,212567E+21 | 4,300749E+21 | 4,300873E+21 | 6,212878E+21 | 9,641996E+21 |
| 1843        | 1,370863E+22 | 1,732292E+22 | 1,947703E+22 | 1,947659E+22 | 1,732211E+22 | 1,370815E+22 | 9,641885E+21 | 6,212982E+21 | 4,301110E+21 | 4,301078E+21 | 6,212889E+21 | 9,641741E+21 |
| 1844        | 1,370801E+22 | 1,732197E+22 | 1,947631E+22 | 1,947673E+22 | 1,732269E+22 | 1,370861E+22 | 9,642237E+21 | 6,213318E+21 | 4,301443E+21 | 4,301361E+21 | 6,213066E+21 | 9,641865E+21 |
| 1845        | 1,370831E+22 | 1,732259E+22 | 1,947690E+22 | 1,947694E+22 | 1,732244E+22 | 1,370807E+22 | 9,641748E+21 | 6,213102E+21 | 4,301521E+21 | 4,301696E+21 | 6,213600E+21 | 9,642373E+21 |
| 1846        | 1,370835E+22 | 1,732191E+22 | 1,947555E+22 | 1,947545E+22 | 1,732174E+22 | 1,370823E+22 | 9,642248E+21 | 6,213595E+21 | 4,301837E+21 | 4,301769E+21 | 6,213422E+21 | 9,642006E+21 |
| 1847        | 1,370797E+22 | 1,732173E+22 | 1,947591E+22 | 1,947612E+22 | 1,732228E+22 | 1,370858E+22 | 9,642392E+21 | 6,213606E+21 | 4,301883E+21 | 4,301878E+21 | 6,213569E+21 | 9,642288E+21 |
| 1848        | 1,370855E+22 | 1,732248E+22 | 1,947643E+22 | 1,947616E+22 | 1,732171E+22 | 1,370782E+22 | 9,641934E+21 | 6,213453E+21 | 4,301859E+21 | 4,301924E+21 | 6,213630E+21 | 9,642220E+21 |
| 1849        | 1,370823E+22 | 1,732185E+22 | 1,947542E+22 | 1,947544E+22 | 1,732182E+22 | 1,370827E+22 | 9,642345E+21 | 6,213730E+21 | 4,301937E+21 | 4,301785E+21 | 6,213307E+21 | 9,641794E+21 |
| 1850        | 1,370791E+22 | 1,732212E+22 | 1,947657E+22 | 1,947666E+22 | 1,732250E+22 | 1,370839E+22 | 9,642033E+21 | 6,213322E+21 | 4,301691E+21 | 4,301759E+21 | 6,213508E+21 | 9,642200E+21 |
| 1851        | 1,370833E+22 | 1,732223E+22 | 1,947638E+22 | 1,947625E+22 | 1,732191E+22 | 1,370800E+22 | 9,641939E+21 | 6,213251E+21 | 4,301514E+21 | 4,301515E+21 | 6,213262E+21 | 9,641949E+21 |
| 1852        | 1,370796E+22 | 1,732159E+22 | 1,947568E+22 | 1,947628E+22 | 1,732259E+22 | 1,370864E+22 | 9,642287E+21 | 6,213319E+21 | 4,301381E+21 | 4,301251E+21 | 6,212949E+21 | 9,641781E+21 |
| 1853        | 1,370827E+22 | 1,732263E+22 | 1,947697E+22 | 1,947704E+22 | 1,732277E+22 | 1,370835E+22 | 9,641731E+21 | 6,212787E+21 | 4,301026E+21 | 4,301148E+21 | 6,213144E+21 | 9,642190E+21 |
| 1854        | 1,370857E+22 | 1,732255E+22 | 1,947642E+22 | 1,947606E+22 | 1,732199E+22 | 1,370824E+22 | 9,641932E+21 | 6,212939E+21 | 4,300985E+21 | 4,300897E+21 | 6,212713E+21 | 9,641672E+21 |
| 1855        | 1,370813E+22 | 1,732235E+22 | 1,947683E+22 | 1,947702E+22 | 1,732276E+22 | 1,370863E+22 | 9,642080E+21 | 6,212891E+21 | 4,300892E+21 | 4,300815E+21 | 6,212650E+21 | 9,641736E+21 |
| 1856        | 1,370856E+22 | 1,732316E+22 | 1,947764E+22 | 1,947759E+22 | 1,732273E+22 | 1,370800E+22 | 9,641436E+21 | 6,212525E+21 | 4,300742E+21 | 4,300856E+21 | 6,212848E+21 | 9,641904E+21 |
| 1857        | 1,370843E+22 | 1,732259E+22 | 1,947650E+22 | 1,947645E+22 | 1,732253E+22 | 1,370840E+22 | 9,641831E+21 | 6,212794E+21 | 4,300853E+21 | 4,300780E+21 | 6,212618E+21 | 9,641586E+21 |
| 1858        | 1,370809E+22 | 1,732253E+22 | 1,947718E+22 | 1,947736E+22 | 1,732310E+22 | 1,370871E+22 | 9,641876E+21 | 6,212705E+21 | 4,300855E+21 | 4,300922E+21 | 6,212879E+21 | 9,642004E+21 |
| 1859        | 1,370863E+22 | 1,732286E+22 | 1,947710E+22 | 1,947689E+22 | 1,732228E+22 | 1,370806E+22 | 9,641729E+21 | 6,212820E+21 | 4,301006E+21 | 4,301064E+21 | 6,212964E+21 | 9,641915E+21 |
| 1860        | 1,370826E+22 | 1,732209E+22 | 1,947597E+22 | 1,947621E+22 | 1,732238E+22 | 1,370849E+22 | 9,642251E+21 | 6,213338E+21 | 4,301398E+21 | 4,301250E+21 | 6,212893E+21 | 9,641627E+21 |

| 1<br>Longitude $\odot$<br>Years | 2<br>0° - 30° | 3<br>30° - 60° | 4<br>60° - 90° | 5<br>90° - 120° | 6<br>120° - 150° | 7<br>150° - 180° | 8<br>180° - 210° | 9<br>210° - 240° | 10<br>240° - 270° | 11<br>270° - 300° | 12<br>300° - 330° | 13<br>330° - 360° |
|---------------------------------|---------------|----------------|----------------|-----------------|------------------|------------------|------------------|------------------|-------------------|-------------------|-------------------|-------------------|
| 1861                            | 1,370806E+22  | 1,732249E+22   | 1,947691E+22   | 1,947691E+22    | 1,732263E+22     | 1,370834E+22     | 9,641916E+21     | 6,213177E+21     | 4,301533E+21      | 4,301651E+21      | 6,213491E+21      | 9,642223E+21      |
| 1862                            | 1,370828E+22  | 1,732209E+22   | 1,947597E+22   | 1,947563E+22    | 1,732152E+22     | 1,370793E+22     | 9,642068E+21     | 6,213564E+21     | 4,301920E+21      | 4,301917E+21      | 6,213562E+21      | 9,642030E+21      |
| 1863                            | 1,370777E+22  | 1,732125E+22   | 1,947529E+22   | 1,947566E+22    | 1,732198E+22     | 1,370846E+22     | 9,642541E+21     | 6,213922E+21     | 4,302224E+21      | 4,302153E+21      | 6,213694E+21      | 9,642150E+21      |
| 1864                            | 1,370810E+22  | 1,732186E+22   | 1,947588E+22   | 1,947598E+22    | 1,732183E+22     | 1,370789E+22     | 9,642025E+21     | 6,213721E+21     | 4,302296E+21      | 4,302449E+21      | 6,214150E+21      | 9,642593E+21      |
| 1865                            | 1,370828E+22  | 1,732152E+22   | 1,947472E+22   | 1,947443E+22    | 1,732100E+22     | 1,370792E+22     | 9,642400E+21     | 6,214118E+21     | 4,302544E+21      | 4,302473E+21      | 6,213944E+21      | 9,642210E+21      |
| 1866                            | 1,370782E+22  | 1,732132E+22   | 1,947528E+22   | 1,947537E+22    | 1,732166E+22     | 1,370828E+22     | 9,642528E+21     | 6,214122E+21     | 4,302579E+21      | 4,302556E+21      | 6,214043E+21      | 9,642387E+21      |
| 1867                            | 1,370824E+22  | 1,732187E+22   | 1,947571E+22   | 1,947548E+22    | 1,732123E+22     | 1,370761E+22     | 9,642114E+21     | 6,213964E+21     | 4,302528E+21      | 4,302597E+21      | 6,214146E+21      | 9,642380E+21      |
| 1868                            | 1,370791E+22  | 1,732115E+22   | 1,947469E+22   | 1,947486E+22    | 1,732145E+22     | 1,370811E+22     | 9,642497E+21     | 6,214189E+21     | 4,302561E+21      | 4,302413E+21      | 6,213791E+21      | 9,641970E+21      |
| 1869                            | 1,370762E+22  | 1,732139E+22   | 1,947571E+22   | 1,947597E+22    | 1,732216E+22     | 1,370835E+22     | 9,642247E+21     | 6,213758E+21     | 4,302253E+21      | 4,302344E+21      | 6,214019E+21      | 9,642499E+21      |
| 1870                            | 1,370821E+22  | 1,732159E+22   | 1,947533E+22   | 1,947519E+22    | 1,732128E+22     | 1,370786E+22     | 9,642167E+21     | 6,213732E+21     | 4,302115E+21      | 4,302120E+21      | 6,213749E+21      | 9,642214E+21      |
| 1871                            | 1,370795E+22  | 1,732126E+22   | 1,947498E+22   | 1,947529E+22    | 1,732180E+22     | 1,370841E+22     | 9,642532E+21     | 6,213840E+21     | 4,302008E+21      | 4,301845E+21      | 6,213370E+21      | 9,641926E+21      |
| 1872                            | 1,370812E+22  | 1,732220E+22   | 1,947637E+22   | 1,947633E+22    | 1,732216E+22     | 1,370805E+22     | 9,641884E+21     | 6,213304E+21     | 4,301694E+21      | 4,301785E+21      | 6,213562E+21      | 9,642264E+21      |
| 1873                            | 1,370838E+22  | 1,732220E+22   | 1,947589E+22   | 1,947540E+22    | 1,732141E+22     | 1,370788E+22     | 9,641960E+21     | 6,213346E+21     | 4,301602E+21      | 4,301546E+21      | 6,213216E+21      | 9,641843E+21      |
| 1874                            | 1,370789E+22  | 1,732181E+22   | 1,947621E+22   | 1,947647E+22    | 1,732237E+22     | 1,370841E+22     | 9,642135E+21     | 6,213303E+21     | 4,301513E+21      | 4,301459E+21      | 6,213153E+21      | 9,641916E+21      |
| 1875                            | 1,370828E+22  | 1,732244E+22   | 1,947673E+22   | 1,947679E+22    | 1,732233E+22     | 1,370795E+22     | 9,641678E+21     | 6,213012E+21     | 4,301375E+21      | 4,301506E+21      | 6,213374E+21      | 9,642157E+21      |
| 1876                            | 1,370827E+22  | 1,732196E+22   | 1,947567E+22   | 1,947567E+22    | 1,732202E+22     | 1,370827E+22     | 9,642106E+21     | 6,213350E+21     | 4,301524E+21      | 4,301421E+21      | 6,213083E+21      | 9,641760E+21      |
| 1877                            | 1,370790E+22  | 1,732196E+22   | 1,947638E+22   | 1,947656E+22    | 1,732258E+22     | 1,370858E+22     | 9,642153E+21     | 6,213301E+21     | 4,301570E+21      | 4,301608E+21      | 6,213393E+21      | 9,642186E+21      |
| 1878                            | 1,370838E+22  | 1,732221E+22   | 1,947615E+22   | 1,947586E+22    | 1,732156E+22     | 1,370784E+22     | 9,641994E+21     | 6,213465E+21     | 4,301823E+21      | 4,301867E+21      | 6,213559E+21      | 9,642107E+21      |
| 1879                            | 1,370799E+22  | 1,732148E+22   | 1,947519E+22   | 1,947528E+22    | 1,732162E+22     | 1,370822E+22     | 9,642506E+21     | 6,213985E+21     | 4,302235E+21      | 4,302082E+21      | 6,213523E+21      | 9,641836E+21      |
| 1880                            | 1,370770E+22  | 1,732162E+22   | 1,947588E+22   | 1,947604E+22    | 1,732207E+22     | 1,370810E+22     | 9,642107E+21     | 6,213792E+21     | 4,302376E+21      | 4,302504E+21      | 6,214143E+21      | 9,642496E+21      |
| 1881                            | 1,370812E+22  | 1,732145E+22   | 1,947492E+22   | 1,947454E+22    | 1,732081E+22     | 1,370766E+22     | 9,642212E+21     | 6,214073E+21     | 4,302663E+21      | 4,302715E+21      | 6,214233E+21      | 9,642407E+21      |
| 1882                            | 1,370772E+22  | 1,732072E+22   | 1,947439E+22   | 1,947467E+22    | 1,732126E+22     | 1,370815E+22     | 9,642689E+21     | 6,214459E+21     | 4,302950E+21      | 4,302876E+21      | 6,214247E+21      | 9,642400E+21      |
| 1883                            | 1,370799E+22  | 1,732136E+22   | 1,947503E+22   | 1,947501E+22    | 1,732116E+22     | 1,370766E+22     | 9,642251E+21     | 6,214296E+21     | 4,303023E+21      | 4,303154E+21      | 6,214660E+21      | 9,642769E+21      |
| 1884                            | 1,370809E+22  | 1,732103E+22   | 1,947415E+22   | 1,947380E+22    | 1,732042E+22     | 1,370765E+22     | 9,642577E+21     | 6,214658E+21     | 4,303244E+21      | 4,303141E+21      | 6,214391E+21      | 9,642272E+21      |
| 1885                            | 1,370747E+22  | 1,732068E+22   | 1,947463E+22   | 1,947487E+22    | 1,732131E+22     | 1,370814E+22     | 9,642712E+21     | 6,214626E+21     | 4,303234E+21      | 4,303213E+21      | 6,214550E+21      | 9,642529E+21      |
| 1886                            | 1,370785E+22  | 1,732105E+22   | 1,947472E+22   | 1,947465E+22    | 1,732080E+22     | 1,370754E+22     | 9,642336E+21     | 6,214469E+21     | 4,303196E+21      | 4,303279E+21      | 6,214688E+21      | 9,642605E+21      |
| 1887                            | 1,370768E+22  | 1,732047E+22   | 1,947378E+22   | 1,947389E+22    | 1,732083E+22     | 1,370805E+22     | 9,642802E+21     | 6,214711E+21     | 4,303198E+21      | 4,303046E+21      | 6,214287E+21      | 9,642192E+21      |
| 1888                            | 1,370744E+22  | 1,732072E+22   | 1,947475E+22   | 1,947507E+22    | 1,732158E+22     | 1,370820E+22     | 9,642500E+21     | 6,214296E+21     | 4,302904E+21      | 4,302960E+21      | 6,214449E+21      | 9,642669E+21      |
| 1889                            | 1,370819E+22  | 1,732130E+22   | 1,947460E+22   | 1,947424E+22    | 1,732054E+22     | 1,370753E+22     | 9,642261E+21     | 6,214162E+21     | 4,302715E+21      | 4,302728E+21      | 6,214211E+21      | 9,642415E+21      |
| 1890                            | 1,370788E+22  | 1,732096E+22   | 1,947449E+22   | 1,947463E+22    | 1,732116E+22     | 1,370802E+22     | 9,642567E+21     | 6,214267E+21     | 4,302617E+21      | 4,302447E+21      | 6,213809E+21      | 9,642050E+21      |
| 1891                            | 1,370789E+22  | 1,732172E+22   | 1,947578E+22   | 1,947576E+22    | 1,732171E+22     | 1,370780E+22     | 9,641984E+21     | 6,213745E+21     | 4,302308E+21      | 4,302414E+21      | 6,214059E+21      | 9,642453E+21      |
| 1892                            | 1,370815E+22  | 1,732160E+22   | 1,947529E+22   | 1,947494E+22    | 1,732106E+22     | 1,370771E+22     | 9,642063E+21     | 6,213757E+21     | 4,302196E+21      | 4,302156E+21      | 6,213692E+21      | 9,642035E+21      |
| 1893                            | 1,370767E+22  | 1,732115E+22   | 1,947542E+22   | 1,947583E+22    | 1,732207E+22     | 1,370841E+22     | 9,642372E+21     | 6,213758E+21     | 4,302096E+21      | 4,302066E+21      | 6,213659E+21      | 9,642158E+21      |
| 1894                            | 1,370811E+22  | 1,732180E+22   | 1,947573E+22   | 1,947578E+22    | 1,732172E+22     | 1,370786E+22     | 9,641970E+21     | 6,213580E+21     | 4,302068E+21      | 4,302180E+21      | 6,213875E+21      | 9,642354E+21      |
| 1895                            | 1,370813E+22  | 1,732148E+22   | 1,947487E+22   | 1,947464E+22    | 1,732123E+22     | 1,370808E+22     | 9,642423E+21     | 6,213995E+21     | 4,302305E+21      | 4,302157E+21      | 6,213586E+21      | 9,641873E+21      |
| 1896                            | 1,370759E+22  | 1,732126E+22   | 1,947551E+22   | 1,947570E+22    | 1,732194E+22     | 1,370833E+22     | 9,642402E+21     | 6,213959E+21     | 4,302412E+21      | 4,302417E+21      | 6,213935E+21      | 9,642289E+21      |



| 1                 | 2            | 3            | 4            | 5            | 6            | 7            | 8            | 9            | 10           | 11           | 12           | 13           |
|-------------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|
| Longitude $\odot$ | 0° - 30°     | 30° - 60°    | 60° - 90°    | 90° - 120°   | 120° - 150°  | 150° - 180°  | 180° - 210°  | 210° - 240°  | 240° - 270°  | 270° - 300°  | 300° - 330°  | 330° - 360°  |
| Years             |              |              |              |              |              |              |              |              |              |              |              |              |
| 1897              | 1,370809E+22 | 1,732159E+22 | 1,947526E+22 | 1,947493E+22 | 1,732084E+22 | 1,370748E+22 | 9,642090E+21 | 6,214008E+21 | 4,302621E+21 | 4,302706E+21 | 6,214233E+21 | 9,642384E+21 |
| 1898              | 1,370774E+22 | 1,732075E+22 | 1,947425E+22 | 1,947441E+22 | 1,732099E+22 | 1,370790E+22 | 9,642601E+21 | 6,214515E+21 | 4,303006E+21 | 4,302881E+21 | 6,214174E+21 | 9,642147E+21 |
| 1899              | 1,370751E+22 | 1,732087E+22 | 1,947480E+22 | 1,947500E+22 | 1,732142E+22 | 1,370792E+22 | 9,642343E+21 | 6,214354E+21 | 4,303116E+21 | 4,303268E+21 | 6,214772E+21 | 9,642834E+21 |
| 1900              | 1,370803E+22 | 1,732086E+22 | 1,947408E+22 | 1,947369E+22 | 1,732015E+22 | 1,370741E+22 | 9,642424E+21 | 6,214632E+21 | 4,303378E+21 | 4,303411E+21 | 6,214747E+21 | 9,642618E+21 |
| 1901              | 1,370761E+22 | 1,732026E+22 | 1,947367E+22 | 1,947391E+22 | 1,732073E+22 | 1,370800E+22 | 9,642923E+21 | 6,215009E+21 | 4,303646E+21 | 4,303563E+21 | 6,214760E+21 | 9,642553E+21 |
| 1902              | 1,370774E+22 | 1,732079E+22 | 1,947422E+22 | 1,947412E+22 | 1,732052E+22 | 1,370749E+22 | 9,642515E+21 | 6,214900E+21 | 4,303786E+21 | 4,303897E+21 | 6,215192E+21 | 9,642902E+21 |
| 1903              | 1,370779E+22 | 1,732043E+22 | 1,947345E+22 | 1,947305E+22 | 1,731986E+22 | 1,370750E+22 | 9,642838E+21 | 6,215256E+21 | 4,304004E+21 | 4,303884E+21 | 6,214935E+21 | 9,642420E+21 |
| 1904              | 1,370710E+22 | 1,731982E+22 | 1,947364E+22 | 1,947413E+22 | 1,732091E+22 | 1,370805E+22 | 9,642944E+21 | 6,215182E+21 | 4,303967E+21 | 4,303939E+21 | 6,215080E+21 | 9,642726E+21 |
| 1905              | 1,370769E+22 | 1,732043E+22 | 1,947370E+22 | 1,947363E+22 | 1,732014E+22 | 1,370734E+22 | 9,642503E+21 | 6,214924E+21 | 4,303827E+21 | 4,303948E+21 | 6,215250E+21 | 9,642920E+21 |
| 1906              | 1,370765E+22 | 1,732003E+22 | 1,947298E+22 | 1,947299E+22 | 1,732010E+22 | 1,370771E+22 | 9,642918E+21 | 6,215176E+21 | 4,303804E+21 | 4,303637E+21 | 6,214740E+21 | 9,642401E+21 |
| 1907              | 1,370737E+22 | 1,732034E+22 | 1,947403E+22 | 1,947419E+22 | 1,732087E+22 | 1,370791E+22 | 9,642649E+21 | 6,214766E+21 | 4,303514E+21 | 4,303557E+21 | 6,214888E+21 | 9,642819E+21 |
| 1908              | 1,370803E+22 | 1,732091E+22 | 1,947419E+22 | 1,947378E+22 | 1,732001E+22 | 1,370723E+22 | 9,642330E+21 | 6,214571E+21 | 4,303292E+21 | 4,303302E+21 | 6,214616E+21 | 9,642497E+21 |
| 1909              | 1,370763E+22 | 1,732048E+22 | 1,947399E+22 | 1,947426E+22 | 1,732089E+22 | 1,370787E+22 | 9,642643E+21 | 6,214635E+21 | 4,303161E+21 | 4,303028E+21 | 6,214279E+21 | 9,642192E+21 |
| 1910              | 1,370758E+22 | 1,732100E+22 | 1,947489E+22 | 1,947503E+22 | 1,732133E+22 | 1,370778E+22 | 9,642199E+21 | 6,214201E+21 | 4,302919E+21 | 4,303038E+21 | 6,214551E+21 | 9,642658E+21 |
| 1911              | 1,370795E+22 | 1,732099E+22 | 1,947445E+22 | 1,947411E+22 | 1,732056E+22 | 1,370770E+22 | 9,642379E+21 | 6,214286E+21 | 4,302836E+21 | 4,302780E+21 | 6,214155E+21 | 9,642210E+21 |
| 1912              | 1,370746E+22 | 1,732047E+22 | 1,947443E+22 | 1,947495E+22 | 1,732153E+22 | 1,370831E+22 | 9,642682E+21 | 6,214361E+21 | 4,302816E+21 | 4,302736E+21 | 6,214096E+21 | 9,642269E+21 |
| 1913              | 1,370798E+22 | 1,732134E+22 | 1,947486E+22 | 1,947475E+22 | 1,732095E+22 | 1,370759E+22 | 9,642166E+21 | 6,214128E+21 | 4,302797E+21 | 4,302913E+21 | 6,214427E+21 | 9,642550E+21 |
| 1914              | 1,370794E+22 | 1,732098E+22 | 1,947417E+22 | 1,947383E+22 | 1,732045E+22 | 1,370767E+22 | 9,642544E+21 | 6,214559E+21 | 4,303068E+21 | 4,302919E+21 | 6,214165E+21 | 9,642062E+21 |
| 1915              | 1,370731E+22 | 1,732058E+22 | 1,947460E+22 | 1,947484E+22 | 1,732129E+22 | 1,370804E+22 | 9,642552E+21 | 6,214517E+21 | 4,303190E+21 | 4,303225E+21 | 6,214592E+21 | 9,642577E+21 |
| 1916              | 1,370785E+22 | 1,732086E+22 | 1,947439E+22 | 1,947418E+22 | 1,732028E+22 | 1,370723E+22 | 9,642209E+21 | 6,214501E+21 | 4,303345E+21 | 4,303470E+21 | 6,214859E+21 | 9,642701E+21 |
| 1917              | 1,370762E+22 | 1,732012E+22 | 1,947331E+22 | 1,947355E+22 | 1,732046E+22 | 1,370776E+22 | 9,642800E+21 | 6,215011E+21 | 4,303684E+21 | 4,303600E+21 | 6,214781E+21 | 9,642455E+21 |
| 1918              | 1,370741E+22 | 1,732031E+22 | 1,947380E+22 | 1,947392E+22 | 1,732067E+22 | 1,370773E+22 | 9,642636E+21 | 6,214978E+21 | 4,303884E+21 | 4,304006E+21 | 6,215315E+21 | 9,643052E+21 |
| 1919              | 1,370791E+22 | 1,732043E+22 | 1,947338E+22 | 1,947279E+22 | 1,731941E+22 | 1,370721E+22 | 9,642722E+21 | 6,215288E+21 | 4,304183E+21 | 4,304166E+21 | 6,215246E+21 | 9,642695E+21 |
| 1920              | 1,370726E+22 | 1,731959E+22 | 1,947289E+22 | 1,947322E+22 | 1,732021E+22 | 1,370782E+22 | 9,643193E+21 | 6,215663E+21 | 4,304474E+21 | 4,304348E+21 | 6,215263E+21 | 9,642599E+21 |
| 1921              | 1,370739E+22 | 1,732013E+22 | 1,947335E+22 | 1,947330E+22 | 1,731995E+22 | 1,370727E+22 | 9,642678E+21 | 6,215432E+21 | 4,304539E+21 | 4,304680E+21 | 6,215807E+21 | 9,643121E+21 |
| 1922              | 1,370748E+22 | 1,731967E+22 | 1,947250E+22 | 1,947224E+22 | 1,731930E+22 | 1,370728E+22 | 9,643009E+21 | 6,215771E+21 | 4,304702E+21 | 4,304596E+21 | 6,215511E+21 | 9,642681E+21 |
| 1923              | 1,370690E+22 | 1,731909E+22 | 1,947254E+22 | 1,947312E+22 | 1,732030E+22 | 1,370790E+22 | 9,643189E+21 | 6,215700E+21 | 4,304622E+21 | 4,304604E+21 | 6,215625E+21 | 9,643008E+21 |
| 1924              | 1,370759E+22 | 1,731990E+22 | 1,947291E+22 | 1,947283E+22 | 1,731949E+22 | 1,370706E+22 | 9,642645E+21 | 6,215383E+21 | 4,304428E+21 | 4,304536E+21 | 6,215694E+21 | 9,643116E+21 |
| 1925              | 1,370757E+22 | 1,731967E+22 | 1,947238E+22 | 1,947232E+22 | 1,731957E+22 | 1,370748E+22 | 9,643037E+21 | 6,215579E+21 | 4,304359E+21 | 4,304211E+21 | 6,215191E+21 | 9,642549E+21 |
| 1926              | 1,370719E+22 | 1,731991E+22 | 1,947341E+22 | 1,947349E+22 | 1,732028E+22 | 1,370767E+22 | 9,642804E+21 | 6,215230E+21 | 4,304127E+21 | 4,304168E+21 | 6,215348E+21 | 9,642960E+21 |
| 1927              | 1,370780E+22 | 1,732043E+22 | 1,947361E+22 | 1,947321E+22 | 1,731957E+22 | 1,370708E+22 | 9,642489E+21 | 6,215027E+21 | 4,303914E+21 | 4,303924E+21 | 6,215080E+21 | 9,642633E+21 |
| 1928              | 1,370733E+22 | 1,731977E+22 | 1,947313E+22 | 1,947364E+22 | 1,732061E+22 | 1,370786E+22 | 9,642872E+21 | 6,215102E+21 | 4,303786E+21 | 4,303653E+21 | 6,214725E+21 | 9,642358E+21 |
| 1929              | 1,370746E+22 | 1,732048E+22 | 1,947395E+22 | 1,947407E+22 | 1,732073E+22 | 1,370765E+22 | 9,642408E+21 | 6,214652E+21 | 4,303522E+21 | 4,303664E+21 | 6,215051E+21 | 9,642898E+21 |
| 1930              | 1,370787E+22 | 1,732055E+22 | 1,947366E+22 | 1,947324E+22 | 1,731984E+22 | 1,370740E+22 | 9,642567E+21 | 6,214818E+21 | 4,303497E+21 | 4,303409E+21 | 6,214613E+21 | 9,642370E+21 |
| 1931              | 1,370730E+22 | 1,731998E+22 | 1,947359E+22 | 1,947403E+22 | 1,732081E+22 | 1,370803E+22 | 9,642890E+21 | 6,214924E+21 | 4,303538E+21 | 4,303444E+21 | 6,214611E+21 | 9,642405E+21 |
| 1932              | 1,370767E+22 | 1,732075E+22 | 1,947423E+22 | 1,947413E+22 | 1,732032E+22 | 1,370724E+22 | 9,642279E+21 | 6,214638E+21 | 4,303509E+21 | 4,303636E+21 | 6,214970E+21 | 9,642703E+21 |

| 1<br>Longitude $\odot$<br>Years | 2<br>0° - 30° | 3<br>30° - 60° | 4<br>60° - 90° | 5<br>90° - 120° | 6<br>120° - 150° | 7<br>150° - 180° | 8<br>180° - 210° | 9<br>210° - 240° | 10<br>240° - 270° | 11<br>270° - 300° | 12<br>300° - 330° | 13<br>330° - 360° |
|---------------------------------|---------------|----------------|----------------|-----------------|------------------|------------------|------------------|------------------|-------------------|-------------------|-------------------|-------------------|
| 1933                            | 1,370763E+22  | 1,732032E+22   | 1,947340E+22   | 1,947321E+22    | 1,732002E+22     | 1,370746E+22     | 9,642658E+21     | 6,215019E+21     | 4,303750E+21      | 4,303662E+21      | 6,214791E+21      | 9,642306E+21      |
| 1934                            | 1,370702E+22  | 1,731982E+22   | 1,947354E+22   | 1,947385E+22    | 1,732066E+22     | 1,370791E+22     | 9,642805E+21     | 6,215078E+21     | 4,303935E+21      | 4,303990E+21      | 6,215215E+21      | 9,642885E+21      |
| 1935                            | 1,370771E+22  | 1,732025E+22   | 1,947342E+22   | 1,947318E+22    | 1,731964E+22     | 1,370712E+22     | 9,642521E+21     | 6,215118E+21     | 4,304113E+21      | 4,304220E+21      | 6,215419E+21      | 9,642933E+21      |
| 1936                            | 1,370746E+22  | 1,731952E+22   | 1,947235E+22   | 1,947264E+22    | 1,731988E+22     | 1,370763E+22     | 9,643109E+21     | 6,215666E+21     | 4,304495E+21      | 4,304361E+21      | 6,215281E+21      | 9,642602E+21      |
| 1937                            | 1,370728E+22  | 1,731985E+22   | 1,947295E+22   | 1,947293E+22    | 1,731990E+22     | 1,370747E+22     | 9,642869E+21     | 6,215587E+21     | 4,304687E+21      | 4,304805E+21      | 6,215903E+21      | 9,643237E+21      |
| 1938                            | 1,370766E+22  | 1,731989E+22   | 1,947268E+22   | 1,947209E+22    | 1,731875E+22     | 1,370685E+22     | 9,642908E+21     | 6,215906E+21     | 4,304986E+21      | 4,304957E+21      | 6,215838E+21      | 9,642869E+21      |
| 1939                            | 1,370691E+22  | 1,731882E+22   | 1,947191E+22   | 1,947239E+22    | 1,731967E+22     | 1,370762E+22     | 9,643397E+21     | 6,216241E+21     | 4,305256E+21      | 4,305153E+21      | 6,215909E+21      | 9,642849E+21      |
| 1940                            | 1,370705E+22  | 1,731931E+22   | 1,947243E+22   | 1,947255E+22    | 1,731944E+22     | 1,370710E+22     | 9,642854E+21     | 6,215915E+21     | 4,305215E+21      | 4,305390E+21      | 6,216393E+21      | 9,643415E+21      |
| 1941                            | 1,370735E+22  | 1,731907E+22   | 1,947156E+22   | 1,947136E+22    | 1,731874E+22     | 1,370712E+22     | 9,643191E+21     | 6,216204E+21     | 4,305292E+21      | 4,305230E+21      | 6,216051E+21      | 9,642948E+21      |
| 1942                            | 1,370681E+22  | 1,731860E+22   | 1,947160E+22   | 1,947203E+22    | 1,731950E+22     | 1,370765E+22     | 9,643423E+21     | 6,216232E+21     | 4,305272E+21      | 4,305227E+21      | 6,216086E+21      | 9,643204E+21      |
| 1943                            | 1,370750E+22  | 1,731958E+22   | 1,947230E+22   | 1,947204E+22    | 1,731885E+22     | 1,370683E+22     | 9,642827E+21     | 6,215888E+21     | 4,305076E+21      | 4,305148E+21      | 6,216104E+21      | 9,643190E+21      |
| 1944                            | 1,370731E+22  | 1,731918E+22   | 1,947177E+22   | 1,947179E+22    | 1,731916E+22     | 1,370728E+22     | 9,643182E+21     | 6,216052E+21     | 4,304998E+21      | 4,304827E+21      | 6,215592E+21      | 9,642620E+21      |
| 1945                            | 1,370695E+22  | 1,731940E+22   | 1,947270E+22   | 1,947282E+22    | 1,731981E+22     | 1,370747E+22     | 9,642914E+21     | 6,215634E+21     | 4,304719E+21      | 4,304794E+21      | 6,215852E+21      | 9,643165E+21      |
| 1946                            | 1,370758E+22  | 1,731984E+22   | 1,947287E+22   | 1,947259E+22    | 1,731912E+22     | 1,370689E+22     | 9,642657E+21     | 6,215464E+21     | 4,304484E+21      | 4,304502E+21      | 6,215540E+21      | 9,642829E+21      |
| 1947                            | 1,370715E+22  | 1,731917E+22   | 1,947219E+22   | 1,947277E+22    | 1,732007E+22     | 1,370775E+22     | 9,643132E+21     | 6,215597E+21     | 4,304392E+21      | 4,304256E+21      | 6,215191E+21      | 9,642534E+21      |
| 1948                            | 1,370724E+22  | 1,731996E+22   | 1,947325E+22   | 1,947334E+22    | 1,732014E+22     | 1,370743E+22     | 9,642597E+21     | 6,215129E+21     | 4,304134E+21      | 4,304259E+21      | 6,215475E+21      | 9,643023E+21      |
| 1949                            | 1,370769E+22  | 1,732012E+22   | 1,947300E+22   | 1,947253E+22    | 1,731930E+22     | 1,370717E+22     | 9,642729E+21     | 6,215280E+21     | 4,304128E+21      | 4,304067E+21      | 6,215123E+21      | 9,642507E+21      |
| 1950                            | 1,370702E+22  | 1,731940E+22   | 1,947278E+22   | 1,947317E+22    | 1,732013E+22     | 1,370776E+22     | 9,643101E+21     | 6,215497E+21     | 4,304278E+21      | 4,304182E+21      | 6,215188E+21      | 9,642625E+21      |
| 1951                            | 1,370741E+22  | 1,732011E+22   | 1,947338E+22   | 1,947336E+22    | 1,731981E+22     | 1,370706E+22     | 9,642465E+21     | 6,215194E+21     | 4,304270E+21      | 4,304407E+21      | 6,215577E+21      | 9,642960E+21      |
| 1952                            | 1,370738E+22  | 1,731956E+22   | 1,947237E+22   | 1,947237E+22    | 1,731956E+22     | 1,370737E+22     | 9,642902E+21     | 6,215575E+21     | 4,304504E+21      | 4,304425E+21      | 6,215372E+21      | 9,642598E+21      |
| 1953                            | 1,370697E+22  | 1,731929E+22   | 1,947253E+22   | 1,947274E+22    | 1,731988E+22     | 1,370765E+22     | 9,643033E+21     | 6,215637E+21     | 4,304679E+21      | 4,304755E+21      | 6,215832E+21      | 9,643199E+21      |
| 1954                            | 1,370765E+22  | 1,731982E+22   | 1,947263E+22   | 1,947227E+22    | 1,731885E+22     | 1,370676E+22     | 9,642741E+21     | 6,215744E+21     | 4,304897E+21      | 4,304974E+21      | 6,215963E+21      | 9,643113E+21      |
| 1955                            | 1,370725E+22  | 1,731901E+22   | 1,947154E+22   | 1,947175E+22    | 1,731920E+22     | 1,370737E+22     | 9,643359E+21     | 6,216302E+21     | 4,305318E+21      | 4,305174E+21      | 6,215867E+21      | 9,642733E+21      |
| 1956                            | 1,370688E+22  | 1,731917E+22   | 1,947227E+22   | 1,947230E+22    | 1,731934E+22     | 1,370718E+22     | 9,643033E+21     | 6,216151E+21     | 4,305462E+21      | 4,305587E+21      | 6,216483E+21      | 9,643389E+21      |
| 1957                            | 1,370729E+22  | 1,731912E+22   | 1,947176E+22   | 1,947138E+22    | 1,731836E+22     | 1,370673E+22     | 9,643093E+21     | 6,216405E+21     | 4,305697E+21      | 4,305721E+21      | 6,216471E+21      | 9,643110E+21      |
| 1958                            | 1,370660E+22  | 1,731799E+22   | 1,947075E+22   | 1,947131E+22    | 1,731904E+22     | 1,370751E+22     | 9,643696E+21     | 6,216815E+21     | 4,305975E+21      | 4,305879E+21      | 6,216503E+21      | 9,643154E+21      |
| 1959                            | 1,370690E+22  | 1,731866E+22   | 1,947138E+22   | 1,947149E+22    | 1,731878E+22     | 1,370695E+22     | 9,643132E+21     | 6,216491E+21     | 4,305915E+21      | 4,306060E+21      | 6,216892E+21      | 9,643627E+21      |
| 1960                            | 1,370721E+22  | 1,731854E+22   | 1,947068E+22   | 1,947046E+22    | 1,731815E+22     | 1,370694E+22     | 9,643430E+21     | 6,216752E+21     | 4,305976E+21      | 4,305868E+21      | 6,216475E+21      | 9,643102E+21      |
| 1961                            | 1,370674E+22  | 1,731828E+22   | 1,947094E+22   | 1,947113E+22    | 1,731872E+22     | 1,370729E+22     | 9,643552E+21     | 6,216706E+21     | 4,305921E+21      | 4,305882E+21      | 6,216579E+21      | 9,643378E+21      |
| 1962                            | 1,370733E+22  | 1,731919E+22   | 1,947181E+22   | 1,947150E+22    | 1,731829E+22     | 1,370645E+22     | 9,642916E+21     | 6,216359E+21     | 4,305704E+21      | 4,305774E+21      | 6,216574E+21      | 9,643338E+21      |
| 1963                            | 1,370705E+22  | 1,731860E+22   | 1,947104E+22   | 1,947119E+22    | 1,731880E+22     | 1,370713E+22     | 9,643308E+21     | 6,216477E+21     | 4,305605E+21      | 4,305463E+21      | 6,216103E+21      | 9,642817E+21      |
| 1964                            | 1,370666E+22  | 1,731875E+22   | 1,947199E+22   | 1,947222E+22    | 1,731942E+22     | 1,370735E+22     | 9,643067E+21     | 6,216016E+21     | 4,305251E+21      | 4,305350E+21      | 6,216297E+21      | 9,643371E+21      |
| 1965                            | 1,370744E+22  | 1,731934E+22   | 1,947210E+22   | 1,947187E+22    | 1,731871E+22     | 1,370679E+22     | 9,642857E+21     | 6,215865E+21     | 4,305006E+21      | 4,305049E+21      | 6,215974E+21      | 9,642989E+21      |
| 1966                            | 1,370698E+22  | 1,731869E+22   | 1,947137E+22   | 1,947179E+22    | 1,731938E+22     | 1,370755E+22     | 9,643397E+21     | 6,216146E+21     | 4,305041E+21      | 4,304867E+21      | 6,215629E+21      | 9,642670E+21      |
| 1967                            | 1,370702E+22  | 1,731947E+22   | 1,947255E+22   | 1,947257E+22    | 1,731958E+22     | 1,370723E+22     | 9,642814E+21     | 6,215688E+21     | 4,304840E+21      | 4,304932E+21      | 6,215936E+21      | 9,643099E+21      |
| 1968                            | 1,370734E+22  | 1,731947E+22   | 1,947223E+22   | 1,947188E+22    | 1,731888E+22     | 1,370699E+22     | 9,642914E+21     | 6,215821E+21     | 4,304857E+21      | 4,304787E+21      | 6,215643E+21      | 9,642687E+21      |

| 1<br>Longitude ☉<br>Years | 2<br>0° - 30° | 3<br>30° - 60° | 4<br>60° - 90° | 5<br>90° - 120° | 6<br>120° - 150° | 7<br>150° - 180° | 8<br>180° - 210° | 9<br>210° - 240° | 10<br>240° - 270° | 11<br>270° - 300° | 12<br>300° - 330° | 13<br>330° - 360° |
|---------------------------|---------------|----------------|----------------|-----------------|------------------|------------------|------------------|------------------|-------------------|-------------------|-------------------|-------------------|
| 1969                      | 1,370679E+22  | 1,731875E+22   | 1,947185E+22   | 1,947225E+22    | 1,731950E+22     | 1,370750E+22     | 9,643242E+21     | 6,215997E+21     | 4,304997E+21      | 4,304947E+21      | 6,215832E+21      | 9,642959E+21      |
| 1970                      | 1,370726E+22  | 1,731949E+22   | 1,947248E+22   | 1,947248E+22    | 1,731917E+22     | 1,370679E+22     | 9,642671E+21     | 6,215742E+21     | 4,304979E+21      | 4,305131E+21      | 6,216171E+21      | 9,643276E+21      |
| 1971                      | 1,370728E+22  | 1,731898E+22   | 1,947138E+22   | 1,947135E+22    | 1,731889E+22     | 1,370715E+22     | 9,643151E+21     | 6,216158E+21     | 4,305249E+21      | 4,305172E+21      | 6,215953E+21      | 9,642846E+21      |
| 1972                      | 1,370678E+22  | 1,731878E+22   | 1,947181E+22   | 1,947191E+22    | 1,731921E+22     | 1,370738E+22     | 9,643235E+21     | 6,216198E+21     | 4,305411E+21      | 4,305474E+21      | 6,216354E+21      | 9,643369E+21      |
| 1973                      | 1,370746E+22  | 1,731935E+22   | 1,947196E+22   | 1,947155E+22    | 1,731831E+22     | 1,370653E+22     | 9,642935E+21     | 6,216279E+21     | 4,305632E+21      | 4,305733E+21      | 6,216533E+21      | 9,643239E+21      |
| 1974                      | 1,370688E+22  | 1,731830E+22   | 1,947065E+22   | 1,947084E+22    | 1,731855E+22     | 1,370715E+22     | 9,643628E+21     | 6,216949E+21     | 4,306138E+21      | 4,305984E+21      | 6,216490E+21      | 9,642948E+21      |
| 1975                      | 1,370652E+22  | 1,731834E+22   | 1,947124E+22   | 1,947144E+22    | 1,731890E+22     | 1,370709E+22     | 9,643290E+21     | 6,216760E+21     | 4,306262E+21      | 4,306381E+21      | 6,217089E+21      | 9,643619E+21      |
| 1976                      | 1,370700E+22  | 1,731828E+22   | 1,947062E+22   | 1,947040E+22    | 1,731786E+22     | 1,370665E+22     | 9,643387E+21     | 6,216993E+21     | 4,306448E+21      | 4,306459E+21      | 6,217033E+21      | 9,643407E+21      |
| 1977                      | 1,370655E+22  | 1,731744E+22   | 1,946969E+22   | 1,947008E+22    | 1,731815E+22     | 1,370719E+22     | 9,643913E+21     | 6,217379E+21     | 4,306694E+21      | 4,306594E+21      | 6,217074E+21      | 9,643458E+21      |
| 1978                      | 1,370687E+22  | 1,731828E+22   | 1,947067E+22   | 1,947057E+22    | 1,731795E+22     | 1,370652E+22     | 9,643293E+21     | 6,217051E+21     | 4,306613E+21      | 4,306724E+21      | 6,217369E+21      | 9,643790E+21      |
| 1979                      | 1,370704E+22  | 1,731810E+22   | 1,947005E+22   | 1,946971E+22    | 1,731751E+22     | 1,370662E+22     | 9,643555E+21     | 6,217250E+21     | 4,306657E+21      | 4,306551E+21      | 6,216973E+21      | 9,643209E+21      |
| 1980                      | 1,370640E+22  | 1,731775E+22   | 1,947049E+22   | 1,947069E+22    | 1,731828E+22     | 1,370701E+22     | 9,643605E+21     | 6,217107E+21     | 4,306515E+21      | 4,306498E+21      | 6,217047E+21      | 9,643516E+21      |
| 1981                      | 1,370705E+22  | 1,731859E+22   | 1,947113E+22   | 1,947099E+22    | 1,731807E+22     | 1,370638E+22     | 9,643035E+21     | 6,216707E+21     | 4,306236E+21      | 4,306361E+21      | 6,217049E+21      | 9,643498E+21      |
| 1982                      | 1,370677E+22  | 1,731793E+22   | 1,947015E+22   | 1,947033E+22    | 1,731834E+22     | 1,370710E+22     | 9,643596E+21     | 6,216966E+21     | 4,306189E+21      | 4,306038E+21      | 6,216557E+21      | 9,643031E+21      |
| 1983                      | 1,370650E+22  | 1,731816E+22   | 1,947110E+22   | 1,947138E+22    | 1,731900E+22     | 1,370730E+22     | 9,643346E+21     | 6,216546E+21     | 4,305869E+21      | 4,305918E+21      | 6,216684E+21      | 9,643477E+21      |
| 1984                      | 1,370723E+22  | 1,731879E+22   | 1,947130E+22   | 1,947107E+22    | 1,731824E+22     | 1,370669E+22     | 9,643126E+21     | 6,216409E+21     | 4,305662E+21      | 4,305655E+21      | 6,216380E+21      | 9,643129E+21      |
| 1985                      | 1,370684E+22  | 1,731825E+22   | 1,947065E+22   | 1,947084E+22    | 1,731860E+22     | 1,370721E+22     | 9,643556E+21     | 6,216663E+21     | 4,305726E+21      | 4,305564E+21      | 6,216180E+21      | 9,642898E+21      |
| 1986                      | 1,370683E+22  | 1,731893E+22   | 1,947189E+22   | 1,947185E+22    | 1,731893E+22     | 1,370684E+22     | 9,642934E+21     | 6,216215E+21     | 4,305542E+21      | 4,305648E+21      | 6,216512E+21      | 9,643354E+21      |
| 1987                      | 1,370712E+22  | 1,731881E+22   | 1,947135E+22   | 1,947107E+22    | 1,731838E+22     | 1,370679E+22     | 9,643047E+21     | 6,216299E+21     | 4,305558E+21      | 4,305539E+21      | 6,216277E+21      | 9,643002E+21      |
| 1988                      | 1,370660E+22  | 1,731816E+22   | 1,947109E+22   | 1,947144E+22    | 1,731890E+22     | 1,370724E+22     | 9,643361E+21     | 6,216439E+21     | 4,305633E+21      | 4,305621E+21      | 6,216386E+21      | 9,643263E+21      |
| 1989                      | 1,370723E+22  | 1,731904E+22   | 1,947167E+22   | 1,947160E+22    | 1,731860E+22     | 1,370659E+22     | 9,642856E+21     | 6,216222E+21     | 4,305631E+21      | 4,305801E+21      | 6,216679E+21      | 9,643463E+21      |
| 1990                      | 1,370712E+22  | 1,731851E+22   | 1,947060E+22   | 1,947037E+22    | 1,731816E+22     | 1,370691E+22     | 9,643428E+21     | 6,216788E+21     | 4,306017E+21      | 4,305897E+21      | 6,216460E+21      | 9,642984E+21      |
| 1991                      | 1,370650E+22  | 1,731817E+22   | 1,947103E+22   | 1,947115E+22    | 1,731869E+22     | 1,370718E+22     | 9,643490E+21     | 6,216849E+21     | 4,306230E+21      | 4,306249E+21      | 6,216865E+21      | 9,643416E+21      |
| 1992                      | 1,370700E+22  | 1,731853E+22   | 1,947106E+22   | 1,947082E+22    | 1,731793E+22     | 1,370644E+22     | 9,643218E+21     | 6,216926E+21     | 4,306459E+21      | 4,306534E+21      | 6,217109E+21      | 9,643425E+21      |
| 1993                      | 1,370656E+22  | 1,731748E+22   | 1,946957E+22   | 1,946976E+22    | 1,731786E+22     | 1,370694E+22     | 9,643870E+21     | 6,217548E+21     | 4,306940E+21      | 4,306815E+21      | 6,217172E+21      | 9,643281E+21      |
| 1994                      | 1,370632E+22  | 1,731757E+22   | 1,947017E+22   | 1,947039E+22    | 1,731815E+22     | 1,370682E+22     | 9,643560E+21     | 6,217382E+21     | 4,307027E+21      | 4,307144E+21      | 6,217691E+21      | 9,643916E+21      |
| 1995                      | 1,370687E+22  | 1,731765E+22   | 1,946958E+22   | 1,946931E+22    | 1,731713E+22     | 1,370640E+22     | 9,643611E+21     | 6,217580E+21     | 4,307204E+21      | 4,307210E+21      | 6,217611E+21      | 9,643649E+21      |
| 1996                      | 1,370639E+22  | 1,731699E+22   | 1,946904E+22   | 1,946923E+22    | 1,731741E+22     | 1,370681E+22     | 9,644011E+21     | 6,217866E+21     | 4,307366E+21      | 4,307268E+21      | 6,217574E+21      | 9,643650E+21      |
| 1997                      | 1,370674E+22  | 1,731790E+22   | 1,947012E+22   | 1,946994E+22    | 1,731743E+22     | 1,370625E+22     | 9,643392E+21     | 6,217481E+21     | 4,307239E+21      | 4,307383E+21      | 6,217864E+21      | 9,643922E+21      |
| 1998                      | 1,370676E+22  | 1,731754E+22   | 1,946940E+22   | 1,946906E+22    | 1,731703E+22     | 1,370642E+22     | 9,643721E+21     | 6,217743E+21     | 4,307309E+21      | 4,307206E+21      | 6,217486E+21      | 9,643411E+21      |
| 1999                      | 1,370614E+22  | 1,731706E+22   | 1,946967E+22   | 1,947008E+22    | 1,731805E+22     | 1,370699E+22     | 9,643802E+21     | 6,217568E+21     | 4,307130E+21      | 4,307108E+21      | 6,217500E+21      | 9,643675E+21      |
| 2000                      | 1,370682E+22  | 1,731793E+22   | 1,947023E+22   | 1,947025E+22    | 1,731777E+22     | 1,370644E+22     | 9,643328E+21     | 6,217189E+21     | 4,306822E+21      | 4,306919E+21      | 6,217460E+21      | 9,643706E+21      |
| 2001                      | 1,370671E+22  | 1,731745E+22   | 1,946927E+22   | 1,946928E+22    | 1,731759E+22     | 1,370687E+22     | 9,643824E+21     | 6,217472E+21     | 4,306809E+21      | 4,306642E+21      | 6,217019E+21      | 9,643246E+21      |
| 2002                      | 1,370642E+22  | 1,731774E+22   | 1,947043E+22   | 1,947056E+22    | 1,731826E+22     | 1,370696E+22     | 9,643534E+21     | 6,217082E+21     | 4,306521E+21      | 4,306537E+21      | 6,217113E+21      | 9,643590E+21      |
| 2003                      | 1,370700E+22  | 1,731828E+22   | 1,947062E+22   | 1,947032E+22    | 1,731762E+22     | 1,370639E+22     | 9,643247E+21     | 6,216905E+21     | 4,306346E+21      | 4,306350E+21      | 6,216904E+21      | 9,643267E+21      |
| 2004                      | 1,370651E+22  | 1,731768E+22   | 1,947007E+22   | 1,947025E+22    | 1,731806E+22     | 1,370687E+22     | 9,643584E+21     | 6,217070E+21     | 4,306346E+21      | 4,306224E+21      | 6,216719E+21      | 9,643141E+21      |

| 1                 | 2            | 3            | 4            | 5            | 6            | 7            | 8            | 9            | 10           | 11           | 12           | 13           |
|-------------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|
| Longitude $\odot$ | 0° - 30°     | 30° - 60°    | 60° - 90°    | 90° - 120°   | 120° - 150°  | 150° - 180°  | 180° - 210°  | 210° - 240°  | 240° - 270°  | 270° - 300°  | 300° - 330°  | 330° - 360°  |
| Years             |              |              |              |              |              |              |              |              |              |              |              |              |
| 2005              | 1,370665E+22 | 1,731835E+22 | 1,947113E+22 | 1,947117E+22 | 1,731852E+22 | 1,370668E+22 | 9,643030E+21 | 6,216588E+21 | 4,306125E+21 | 4,306293E+21 | 6,217045E+21 | 9,643593E+21 |
| 2006              | 1,370694E+22 | 1,731818E+22 | 1,947044E+22 | 1,947012E+22 | 1,731776E+22 | 1,370663E+22 | 9,643295E+21 | 6,216823E+21 | 4,306211E+21 | 4,306191E+21 | 6,216790E+21 | 9,643255E+21 |
| 2007              | 1,370650E+22 | 1,731762E+22 | 1,947020E+22 | 1,947059E+22 | 1,731842E+22 | 1,370712E+22 | 9,643619E+21 | 6,217016E+21 | 4,306341E+21 | 4,306279E+21 | 6,216820E+21 | 9,643360E+21 |
| 2008              | 1,370700E+22 | 1,731850E+22 | 1,947090E+22 | 1,947079E+22 | 1,731812E+22 | 1,370651E+22 | 9,643158E+21 | 6,216847E+21 | 4,306397E+21 | 4,306507E+21 | 6,217145E+21 | 9,643582E+21 |
| 2009              | 1,370688E+22 | 1,731792E+22 | 1,946981E+22 | 1,946944E+22 | 1,731739E+22 | 1,370661E+22 | 9,643669E+21 | 6,217440E+21 | 4,306854E+21 | 4,306728E+21 | 6,217087E+21 | 9,643197E+21 |
| 2010              | 1,370619E+22 | 1,731741E+22 | 1,947015E+22 | 1,947036E+22 | 1,731807E+22 | 1,370689E+22 | 9,643716E+21 | 6,217507E+21 | 4,307079E+21 | 4,307096E+21 | 6,217515E+21 | 9,643653E+21 |
| 2011              | 1,370665E+22 | 1,731764E+22 | 1,946992E+22 | 1,946984E+22 | 1,731736E+22 | 1,370629E+22 | 9,643452E+21 | 6,217529E+21 | 4,307288E+21 | 4,307402E+21 | 6,217821E+21 | 9,643746E+21 |
| 2012              | 1,370632E+22 | 1,731676E+22 | 1,946860E+22 | 1,946871E+22 | 1,731708E+22 | 1,370665E+22 | 9,644042E+21 | 6,218077E+21 | 4,307663E+21 | 4,307569E+21 | 6,217797E+21 | 9,643632E+21 |
| 2013              | 1,370630E+22 | 1,731709E+22 | 1,946927E+22 | 1,946937E+22 | 1,731740E+22 | 1,370654E+22 | 9,643718E+21 | 6,217884E+21 | 4,307722E+21 | 4,307856E+21 | 6,218226E+21 | 9,644124E+21 |
| 2014              | 1,370673E+22 | 1,731719E+22 | 1,946882E+22 | 1,946836E+22 | 1,731635E+22 | 1,370609E+22 | 9,643808E+21 | 6,218152E+21 | 4,307937E+21 | 4,307924E+21 | 6,218124E+21 | 9,643822E+21 |
| 2015              | 1,370619E+22 | 1,731647E+22 | 1,946836E+22 | 1,946863E+22 | 1,731698E+22 | 1,370659E+22 | 9,644150E+21 | 6,218390E+21 | 4,308075E+21 | 4,307952E+21 | 6,218040E+21 | 9,643725E+21 |
| 2016              | 1,370639E+22 | 1,731724E+22 | 1,946938E+22 | 1,946938E+22 | 1,731718E+22 | 1,370623E+22 | 9,643614E+21 | 6,217989E+21 | 4,307905E+21 | 4,308027E+21 | 6,218342E+21 | 9,644111E+21 |
| 2017              | 1,370653E+22 | 1,731686E+22 | 1,946853E+22 | 1,946822E+22 | 1,731650E+22 | 1,370630E+22 | 9,643947E+21 | 6,218229E+21 | 4,307946E+21 | 4,307862E+21 | 6,218020E+21 | 9,643683E+21 |
| 2018              | 1,370601E+22 | 1,731645E+22 | 1,946879E+22 | 1,946924E+22 | 1,731744E+22 | 1,370683E+22 | 9,644080E+21 | 6,218100E+21 | 4,307749E+21 | 4,307703E+21 | 6,217940E+21 | 9,643843E+21 |
| 2019              | 1,370665E+22 | 1,731737E+22 | 1,946935E+22 | 1,946935E+22 | 1,731718E+22 | 1,370630E+22 | 9,643563E+21 | 6,217705E+21 | 4,307465E+21 | 4,307545E+21 | 6,217914E+21 | 9,643831E+21 |
| 2020              | 1,370650E+22 | 1,731706E+22 | 1,946874E+22 | 1,946852E+22 | 1,731687E+22 | 1,370653E+22 | 9,643907E+21 | 6,217893E+21 | 4,307395E+21 | 4,307236E+21 | 6,217462E+21 | 9,643399E+21 |
| 2021              | 1,370626E+22 | 1,731733E+22 | 1,946984E+22 | 1,946991E+22 | 1,731770E+22 | 1,370667E+22 | 9,643595E+21 | 6,217476E+21 | 4,307112E+21 | 4,307163E+21 | 6,217586E+21 | 9,643719E+21 |
| 2022              | 1,370673E+22 | 1,731768E+22 | 1,946989E+22 | 1,946964E+22 | 1,731712E+22 | 1,370617E+22 | 9,643368E+21 | 6,217360E+21 | 4,306981E+21 | 4,307006E+21 | 6,217441E+21 | 9,643525E+21 |
| 2023              | 1,370635E+22 | 1,731703E+22 | 1,946919E+22 | 1,946958E+22 | 1,731773E+22 | 1,370676E+22 | 9,643716E+21 | 6,217507E+21 | 4,306967E+21 | 4,306855E+21 | 6,217204E+21 | 9,643353E+21 |
| 2024              | 1,370650E+22 | 1,731778E+22 | 1,947025E+22 | 1,947035E+22 | 1,731808E+22 | 1,370666E+22 | 9,643317E+21 | 6,217112E+21 | 4,306761E+21 | 4,306897E+21 | 6,217500E+21 | 9,643832E+21 |
| 2025              | 1,370690E+22 | 1,731773E+22 | 1,946963E+22 | 1,946912E+22 | 1,731696E+22 | 1,370637E+22 | 9,643531E+21 | 6,217400E+21 | 4,306931E+21 | 4,306888E+21 | 6,217300E+21 | 9,643447E+21 |
| 2026              | 1,370634E+22 | 1,731714E+22 | 1,946951E+22 | 1,946977E+22 | 1,731768E+22 | 1,370683E+22 | 9,643871E+21 | 6,217649E+21 | 4,307127E+21 | 4,307029E+21 | 6,217321E+21 | 9,643426E+21 |
| 2027              | 1,370662E+22 | 1,731781E+22 | 1,947007E+22 | 1,947002E+22 | 1,731756E+22 | 1,370632E+22 | 9,643385E+21 | 6,217472E+21 | 4,307236E+21 | 4,307355E+21 | 6,217766E+21 | 9,643705E+21 |
| 2028              | 1,370643E+22 | 1,731714E+22 | 1,946898E+22 | 1,946866E+22 | 1,731679E+22 | 1,370635E+22 | 9,643808E+21 | 6,217981E+21 | 4,307631E+21 | 4,307544E+21 | 6,217752E+21 | 9,643492E+21 |
| 2029              | 1,370596E+22 | 1,731663E+22 | 1,946906E+22 | 1,946940E+22 | 1,731750E+22 | 1,370675E+22 | 9,643913E+21 | 6,218025E+21 | 4,307819E+21 | 4,307885E+21 | 6,218153E+21 | 9,643945E+21 |
| 2030              | 1,370646E+22 | 1,731689E+22 | 1,946880E+22 | 1,946870E+22 | 1,731659E+22 | 1,370608E+22 | 9,643737E+21 | 6,218149E+21 | 4,308056E+21 | 4,308166E+21 | 6,218435E+21 | 9,644076E+21 |
| 2031              | 1,370625E+22 | 1,731618E+22 | 1,946760E+22 | 1,946776E+22 | 1,731646E+22 | 1,370642E+22 | 9,644246E+21 | 6,218662E+21 | 4,308415E+21 | 4,308287E+21 | 6,218303E+21 | 9,643806E+21 |
| 2032              | 1,370615E+22 | 1,731663E+22 | 1,946854E+22 | 1,946853E+22 | 1,731680E+22 | 1,370637E+22 | 9,643973E+21 | 6,218469E+21 | 4,308455E+21 | 4,308547E+21 | 6,218723E+21 | 9,644309E+21 |
| 2033              | 1,370656E+22 | 1,731670E+22 | 1,946813E+22 | 1,946755E+22 | 1,731562E+22 | 1,370577E+22 | 9,643980E+21 | 6,218714E+21 | 4,308685E+21 | 4,308675E+21 | 6,218704E+21 | 9,644044E+21 |
| 2034              | 1,370597E+22 | 1,731588E+22 | 1,946765E+22 | 1,946801E+22 | 1,731649E+22 | 1,370638E+22 | 9,644339E+21 | 6,218921E+21 | 4,308783E+21 | 4,308665E+21 | 6,218577E+21 | 9,643910E+21 |
| 2035              | 1,370613E+22 | 1,731653E+22 | 1,946845E+22 | 1,946858E+22 | 1,731676E+22 | 1,370619E+22 | 9,643842E+21 | 6,218481E+21 | 4,308574E+21 | 4,308719E+21 | 6,218882E+21 | 9,644307E+21 |
| 2036              | 1,370631E+22 | 1,731630E+22 | 1,946774E+22 | 1,946738E+22 | 1,731585E+22 | 1,370609E+22 | 9,644116E+21 | 6,218669E+21 | 4,308522E+21 | 4,308445E+21 | 6,218483E+21 | 9,643914E+21 |
| 2037              | 1,370596E+22 | 1,731604E+22 | 1,946803E+22 | 1,946841E+22 | 1,731682E+22 | 1,370659E+22 | 9,644214E+21 | 6,218522E+21 | 4,308321E+21 | 4,308271E+21 | 6,218327E+21 | 9,643916E+21 |
| 2038              | 1,370641E+22 | 1,731688E+22 | 1,946867E+22 | 1,946855E+22 | 1,731649E+22 | 1,370601E+22 | 9,643726E+21 | 6,218195E+21 | 4,308092E+21 | 4,308156E+21 | 6,218351E+21 | 9,643937E+21 |
| 2039              | 1,370624E+22 | 1,731649E+22 | 1,946805E+22 | 1,946800E+22 | 1,731648E+22 | 1,370630E+22 | 9,643997E+21 | 6,218332E+21 | 4,308013E+21 | 4,307848E+21 | 6,217899E+21 | 9,643484E+21 |
| 2040              | 1,370595E+22 | 1,731672E+22 | 1,946909E+22 | 1,946931E+22 | 1,731738E+22 | 1,370662E+22 | 9,643780E+21 | 6,217920E+21 | 4,307713E+21 | 4,307762E+21 | 6,218067E+21 | 9,643955E+21 |



| 1<br>Longitude $\odot$<br>Years | 2<br>0° - 30° | 3<br>30° - 60° | 4<br>60° - 90° | 5<br>90° - 120° | 6<br>120° - 150° | 7<br>150° - 180° | 8<br>180° - 210° | 9<br>210° - 240° | 10<br>240° - 270° | 11<br>270° - 300° | 12<br>300° - 330° | 13<br>330° - 360° |
|---------------------------------|---------------|----------------|----------------|-----------------|------------------|------------------|------------------|------------------|-------------------|-------------------|-------------------|-------------------|
| 2041                            | 1,370656E+22  | 1,731706E+22   | 1,946900E+22   | 1,946876E+22    | 1,731652E+22     | 1,370600E+22     | 9,643564E+21     | 6,217831E+21     | 4,307613E+21      | 4,307661E+21      | 6,217985E+21      | 9,643826E+21      |
| 2042                            | 1,370629E+22  | 1,731651E+22   | 1,946835E+22   | 1,946875E+22    | 1,731711E+22     | 1,370657E+22     | 9,643965E+21     | 6,218037E+21     | 4,307623E+21      | 4,307494E+21      | 6,217673E+21      | 9,643528E+21      |
| 2043                            | 1,370635E+22  | 1,731725E+22   | 1,946939E+22   | 1,946947E+22    | 1,731748E+22     | 1,370652E+22     | 9,643570E+21     | 6,217679E+21     | 4,307488E+21      | 4,307609E+21      | 6,218002E+21      | 9,643939E+21      |
| 2044                            | 1,370663E+22  | 1,731728E+22   | 1,946904E+22   | 1,946837E+22    | 1,731624E+22     | 1,370605E+22     | 9,643687E+21     | 6,217926E+21     | 4,307645E+21      | 4,307612E+21      | 6,217848E+21      | 9,643628E+21      |
| 2045                            | 1,370612E+22  | 1,731657E+22   | 1,946875E+22   | 1,946905E+22    | 1,731711E+22     | 1,370657E+22     | 9,644017E+21     | 6,218177E+21     | 4,307878E+21      | 4,307809E+21      | 6,217908E+21      | 9,643578E+21      |
| 2046                            | 1,370624E+22  | 1,731699E+22   | 1,946909E+22   | 1,946916E+22    | 1,731699E+22     | 1,370614E+22     | 9,643614E+21     | 6,218063E+21     | 4,308033E+21      | 4,308177E+21      | 6,218437E+21      | 9,644021E+21      |
| 2047                            | 1,370621E+22  | 1,731633E+22   | 1,946783E+22   | 1,946776E+22    | 1,731631E+22     | 1,370622E+22     | 9,644031E+21     | 6,218541E+21     | 4,308390E+21      | 4,308318E+21      | 6,218360E+21      | 9,643782E+21      |
| 2048                            | 1,370584E+22  | 1,731601E+22   | 1,946798E+22   | 1,946831E+22    | 1,731683E+22     | 1,370663E+22     | 9,644236E+21     | 6,218643E+21     | 4,308567E+21      | 4,308600E+21      | 6,218714E+21      | 9,644258E+21      |
| 2049                            | 1,370643E+22  | 1,731642E+22   | 1,946789E+22   | 1,946757E+22    | 1,731566E+22     | 1,370572E+22     | 9,643958E+21     | 6,218776E+21     | 4,308856E+21      | 4,308942E+21      | 6,219015E+21      | 9,644327E+21      |
| 2050                            | 1,370616E+22  | 1,731577E+22   | 1,946693E+22   | 1,946693E+22    | 1,731567E+22     | 1,370605E+22     | 9,644437E+21     | 6,219264E+21     | 4,309206E+21      | 4,309057E+21      | 6,218836E+21      | 9,643914E+21      |
| 2051                            | 1,370582E+22  | 1,731601E+22   | 1,946779E+22   | 1,946785E+22    | 1,731628E+22     | 1,370618E+22     | 9,644170E+21     | 6,219045E+21     | 4,309240E+21      | 4,309342E+21      | 6,219308E+21      | 9,644425E+21      |
| 2052                            | 1,370617E+22  | 1,731605E+22   | 1,946744E+22   | 1,946693E+22    | 1,731514E+22     | 1,370555E+22     | 9,644098E+21     | 6,219164E+21     | 4,309346E+21      | 4,309374E+21      | 6,219268E+21      | 9,644281E+21      |
| 2053                            | 1,370576E+22  | 1,731522E+22   | 1,946673E+22   | 1,946721E+22    | 1,731603E+22     | 1,370628E+22     | 9,644528E+21     | 6,219362E+21     | 4,309396E+21      | 4,309301E+21      | 6,219055E+21      | 9,644063E+21      |
| 2054                            | 1,370587E+22  | 1,731586E+22   | 1,946749E+22   | 1,946766E+22    | 1,731618E+22     | 1,370608E+22     | 9,644128E+21     | 6,219010E+21     | 4,309202E+21      | 4,309323E+21      | 6,219333E+21      | 9,644489E+21      |
| 2055                            | 1,370615E+22  | 1,731575E+22   | 1,946686E+22   | 1,946662E+22    | 1,731537E+22     | 1,370591E+22     | 9,644300E+21     | 6,219152E+21     | 4,309135E+21      | 4,309021E+21      | 6,218868E+21      | 9,643993E+21      |
| 2056                            | 1,370575E+22  | 1,731559E+22   | 1,946733E+22   | 1,946767E+22    | 1,731628E+22     | 1,370644E+22     | 9,644446E+21     | 6,219021E+21     | 4,308929E+21      | 4,308845E+21      | 6,218760E+21      | 9,644079E+21      |
| 2057                            | 1,370619E+22  | 1,731635E+22   | 1,946797E+22   | 1,946782E+22    | 1,731584E+22     | 1,370567E+22     | 9,643848E+21     | 6,218676E+21     | 4,308744E+21      | 4,308823E+21      | 6,218898E+21      | 9,644188E+21      |
| 2058                            | 1,370607E+22  | 1,731593E+22   | 1,946732E+22   | 1,946735E+22    | 1,731599E+22     | 1,370608E+22     | 9,644122E+21     | 6,218763E+21     | 4,308636E+21      | 4,308504E+21      | 6,218427E+21      | 9,643719E+21      |
| 2059                            | 1,370578E+22  | 1,731612E+22   | 1,946821E+22   | 1,946850E+22    | 1,731690E+22     | 1,370654E+22     | 9,643988E+21     | 6,218371E+21     | 4,308337E+21      | 4,308420E+21      | 6,218596E+21      | 9,644178E+21      |
| 2060                            | 1,370644E+22  | 1,731667E+22   | 1,946830E+22   | 1,946794E+22    | 1,731584E+22     | 1,370574E+22     | 9,643704E+21     | 6,218256E+21     | 4,308189E+21      | 4,308253E+21      | 6,218454E+21      | 9,644063E+21      |
| 2061                            | 1,370627E+22  | 1,731620E+22   | 1,946768E+22   | 1,946797E+22    | 1,731649E+22     | 1,370632E+22     | 9,644108E+21     | 6,218504E+21     | 4,308262E+21      | 4,308123E+21      | 6,218090E+21      | 9,643584E+21      |
| 2062                            | 1,370606E+22  | 1,731673E+22   | 1,946870E+22   | 1,946873E+22    | 1,731687E+22     | 1,370629E+22     | 9,643799E+21     | 6,218248E+21     | 4,308216E+21      | 4,308319E+21      | 6,218509E+21      | 9,644051E+21      |
| 2063                            | 1,370628E+22  | 1,731656E+22   | 1,946818E+22   | 1,946780E+22    | 1,731589E+22     | 1,370587E+22     | 9,643869E+21     | 6,218478E+21     | 4,308393E+21      | 4,308357E+21      | 6,218395E+21      | 9,643767E+21      |
| 2064                            | 1,370576E+22  | 1,731582E+22   | 1,946776E+22   | 1,946823E+22    | 1,731668E+22     | 1,370655E+22     | 9,644321E+21     | 6,218763E+21     | 4,308621E+21      | 4,308551E+21      | 6,218523E+21      | 9,643888E+21      |
| 2065                            | 1,370600E+22  | 1,731620E+22   | 1,946794E+22   | 1,946803E+22    | 1,731621E+22     | 1,370592E+22     | 9,643906E+21     | 6,218691E+21     | 4,308828E+21      | 4,308983E+21      | 6,219102E+21      | 9,644382E+21      |
| 2066                            | 1,370614E+22  | 1,731574E+22   | 1,946682E+22   | 1,946670E+22    | 1,731550E+22     | 1,370595E+22     | 9,644311E+21     | 6,219172E+21     | 4,309188E+21      | 4,309099E+21      | 6,218941E+21      | 9,644015E+21      |
| 2067                            | 1,370570E+22  | 1,731550E+22   | 1,946709E+22   | 1,946728E+22    | 1,731606E+22     | 1,370637E+22     | 9,644471E+21     | 6,219270E+21     | 4,309391E+21      | 4,309413E+21      | 6,219295E+21      | 9,644400E+21      |
| 2068                            | 1,370619E+22  | 1,731600E+22   | 1,946726E+22   | 1,946675E+22    | 1,731487E+22     | 1,370531E+22     | 9,644074E+21     | 6,219313E+21     | 4,309609E+21      | 4,309710E+21      | 6,219604E+21      | 9,644542E+21      |
| 2069                            | 1,370595E+22  | 1,731525E+22   | 1,946624E+22   | 1,946630E+22    | 1,731517E+22     | 1,370577E+22     | 9,644529E+21     | 6,219758E+21     | 4,309936E+21      | 4,309810E+21      | 6,219396E+21      | 9,644066E+21      |
| 2070                            | 1,370545E+22  | 1,731523E+22   | 1,946688E+22   | 1,946711E+22    | 1,731583E+22     | 1,370605E+22     | 9,644394E+21     | 6,219576E+21     | 4,309956E+21      | 4,310078E+21      | 6,219897E+21      | 9,644685E+21      |
| 2071                            | 1,370593E+22  | 1,731526E+22   | 1,946639E+22   | 1,946618E+22    | 1,731479E+22     | 1,370550E+22     | 9,644349E+21     | 6,219666E+21     | 4,309990E+21      | 4,310018E+21      | 6,219757E+21      | 9,644478E+21      |
| 2072                            | 1,370560E+22  | 1,731468E+22   | 1,946579E+22   | 1,946627E+22    | 1,731548E+22     | 1,370623E+22     | 9,644852E+21     | 6,219905E+21     | 4,310016E+21      | 4,309880E+21      | 6,219500E+21      | 9,644267E+21      |
| 2073                            | 1,370570E+22  | 1,731535E+22   | 1,946665E+22   | 1,946667E+22    | 1,731538E+22     | 1,370577E+22     | 9,644339E+21     | 6,219561E+21     | 4,309884E+21      | 4,309975E+21      | 6,219806E+21      | 9,644652E+21      |
| 2074                            | 1,370598E+22  | 1,731530E+22   | 1,946622E+22   | 1,946588E+22    | 1,731471E+22     | 1,370559E+22     | 9,644455E+21     | 6,219646E+21     | 4,309798E+21      | 4,309679E+21      | 6,219336E+21      | 9,644095E+21      |
| 2075                            | 1,370544E+22  | 1,731500E+22   | 1,946659E+22   | 1,946698E+22    | 1,731579E+22     | 1,370622E+22     | 9,644582E+21     | 6,219488E+21     | 4,309588E+21      | 4,309529E+21      | 6,219292E+21      | 9,644238E+21      |
| 2076                            | 1,370592E+22  | 1,731583E+22   | 1,946728E+22   | 1,946714E+22    | 1,731532E+22     | 1,370543E+22     | 9,643919E+21     | 6,219038E+21     | 4,309296E+21      | 4,309427E+21      | 6,219426E+21      | 9,644501E+21      |

| 1<br>Longitude ☉<br>Years | 2<br>0° - 30° | 3<br>30° - 60° | 4<br>60° - 90° | 5<br>90° - 120° | 6<br>120° - 150° | 7<br>150° - 180° | 8<br>180° - 210° | 9<br>210° - 240° | 10<br>240° - 270° | 11<br>270° - 300° | 12<br>300° - 330° | 13<br>330° - 360° |
|---------------------------|---------------|----------------|----------------|-----------------|------------------|------------------|------------------|------------------|-------------------|-------------------|-------------------|-------------------|
| 2077                      | 1,370602E+22  | 1,731548E+22   | 1,946657E+22   | 1,946661E+22    | 1,731551E+22     | 1,370590E+22     | 9,644237E+21     | 6,219135E+21     | 4,309171E+21      | 4,309064E+21      | 6,218863E+21      | 9,643908E+21      |
| 2078                      | 1,370564E+22  | 1,731564E+22   | 1,946744E+22   | 1,946770E+22    | 1,731634E+22     | 1,370637E+22     | 9,644225E+21     | 6,218861E+21     | 4,308933E+21      | 4,308997E+21      | 6,219025E+21      | 9,644347E+21      |
| 2079                      | 1,370631E+22  | 1,731621E+22   | 1,946759E+22   | 1,946732E+22    | 1,731544E+22     | 1,370557E+22     | 9,643900E+21     | 6,218743E+21     | 4,308813E+21      | 4,308846E+21      | 6,218844E+21      | 9,644117E+21      |
| 2080                      | 1,370601E+22  | 1,731575E+22   | 1,946703E+22   | 1,946727E+22    | 1,731600E+22     | 1,370621E+22     | 9,644397E+21     | 6,219072E+21     | 4,308943E+21      | 4,308775E+21      | 6,218582E+21      | 9,643731E+21      |
| 2081                      | 1,370570E+22  | 1,731602E+22   | 1,946787E+22   | 1,946795E+22    | 1,731627E+22     | 1,370603E+22     | 9,644019E+21     | 6,218855E+21     | 4,309004E+21      | 4,309108E+21      | 6,219131E+21      | 9,644306E+21      |
| 2082                      | 1,370602E+22  | 1,731583E+22   | 1,946721E+22   | 1,946693E+22    | 1,731532E+22     | 1,370569E+22     | 9,644105E+21     | 6,219055E+21     | 4,309181E+21      | 4,309168E+21      | 6,219041E+21      | 9,644052E+21      |
| 2083                      | 1,370553E+22  | 1,731507E+22   | 1,946662E+22   | 1,946711E+22    | 1,731600E+22     | 1,370639E+22     | 9,644620E+21     | 6,219382E+21     | 4,309420E+21      | 4,309368E+21      | 6,219173E+21      | 9,644176E+21      |
| 2084                      | 1,370588E+22  | 1,731572E+22   | 1,946704E+22   | 1,946694E+22    | 1,731532E+22     | 1,370553E+22     | 9,644064E+21     | 6,219240E+21     | 4,309566E+21      | 4,309731E+21      | 6,219698E+21      | 9,644688E+21      |
| 2085                      | 1,370609E+22  | 1,731536E+22   | 1,946608E+22   | 1,946576E+22    | 1,731471E+22     | 1,370555E+22     | 9,644405E+21     | 6,219701E+21     | 4,309943E+21      | 4,309850E+21      | 6,219463E+21      | 9,644132E+21      |
| 2086                      | 1,370540E+22  | 1,731493E+22   | 1,946636E+22   | 1,946651E+22    | 1,731541E+22     | 1,370606E+22     | 9,644660E+21     | 6,219854E+21     | 4,310173E+21      | 4,310195E+21      | 6,219873E+21      | 9,644563E+21      |
| 2087                      | 1,370585E+22  | 1,731525E+22   | 1,946641E+22   | 1,946622E+22    | 1,731458E+22     | 1,370515E+22     | 9,644237E+21     | 6,219841E+21     | 4,310345E+21      | 4,310452E+21      | 6,220149E+21      | 9,644691E+21      |
| 2088                      | 1,370561E+22  | 1,731452E+22   | 1,946530E+22   | 1,946552E+22    | 1,731482E+22     | 1,370581E+22     | 9,644854E+21     | 6,220317E+21     | 4,310625E+21      | 4,310497E+21      | 6,219962E+21      | 9,644336E+21      |
| 2089                      | 1,370519E+22  | 1,731444E+22   | 1,946580E+22   | 1,946610E+22    | 1,731518E+22     | 1,370591E+22     | 9,644720E+21     | 6,220185E+21     | 4,310682E+21      | 4,310783E+21      | 6,220447E+21      | 9,644953E+21      |
| 2090                      | 1,370581E+22  | 1,731468E+22   | 1,946543E+22   | 1,946518E+22    | 1,731412E+22     | 1,370532E+22     | 9,644642E+21     | 6,220245E+21     | 4,310696E+21      | 4,310693E+21      | 6,220239E+21      | 9,644633E+21      |
| 2091                      | 1,370540E+22  | 1,731416E+22   | 1,946495E+22   | 1,946528E+22    | 1,731478E+22     | 1,370601E+22     | 9,645095E+21     | 6,220466E+21     | 4,310722E+21      | 4,310572E+21      | 6,219995E+21      | 9,644379E+21      |
| 2092                      | 1,370547E+22  | 1,731494E+22   | 1,946605E+22   | 1,946588E+22    | 1,731463E+22     | 1,370536E+22     | 9,644403E+21     | 6,219996E+21     | 4,310504E+21      | 4,310619E+21      | 6,220327E+21      | 9,644885E+21      |
| 2093                      | 1,370583E+22  | 1,731486E+22   | 1,946562E+22   | 1,946529E+22    | 1,731423E+22     | 1,370527E+22     | 9,644446E+21     | 6,220014E+21     | 4,310387E+21      | 4,310300E+21      | 6,219825E+21      | 9,644289E+21      |
| 2094                      | 1,370522E+22  | 1,731442E+22   | 1,946585E+22   | 1,946630E+22    | 1,731536E+22     | 1,370605E+22     | 9,644707E+21     | 6,219886E+21     | 4,310157E+21      | 4,310134E+21      | 6,219803E+21      | 9,644525E+21      |
| 2095                      | 1,370584E+22  | 1,731526E+22   | 1,946646E+22   | 1,946651E+22    | 1,731501E+22     | 1,370533E+22     | 9,644094E+21     | 6,219439E+21     | 4,309821E+21      | 4,309949E+21      | 6,219819E+21      | 9,644681E+21      |
| 2096                      | 1,370595E+22  | 1,731516E+22   | 1,946593E+22   | 1,946586E+22    | 1,731503E+22     | 1,370582E+22     | 9,644514E+21     | 6,219622E+21     | 4,309722E+21      | 4,309575E+21      | 6,219244E+21      | 9,644058E+21      |
| 2097                      | 1,370544E+22  | 1,731517E+22   | 1,946677E+22   | 1,946689E+22    | 1,731566E+22     | 1,370610E+22     | 9,644457E+21     | 6,219431E+21     | 4,309624E+21      | 4,309643E+21      | 6,219461E+21      | 9,644432E+21      |
| 2098                      | 1,370602E+22  | 1,731567E+22   | 1,946695E+22   | 1,946665E+22    | 1,731492E+22     | 1,370537E+22     | 9,644130E+21     | 6,219307E+21     | 4,309550E+21      | 4,309570E+21      | 6,219350E+21      | 9,644187E+21      |
| 2099                      | 1,370558E+22  | 1,731500E+22   | 1,946617E+22   | 1,946648E+22    | 1,731552E+22     | 1,370607E+22     | 9,644630E+21     | 6,219651E+21     | 4,309722E+21      | 4,309572E+21      | 6,219191E+21      | 9,643905E+21      |
| 2100                      | 1,370535E+22  | 1,731527E+22   | 1,946687E+22   | 1,946698E+22    | 1,731563E+22     | 1,370579E+22     | 9,644184E+21     | 6,219364E+21     | 4,309720E+21      | 4,309867E+21      | 6,219777E+21      | 9,644667E+21      |
| 2101                      | 1,370592E+22  | 1,731519E+22   | 1,946620E+22   | 1,946592E+22    | 1,731466E+22     | 1,370543E+22     | 9,644259E+21     | 6,219576E+21     | 4,309899E+21      | 4,309899E+21      | 6,219613E+21      | 9,644321E+21      |
| 2102                      | 1,370540E+22  | 1,731448E+22   | 1,946567E+22   | 1,946606E+22    | 1,731522E+22     | 1,370607E+22     | 9,644830E+21     | 6,219969E+21     | 4,310178E+21      | 4,310118E+21      | 6,219751E+21      | 9,644443E+21      |
| 2103                      | 1,370576E+22  | 1,731516E+22   | 1,946622E+22   | 1,946614E+22    | 1,731473E+22     | 1,370525E+22     | 9,644246E+21     | 6,219800E+21     | 4,310308E+21      | 4,310459E+21      | 6,220217E+21      | 9,644842E+21      |
| 2104                      | 1,370587E+22  | 1,731489E+22   | 1,946543E+22   | 1,946503E+22    | 1,731415E+22     | 1,370536E+22     | 9,644657E+21     | 6,220290E+21     | 4,310681E+21      | 4,310586E+21      | 6,220044E+21      | 9,644345E+21      |
| 2105                      | 1,370506E+22  | 1,731418E+22   | 1,946549E+22   | 1,946573E+22    | 1,731484E+22     | 1,370582E+22     | 9,644880E+21     | 6,220474E+21     | 4,310988E+21      | 4,311010E+21      | 6,220508E+21      | 9,644826E+21      |
| 2106                      | 1,370560E+22  | 1,731451E+22   | 1,946542E+22   | 1,946533E+22    | 1,731412E+22     | 1,370510E+22     | 9,644533E+21     | 6,220424E+21     | 4,311118E+21      | 4,311236E+21      | 6,220751E+21      | 9,644930E+21      |
| 2107                      | 1,370537E+22  | 1,731380E+22   | 1,946423E+22   | 1,946443E+22    | 1,731419E+22     | 1,370573E+22     | 9,645199E+21     | 6,220939E+21     | 4,311385E+21      | 4,311247E+21      | 6,220525E+21      | 9,644547E+21      |
| 2108                      | 1,370503E+22  | 1,731394E+22   | 1,946492E+22   | 1,946503E+22    | 1,731435E+22     | 1,370557E+22     | 9,644900E+21     | 6,220725E+21     | 4,311370E+21      | 4,311454E+21      | 6,220956E+21      | 9,645183E+21      |
| 2109                      | 1,370572E+22  | 1,731429E+22   | 1,946475E+22   | 1,946434E+22    | 1,731340E+22     | 1,370493E+22     | 9,644711E+21     | 6,220729E+21     | 4,311368E+21      | 4,311348E+21      | 6,220693E+21      | 9,644731E+21      |
| 2110                      | 1,370511E+22  | 1,731361E+22   | 1,946430E+22   | 1,946458E+22    | 1,731416E+22     | 1,370567E+22     | 9,645198E+21     | 6,220941E+21     | 4,311376E+21      | 4,311239E+21      | 6,220515E+21      | 9,644568E+21      |
| 2111                      | 1,370521E+22  | 1,731428E+22   | 1,946533E+22   | 1,946539E+22    | 1,731435E+22     | 1,370518E+22     | 9,644487E+21     | 6,220385E+21     | 4,311074E+21      | 4,311209E+21      | 6,220790E+21      | 9,645071E+21      |
| 2112                      | 1,370564E+22  | 1,731433E+22   | 1,946492E+22   | 1,946463E+22    | 1,731389E+22     | 1,370526E+22     | 9,644674E+21     | 6,220423E+21     | 4,310902E+21      | 4,310833E+21      | 6,220287E+21      | 9,644546E+21      |

| 1<br>Longitude $\odot$<br>Years | 2<br>0° - 30° | 3<br>30° - 60° | 4<br>60° - 90° | 5<br>90° - 120° | 6<br>120° - 150° | 7<br>150° - 180° | 8<br>180° - 210° | 9<br>210° - 240° | 10<br>240° - 270° | 11<br>270° - 300° | 12<br>300° - 330° | 13<br>330° - 360° |
|---------------------------------|---------------|----------------|----------------|-----------------|------------------|------------------|------------------|------------------|-------------------|-------------------|-------------------|-------------------|
| 2113                            | 1,370508E+22  | 1,731384E+22   | 1,946504E+22   | 1,946551E+22    | 1,731483E+22     | 1,370590E+22     | 9,644943E+21     | 6,220386E+21     | 4,310755E+21      | 4,310704E+21      | 6,220229E+21      | 9,644728E+21      |
| 2114                            | 1,370577E+22  | 1,731485E+22   | 1,946575E+22   | 1,946572E+22    | 1,731452E+22     | 1,370522E+22     | 9,644338E+21     | 6,219945E+21     | 4,310448E+21      | 4,310536E+21      | 6,220201E+21      | 9,644739E+21      |
| 2115                            | 1,370571E+22  | 1,731467E+22   | 1,946525E+22   | 1,946505E+22    | 1,731447E+22     | 1,370568E+22     | 9,644781E+21     | 6,220186E+21     | 4,310418E+21      | 4,310244E+21      | 6,219696E+21      | 9,644114E+21      |
| 2116                            | 1,370513E+22  | 1,731464E+22   | 1,946611E+22   | 1,946617E+22    | 1,731504E+22     | 1,370576E+22     | 9,644574E+21     | 6,219925E+21     | 4,310298E+21      | 4,310330E+21      | 6,219999E+21      | 9,644632E+21      |
| 2117                            | 1,370576E+22  | 1,731502E+22   | 1,946616E+22   | 1,946594E+22    | 1,731443E+22     | 1,370510E+22     | 9,644190E+21     | 6,219775E+21     | 4,310247E+21      | 4,310294E+21      | 6,219925E+21      | 9,644419E+21      |
| 2118                            | 1,370530E+22  | 1,731423E+22   | 1,946517E+22   | 1,946553E+22    | 1,731493E+22     | 1,370588E+22     | 9,644827E+21     | 6,220160E+21     | 4,310421E+21      | 4,310316E+21      | 6,219828E+21      | 9,644271E+21      |
| 2119                            | 1,370527E+22  | 1,731458E+22   | 1,946585E+22   | 1,946605E+22    | 1,731504E+22     | 1,370559E+22     | 9,644384E+21     | 6,219872E+21     | 4,310387E+21      | 4,310539E+21      | 6,220300E+21      | 9,644935E+21      |
| 2120                            | 1,370589E+22  | 1,731480E+22   | 1,946542E+22   | 1,946495E+22    | 1,731396E+22     | 1,370520E+22     | 9,644501E+21     | 6,220139E+21     | 4,310588E+21      | 4,310572E+21      | 6,220133E+21      | 9,644546E+21      |
| 2121                            | 1,370522E+22  | 1,731396E+22   | 1,946492E+22   | 1,946516E+22    | 1,731444E+22     | 1,370570E+22     | 9,645012E+21     | 6,220595E+21     | 4,310985E+21      | 4,310894E+21      | 6,220301E+21      | 9,644608E+21      |
| 2122                            | 1,370551E+22  | 1,731458E+22   | 1,946548E+22   | 1,946539E+22    | 1,731420E+22     | 1,370506E+22     | 9,644472E+21     | 6,220410E+21     | 4,311128E+21      | 4,311271E+21      | 6,220794E+21      | 9,644961E+21      |
| 2123                            | 1,370546E+22  | 1,731410E+22   | 1,946454E+22   | 1,946422E+22    | 1,731369E+22     | 1,370528E+22     | 9,644953E+21     | 6,220928E+21     | 4,311512E+21      | 4,311422E+21      | 6,220672E+21      | 9,644542E+21      |
| 2124                            | 1,370475E+22  | 1,731342E+22   | 1,946447E+22   | 1,946475E+22    | 1,731421E+22     | 1,370563E+22     | 9,645116E+21     | 6,221044E+21     | 4,311737E+21      | 4,311775E+21      | 6,221125E+21      | 9,645130E+21      |
| 2125                            | 1,370546E+22  | 1,731388E+22   | 1,946444E+22   | 1,946434E+22    | 1,731348E+22     | 1,370488E+22     | 9,644740E+21     | 6,220995E+21     | 4,311854E+21      | 4,311952E+21      | 6,221279E+21      | 9,645126E+21      |
| 2126                            | 1,370517E+22  | 1,731320E+22   | 1,946332E+22   | 1,946340E+22    | 1,731344E+22     | 1,370546E+22     | 9,645422E+21     | 6,221513E+21     | 4,312112E+21      | 4,311962E+21      | 6,221065E+21      | 9,644765E+21      |
| 2127                            | 1,370486E+22  | 1,731333E+22   | 1,946412E+22   | 1,946426E+22    | 1,731376E+22     | 1,370530E+22     | 9,645052E+21     | 6,221225E+21     | 4,312034E+21      | 4,312105E+21      | 6,221421E+21      | 9,645320E+21      |
| 2128                            | 1,370551E+22  | 1,731382E+22   | 1,946416E+22   | 1,946371E+22    | 1,731289E+22     | 1,370471E+22     | 9,644871E+21     | 6,221205E+21     | 4,311987E+21      | 4,311980E+21      | 6,221219E+21      | 9,644959E+21      |
| 2129                            | 1,370486E+22  | 1,731295E+22   | 1,946353E+22   | 1,946390E+22    | 1,731365E+22     | 1,370540E+22     | 9,645301E+21     | 6,221417E+21     | 4,312039E+21      | 4,311912E+21      | 6,221060E+21      | 9,644848E+21      |
| 2130                            | 1,370510E+22  | 1,731371E+22   | 1,946450E+22   | 1,946461E+22    | 1,731395E+22     | 1,370516E+22     | 9,644715E+21     | 6,220837E+21     | 4,311682E+21      | 4,311832E+21      | 6,221272E+21      | 9,645279E+21      |
| 2131                            | 1,370551E+22  | 1,731383E+22   | 1,946414E+22   | 1,946379E+22    | 1,731336E+22     | 1,370519E+22     | 9,644947E+21     | 6,220923E+21     | 4,311511E+21      | 4,311425E+21      | 6,220706E+21      | 9,644681E+21      |
| 2132                            | 1,370497E+22  | 1,731349E+22   | 1,946436E+22   | 1,946464E+22    | 1,731412E+22     | 1,370559E+22     | 9,645076E+21     | 6,220840E+21     | 4,311348E+21      | 4,311275E+21      | 6,220626E+21      | 9,644845E+21      |
| 2133                            | 1,370562E+22  | 1,731447E+22   | 1,946519E+22   | 1,946505E+22    | 1,731396E+22     | 1,370494E+22     | 9,644420E+21     | 6,220401E+21     | 4,311080E+21      | 4,311145E+21      | 6,220600E+21      | 9,644763E+21      |
| 2134                            | 1,370534E+22  | 1,731403E+22   | 1,946456E+22   | 1,946439E+22    | 1,731395E+22     | 1,370544E+22     | 9,644914E+21     | 6,220670E+21     | 4,311086E+21      | 4,310932E+21      | 6,220238E+21      | 9,644303E+21      |
| 2135                            | 1,370481E+22  | 1,731380E+22   | 1,946520E+22   | 1,946553E+22    | 1,731468E+22     | 1,370564E+22     | 9,644724E+21     | 6,220377E+21     | 4,310931E+21      | 4,310984E+21      | 6,220521E+21      | 9,644862E+21      |
| 2136                            | 1,370556E+22  | 1,731438E+22   | 1,946527E+22   | 1,946508E+22    | 1,731392E+22     | 1,370503E+22     | 9,644453E+21     | 6,220270E+21     | 4,310864E+21      | 4,310940E+21      | 6,220493E+21      | 9,644739E+21      |
| 2137                            | 1,370517E+22  | 1,731358E+22   | 1,946419E+22   | 1,946451E+22    | 1,731417E+22     | 1,370560E+22     | 9,645045E+21     | 6,220746E+21     | 4,311151E+21      | 4,311023E+21      | 6,220373E+21      | 9,644548E+21      |
| 2138                            | 1,370523E+22  | 1,731415E+22   | 1,946501E+22   | 1,946503E+22    | 1,731435E+22     | 1,370541E+22     | 9,644636E+21     | 6,220462E+21     | 4,311148E+21      | 4,311274E+21      | 6,220810E+21      | 9,645068E+21      |
| 2139                            | 1,370567E+22  | 1,731431E+22   | 1,946472E+22   | 1,946408E+22    | 1,731327E+22     | 1,370498E+22     | 9,644763E+21     | 6,220773E+21     | 4,311401E+21      | 4,311367E+21      | 6,220684E+21      | 9,644665E+21      |
| 2140                            | 1,370495E+22  | 1,731342E+22   | 1,946420E+22   | 1,946439E+22    | 1,731378E+22     | 1,370535E+22     | 9,645138E+21     | 6,221163E+21     | 4,311777E+21      | 4,311698E+21      | 6,220920E+21      | 9,644843E+21      |
| 2141                            | 1,370526E+22  | 1,731390E+22   | 1,946463E+22   | 1,946465E+22    | 1,731374E+22     | 1,370486E+22     | 9,644604E+21     | 6,220966E+21     | 4,311922E+21      | 4,312076E+21      | 6,221413E+21      | 9,645194E+21      |
| 2142                            | 1,370516E+22  | 1,731328E+22   | 1,946348E+22   | 1,946326E+22    | 1,731311E+22     | 1,370516E+22     | 9,645235E+21     | 6,221522E+21     | 4,312285E+21      | 4,312222E+21      | 6,221332E+21      | 9,644884E+21      |
| 2143                            | 1,370460E+22  | 1,731265E+22   | 1,946340E+22   | 1,946381E+22    | 1,731360E+22     | 1,370546E+22     | 9,645381E+21     | 6,221619E+21     | 4,312450E+21      | 4,312470E+21      | 6,221642E+21      | 9,645341E+21      |
| 2144                            | 1,370533E+22  | 1,731340E+22   | 1,946364E+22   | 1,946338E+22    | 1,731275E+22     | 1,370467E+22     | 9,645000E+21     | 6,221572E+21     | 4,312552E+21      | 4,312635E+21      | 6,221802E+21      | 9,645307E+21      |
| 2145                            | 1,370492E+22  | 1,731260E+22   | 1,946254E+22   | 1,946255E+22    | 1,731268E+22     | 1,370510E+22     | 9,645580E+21     | 6,222093E+21     | 4,312873E+21      | 4,312701E+21      | 6,221601E+21      | 9,644938E+21      |
| 2146                            | 1,370464E+22  | 1,731278E+22   | 1,946336E+22   | 1,946350E+22    | 1,731324E+22     | 1,370512E+22     | 9,645212E+21     | 6,221731E+21     | 4,312744E+21      | 4,312821E+21      | 6,221947E+21      | 9,645457E+21      |
| 2147                            | 1,370519E+22  | 1,731313E+22   | 1,946332E+22   | 1,946297E+22    | 1,731246E+22     | 1,370463E+22     | 9,645085E+21     | 6,221703E+21     | 4,312658E+21      | 4,312663E+21      | 6,221740E+21      | 9,645170E+21      |
| 2148                            | 1,370471E+22  | 1,731240E+22   | 1,946268E+22   | 1,946308E+22    | 1,731309E+22     | 1,370520E+22     | 9,645437E+21     | 6,221832E+21     | 4,312612E+21      | 4,312503E+21      | 6,221540E+21      | 9,645116E+21      |

| 1<br>Longitude ☉<br>Years | 2<br>0° - 30° | 3<br>30° - 60° | 4<br>60° - 90° | 5<br>90° - 120° | 6<br>120° - 150° | 7<br>150° - 180° | 8<br>180° - 210° | 9<br>210° - 240° | 10<br>240° - 270° | 11<br>270° - 300° | 12<br>300° - 330° | 13<br>330° - 360° |
|---------------------------|---------------|----------------|----------------|-----------------|------------------|------------------|------------------|------------------|-------------------|-------------------|-------------------|-------------------|
| 2149                      | 1,370507E+22  | 1,731329E+22   | 1,946376E+22   | 1,946383E+22    | 1,731340E+22     | 1,370495E+22     | 9,644846E+21     | 6,221278E+21     | 4,312257E+21      | 4,312379E+21      | 6,221654E+21      | 9,645390E+21      |
| 2150                      | 1,370533E+22  | 1,731337E+22   | 1,946347E+22   | 1,946303E+22    | 1,731276E+22     | 1,370499E+22     | 9,645138E+21     | 6,221391E+21     | 4,312106E+21      | 4,312012E+21      | 6,221136E+21      | 9,644811E+21      |
| 2151                      | 1,370476E+22  | 1,731295E+22   | 1,946373E+22   | 1,946407E+22    | 1,731363E+22     | 1,370539E+22     | 9,645227E+21     | 6,221277E+21     | 4,311924E+21      | 4,311840E+21      | 6,221016E+21      | 9,644897E+21      |
| 2152                      | 1,370532E+22  | 1,731395E+22   | 1,946460E+22   | 1,946450E+22    | 1,731353E+22     | 1,370478E+22     | 9,644592E+21     | 6,220854E+21     | 4,311674E+21      | 4,311763E+21      | 6,221109E+21      | 9,644942E+21      |
| 2153                      | 1,370502E+22  | 1,731328E+22   | 1,946366E+22   | 1,946366E+22    | 1,731343E+22     | 1,370523E+22     | 9,645062E+21     | 6,221166E+21     | 4,311770E+21      | 4,311634E+21      | 6,220810E+21      | 9,644603E+21      |
| 2154                      | 1,370472E+22  | 1,731319E+22   | 1,946417E+22   | 1,946453E+22    | 1,731412E+22     | 1,370559E+22     | 9,644986E+21     | 6,220892E+21     | 4,311610E+21      | 4,311674E+21      | 6,221060E+21      | 9,645106E+21      |
| 2155                      | 1,370546E+22  | 1,731385E+22   | 1,946436E+22   | 1,946408E+22    | 1,731322E+22     | 1,370486E+22     | 9,644741E+21     | 6,220862E+21     | 4,311591E+21      | 4,311643E+21      | 6,221000E+21      | 9,644948E+21      |
| 2156                      | 1,370513E+22  | 1,731323E+22   | 1,946345E+22   | 1,946357E+22    | 1,731333E+22     | 1,370518E+22     | 9,645147E+21     | 6,221275E+21     | 4,311878E+21      | 4,311742E+21      | 6,220896E+21      | 9,644737E+21      |
| 2157                      | 1,370509E+22  | 1,731374E+22   | 1,946441E+22   | 1,946433E+22    | 1,731369E+22     | 1,370504E+22     | 9,644732E+21     | 6,221013E+21     | 4,311919E+21      | 4,312034E+21      | 6,221343E+21      | 9,645160E+21      |
| 2158                      | 1,370529E+22  | 1,731361E+22   | 1,946395E+22   | 1,946342E+22    | 1,731275E+22     | 1,370476E+22     | 9,644940E+21     | 6,221338E+21     | 4,312191E+21      | 4,312190E+21      | 6,221334E+21      | 9,644896E+21      |
| 2159                      | 1,370460E+22  | 1,731253E+22   | 1,946320E+22   | 1,946367E+22    | 1,731338E+22     | 1,370528E+22     | 9,645373E+21     | 6,221707E+21     | 4,312518E+21      | 4,312457E+21      | 6,221509E+21      | 9,645069E+21      |
| 2160                      | 1,370501E+22  | 1,731318E+22   | 1,946365E+22   | 1,946375E+22    | 1,731322E+22     | 1,370484E+22     | 9,644951E+21     | 6,221560E+21     | 4,312646E+21      | 4,312813E+21      | 6,222022E+21      | 9,645471E+21      |
| 2161                      | 1,370495E+22  | 1,731253E+22   | 1,946237E+22   | 1,946220E+22    | 1,731234E+22     | 1,370492E+22     | 9,645518E+21     | 6,222185E+21     | 4,313097E+21      | 4,312997E+21      | 6,221912E+21      | 9,645146E+21      |
| 2162                      | 1,370450E+22  | 1,731210E+22   | 1,946239E+22   | 1,946269E+22    | 1,731287E+22     | 1,370531E+22     | 9,645672E+21     | 6,222248E+21     | 4,313247E+21      | 4,313238E+21      | 6,222181E+21      | 9,645477E+21      |
| 2163                      | 1,370506E+22  | 1,731283E+22   | 1,946285E+22   | 1,946250E+22    | 1,731204E+22     | 1,370442E+22     | 9,645246E+21     | 6,222183E+21     | 4,313333E+21      | 4,313402E+21      | 6,222354E+21      | 9,645475E+21      |
| 2164                      | 1,370471E+22  | 1,731206E+22   | 1,946176E+22   | 1,946175E+22    | 1,731198E+22     | 1,370468E+22     | 9,645611E+21     | 6,222560E+21     | 4,313573E+21      | 4,313432E+21      | 6,222194E+21      | 9,645217E+21      |
| 2165                      | 1,370449E+22  | 1,731224E+22   | 1,946259E+22   | 1,946278E+22    | 1,731275E+22     | 1,370488E+22     | 9,645288E+21     | 6,222163E+21     | 4,313387E+21      | 4,313488E+21      | 6,222478E+21      | 9,645695E+21      |
| 2166                      | 1,370503E+22  | 1,731255E+22   | 1,946248E+22   | 1,946218E+22    | 1,731193E+22     | 1,370449E+22     | 9,645275E+21     | 6,222138E+21     | 4,313245E+21      | 4,313281E+21      | 6,222249E+21      | 9,645439E+21      |
| 2167                      | 1,370464E+22  | 1,731191E+22   | 1,946194E+22   | 1,946238E+22    | 1,731257E+22     | 1,370503E+22     | 9,645618E+21     | 6,222257E+21     | 4,313146E+21      | 4,313010E+21      | 6,221885E+21      | 9,645208E+21      |
| 2168                      | 1,370494E+22  | 1,731299E+22   | 1,946324E+22   | 1,946319E+22    | 1,731288E+22     | 1,370480E+22     | 9,645056E+21     | 6,221726E+21     | 4,312804E+21      | 4,312907E+21      | 6,222025E+21      | 9,645426E+21      |
| 2169                      | 1,370499E+22  | 1,731280E+22   | 1,946282E+22   | 1,946244E+22    | 1,731220E+22     | 1,370472E+22     | 9,645296E+21     | 6,221895E+21     | 4,312758E+21      | 4,312642E+21      | 6,221582E+21      | 9,644906E+21      |
| 2170                      | 1,370446E+22  | 1,731232E+22   | 1,946290E+22   | 1,946336E+22    | 1,731324E+22     | 1,370534E+22     | 9,645438E+21     | 6,221766E+21     | 4,312584E+21      | 4,312506E+21      | 6,221512E+21      | 9,645007E+21      |
| 2171                      | 1,370494E+22  | 1,731319E+22   | 1,946368E+22   | 1,946372E+22    | 1,731308E+22     | 1,370474E+22     | 9,644869E+21     | 6,221377E+21     | 4,312347E+21      | 4,312446E+21      | 6,221638E+21      | 9,645182E+21      |
| 2172                      | 1,370490E+22  | 1,731270E+22   | 1,946270E+22   | 1,946270E+22    | 1,731273E+22     | 1,370495E+22     | 9,645205E+21     | 6,221634E+21     | 4,312413E+21      | 4,312298E+21      | 6,221358E+21      | 9,644917E+21      |
| 2173                      | 1,370472E+22  | 1,731280E+22   | 1,946338E+22   | 1,946362E+22    | 1,731341E+22     | 1,370527E+22     | 9,645118E+21     | 6,221404E+21     | 4,312289E+21      | 4,312335E+21      | 6,221545E+21      | 9,645286E+21      |
| 2174                      | 1,370532E+22  | 1,731341E+22   | 1,946362E+22   | 1,946324E+22    | 1,731253E+22     | 1,370458E+22     | 9,644914E+21     | 6,221388E+21     | 4,312303E+21      | 4,312367E+21      | 6,221555E+21      | 9,645157E+21      |
| 2175                      | 1,370492E+22  | 1,731269E+22   | 1,946281E+22   | 1,946298E+22    | 1,731277E+22     | 1,370491E+22     | 9,645294E+21     | 6,221778E+21     | 4,312572E+21      | 4,312441E+21      | 6,221413E+21      | 9,644877E+21      |
| 2176                      | 1,370480E+22  | 1,731316E+22   | 1,946373E+22   | 1,946373E+22    | 1,731324E+22     | 1,370490E+22     | 9,644943E+21     | 6,221548E+21     | 4,312640E+21      | 4,312788E+21      | 6,221958E+21      | 9,645376E+21      |
| 2177                      | 1,370493E+22  | 1,731275E+22   | 1,946292E+22   | 1,946261E+22    | 1,731225E+22     | 1,370464E+22     | 9,645203E+21     | 6,221947E+21     | 4,312998E+21      | 4,313010E+21      | 6,221992E+21      | 9,645215E+21      |
| 2178                      | 1,370446E+22  | 1,731183E+22   | 1,946202E+22   | 1,946253E+22    | 1,731280E+22     | 1,370529E+22     | 9,645737E+21     | 6,222339E+21     | 4,313310E+21      | 4,313245E+21      | 6,222101E+21      | 9,645283E+21      |
| 2179                      | 1,370478E+22  | 1,731252E+22   | 1,946259E+22   | 1,946262E+22    | 1,731244E+22     | 1,370466E+22     | 9,645314E+21     | 6,222254E+21     | 4,313473E+21      | 4,313593E+21      | 6,222560E+21      | 9,645664E+21      |
| 2180                      | 1,370483E+22  | 1,731203E+22   | 1,946147E+22   | 1,946115E+22    | 1,731143E+22     | 1,370447E+22     | 9,645646E+21     | 6,222765E+21     | 4,313884E+21      | 4,313773E+21      | 6,222482E+21      | 9,645351E+21      |
| 2181                      | 1,370433E+22  | 1,731163E+22   | 1,946166E+22   | 1,946186E+22    | 1,731211E+22     | 1,370486E+22     | 9,645754E+21     | 6,222797E+21     | 4,314012E+21      | 4,313999E+21      | 6,222740E+21      | 9,645621E+21      |
| 2182                      | 1,370472E+22  | 1,731214E+22   | 1,946202E+22   | 1,946176E+22    | 1,731149E+22     | 1,370416E+22     | 9,645374E+21     | 6,222678E+21     | 4,314045E+21      | 4,314157E+21      | 6,222979E+21      | 9,645754E+21      |
| 2183                      | 1,370446E+22  | 1,731136E+22   | 1,946094E+22   | 1,946110E+22    | 1,731155E+22     | 1,370454E+22     | 9,645754E+21     | 6,222971E+21     | 4,314161E+21      | 4,314049E+21      | 6,222690E+21      | 9,645445E+21      |
| 2184                      | 1,370436E+22  | 1,731175E+22   | 1,946186E+22   | 1,946207E+22    | 1,731227E+22     | 1,370481E+22     | 9,645539E+21     | 6,222609E+21     | 4,313941E+21      | 4,314056E+21      | 6,222934E+21      | 9,645873E+21      |



| 1<br>Longitude ☉<br>Years | 2<br>0° - 30° | 3<br>30° - 60° | 4<br>60° - 90° | 5<br>90° - 120° | 6<br>120° - 150° | 7<br>150° - 180° | 8<br>180° - 210° | 9<br>210° - 240° | 10<br>240° - 270° | 11<br>270° - 300° | 12<br>300° - 330° | 13<br>330° - 360° |
|---------------------------|---------------|----------------|----------------|-----------------|------------------|------------------|------------------|------------------|-------------------|-------------------|-------------------|-------------------|
| 2185                      | 1,370485E+22  | 1,731201E+22   | 1,946167E+22   | 1,946142E+22    | 1,731139E+22     | 1,370432E+22     | 9,645507E+21     | 6,222656E+21     | 4,313876E+21      | 4,313871E+21      | 6,222659E+21      | 9,645570E+21      |
| 2186                      | 1,370450E+22  | 1,731151E+22   | 1,946118E+22   | 1,946154E+22    | 1,731208E+22     | 1,370498E+22     | 9,645885E+21     | 6,222772E+21     | 4,313782E+21      | 4,313612E+21      | 6,222272E+21      | 9,645207E+21      |
| 2187                      | 1,370456E+22  | 1,731241E+22   | 1,946259E+22   | 1,946256E+22    | 1,731239E+22     | 1,370465E+22     | 9,645322E+21     | 6,222277E+21     | 4,313476E+21      | 4,313548E+21      | 6,222462E+21      | 9,645522E+21      |
| 2188                      | 1,370472E+22  | 1,731219E+22   | 1,946203E+22   | 1,946174E+22    | 1,731166E+22     | 1,370440E+22     | 9,645358E+21     | 6,222334E+21     | 4,313405E+21      | 4,313320E+21      | 6,222145E+21      | 9,645185E+21      |
| 2189                      | 1,370431E+22  | 1,731174E+22   | 1,946203E+22   | 1,946254E+22    | 1,731271E+22     | 1,370510E+22     | 9,645561E+21     | 6,222212E+21     | 4,313214E+21      | 4,313171E+21      | 6,222070E+21      | 9,645294E+21      |
| 2190                      | 1,370482E+22  | 1,731261E+22   | 1,946275E+22   | 1,946278E+22    | 1,731244E+22     | 1,370454E+22     | 9,645070E+21     | 6,221843E+21     | 4,312969E+21      | 4,313107E+21      | 6,222213E+21      | 9,645519E+21      |
| 2191                      | 1,370486E+22  | 1,731228E+22   | 1,946197E+22   | 1,946188E+22    | 1,731206E+22     | 1,370466E+22     | 9,645335E+21     | 6,222071E+21     | 4,313007E+21      | 4,312890E+21      | 6,221796E+21      | 9,645090E+21      |
| 2192                      | 1,370464E+22  | 1,731254E+22   | 1,946289E+22   | 1,946295E+22    | 1,731280E+22     | 1,370500E+22     | 9,645283E+21     | 6,221879E+21     | 4,312926E+21      | 4,312983E+21      | 6,222022E+21      | 9,645385E+21      |
| 2193                      | 1,370500E+22  | 1,731282E+22   | 1,946293E+22   | 1,946263E+22    | 1,731200E+22     | 1,370430E+22     | 9,645070E+21     | 6,221941E+21     | 4,313051E+21      | 4,313108E+21      | 6,222099E+21      | 9,645310E+21      |
| 2194                      | 1,370461E+22  | 1,731201E+22   | 1,946186E+22   | 1,946217E+22    | 1,731240E+22     | 1,370490E+22     | 9,645575E+21     | 6,222360E+21     | 4,313342E+21      | 4,313214E+21      | 6,221986E+21      | 9,645019E+21      |
| 2195                      | 1,370438E+22  | 1,731231E+22   | 1,946269E+22   | 1,946286E+22    | 1,731277E+22     | 1,370490E+22     | 9,645338E+21     | 6,222203E+21     | 4,313435E+21      | 4,313564E+21      | 6,222531E+21      | 9,645618E+21      |
| 2196                      | 1,370475E+22  | 1,731203E+22   | 1,946177E+22   | 1,946150E+22    | 1,731148E+22     | 1,370435E+22     | 9,645448E+21     | 6,222565E+21     | 4,313789E+21      | 4,313798E+21      | 6,222612E+21      | 9,645516E+21      |
| 2197                      | 1,370436E+22  | 1,731131E+22   | 1,946102E+22   | 1,946141E+22    | 1,731196E+22     | 1,370495E+22     | 9,645968E+21     | 6,222980E+21     | 4,314117E+21      | 4,314026E+21      | 6,222676E+21      | 9,645475E+21      |
| 2198                      | 1,370454E+22  | 1,731193E+22   | 1,946169E+22   | 1,946160E+22    | 1,731163E+22     | 1,370433E+22     | 9,645519E+21     | 6,222854E+21     | 4,314271E+21      | 4,314405E+21      | 6,223191E+21      | 9,645899E+21      |
| 2199                      | 1,370456E+22  | 1,731143E+22   | 1,946076E+22   | 1,946042E+22    | 1,731076E+22     | 1,370409E+22     | 9,645739E+21     | 6,223264E+21     | 4,314599E+21      | 4,314505E+21      | 6,223045E+21      | 9,645554E+21      |
| 2200                      | 1,370409E+22  | 1,731108E+22   | 1,946098E+22   | 1,946124E+22    | 1,731163E+22     | 1,370463E+22     | 9,645876E+21     | 6,223259E+21     | 4,314685E+21      | 4,314719E+21      | 6,223338E+21      | 9,645867E+21      |
| 2201                      | 1,370445E+22  | 1,731140E+22   | 1,946107E+22   | 1,946100E+22    | 1,731103E+22     | 1,370402E+22     | 9,645576E+21     | 6,223184E+21     | 4,314728E+21      | 4,314855E+21      | 6,223546E+21      | 9,646057E+21      |
| 2202                      | 1,370439E+22  | 1,731084E+22   | 1,945999E+22   | 1,946014E+22    | 1,731109E+22     | 1,370455E+22     | 9,646069E+21     | 6,223499E+21     | 4,314803E+21      | 4,314671E+21      | 6,223139E+21      | 9,645586E+21      |
| 2203                      | 1,370416E+22  | 1,731126E+22   | 1,946112E+22   | 1,946125E+22    | 1,731170E+22     | 1,370469E+22     | 9,645874E+21     | 6,223196E+21     | 4,314608E+21      | 4,314653E+21      | 6,223306E+21      | 9,645957E+21      |
| 2204                      | 1,370468E+22  | 1,731156E+22   | 1,946098E+22   | 1,946065E+22    | 1,731074E+22     | 1,370397E+22     | 9,645630E+21     | 6,223144E+21     | 4,314529E+21      | 4,314510E+21      | 6,223107E+21      | 9,645674E+21      |
| 2205                      | 1,370425E+22  | 1,731103E+22   | 1,946054E+22   | 1,946087E+22    | 1,731153E+22     | 1,370466E+22     | 9,645994E+21     | 6,223249E+21     | 4,314429E+21      | 4,314264E+21      | 6,222759E+21      | 9,645316E+21      |
| 2206                      | 1,370417E+22  | 1,731166E+22   | 1,946172E+22   | 1,946183E+22    | 1,731195E+22     | 1,370449E+22     | 9,645469E+21     | 6,222719E+21     | 4,314103E+21      | 4,314222E+21      | 6,223041E+21      | 9,645802E+21      |
| 2207                      | 1,370449E+22  | 1,731151E+22   | 1,946120E+22   | 1,946101E+22    | 1,731119E+22     | 1,370423E+22     | 9,645488E+21     | 6,222711E+21     | 4,313941E+21      | 4,313893E+21      | 6,222634E+21      | 9,645473E+21      |
| 2208                      | 1,370428E+22  | 1,731134E+22   | 1,946132E+22   | 1,946175E+22    | 1,731211E+22     | 1,370488E+22     | 9,645737E+21     | 6,222633E+21     | 4,313762E+21      | 4,313742E+21      | 6,222543E+21      | 9,645520E+21      |
| 2209                      | 1,370471E+22  | 1,731214E+22   | 1,946198E+22   | 1,946195E+22    | 1,731182E+22     | 1,370430E+22     | 9,645260E+21     | 6,222352E+21     | 4,313613E+21      | 4,313728E+21      | 6,222672E+21      | 9,645717E+21      |
| 2210                      | 1,370479E+22  | 1,731195E+22   | 1,946130E+22   | 1,946106E+22    | 1,731153E+22     | 1,370453E+22     | 9,645560E+21     | 6,222584E+21     | 4,313673E+21      | 4,313539E+21      | 6,222237E+21      | 9,645138E+21      |
| 2211                      | 1,370428E+22  | 1,731197E+22   | 1,946225E+22   | 1,946232E+22    | 1,731231E+22     | 1,370482E+22     | 9,645548E+21     | 6,222475E+21     | 4,313667E+21      | 4,313687E+21      | 6,222506E+21      | 9,645514E+21      |
| 2212                      | 1,370471E+22  | 1,731213E+22   | 1,946204E+22   | 1,946187E+22    | 1,731151E+22     | 1,370404E+22     | 9,645208E+21     | 6,222475E+21     | 4,313809E+21      | 4,313889E+21      | 6,222716E+21      | 9,645580E+21      |
| 2213                      | 1,370441E+22  | 1,731133E+22   | 1,946087E+22   | 1,946121E+22    | 1,731180E+22     | 1,370471E+22     | 9,645824E+21     | 6,222953E+21     | 4,314112E+21      | 4,314000E+21      | 6,222610E+21      | 9,645286E+21      |
| 2214                      | 1,370414E+22  | 1,731154E+22   | 1,946157E+22   | 1,946174E+22    | 1,731205E+22     | 1,370471E+22     | 9,645646E+21     | 6,222839E+21     | 4,314227E+21      | 4,314361E+21      | 6,223170E+21      | 9,645917E+21      |
| 2215                      | 1,370457E+22  | 1,731145E+22   | 1,946091E+22   | 1,946050E+22    | 1,731068E+22     | 1,370400E+22     | 9,645630E+21     | 6,223139E+21     | 4,314539E+21      | 4,314535E+21      | 6,223153E+21      | 9,645714E+21      |
| 2216                      | 1,370419E+22  | 1,731086E+22   | 1,946036E+22   | 1,946055E+22    | 1,731120E+22     | 1,370457E+22     | 9,646119E+21     | 6,223529E+21     | 4,314873E+21      | 4,314802E+21      | 6,223262E+21      | 9,645626E+21      |
| 2217                      | 1,370418E+22  | 1,731121E+22   | 1,946084E+22   | 1,946083E+22    | 1,731102E+22     | 1,370402E+22     | 9,645674E+21     | 6,223432E+21     | 4,315064E+21      | 4,315208E+21      | 6,223815E+21      | 9,646142E+21      |
| 2218                      | 1,370431E+22  | 1,731075E+22   | 1,945980E+22   | 1,945956E+22    | 1,731036E+22     | 1,370405E+22     | 9,645968E+21     | 6,223798E+21     | 4,315334E+21      | 4,315258E+21      | 6,223623E+21      | 9,645757E+21      |
| 2219                      | 1,370379E+22  | 1,731035E+22   | 1,946007E+22   | 1,946043E+22    | 1,731118E+22     | 1,370458E+22     | 9,646215E+21     | 6,223854E+21     | 4,315402E+21      | 4,315406E+21      | 6,223845E+21      | 9,646122E+21      |
| 2220                      | 1,370438E+22  | 1,731083E+22   | 1,946011E+22   | 1,946006E+22    | 1,731043E+22     | 1,370379E+22     | 9,645780E+21     | 6,223723E+21     | 4,315416E+21      | 4,315526E+21      | 6,224050E+21      | 9,646291E+21      |

| 1                 | 2            | 3            | 4            | 5            | 6            | 7            | 8            | 9            | 10           | 11           | 12           | 13           |
|-------------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|
| Longitude $\odot$ | 0° - 30°     | 30° - 60°    | 60° - 90°    | 90° - 120°   | 120° - 150°  | 150° - 180°  | 180° - 210°  | 210° - 240°  | 240° - 270°  | 270° - 300°  | 300° - 330°  | 330° - 360°  |
| Years             |              |              |              |              |              |              |              |              |              |              |              |              |
| 2221              | 1,370432E+22 | 1,731044E+22 | 1,945924E+22 | 1,945925E+22 | 1,731044E+22 | 1,370430E+22 | 9,646292E+21 | 6,224052E+21 | 4,315480E+21 | 4,315320E+21 | 6,223597E+21 | 9,645699E+21 |
| 2222              | 1,370388E+22 | 1,731069E+22 | 1,946040E+22 | 1,946046E+22 | 1,731109E+22 | 1,370447E+22 | 9,646087E+21 | 6,223719E+21 | 4,315273E+21 | 4,315321E+21 | 6,223814E+21 | 9,646102E+21 |
| 2223              | 1,370435E+22 | 1,731097E+22 | 1,946038E+22 | 1,946004E+22 | 1,731021E+22 | 1,370367E+22 | 9,645711E+21 | 6,223563E+21 | 4,315119E+21 | 4,315119E+21 | 6,223588E+21 | 9,645856E+21 |
| 2224              | 1,370403E+22 | 1,731049E+22 | 1,945989E+22 | 1,946023E+22 | 1,731110E+22 | 1,370447E+22 | 9,646090E+21 | 6,223622E+21 | 4,314993E+21 | 4,314887E+21 | 6,223292E+21 | 9,645567E+21 |
| 2225              | 1,370398E+22 | 1,731099E+22 | 1,946079E+22 | 1,946099E+22 | 1,731146E+22 | 1,370434E+22 | 9,645638E+21 | 6,223152E+21 | 4,314687E+21 | 4,314828E+21 | 6,223551E+21 | 9,646118E+21 |
| 2226              | 1,370450E+22 | 1,731109E+22 | 1,946032E+22 | 1,946004E+22 | 1,731066E+22 | 1,370414E+22 | 9,645719E+21 | 6,223177E+21 | 4,314521E+21 | 4,314453E+21 | 6,223040E+21 | 9,645624E+21 |
| 2227              | 1,370415E+22 | 1,731097E+22 | 1,946073E+22 | 1,946101E+22 | 1,731152E+22 | 1,370466E+22 | 9,645976E+21 | 6,223175E+21 | 4,314403E+21 | 4,314313E+21 | 6,222899E+21 | 9,645624E+21 |
| 2228              | 1,370457E+22 | 1,731173E+22 | 1,946136E+22 | 1,946124E+22 | 1,731119E+22 | 1,370392E+22 | 9,645347E+21 | 6,222841E+21 | 4,314289E+21 | 4,314395E+21 | 6,223139E+21 | 9,645824E+21 |
| 2229              | 1,370452E+22 | 1,731144E+22 | 1,946069E+22 | 1,946041E+22 | 1,731102E+22 | 1,370426E+22 | 9,645719E+21 | 6,223121E+21 | 4,314385E+21 | 4,314260E+21 | 6,222775E+21 | 9,645260E+21 |
| 2230              | 1,370385E+22 | 1,731113E+22 | 1,946131E+22 | 1,946154E+22 | 1,731188E+22 | 1,370473E+22 | 9,645795E+21 | 6,223028E+21 | 4,314405E+21 | 4,314456E+21 | 6,223127E+21 | 9,645758E+21 |
| 2231              | 1,370438E+22 | 1,731133E+22 | 1,946110E+22 | 1,946099E+22 | 1,731096E+22 | 1,370389E+22 | 9,645439E+21 | 6,223004E+21 | 4,314505E+21 | 4,314602E+21 | 6,223284E+21 | 9,645850E+21 |
| 2232              | 1,370427E+22 | 1,731076E+22 | 1,945998E+22 | 1,946022E+22 | 1,731113E+22 | 1,370450E+22 | 9,646069E+21 | 6,223518E+21 | 4,314843E+21 | 4,314743E+21 | 6,223187E+21 | 9,645516E+21 |
| 2233              | 1,370393E+22 | 1,731086E+22 | 1,946055E+22 | 1,946068E+22 | 1,731131E+22 | 1,370444E+22 | 9,645889E+21 | 6,223472E+21 | 4,315032E+21 | 4,315145E+21 | 6,223758E+21 | 9,646163E+21 |
| 2234              | 1,370442E+22 | 1,731091E+22 | 1,946001E+22 | 1,945951E+22 | 1,731004E+22 | 1,370380E+22 | 9,645872E+21 | 6,223754E+21 | 4,315337E+21 | 4,315321E+21 | 6,223727E+21 | 9,645874E+21 |
| 2235              | 1,370386E+22 | 1,731020E+22 | 1,945960E+22 | 1,945981E+22 | 1,731061E+22 | 1,370430E+22 | 9,646342E+21 | 6,224162E+21 | 4,315683E+21 | 4,315585E+21 | 6,223849E+21 | 9,645891E+21 |
| 2236              | 1,370399E+22 | 1,731049E+22 | 1,945988E+22 | 1,945996E+22 | 1,731046E+22 | 1,370375E+22 | 9,645801E+21 | 6,223964E+21 | 4,315835E+21 | 4,316013E+21 | 6,224473E+21 | 9,646486E+21 |
| 2237              | 1,370422E+22 | 1,731019E+22 | 1,945891E+22 | 1,945861E+22 | 1,730974E+22 | 1,370387E+22 | 9,646216E+21 | 6,224352E+21 | 4,316047E+21 | 4,315993E+21 | 6,224210E+21 | 9,646029E+21 |
| 2238              | 1,370364E+22 | 1,730975E+22 | 1,945913E+22 | 1,945944E+22 | 1,731053E+22 | 1,370442E+22 | 9,646497E+21 | 6,224433E+21 | 4,316110E+21 | 4,316101E+21 | 6,224368E+21 | 9,646327E+21 |
| 2239              | 1,370420E+22 | 1,731038E+22 | 1,945948E+22 | 1,945927E+22 | 1,730979E+22 | 1,370351E+22 | 9,645934E+21 | 6,224216E+21 | 4,316055E+21 | 4,316137E+21 | 6,224466E+21 | 9,646388E+21 |
| 2240              | 1,370411E+22 | 1,731004E+22 | 1,945874E+22 | 1,945861E+22 | 1,730985E+22 | 1,370400E+22 | 9,646402E+21 | 6,224499E+21 | 4,316107E+21 | 4,315961E+21 | 6,224057E+21 | 9,645765E+21 |
| 2241              | 1,370347E+22 | 1,730992E+22 | 1,945957E+22 | 1,945979E+22 | 1,731064E+22 | 1,370427E+22 | 9,646236E+21 | 6,224201E+21 | 4,315921E+21 | 4,315973E+21 | 6,224322E+21 | 9,646295E+21 |
| 2242              | 1,370410E+22 | 1,731028E+22 | 1,945945E+22 | 1,945925E+22 | 1,730988E+22 | 1,370366E+22 | 9,645913E+21 | 6,224002E+21 | 4,315708E+21 | 4,315720E+21 | 6,224060E+21 | 9,646038E+21 |
| 2243              | 1,370379E+22 | 1,730985E+22 | 1,945906E+22 | 1,945944E+22 | 1,731058E+22 | 1,370435E+22 | 9,646346E+21 | 6,224121E+21 | 4,315586E+21 | 4,315444E+21 | 6,223713E+21 | 9,645818E+21 |
| 2244              | 1,370397E+22 | 1,731052E+22 | 1,945994E+22 | 1,946007E+22 | 1,731081E+22 | 1,370406E+22 | 9,645776E+21 | 6,223619E+21 | 4,315298E+21 | 4,315424E+21 | 6,223996E+21 | 9,646331E+21 |
| 2245              | 1,370449E+22 | 1,731082E+22 | 1,945974E+22 | 1,945923E+22 | 1,730999E+22 | 1,370386E+22 | 9,645879E+21 | 6,223664E+21 | 4,315145E+21 | 4,315067E+21 | 6,223470E+21 | 9,645721E+21 |
| 2246              | 1,370390E+22 | 1,731047E+22 | 1,946012E+22 | 1,946034E+22 | 1,731096E+22 | 1,370442E+22 | 9,646141E+21 | 6,223682E+21 | 4,315074E+21 | 4,314986E+21 | 6,223397E+21 | 9,645741E+21 |
| 2247              | 1,370423E+22 | 1,731114E+22 | 1,946080E+22 | 1,946070E+22 | 1,731076E+22 | 1,370367E+22 | 9,645430E+21 | 6,223288E+21 | 4,314932E+21 | 4,315054E+21 | 6,223647E+21 | 9,646003E+21 |
| 2248              | 1,370425E+22 | 1,731079E+22 | 1,945995E+22 | 1,945975E+22 | 1,731061E+22 | 1,370413E+22 | 9,645874E+21 | 6,223577E+21 | 4,315055E+21 | 4,314987E+21 | 6,223369E+21 | 9,645510E+21 |
| 2249              | 1,370358E+22 | 1,731027E+22 | 1,946018E+22 | 1,946055E+22 | 1,731133E+22 | 1,370465E+22 | 9,646092E+21 | 6,223610E+21 | 4,315135E+21 | 4,315194E+21 | 6,223726E+21 | 9,646072E+21 |
| 2250              | 1,370429E+22 | 1,731074E+22 | 1,946002E+22 | 1,945985E+22 | 1,731032E+22 | 1,370380E+22 | 9,645756E+21 | 6,223625E+21 | 4,315261E+21 | 4,315330E+21 | 6,223814E+21 | 9,646036E+21 |
| 2251              | 1,370407E+22 | 1,731022E+22 | 1,945919E+22 | 1,945927E+22 | 1,731035E+22 | 1,370421E+22 | 9,646343E+21 | 6,224187E+21 | 4,315656E+21 | 4,315493E+21 | 6,223705E+21 | 9,645719E+21 |
| 2252              | 1,370379E+22 | 1,731028E+22 | 1,945968E+22 | 1,945973E+22 | 1,731053E+22 | 1,370402E+22 | 9,645999E+21 | 6,224064E+21 | 4,315860E+21 | 4,315977E+21 | 6,224382E+21 | 9,646390E+21 |
| 2253              | 1,370420E+22 | 1,731032E+22 | 1,945920E+22 | 1,945868E+22 | 1,730938E+22 | 1,370349E+22 | 9,646036E+21 | 6,224337E+21 | 4,316136E+21 | 4,316148E+21 | 6,224376E+21 | 9,646117E+21 |
| 2254              | 1,370356E+22 | 1,730941E+22 | 1,945862E+22 | 1,945896E+22 | 1,731008E+22 | 1,370415E+22 | 9,646564E+21 | 6,224729E+21 | 4,316454E+21 | 4,316387E+21 | 6,224503E+21 | 9,646192E+21 |
| 2255              | 1,370378E+22 | 1,730985E+22 | 1,945903E+22 | 1,945907E+22 | 1,730986E+22 | 1,370356E+22 | 9,646010E+21 | 6,224488E+21 | 4,316519E+21 | 4,316701E+21 | 6,225007E+21 | 9,646738E+21 |
| 2256              | 1,370413E+22 | 1,730974E+22 | 1,945818E+22 | 1,945779E+22 | 1,730914E+22 | 1,370368E+22 | 9,646436E+21 | 6,224875E+21 | 4,316730E+21 | 4,316676E+21 | 6,224703E+21 | 9,646174E+21 |

| 1<br>Longitude ☉<br>Years | 2<br>0° - 30° | 3<br>30° - 60° | 4<br>60° - 90° | 5<br>90° - 120° | 6<br>120° - 150° | 7<br>150° - 180° | 8<br>180° - 210° | 9<br>210° - 240° | 10<br>240° - 270° | 11<br>270° - 300° | 12<br>300° - 330° | 13<br>330° - 360° |
|---------------------------|---------------|----------------|----------------|-----------------|------------------|------------------|------------------|------------------|-------------------|-------------------|-------------------|-------------------|
| 2257                      | 1,370340E+22  | 1,730914E+22   | 1,945828E+22   | 1,945858E+22    | 1,730993E+22     | 1,370424E+22     | 9,646739E+21     | 6,224997E+21     | 4,316815E+21      | 4,316775E+21      | 6,224837E+21      | 9,646439E+21      |
| 2258                      | 1,370395E+22  | 1,730983E+22   | 1,945868E+22   | 1,945847E+22    | 1,730930E+22     | 1,370339E+22     | 9,646164E+21     | 6,224754E+21     | 4,316734E+21      | 4,316791E+21      | 6,224915E+21      | 9,646443E+21      |
| 2259                      | 1,370372E+22  | 1,730935E+22   | 1,945803E+22   | 1,945801E+22    | 1,730939E+22     | 1,370382E+22     | 9,646597E+21     | 6,225027E+21     | 4,316776E+21      | 4,316596E+21      | 6,224537E+21      | 9,645990E+21      |
| 2260                      | 1,370329E+22  | 1,730920E+22   | 1,945857E+22   | 1,945892E+22    | 1,731011E+22     | 1,370405E+22     | 9,646340E+21     | 6,224635E+21     | 4,316554E+21      | 4,316637E+21      | 6,224872E+21      | 9,646605E+21      |
| 2261                      | 1,370406E+22  | 1,730979E+22   | 1,945860E+22   | 1,945834E+22    | 1,730922E+22     | 1,370346E+22     | 9,646122E+21     | 6,224467E+21     | 4,316298E+21      | 4,316330E+21      | 6,224557E+21      | 9,646295E+21      |
| 2262                      | 1,370373E+22  | 1,730940E+22   | 1,945830E+22   | 1,945859E+22    | 1,730992E+22     | 1,370410E+22     | 9,646515E+21     | 6,224595E+21     | 4,316193E+21      | 4,316043E+21      | 6,224164E+21      | 9,645990E+21      |
| 2263                      | 1,370385E+22  | 1,731022E+22   | 1,945949E+22   | 1,945940E+22    | 1,731017E+22     | 1,370373E+22     | 9,645843E+21     | 6,224028E+21     | 4,315869E+21      | 4,315985E+21      | 6,224380E+21      | 9,646412E+21      |
| 2264                      | 1,370430E+22  | 1,731048E+22   | 1,945936E+22   | 1,945877E+22    | 1,730952E+22     | 1,370360E+22     | 9,645944E+21     | 6,224057E+21     | 4,315743E+21      | 4,315697E+21      | 6,223920E+21      | 9,645781E+21      |
| 2265                      | 1,370351E+22  | 1,730972E+22   | 1,945931E+22   | 1,945972E+22    | 1,731062E+22     | 1,370433E+22     | 9,646318E+21     | 6,224163E+21     | 4,315730E+21      | 4,315654E+21      | 6,223911E+21      | 9,645917E+21      |
| 2266                      | 1,370394E+22  | 1,731039E+22   | 1,945978E+22   | 1,945989E+22    | 1,731046E+22     | 1,370374E+22     | 9,645721E+21     | 6,223809E+21     | 4,315597E+21      | 4,315718E+21      | 6,224151E+21      | 9,646185E+21      |
| 2267                      | 1,370399E+22  | 1,731007E+22   | 1,945900E+22   | 1,945889E+22    | 1,731004E+22     | 1,370404E+22     | 9,646220E+21     | 6,224201E+21     | 4,315777E+21      | 4,315657E+21      | 6,223882E+21      | 9,645801E+21      |
| 2268                      | 1,370353E+22  | 1,730964E+22   | 1,945909E+22   | 1,945942E+22    | 1,731055E+22     | 1,370437E+22     | 9,646316E+21     | 6,224221E+21     | 4,315917E+21      | 4,315957E+21      | 6,224301E+21      | 9,646330E+21      |
| 2269                      | 1,370422E+22  | 1,731031E+22   | 1,945922E+22   | 1,945883E+22    | 1,730945E+22     | 1,370347E+22     | 9,645995E+21     | 6,224248E+21     | 4,316057E+21      | 4,316128E+21      | 6,224412E+21      | 9,646233E+21      |
| 2270                      | 1,370382E+22  | 1,730962E+22   | 1,945839E+22   | 1,945839E+22    | 1,730959E+22     | 1,370385E+22     | 9,646504E+21     | 6,224791E+21     | 4,316478E+21      | 4,316329E+21      | 6,224352E+21      | 9,645940E+21      |
| 2271                      | 1,370350E+22  | 1,730969E+22   | 1,945898E+22   | 1,945899E+22    | 1,730992E+22     | 1,370369E+22     | 9,646073E+21     | 6,224572E+21     | 4,316613E+21      | 4,316762E+21      | 6,225005E+21      | 9,646668E+21      |
| 2272                      | 1,370403E+22  | 1,730973E+22   | 1,945843E+22   | 1,945795E+22    | 1,730888E+22     | 1,370330E+22     | 9,646161E+21     | 6,224809E+21     | 4,316858E+21      | 4,316927E+21      | 6,224995E+21      | 9,646384E+21      |
| 2273                      | 1,370335E+22  | 1,730867E+22   | 1,945755E+22   | 1,945799E+22    | 1,730952E+22     | 1,370406E+22     | 9,646856E+21     | 6,225313E+21     | 4,317188E+21      | 4,317112E+21      | 6,225060E+21      | 9,646447E+21      |
| 2274                      | 1,370367E+22  | 1,730931E+22   | 1,945808E+22   | 1,945812E+22    | 1,730932E+22     | 1,370350E+22     | 9,646330E+21     | 6,225095E+21     | 4,317245E+21      | 4,317372E+21      | 6,225448E+21      | 9,646811E+21      |
| 2275                      | 1,370383E+22  | 1,730917E+22   | 1,945749E+22   | 1,945705E+22    | 1,730850E+22     | 1,370347E+22     | 9,646712E+21     | 6,225501E+21     | 4,317476E+21      | 4,317347E+21      | 6,225151E+21      | 9,646287E+21      |
| 2276                      | 1,370312E+22  | 1,730844E+22   | 1,945737E+22   | 1,945774E+22    | 1,730929E+22     | 1,370394E+22     | 9,646888E+21     | 6,225547E+21     | 4,317561E+21      | 4,317518E+21      | 6,225386E+21      | 9,646588E+21      |
| 2277                      | 1,370364E+22  | 1,730916E+22   | 1,945783E+22   | 1,945768E+22    | 1,730872E+22     | 1,370318E+22     | 9,646354E+21     | 6,225260E+21     | 4,317421E+21      | 4,317510E+21      | 6,225489E+21      | 9,646656E+21      |
| 2278                      | 1,370342E+22  | 1,730857E+22   | 1,945704E+22   | 1,945715E+22    | 1,730885E+22     | 1,370367E+22     | 9,646779E+21     | 6,225498E+21     | 4,317420E+21      | 4,317271E+21      | 6,225098E+21      | 9,646266E+21      |
| 2279                      | 1,370317E+22  | 1,730872E+22   | 1,945780E+22   | 1,945806E+22    | 1,730946E+22     | 1,370380E+22     | 9,646458E+21     | 6,225040E+21     | 4,317106E+21      | 4,317198E+21      | 6,225321E+21      | 9,646855E+21      |
| 2280                      | 1,370407E+22  | 1,730952E+22   | 1,945802E+22   | 1,945764E+22    | 1,730864E+22     | 1,370321E+22     | 9,646209E+21     | 6,224847E+21     | 4,316850E+21      | 4,316897E+21      | 6,224969E+21      | 9,646431E+21      |
| 2281                      | 1,370358E+22  | 1,730898E+22   | 1,945765E+22   | 1,945790E+22    | 1,730939E+22     | 1,370391E+22     | 9,646678E+21     | 6,225040E+21     | 4,316778E+21      | 4,316618E+21      | 6,224580E+21      | 9,646106E+21      |
| 2282                      | 1,370365E+22  | 1,730977E+22   | 1,945886E+22   | 1,945884E+22    | 1,730980E+22     | 1,370363E+22     | 9,646038E+21     | 6,224494E+21     | 4,316471E+21      | 4,316569E+21      | 6,224784E+21      | 9,646458E+21      |
| 2283                      | 1,370393E+22  | 1,730984E+22   | 1,945873E+22   | 1,945831E+22    | 1,730918E+22     | 1,370350E+22     | 9,646159E+21     | 6,224564E+21     | 4,316392E+21      | 4,316320E+21      | 6,224403E+21      | 9,646011E+21      |
| 2284                      | 1,370332E+22  | 1,730897E+22   | 1,945823E+22   | 1,945882E+22    | 1,731011E+22     | 1,370421E+22     | 9,646528E+21     | 6,224667E+21     | 4,316419E+21      | 4,316367E+21      | 6,224484E+21      | 9,646194E+21      |
| 2285                      | 1,370384E+22  | 1,730982E+22   | 1,945881E+22   | 1,945885E+22    | 1,730972E+22     | 1,370359E+22     | 9,646043E+21     | 6,224394E+21     | 4,316310E+21      | 4,316434E+21      | 6,224709E+21      | 9,646429E+21      |
| 2286                      | 1,370385E+22  | 1,730951E+22   | 1,945808E+22   | 1,945789E+22    | 1,730925E+22     | 1,370375E+22     | 9,646451E+21     | 6,224811E+21     | 4,316550E+21      | 4,316411E+21      | 6,224439E+21      | 9,645994E+21      |
| 2287                      | 1,370336E+22  | 1,730925E+22   | 1,945844E+22   | 1,945853E+22    | 1,730969E+22     | 1,370393E+22     | 9,646409E+21     | 6,224753E+21     | 4,316660E+21      | 4,316700E+21      | 6,224843E+21      | 9,646497E+21      |
| 2288                      | 1,370400E+22  | 1,730982E+22   | 1,945860E+22   | 1,945817E+22    | 1,730883E+22     | 1,370312E+22     | 9,646057E+21     | 6,224741E+21     | 4,316812E+21      | 4,316926E+21      | 6,225019E+21      | 9,646406E+21      |
| 2289                      | 1,370346E+22  | 1,730883E+22   | 1,945745E+22   | 1,945763E+22    | 1,730912E+22     | 1,370369E+22     | 9,646670E+21     | 6,225315E+21     | 4,317229E+21      | 4,317113E+21      | 6,224981E+21      | 9,646207E+21      |
| 2290                      | 1,370326E+22  | 1,730894E+22   | 1,945791E+22   | 1,945812E+22    | 1,730949E+22     | 1,370367E+22     | 9,646372E+21     | 6,225142E+21     | 4,317347E+21      | 4,317492E+21      | 6,225552E+21      | 9,646864E+21      |
| 2291                      | 1,370378E+22  | 1,730904E+22   | 1,945751E+22   | 1,945714E+22    | 1,730834E+22     | 1,370321E+22     | 9,646519E+21     | 6,225460E+21     | 4,317615E+21      | 4,317623E+21      | 6,225509E+21      | 9,646632E+21      |
| 2292                      | 1,370324E+22  | 1,730803E+22   | 1,945648E+22   | 1,945692E+22    | 1,730882E+22     | 1,370385E+22     | 9,647118E+21     | 6,225943E+21     | 4,317985E+21      | 4,317877E+21      | 6,225601E+21      | 9,646608E+21      |

| 1<br>Longitude $\odot$<br>Years | 2<br>0° - 30° | 3<br>30° - 60° | 4<br>60° - 90° | 5<br>90° - 120° | 6<br>120° - 150° | 7<br>150° - 180° | 8<br>180° - 210° | 9<br>210° - 240° | 10<br>240° - 270° | 11<br>270° - 300° | 12<br>300° - 330° | 13<br>330° - 360° |
|---------------------------------|---------------|----------------|----------------|-----------------|------------------|------------------|------------------|------------------|-------------------|-------------------|-------------------|-------------------|
| 2293                            | 1,370346E+22  | 1,730879E+22   | 1,945728E+22   | 1,945717E+22    | 1,730854E+22     | 1,370327E+22     | 9,646638E+21     | 6,225728E+21     | 4,318026E+21      | 4,318138E+21      | 6,225999E+21      | 9,646938E+21      |
| 2294                            | 1,370347E+22  | 1,730846E+22   | 1,945664E+22   | 1,945627E+22    | 1,730786E+22     | 1,370318E+22     | 9,646902E+21     | 6,226082E+21     | 4,318243E+21      | 4,318122E+21      | 6,225750E+21      | 9,646477E+21      |
| 2295                            | 1,370282E+22  | 1,730781E+22   | 1,945655E+22   | 1,945694E+22    | 1,730868E+22     | 1,370364E+22     | 9,646953E+21     | 6,225981E+21     | 4,318214E+21      | 4,318214E+21      | 6,225966E+21      | 9,646880E+21      |
| 2296                            | 1,370351E+22  | 1,730861E+22   | 1,945701E+22   | 1,945690E+22    | 1,730819E+22     | 1,370298E+22     | 9,646444E+21     | 6,225634E+21     | 4,318008E+21      | 4,318161E+21      | 6,226036E+21      | 9,646946E+21      |
| 2297                            | 1,370334E+22  | 1,730805E+22   | 1,945614E+22   | 1,945624E+22    | 1,730825E+22     | 1,370349E+22     | 9,646959E+21     | 6,225927E+21     | 4,317983E+21      | 4,317842E+21      | 6,225558E+21      | 9,646521E+21      |
| 2298                            | 1,370319E+22  | 1,730842E+22   | 1,945712E+22   | 1,945730E+22    | 1,730893E+22     | 1,370364E+22     | 9,646655E+21     | 6,225498E+21     | 4,317671E+21      | 4,317720E+21      | 6,225653E+21      | 9,646903E+21      |
| 2299                            | 1,370387E+22  | 1,730918E+22   | 1,945761E+22   | 1,945720E+22    | 1,730818E+22     | 1,370300E+22     | 9,646387E+21     | 6,225325E+21     | 4,317439E+21      | 4,317429E+21      | 6,225326E+21      | 9,646517E+21      |
| 2300                            | 1,370333E+22  | 1,730842E+22   | 1,945693E+22   | 1,945729E+22    | 1,730895E+22     | 1,370370E+22     | 9,646812E+21     | 6,225504E+21     | 4,317418E+21      | 4,317261E+21      | 6,225049E+21      | 9,646209E+21      |
| 2301                            | 1,370333E+22  | 1,730915E+22   | 1,945811E+22   | 1,945817E+22    | 1,730935E+22     | 1,370356E+22     | 9,646307E+21     | 6,224992E+21     | 4,317116E+21      | 4,317233E+21      | 6,225298E+21      | 9,646618E+21      |
| 2302                            | 1,370359E+22  | 1,730906E+22   | 1,945775E+22   | 1,945749E+22    | 1,730866E+22     | 1,370340E+22     | 9,646435E+21     | 6,225104E+21     | 4,317076E+21      | 4,317016E+21      | 6,224958E+21      | 9,646238E+21      |
| 2303                            | 1,370314E+22  | 1,730845E+22   | 1,945734E+22   | 1,945784E+22    | 1,730940E+22     | 1,370396E+22     | 9,646721E+21     | 6,225178E+21     | 4,317084E+21      | 4,317033E+21      | 6,225004E+21      | 9,646437E+21      |
| 2304                            | 1,370376E+22  | 1,730942E+22   | 1,945807E+22   | 1,945799E+22    | 1,730903E+22     | 1,370328E+22     | 9,646160E+21     | 6,224883E+21     | 4,317009E+21      | 4,317151E+21      | 6,225237E+21      | 9,646599E+21      |
| 2305                            | 1,370363E+22  | 1,730895E+22   | 1,945725E+22   | 1,945700E+22    | 1,730855E+22     | 1,370344E+22     | 9,646612E+21     | 6,225348E+21     | 4,317283E+21      | 4,317154E+21      | 6,225007E+21      | 9,646198E+21      |
| 2306                            | 1,370314E+22  | 1,730868E+22   | 1,945765E+22   | 1,945783E+22    | 1,730917E+22     | 1,370369E+22     | 9,646583E+21     | 6,225300E+21     | 4,317401E+21      | 4,317438E+21      | 6,225391E+21      | 9,646656E+21      |
| 2307                            | 1,370367E+22  | 1,730912E+22   | 1,945780E+22   | 1,945756E+22    | 1,730840E+22     | 1,370296E+22     | 9,646260E+21     | 6,225300E+21     | 4,317562E+21      | 4,317673E+21      | 6,225625E+21      | 9,646728E+21      |
| 2308                            | 1,370329E+22  | 1,730807E+22   | 1,945629E+22   | 1,945661E+22    | 1,730853E+22     | 1,370356E+22     | 9,646933E+21     | 6,225896E+21     | 4,318007E+21      | 4,317914E+21      | 6,225623E+21      | 9,646515E+21      |
| 2309                            | 1,370315E+22  | 1,730838E+22   | 1,945694E+22   | 1,945704E+22    | 1,730872E+22     | 1,370354E+22     | 9,646766E+21     | 6,225802E+21     | 4,318136E+21      | 4,318266E+21      | 6,226128E+21      | 9,647069E+21      |
| 2310                            | 1,370356E+22  | 1,730843E+22   | 1,945658E+22   | 1,945617E+22    | 1,730760E+22     | 1,370296E+22     | 9,646811E+21     | 6,226130E+21     | 4,318446E+21      | 4,318422E+21      | 6,226067E+21      | 9,646757E+21      |
| 2311                            | 1,370297E+22  | 1,730756E+22   | 1,945574E+22   | 1,945601E+22    | 1,730805E+22     | 1,370348E+22     | 9,647256E+21     | 6,226499E+21     | 4,318746E+21      | 4,318639E+21      | 6,226157E+21      | 9,646752E+21      |
| 2312                            | 1,370314E+22  | 1,730818E+22   | 1,945653E+22   | 1,945648E+22    | 1,730797E+22     | 1,370296E+22     | 9,646714E+21     | 6,226210E+21     | 4,318749E+21      | 4,318898E+21      | 6,226585E+21      | 9,647119E+21      |
| 2313                            | 1,370312E+22  | 1,730764E+22   | 1,945562E+22   | 1,945543E+22    | 1,730737E+22     | 1,370301E+22     | 9,647067E+21     | 6,226553E+21     | 4,318906E+21      | 4,318820E+21      | 6,226339E+21      | 9,646786E+21      |
| 2314                            | 1,370268E+22  | 1,730717E+22   | 1,945558E+22   | 1,945608E+22    | 1,730818E+22     | 1,370352E+22     | 9,647189E+21     | 6,226457E+21     | 4,318814E+21      | 4,318808E+21      | 6,226429E+21      | 9,647097E+21      |
| 2315                            | 1,370339E+22  | 1,730814E+22   | 1,945629E+22   | 1,945619E+22    | 1,730768E+22     | 1,370283E+22     | 9,646683E+21     | 6,226134E+21     | 4,318595E+21      | 4,318701E+21      | 6,226455E+21      | 9,647187E+21      |
| 2316                            | 1,370331E+22  | 1,730767E+22   | 1,945538E+22   | 1,945539E+22    | 1,730765E+22     | 1,370327E+22     | 9,647126E+21     | 6,226396E+21     | 4,318600E+21      | 4,318443E+21      | 6,225983E+21      | 9,646646E+21      |
| 2317                            | 1,370304E+22  | 1,730811E+22   | 1,945661E+22   | 1,945661E+22    | 1,730831E+22     | 1,370344E+22     | 9,646909E+21     | 6,226002E+21     | 4,318298E+21      | 4,318333E+21      | 6,226080E+21      | 9,646960E+21      |
| 2318                            | 1,370352E+22  | 1,730858E+22   | 1,945699E+22   | 1,945671E+22    | 1,730780E+22     | 1,370280E+22     | 9,646559E+21     | 6,225823E+21     | 4,318098E+21      | 4,318086E+21      | 6,225809E+21      | 9,646625E+21      |
| 2319                            | 1,370303E+22  | 1,730787E+22   | 1,945620E+22   | 1,945660E+22    | 1,730850E+22     | 1,370349E+22     | 9,646906E+21     | 6,225910E+21     | 4,318021E+21      | 4,317899E+21      | 6,225570E+21      | 9,646441E+21      |
| 2320                            | 1,370312E+22  | 1,730853E+22   | 1,945725E+22   | 1,945739E+22    | 1,730887E+22     | 1,370342E+22     | 9,646466E+21     | 6,225419E+21     | 4,317723E+21      | 4,317878E+21      | 6,225818E+21      | 9,646854E+21      |
| 2321                            | 1,370343E+22  | 1,730845E+22   | 1,945677E+22   | 1,945651E+22    | 1,730804E+22     | 1,370321E+22     | 9,646662E+21     | 6,225606E+21     | 4,317711E+21      | 4,317652E+21      | 6,225466E+21      | 9,646491E+21      |
| 2322                            | 1,370307E+22  | 1,730801E+22   | 1,945653E+22   | 1,945693E+22    | 1,730871E+22     | 1,370368E+22     | 9,646921E+21     | 6,225712E+21     | 4,317759E+21      | 4,317675E+21      | 6,225446E+21      | 9,646540E+21      |
| 2323                            | 1,370350E+22  | 1,730894E+22   | 1,945746E+22   | 1,945734E+22    | 1,730844E+22     | 1,370300E+22     | 9,646341E+21     | 6,225431E+21     | 4,317717E+21      | 4,317835E+21      | 6,225758E+21      | 9,646800E+21      |
| 2324                            | 1,370337E+22  | 1,730829E+22   | 1,945636E+22   | 1,945619E+22    | 1,730799E+22     | 1,370317E+22     | 9,646740E+21     | 6,225871E+21     | 4,318040E+21      | 4,317939E+21      | 6,225620E+21      | 9,646424E+21      |
| 2325                            | 1,370287E+22  | 1,730801E+22   | 1,945675E+22   | 1,945695E+22    | 1,730859E+22     | 1,370357E+22     | 9,646877E+21     | 6,225877E+21     | 4,318163E+21      | 4,318221E+21      | 6,226009E+21      | 9,646905E+21      |
| 2326                            | 1,370339E+22  | 1,730834E+22   | 1,945675E+22   | 1,945665E+22    | 1,730786E+22     | 1,370283E+22     | 9,646579E+21     | 6,225932E+21     | 4,318354E+21      | 4,318460E+21      | 6,226225E+21      | 9,646965E+21      |
| 2327                            | 1,370313E+22  | 1,730756E+22   | 1,945537E+22   | 1,945556E+22    | 1,730778E+22     | 1,370330E+22     | 9,647170E+21     | 6,226492E+21     | 4,318769E+21      | 4,318667E+21      | 6,226190E+21      | 9,646740E+21      |
| 2328                            | 1,370298E+22  | 1,730788E+22   | 1,945615E+22   | 1,945615E+22    | 1,730803E+22     | 1,370327E+22     | 9,646965E+21     | 6,226385E+21     | 4,318917E+21      | 4,319040E+21      | 6,226678E+21      | 9,647205E+21      |



| 1                 | 2            | 3            | 4            | 5            | 6            | 7            | 8            | 9            | 10           | 11           | 12           | 13           |
|-------------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|
| Longitude $\odot$ | 0° - 30°     | 30° - 60°    | 60° - 90°    | 90° - 120°   | 120° - 150°  | 150° - 180°  | 180° - 210°  | 210° - 240°  | 240° - 270°  | 270° - 300°  | 300° - 330°  | 330° - 360°  |
| Years             |              |              |              |              |              |              |              |              |              |              |              |              |
| 2329              | 1,370325E+22 | 1,730778E+22 | 1,945570E+22 | 1,945526E+22 | 1,730693E+22 | 1,370269E+22 | 9,647036E+21 | 6,226724E+21 | 4,319218E+21 | 4,319197E+21 | 6,226664E+21 | 9,646964E+21 |
| 2330              | 1,370269E+22 | 1,730688E+22 | 1,945487E+22 | 1,945524E+22 | 1,730752E+22 | 1,370323E+22 | 9,647435E+21 | 6,227051E+21 | 4,319482E+21 | 4,319372E+21 | 6,226714E+21 | 9,646944E+21 |
| 2331              | 1,370284E+22 | 1,730745E+22 | 1,945566E+22 | 1,945577E+22 | 1,730754E+22 | 1,370281E+22 | 9,646901E+21 | 6,226716E+21 | 4,319426E+21 | 4,319582E+21 | 6,227167E+21 | 9,647471E+21 |
| 2332              | 1,370302E+22 | 1,730697E+22 | 1,945454E+22 | 1,945440E+22 | 1,730675E+22 | 1,370283E+22 | 9,647269E+21 | 6,227046E+21 | 4,319568E+21 | 4,319500E+21 | 6,226895E+21 | 9,647096E+21 |
| 2333              | 1,370267E+22 | 1,730680E+22 | 1,945485E+22 | 1,945514E+22 | 1,730744E+22 | 1,370331E+22 | 9,647479E+21 | 6,226999E+21 | 4,319462E+21 | 4,319431E+21 | 6,226882E+21 | 9,647265E+21 |
| 2334              | 1,370325E+22 | 1,730772E+22 | 1,945566E+22 | 1,945547E+22 | 1,730708E+22 | 1,370256E+22 | 9,646877E+21 | 6,226668E+21 | 4,319266E+21 | 4,319335E+21 | 6,226869E+21 | 9,647233E+21 |
| 2335              | 1,370307E+22 | 1,730735E+22 | 1,945491E+22 | 1,945476E+22 | 1,730709E+22 | 1,370295E+22 | 9,647203E+21 | 6,226822E+21 | 4,319207E+21 | 4,319058E+21 | 6,226426E+21 | 9,646731E+21 |
| 2336              | 1,370272E+22 | 1,730756E+22 | 1,945604E+22 | 1,945614E+22 | 1,730797E+22 | 1,370324E+22 | 9,646971E+21 | 6,226391E+21 | 4,318891E+21 | 4,318954E+21 | 6,226543E+21 | 9,647062E+21 |
| 2337              | 1,370313E+22 | 1,730778E+22 | 1,945604E+22 | 1,945595E+22 | 1,730745E+22 | 1,370274E+22 | 9,646755E+21 | 6,226253E+21 | 4,318679E+21 | 4,318697E+21 | 6,226317E+21 | 9,646868E+21 |
| 2338              | 1,370284E+22 | 1,730719E+22 | 1,945524E+22 | 1,945575E+22 | 1,730804E+22 | 1,370340E+22 | 9,647165E+21 | 6,226391E+21 | 4,318603E+21 | 4,318467E+21 | 6,226004E+21 | 9,646631E+21 |
| 2339              | 1,370296E+22 | 1,730798E+22 | 1,945643E+22 | 1,945658E+22 | 1,730834E+22 | 1,370325E+22 | 9,646704E+21 | 6,225939E+21 | 4,318340E+21 | 4,318459E+21 | 6,226278E+21 | 9,647105E+21 |
| 2340              | 1,370333E+22 | 1,730795E+22 | 1,945588E+22 | 1,945551E+22 | 1,730733E+22 | 1,370293E+22 | 9,646842E+21 | 6,226134E+21 | 4,318406E+21 | 4,318345E+21 | 6,225990E+21 | 9,646695E+21 |
| 2341              | 1,370292E+22 | 1,730761E+22 | 1,945592E+22 | 1,945610E+22 | 1,730795E+22 | 1,370337E+22 | 9,647152E+21 | 6,226279E+21 | 4,318488E+21 | 4,318405E+21 | 6,225996E+21 | 9,646708E+21 |
| 2342              | 1,370319E+22 | 1,730828E+22 | 1,945669E+22 | 1,945666E+22 | 1,730793E+22 | 1,370273E+22 | 9,646506E+21 | 6,225994E+21 | 4,318488E+21 | 4,318618E+21 | 6,226356E+21 | 9,647008E+21 |
| 2343              | 1,370315E+22 | 1,730774E+22 | 1,945553E+22 | 1,945533E+22 | 1,730743E+22 | 1,370294E+22 | 9,646865E+21 | 6,226350E+21 | 4,318750E+21 | 4,318699E+21 | 6,226244E+21 | 9,646734E+21 |
| 2344              | 1,370274E+22 | 1,730743E+22 | 1,945585E+22 | 1,945606E+22 | 1,730802E+22 | 1,370338E+22 | 9,647076E+21 | 6,226412E+21 | 4,318889E+21 | 4,318962E+21 | 6,226578E+21 | 9,647144E+21 |
| 2345              | 1,370321E+22 | 1,730772E+22 | 1,945576E+22 | 1,945563E+22 | 1,730721E+22 | 1,370265E+22 | 9,646868E+21 | 6,226555E+21 | 4,319120E+21 | 4,319202E+21 | 6,226779E+21 | 9,647182E+21 |
| 2346              | 1,370295E+22 | 1,730701E+22 | 1,945456E+22 | 1,945468E+22 | 1,730712E+22 | 1,370304E+22 | 9,647429E+21 | 6,227127E+21 | 4,319554E+21 | 4,319406E+21 | 6,226688E+21 | 9,646830E+21 |
| 2347              | 1,370261E+22 | 1,730719E+22 | 1,945540E+22 | 1,945546E+22 | 1,730749E+22 | 1,370304E+22 | 9,647193E+21 | 6,227002E+21 | 4,319694E+21 | 4,319797E+21 | 6,227259E+21 | 9,647405E+21 |
| 2348              | 1,370289E+22 | 1,730695E+22 | 1,945466E+22 | 1,945434E+22 | 1,730636E+22 | 1,370248E+22 | 9,647223E+21 | 6,227296E+21 | 4,320007E+21 | 4,320010E+21 | 6,227316E+21 | 9,647239E+21 |
| 2349              | 1,370244E+22 | 1,730617E+22 | 1,945390E+22 | 1,945423E+22 | 1,730683E+22 | 1,370308E+22 | 9,647731E+21 | 6,227626E+21 | 4,320224E+21 | 4,320129E+21 | 6,227323E+21 | 9,647230E+21 |
| 2350              | 1,370264E+22 | 1,730675E+22 | 1,945467E+22 | 1,945483E+22 | 1,730695E+22 | 1,370265E+22 | 9,647173E+21 | 6,227298E+21 | 4,320148E+21 | 4,320289E+21 | 6,227698E+21 | 9,647705E+21 |
| 2351              | 1,370298E+22 | 1,730665E+22 | 1,945381E+22 | 1,945347E+22 | 1,730605E+22 | 1,370252E+22 | 9,647384E+21 | 6,227510E+21 | 4,320203E+21 | 4,320135E+21 | 6,227368E+21 | 9,647296E+21 |
| 2352              | 1,370259E+22 | 1,730647E+22 | 1,945430E+22 | 1,945446E+22 | 1,730686E+22 | 1,370301E+22 | 9,647567E+21 | 6,227446E+21 | 4,320085E+21 | 4,320043E+21 | 6,227303E+21 | 9,647349E+21 |
| 2353              | 1,370297E+22 | 1,730719E+22 | 1,945503E+22 | 1,945486E+22 | 1,730665E+22 | 1,370237E+22 | 9,647029E+21 | 6,227120E+21 | 4,319864E+21 | 4,319935E+21 | 6,227323E+21 | 9,647364E+21 |
| 2354              | 1,370278E+22 | 1,730671E+22 | 1,945425E+22 | 1,945424E+22 | 1,730675E+22 | 1,370279E+22 | 9,647337E+21 | 6,227250E+21 | 4,319784E+21 | 4,319634E+21 | 6,226859E+21 | 9,646860E+21 |
| 2355              | 1,370240E+22 | 1,730684E+22 | 1,945523E+22 | 1,945552E+22 | 1,730768E+22 | 1,370322E+22 | 9,647186E+21 | 6,226826E+21 | 4,319445E+21 | 4,319519E+21 | 6,227028E+21 | 9,647332E+21 |
| 2356              | 1,370297E+22 | 1,730711E+22 | 1,945500E+22 | 1,945493E+22 | 1,730686E+22 | 1,370262E+22 | 9,646994E+21 | 6,226736E+21 | 4,319287E+21 | 4,319314E+21 | 6,226814E+21 | 9,647132E+21 |
| 2357              | 1,370281E+22 | 1,730681E+22 | 1,945449E+22 | 1,945471E+22 | 1,730722E+22 | 1,370317E+22 | 9,647439E+21 | 6,226940E+21 | 4,319261E+21 | 4,319096E+21 | 6,226457E+21 | 9,646795E+21 |
| 2358              | 1,370281E+22 | 1,730751E+22 | 1,945574E+22 | 1,945577E+22 | 1,730767E+22 | 1,370294E+22 | 9,646880E+21 | 6,226497E+21 | 4,319056E+21 | 4,319144E+21 | 6,226739E+21 | 9,647202E+21 |
| 2359              | 1,370314E+22 | 1,730758E+22 | 1,945531E+22 | 1,945477E+22 | 1,730667E+22 | 1,370253E+22 | 9,646875E+21 | 6,226581E+21 | 4,319079E+21 | 4,319049E+21 | 6,226532E+21 | 9,646882E+21 |
| 2360              | 1,370267E+22 | 1,730704E+22 | 1,945527E+22 | 1,945550E+22 | 1,730750E+22 | 1,370309E+22 | 9,647198E+21 | 6,226730E+21 | 4,319173E+21 | 4,319120E+21 | 6,226555E+21 | 9,646910E+21 |
| 2361              | 1,370289E+22 | 1,730752E+22 | 1,945574E+22 | 1,945582E+22 | 1,730749E+22 | 1,370265E+22 | 9,646739E+21 | 6,226510E+21 | 4,319175E+21 | 4,319331E+21 | 6,226939E+21 | 9,647291E+21 |
| 2362              | 1,370298E+22 | 1,730706E+22 | 1,945462E+22 | 1,945448E+22 | 1,730689E+22 | 1,370281E+22 | 9,647159E+21 | 6,226938E+21 | 4,319465E+21 | 4,319389E+21 | 6,226751E+21 | 9,646925E+21 |
| 2363              | 1,370253E+22 | 1,730682E+22 | 1,945500E+22 | 1,945522E+22 | 1,730749E+22 | 1,370326E+22 | 9,647382E+21 | 6,227045E+21 | 4,319642E+21 | 4,319677E+21 | 6,227111E+21 | 9,647343E+21 |
| 2364              | 1,370297E+22 | 1,730706E+22 | 1,945478E+22 | 1,945456E+22 | 1,730650E+22 | 1,370244E+22 | 9,647149E+21 | 6,227218E+21 | 4,319959E+21 | 4,320025E+21 | 6,227382E+21 | 9,647373E+21 |

| 1                 | 2            | 3            | 4            | 5            | 6            | 7            | 8            | 9            | 10           | 11           | 12           | 13           |
|-------------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|
| Longitude $\odot$ | 0° - 30°     | 30° - 60°    | 60° - 90°    | 90° - 120°   | 120° - 150°  | 150° - 180°  | 180° - 210°  | 210° - 240°  | 240° - 270°  | 270° - 300°  | 300° - 330°  | 330° - 360°  |
| Years             |              |              |              |              |              |              |              |              |              |              |              |              |
| 2365              | 1,370268E+22 | 1,730640E+22 | 1,945377E+22 | 1,945373E+22 | 1,730634E+22 | 1,370279E+22 | 9,647725E+21 | 6,227799E+21 | 4,320404E+21 | 4,320246E+21 | 6,227322E+21 | 9,647039E+21 |
| 2366              | 1,370226E+22 | 1,730634E+22 | 1,945440E+22 | 1,945461E+22 | 1,730693E+22 | 1,370279E+22 | 9,647392E+21 | 6,227627E+21 | 4,320537E+21 | 4,320644E+21 | 6,227908E+21 | 9,647669E+21 |
| 2367              | 1,370270E+22 | 1,730631E+22 | 1,945365E+22 | 1,945330E+22 | 1,730568E+22 | 1,370221E+22 | 9,647349E+21 | 6,227786E+21 | 4,320727E+21 | 4,320786E+21 | 6,227974E+21 | 9,647618E+21 |
| 2368              | 1,370241E+22 | 1,730566E+22 | 1,945303E+22 | 1,945330E+22 | 1,730616E+22 | 1,370279E+22 | 9,647848E+21 | 6,228109E+21 | 4,320895E+21 | 4,320810E+21 | 6,227857E+21 | 9,647489E+21 |
| 2369              | 1,370256E+22 | 1,730629E+22 | 1,945384E+22 | 1,945387E+22 | 1,730627E+22 | 1,370240E+22 | 9,647362E+21 | 6,227809E+21 | 4,320802E+21 | 4,320926E+21 | 6,228165E+21 | 9,647884E+21 |
| 2370              | 1,370284E+22 | 1,730623E+22 | 1,945328E+22 | 1,945286E+22 | 1,730549E+22 | 1,370226E+22 | 9,647534E+21 | 6,227988E+21 | 4,320823E+21 | 4,320722E+21 | 6,227748E+21 | 9,647327E+21 |
| 2371              | 1,370227E+22 | 1,730593E+22 | 1,945377E+22 | 1,945402E+22 | 1,730654E+22 | 1,370286E+22 | 9,647717E+21 | 6,227898E+21 | 4,320673E+21 | 4,320623E+21 | 6,227737E+21 | 9,647450E+21 |
| 2372              | 1,370260E+22 | 1,730643E+22 | 1,945413E+22 | 1,945413E+22 | 1,730629E+22 | 1,370230E+22 | 9,647218E+21 | 6,227584E+21 | 4,320487E+21 | 4,320568E+21 | 6,227814E+21 | 9,647545E+21 |
| 2373              | 1,370253E+22 | 1,730605E+22 | 1,945340E+22 | 1,945337E+22 | 1,730620E+22 | 1,370275E+22 | 9,647646E+21 | 6,227754E+21 | 4,320398E+21 | 4,320246E+21 | 6,227338E+21 | 9,647065E+21 |
| 2374              | 1,370219E+22 | 1,730613E+22 | 1,945426E+22 | 1,945463E+22 | 1,730712E+22 | 1,370309E+22 | 9,647457E+21 | 6,227371E+21 | 4,320096E+21 | 4,320137E+21 | 6,227467E+21 | 9,647495E+21 |
| 2375              | 1,370291E+22 | 1,730677E+22 | 1,945425E+22 | 1,945397E+22 | 1,730612E+22 | 1,370232E+22 | 9,647108E+21 | 6,227187E+21 | 4,319907E+21 | 4,319939E+21 | 6,227293E+21 | 9,647343E+21 |
| 2376              | 1,370273E+22 | 1,730649E+22 | 1,945395E+22 | 1,945400E+22 | 1,730655E+22 | 1,370279E+22 | 9,647479E+21 | 6,227386E+21 | 4,319901E+21 | 4,319737E+21 | 6,226929E+21 | 9,646936E+21 |
| 2377              | 1,370258E+22 | 1,730700E+22 | 1,945509E+22 | 1,945510E+22 | 1,730713E+22 | 1,370266E+22 | 9,646991E+21 | 6,226970E+21 | 4,319713E+21 | 4,319819E+21 | 6,227274E+21 | 9,647414E+21 |
| 2378              | 1,370292E+22 | 1,730696E+22 | 1,945464E+22 | 1,945426E+22 | 1,730628E+22 | 1,370233E+22 | 9,646976E+21 | 6,227029E+21 | 4,319725E+21 | 4,319711E+21 | 6,227048E+21 | 9,647091E+21 |
| 2379              | 1,370244E+22 | 1,730636E+22 | 1,945443E+22 | 1,945484E+22 | 1,730717E+22 | 1,370306E+22 | 9,647431E+21 | 6,227220E+21 | 4,319813E+21 | 4,319782E+21 | 6,227109E+21 | 9,647194E+21 |
| 2380              | 1,370273E+22 | 1,730684E+22 | 1,945468E+22 | 1,945477E+22 | 1,730689E+22 | 1,370257E+22 | 9,647059E+21 | 6,227119E+21 | 4,319920E+21 | 4,320061E+21 | 6,227494E+21 | 9,647534E+21 |
| 2381              | 1,370286E+22 | 1,730657E+22 | 1,945380E+22 | 1,945341E+22 | 1,730607E+22 | 1,370263E+22 | 9,647521E+21 | 6,227630E+21 | 4,320290E+21 | 4,320167E+21 | 6,227292E+21 | 9,647068E+21 |
| 2382              | 1,370224E+22 | 1,730613E+22 | 1,945410E+22 | 1,945433E+22 | 1,730682E+22 | 1,370302E+22 | 9,647666E+21 | 6,227747E+21 | 4,320525E+21 | 4,320520E+21 | 6,227674E+21 | 9,647442E+21 |
| 2383              | 1,370267E+22 | 1,730645E+22 | 1,945392E+22 | 1,945365E+22 | 1,730577E+22 | 1,370208E+22 | 9,647257E+21 | 6,227781E+21 | 4,320775E+21 | 4,320875E+21 | 6,228051E+21 | 9,647625E+21 |
| 2384              | 1,370240E+22 | 1,730565E+22 | 1,945284E+22 | 1,945287E+22 | 1,730571E+22 | 1,370247E+22 | 9,647807E+21 | 6,228325E+21 | 4,321178E+21 | 4,321049E+21 | 6,227970E+21 | 9,647331E+21 |
| 2385              | 1,370203E+22 | 1,730556E+22 | 1,945328E+22 | 1,945357E+22 | 1,730629E+22 | 1,370262E+22 | 9,647618E+21 | 6,228163E+21 | 4,321249E+21 | 4,321381E+21 | 6,228520E+21 | 9,648008E+21 |
| 2386              | 1,370262E+22 | 1,730571E+22 | 1,945277E+22 | 1,945245E+22 | 1,730503E+22 | 1,370196E+22 | 9,647542E+21 | 6,228306E+21 | 4,321391E+21 | 4,321430E+21 | 6,228451E+21 | 9,647823E+21 |
| 2387              | 1,370231E+22 | 1,730523E+22 | 1,945235E+22 | 1,945257E+22 | 1,730563E+22 | 1,370261E+22 | 9,648047E+21 | 6,228616E+21 | 4,321530E+21 | 4,321427E+21 | 6,228317E+21 | 9,647642E+21 |
| 2388              | 1,370236E+22 | 1,730579E+22 | 1,945312E+22 | 1,945305E+22 | 1,730567E+22 | 1,370224E+22 | 9,647590E+21 | 6,228348E+21 | 4,321487E+21 | 4,321592E+21 | 6,228636E+21 | 9,647991E+21 |
| 2389              | 1,370257E+22 | 1,730572E+22 | 1,945270E+22 | 1,945220E+22 | 1,730494E+22 | 1,370211E+22 | 9,647779E+21 | 6,228530E+21 | 4,321509E+21 | 4,321391E+21 | 6,228226E+21 | 9,647430E+21 |
| 2390              | 1,370190E+22 | 1,730515E+22 | 1,945289E+22 | 1,945339E+22 | 1,730620E+22 | 1,370279E+22 | 9,647929E+21 | 6,228413E+21 | 4,321354E+21 | 4,321293E+21 | 6,228214E+21 | 9,647592E+21 |
| 2391              | 1,370240E+22 | 1,730584E+22 | 1,945319E+22 | 1,945322E+22 | 1,730572E+22 | 1,370214E+22 | 9,647367E+21 | 6,228002E+21 | 4,321081E+21 | 4,321200E+21 | 6,228341E+21 | 9,647827E+21 |
| 2392              | 1,370246E+22 | 1,730558E+22 | 1,945260E+22 | 1,945251E+22 | 1,730552E+22 | 1,370246E+22 | 9,647767E+21 | 6,228205E+21 | 4,320992E+21 | 4,320830E+21 | 6,227791E+21 | 9,647279E+21 |
| 2393              | 1,370212E+22 | 1,730571E+22 | 1,945349E+22 | 1,945372E+22 | 1,730641E+22 | 1,370281E+22 | 9,647612E+21 | 6,227845E+21 | 4,320707E+21 | 4,320739E+21 | 6,227917E+21 | 9,647669E+21 |
| 2394              | 1,370277E+22 | 1,730635E+22 | 1,945375E+22 | 1,945342E+22 | 1,730553E+22 | 1,370199E+22 | 9,647186E+21 | 6,227617E+21 | 4,320509E+21 | 4,320539E+21 | 6,227721E+21 | 9,647439E+21 |
| 2395              | 1,370248E+22 | 1,730599E+22 | 1,945341E+22 | 1,945357E+22 | 1,730621E+22 | 1,370260E+22 | 9,647560E+21 | 6,227790E+21 | 4,320491E+21 | 4,320362E+21 | 6,227439E+21 | 9,647114E+21 |
| 2396              | 1,370228E+22 | 1,730629E+22 | 1,945418E+22 | 1,945432E+22 | 1,730671E+22 | 1,370260E+22 | 9,647198E+21 | 6,227459E+21 | 4,320381E+21 | 4,320509E+21 | 6,227824E+21 | 9,647656E+21 |
| 2397              | 1,370273E+22 | 1,730634E+22 | 1,945378E+22 | 1,945339E+22 | 1,730573E+22 | 1,370232E+22 | 9,647321E+21 | 6,227604E+21 | 4,320430E+21 | 4,320408E+21 | 6,227576E+21 | 9,647306E+21 |
| 2398              | 1,370225E+22 | 1,730566E+22 | 1,945342E+22 | 1,945392E+22 | 1,730661E+22 | 1,370297E+22 | 9,647765E+21 | 6,227873E+21 | 4,320597E+21 | 4,320515E+21 | 6,227596E+21 | 9,647327E+21 |
| 2399              | 1,370258E+22 | 1,730636E+22 | 1,945377E+22 | 1,945371E+22 | 1,730610E+22 | 1,370231E+22 | 9,647278E+21 | 6,227714E+21 | 4,320706E+21 | 4,320843E+21 | 6,228074E+21 | 9,647739E+21 |
| 2400              | 1,370266E+22 | 1,730604E+22 | 1,945305E+22 | 1,945258E+22 | 1,730530E+22 | 1,370225E+22 | 9,647668E+21 | 6,228229E+21 | 4,321095E+21 | 4,320967E+21 | 6,227893E+21 | 9,647254E+21 |

| 1<br>Longitude $\odot$<br>Years | 2<br>0° - 30° | 3<br>30° - 60° | 4<br>60° - 90° | 5<br>90° - 120° | 6<br>120° - 150° | 7<br>150° - 180° | 8<br>180° - 210° | 9<br>210° - 240° | 10<br>240° - 270° | 11<br>270° - 300° | 12<br>300° - 330° | 13<br>330° - 360° |
|---------------------------------|---------------|----------------|----------------|-----------------|------------------|------------------|------------------|------------------|-------------------|-------------------|-------------------|-------------------|
| 2401                            | 1,370193E+22  | 1,730539E+22   | 1,945313E+22   | 1,945340E+22    | 1,730612E+22     | 1,370272E+22     | 9,647834E+21     | 6,228334E+21     | 4,321329E+21      | 4,321348E+21      | 6,228341E+21      | 9,647719E+21      |
| 2402                            | 1,370239E+22  | 1,730566E+22   | 1,945299E+22   | 1,945287E+22    | 1,730520E+22     | 1,370183E+22     | 9,647391E+21     | 6,228296E+21     | 4,321517E+21      | 4,321649E+21      | 6,228677E+21      | 9,647926E+21      |
| 2403                            | 1,370225E+22  | 1,730500E+22   | 1,945188E+22   | 1,945200E+22    | 1,730518E+22     | 1,370232E+22     | 9,647993E+21     | 6,228813E+21     | 4,321849E+21      | 4,321760E+21      | 6,228576E+21      | 9,647654E+21      |
| 2404                            | 1,370195E+22  | 1,730499E+22   | 1,945227E+22   | 1,945248E+22    | 1,730554E+22     | 1,370243E+22     | 9,647891E+21     | 6,228756E+21     | 4,321984E+21      | 4,322091E+21      | 6,229050E+21      | 9,648239E+21      |
| 2405                            | 1,370255E+22  | 1,730535E+22   | 1,945211E+22   | 1,945157E+22    | 1,730431E+22     | 1,370176E+22     | 9,647824E+21     | 6,228915E+21     | 4,322138E+21      | 4,322127E+21      | 6,228909E+21      | 9,647900E+21      |
| 2406                            | 1,370201E+22  | 1,730465E+22   | 1,945166E+22   | 1,945194E+22    | 1,730514E+22     | 1,370242E+22     | 9,648280E+21     | 6,229210E+21     | 4,322285E+21      | 4,322138E+21      | 6,228759E+21      | 9,647654E+21      |
| 2407                            | 1,370202E+22  | 1,730522E+22   | 1,945238E+22   | 1,945235E+22    | 1,730516E+22     | 1,370203E+22     | 9,647723E+21     | 6,228822E+21     | 4,322165E+21      | 4,322295E+21      | 6,229179E+21      | 9,648158E+21      |
| 2408                            | 1,370225E+22  | 1,730502E+22   | 1,945187E+22   | 1,945153E+22    | 1,730448E+22     | 1,370192E+22     | 9,647913E+21     | 6,228982E+21     | 4,322140E+21      | 4,322039E+21      | 6,228749E+21      | 9,647649E+21      |
| 2409                            | 1,370166E+22  | 1,730441E+22   | 1,945183E+22   | 1,945245E+22    | 1,730565E+22     | 1,370268E+22     | 9,648168E+21     | 6,228886E+21     | 4,321953E+21      | 4,321908E+21      | 6,228721E+21      | 9,647851E+21      |
| 2410                            | 1,370228E+22  | 1,730528E+22   | 1,945239E+22   | 1,945246E+22    | 1,730512E+22     | 1,370190E+22     | 9,647523E+21     | 6,228442E+21     | 4,321647E+21      | 4,321755E+21      | 6,228759E+21      | 9,648009E+21      |
| 2411                            | 1,370239E+22  | 1,730522E+22   | 1,945197E+22   | 1,945183E+22    | 1,730499E+22     | 1,370224E+22     | 9,647886E+21     | 6,228607E+21     | 4,321538E+21      | 4,321391E+21      | 6,228237E+21      | 9,647447E+21      |
| 2412                            | 1,370196E+22  | 1,730530E+22   | 1,945283E+22   | 1,945297E+22    | 1,730577E+22     | 1,370257E+22     | 9,647782E+21     | 6,228324E+21     | 4,321336E+21      | 4,321365E+21      | 6,228393E+21      | 9,647837E+21      |
| 2413                            | 1,370259E+22  | 1,730592E+22   | 1,945319E+22   | 1,945281E+22    | 1,730502E+22     | 1,370180E+22     | 9,647360E+21     | 6,228105E+21     | 4,321164E+21      | 4,321195E+21      | 6,228218E+21      | 9,647603E+21      |
| 2414                            | 1,370221E+22  | 1,730530E+22   | 1,945257E+22   | 1,945295E+22    | 1,730589E+22     | 1,370255E+22     | 9,647778E+21     | 6,228289E+21     | 4,321170E+21      | 4,321042E+21      | 6,227933E+21      | 9,647299E+21      |
| 2415                            | 1,370215E+22  | 1,730577E+22   | 1,945326E+22   | 1,945339E+22    | 1,730610E+22     | 1,370247E+22     | 9,647407E+21     | 6,227932E+21     | 4,321031E+21      | 4,321189E+21      | 6,228370E+21      | 9,647918E+21      |
| 2416                            | 1,370264E+22  | 1,730586E+22   | 1,945294E+22   | 1,945249E+22    | 1,730501E+22     | 1,370202E+22     | 9,647520E+21     | 6,228168E+21     | 4,321143E+21      | 4,321094E+21      | 6,228078E+21      | 9,647483E+21      |
| 2417                            | 1,370207E+22  | 1,730513E+22   | 1,945251E+22   | 1,945293E+22    | 1,730586E+22     | 1,370271E+22     | 9,648009E+21     | 6,228480E+21     | 4,321367E+21      | 4,321266E+21      | 6,228136E+21      | 9,647466E+21      |
| 2418                            | 1,370227E+22  | 1,730572E+22   | 1,945305E+22   | 1,945303E+22    | 1,730544E+22     | 1,370196E+22     | 9,647421E+21     | 6,228272E+21     | 4,321469E+21      | 4,321605E+21      | 6,228628E+21      | 9,647872E+21      |
| 2419                            | 1,370231E+22  | 1,730532E+22   | 1,945221E+22   | 1,945191E+22    | 1,730482E+22     | 1,370201E+22     | 9,647805E+21     | 6,228742E+21     | 4,321828E+21      | 4,321747E+21      | 6,228540E+21      | 9,647501E+21      |
| 2420                            | 1,370161E+22  | 1,730457E+22   | 1,945201E+22   | 1,945237E+22    | 1,730548E+22     | 1,370257E+22     | 9,648092E+21     | 6,228919E+21     | 4,322107E+21      | 4,322145E+21      | 6,228990E+21      | 9,648036E+21      |
| 2421                            | 1,370224E+22  | 1,730502E+22   | 1,945199E+22   | 1,945182E+22    | 1,730451E+22     | 1,370171E+22     | 9,647712E+21     | 6,228917E+21     | 4,322293E+21      | 4,322412E+21      | 6,229258E+21      | 9,648178E+21      |
| 2422                            | 1,370209E+22  | 1,730440E+22   | 1,945092E+22   | 1,945108E+22    | 1,730459E+22     | 1,370217E+22     | 9,648284E+21     | 6,229448E+21     | 4,322641E+21      | 4,322505E+21      | 6,229070E+21      | 9,647807E+21      |
| 2423                            | 1,370184E+22  | 1,730460E+22   | 1,945148E+22   | 1,945152E+22    | 1,730479E+22     | 1,370216E+22     | 9,648084E+21     | 6,229315E+21     | 4,322737E+21      | 4,322843E+21      | 6,229600E+21      | 9,648413E+21      |
| 2424                            | 1,370233E+22  | 1,730486E+22   | 1,945148E+22   | 1,945093E+22    | 1,730369E+22     | 1,370142E+22     | 9,647975E+21     | 6,229473E+21     | 4,322874E+21      | 4,322851E+21      | 6,229444E+21      | 9,648040E+21      |
| 2425                            | 1,370168E+22  | 1,730395E+22   | 1,945078E+22   | 1,945122E+22    | 1,730466E+22     | 1,370223E+22     | 9,648457E+21     | 6,229728E+21     | 4,322989E+21      | 4,322860E+21      | 6,229333E+21      | 9,647862E+21      |
| 2426                            | 1,370168E+22  | 1,730443E+22   | 1,945152E+22   | 1,945170E+22    | 1,730474E+22     | 1,370188E+22     | 9,647879E+21     | 6,229254E+21     | 4,322775E+21      | 4,322935E+21      | 6,229701E+21      | 9,648404E+21      |
| 2427                            | 1,370209E+22  | 1,730442E+22   | 1,945097E+22   | 1,945074E+22    | 1,730402E+22     | 1,370182E+22     | 9,648106E+21     | 6,229387E+21     | 4,322678E+21      | 4,322621E+21      | 6,229261E+21      | 9,647920E+21      |
| 2428                            | 1,370159E+22  | 1,730394E+22   | 1,945090E+22   | 1,945137E+22    | 1,730489E+22     | 1,370247E+22     | 9,648414E+21     | 6,229397E+21     | 4,322569E+21      | 4,322500E+21      | 6,229172E+21      | 9,648063E+21      |
| 2429                            | 1,370223E+22  | 1,730499E+22   | 1,945179E+22   | 1,945164E+22    | 1,730446E+22     | 1,370168E+22     | 9,647727E+21     | 6,228950E+21     | 4,322285E+21      | 4,322360E+21      | 6,229171E+21      | 9,648102E+21      |
| 2430                            | 1,370217E+22  | 1,730478E+22   | 1,945140E+22   | 1,945129E+22    | 1,730455E+22     | 1,370201E+22     | 9,648013E+21     | 6,229076E+21     | 4,322183E+21      | 4,322017E+21      | 6,228644E+21      | 9,647515E+21      |
| 2431                            | 1,370174E+22  | 1,730482E+22   | 1,945215E+22   | 1,945230E+22    | 1,730527E+22     | 1,370232E+22     | 9,647861E+21     | 6,228730E+21     | 4,321949E+21      | 4,322015E+21      | 6,228914E+21      | 9,648044E+21      |
| 2432                            | 1,370236E+22  | 1,730533E+22   | 1,945245E+22   | 1,945220E+22    | 1,730459E+22     | 1,370161E+22     | 9,647508E+21     | 6,228546E+21     | 4,321764E+21      | 4,321811E+21      | 6,228709E+21      | 9,647812E+21      |
| 2433                            | 1,370200E+22  | 1,730466E+22   | 1,945159E+22   | 1,945205E+22    | 1,730533E+22     | 1,370243E+22     | 9,648045E+21     | 6,228806E+21     | 4,321810E+21      | 4,321685E+21      | 6,228432E+21      | 9,647493E+21      |
| 2434                            | 1,370193E+22  | 1,730517E+22   | 1,945247E+22   | 1,945261E+22    | 1,730550E+22     | 1,370226E+22     | 9,647636E+21     | 6,228460E+21     | 4,321695E+21      | 4,321829E+21      | 6,228822E+21      | 9,648045E+21      |
| 2435                            | 1,370243E+22  | 1,730538E+22   | 1,945222E+22   | 1,945173E+22    | 1,730446E+22     | 1,370181E+22     | 9,647724E+21     | 6,228687E+21     | 4,321832E+21      | 4,321802E+21      | 6,228623E+21      | 9,647630E+21      |
| 2436                            | 1,370176E+22  | 1,730450E+22   | 1,945162E+22   | 1,945197E+22    | 1,730513E+22     | 1,370244E+22     | 9,648259E+21     | 6,229105E+21     | 4,322165E+21      | 4,322058E+21      | 6,228747E+21      | 9,647683E+21      |

| 1<br>Longitude ☉<br>Years | 2<br>0° - 30° | 3<br>30° - 60° | 4<br>60° - 90° | 5<br>90° - 120° | 6<br>120° - 150° | 7<br>150° - 180° | 8<br>180° - 210° | 9<br>210° - 240° | 10<br>240° - 270° | 11<br>270° - 300° | 12<br>300° - 330° | 13<br>330° - 360° |
|---------------------------|---------------|----------------|----------------|-----------------|------------------|------------------|------------------|------------------|-------------------|-------------------|-------------------|-------------------|
| 2437                      | 1,370198E+22  | 1,730503E+22   | 1,945216E+22   | 1,945218E+22    | 1,730487E+22     | 1,370177E+22     | 9,647643E+21     | 6,228882E+21     | 4,322287E+21      | 4,322426E+21      | 6,229268E+21      | 9,648126E+21      |
| 2438                      | 1,370202E+22  | 1,730451E+22   | 1,945114E+22   | 1,945102E+22    | 1,730433E+22     | 1,370189E+22     | 9,648044E+21     | 6,229325E+21     | 4,322626E+21      | 4,322554E+21      | 6,229152E+21      | 9,647800E+21      |
| 2439                      | 1,370154E+22  | 1,730401E+22   | 1,945096E+22   | 1,945123E+22    | 1,730468E+22     | 1,370230E+22     | 9,648312E+21     | 6,229482E+21     | 4,322863E+21      | 4,322928E+21      | 6,229630E+21      | 9,648376E+21      |
| 2440                      | 1,370220E+22  | 1,730459E+22   | 1,945119E+22   | 1,945089E+22    | 1,730372E+22     | 1,370134E+22     | 9,647910E+21     | 6,229520E+21     | 4,323057E+21      | 4,323151E+21      | 6,229802E+21      | 9,648380E+21      |
| 2441                      | 1,370192E+22  | 1,730391E+22   | 1,945012E+22   | 1,945018E+22    | 1,730389E+22     | 1,370190E+22     | 9,648505E+21     | 6,230041E+21     | 4,323415E+21      | 4,323270E+21      | 6,229619E+21      | 9,647935E+21      |
| 2442                      | 1,370149E+22  | 1,730398E+22   | 1,945087E+22   | 1,945096E+22    | 1,730426E+22     | 1,370188E+22     | 9,648236E+21     | 6,229834E+21     | 4,323448E+21      | 4,323557E+21      | 6,230117E+21      | 9,648526E+21      |
| 2443                      | 1,370197E+22  | 1,730416E+22   | 1,945068E+22   | 1,945033E+22    | 1,730338E+22     | 1,370131E+22     | 9,648139E+21     | 6,229925E+21     | 4,323517E+21      | 4,323542E+21      | 6,230015E+21      | 9,648243E+21      |
| 2444                      | 1,370136E+22  | 1,730316E+22   | 1,944971E+22   | 1,945024E+22    | 1,730412E+22     | 1,370217E+22     | 9,648750E+21     | 6,230260E+21     | 4,323650E+21      | 4,323526E+21      | 6,229877E+21      | 9,648138E+21      |
| 2445                      | 1,370153E+22  | 1,730382E+22   | 1,945056E+22   | 1,945072E+22    | 1,730414E+22     | 1,370178E+22     | 9,648167E+21     | 6,229799E+21     | 4,323422E+21      | 4,323551E+21      | 6,230160E+21      | 9,648599E+21      |
| 2446                      | 1,370195E+22  | 1,730389E+22   | 1,945012E+22   | 1,944988E+22    | 1,730346E+22     | 1,370164E+22     | 9,648336E+21     | 6,229911E+21     | 4,323325E+21      | 4,323221E+21      | 6,229656E+21      | 9,648064E+21      |
| 2447                      | 1,370154E+22  | 1,730365E+22   | 1,945027E+22   | 1,945050E+22    | 1,730413E+22     | 1,370211E+22     | 9,648521E+21     | 6,229837E+21     | 4,323179E+21      | 4,323121E+21      | 6,229644E+21      | 9,648235E+21      |
| 2448                      | 1,370207E+22  | 1,730463E+22   | 1,945131E+22   | 1,945107E+22    | 1,730386E+22     | 1,370127E+22     | 9,647792E+21     | 6,229395E+21     | 4,322892E+21      | 4,322968E+21      | 6,229635E+21      | 9,648250E+21      |
| 2449                      | 1,370191E+22  | 1,730422E+22   | 1,945070E+22   | 1,945067E+22    | 1,730416E+22     | 1,370182E+22     | 9,648120E+21     | 6,229492E+21     | 4,322785E+21      | 4,322651E+21      | 6,229155E+21      | 9,647714E+21      |
| 2450                      | 1,370146E+22  | 1,730418E+22   | 1,945145E+22   | 1,945173E+22    | 1,730490E+22     | 1,370218E+22     | 9,647996E+21     | 6,229114E+21     | 4,322501E+21      | 4,322594E+21      | 6,229374E+21      | 9,648247E+21      |
| 2451                      | 1,370221E+22  | 1,730480E+22   | 1,945164E+22   | 1,945148E+22    | 1,730420E+22     | 1,370152E+22     | 9,647724E+21     | 6,228975E+21     | 4,322324E+21      | 4,322396E+21      | 6,229182E+21      | 9,647999E+21      |
| 2452                      | 1,370183E+22  | 1,730414E+22   | 1,945071E+22   | 1,945103E+22    | 1,730464E+22     | 1,370225E+22     | 9,648347E+21     | 6,229401E+21     | 4,322512E+21      | 4,322347E+21      | 6,228908E+21      | 9,647647E+21      |
| 2453                      | 1,370170E+22  | 1,730465E+22   | 1,945172E+22   | 1,945175E+22    | 1,730487E+22     | 1,370206E+22     | 9,647901E+21     | 6,229081E+21     | 4,322467E+21      | 4,322563E+21      | 6,229323E+21      | 9,648123E+21      |
| 2454                      | 1,370205E+22  | 1,730467E+22   | 1,945138E+22   | 1,945100E+22    | 1,730398E+22     | 1,370161E+22     | 9,647943E+21     | 6,229291E+21     | 4,322636E+21      | 4,322593E+21      | 6,229185E+21      | 9,647804E+21      |
| 2455                      | 1,370149E+22  | 1,730381E+22   | 1,945064E+22   | 1,945099E+22    | 1,730445E+22     | 1,370215E+22     | 9,648407E+21     | 6,229647E+21     | 4,322946E+21      | 4,322888E+21      | 6,229440E+21      | 9,648029E+21      |
| 2456                      | 1,370180E+22  | 1,730434E+22   | 1,945117E+22   | 1,945123E+22    | 1,730419E+22     | 1,370148E+22     | 9,647845E+21     | 6,229457E+21     | 4,323046E+21      | 4,323207E+21      | 6,229912E+21      | 9,648468E+21      |
| 2457                      | 1,370190E+22  | 1,730387E+22   | 1,945008E+22   | 1,944995E+22    | 1,730362E+22     | 1,370166E+22     | 9,648289E+21     | 6,229914E+21     | 4,323388E+21      | 4,323324E+21      | 6,229761E+21      | 9,648086E+21      |
| 2458                      | 1,370139E+22  | 1,730349E+22   | 1,945021E+22   | 1,945039E+22    | 1,730399E+22     | 1,370200E+22     | 9,648498E+21     | 6,230037E+21     | 4,323594E+21      | 4,323647E+21      | 6,230152E+21      | 9,648562E+21      |
| 2459                      | 1,370204E+22  | 1,730415E+22   | 1,945053E+22   | 1,945018E+22    | 1,730321E+22     | 1,370113E+22     | 9,648110E+21     | 6,230047E+21     | 4,323767E+21      | 4,323882E+21      | 6,230356E+21      | 9,648518E+21      |
| 2460                      | 1,370160E+22  | 1,730329E+22   | 1,944933E+22   | 1,944934E+22    | 1,730327E+22     | 1,370169E+22     | 9,648774E+21     | 6,230662E+21     | 4,324192E+21      | 4,324033E+21      | 6,230200E+21      | 9,648125E+21      |
| 2461                      | 1,370115E+22  | 1,730323E+22   | 1,944997E+22   | 1,945019E+22    | 1,730386E+22     | 1,370181E+22     | 9,648497E+21     | 6,230421E+21     | 4,324204E+21      | 4,324300E+21      | 6,230672E+21      | 9,648714E+21      |
| 2462                      | 1,370166E+22  | 1,730337E+22   | 1,944965E+22   | 1,944948E+22    | 1,730298E+22     | 1,370127E+22     | 9,648411E+21     | 6,230466E+21     | 4,324214E+21      | 4,324229E+21      | 6,230524E+21      | 9,648492E+21      |
| 2463                      | 1,370129E+22  | 1,730262E+22   | 1,944870E+22   | 1,944907E+22    | 1,730331E+22     | 1,370188E+22     | 9,648948E+21     | 6,230769E+21     | 4,324304E+21      | 4,324185E+21      | 6,230407E+21      | 9,648422E+21      |
| 2464                      | 1,370150E+22  | 1,730344E+22   | 1,944985E+22   | 1,944983E+22    | 1,730337E+22     | 1,370138E+22     | 9,648312E+21     | 6,230311E+21     | 4,324058E+21      | 4,324156E+21      | 6,230597E+21      | 9,648759E+21      |
| 2465                      | 1,370180E+22  | 1,730348E+22   | 1,944950E+22   | 1,944913E+22    | 1,730282E+22     | 1,370131E+22     | 9,648433E+21     | 6,230363E+21     | 4,323949E+21      | 4,323850E+21      | 6,230115E+21      | 9,648171E+21      |
| 2466                      | 1,370123E+22  | 1,730315E+22   | 1,944985E+22   | 1,945008E+22    | 1,730367E+22     | 1,370179E+22     | 9,648550E+21     | 6,230214E+21     | 4,323741E+21      | 4,323702E+21      | 6,230084E+21      | 9,648360E+21      |
| 2467                      | 1,370180E+22  | 1,730407E+22   | 1,945070E+22   | 1,945062E+22    | 1,730365E+22     | 1,370119E+22     | 9,647893E+21     | 6,229728E+21     | 4,323407E+21      | 4,323540E+21      | 6,230107E+21      | 9,648415E+21      |
| 2468                      | 1,370164E+22  | 1,730356E+22   | 1,944982E+22   | 1,944983E+22    | 1,730371E+22     | 1,370179E+22     | 9,648402E+21     | 6,229974E+21     | 4,323372E+21      | 4,323236E+21      | 6,229619E+21      | 9,647931E+21      |
| 2469                      | 1,370130E+22  | 1,730359E+22   | 1,945056E+22   | 1,945088E+22    | 1,730446E+22     | 1,370215E+22     | 9,648305E+21     | 6,229670E+21     | 4,323144E+21      | 4,323188E+21      | 6,229777E+21      | 9,648354E+21      |
| 2470                      | 1,370198E+22  | 1,730423E+22   | 1,945081E+22   | 1,945065E+22    | 1,730373E+22     | 1,370143E+22     | 9,648008E+21     | 6,229556E+21     | 4,323027E+21      | 4,323045E+21      | 6,229606E+21      | 9,648128E+21      |
| 2471                      | 1,370167E+22  | 1,730367E+22   | 1,944993E+22   | 1,945004E+22    | 1,730384E+22     | 1,370191E+22     | 9,648538E+21     | 6,229965E+21     | 4,323252E+21      | 4,323095E+21      | 6,229490E+21      | 9,647875E+21      |
| 2472                      | 1,370148E+22  | 1,730406E+22   | 1,945099E+22   | 1,945098E+22    | 1,730419E+22     | 1,370166E+22     | 9,648043E+21     | 6,229658E+21     | 4,323226E+21      | 4,323332E+21      | 6,229938E+21      | 9,648382E+21      |



| 1                 | 2            | 3            | 4            | 5            | 6            | 7            | 8            | 9            | 10           | 11           | 12           | 13           |
|-------------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|
| Longitude $\odot$ | 0° - 30°     | 30° - 60°    | 60° - 90°    | 90° - 120°   | 120° - 150°  | 150° - 180°  | 180° - 210°  | 210° - 240°  | 240° - 270°  | 270° - 300°  | 300° - 330°  | 330° - 360°  |
| Years             |              |              |              |              |              |              |              |              |              |              |              |              |
| 2473              | 1,370179E+22 | 1,730393E+22 | 1,945042E+22 | 1,945011E+22 | 1,730341E+22 | 1,370138E+22 | 9,648085E+21 | 6,229817E+21 | 4,323396E+21 | 4,323403E+21 | 6,229866E+21 | 9,648138E+21 |
| 2474              | 1,370128E+22 | 1,730314E+22 | 1,944979E+22 | 1,945013E+22 | 1,730381E+22 | 1,370188E+22 | 9,648545E+21 | 6,230127E+21 | 4,323634E+21 | 4,323619E+21 | 6,230047E+21 | 9,648367E+21 |
| 2475              | 1,370176E+22 | 1,730386E+22 | 1,945031E+22 | 1,945029E+22 | 1,730358E+22 | 1,370128E+22 | 9,648050E+21 | 6,229964E+21 | 4,323730E+21 | 4,323918E+21 | 6,230472E+21 | 9,648709E+21 |
| 2476              | 1,370179E+22 | 1,730341E+22 | 1,944928E+22 | 1,944893E+22 | 1,730286E+22 | 1,370142E+22 | 9,648577E+21 | 6,230558E+21 | 4,324171E+21 | 4,324067E+21 | 6,230287E+21 | 9,648253E+21 |
| 2477              | 1,370117E+22 | 1,730297E+22 | 1,944949E+22 | 1,944963E+22 | 1,730345E+22 | 1,370180E+22 | 9,648748E+21 | 6,230685E+21 | 4,324409E+21 | 4,324411E+21 | 6,230650E+21 | 9,648604E+21 |
| 2478              | 1,370159E+22 | 1,730338E+22 | 1,944970E+22 | 1,944952E+22 | 1,730285E+22 | 1,370103E+22 | 9,648374E+21 | 6,230676E+21 | 4,324574E+21 | 4,324656E+21 | 6,230891E+21 | 9,648661E+21 |
| 2479              | 1,370127E+22 | 1,730250E+22 | 1,944832E+22 | 1,944837E+22 | 1,730266E+22 | 1,370151E+22 | 9,648993E+21 | 6,231220E+21 | 4,324946E+21 | 4,324815E+21 | 6,230837E+21 | 9,648414E+21 |
| 2480              | 1,370091E+22 | 1,730245E+22 | 1,944894E+22 | 1,944921E+22 | 1,730318E+22 | 1,370157E+22 | 9,648744E+21 | 6,230993E+21 | 4,324910E+21 | 4,325004E+21 | 6,231230E+21 | 9,648977E+21 |
| 2481              | 1,370150E+22 | 1,730270E+22 | 1,944860E+22 | 1,944841E+22 | 1,730228E+22 | 1,370105E+22 | 9,648632E+21 | 6,231009E+21 | 4,324903E+21 | 4,324914E+21 | 6,231056E+21 | 9,648721E+21 |
| 2482              | 1,370114E+22 | 1,730218E+22 | 1,944806E+22 | 1,944826E+22 | 1,730259E+22 | 1,370152E+22 | 9,649029E+21 | 6,231209E+21 | 4,324913E+21 | 4,324794E+21 | 6,230858E+21 | 9,648598E+21 |
| 2483              | 1,370140E+22 | 1,730309E+22 | 1,944932E+22 | 1,944920E+22 | 1,730285E+22 | 1,370112E+22 | 9,648392E+21 | 6,230698E+21 | 4,324626E+21 | 4,324757E+21 | 6,231058E+21 | 9,648888E+21 |
| 2484              | 1,370156E+22 | 1,730298E+22 | 1,944891E+22 | 1,944851E+22 | 1,730234E+22 | 1,370109E+22 | 9,648577E+21 | 6,230819E+21 | 4,324555E+21 | 4,324459E+21 | 6,230592E+21 | 9,648361E+21 |
| 2485              | 1,370100E+22 | 1,730254E+22 | 1,944911E+22 | 1,944952E+22 | 1,730344E+22 | 1,370175E+22 | 9,648716E+21 | 6,230652E+21 | 4,324334E+21 | 4,324293E+21 | 6,230522E+21 | 9,648511E+21 |
| 2486              | 1,370156E+22 | 1,730341E+22 | 1,944983E+22 | 1,944991E+22 | 1,730338E+22 | 1,370125E+22 | 9,648172E+21 | 6,230203E+21 | 4,323993E+21 | 4,324103E+21 | 6,230517E+21 | 9,648618E+21 |
| 2487              | 1,370158E+22 | 1,730308E+22 | 1,944896E+22 | 1,944880E+22 | 1,730298E+22 | 1,370158E+22 | 9,648637E+21 | 6,230486E+21 | 4,324003E+21 | 4,323859E+21 | 6,230100E+21 | 9,648157E+21 |
| 2488              | 1,370120E+22 | 1,730315E+22 | 1,944985E+22 | 1,945001E+22 | 1,730372E+22 | 1,370182E+22 | 9,648512E+21 | 6,230240E+21 | 4,323832E+21 | 4,323841E+21 | 6,230232E+21 | 9,648471E+21 |
| 2489              | 1,370173E+22 | 1,730367E+22 | 1,945007E+22 | 1,944983E+22 | 1,730308E+22 | 1,370114E+22 | 9,648160E+21 | 6,230095E+21 | 4,323759E+21 | 4,323787E+21 | 6,230163E+21 | 9,648276E+21 |
| 2490              | 1,370132E+22 | 1,730303E+22 | 1,944929E+22 | 1,944938E+22 | 1,730324E+22 | 1,370156E+22 | 9,648590E+21 | 6,230427E+21 | 4,323938E+21 | 4,323817E+21 | 6,230072E+21 | 9,648126E+21 |
| 2491              | 1,370127E+22 | 1,730342E+22 | 1,945014E+22 | 1,945023E+22 | 1,730374E+22 | 1,370150E+22 | 9,648173E+21 | 6,230092E+21 | 4,323881E+21 | 4,324051E+21 | 6,230539E+21 | 9,648667E+21 |
| 2492              | 1,370161E+22 | 1,730326E+22 | 1,944944E+22 | 1,944910E+22 | 1,730274E+22 | 1,370120E+22 | 9,648356E+21 | 6,230390E+21 | 4,324112E+21 | 4,324122E+21 | 6,230442E+21 | 9,648438E+21 |
| 2493              | 1,370119E+22 | 1,730258E+22 | 1,944886E+22 | 1,944921E+22 | 1,730326E+22 | 1,370174E+22 | 9,648814E+21 | 6,230746E+21 | 4,324395E+21 | 4,324332E+21 | 6,230536E+21 | 9,648509E+21 |
| 2494              | 1,370155E+22 | 1,730332E+22 | 1,944952E+22 | 1,944946E+22 | 1,730308E+22 | 1,370118E+22 | 9,648349E+21 | 6,230602E+21 | 4,324522E+21 | 4,324653E+21 | 6,230954E+21 | 9,648836E+21 |
| 2495              | 1,370157E+22 | 1,730286E+22 | 1,944849E+22 | 1,944798E+22 | 1,730208E+22 | 1,370112E+22 | 9,648810E+21 | 6,231198E+21 | 4,325001E+21 | 4,324892E+21 | 6,230905E+21 | 9,648452E+21 |
| 2496              | 1,370086E+22 | 1,730224E+22 | 1,944865E+22 | 1,944887E+22 | 1,730285E+22 | 1,370151E+22 | 9,648969E+21 | 6,231332E+21 | 4,325232E+21 | 4,325225E+21 | 6,231264E+21 | 9,648803E+21 |
| 2497              | 1,370123E+22 | 1,730251E+22 | 1,944861E+22 | 1,944860E+22 | 1,730232E+22 | 1,370090E+22 | 9,648591E+21 | 6,231248E+21 | 4,325362E+21 | 4,325476E+21 | 6,231554E+21 | 9,648945E+21 |
| 2498              | 1,370099E+22 | 1,730175E+22 | 1,944738E+22 | 1,944740E+22 | 1,730196E+22 | 1,370125E+22 | 9,649162E+21 | 6,231713E+21 | 4,325617E+21 | 4,325516E+21 | 6,231418E+21 | 9,648740E+21 |
| 2499              | 1,370088E+22 | 1,730195E+22 | 1,944805E+22 | 1,944823E+22 | 1,730249E+22 | 1,370133E+22 | 9,648910E+21 | 6,231455E+21 | 4,325536E+21 | 4,325648E+21 | 6,231727E+21 | 9,649184E+21 |
| 2500              | 1,370139E+22 | 1,730227E+22 | 1,944786E+22 | 1,944748E+22 | 1,730151E+22 | 1,370075E+22 | 9,648817E+21 | 6,231533E+21 | 4,325567E+21 | 4,325555E+21 | 6,231519E+21 | 9,648884E+21 |
| 2501              | 1,370098E+22 | 1,730175E+22 | 1,944746E+22 | 1,944767E+22 | 1,730215E+22 | 1,370129E+22 | 9,649143E+21 | 6,231686E+21 | 4,325559E+21 | 4,325415E+21 | 6,231275E+21 | 9,648655E+21 |
| 2502              | 1,370108E+22 | 1,730251E+22 | 1,944868E+22 | 1,944871E+22 | 1,730261E+22 | 1,370106E+22 | 9,648566E+21 | 6,231156E+21 | 4,325239E+21 | 4,325350E+21 | 6,231486E+21 | 9,649042E+21 |
| 2503              | 1,370135E+22 | 1,730236E+22 | 1,944811E+22 | 1,944775E+22 | 1,730184E+22 | 1,370097E+22 | 9,648759E+21 | 6,231257E+21 | 4,325150E+21 | 4,325076E+21 | 6,231097E+21 | 9,648614E+21 |
| 2504              | 1,370086E+22 | 1,730195E+22 | 1,944828E+22 | 1,944874E+22 | 1,730289E+22 | 1,370159E+22 | 9,648969E+21 | 6,231154E+21 | 4,324925E+21 | 4,324864E+21 | 6,230946E+21 | 9,648675E+21 |
| 2505              | 1,370139E+22 | 1,730284E+22 | 1,944895E+22 | 1,944903E+22 | 1,730281E+22 | 1,370112E+22 | 9,648409E+21 | 6,230717E+21 | 4,324632E+21 | 4,324725E+21 | 6,230968E+21 | 9,648745E+21 |
| 2506              | 1,370136E+22 | 1,730265E+22 | 1,944840E+22 | 1,944805E+22 | 1,730228E+22 | 1,370127E+22 | 9,648755E+21 | 6,230941E+21 | 4,324620E+21 | 4,324478E+21 | 6,230563E+21 | 9,648318E+21 |
| 2507              | 1,370104E+22 | 1,730271E+22 | 1,944922E+22 | 1,944932E+22 | 1,730313E+22 | 1,370155E+22 | 9,648625E+21 | 6,230682E+21 | 4,324470E+21 | 4,324513E+21 | 6,230745E+21 | 9,648619E+21 |
| 2508              | 1,370145E+22 | 1,730305E+22 | 1,944930E+22 | 1,944909E+22 | 1,730252E+22 | 1,370091E+22 | 9,648323E+21 | 6,230618E+21 | 4,324467E+21 | 4,324511E+21 | 6,230749E+21 | 9,648553E+21 |

| 1                 | 2            | 3            | 4            | 5            | 6            | 7            | 8            | 9            | 10           | 11           | 12           | 13           |
|-------------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|
| Longitude $\odot$ | 0° - 30°     | 30° - 60°    | 60° - 90°    | 90° - 120°   | 120° - 150°  | 150° - 180°  | 180° - 210°  | 210° - 240°  | 240° - 270°  | 270° - 300°  | 300° - 330°  | 330° - 360°  |
| Years             |              |              |              |              |              |              |              |              |              |              |              |              |
| 2509              | 1,370114E+22 | 1,730237E+22 | 1,944838E+22 | 1,944865E+22 | 1,730286E+22 | 1,370142E+22 | 9,648728E+21 | 6,230918E+21 | 4,324637E+21 | 4,324526E+21 | 6,230619E+21 | 9,648362E+21 |
| 2510              | 1,370110E+22 | 1,730278E+22 | 1,944917E+22 | 1,944933E+22 | 1,730325E+22 | 1,370145E+22 | 9,648459E+21 | 6,230656E+21 | 4,324587E+21 | 4,324731E+21 | 6,231053E+21 | 9,648940E+21 |
| 2511              | 1,370157E+22 | 1,730277E+22 | 1,944854E+22 | 1,944804E+22 | 1,730191E+22 | 1,370092E+22 | 9,648595E+21 | 6,230993E+21 | 4,324875E+21 | 4,324868E+21 | 6,230999E+21 | 9,648669E+21 |
| 2512              | 1,370106E+22 | 1,730209E+22 | 1,944813E+22 | 1,944834E+22 | 1,730249E+22 | 1,370141E+22 | 9,649052E+21 | 6,231396E+21 | 4,325206E+21 | 4,325107E+21 | 6,231060E+21 | 9,648598E+21 |
| 2513              | 1,370119E+22 | 1,730263E+22 | 1,944868E+22 | 1,944865E+22 | 1,730248E+22 | 1,370098E+22 | 9,648581E+21 | 6,231239E+21 | 4,325373E+21 | 4,325505E+21 | 6,231574E+21 | 9,648953E+21 |
| 2514              | 1,370110E+22 | 1,730208E+22 | 1,944770E+22 | 1,944726E+22 | 1,730150E+22 | 1,370086E+22 | 9,648954E+21 | 6,231740E+21 | 4,325774E+21 | 4,325700E+21 | 6,231551E+21 | 9,648715E+21 |
| 2515              | 1,370059E+22 | 1,730143E+22 | 1,944757E+22 | 1,944796E+22 | 1,730234E+22 | 1,370140E+22 | 9,649173E+21 | 6,231836E+21 | 4,325952E+21 | 4,325994E+21 | 6,231883E+21 | 9,649071E+21 |
| 2516              | 1,370101E+22 | 1,730174E+22 | 1,944748E+22 | 1,944749E+22 | 1,730160E+22 | 1,370073E+22 | 9,648887E+21 | 6,231846E+21 | 4,326093E+21 | 4,326200E+21 | 6,232134E+21 | 9,649255E+21 |
| 2517              | 1,370092E+22 | 1,730119E+22 | 1,944639E+22 | 1,944645E+22 | 1,730134E+22 | 1,370103E+22 | 9,649359E+21 | 6,232269E+21 | 4,326323E+21 | 4,326182E+21 | 6,231886E+21 | 9,648902E+21 |
| 2518              | 1,370073E+22 | 1,730152E+22 | 1,944732E+22 | 1,944742E+22 | 1,730190E+22 | 1,370116E+22 | 9,649143E+21 | 6,231996E+21 | 4,326213E+21 | 4,326280E+21 | 6,232170E+21 | 9,649351E+21 |
| 2519              | 1,370126E+22 | 1,730185E+22 | 1,944724E+22 | 1,944672E+22 | 1,730080E+22 | 1,370042E+22 | 9,648952E+21 | 6,232032E+21 | 4,326240E+21 | 4,326236E+21 | 6,232049E+21 | 9,649090E+21 |
| 2520              | 1,370079E+22 | 1,730123E+22 | 1,944684E+22 | 1,944713E+22 | 1,730167E+22 | 1,370104E+22 | 9,649277E+21 | 6,232159E+21 | 4,326200E+21 | 4,326062E+21 | 6,231764E+21 | 9,648822E+21 |
| 2521              | 1,370083E+22 | 1,730186E+22 | 1,944783E+22 | 1,944800E+22 | 1,730224E+22 | 1,370103E+22 | 9,648761E+21 | 6,231595E+21 | 4,325854E+21 | 4,325993E+21 | 6,231991E+21 | 9,649229E+21 |
| 2522              | 1,370113E+22 | 1,730183E+22 | 1,944740E+22 | 1,944700E+22 | 1,730127E+22 | 1,370079E+22 | 9,648919E+21 | 6,231664E+21 | 4,325691E+21 | 4,325632E+21 | 6,231542E+21 | 9,648839E+21 |
| 2523              | 1,370082E+22 | 1,730156E+22 | 1,944755E+22 | 1,944796E+22 | 1,730232E+22 | 1,370141E+22 | 9,649138E+21 | 6,231581E+21 | 4,325492E+21 | 4,325427E+21 | 6,231337E+21 | 9,648761E+21 |
| 2524              | 1,370117E+22 | 1,730237E+22 | 1,944828E+22 | 1,944824E+22 | 1,730214E+22 | 1,370086E+22 | 9,648603E+21 | 6,231234E+21 | 4,325282E+21 | 4,325351E+21 | 6,231410E+21 | 9,648855E+21 |
| 2525              | 1,370110E+22 | 1,730208E+22 | 1,944769E+22 | 1,944749E+22 | 1,730186E+22 | 1,370104E+22 | 9,648875E+21 | 6,231429E+21 | 4,325288E+21 | 4,325135E+21 | 6,231030E+21 | 9,648408E+21 |
| 2526              | 1,370071E+22 | 1,730205E+22 | 1,944842E+22 | 1,944869E+22 | 1,730278E+22 | 1,370148E+22 | 9,648822E+21 | 6,231170E+21 | 4,325131E+21 | 4,325169E+21 | 6,231262E+21 | 9,648859E+21 |
| 2527              | 1,370126E+22 | 1,730236E+22 | 1,944831E+22 | 1,944812E+22 | 1,730186E+22 | 1,370071E+22 | 9,648519E+21 | 6,231121E+21 | 4,325156E+21 | 4,325233E+21 | 6,231352E+21 | 9,648880E+21 |
| 2528              | 1,370106E+22 | 1,730179E+22 | 1,944745E+22 | 1,944773E+22 | 1,730217E+22 | 1,370120E+22 | 9,648980E+21 | 6,231485E+21 | 4,325346E+21 | 4,325224E+21 | 6,231141E+21 | 9,648578E+21 |
| 2529              | 1,370096E+22 | 1,730223E+22 | 1,944825E+22 | 1,944837E+22 | 1,730259E+22 | 1,370127E+22 | 9,648708E+21 | 6,231252E+21 | 4,325360E+21 | 4,325489E+21 | 6,231596E+21 | 9,649080E+21 |
| 2530              | 1,370131E+22 | 1,730229E+22 | 1,944791E+22 | 1,944725E+22 | 1,730117E+22 | 1,370060E+22 | 9,648758E+21 | 6,231544E+21 | 4,325626E+21 | 4,325624E+21 | 6,231564E+21 | 9,648855E+21 |
| 2531              | 1,370083E+22 | 1,730153E+22 | 1,944738E+22 | 1,944761E+22 | 1,730191E+22 | 1,370117E+22 | 9,649227E+21 | 6,231944E+21 | 4,325973E+21 | 4,325899E+21 | 6,231649E+21 | 9,648741E+21 |
| 2532              | 1,370080E+22 | 1,730181E+22 | 1,944771E+22 | 1,944781E+22 | 1,730191E+22 | 1,370081E+22 | 9,648827E+21 | 6,231850E+21 | 4,326179E+21 | 4,326325E+21 | 6,232230E+21 | 9,649239E+21 |
| 2533              | 1,370085E+22 | 1,730125E+22 | 1,944655E+22 | 1,944638E+22 | 1,730105E+22 | 1,370076E+22 | 9,649193E+21 | 6,232307E+21 | 4,326534E+21 | 4,326468E+21 | 6,232150E+21 | 9,648984E+21 |
| 2534              | 1,370043E+22 | 1,730078E+22 | 1,944648E+22 | 1,944689E+22 | 1,730170E+22 | 1,370131E+22 | 9,649497E+21 | 6,232436E+21 | 4,326677E+21 | 4,326687E+21 | 6,232423E+21 | 9,649371E+21 |
| 2535              | 1,370098E+22 | 1,730125E+22 | 1,944654E+22 | 1,944634E+22 | 1,730068E+22 | 1,370037E+22 | 9,649099E+21 | 6,232441E+21 | 4,326847E+21 | 4,326933E+21 | 6,232688E+21 | 9,649503E+21 |
| 2536              | 1,370085E+22 | 1,730081E+22 | 1,944575E+22 | 1,944566E+22 | 1,730056E+22 | 1,370064E+22 | 9,649510E+21 | 6,232821E+21 | 4,327050E+21 | 4,326888E+21 | 6,232374E+21 | 9,649009E+21 |
| 2537              | 1,370046E+22 | 1,730098E+22 | 1,944665E+22 | 1,944677E+22 | 1,730138E+22 | 1,370093E+22 | 9,649291E+21 | 6,232508E+21 | 4,326926E+21 | 4,327004E+21 | 6,232703E+21 | 9,649456E+21 |
| 2538              | 1,370089E+22 | 1,730127E+22 | 1,944666E+22 | 1,944620E+22 | 1,730037E+22 | 1,370020E+22 | 9,649035E+21 | 6,232428E+21 | 4,326834E+21 | 4,326869E+21 | 6,232565E+21 | 9,649311E+21 |
| 2539              | 1,370060E+22 | 1,730065E+22 | 1,944605E+22 | 1,944645E+22 | 1,730128E+22 | 1,370097E+22 | 9,649449E+21 | 6,232546E+21 | 4,326751E+21 | 4,326645E+21 | 6,232210E+21 | 9,648971E+21 |
| 2540              | 1,370059E+22 | 1,730124E+22 | 1,944695E+22 | 1,944716E+22 | 1,730171E+22 | 1,370096E+22 | 9,649054E+21 | 6,232100E+21 | 4,326446E+21 | 4,326561E+21 | 6,232414E+21 | 9,649398E+21 |
| 2541              | 1,370099E+22 | 1,730132E+22 | 1,944657E+22 | 1,944629E+22 | 1,730084E+22 | 1,370064E+22 | 9,649110E+21 | 6,232140E+21 | 4,326292E+21 | 4,326195E+21 | 6,231912E+21 | 9,648904E+21 |
| 2542              | 1,370060E+22 | 1,730110E+22 | 1,944682E+22 | 1,944719E+22 | 1,730179E+22 | 1,370128E+22 | 9,649378E+21 | 6,232089E+21 | 4,326115E+21 | 4,326013E+21 | 6,231765E+21 | 9,648906E+21 |
| 2543              | 1,370094E+22 | 1,730182E+22 | 1,944752E+22 | 1,944746E+22 | 1,730146E+22 | 1,370053E+22 | 9,648751E+21 | 6,231740E+21 | 4,325961E+21 | 4,326044E+21 | 6,231973E+21 | 9,649101E+21 |
| 2544              | 1,370090E+22 | 1,730149E+22 | 1,944691E+22 | 1,944680E+22 | 1,730130E+22 | 1,370076E+22 | 9,648995E+21 | 6,231897E+21 | 4,325959E+21 | 4,325836E+21 | 6,231592E+21 | 9,648657E+21 |

| 1                 | 2            | 3            | 4            | 5            | 6            | 7            | 8            | 9            | 10           | 11           | 12           | 13           |
|-------------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|
| Longitude $\odot$ | 0° - 30°     | 30° - 60°    | 60° - 90°    | 90° - 120°   | 120° - 150°  | 150° - 180°  | 180° - 210°  | 210° - 240°  | 240° - 270°  | 270° - 300°  | 300° - 330°  | 330° - 360°  |
| Years             |              |              |              |              |              |              |              |              |              |              |              |              |
| 2545              | 1,370051E+22 | 1,730139E+22 | 1,944747E+22 | 1,944780E+22 | 1,730223E+22 | 1,370135E+22 | 9,649029E+21 | 6,231659E+21 | 4,325812E+21 | 4,325890E+21 | 6,231849E+21 | 9,649118E+21 |
| 2546              | 1,370113E+22 | 1,730191E+22 | 1,944755E+22 | 1,944724E+22 | 1,730114E+22 | 1,370043E+22 | 9,648672E+21 | 6,231581E+21 | 4,325787E+21 | 4,325887E+21 | 6,231882E+21 | 9,649159E+21 |
| 2547              | 1,370105E+22 | 1,730145E+22 | 1,944673E+22 | 1,944688E+22 | 1,730150E+22 | 1,370094E+22 | 9,649141E+21 | 6,231983E+21 | 4,326031E+21 | 4,325908E+21 | 6,231610E+21 | 9,648675E+21 |
| 2548              | 1,370070E+22 | 1,730171E+22 | 1,944753E+22 | 1,944758E+22 | 1,730192E+22 | 1,370103E+22 | 9,648958E+21 | 6,231860E+21 | 4,326134E+21 | 4,326242E+21 | 6,232128E+21 | 9,649200E+21 |
| 2549              | 1,370098E+22 | 1,730159E+22 | 1,944705E+22 | 1,944665E+22 | 1,730079E+22 | 1,370040E+22 | 9,648955E+21 | 6,232133E+21 | 4,326416E+21 | 4,326404E+21 | 6,232124E+21 | 9,648976E+21 |
| 2550              | 1,370043E+22 | 1,730073E+22 | 1,944636E+22 | 1,944679E+22 | 1,730150E+22 | 1,370115E+22 | 9,649540E+21 | 6,232556E+21 | 4,326751E+21 | 4,326666E+21 | 6,232263E+21 | 9,649024E+21 |
| 2551              | 1,370052E+22 | 1,730097E+22 | 1,944654E+22 | 1,944669E+22 | 1,730116E+22 | 1,370061E+22 | 9,649127E+21 | 6,232482E+21 | 4,326980E+21 | 4,327136E+21 | 6,232895E+21 | 9,649587E+21 |
| 2552              | 1,370074E+22 | 1,730061E+22 | 1,944551E+22 | 1,944530E+22 | 1,730024E+22 | 1,370048E+22 | 9,649473E+21 | 6,232937E+21 | 4,327317E+21 | 4,327234E+21 | 6,232726E+21 | 9,649224E+21 |
| 2553              | 1,370029E+22 | 1,730024E+22 | 1,944555E+22 | 1,944584E+22 | 1,730093E+22 | 1,370104E+22 | 9,649734E+21 | 6,233042E+21 | 4,327467E+21 | 4,327465E+21 | 6,232988E+21 | 9,649528E+21 |
| 2554              | 1,370076E+22 | 1,730088E+22 | 1,944596E+22 | 1,944554E+22 | 1,729991E+22 | 1,369998E+22 | 9,649202E+21 | 6,232935E+21 | 4,327545E+21 | 4,327648E+21 | 6,233242E+21 | 9,649721E+21 |
| 2555              | 1,370069E+22 | 1,730039E+22 | 1,944516E+22 | 1,944508E+22 | 1,730009E+22 | 1,370037E+22 | 9,649585E+21 | 6,233261E+21 | 4,327710E+21 | 4,327575E+21 | 6,232889E+21 | 9,649157E+21 |
| 2556              | 1,370015E+22 | 1,730032E+22 | 1,944589E+22 | 1,944615E+22 | 1,730098E+22 | 1,370079E+22 | 9,649470E+21 | 6,232981E+21 | 4,327573E+21 | 4,327666E+21 | 6,233232E+21 | 9,649691E+21 |
| 2557              | 1,370068E+22 | 1,730056E+22 | 1,944571E+22 | 1,944557E+22 | 1,730012E+22 | 1,370016E+22 | 9,649251E+21 | 6,232872E+21 | 4,327416E+21 | 4,327451E+21 | 6,233001E+21 | 9,649480E+21 |
| 2558              | 1,370043E+22 | 1,730013E+22 | 1,944518E+22 | 1,944561E+22 | 1,730083E+22 | 1,370096E+22 | 9,649765E+21 | 6,233044E+21 | 4,327313E+21 | 4,327163E+21 | 6,232601E+21 | 9,649145E+21 |
| 2559              | 1,370044E+22 | 1,730075E+22 | 1,944613E+22 | 1,944620E+22 | 1,730095E+22 | 1,370067E+22 | 9,649267E+21 | 6,232624E+21 | 4,327088E+21 | 4,327173E+21 | 6,232851E+21 | 9,649533E+21 |
| 2560              | 1,370080E+22 | 1,730088E+22 | 1,944593E+22 | 1,944555E+22 | 1,730018E+22 | 1,370033E+22 | 9,649277E+21 | 6,232638E+21 | 4,326947E+21 | 4,326840E+21 | 6,232366E+21 | 9,648992E+21 |
| 2561              | 1,370029E+22 | 1,730051E+22 | 1,944607E+22 | 1,944647E+22 | 1,730127E+22 | 1,370105E+22 | 9,649517E+21 | 6,232568E+21 | 4,326789E+21 | 4,326713E+21 | 6,232306E+21 | 9,649056E+21 |
| 2562              | 1,370064E+22 | 1,730125E+22 | 1,944681E+22 | 1,944675E+22 | 1,730092E+22 | 1,370027E+22 | 9,648819E+21 | 6,232125E+21 | 4,326550E+21 | 4,326689E+21 | 6,232535E+21 | 9,649422E+21 |
| 2563              | 1,370083E+22 | 1,730099E+22 | 1,944610E+22 | 1,944602E+22 | 1,730080E+22 | 1,370058E+22 | 9,649118E+21 | 6,232288E+21 | 4,326534E+21 | 4,326449E+21 | 6,232077E+21 | 9,648879E+21 |
| 2564              | 1,370038E+22 | 1,730087E+22 | 1,944664E+22 | 1,944693E+22 | 1,730161E+22 | 1,370115E+22 | 9,649272E+21 | 6,232184E+21 | 4,326458E+21 | 4,326520E+21 | 6,232323E+21 | 9,649320E+21 |
| 2565              | 1,370100E+22 | 1,730143E+22 | 1,944678E+22 | 1,944655E+22 | 1,730070E+22 | 1,370025E+22 | 9,648880E+21 | 6,232112E+21 | 4,326469E+21 | 4,326537E+21 | 6,232316E+21 | 9,649236E+21 |
| 2566              | 1,370079E+22 | 1,730098E+22 | 1,944604E+22 | 1,944613E+22 | 1,730098E+22 | 1,370082E+22 | 9,649449E+21 | 6,232587E+21 | 4,326762E+21 | 4,326605E+21 | 6,232126E+21 | 9,648824E+21 |
| 2567              | 1,370034E+22 | 1,730098E+22 | 1,944666E+22 | 1,944674E+22 | 1,730129E+22 | 1,370076E+22 | 9,649206E+21 | 6,232507E+21 | 4,326967E+21 | 4,327072E+21 | 6,232770E+21 | 9,649440E+21 |
| 2568              | 1,370068E+22 | 1,730082E+22 | 1,944606E+22 | 1,944578E+22 | 1,730023E+22 | 1,370022E+22 | 9,649207E+21 | 6,232747E+21 | 4,327244E+21 | 4,327250E+21 | 6,232789E+21 | 9,649255E+21 |
| 2569              | 1,370018E+22 | 1,729993E+22 | 1,944517E+22 | 1,944564E+22 | 1,730083E+22 | 1,370101E+22 | 9,649848E+21 | 6,233189E+21 | 4,327574E+21 | 4,327510E+21 | 6,232939E+21 | 9,649322E+21 |
| 2570              | 1,370037E+22 | 1,730043E+22 | 1,944560E+22 | 1,944558E+22 | 1,730030E+22 | 1,370024E+22 | 9,649310E+21 | 6,233045E+21 | 4,327726E+21 | 4,327894E+21 | 6,233508E+21 | 9,649921E+21 |
| 2571              | 1,370072E+22 | 1,730023E+22 | 1,944476E+22 | 1,944436E+22 | 1,729945E+22 | 1,370009E+22 | 9,649572E+21 | 6,233454E+21 | 4,328053E+21 | 4,327970E+21 | 6,233247E+21 | 9,649370E+21 |
| 2572              | 1,370005E+22 | 1,729973E+22 | 1,944488E+22 | 1,944507E+22 | 1,730025E+22 | 1,370071E+22 | 9,649903E+21 | 6,233602E+21 | 4,328215E+21 | 4,328211E+21 | 6,233541E+21 | 9,649693E+21 |
| 2573              | 1,370047E+22 | 1,730022E+22 | 1,944521E+22 | 1,944506E+22 | 1,729964E+22 | 1,369981E+22 | 9,649329E+21 | 6,233412E+21 | 4,328223E+21 | 4,328333E+21 | 6,233741E+21 | 9,649847E+21 |
| 2574              | 1,370036E+22 | 1,729971E+22 | 1,944432E+22 | 1,944438E+22 | 1,729979E+22 | 1,370040E+22 | 9,649857E+21 | 6,233751E+21 | 4,328330E+21 | 4,328192E+21 | 6,233390E+21 | 9,649393E+21 |
| 2575              | 1,369990E+22 | 1,729958E+22 | 1,944488E+22 | 1,944521E+22 | 1,730040E+22 | 1,370068E+22 | 9,649774E+21 | 6,233526E+21 | 4,328222E+21 | 4,328298E+21 | 6,233722E+21 | 9,649924E+21 |
| 2576              | 1,370056E+22 | 1,730002E+22 | 1,944482E+22 | 1,944466E+22 | 1,729951E+22 | 1,369999E+22 | 9,649523E+21 | 6,233406E+21 | 4,328056E+21 | 4,328057E+21 | 6,233425E+21 | 9,649604E+21 |
| 2577              | 1,370023E+22 | 1,729963E+22 | 1,944437E+22 | 1,944466E+22 | 1,730017E+22 | 1,370076E+22 | 9,650001E+21 | 6,233576E+21 | 4,327979E+21 | 4,327812E+21 | 6,233059E+21 | 9,649233E+21 |
| 2578              | 1,370018E+22 | 1,730034E+22 | 1,944557E+22 | 1,944544E+22 | 1,730025E+22 | 1,370029E+22 | 9,649344E+21 | 6,233050E+21 | 4,327685E+21 | 4,327793E+21 | 6,233352E+21 | 9,649746E+21 |
| 2579              | 1,370064E+22 | 1,730044E+22 | 1,944535E+22 | 1,944496E+22 | 1,729969E+22 | 1,370001E+22 | 9,649282E+21 | 6,233009E+21 | 4,327535E+21 | 4,327465E+21 | 6,232861E+21 | 9,649183E+21 |
| 2580              | 1,370006E+22 | 1,729992E+22 | 1,944533E+22 | 1,944578E+22 | 1,730081E+22 | 1,370085E+22 | 9,649641E+21 | 6,232985E+21 | 4,327385E+21 | 4,327346E+21 | 6,232841E+21 | 9,649352E+21 |

| 1                 | 2            | 3            | 4            | 5            | 6            | 7            | 8            | 9            | 10           | 11           | 12           | 13           |
|-------------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|
| Longitude $\odot$ | 0° - 30°     | 30° - 60°    | 60° - 90°    | 90° - 120°   | 120° - 150°  | 150° - 180°  | 180° - 210°  | 210° - 240°  | 240° - 270°  | 270° - 300°  | 300° - 330°  | 330° - 360°  |
| Years             |              |              |              |              |              |              |              |              |              |              |              |              |
| 2581              | 1,370055E+22 | 1,730067E+22 | 1,944595E+22 | 1,944607E+22 | 1,730058E+22 | 1,370016E+22 | 9,648991E+21 | 6,232544E+21 | 4,327113E+21 | 4,327259E+21 | 6,232975E+21 | 9,649632E+21 |
| 2582              | 1,370076E+22 | 1,730061E+22 | 1,944539E+22 | 1,944520E+22 | 1,730029E+22 | 1,370049E+22 | 9,649400E+21 | 6,232801E+21 | 4,327130E+21 | 4,327006E+21 | 6,232498E+21 | 9,649066E+21 |
| 2583              | 1,370021E+22 | 1,730040E+22 | 1,944591E+22 | 1,944606E+22 | 1,730090E+22 | 1,370086E+22 | 9,649510E+21 | 6,232783E+21 | 4,327191E+21 | 4,327210E+21 | 6,232798E+21 | 9,649436E+21 |
| 2584              | 1,370073E+22 | 1,730088E+22 | 1,944610E+22 | 1,944584E+22 | 1,730014E+22 | 1,370002E+22 | 9,649123E+21 | 6,232719E+21 | 4,327255E+21 | 4,327307E+21 | 6,232853E+21 | 9,649316E+21 |
| 2585              | 1,370035E+22 | 1,730020E+22 | 1,944515E+22 | 1,944532E+22 | 1,730048E+22 | 1,370068E+22 | 9,649716E+21 | 6,233218E+21 | 4,327596E+21 | 4,327453E+21 | 6,232773E+21 | 9,649000E+21 |
| 2586              | 1,369994E+22 | 1,730018E+22 | 1,944566E+22 | 1,944577E+22 | 1,730065E+22 | 1,370054E+22 | 9,649404E+21 | 6,233060E+21 | 4,327733E+21 | 4,327879E+21 | 6,233450E+21 | 9,649803E+21 |
| 2587              | 1,370054E+22 | 1,730014E+22 | 1,944501E+22 | 1,944474E+22 | 1,729957E+22 | 1,370000E+22 | 9,649403E+21 | 6,233303E+21 | 4,327999E+21 | 4,328022E+21 | 6,233396E+21 | 9,649544E+21 |
| 2588              | 1,370005E+22 | 1,729933E+22 | 1,944418E+22 | 1,944455E+22 | 1,730002E+22 | 1,370069E+22 | 9,650068E+21 | 6,233794E+21 | 4,328348E+21 | 4,328273E+21 | 6,233529E+21 | 9,649602E+21 |
| 2589              | 1,370026E+22 | 1,729987E+22 | 1,944472E+22 | 1,944473E+22 | 1,729969E+22 | 1,369996E+22 | 9,649481E+21 | 6,233599E+21 | 4,328463E+21 | 4,328613E+21 | 6,234020E+21 | 9,650080E+21 |
| 2590              | 1,370052E+22 | 1,729977E+22 | 1,944412E+22 | 1,944363E+22 | 1,729890E+22 | 1,369990E+22 | 9,649806E+21 | 6,234009E+21 | 4,328751E+21 | 4,328659E+21 | 6,233785E+21 | 9,649575E+21 |
| 2591              | 1,369975E+22 | 1,729905E+22 | 1,944408E+22 | 1,944433E+22 | 1,729968E+22 | 1,370043E+22 | 9,650080E+21 | 6,234171E+21 | 4,328967E+21 | 4,328961E+21 | 6,234122E+21 | 9,649928E+21 |
| 2592              | 1,370023E+22 | 1,729954E+22 | 1,944432E+22 | 1,944427E+22 | 1,729922E+22 | 1,369974E+22 | 9,649585E+21 | 6,233940E+21 | 4,328926E+21 | 4,329044E+21 | 6,234282E+21 | 9,650049E+21 |
| 2593              | 1,370013E+22 | 1,729903E+22 | 1,944334E+22 | 1,944340E+22 | 1,729925E+22 | 1,370035E+22 | 9,650174E+21 | 6,234307E+21 | 4,329012E+21 | 4,328870E+21 | 6,233898E+21 | 9,649566E+21 |
| 2594              | 1,369973E+22 | 1,729911E+22 | 1,944408E+22 | 1,944423E+22 | 1,729965E+22 | 1,370039E+22 | 9,649947E+21 | 6,234015E+21 | 4,328839E+21 | 4,328900E+21 | 6,234174E+21 | 9,650120E+21 |
| 2595              | 1,370047E+22 | 1,729965E+22 | 1,944420E+22 | 1,944388E+22 | 1,729886E+22 | 1,369966E+22 | 9,649594E+21 | 6,233850E+21 | 4,328673E+21 | 4,328658E+21 | 6,233831E+21 | 9,649676E+21 |
| 2596              | 1,369995E+22 | 1,729911E+22 | 1,944376E+22 | 1,944398E+22 | 1,729956E+22 | 1,370042E+22 | 9,650098E+21 | 6,234032E+21 | 4,328603E+21 | 4,328445E+21 | 6,233549E+21 | 9,649401E+21 |
| 2597              | 1,369992E+22 | 1,729967E+22 | 1,944484E+22 | 1,944496E+22 | 1,729997E+22 | 1,370010E+22 | 9,649420E+21 | 6,233439E+21 | 4,328253E+21 | 4,328379E+21 | 6,233811E+21 | 9,649924E+21 |
| 2598              | 1,370042E+22 | 1,729987E+22 | 1,944462E+22 | 1,944430E+22 | 1,729935E+22 | 1,369999E+22 | 9,649492E+21 | 6,233417E+21 | 4,328060E+21 | 4,328010E+21 | 6,233337E+21 | 9,649458E+21 |
| 2599              | 1,369991E+22 | 1,729931E+22 | 1,944447E+22 | 1,944493E+22 | 1,730023E+22 | 1,370066E+22 | 9,649867E+21 | 6,233492E+21 | 4,328006E+21 | 4,327949E+21 | 6,233307E+21 | 9,649587E+21 |
| 2600              | 1,370048E+22 | 1,730024E+22 | 1,944520E+22 | 1,944523E+22 | 1,730004E+22 | 1,370003E+22 | 9,649249E+21 | 6,233078E+21 | 4,327776E+21 | 4,327889E+21 | 6,233400E+21 | 9,649731E+21 |
| 2601              | 1,370054E+22 | 1,730013E+22 | 1,944468E+22 | 1,944434E+22 | 1,729970E+22 | 1,370034E+22 | 9,649677E+21 | 6,233398E+21 | 4,327874E+21 | 4,327728E+21 | 6,232997E+21 | 9,649144E+21 |
| 2602              | 1,369990E+22 | 1,729987E+22 | 1,944525E+22 | 1,944530E+22 | 1,730026E+22 | 1,370054E+22 | 9,649670E+21 | 6,233332E+21 | 4,327925E+21 | 4,327953E+21 | 6,233376E+21 | 9,649651E+21 |
| 2603              | 1,370048E+22 | 1,730024E+22 | 1,944531E+22 | 1,944513E+22 | 1,729964E+22 | 1,369975E+22 | 9,649216E+21 | 6,233242E+21 | 4,328016E+21 | 4,328091E+21 | 6,233465E+21 | 9,649552E+21 |
| 2604              | 1,370004E+22 | 1,729938E+22 | 1,944412E+22 | 1,944434E+22 | 1,729987E+22 | 1,370049E+22 | 9,649938E+21 | 6,233782E+21 | 4,328361E+21 | 4,328258E+21 | 6,233453E+21 | 9,649375E+21 |
| 2605              | 1,369982E+22 | 1,729942E+22 | 1,944454E+22 | 1,944479E+22 | 1,730007E+22 | 1,370037E+22 | 9,649630E+21 | 6,233603E+21 | 4,328445E+21 | 4,328598E+21 | 6,234015E+21 | 9,650086E+21 |
| 2606              | 1,370047E+22 | 1,729966E+22 | 1,944412E+22 | 1,944368E+22 | 1,729882E+22 | 1,369977E+22 | 9,649660E+21 | 6,233888E+21 | 4,328714E+21 | 4,328716E+21 | 6,233936E+21 | 9,649795E+21 |
| 2607              | 1,369989E+22 | 1,729880E+22 | 1,944338E+22 | 1,944358E+22 | 1,729918E+22 | 1,370029E+22 | 9,650249E+21 | 6,234425E+21 | 4,329159E+21 | 4,329052E+21 | 6,234083E+21 | 9,649780E+21 |
| 2608              | 1,370005E+22 | 1,729934E+22 | 1,944402E+22 | 1,944397E+22 | 1,729910E+22 | 1,369972E+22 | 9,649686E+21 | 6,234191E+21 | 4,329262E+21 | 4,329402E+21 | 6,234577E+21 | 9,650192E+21 |
| 2609              | 1,370013E+22 | 1,729904E+22 | 1,944328E+22 | 1,944288E+22 | 1,729845E+22 | 1,369980E+22 | 9,650060E+21 | 6,234603E+21 | 4,329539E+21 | 4,329452E+21 | 6,234376E+21 | 9,649740E+21 |
| 2610              | 1,369943E+22 | 1,729835E+22 | 1,944317E+22 | 1,944347E+22 | 1,729913E+22 | 1,370027E+22 | 9,650286E+21 | 6,234683E+21 | 4,329649E+21 | 4,329661E+21 | 6,234685E+21 | 9,650202E+21 |
| 2611              | 1,370009E+22 | 1,729894E+22 | 1,944342E+22 | 1,944339E+22 | 1,729867E+22 | 1,369957E+22 | 9,649775E+21 | 6,234448E+21 | 4,329584E+21 | 4,329685E+21 | 6,234749E+21 | 9,650211E+21 |
| 2612              | 1,369992E+22 | 1,729846E+22 | 1,944250E+22 | 1,944247E+22 | 1,729857E+22 | 1,370013E+22 | 9,650393E+21 | 6,234835E+21 | 4,329670E+21 | 4,329511E+21 | 6,234377E+21 | 9,649750E+21 |
| 2613              | 1,369955E+22 | 1,729853E+22 | 1,944331E+22 | 1,944352E+22 | 1,729913E+22 | 1,370016E+22 | 9,650092E+21 | 6,234472E+21 | 4,329443E+21 | 4,329489E+21 | 6,234588E+21 | 9,650222E+21 |
| 2614              | 1,370024E+22 | 1,729919E+22 | 1,944362E+22 | 1,944326E+22 | 1,729837E+22 | 1,369947E+22 | 9,649756E+21 | 6,234300E+21 | 4,329248E+21 | 4,329239E+21 | 6,234314E+21 | 9,649887E+21 |
| 2615              | 1,369971E+22 | 1,729848E+22 | 1,944302E+22 | 1,944332E+22 | 1,729905E+22 | 1,370014E+22 | 9,650185E+21 | 6,234488E+21 | 4,329238E+21 | 4,329091E+21 | 6,234075E+21 | 9,649678E+21 |
| 2616              | 1,369981E+22 | 1,729912E+22 | 1,944402E+22 | 1,944419E+22 | 1,729954E+22 | 1,370005E+22 | 9,649624E+21 | 6,233877E+21 | 4,328854E+21 | 4,329000E+21 | 6,234299E+21 | 9,650152E+21 |



| 1<br>Longitude ☉<br>Years | 2<br>0° - 30° | 3<br>30° - 60° | 4<br>60° - 90° | 5<br>90° - 120° | 6<br>120° - 150° | 7<br>150° - 180° | 8<br>180° - 210° | 9<br>210° - 240° | 10<br>240° - 270° | 11<br>270° - 300° | 12<br>300° - 330° | 13<br>330° - 360° |
|---------------------------|---------------|----------------|----------------|-----------------|------------------|------------------|------------------|------------------|-------------------|-------------------|-------------------|-------------------|
| 2617                      | 1,370031E+22  | 1,729936E+22   | 1,944383E+22   | 1,944345E+22    | 1,729882E+22     | 1,369991E+22     | 9,649764E+21     | 6,233919E+21     | 4,328678E+21      | 4,328621E+21      | 6,233789E+21      | 9,649628E+21      |
| 2618                      | 1,369983E+22  | 1,729899E+22   | 1,944382E+22   | 1,944406E+22    | 1,729951E+22     | 1,370036E+22     | 9,650007E+21     | 6,233965E+21     | 4,328621E+21      | 4,328547E+21      | 6,233737E+21      | 9,649743E+21      |
| 2619                      | 1,370036E+22  | 1,729988E+22   | 1,944466E+22   | 1,944455E+22    | 1,729947E+22     | 1,369975E+22     | 9,649350E+21     | 6,233567E+21     | 4,328451E+21      | 4,328541E+21      | 6,233831E+21      | 9,649775E+21      |
| 2620                      | 1,370019E+22  | 1,729951E+22   | 1,944400E+22   | 1,944368E+22    | 1,729915E+22     | 1,370009E+22     | 9,649831E+21     | 6,233926E+21     | 4,328596E+21      | 4,328467E+21      | 6,233565E+21      | 9,649325E+21      |
| 2621                      | 1,369955E+22  | 1,729899E+22   | 1,944427E+22   | 1,944463E+22    | 1,729988E+22     | 1,370041E+22     | 9,649837E+21     | 6,233835E+21     | 4,328625E+21      | 4,328668E+21      | 6,233932E+21      | 9,649864E+21      |
| 2622                      | 1,370021E+22  | 1,729949E+22   | 1,944432E+22   | 1,944421E+22    | 1,729912E+22     | 1,369971E+22     | 9,649514E+21     | 6,233789E+21     | 4,328694E+21      | 4,328789E+21      | 6,234066E+21      | 9,649881E+21      |
| 2623                      | 1,369988E+22  | 1,729864E+22   | 1,944303E+22   | 1,944324E+22    | 1,729905E+22     | 1,370019E+22     | 9,650183E+21     | 6,234411E+21     | 4,329139E+21      | 4,329013E+21      | 6,234036E+21      | 9,649672E+21      |
| 2624                      | 1,369977E+22  | 1,729892E+22   | 1,944361E+22   | 1,944370E+22    | 1,729930E+22     | 1,370014E+22     | 9,649895E+21     | 6,234230E+21     | 4,329246E+21      | 4,329369E+21      | 6,234555E+21      | 9,650244E+21      |
| 2625                      | 1,370026E+22  | 1,729915E+22   | 1,944336E+22   | 1,944276E+22    | 1,729809E+22     | 1,369953E+22     | 9,649918E+21     | 6,234529E+21     | 4,329540E+21      | 4,329527E+21      | 6,234504E+21      | 9,649922E+21      |
| 2626                      | 1,369963E+22  | 1,729830E+22   | 1,944268E+22   | 1,944280E+22    | 1,729849E+22     | 1,369991E+22     | 9,650358E+21     | 6,234978E+21     | 4,329936E+21      | 4,329844E+21      | 6,234695E+21      | 9,650016E+21      |
| 2627                      | 1,369981E+22  | 1,729871E+22   | 1,944325E+22   | 1,944329E+22    | 1,729866E+22     | 1,369952E+22     | 9,649794E+21     | 6,234716E+21     | 4,330023E+21      | 4,330174E+21      | 6,235163E+21      | 9,650403E+21      |
| 2628                      | 1,369984E+22  | 1,729826E+22   | 1,944231E+22   | 1,944202E+22    | 1,729793E+22     | 1,369969E+22     | 9,650307E+21     | 6,235145E+21     | 4,330258E+21      | 4,330200E+21      | 6,234990E+21      | 9,650050E+21      |
| 2629                      | 1,369927E+22  | 1,729760E+22   | 1,944214E+22   | 1,944262E+22    | 1,729861E+22     | 1,370014E+22     | 9,650537E+21     | 6,235208E+21     | 4,330298E+21      | 4,330291E+21      | 6,235148E+21      | 9,650381E+21      |
| 2630                      | 1,369995E+22  | 1,729847E+22   | 1,944265E+22   | 1,944251E+22    | 1,729802E+22     | 1,369941E+22     | 9,650031E+21     | 6,234977E+21     | 4,330210E+21      | 4,330288E+21      | 6,235207E+21      | 9,650370E+21      |
| 2631                      | 1,369968E+22  | 1,729789E+22   | 1,944175E+22   | 1,944165E+22    | 1,729782E+22     | 1,369977E+22     | 9,650541E+21     | 6,235373E+21     | 4,330367E+21      | 4,330185E+21      | 6,234865E+21      | 9,649901E+21      |
| 2632                      | 1,369934E+22  | 1,729800E+22   | 1,944259E+22   | 1,944280E+22    | 1,729861E+22     | 1,369999E+22     | 9,650254E+21     | 6,234949E+21     | 4,330106E+21      | 4,330159E+21      | 6,235082E+21      | 9,650352E+21      |
| 2633                      | 1,369994E+22  | 1,729854E+22   | 1,944282E+22   | 1,944255E+22    | 1,729795E+22     | 1,369938E+22     | 9,649953E+21     | 6,234771E+21     | 4,329891E+21      | 4,329901E+21      | 6,234828E+21      | 9,650095E+21      |
| 2634                      | 1,369958E+22  | 1,729798E+22   | 1,944222E+22   | 1,944253E+22    | 1,729850E+22     | 1,369994E+22     | 9,650302E+21     | 6,234885E+21     | 4,329799E+21      | 4,329679E+21      | 6,234567E+21      | 9,649972E+21      |
| 2635                      | 1,369982E+22  | 1,729875E+22   | 1,944333E+22   | 1,944344E+22    | 1,729900E+22     | 1,369983E+22     | 9,649738E+21     | 6,234309E+21     | 4,329430E+21      | 4,329552E+21      | 6,234692E+21      | 9,650287E+21      |
| 2636                      | 1,370017E+22  | 1,729893E+22   | 1,944315E+22   | 1,944269E+22    | 1,729820E+22     | 1,369970E+22     | 9,649946E+21     | 6,234395E+21     | 4,329292E+21      | 4,329227E+21      | 6,234232E+21      | 9,649771E+21      |
| 2637                      | 1,369963E+22  | 1,729844E+22   | 1,944316E+22   | 1,944349E+22    | 1,729904E+22     | 1,370017E+22     | 9,650172E+21     | 6,234424E+21     | 4,329226E+21      | 4,329138E+21      | 6,234140E+21      | 9,649789E+21      |
| 2638                      | 1,370004E+22  | 1,729933E+22   | 1,944403E+22   | 1,944396E+22    | 1,729901E+22     | 1,369961E+22     | 9,649554E+21     | 6,234063E+21     | 4,329089E+21      | 4,329191E+21      | 6,234354E+21      | 9,649947E+21      |
| 2639                      | 1,369983E+22  | 1,729870E+22   | 1,944305E+22   | 1,944290E+22    | 1,729860E+22     | 1,369988E+22     | 9,650015E+21     | 6,234484E+21     | 4,329347E+21      | 4,329227E+21      | 6,234174E+21      | 9,649621E+21      |
| 2640                      | 1,369940E+22  | 1,729830E+22   | 1,944318E+22   | 1,944358E+22    | 1,729930E+22     | 1,370036E+22     | 9,650130E+21     | 6,234402E+21     | 4,329370E+21      | 4,329426E+21      | 6,234521E+21      | 9,650123E+21      |
| 2641                      | 1,370006E+22  | 1,729887E+22   | 1,944329E+22   | 1,944312E+22    | 1,729838E+22     | 1,369954E+22     | 9,649828E+21     | 6,234427E+21     | 4,329483E+21      | 4,329557E+21      | 6,234630E+21      | 9,650112E+21      |
| 2642                      | 1,369981E+22  | 1,729825E+22   | 1,944222E+22   | 1,944222E+22    | 1,729816E+22     | 1,369976E+22     | 9,650297E+21     | 6,234975E+21     | 4,329910E+21      | 4,329774E+21      | 6,234600E+21      | 9,649900E+21      |
| 2643                      | 1,369965E+22  | 1,729851E+22   | 1,944297E+22   | 1,944293E+22    | 1,729858E+22     | 1,369975E+22     | 9,649982E+21     | 6,234794E+21     | 4,330040E+21      | 4,330151E+21      | 6,235107E+21      | 9,650356E+21      |
| 2644                      | 1,369990E+22  | 1,729847E+22   | 1,944261E+22   | 1,944209E+22    | 1,729754E+22     | 1,369928E+22     | 9,650082E+21     | 6,235094E+21     | 4,330330E+21      | 4,330348E+21      | 6,235150E+21      | 9,650150E+21      |
| 2645                      | 1,369929E+22  | 1,729743E+22   | 1,944173E+22   | 1,944214E+22    | 1,729813E+22     | 1,369984E+22     | 9,650563E+21     | 6,235491E+21     | 4,330651E+21      | 4,330577E+21      | 6,235260E+21      | 9,650223E+21      |
| 2646                      | 1,369955E+22  | 1,729800E+22   | 1,944229E+22   | 1,944243E+22    | 1,729819E+22     | 1,369953E+22     | 9,650135E+21     | 6,235273E+21     | 4,330697E+21      | 4,330858E+21      | 6,235727E+21      | 9,650659E+21      |
| 2647                      | 1,369963E+22  | 1,729753E+22   | 1,944124E+22   | 1,944102E+22    | 1,729723E+22     | 1,369949E+22     | 9,650592E+21     | 6,235768E+21     | 4,331007E+21      | 4,330910E+21      | 6,235519E+21      | 9,650287E+21      |
| 2648                      | 1,369918E+22  | 1,729708E+22   | 1,944117E+22   | 1,944156E+22    | 1,729793E+22     | 1,370001E+22     | 9,650822E+21     | 6,235793E+21     | 4,331031E+21      | 4,330989E+21      | 6,235630E+21      | 9,650491E+21      |
| 2649                      | 1,369969E+22  | 1,729793E+22   | 1,944190E+22   | 1,944167E+22    | 1,729736E+22     | 1,369919E+22     | 9,650281E+21     | 6,235551E+21     | 4,330932E+21      | 4,330994E+21      | 6,235712E+21      | 9,650512E+21      |
| 2650                      | 1,369948E+22  | 1,729743E+22   | 1,944108E+22   | 1,944093E+22    | 1,729715E+22     | 1,369935E+22     | 9,650562E+21     | 6,235805E+21     | 4,331010E+21      | 4,330857E+21      | 6,235416E+21      | 9,650169E+21      |
| 2651                      | 1,369922E+22  | 1,729753E+22   | 1,944191E+22   | 1,944215E+22    | 1,729813E+22     | 1,369974E+22     | 9,650298E+21     | 6,235343E+21     | 4,330709E+21      | 4,330786E+21      | 6,235586E+21      | 9,650583E+21      |
| 2652                      | 1,369980E+22  | 1,729801E+22   | 1,944204E+22   | 1,944182E+22    | 1,729746E+22     | 1,369924E+22     | 9,650110E+21     | 6,235161E+21     | 4,330439E+21      | 4,330491E+21      | 6,235323E+21      | 9,650368E+21      |

| 1<br>Longitude ☉<br>Years | 2<br>0° - 30° | 3<br>30° - 60° | 4<br>60° - 90° | 5<br>90° - 120° | 6<br>120° - 150° | 7<br>150° - 180° | 8<br>180° - 210° | 9<br>210° - 240° | 10<br>240° - 270° | 11<br>270° - 300° | 12<br>300° - 330° | 13<br>330° - 360° |
|---------------------------|---------------|----------------|----------------|-----------------|------------------|------------------|------------------|------------------|-------------------|-------------------|-------------------|-------------------|
| 2653                      | 1,369952E+22  | 1,729750E+22   | 1,944147E+22   | 1,944184E+22    | 1,729800E+22     | 1,369977E+22     | 9,650458E+21     | 6,235278E+21     | 4,330310E+21      | 4,330171E+21      | 6,234907E+21      | 9,650073E+21      |
| 2654                      | 1,369971E+22  | 1,729845E+22   | 1,944280E+22   | 1,944279E+22    | 1,729848E+22     | 1,369969E+22     | 9,649956E+21     | 6,234758E+21     | 4,329973E+21      | 4,330073E+21      | 6,235056E+21      | 9,650331E+21      |
| 2655                      | 1,369985E+22  | 1,729838E+22   | 1,944251E+22   | 1,944209E+22    | 1,729763E+22     | 1,369941E+22     | 9,650109E+21     | 6,234918E+21     | 4,329969E+21      | 4,329877E+21      | 6,234685E+21      | 9,649857E+21      |
| 2656                      | 1,369932E+22  | 1,729780E+22   | 1,944233E+22   | 1,944276E+22    | 1,729862E+22     | 1,370010E+22     | 9,650406E+21     | 6,234957E+21     | 4,329937E+21      | 4,329849E+21      | 6,234656E+21      | 9,649885E+21      |
| 2657                      | 1,369962E+22  | 1,729851E+22   | 1,944306E+22   | 1,944315E+22    | 1,729856E+22     | 1,369957E+22     | 9,649857E+21     | 6,234637E+21     | 4,329828E+21      | 4,329938E+21      | 6,234926E+21      | 9,650174E+21      |
| 2658                      | 1,369965E+22  | 1,729805E+22   | 1,944201E+22   | 1,944188E+22    | 1,729787E+22     | 1,369960E+22     | 9,650190E+21     | 6,235005E+21     | 4,330057E+21      | 4,329961E+21      | 6,234781E+21      | 9,649959E+21      |
| 2659                      | 1,369938E+22  | 1,729784E+22   | 1,944228E+22   | 1,944258E+22    | 1,729853E+22     | 1,370003E+22     | 9,650290E+21     | 6,234964E+21     | 4,330115E+21      | 4,330154E+21      | 6,235062E+21      | 9,650335E+21      |
| 2660                      | 1,369992E+22  | 1,729837E+22   | 1,944246E+22   | 1,944217E+22    | 1,729762E+22     | 1,369923E+22     | 9,650006E+21     | 6,234991E+21     | 4,330249E+21      | 4,330338E+21      | 6,235234E+21      | 9,650353E+21      |
| 2661                      | 1,369962E+22  | 1,729768E+22   | 1,944149E+22   | 1,944154E+22    | 1,729755E+22     | 1,369947E+22     | 9,650438E+21     | 6,235495E+21     | 4,330637E+21      | 4,330509E+21      | 6,235145E+21      | 9,650063E+21      |
| 2662                      | 1,369939E+22  | 1,729794E+22   | 1,944228E+22   | 1,944231E+22    | 1,729811E+22     | 1,369957E+22     | 9,650191E+21     | 6,235339E+21     | 4,330770E+21      | 4,330909E+21      | 6,235725E+21      | 9,650586E+21      |
| 2663                      | 1,369956E+22  | 1,729764E+22   | 1,944160E+22   | 1,944131E+22    | 1,729704E+22     | 1,369913E+22     | 9,650327E+21     | 6,235695E+21     | 4,331130E+21      | 4,331159E+21      | 6,235797E+21      | 9,650460E+21      |
| 2664                      | 1,369914E+22  | 1,729674E+22   | 1,944060E+22   | 1,944106E+22    | 1,729759E+22     | 1,369987E+22     | 9,650936E+21     | 6,236107E+21     | 4,331417E+21      | 4,331339E+21      | 6,235834E+21      | 9,650431E+21      |
| 2665                      | 1,369933E+22  | 1,729736E+22   | 1,944128E+22   | 1,944136E+22    | 1,729747E+22     | 1,369940E+22     | 9,650513E+21     | 6,235943E+21     | 4,331482E+21      | 4,331596E+21      | 6,236234E+21      | 9,650832E+21      |
| 2666                      | 1,369951E+22  | 1,729709E+22   | 1,944041E+22   | 1,944002E+22    | 1,729637E+22     | 1,369907E+22     | 9,650729E+21     | 6,236321E+21     | 4,331746E+21      | 4,331634E+21      | 6,236049E+21      | 9,650482E+21      |
| 2667                      | 1,369904E+22  | 1,729667E+22   | 1,944052E+22   | 1,944080E+22    | 1,729722E+22     | 1,369959E+22     | 9,650883E+21     | 6,236295E+21     | 4,331738E+21      | 4,331690E+21      | 6,236137E+21      | 9,650608E+21      |
| 2668                      | 1,369936E+22  | 1,729729E+22   | 1,944112E+22   | 1,944098E+22    | 1,729683E+22     | 1,369892E+22     | 9,650374E+21     | 6,235998E+21     | 4,331586E+21      | 4,331691E+21      | 6,236291E+21      | 9,650767E+21      |
| 2669                      | 1,369924E+22  | 1,729674E+22   | 1,944029E+22   | 1,944035E+22    | 1,729678E+22     | 1,369922E+22     | 9,650665E+21     | 6,236157E+21     | 4,331538E+21      | 4,331418E+21      | 6,235870E+21      | 9,650382E+21      |
| 2670                      | 1,369909E+22  | 1,729706E+22   | 1,944122E+22   | 1,944147E+22    | 1,729768E+22     | 1,369965E+22     | 9,650518E+21     | 6,235743E+21     | 4,331206E+21      | 4,331299E+21      | 6,236009E+21      | 9,650762E+21      |
| 2671                      | 1,369963E+22  | 1,729749E+22   | 1,944126E+22   | 1,944108E+22    | 1,729692E+22     | 1,369905E+22     | 9,650326E+21     | 6,235654E+21     | 4,331036E+21      | 4,331047E+21      | 6,235712E+21      | 9,650497E+21      |
| 2672                      | 1,369940E+22  | 1,729713E+22   | 1,944076E+22   | 1,944103E+22    | 1,729752E+22     | 1,369972E+22     | 9,650725E+21     | 6,235778E+21     | 4,330932E+21      | 4,330759E+21      | 6,235279E+21      | 9,650066E+21      |
| 2673                      | 1,369934E+22  | 1,729789E+22   | 1,944215E+22   | 1,944214E+22    | 1,729799E+22     | 1,369956E+22     | 9,650243E+21     | 6,235320E+21     | 4,330657E+21      | 4,330724E+21      | 6,235490E+21      | 9,650400E+21      |
| 2674                      | 1,369956E+22  | 1,729779E+22   | 1,944174E+22   | 1,944139E+22    | 1,729709E+22     | 1,369910E+22     | 9,650199E+21     | 6,235393E+21     | 4,330651E+21      | 4,330584E+21      | 6,235261E+21      | 9,650125E+21      |
| 2675                      | 1,369914E+22  | 1,729719E+22   | 1,944142E+22   | 1,944193E+22    | 1,729808E+22     | 1,369987E+22     | 9,650538E+21     | 6,235441E+21     | 4,330623E+21      | 4,330565E+21      | 6,235247E+21      | 9,650170E+21      |
| 2676                      | 1,369944E+22  | 1,729784E+22   | 1,944203E+22   | 1,944215E+22    | 1,729790E+22     | 1,369938E+22     | 9,650082E+21     | 6,235149E+21     | 4,330510E+21      | 4,330665E+21      | 6,235553E+21      | 9,650535E+21      |
| 2677                      | 1,369959E+22  | 1,729752E+22   | 1,944117E+22   | 1,944099E+22    | 1,729715E+22     | 1,369929E+22     | 9,650336E+21     | 6,235483E+21     | 4,330706E+21      | 4,330611E+21      | 6,235271E+21      | 9,650168E+21      |
| 2678                      | 1,369930E+22  | 1,729752E+22   | 1,944169E+22   | 1,944179E+22    | 1,729783E+22     | 1,369973E+22     | 9,650468E+21     | 6,235481E+21     | 4,330800E+21      | 4,330848E+21      | 6,235584E+21      | 9,650473E+21      |
| 2679                      | 1,369962E+22  | 1,729779E+22   | 1,944173E+22   | 1,944147E+22    | 1,729701E+22     | 1,369892E+22     | 9,650174E+21     | 6,235576E+21     | 4,331038E+21      | 4,331122E+21      | 6,235813E+21      | 9,650530E+21      |
| 2680                      | 1,369934E+22  | 1,729703E+22   | 1,944058E+22   | 1,944072E+22    | 1,729714E+22     | 1,369943E+22     | 9,650715E+21     | 6,236092E+21     | 4,331434E+21      | 4,331310E+21      | 6,235737E+21      | 9,650215E+21      |
| 2681                      | 1,369899E+22  | 1,729710E+22   | 1,944127E+22   | 1,944146E+22    | 1,729766E+22     | 1,369959E+22     | 9,650592E+21     | 6,236005E+21     | 4,331582E+21      | 4,331702E+21      | 6,236307E+21      | 9,650823E+21      |
| 2682                      | 1,369938E+22  | 1,729695E+22   | 1,944052E+22   | 1,944026E+22    | 1,729633E+22     | 1,369887E+22     | 9,650579E+21     | 6,236307E+21     | 4,331909E+21      | 4,331933E+21      | 6,236404E+21      | 9,650756E+21      |
| 2683                      | 1,369904E+22  | 1,729622E+22   | 1,943964E+22   | 1,943999E+22    | 1,729681E+22     | 1,369955E+22     | 9,651160E+21     | 6,236730E+21     | 4,332197E+21      | 4,332088E+21      | 6,236376E+21      | 9,650599E+21      |
| 2684                      | 1,369907E+22  | 1,729677E+22   | 1,944040E+22   | 1,944039E+22    | 1,729671E+22     | 1,369910E+22     | 9,650711E+21     | 6,236507E+21     | 4,332229E+21      | 4,332354E+21      | 6,236818E+21      | 9,651035E+21      |
| 2685                      | 1,369923E+22  | 1,729648E+22   | 1,943970E+22   | 1,943932E+22    | 1,729573E+22     | 1,369871E+22     | 9,650806E+21     | 6,236774E+21     | 4,332397E+21      | 4,332301E+21      | 6,236558E+21      | 9,650654E+21      |
| 2686                      | 1,369880E+22  | 1,729615E+22   | 1,943989E+22   | 1,944019E+22    | 1,729675E+22     | 1,369935E+22     | 9,650994E+21     | 6,236720E+21     | 4,332345E+21      | 4,332339E+21      | 6,236682E+21      | 9,650834E+21      |
| 2687                      | 1,369911E+22  | 1,729660E+22   | 1,944025E+22   | 1,944027E+22    | 1,729641E+22     | 1,369877E+22     | 9,650534E+21     | 6,236449E+21     | 4,332209E+21      | 4,332331E+21      | 6,236815E+21      | 9,651056E+21      |
| 2688                      | 1,369919E+22  | 1,729627E+22   | 1,943941E+22   | 1,943945E+22    | 1,729635E+22     | 1,369923E+22     | 9,650943E+21     | 6,236627E+21     | 4,332122E+21      | 4,331990E+21      | 6,236287E+21      | 9,650525E+21      |

| 1<br>Longitude ☉<br>Years | 2<br>0° - 30° | 3<br>30° - 60° | 4<br>60° - 90° | 5<br>90° - 120° | 6<br>120° - 150° | 7<br>150° - 180° | 8<br>180° - 210° | 9<br>210° - 240° | 10<br>240° - 270° | 11<br>270° - 300° | 12<br>300° - 330° | 13<br>330° - 360° |
|---------------------------|---------------|----------------|----------------|-----------------|------------------|------------------|------------------|------------------|-------------------|-------------------|-------------------|-------------------|
| 2689                      | 1,369892E+22  | 1,729661E+22   | 1,944052E+22   | 1,944069E+22    | 1,729715E+22     | 1,369955E+22     | 9,650835E+21     | 6,236290E+21     | 4,331828E+21      | 4,331859E+21      | 6,236354E+21      | 9,650837E+21      |
| 2690                      | 1,369948E+22  | 1,729710E+22   | 1,944063E+22   | 1,944035E+22    | 1,729629E+22     | 1,369871E+22     | 9,650439E+21     | 6,236121E+21     | 4,331663E+21      | 4,331659E+21      | 6,236140E+21      | 9,650593E+21      |
| 2691                      | 1,369916E+22  | 1,729668E+22   | 1,944017E+22   | 1,944040E+22    | 1,729699E+22     | 1,369941E+22     | 9,650839E+21     | 6,236260E+21     | 4,331584E+21      | 4,331413E+21      | 6,235759E+21      | 9,650151E+21      |
| 2692                      | 1,369892E+22  | 1,729713E+22   | 1,944129E+22   | 1,944143E+22    | 1,729755E+22     | 1,369940E+22     | 9,650401E+21     | 6,235784E+21     | 4,331312E+21      | 4,331427E+21      | 6,236083E+21      | 9,650661E+21      |
| 2693                      | 1,369927E+22  | 1,729702E+22   | 1,944083E+22   | 1,944063E+22    | 1,729662E+22     | 1,369895E+22     | 9,650348E+21     | 6,235805E+21     | 4,331237E+21      | 4,331209E+21      | 6,235788E+21      | 9,650417E+21      |
| 2694                      | 1,369907E+22  | 1,729670E+22   | 1,944061E+22   | 1,944104E+22    | 1,729746E+22     | 1,369966E+22     | 9,650752E+21     | 6,235911E+21     | 4,331224E+21      | 4,331190E+21      | 6,235773E+21      | 9,650434E+21      |
| 2695                      | 1,369934E+22  | 1,729732E+22   | 1,944115E+22   | 1,944120E+22    | 1,729719E+22     | 1,369909E+22     | 9,650287E+21     | 6,235709E+21     | 4,331219E+21      | 4,331352E+21      | 6,236073E+21      | 9,650776E+21      |
| 2696                      | 1,369952E+22  | 1,729716E+22   | 1,944043E+22   | 1,944007E+22    | 1,729655E+22     | 1,369915E+22     | 9,650582E+21     | 6,236044E+21     | 4,331434E+21      | 4,331325E+21      | 6,235770E+21      | 9,650264E+21      |
| 2697                      | 1,369898E+22  | 1,729697E+22   | 1,944104E+22   | 1,944110E+22    | 1,729726E+22     | 1,369952E+22     | 9,650750E+21     | 6,236117E+21     | 4,331595E+21      | 4,331610E+21      | 6,236114E+21      | 9,650624E+21      |
| 2698                      | 1,369935E+22  | 1,729713E+22   | 1,944087E+22   | 1,944072E+22    | 1,729650E+22     | 1,369864E+22     | 9,650322E+21     | 6,236144E+21     | 4,331839E+21      | 4,331944E+21      | 6,236460E+21      | 9,650813E+21      |
| 2699                      | 1,369913E+22  | 1,729637E+22   | 1,943963E+22   | 1,943981E+22    | 1,729659E+22     | 1,369925E+22     | 9,650955E+21     | 6,236687E+21     | 4,332223E+21      | 4,332115E+21      | 6,236370E+21      | 9,650471E+21      |
| 2700                      | 1,369872E+22  | 1,729632E+22   | 1,944013E+22   | 1,944036E+22    | 1,729696E+22     | 1,369942E+22     | 9,650905E+21     | 6,236636E+21     | 4,332369E+21      | 4,332496E+21      | 6,236940E+21      | 9,651109E+21      |
| 2701                      | 1,369919E+22  | 1,729632E+22   | 1,943961E+22   | 1,943928E+22    | 1,729558E+22     | 1,369856E+22     | 9,650779E+21     | 6,236870E+21     | 4,332633E+21      | 4,332637E+21      | 6,236915E+21      | 9,650937E+21      |
| 2702                      | 1,369887E+22  | 1,729577E+22   | 1,943896E+22   | 1,943913E+22    | 1,729606E+22     | 1,369920E+22     | 9,651317E+21     | 6,237259E+21     | 4,332907E+21      | 4,332809E+21      | 6,236919E+21      | 9,650733E+21      |
| 2703                      | 1,369872E+22  | 1,729606E+22   | 1,943958E+22   | 1,943962E+22    | 1,729610E+22     | 1,369878E+22     | 9,650851E+21     | 6,237054E+21     | 4,332973E+21      | 4,333101E+21      | 6,237396E+21      | 9,651253E+21      |
| 2704                      | 1,369899E+22  | 1,729584E+22   | 1,943881E+22   | 1,943852E+22    | 1,729535E+22     | 1,369866E+22     | 9,651005E+21     | 6,237256E+21     | 4,333069E+21      | 4,332991E+21      | 6,237089E+21      | 9,650838E+21      |
| 2705                      | 1,369851E+22  | 1,729547E+22   | 1,943904E+22   | 1,943943E+22    | 1,729631E+22     | 1,369930E+22     | 9,651295E+21     | 6,237252E+21     | 4,332994E+21      | 4,332966E+21      | 6,237142E+21      | 9,651066E+21      |
| 2706                      | 1,369906E+22  | 1,729610E+22   | 1,943938E+22   | 1,943940E+22    | 1,729584E+22     | 1,369854E+22     | 9,650710E+21     | 6,236929E+21     | 4,332823E+21      | 4,332933E+21      | 6,237272E+21      | 9,651279E+21      |
| 2707                      | 1,369915E+22  | 1,729594E+22   | 1,943875E+22   | 1,943863E+22    | 1,729575E+22     | 1,369898E+22     | 9,651123E+21     | 6,237123E+21     | 4,332737E+21      | 4,332576E+21      | 6,236694E+21      | 9,650614E+21      |
| 2708                      | 1,369866E+22  | 1,729610E+22   | 1,943985E+22   | 1,943996E+22    | 1,729658E+22     | 1,369934E+22     | 9,651032E+21     | 6,236780E+21     | 4,332451E+21      | 4,332484E+21      | 6,236822E+21      | 9,650957E+21      |
| 2709                      | 1,369915E+22  | 1,729652E+22   | 1,944007E+22   | 1,943981E+22    | 1,729581E+22     | 1,369843E+22     | 9,650524E+21     | 6,236529E+21     | 4,332231E+21      | 4,332243E+21      | 6,236593E+21      | 9,650748E+21      |
| 2710                      | 1,369891E+22  | 1,729613E+22   | 1,943953E+22   | 1,943977E+22    | 1,729656E+22     | 1,369923E+22     | 9,650954E+21     | 6,236654E+21     | 4,332159E+21      | 4,332042E+21      | 6,236297E+21      | 9,650390E+21      |
| 2711                      | 1,369869E+22  | 1,729640E+22   | 1,944032E+22   | 1,944058E+22    | 1,729707E+22     | 1,369927E+22     | 9,650599E+21     | 6,236253E+21     | 4,331938E+21      | 4,332077E+21      | 6,236632E+21      | 9,650993E+21      |
| 2712                      | 1,369927E+22  | 1,729656E+22   | 1,943989E+22   | 1,943958E+22    | 1,729606E+22     | 1,369887E+22     | 9,650611E+21     | 6,236314E+21     | 4,331872E+21      | 4,331832E+21      | 6,236256E+21      | 9,650613E+21      |
| 2713                      | 1,369895E+22  | 1,729630E+22   | 1,943994E+22   | 1,944021E+22    | 1,729679E+22     | 1,369942E+22     | 9,651018E+21     | 6,236510E+21     | 4,331935E+21      | 4,331837E+21      | 6,236193E+21      | 9,650582E+21      |
| 2714                      | 1,369924E+22  | 1,729693E+22   | 1,944051E+22   | 1,944042E+22    | 1,729649E+22     | 1,369868E+22     | 9,650378E+21     | 6,236241E+21     | 4,331958E+21      | 4,332083E+21      | 6,236596E+21      | 9,650927E+21      |
| 2715                      | 1,369928E+22  | 1,729665E+22   | 1,943980E+22   | 1,943939E+22    | 1,729599E+22     | 1,369882E+22     | 9,650729E+21     | 6,236612E+21     | 4,332201E+21      | 4,332101E+21      | 6,236348E+21      | 9,650399E+21      |
| 2716                      | 1,369854E+22  | 1,729612E+22   | 1,944009E+22   | 1,944032E+22    | 1,729683E+22     | 1,369941E+22     | 9,650988E+21     | 6,236693E+21     | 4,332371E+21      | 4,332419E+21      | 6,236765E+21      | 9,650874E+21      |
| 2717                      | 1,369899E+22  | 1,729628E+22   | 1,943988E+22   | 1,943984E+22    | 1,729597E+22     | 1,369850E+22     | 9,650557E+21     | 6,236687E+21     | 4,332559E+21      | 4,332680E+21      | 6,237041E+21      | 9,651073E+21      |
| 2718                      | 1,369895E+22  | 1,729574E+22   | 1,943869E+22   | 1,943880E+22    | 1,729592E+22     | 1,369907E+22     | 9,651238E+21     | 6,237276E+21     | 4,332963E+21      | 4,332863E+21      | 6,236951E+21      | 9,650694E+21      |
| 2719                      | 1,369848E+22  | 1,729560E+22   | 1,943908E+22   | 1,943929E+22    | 1,729623E+22     | 1,369917E+22     | 9,651161E+21     | 6,237277E+21     | 4,333174E+21      | 4,333273E+21      | 6,237515E+21      | 9,651336E+21      |
| 2720                      | 1,369902E+22  | 1,729577E+22   | 1,943869E+22   | 1,943825E+22    | 1,729492E+22     | 1,369839E+22     | 9,651028E+21     | 6,237474E+21     | 4,333412E+21      | 4,333400E+21      | 6,237468E+21      | 9,651084E+21      |
| 2721                      | 1,369855E+22  | 1,729513E+22   | 1,943821E+22   | 1,943839E+22    | 1,729546E+22     | 1,369893E+22     | 9,651539E+21     | 6,237869E+21     | 4,333682E+21      | 4,333554E+21      | 6,237470E+21      | 9,650976E+21      |
| 2722                      | 1,369856E+22  | 1,729541E+22   | 1,943868E+22   | 1,943879E+22    | 1,729553E+22     | 1,369848E+22     | 9,650941E+21     | 6,237542E+21     | 4,333688E+21      | 4,333850E+21      | 6,238012E+21      | 9,651587E+21      |
| 2723                      | 1,369892E+22  | 1,729532E+22   | 1,943800E+22   | 1,943767E+22    | 1,729479E+22     | 1,369847E+22     | 9,651199E+21     | 6,237743E+21     | 4,333712E+21      | 4,333660E+21      | 6,237629E+21      | 9,651095E+21      |
| 2724                      | 1,369839E+22  | 1,729493E+22   | 1,943819E+22   | 1,943853E+22    | 1,729571E+22     | 1,369914E+22     | 9,651529E+21     | 6,237755E+21     | 4,333618E+21      | 4,333587E+21      | 6,237621E+21      | 9,651267E+21      |

| 1                 | 2            | 3            | 4            | 5            | 6            | 7            | 8            | 9            | 10           | 11           | 12           | 13           |
|-------------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|
| Longitude $\odot$ | 0° - 30°     | 30° - 60°    | 60° - 90°    | 90° - 120°   | 120° - 150°  | 150° - 180°  | 180° - 210°  | 210° - 240°  | 240° - 270°  | 270° - 300°  | 300° - 330°  | 330° - 360°  |
| Years             |              |              |              |              |              |              |              |              |              |              |              |              |
| 2725              | 1,369891E+22 | 1,729568E+22 | 1,943880E+22 | 1,943868E+22 | 1,729526E+22 | 1,369829E+22 | 9,650837E+21 | 6,237362E+21 | 4,333390E+21 | 4,333473E+21 | 6,237630E+21 | 9,651352E+21 |
| 2726              | 1,369896E+22 | 1,729559E+22 | 1,943832E+22 | 1,943806E+22 | 1,729522E+22 | 1,369872E+22 | 9,651237E+21 | 6,237539E+21 | 4,333311E+21 | 4,333161E+21 | 6,237110E+21 | 9,650657E+21 |
| 2727              | 1,369827E+22 | 1,729538E+22 | 1,943908E+22 | 1,943934E+22 | 1,729617E+22 | 1,369915E+22 | 9,651181E+21 | 6,237253E+21 | 4,333083E+21 | 4,333114E+21 | 6,237306E+21 | 9,651123E+21 |
| 2728              | 1,369888E+22 | 1,729584E+22 | 1,943917E+22 | 1,943905E+22 | 1,729551E+22 | 1,369846E+22 | 9,650749E+21 | 6,236986E+21 | 4,332837E+21 | 4,332859E+21 | 6,237076E+21 | 9,650932E+21 |
| 2729              | 1,369867E+22 | 1,729547E+22 | 1,943869E+22 | 1,943897E+22 | 1,729604E+22 | 1,369912E+22 | 9,651234E+21 | 6,237184E+21 | 4,332788E+21 | 4,332640E+21 | 6,236752E+21 | 9,650656E+21 |
| 2730              | 1,369868E+22 | 1,729590E+22 | 1,943942E+22 | 1,943960E+22 | 1,729636E+22 | 1,369897E+22 | 9,650757E+21 | 6,236759E+21 | 4,332595E+21 | 4,332723E+21 | 6,237127E+21 | 9,651247E+21 |
| 2731              | 1,369926E+22 | 1,729625E+22 | 1,943925E+22 | 1,943874E+22 | 1,729536E+22 | 1,369856E+22 | 9,650765E+21 | 6,236828E+21 | 4,332542E+21 | 4,332497E+21 | 6,236731E+21 | 9,650742E+21 |
| 2732              | 1,369871E+22 | 1,729577E+22 | 1,943925E+22 | 1,943944E+22 | 1,729616E+22 | 1,369913E+22 | 9,651172E+21 | 6,237041E+21 | 4,332651E+21 | 4,332561E+21 | 6,236737E+21 | 9,650731E+21 |
| 2733              | 1,369890E+22 | 1,729630E+22 | 1,943989E+22 | 1,943983E+22 | 1,729601E+22 | 1,369841E+22 | 9,650479E+21 | 6,236725E+21 | 4,332646E+21 | 4,332784E+21 | 6,237132E+21 | 9,651117E+21 |
| 2734              | 1,369901E+22 | 1,729600E+22 | 1,943904E+22 | 1,943871E+22 | 1,729556E+22 | 1,369868E+22 | 9,650898E+21 | 6,237105E+21 | 4,332913E+21 | 4,332863E+21 | 6,236964E+21 | 9,650649E+21 |
| 2735              | 1,369825E+22 | 1,729523E+22 | 1,943893E+22 | 1,943932E+22 | 1,729629E+22 | 1,369933E+22 | 9,651300E+21 | 6,237306E+21 | 4,333141E+21 | 4,333193E+21 | 6,237384E+21 | 9,651184E+21 |
| 2736              | 1,369887E+22 | 1,729564E+22 | 1,943877E+22 | 1,943868E+22 | 1,729534E+22 | 1,369845E+22 | 9,650908E+21 | 6,237335E+21 | 4,333338E+21 | 4,333427E+21 | 6,237583E+21 | 9,651257E+21 |
| 2737              | 1,369873E+22 | 1,729516E+22 | 1,943785E+22 | 1,943781E+22 | 1,729512E+22 | 1,369880E+22 | 9,651540E+21 | 6,237962E+21 | 4,333786E+21 | 4,333619E+21 | 6,237466E+21 | 9,650885E+21 |
| 2738              | 1,369833E+22 | 1,729502E+22 | 1,943820E+22 | 1,943832E+22 | 1,729542E+22 | 1,369875E+22 | 9,651283E+21 | 6,237868E+21 | 4,333991E+21 | 4,334090E+21 | 6,238123E+21 | 9,651555E+21 |
| 2739              | 1,369881E+22 | 1,729519E+22 | 1,943791E+22 | 1,943744E+22 | 1,729427E+22 | 1,369805E+22 | 9,651160E+21 | 6,238030E+21 | 4,334180E+21 | 4,334194E+21 | 6,238088E+21 | 9,651309E+21 |
| 2740              | 1,369825E+22 | 1,729436E+22 | 1,943726E+22 | 1,943756E+22 | 1,729495E+22 | 1,369875E+22 | 9,651710E+21 | 6,238386E+21 | 4,334402E+21 | 4,334308E+21 | 6,238093E+21 | 9,651272E+21 |
| 2741              | 1,369835E+22 | 1,729479E+22 | 1,943788E+22 | 1,943799E+22 | 1,729499E+22 | 1,369831E+22 | 9,651114E+21 | 6,237998E+21 | 4,334296E+21 | 4,334466E+21 | 6,238496E+21 | 9,651831E+21 |
| 2742              | 1,369885E+22 | 1,729492E+22 | 1,943735E+22 | 1,943692E+22 | 1,729422E+22 | 1,369829E+22 | 9,651389E+21 | 6,238202E+21 | 4,334309E+21 | 4,334259E+21 | 6,238066E+21 | 9,651224E+21 |
| 2743              | 1,369818E+22 | 1,729439E+22 | 1,943743E+22 | 1,943776E+22 | 1,729517E+22 | 1,369898E+22 | 9,651752E+21 | 6,238269E+21 | 4,334254E+21 | 4,334188E+21 | 6,238033E+21 | 9,651361E+21 |
| 2744              | 1,369869E+22 | 1,729521E+22 | 1,943810E+22 | 1,943795E+22 | 1,729482E+22 | 1,369822E+22 | 9,651069E+21 | 6,237862E+21 | 4,334015E+21 | 4,334071E+21 | 6,238032E+21 | 9,651380E+21 |
| 2745              | 1,369858E+22 | 1,729496E+22 | 1,943769E+22 | 1,943753E+22 | 1,729480E+22 | 1,369857E+22 | 9,651449E+21 | 6,238063E+21 | 4,333962E+21 | 4,333775E+21 | 6,237562E+21 | 9,650854E+21 |
| 2746              | 1,369809E+22 | 1,729469E+22 | 1,943814E+22 | 1,943854E+22 | 1,729567E+22 | 1,369895E+22 | 9,651280E+21 | 6,237687E+21 | 4,333718E+21 | 4,333779E+21 | 6,237854E+21 | 9,651421E+21 |
| 2747              | 1,369881E+22 | 1,729530E+22 | 1,943829E+22 | 1,943814E+22 | 1,729487E+22 | 1,369826E+22 | 9,650948E+21 | 6,237457E+21 | 4,333445E+21 | 4,333493E+21 | 6,237596E+21 | 9,651202E+21 |
| 2748              | 1,369858E+22 | 1,729497E+22 | 1,943785E+22 | 1,943805E+22 | 1,729535E+22 | 1,369887E+22 | 9,651406E+21 | 6,237674E+21 | 4,333420E+21 | 4,333271E+21 | 6,237242E+21 | 9,650869E+21 |
| 2749              | 1,369856E+22 | 1,729555E+22 | 1,943889E+22 | 1,943885E+22 | 1,729565E+22 | 1,369861E+22 | 9,650823E+21 | 6,237192E+21 | 4,333200E+21 | 4,333321E+21 | 6,237547E+21 | 9,651360E+21 |
| 2750              | 1,369909E+22 | 1,729589E+22 | 1,943881E+22 | 1,943819E+22 | 1,729481E+22 | 1,369826E+22 | 9,650844E+21 | 6,237259E+21 | 4,333186E+21 | 4,333173E+21 | 6,237222E+21 | 9,650824E+21 |
| 2751              | 1,369832E+22 | 1,729503E+22 | 1,943844E+22 | 1,943880E+22 | 1,729576E+22 | 1,369900E+22 | 9,651352E+21 | 6,237559E+21 | 4,333362E+21 | 4,333283E+21 | 6,237290E+21 | 9,650919E+21 |
| 2752              | 1,369860E+22 | 1,729554E+22 | 1,943885E+22 | 1,943897E+22 | 1,729569E+22 | 1,369850E+22 | 9,650785E+21 | 6,237285E+21 | 4,333368E+21 | 4,333507E+21 | 6,237676E+21 | 9,651301E+21 |
| 2753              | 1,369872E+22 | 1,729523E+22 | 1,943805E+22 | 1,943782E+22 | 1,729498E+22 | 1,369862E+22 | 9,651282E+21 | 6,237776E+21 | 4,333690E+21 | 4,333586E+21 | 6,237506E+21 | 9,650938E+21 |
| 2754              | 1,369817E+22 | 1,729456E+22 | 1,943778E+22 | 1,943816E+22 | 1,729549E+22 | 1,369905E+22 | 9,651547E+21 | 6,237955E+21 | 4,333963E+21 | 4,333990E+21 | 6,237980E+21 | 9,651445E+21 |
| 2755              | 1,369877E+22 | 1,729515E+22 | 1,943791E+22 | 1,943763E+22 | 1,729446E+22 | 1,369812E+22 | 9,651157E+21 | 6,237984E+21 | 4,334159E+21 | 4,334243E+21 | 6,238189E+21 | 9,651451E+21 |
| 2756              | 1,369846E+22 | 1,729453E+22 | 1,943701E+22 | 1,943690E+22 | 1,729433E+22 | 1,369843E+22 | 9,651703E+21 | 6,238566E+21 | 4,334603E+21 | 4,334451E+21 | 6,238116E+21 | 9,651114E+21 |
| 2757              | 1,369804E+22 | 1,729441E+22 | 1,943749E+22 | 1,943757E+22 | 1,729478E+22 | 1,369840E+22 | 9,651347E+21 | 6,238360E+21 | 4,334718E+21 | 4,334847E+21 | 6,238725E+21 | 9,651825E+21 |
| 2758              | 1,369864E+22 | 1,729464E+22 | 1,943717E+22 | 1,943675E+22 | 1,729380E+22 | 1,369787E+22 | 9,651275E+21 | 6,238467E+21 | 4,334855E+21 | 4,334929E+21 | 6,238683E+21 | 9,651577E+21 |
| 2759              | 1,369807E+22 | 1,729369E+22 | 1,943627E+22 | 1,943667E+22 | 1,729443E+22 | 1,369866E+22 | 9,651964E+21 | 6,238912E+21 | 4,335073E+21 | 4,334977E+21 | 6,238617E+21 | 9,651533E+21 |
| 2760              | 1,369830E+22 | 1,729433E+22 | 1,943702E+22 | 1,943710E+22 | 1,729450E+22 | 1,369829E+22 | 9,651422E+21 | 6,238554E+21 | 4,334953E+21 | 4,335068E+21 | 6,238891E+21 | 9,651903E+21 |



| 1                 | 2            | 3            | 4            | 5            | 6            | 7            | 8            | 9            | 10           | 11           | 12           | 13           |
|-------------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|
| Longitude $\odot$ | 0° - 30°     | 30° - 60°    | 60° - 90°    | 90° - 120°   | 120° - 150°  | 150° - 180°  | 180° - 210°  | 210° - 240°  | 240° - 270°  | 270° - 300°  | 300° - 330°  | 330° - 360°  |
| Years             |              |              |              |              |              |              |              |              |              |              |              |              |
| 2761              | 1,369861E+22 | 1,729446E+22 | 1,943677E+22 | 1,943629E+22 | 1,729366E+22 | 1,369810E+22 | 9,651649E+21 | 6,238776E+21 | 4,334986E+21 | 4,334858E+21 | 6,238447E+21 | 9,651308E+21 |
| 2762              | 1,369794E+22 | 1,729378E+22 | 1,943664E+22 | 1,943702E+22 | 1,729459E+22 | 1,369870E+22 | 9,651884E+21 | 6,238773E+21 | 4,334939E+21 | 4,334867E+21 | 6,238522E+21 | 9,651470E+21 |
| 2763              | 1,369837E+22 | 1,729458E+22 | 1,943734E+22 | 1,943728E+22 | 1,729432E+22 | 1,369802E+22 | 9,651240E+21 | 6,238333E+21 | 4,334653E+21 | 4,334738E+21 | 6,238556E+21 | 9,651547E+21 |
| 2764              | 1,369825E+22 | 1,729418E+22 | 1,943672E+22 | 1,943670E+22 | 1,729428E+22 | 1,369842E+22 | 9,651616E+21 | 6,238506E+21 | 4,334577E+21 | 4,334427E+21 | 6,238109E+21 | 9,651118E+21 |
| 2765              | 1,369794E+22 | 1,729415E+22 | 1,943733E+22 | 1,943766E+22 | 1,729503E+22 | 1,369871E+22 | 9,651411E+21 | 6,238089E+21 | 4,334261E+21 | 4,334334E+21 | 6,238301E+21 | 9,651673E+21 |
| 2766              | 1,369883E+22 | 1,729501E+22 | 1,943767E+22 | 1,943739E+22 | 1,729426E+22 | 1,369800E+22 | 9,651044E+21 | 6,237847E+21 | 4,334007E+21 | 4,334073E+21 | 6,238026E+21 | 9,651356E+21 |
| 2767              | 1,369845E+22 | 1,729454E+22 | 1,943715E+22 | 1,943731E+22 | 1,729478E+22 | 1,369864E+22 | 9,651554E+21 | 6,238133E+21 | 4,334036E+21 | 4,333880E+21 | 6,237685E+21 | 9,651011E+21 |
| 2768              | 1,369839E+22 | 1,729512E+22 | 1,943825E+22 | 1,943823E+22 | 1,729523E+22 | 1,369850E+22 | 9,651028E+21 | 6,237688E+21 | 4,333842E+21 | 4,333945E+21 | 6,237982E+21 | 9,651425E+21 |
| 2769              | 1,369873E+22 | 1,729526E+22 | 1,943817E+22 | 1,943771E+22 | 1,729442E+22 | 1,369814E+22 | 9,651072E+21 | 6,237810E+21 | 4,333888E+21 | 4,333845E+21 | 6,237732E+21 | 9,651049E+21 |
| 2770              | 1,369812E+22 | 1,729427E+22 | 1,943737E+22 | 1,943790E+22 | 1,729525E+22 | 1,369888E+22 | 9,651577E+21 | 6,238105E+21 | 4,334108E+21 | 4,334051E+21 | 6,237897E+21 | 9,651196E+21 |
| 2771              | 1,369846E+22 | 1,729492E+22 | 1,943784E+22 | 1,943793E+22 | 1,729496E+22 | 1,369835E+22 | 9,651124E+21 | 6,237907E+21 | 4,334131E+21 | 4,334273E+21 | 6,238269E+21 | 9,651549E+21 |
| 2772              | 1,369854E+22 | 1,729459E+22 | 1,943703E+22 | 1,943675E+22 | 1,729417E+22 | 1,369833E+22 | 9,651543E+21 | 6,238427E+21 | 4,334508E+21 | 4,334385E+21 | 6,238102E+21 | 9,651151E+21 |
| 2773              | 1,369798E+22 | 1,729409E+22 | 1,943704E+22 | 1,943720E+22 | 1,729462E+22 | 1,369863E+22 | 9,651664E+21 | 6,238516E+21 | 4,334735E+21 | 4,334758E+21 | 6,238540E+21 | 9,651624E+21 |
| 2774              | 1,369855E+22 | 1,729464E+22 | 1,943724E+22 | 1,943691E+22 | 1,729380E+22 | 1,369775E+22 | 9,651234E+21 | 6,238494E+21 | 4,334928E+21 | 4,335055E+21 | 6,238808E+21 | 9,651634E+21 |
| 2775              | 1,369812E+22 | 1,729375E+22 | 1,943608E+22 | 1,943613E+22 | 1,729384E+22 | 1,369824E+22 | 9,651855E+21 | 6,239094E+21 | 4,335359E+21 | 4,335237E+21 | 6,238752E+21 | 9,651400E+21 |
| 2776              | 1,369783E+22 | 1,729371E+22 | 1,943648E+22 | 1,943671E+22 | 1,729435E+22 | 1,369838E+22 | 9,651628E+21 | 6,238908E+21 | 4,335431E+21 | 4,335559E+21 | 6,239267E+21 | 9,652033E+21 |
| 2777              | 1,369842E+22 | 1,729400E+22 | 1,943631E+22 | 1,943599E+22 | 1,729329E+22 | 1,369779E+22 | 9,651618E+21 | 6,239081E+21 | 4,335569E+21 | 4,335586E+21 | 6,239165E+21 | 9,651818E+21 |
| 2778              | 1,369799E+22 | 1,729313E+22 | 1,943531E+22 | 1,943571E+22 | 1,729379E+22 | 1,369846E+22 | 9,652192E+21 | 6,239480E+21 | 4,335799E+21 | 4,335674E+21 | 6,239102E+21 | 9,651673E+21 |
| 2779              | 1,369811E+22 | 1,729387E+22 | 1,943629E+22 | 1,943624E+22 | 1,729379E+22 | 1,369807E+22 | 9,651693E+21 | 6,239123E+21 | 4,335657E+21 | 4,335757E+21 | 6,239373E+21 | 9,651986E+21 |
| 2780              | 1,369825E+22 | 1,729378E+22 | 1,943598E+22 | 1,943558E+22 | 1,729307E+22 | 1,369784E+22 | 9,651832E+21 | 6,239305E+21 | 4,335680E+21 | 4,335557E+21 | 6,238984E+21 | 9,651463E+21 |
| 2781              | 1,369761E+22 | 1,729316E+22 | 1,943589E+22 | 1,943630E+22 | 1,729403E+22 | 1,369840E+22 | 9,651937E+21 | 6,239171E+21 | 4,335536E+21 | 4,335500E+21 | 6,239045E+21 | 9,651720E+21 |
| 2782              | 1,369822E+22 | 1,729402E+22 | 1,943655E+22 | 1,943656E+22 | 1,729384E+22 | 1,369784E+22 | 9,651329E+21 | 6,238684E+21 | 4,335208E+21 | 4,335359E+21 | 6,239081E+21 | 9,651817E+21 |
| 2783              | 1,369815E+22 | 1,729363E+22 | 1,943582E+22 | 1,943581E+22 | 1,729370E+22 | 1,369825E+22 | 9,651791E+21 | 6,238921E+21 | 4,335126E+21 | 4,334990E+21 | 6,238572E+21 | 9,651387E+21 |
| 2784              | 1,369796E+22 | 1,729386E+22 | 1,943662E+22 | 1,943684E+22 | 1,729446E+22 | 1,369855E+22 | 9,651611E+21 | 6,238547E+21 | 4,334830E+21 | 4,334865E+21 | 6,238649E+21 | 9,651742E+21 |
| 2785              | 1,369865E+22 | 1,729469E+22 | 1,943723E+22 | 1,943688E+22 | 1,729375E+22 | 1,369778E+22 | 9,651228E+21 | 6,238341E+21 | 4,334621E+21 | 4,334631E+21 | 6,238399E+21 | 9,651456E+21 |
| 2786              | 1,369824E+22 | 1,729401E+22 | 1,943645E+22 | 1,943668E+22 | 1,729429E+22 | 1,369839E+22 | 9,651673E+21 | 6,238611E+21 | 4,334710E+21 | 4,334557E+21 | 6,238180E+21 | 9,651126E+21 |
| 2787              | 1,369807E+22 | 1,729449E+22 | 1,943748E+22 | 1,943756E+22 | 1,729477E+22 | 1,369840E+22 | 9,651292E+21 | 6,238218E+21 | 4,334535E+21 | 4,334655E+21 | 6,238527E+21 | 9,651590E+21 |
| 2788              | 1,369837E+22 | 1,729443E+22 | 1,943715E+22 | 1,943687E+22 | 1,729392E+22 | 1,369804E+22 | 9,651361E+21 | 6,238383E+21 | 4,334622E+21 | 4,334595E+21 | 6,238331E+21 | 9,651292E+21 |
| 2789              | 1,369790E+22 | 1,729366E+22 | 1,943641E+22 | 1,943687E+22 | 1,729452E+22 | 1,369865E+22 | 9,651805E+21 | 6,238660E+21 | 4,334821E+21 | 4,334764E+21 | 6,238452E+21 | 9,651445E+21 |
| 2790              | 1,369834E+22 | 1,729444E+22 | 1,943701E+22 | 1,943701E+22 | 1,729425E+22 | 1,369807E+22 | 9,651297E+21 | 6,238450E+21 | 4,334882E+21 | 4,335039E+21 | 6,238835E+21 | 9,651734E+21 |
| 2791              | 1,369831E+22 | 1,729399E+22 | 1,943613E+22 | 1,943579E+22 | 1,729343E+22 | 1,369803E+22 | 9,651734E+21 | 6,239008E+21 | 4,335289E+21 | 4,335172E+21 | 6,238705E+21 | 9,651382E+21 |
| 2792              | 1,369778E+22 | 1,729352E+22 | 1,943620E+22 | 1,943640E+22 | 1,729404E+22 | 1,369839E+22 | 9,651869E+21 | 6,239102E+21 | 4,335513E+21 | 4,335527E+21 | 6,239113E+21 | 9,651803E+21 |
| 2793              | 1,369825E+22 | 1,729397E+22 | 1,943646E+22 | 1,943628E+22 | 1,729335E+22 | 1,369756E+22 | 9,651434E+21 | 6,239067E+21 | 4,335695E+21 | 4,335811E+21 | 6,239415E+21 | 9,651961E+21 |
| 2794              | 1,369797E+22 | 1,729302E+22 | 1,943497E+22 | 1,943514E+22 | 1,729326E+22 | 1,369809E+22 | 9,652078E+21 | 6,239644E+21 | 4,336118E+21 | 4,336024E+21 | 6,239384E+21 | 9,651716E+21 |
| 2795              | 1,369774E+22 | 1,729317E+22 | 1,943555E+22 | 1,943571E+22 | 1,729364E+22 | 1,369825E+22 | 9,651989E+21 | 6,239520E+21 | 4,336165E+21 | 4,336283E+21 | 6,239808E+21 | 9,652230E+21 |
| 2796              | 1,369822E+22 | 1,729342E+22 | 1,943543E+22 | 1,943507E+22 | 1,729259E+22 | 1,369754E+22 | 9,651879E+21 | 6,239689E+21 | 4,336324E+21 | 4,336309E+21 | 6,239667E+21 | 9,651922E+21 |

| 1                 | 2            | 3            | 4            | 5            | 6            | 7            | 8            | 9            | 10           | 11           | 12           | 13           |
|-------------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|
| Longitude $\odot$ | 0° - 30°     | 30° - 60°    | 60° - 90°    | 90° - 120°   | 120° - 150°  | 150° - 180°  | 180° - 210°  | 210° - 240°  | 240° - 270°  | 270° - 300°  | 300° - 330°  | 330° - 360°  |
| Years             |              |              |              |              |              |              |              |              |              |              |              |              |
| 2797              | 1,369772E+22 | 1,729269E+22 | 1,943466E+22 | 1,943488E+22 | 1,729307E+22 | 1,369811E+22 | 9,652317E+21 | 6,239980E+21 | 4,336480E+21 | 4,336348E+21 | 6,239577E+21 | 9,651765E+21 |
| 2798              | 1,369780E+22 | 1,729332E+22 | 1,943564E+22 | 1,943563E+22 | 1,729330E+22 | 1,369779E+22 | 9,651765E+21 | 6,239552E+21 | 4,336305E+21 | 4,336439E+21 | 6,239884E+21 | 9,652107E+21 |
| 2799              | 1,369788E+22 | 1,729300E+22 | 1,943503E+22 | 1,943482E+22 | 1,729265E+22 | 1,369769E+22 | 9,651976E+21 | 6,239735E+21 | 4,336289E+21 | 4,336198E+21 | 6,239522E+21 | 9,651735E+21 |
| 2800              | 1,369746E+22 | 1,729254E+22 | 1,943493E+22 | 1,943546E+22 | 1,729359E+22 | 1,369833E+22 | 9,652171E+21 | 6,239614E+21 | 4,336095E+21 | 4,336055E+21 | 6,239480E+21 | 9,651926E+21 |
| 2801              | 1,369810E+22 | 1,729355E+22 | 1,943582E+22 | 1,943584E+22 | 1,729332E+22 | 1,369769E+22 | 9,651566E+21 | 6,239169E+21 | 4,335771E+21 | 4,335876E+21 | 6,239485E+21 | 9,652063E+21 |
| 2802              | 1,369814E+22 | 1,729326E+22 | 1,943507E+22 | 1,943496E+22 | 1,729308E+22 | 1,369800E+22 | 9,651935E+21 | 6,239373E+21 | 4,335732E+21 | 4,335584E+21 | 6,238999E+21 | 9,651526E+21 |
| 2803              | 1,369784E+22 | 1,729357E+22 | 1,943613E+22 | 1,943616E+22 | 1,729382E+22 | 1,369831E+22 | 9,651836E+21 | 6,239039E+21 | 4,335455E+21 | 4,335484E+21 | 6,239085E+21 | 9,651810E+21 |
| 2804              | 1,369831E+22 | 1,729410E+22 | 1,943660E+22 | 1,943635E+22 | 1,729333E+22 | 1,369755E+22 | 9,651394E+21 | 6,238846E+21 | 4,335297E+21 | 4,335310E+21 | 6,238905E+21 | 9,651575E+21 |
| 2805              | 1,369791E+22 | 1,729344E+22 | 1,943574E+22 | 1,943600E+22 | 1,729384E+22 | 1,369819E+22 | 9,651782E+21 | 6,239047E+21 | 4,335349E+21 | 4,335231E+21 | 6,238722E+21 | 9,651357E+21 |
| 2806              | 1,369785E+22 | 1,729385E+22 | 1,943660E+22 | 1,943678E+22 | 1,729431E+22 | 1,369828E+22 | 9,651484E+21 | 6,238683E+21 | 4,335195E+21 | 4,335358E+21 | 6,239089E+21 | 9,651836E+21 |
| 2807              | 1,369818E+22 | 1,729377E+22 | 1,943610E+22 | 1,943585E+22 | 1,729330E+22 | 1,369788E+22 | 9,651636E+21 | 6,238948E+21 | 4,335328E+21 | 4,335301E+21 | 6,238897E+21 | 9,651582E+21 |
| 2808              | 1,369783E+22 | 1,729318E+22 | 1,943551E+22 | 1,943587E+22 | 1,729381E+22 | 1,369838E+22 | 9,652051E+21 | 6,239258E+21 | 4,335565E+21 | 4,335473E+21 | 6,238949E+21 | 9,651580E+21 |
| 2809              | 1,369809E+22 | 1,729391E+22 | 1,943632E+22 | 1,943626E+22 | 1,729360E+22 | 1,369777E+22 | 9,651509E+21 | 6,239057E+21 | 4,335658E+21 | 4,335785E+21 | 6,239398E+21 | 9,651955E+21 |
| 2810              | 1,369805E+22 | 1,729331E+22 | 1,943521E+22 | 1,943493E+22 | 1,729281E+22 | 1,369772E+22 | 9,651859E+21 | 6,239554E+21 | 4,336085E+21 | 4,335999E+21 | 6,239349E+21 | 9,651621E+21 |
| 2811              | 1,369751E+22 | 1,729284E+22 | 1,943528E+22 | 1,943550E+22 | 1,729341E+22 | 1,369821E+22 | 9,652132E+21 | 6,239683E+21 | 4,336293E+21 | 4,336335E+21 | 6,239751E+21 | 9,652059E+21 |
| 2812              | 1,369797E+22 | 1,729318E+22 | 1,943539E+22 | 1,943535E+22 | 1,729279E+22 | 1,369743E+22 | 9,651737E+21 | 6,239685E+21 | 4,336478E+21 | 4,336594E+21 | 6,240020E+21 | 9,652209E+21 |
| 2813              | 1,369781E+22 | 1,729251E+22 | 1,943409E+22 | 1,943413E+22 | 1,729254E+22 | 1,369783E+22 | 9,652294E+21 | 6,240204E+21 | 4,336838E+21 | 4,336733E+21 | 6,239914E+21 | 9,651929E+21 |
| 2814              | 1,369760E+22 | 1,729271E+22 | 1,943481E+22 | 1,943487E+22 | 1,729300E+22 | 1,369799E+22 | 9,652176E+21 | 6,240062E+21 | 4,336888E+21 | 4,336999E+21 | 6,240306E+21 | 9,652336E+21 |
| 2815              | 1,369791E+22 | 1,729281E+22 | 1,943462E+22 | 1,943424E+22 | 1,729200E+22 | 1,369731E+22 | 9,652093E+21 | 6,240236E+21 | 4,337028E+21 | 4,337011E+21 | 6,240199E+21 | 9,652088E+21 |
| 2816              | 1,369745E+22 | 1,729207E+22 | 1,943385E+22 | 1,943416E+22 | 1,729260E+22 | 1,369790E+22 | 9,652497E+21 | 6,240490E+21 | 4,337148E+21 | 4,337007E+21 | 6,240068E+21 | 9,651905E+21 |
| 2817              | 1,369746E+22 | 1,729262E+22 | 1,943485E+22 | 1,943500E+22 | 1,729293E+22 | 1,369767E+22 | 9,651948E+21 | 6,240025E+21 | 4,336929E+21 | 4,337061E+21 | 6,240408E+21 | 9,652417E+21 |
| 2818              | 1,369776E+22 | 1,729235E+22 | 1,943401E+22 | 1,943386E+22 | 1,729209E+22 | 1,369753E+22 | 9,652149E+21 | 6,240178E+21 | 4,336896E+21 | 4,336832E+21 | 6,240048E+21 | 9,652035E+21 |
| 2819              | 1,369746E+22 | 1,729218E+22 | 1,943420E+22 | 1,943454E+22 | 1,729286E+22 | 1,369811E+22 | 9,652435E+21 | 6,240118E+21 | 4,336698E+21 | 4,336641E+21 | 6,239918E+21 | 9,652107E+21 |
| 2820              | 1,369798E+22 | 1,729316E+22 | 1,943520E+22 | 1,943511E+22 | 1,729272E+22 | 1,369741E+22 | 9,651740E+21 | 6,239670E+21 | 4,336405E+21 | 4,336480E+21 | 6,239893E+21 | 9,652137E+21 |
| 2821              | 1,369794E+22 | 1,729297E+22 | 1,943464E+22 | 1,943433E+22 | 1,729250E+22 | 1,369766E+22 | 9,651989E+21 | 6,239776E+21 | 4,336316E+21 | 4,336180E+21 | 6,239430E+21 | 9,651618E+21 |
| 2822              | 1,369755E+22 | 1,729307E+22 | 1,943560E+22 | 1,943571E+22 | 1,729348E+22 | 1,369810E+22 | 9,651905E+21 | 6,239435E+21 | 4,336056E+21 | 4,336116E+21 | 6,239558E+21 | 9,651916E+21 |
| 2823              | 1,369793E+22 | 1,729334E+22 | 1,943570E+22 | 1,943564E+22 | 1,729300E+22 | 1,369749E+22 | 9,651600E+21 | 6,239300E+21 | 4,335913E+21 | 4,335957E+21 | 6,239439E+21 | 9,651826E+21 |
| 2824              | 1,369772E+22 | 1,729275E+22 | 1,943475E+22 | 1,943513E+22 | 1,729340E+22 | 1,369814E+22 | 9,652084E+21 | 6,239578E+21 | 4,335989E+21 | 4,335856E+21 | 6,239197E+21 | 9,651556E+21 |
| 2825              | 1,369766E+22 | 1,729325E+22 | 1,943573E+22 | 1,943593E+22 | 1,729377E+22 | 1,369813E+22 | 9,651766E+21 | 6,239264E+21 | 4,335879E+21 | 4,335997E+21 | 6,239583E+21 | 9,652091E+21 |
| 2826              | 1,369806E+22 | 1,729320E+22 | 1,943512E+22 | 1,943477E+22 | 1,729254E+22 | 1,369759E+22 | 9,651835E+21 | 6,239525E+21 | 4,336089E+21 | 4,336057E+21 | 6,239464E+21 | 9,651801E+21 |
| 2827              | 1,369766E+22 | 1,729272E+22 | 1,943480E+22 | 1,943494E+22 | 1,729297E+22 | 1,369805E+22 | 9,652305E+21 | 6,239869E+21 | 4,336345E+21 | 4,336253E+21 | 6,239538E+21 | 9,651767E+21 |
| 2828              | 1,369777E+22 | 1,729321E+22 | 1,943548E+22 | 1,943548E+22 | 1,729300E+22 | 1,369746E+22 | 9,651677E+21 | 6,239652E+21 | 4,336468E+21 | 4,336607E+21 | 6,240033E+21 | 9,652180E+21 |
| 2829              | 1,369781E+22 | 1,729273E+22 | 1,943437E+22 | 1,943405E+22 | 1,729221E+22 | 1,369745E+22 | 9,651971E+21 | 6,240046E+21 | 4,336818E+21 | 4,336781E+21 | 6,239988E+21 | 9,651937E+21 |
| 2830              | 1,369738E+22 | 1,729227E+22 | 1,943440E+22 | 1,943463E+22 | 1,729286E+22 | 1,369802E+22 | 9,652319E+21 | 6,240203E+21 | 4,337017E+21 | 4,337084E+21 | 6,240330E+21 | 9,652306E+21 |
| 2831              | 1,369780E+22 | 1,729256E+22 | 1,943441E+22 | 1,943434E+22 | 1,729217E+22 | 1,369726E+22 | 9,652018E+21 | 6,240285E+21 | 4,337219E+21 | 4,337314E+21 | 6,240558E+21 | 9,652425E+21 |
| 2832              | 1,369766E+22 | 1,729200E+22 | 1,943330E+22 | 1,943328E+22 | 1,729193E+22 | 1,369761E+22 | 9,652553E+21 | 6,240812E+21 | 4,337583E+21 | 4,337426E+21 | 6,240369E+21 | 9,651990E+21 |

| 1                 | 2            | 3            | 4            | 5            | 6            | 7            | 8            | 9            | 10           | 11           | 12           | 13           |
|-------------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|
| Longitude $\odot$ | 0° - 30°     | 30° - 60°    | 60° - 90°    | 90° - 120°   | 120° - 150°  | 150° - 180°  | 180° - 210°  | 210° - 240°  | 240° - 270°  | 270° - 300°  | 300° - 330°  | 330° - 360°  |
| Years             |              |              |              |              |              |              |              |              |              |              |              |              |
| 2833              | 1,369723E+22 | 1,729208E+22 | 1,943413E+22 | 1,943424E+22 | 1,729249E+22 | 1,369777E+22 | 9,652400E+21 | 6,240649E+21 | 4,337618E+21 | 4,337693E+21 | 6,240821E+21 | 9,652493E+21 |
| 2834              | 1,369755E+22 | 1,729201E+22 | 1,943365E+22 | 1,943340E+22 | 1,729148E+22 | 1,369711E+22 | 9,652260E+21 | 6,240767E+21 | 4,337759E+21 | 4,337762E+21 | 6,240794E+21 | 9,652321E+21 |
| 2835              | 1,369718E+22 | 1,729137E+22 | 1,943295E+22 | 1,943324E+22 | 1,729197E+22 | 1,369776E+22 | 9,652763E+21 | 6,241012E+21 | 4,337824E+21 | 4,337704E+21 | 6,240635E+21 | 9,652166E+21 |
| 2836              | 1,369725E+22 | 1,729191E+22 | 1,943386E+22 | 1,943408E+22 | 1,729236E+22 | 1,369752E+22 | 9,652195E+21 | 6,240552E+21 | 4,337587E+21 | 4,337714E+21 | 6,240913E+21 | 9,652650E+21 |
| 2837              | 1,369772E+22 | 1,729202E+22 | 1,943331E+22 | 1,943296E+22 | 1,729141E+22 | 1,369723E+22 | 9,652249E+21 | 6,240597E+21 | 4,337473E+21 | 4,337413E+21 | 6,240491E+21 | 9,652246E+21 |
| 2838              | 1,369743E+22 | 1,729192E+22 | 1,943371E+22 | 1,943389E+22 | 1,729230E+22 | 1,369781E+22 | 9,652497E+21 | 6,240525E+21 | 4,337280E+21 | 4,337221E+21 | 6,240324E+21 | 9,652205E+21 |
| 2839              | 1,369775E+22 | 1,729270E+22 | 1,943461E+22 | 1,943451E+22 | 1,729229E+22 | 1,369721E+22 | 9,651886E+21 | 6,240109E+21 | 4,336987E+21 | 4,337065E+21 | 6,240340E+21 | 9,652285E+21 |
| 2840              | 1,369770E+22 | 1,729242E+22 | 1,943404E+22 | 1,943385E+22 | 1,729218E+22 | 1,369750E+22 | 9,652126E+21 | 6,240212E+21 | 4,336899E+21 | 4,336758E+21 | 6,239861E+21 | 9,651742E+21 |
| 2841              | 1,369723E+22 | 1,729236E+22 | 1,943483E+22 | 1,943513E+22 | 1,729321E+22 | 1,369808E+22 | 9,652129E+21 | 6,239901E+21 | 4,336646E+21 | 4,336708E+21 | 6,240052E+21 | 9,652178E+21 |
| 2842              | 1,369775E+22 | 1,729263E+22 | 1,943465E+22 | 1,943463E+22 | 1,729245E+22 | 1,369741E+22 | 9,651856E+21 | 6,239810E+21 | 4,336562E+21 | 4,336618E+21 | 6,239969E+21 | 9,652092E+21 |
| 2843              | 1,369764E+22 | 1,729230E+22 | 1,943392E+22 | 1,943404E+22 | 1,729254E+22 | 1,369790E+22 | 9,652390E+21 | 6,240170E+21 | 4,336698E+21 | 4,336538E+21 | 6,239693E+21 | 9,651733E+21 |
| 2844              | 1,369747E+22 | 1,729270E+22 | 1,943492E+22 | 1,943500E+22 | 1,729303E+22 | 1,369782E+22 | 9,651976E+21 | 6,239875E+21 | 4,336656E+21 | 4,336742E+21 | 6,240095E+21 | 9,652207E+21 |
| 2845              | 1,369784E+22 | 1,729277E+22 | 1,943448E+22 | 1,943395E+22 | 1,729181E+22 | 1,369716E+22 | 9,651882E+21 | 6,240019E+21 | 4,336820E+21 | 4,336815E+21 | 6,240046E+21 | 9,652002E+21 |
| 2846              | 1,369740E+22 | 1,729212E+22 | 1,943410E+22 | 1,943429E+22 | 1,729246E+22 | 1,369773E+22 | 9,652350E+21 | 6,240354E+21 | 4,337085E+21 | 4,337026E+21 | 6,240142E+21 | 9,651991E+21 |
| 2847              | 1,369746E+22 | 1,729242E+22 | 1,943449E+22 | 1,943461E+22 | 1,729253E+22 | 1,369734E+22 | 9,651906E+21 | 6,240190E+21 | 4,337193E+21 | 4,337362E+21 | 6,240654E+21 | 9,652492E+21 |
| 2848              | 1,369765E+22 | 1,729203E+22 | 1,943342E+22 | 1,943317E+22 | 1,729167E+22 | 1,369733E+22 | 9,652270E+21 | 6,240639E+21 | 4,337543E+21 | 4,337483E+21 | 6,240509E+21 | 9,652135E+21 |
| 2849              | 1,369718E+22 | 1,729166E+22 | 1,943355E+22 | 1,943380E+22 | 1,729234E+22 | 1,369791E+22 | 9,652631E+21 | 6,240837E+21 | 4,337765E+21 | 4,337784E+21 | 6,240845E+21 | 9,652500E+21 |
| 2850              | 1,369756E+22 | 1,729193E+22 | 1,943346E+22 | 1,943332E+22 | 1,729149E+22 | 1,369707E+22 | 9,652286E+21 | 6,240920E+21 | 4,338025E+21 | 4,338101E+21 | 6,241124E+21 | 9,652589E+21 |
| 2851              | 1,369739E+22 | 1,729141E+22 | 1,943254E+22 | 1,943237E+22 | 1,729117E+22 | 1,369737E+22 | 9,652849E+21 | 6,241452E+21 | 4,338382E+21 | 4,338212E+21 | 6,240954E+21 | 9,652160E+21 |
| 2852              | 1,369687E+22 | 1,729124E+22 | 1,943317E+22 | 1,943345E+22 | 1,729197E+22 | 1,369755E+22 | 9,652595E+21 | 6,241237E+21 | 4,338401E+21 | 4,338475E+21 | 6,241419E+21 | 9,652720E+21 |
| 2853              | 1,369734E+22 | 1,729139E+22 | 1,943271E+22 | 1,943245E+22 | 1,729085E+22 | 1,369686E+22 | 9,652361E+21 | 6,241206E+21 | 4,338414E+21 | 4,338470E+21 | 6,241400E+21 | 9,652678E+21 |
| 2854              | 1,369716E+22 | 1,729090E+22 | 1,943214E+22 | 1,943238E+22 | 1,729135E+22 | 1,369750E+22 | 9,652868E+21 | 6,241446E+21 | 4,338430E+21 | 4,338329E+21 | 6,241139E+21 | 9,652436E+21 |
| 2855              | 1,369722E+22 | 1,729151E+22 | 1,943310E+22 | 1,943317E+22 | 1,729169E+22 | 1,369727E+22 | 9,652363E+21 | 6,241016E+21 | 4,338178E+21 | 4,338293E+21 | 6,241351E+21 | 9,652848E+21 |
| 2856              | 1,369765E+22 | 1,729169E+22 | 1,943283E+22 | 1,943238E+22 | 1,729088E+22 | 1,369697E+22 | 9,652378E+21 | 6,241034E+21 | 4,338043E+21 | 4,337950E+21 | 6,240834E+21 | 9,652273E+21 |
| 2857              | 1,369716E+22 | 1,729147E+22 | 1,943328E+22 | 1,943352E+22 | 1,729199E+22 | 1,369765E+22 | 9,652620E+21 | 6,240945E+21 | 4,337832E+21 | 4,337760E+21 | 6,240719E+21 | 9,652290E+21 |
| 2858              | 1,369740E+22 | 1,729198E+22 | 1,943378E+22 | 1,943384E+22 | 1,729195E+22 | 1,369714E+22 | 9,652044E+21 | 6,240553E+21 | 4,337598E+21 | 4,337685E+21 | 6,240812E+21 | 9,652440E+21 |
| 2859              | 1,369743E+22 | 1,729175E+22 | 1,943320E+22 | 1,943302E+22 | 1,729166E+22 | 1,369747E+22 | 9,652443E+21 | 6,240724E+21 | 4,337525E+21 | 4,337382E+21 | 6,240344E+21 | 9,651936E+21 |
| 2860              | 1,369699E+22 | 1,729161E+22 | 1,943381E+22 | 1,943422E+22 | 1,729265E+22 | 1,369796E+22 | 9,652422E+21 | 6,240475E+21 | 4,337329E+21 | 4,337358E+21 | 6,240517E+21 | 9,652339E+21 |
| 2861              | 1,369763E+22 | 1,729221E+22 | 1,943383E+22 | 1,943363E+22 | 1,729167E+22 | 1,369710E+22 | 9,651998E+21 | 6,240308E+21 | 4,337231E+21 | 4,337288E+21 | 6,240480E+21 | 9,652311E+21 |
| 2862              | 1,369755E+22 | 1,729192E+22 | 1,943330E+22 | 1,943325E+22 | 1,729182E+22 | 1,369752E+22 | 9,652456E+21 | 6,240660E+21 | 4,337396E+21 | 4,337241E+21 | 6,240213E+21 | 9,651895E+21 |
| 2863              | 1,369723E+22 | 1,729214E+22 | 1,943418E+22 | 1,943421E+22 | 1,729240E+22 | 1,369751E+22 | 9,652108E+21 | 6,240394E+21 | 4,337371E+21 | 4,337479E+21 | 6,240680E+21 | 9,652448E+21 |
| 2864              | 1,369762E+22 | 1,729212E+22 | 1,943373E+22 | 1,943334E+22 | 1,729137E+22 | 1,369693E+22 | 9,651999E+21 | 6,240514E+21 | 4,337525E+21 | 4,337535E+21 | 6,240604E+21 | 9,652226E+21 |
| 2865              | 1,369717E+22 | 1,729143E+22 | 1,943323E+22 | 1,943359E+22 | 1,729209E+22 | 1,369767E+22 | 9,652568E+21 | 6,240873E+21 | 4,337776E+21 | 4,337737E+21 | 6,240736E+21 | 9,652305E+21 |
| 2866              | 1,369730E+22 | 1,729171E+22 | 1,943339E+22 | 1,943354E+22 | 1,729191E+22 | 1,369726E+22 | 9,652224E+21 | 6,240811E+21 | 4,337966E+21 | 4,338125E+21 | 6,241240E+21 | 9,652760E+21 |
| 2867              | 1,369754E+22 | 1,729153E+22 | 1,943259E+22 | 1,943212E+22 | 1,729085E+22 | 1,369715E+22 | 9,652641E+21 | 6,241333E+21 | 4,338366E+21 | 4,338263E+21 | 6,241056E+21 | 9,652289E+21 |
| 2868              | 1,369689E+22 | 1,729097E+22 | 1,943265E+22 | 1,943290E+22 | 1,729166E+22 | 1,369767E+22 | 9,652913E+21 | 6,241531E+21 | 4,338630E+21 | 4,338606E+21 | 6,241393E+21 | 9,652580E+21 |

| 1<br>Longitude ☉<br>Years | 2<br>0° - 30° | 3<br>30° - 60° | 4<br>60° - 90° | 5<br>90° - 120° | 6<br>120° - 150° | 7<br>150° - 180° | 8<br>180° - 210° | 9<br>210° - 240° | 10<br>240° - 270° | 11<br>270° - 300° | 12<br>300° - 330° | 13<br>330° - 360° |
|---------------------------|---------------|----------------|----------------|-----------------|------------------|------------------|------------------|------------------|-------------------|-------------------|-------------------|-------------------|
| 2869                      | 1,369724E+22  | 1,729135E+22   | 1,943265E+22   | 1,943244E+22    | 1,729079E+22     | 1,369674E+22     | 9,652408E+21     | 6,241468E+21     | 4,338808E+21      | 4,338913E+21      | 6,241756E+21      | 9,652814E+21      |
| 2870                      | 1,369710E+22  | 1,729071E+22   | 1,943167E+22   | 1,943157E+22    | 1,729059E+22     | 1,369708E+22     | 9,652928E+21     | 6,241949E+21     | 4,339117E+21      | 4,338978E+21      | 6,241572E+21      | 9,652435E+21      |
| 2871                      | 1,369664E+22  | 1,729048E+22   | 1,943210E+22   | 1,943246E+22    | 1,729138E+22     | 1,369741E+22     | 9,652812E+21     | 6,241738E+21     | 4,339067E+21      | 4,339168E+21      | 6,242003E+21      | 9,653060E+21      |
| 2872                      | 1,369730E+22  | 1,729083E+22   | 1,943186E+22   | 1,943165E+22    | 1,729027E+22     | 1,369664E+22     | 9,652539E+21     | 6,241679E+21     | 4,339016E+21      | 4,339054E+21      | 6,241837E+21      | 9,652879E+21      |
| 2873                      | 1,369709E+22  | 1,729051E+22   | 1,943150E+22   | 1,943170E+22    | 1,729084E+22     | 1,369730E+22     | 9,653027E+21     | 6,241902E+21     | 4,339004E+21      | 4,338879E+21      | 6,241550E+21      | 9,652593E+21      |
| 2874                      | 1,369707E+22  | 1,729108E+22   | 1,943244E+22   | 1,943241E+22    | 1,729113E+22     | 1,369711E+22     | 9,652551E+21     | 6,241495E+21     | 4,338795E+21      | 4,338893E+21      | 6,241772E+21      | 9,652938E+21      |
| 2875                      | 1,369741E+22  | 1,729126E+22   | 1,943233E+22   | 1,943179E+22    | 1,729033E+22     | 1,369680E+22     | 9,652599E+21     | 6,241527E+21     | 4,338670E+21      | 4,338562E+21      | 6,241267E+21      | 9,652347E+21      |
| 2876                      | 1,369678E+22  | 1,729073E+22   | 1,943247E+22   | 1,943294E+22    | 1,729167E+22     | 1,369757E+22     | 9,652820E+21     | 6,241440E+21     | 4,338486E+21      | 4,338401E+21      | 6,241167E+21      | 9,652395E+21      |
| 2877                      | 1,369716E+22  | 1,729141E+22   | 1,943291E+22   | 1,943300E+22    | 1,729144E+22     | 1,369701E+22     | 9,652193E+21     | 6,240962E+21     | 4,338186E+21      | 4,338311E+21      | 6,241326E+21      | 9,652699E+21      |
| 2878                      | 1,369734E+22  | 1,729125E+22   | 1,943238E+22   | 1,943218E+22    | 1,729102E+22     | 1,369722E+22     | 9,652584E+21     | 6,241189E+21     | 4,338141E+21      | 4,337994E+21      | 6,240822E+21      | 9,652159E+21      |
| 2879                      | 1,369690E+22  | 1,729113E+22   | 1,943295E+22   | 1,943326E+22    | 1,729192E+22     | 1,369770E+22     | 9,652612E+21     | 6,240987E+21     | 4,337981E+21      | 4,337997E+21      | 6,241000E+21      | 9,652539E+21      |
| 2880                      | 1,369750E+22  | 1,729174E+22   | 1,943322E+22   | 1,943298E+22    | 1,729104E+22     | 1,369676E+22     | 9,652104E+21     | 6,240787E+21     | 4,337886E+21      | 4,337937E+21      | 6,240945E+21      | 9,652426E+21      |
| 2881                      | 1,369728E+22  | 1,729138E+22   | 1,943270E+22   | 1,943274E+22    | 1,729140E+22     | 1,369728E+22     | 9,652547E+21     | 6,241118E+21     | 4,338049E+21      | 4,337921E+21      | 6,240765E+21      | 9,652099E+21      |
| 2882                      | 1,369693E+22  | 1,729140E+22   | 1,943323E+22   | 1,943339E+22    | 1,729191E+22     | 1,369740E+22     | 9,652301E+21     | 6,240913E+21     | 4,338094E+21      | 4,338227E+21      | 6,241279E+21      | 9,652712E+21      |
| 2883                      | 1,369742E+22  | 1,729146E+22   | 1,943281E+22   | 1,943242E+22    | 1,729077E+22     | 1,369689E+22     | 9,652344E+21     | 6,241113E+21     | 4,338274E+21      | 4,338283E+21      | 6,241176E+21      | 9,652464E+21      |
| 2884                      | 1,369696E+22  | 1,729071E+22   | 1,943219E+22   | 1,943263E+22    | 1,729151E+22     | 1,369758E+22     | 9,652916E+21     | 6,241545E+21     | 4,338587E+21      | 4,338500E+21      | 6,241254E+21      | 9,652456E+21      |
| 2885                      | 1,369716E+22  | 1,729124E+22   | 1,943249E+22   | 1,943248E+22    | 1,729113E+22     | 1,369701E+22     | 9,652452E+21     | 6,241420E+21     | 4,338765E+21      | 4,338914E+21      | 6,241821E+21      | 9,652966E+21      |
| 2886                      | 1,369735E+22  | 1,729102E+22   | 1,943184E+22   | 1,943130E+22    | 1,729011E+22     | 1,369681E+22     | 9,652812E+21     | 6,241942E+21     | 4,339176E+21      | 4,339063E+21      | 6,241652E+21      | 9,652475E+21      |
| 2887                      | 1,369659E+22  | 1,729026E+22   | 1,943172E+22   | 1,943201E+22    | 1,729098E+22     | 1,369738E+22     | 9,653097E+21     | 6,242119E+21     | 4,339420E+21      | 4,339412E+21      | 6,242037E+21      | 9,652841E+21      |
| 2888                      | 1,369697E+22  | 1,729056E+22   | 1,943174E+22   | 1,943171E+22    | 1,729025E+22     | 1,369649E+22     | 9,652544E+21     | 6,241974E+21     | 4,339526E+21      | 4,339654E+21      | 6,242348E+21      | 9,653085E+21      |
| 2889                      | 1,369693E+22  | 1,729006E+22   | 1,943076E+22   | 1,943078E+22    | 1,729011E+22     | 1,369694E+22     | 9,653095E+21     | 6,242400E+21     | 4,339740E+21      | 4,339639E+21      | 6,242141E+21      | 9,652748E+21      |
| 2890                      | 1,369655E+22  | 1,728993E+22   | 1,943111E+22   | 1,943139E+22    | 1,729065E+22     | 1,369722E+22     | 9,653049E+21     | 6,242269E+21     | 4,339733E+21      | 4,339817E+21      | 6,242493E+21      | 9,653286E+21      |
| 2891                      | 1,369725E+22  | 1,729051E+22   | 1,943123E+22   | 1,943079E+22    | 1,728955E+22     | 1,369643E+22     | 9,652796E+21     | 6,242229E+21     | 4,339688E+21      | 4,339678E+21      | 6,242244E+21      | 9,652950E+21      |
| 2892                      | 1,369684E+22  | 1,729002E+22   | 1,943089E+22   | 1,943112E+22    | 1,729036E+22     | 1,369710E+22     | 9,653213E+21     | 6,242429E+21     | 4,339686E+21      | 4,339518E+21      | 6,241936E+21      | 9,652581E+21      |
| 2893                      | 1,369675E+22  | 1,729059E+22   | 1,943181E+22   | 1,943180E+22    | 1,729065E+22     | 1,369688E+22     | 9,652647E+21     | 6,241917E+21     | 4,339413E+21      | 4,339534E+21      | 6,242259E+21      | 9,653070E+21      |
| 2894                      | 1,369709E+22  | 1,729061E+22   | 1,943161E+22   | 1,943123E+22    | 1,728994E+22     | 1,369664E+22     | 9,652709E+21     | 6,241943E+21     | 4,339266E+21      | 4,339179E+21      | 6,241761E+21      | 9,652537E+21      |
| 2895                      | 1,369652E+22  | 1,728999E+22   | 1,943143E+22   | 1,943205E+22    | 1,729116E+22     | 1,369750E+22     | 9,653064E+21     | 6,241899E+21     | 4,339073E+21      | 4,339007E+21      | 6,241667E+21      | 9,652640E+21      |
| 2896                      | 1,369702E+22  | 1,729080E+22   | 1,943206E+22   | 1,943224E+22    | 1,729087E+22     | 1,369681E+22     | 9,652385E+21     | 6,241422E+21     | 4,338767E+21      | 4,338878E+21      | 6,241748E+21      | 9,652871E+21      |
| 2897                      | 1,369723E+22  | 1,729084E+22   | 1,943169E+22   | 1,943145E+22    | 1,729047E+22     | 1,369700E+22     | 9,652722E+21     | 6,241627E+21     | 4,338724E+21      | 4,338587E+21      | 6,241292E+21      | 9,652346E+21      |
| 2898                      | 1,369673E+22  | 1,729066E+22   | 1,943220E+22   | 1,943240E+22    | 1,729123E+22     | 1,369744E+22     | 9,652793E+21     | 6,241501E+21     | 4,338657E+21      | 4,338674E+21      | 6,241516E+21      | 9,652730E+21      |
| 2899                      | 1,369732E+22  | 1,729128E+22   | 1,943259E+22   | 1,943227E+22    | 1,729045E+22     | 1,369654E+22     | 9,652298E+21     | 6,241315E+21     | 4,338593E+21      | 4,338649E+21      | 6,241490E+21      | 9,652622E+21      |
| 2900                      | 1,369701E+22  | 1,729068E+22   | 1,943182E+22   | 1,943205E+22    | 1,729101E+22     | 1,369717E+22     | 9,652750E+21     | 6,241651E+21     | 4,338785E+21      | 4,338663E+21      | 6,241314E+21      | 9,652311E+21      |
| 2901                      | 1,369680E+22  | 1,729087E+22   | 1,943230E+22   | 1,943243E+22    | 1,729129E+22     | 1,369725E+22     | 9,652517E+21     | 6,241420E+21     | 4,338797E+21      | 4,338967E+21      | 6,241882E+21      | 9,653016E+21      |
| 2902                      | 1,369735E+22  | 1,729099E+22   | 1,943198E+22   | 1,943152E+22    | 1,729005E+22     | 1,369661E+22     | 9,652563E+21     | 6,241705E+21     | 4,339031E+21      | 4,339020E+21      | 6,241725E+21      | 9,652675E+21      |
| 2903                      | 1,369680E+22  | 1,729017E+22   | 1,943126E+22   | 1,943162E+22    | 1,729076E+22     | 1,369733E+22     | 9,653187E+21     | 6,242185E+21     | 4,339391E+21      | 4,339281E+21      | 6,241813E+21      | 9,652610E+21      |
| 2904                      | 1,369687E+22  | 1,729060E+22   | 1,943176E+22   | 1,943180E+22    | 1,729049E+22     | 1,369669E+22     | 9,652621E+21     | 6,241998E+21     | 4,339545E+21      | 4,339683E+21      | 6,242364E+21      | 9,653074E+21      |



| 1<br>Longitude ☉<br>Years | 2<br>0° - 30° | 3<br>30° - 60° | 4<br>60° - 90° | 5<br>90° - 120° | 6<br>120° - 150° | 7<br>150° - 180° | 8<br>180° - 210° | 9<br>210° - 240° | 10<br>240° - 270° | 11<br>270° - 300° | 12<br>300° - 330° | 13<br>330° - 360° |
|---------------------------|---------------|----------------|----------------|-----------------|------------------|------------------|------------------|------------------|-------------------|-------------------|-------------------|-------------------|
| 2905                      | 1,369697E+22  | 1,729029E+22   | 1,943100E+22   | 1,943063E+22    | 1,728963E+22     | 1,369657E+22     | 9,652957E+21     | 6,242469E+21     | 4,339914E+21      | 4,339834E+21      | 6,242284E+21      | 9,652707E+21      |
| 2906                      | 1,369624E+22  | 1,728940E+22   | 1,943058E+22   | 1,943099E+22    | 1,729036E+22     | 1,369724E+22     | 9,653348E+21     | 6,242690E+21     | 4,340178E+21      | 4,340188E+21      | 6,242667E+21      | 9,653144E+21      |
| 2907                      | 1,369679E+22  | 1,728990E+22   | 1,943073E+22   | 1,943066E+22    | 1,728956E+22     | 1,369638E+22     | 9,652857E+21     | 6,242562E+21     | 4,340256E+21      | 4,340375E+21      | 6,242906E+21      | 9,653333E+21      |
| 2908                      | 1,369677E+22  | 1,728946E+22   | 1,942981E+22   | 1,942987E+22    | 1,728951E+22     | 1,369677E+22     | 9,653355E+21     | 6,242986E+21     | 4,340471E+21      | 4,340326E+21      | 6,242598E+21      | 9,652893E+21      |
| 2909                      | 1,369648E+22  | 1,728962E+22   | 1,943040E+22   | 1,943049E+22    | 1,728993E+22     | 1,369693E+22     | 9,653200E+21     | 6,242760E+21     | 4,340406E+21      | 4,340490E+21      | 6,242983E+21      | 9,653444E+21      |
| 2910                      | 1,369708E+22  | 1,729012E+22   | 1,943070E+22   | 1,943022E+22    | 1,728899E+22     | 1,369611E+22     | 9,652905E+21     | 6,242711E+21     | 4,340340E+21      | 4,340322E+21      | 6,242714E+21      | 9,653061E+21      |
| 2911                      | 1,369654E+22  | 1,728941E+22   | 1,943014E+22   | 1,943049E+22    | 1,728993E+22     | 1,369692E+22     | 9,653369E+21     | 6,242892E+21     | 4,340314E+21      | 4,340160E+21      | 6,242440E+21      | 9,652752E+21      |
| 2912                      | 1,369644E+22  | 1,728986E+22   | 1,943104E+22   | 1,943127E+22    | 1,729031E+22     | 1,369676E+22     | 9,652790E+21     | 6,242311E+21     | 4,339973E+21      | 4,340117E+21      | 6,242721E+21      | 9,653265E+21      |
| 2913                      | 1,369690E+22  | 1,729001E+22   | 1,943076E+22   | 1,943052E+22    | 1,728956E+22     | 1,369657E+22     | 9,652908E+21     | 6,242334E+21     | 4,339778E+21      | 4,339732E+21      | 6,242251E+21      | 9,652797E+21      |
| 2914                      | 1,369643E+22  | 1,728949E+22   | 1,943049E+22   | 1,943099E+22    | 1,729044E+22     | 1,369731E+22     | 9,653318E+21     | 6,242404E+21     | 4,339679E+21      | 4,339595E+21      | 6,242121E+21      | 9,652856E+21      |
| 2915                      | 1,369696E+22  | 1,729048E+22   | 1,943140E+22   | 1,943135E+22    | 1,729015E+22     | 1,369658E+22     | 9,652610E+21     | 6,241947E+21     | 4,339421E+21      | 4,339503E+21      | 6,242180E+21      | 9,652977E+21      |
| 2916                      | 1,369701E+22  | 1,729037E+22   | 1,943107E+22   | 1,943083E+22    | 1,728997E+22     | 1,369675E+22     | 9,652862E+21     | 6,242125E+21     | 4,339408E+21      | 4,339254E+21      | 6,241735E+21      | 9,652430E+21      |
| 2917                      | 1,369652E+22  | 1,729021E+22   | 1,943152E+22   | 1,943168E+22    | 1,729066E+22     | 1,369714E+22     | 9,652869E+21     | 6,241940E+21     | 4,339321E+21      | 4,339377E+21      | 6,242081E+21      | 9,652962E+21      |
| 2918                      | 1,369711E+22  | 1,729070E+22   | 1,943184E+22   | 1,943163E+22    | 1,728999E+22     | 1,369634E+22     | 9,652442E+21     | 6,241792E+21     | 4,339260E+21      | 4,339335E+21      | 6,242045E+21      | 9,652873E+21      |
| 2919                      | 1,369682E+22  | 1,729002E+22   | 1,943083E+22   | 1,943113E+22    | 1,729044E+22     | 1,369705E+22     | 9,653025E+21     | 6,242198E+21     | 4,339477E+21      | 4,339363E+21      | 6,241864E+21      | 9,652548E+21      |
| 2920                      | 1,369660E+22  | 1,729024E+22   | 1,943146E+22   | 1,943163E+22    | 1,729067E+22     | 1,369704E+22     | 9,652771E+21     | 6,241991E+21     | 4,339511E+21      | 4,339653E+21      | 6,242366E+21      | 9,653155E+21      |
| 2921                      | 1,369713E+22  | 1,729047E+22   | 1,943121E+22   | 1,943075E+22    | 1,728951E+22     | 1,369641E+22     | 9,652792E+21     | 6,242262E+21     | 4,339757E+21      | 4,339756E+21      | 6,242286E+21      | 9,652822E+21      |
| 2922                      | 1,369647E+22  | 1,728950E+22   | 1,943032E+22   | 1,943061E+22    | 1,729001E+22     | 1,369708E+22     | 9,653454E+21     | 6,242828E+21     | 4,340211E+21      | 4,340094E+21      | 6,242428E+21      | 9,652806E+21      |
| 2923                      | 1,369654E+22  | 1,728988E+22   | 1,943084E+22   | 1,943090E+22    | 1,728988E+22     | 1,369649E+22     | 9,652871E+21     | 6,242633E+21     | 4,340378E+21      | 4,340512E+21      | 6,242998E+21      | 9,653303E+21      |
| 2924                      | 1,369665E+22  | 1,728945E+22   | 1,942992E+22   | 1,942974E+22    | 1,728914E+22     | 1,369643E+22     | 9,653184E+21     | 6,243052E+21     | 4,340713E+21      | 4,340640E+21      | 6,242890E+21      | 9,652990E+21      |
| 2925                      | 1,369616E+22  | 1,728884E+22   | 1,942953E+22   | 1,942986E+22    | 1,728957E+22     | 1,369696E+22     | 9,653549E+21     | 6,243225E+21     | 4,340906E+21      | 4,340948E+21      | 6,243295E+21      | 9,653494E+21      |
| 2926                      | 1,369678E+22  | 1,728949E+22   | 1,942995E+22   | 1,942975E+22    | 1,728881E+22     | 1,369602E+22     | 9,653030E+21     | 6,243119E+21     | 4,340968E+21      | 4,341066E+21      | 6,243425E+21      | 9,653551E+21      |
| 2927                      | 1,369665E+22  | 1,728904E+22   | 1,942909E+22   | 1,942901E+22    | 1,728883E+22     | 1,369649E+22     | 9,653535E+21     | 6,243513E+21     | 4,341167E+21      | 4,341015E+21      | 6,243095E+21      | 9,653019E+21      |
| 2928                      | 1,369619E+22  | 1,728908E+22   | 1,942988E+22   | 1,943001E+22    | 1,728944E+22     | 1,369665E+22     | 9,653322E+21     | 6,243216E+21     | 4,341039E+21      | 4,341123E+21      | 6,243430E+21      | 9,653518E+21      |
| 2929                      | 1,369673E+22  | 1,728950E+22   | 1,943003E+22   | 1,942975E+22    | 1,728875E+22     | 1,369599E+22     | 9,653034E+21     | 6,243105E+21     | 4,340907E+21      | 4,340934E+21      | 6,243218E+21      | 9,653221E+21      |
| 2930                      | 1,369620E+22  | 1,728865E+22   | 1,942914E+22   | 1,942960E+22    | 1,728948E+22     | 1,369688E+22     | 9,653634E+21     | 6,243373E+21     | 4,340918E+21      | 4,340772E+21      | 6,242936E+21      | 9,652985E+21      |
| 2931                      | 1,369626E+22  | 1,728925E+22   | 1,943011E+22   | 1,943033E+22    | 1,728977E+22     | 1,369670E+22     | 9,653095E+21     | 6,242832E+21     | 4,340582E+21      | 4,340697E+21      | 6,243153E+21      | 9,653440E+21      |
| 2932                      | 1,369674E+22  | 1,728947E+22   | 1,942990E+22   | 1,942966E+22    | 1,728902E+22     | 1,369640E+22     | 9,653145E+21     | 6,242857E+21     | 4,340416E+21      | 4,340324E+21      | 6,242642E+21      | 9,652940E+21      |
| 2933                      | 1,369639E+22  | 1,728921E+22   | 1,942985E+22   | 1,943009E+22    | 1,728968E+22     | 1,369696E+22     | 9,653440E+21     | 6,242861E+21     | 4,340303E+21      | 4,340231E+21      | 6,242612E+21      | 9,653052E+21      |
| 2934                      | 1,369683E+22  | 1,729014E+22   | 1,943093E+22   | 1,943076E+22    | 1,728952E+22     | 1,369617E+22     | 9,652682E+21     | 6,242412E+21     | 4,340057E+21      | 4,340145E+21      | 6,242683E+21      | 9,653157E+21      |
| 2935                      | 1,369677E+22  | 1,728982E+22   | 1,943036E+22   | 1,943018E+22    | 1,728951E+22     | 1,369652E+22     | 9,652969E+21     | 6,242567E+21     | 4,340050E+21      | 4,339934E+21      | 6,242286E+21      | 9,652658E+21      |
| 2936                      | 1,369626E+22  | 1,728956E+22   | 1,943082E+22   | 1,943113E+22    | 1,729028E+22     | 1,369698E+22     | 9,652998E+21     | 6,242347E+21     | 4,339918E+21      | 4,340007E+21      | 6,242579E+21      | 9,653178E+21      |
| 2937                      | 1,369694E+22  | 1,729013E+22   | 1,943099E+22   | 1,943088E+22    | 1,728959E+22     | 1,369624E+22     | 9,652665E+21     | 6,242252E+21     | 4,339865E+21      | 4,339971E+21      | 6,242564E+21      | 9,653088E+21      |
| 2938                      | 1,369664E+22  | 1,728945E+22   | 1,942987E+22   | 1,943007E+22    | 1,728973E+22     | 1,369688E+22     | 9,653359E+21     | 6,242833E+21     | 4,340223E+21      | 4,340067E+21      | 6,242372E+21      | 9,652715E+21      |
| 2939                      | 1,369637E+22  | 1,728969E+22   | 1,943065E+22   | 1,943070E+22    | 1,728999E+22     | 1,369684E+22     | 9,653074E+21     | 6,242657E+21     | 4,340325E+21      | 4,340422E+21      | 6,242882E+21      | 9,653229E+21      |
| 2940                      | 1,369672E+22  | 1,728972E+22   | 1,943034E+22   | 1,942996E+22    | 1,728898E+22     | 1,369620E+22     | 9,653035E+21     | 6,242910E+21     | 4,340604E+21      | 4,340581E+21      | 6,242860E+21      | 9,652974E+21      |

| 1                 | 2            | 3            | 4            | 5            | 6            | 7            | 8            | 9            | 10           | 11           | 12           | 13           |
|-------------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|
| Longitude $\odot$ | 0° - 30°     | 30° - 60°    | 60° - 90°    | 90° - 120°   | 120° - 150°  | 150° - 180°  | 180° - 210°  | 210° - 240°  | 240° - 270°  | 270° - 300°  | 300° - 330°  | 330° - 360°  |
| Years             |              |              |              |              |              |              |              |              |              |              |              |              |
| 2941              | 1,369617E+22 | 1,728880E+22 | 1,942932E+22 | 1,942961E+22 | 1,728931E+22 | 1,369678E+22 | 9,653613E+21 | 6,243391E+21 | 4,341016E+21 | 4,340944E+21 | 6,243132E+21 | 9,653139E+21 |
| 2942              | 1,369632E+22 | 1,728915E+22 | 1,942982E+22 | 1,942993E+22 | 1,728921E+22 | 1,369621E+22 | 9,653064E+21 | 6,243204E+21 | 4,341144E+21 | 4,341303E+21 | 6,243654E+21 | 9,653647E+21 |
| 2943              | 1,369652E+22 | 1,728878E+22 | 1,942884E+22 | 1,942865E+22 | 1,728843E+22 | 1,369621E+22 | 9,653423E+21 | 6,243619E+21 | 4,341450E+21 | 4,341390E+21 | 6,243490E+21 | 9,653289E+21 |
| 2944              | 1,369605E+22 | 1,728833E+22 | 1,942879E+22 | 1,942905E+22 | 1,728889E+22 | 1,369664E+22 | 9,653706E+21 | 6,243743E+21 | 4,341592E+21 | 4,341618E+21 | 6,243780E+21 | 9,653671E+21 |
| 2945              | 1,369664E+22 | 1,728910E+22 | 1,942934E+22 | 1,942908E+22 | 1,728832E+22 | 1,369581E+22 | 9,653200E+21 | 6,243594E+21 | 4,341610E+21 | 4,341726E+21 | 6,243926E+21 | 9,653679E+21 |
| 2946              | 1,369637E+22 | 1,728849E+22 | 1,942839E+22 | 1,942825E+22 | 1,728826E+22 | 1,369629E+22 | 9,653770E+21 | 6,244065E+21 | 4,341856E+21 | 4,341691E+21 | 6,243604E+21 | 9,653173E+21 |
| 2947              | 1,369587E+22 | 1,728842E+22 | 1,942911E+22 | 1,942933E+22 | 1,728906E+22 | 1,369658E+22 | 9,653559E+21 | 6,243747E+21 | 4,341715E+21 | 4,341783E+21 | 6,243914E+21 | 9,653657E+21 |
| 2948              | 1,369641E+22 | 1,728874E+22 | 1,942910E+22 | 1,942901E+22 | 1,728844E+22 | 1,369599E+22 | 9,653292E+21 | 6,243602E+21 | 4,341546E+21 | 4,341564E+21 | 6,243676E+21 | 9,653431E+21 |
| 2949              | 1,369613E+22 | 1,728816E+22 | 1,942822E+22 | 1,942852E+22 | 1,728874E+22 | 1,369665E+22 | 9,653835E+21 | 6,243846E+21 | 4,341526E+21 | 4,341392E+21 | 6,243442E+21 | 9,653264E+21 |
| 2950              | 1,369624E+22 | 1,728888E+22 | 1,942942E+22 | 1,942947E+22 | 1,728905E+22 | 1,369635E+22 | 9,653244E+21 | 6,243334E+21 | 4,341201E+21 | 4,341288E+21 | 6,243589E+21 | 9,653615E+21 |
| 2951              | 1,369662E+22 | 1,728908E+22 | 1,942928E+22 | 1,942891E+22 | 1,728838E+22 | 1,369607E+22 | 9,653237E+21 | 6,243302E+21 | 4,341035E+21 | 4,340949E+21 | 6,243105E+21 | 9,653069E+21 |
| 2952              | 1,369611E+22 | 1,728871E+22 | 1,942940E+22 | 1,942965E+22 | 1,728918E+22 | 1,369659E+22 | 9,653456E+21 | 6,243246E+21 | 4,340881E+21 | 4,340830E+21 | 6,243066E+21 | 9,653183E+21 |
| 2953              | 1,369656E+22 | 1,728957E+22 | 1,943031E+22 | 1,943028E+22 | 1,728928E+22 | 1,369605E+22 | 9,652778E+21 | 6,242763E+21 | 4,340597E+21 | 4,340746E+21 | 6,243189E+21 | 9,653346E+21 |
| 2954              | 1,369649E+22 | 1,728913E+22 | 1,942945E+22 | 1,942931E+22 | 1,728903E+22 | 1,369647E+22 | 9,653238E+21 | 6,243059E+21 | 4,340670E+21 | 4,340561E+21 | 6,242789E+21 | 9,652892E+21 |
| 2955              | 1,369609E+22 | 1,728895E+22 | 1,942988E+22 | 1,943020E+22 | 1,728979E+22 | 1,369694E+22 | 9,653332E+21 | 6,242940E+21 | 4,340607E+21 | 4,340650E+21 | 6,243023E+21 | 9,653305E+21 |
| 2956              | 1,369671E+22 | 1,728952E+22 | 1,943010E+22 | 1,943000E+22 | 1,728910E+22 | 1,369615E+22 | 9,652971E+21 | 6,242879E+21 | 4,340626E+21 | 4,340675E+21 | 6,243019E+21 | 9,653214E+21 |
| 2957              | 1,369647E+22 | 1,728895E+22 | 1,942904E+22 | 1,942902E+22 | 1,728890E+22 | 1,369656E+22 | 9,653577E+21 | 6,243441E+21 | 4,341018E+21 | 4,340866E+21 | 6,242985E+21 | 9,652944E+21 |
| 2958              | 1,369612E+22 | 1,728906E+22 | 1,942986E+22 | 1,942988E+22 | 1,728929E+22 | 1,369645E+22 | 9,653248E+21 | 6,243280E+21 | 4,341136E+21 | 4,341235E+21 | 6,243524E+21 | 9,653484E+21 |
| 2959              | 1,369643E+22 | 1,728894E+22 | 1,942933E+22 | 1,942903E+22 | 1,728837E+22 | 1,369594E+22 | 9,653192E+21 | 6,243473E+21 | 4,341401E+21 | 4,341423E+21 | 6,243563E+21 | 9,653313E+21 |
| 2960              | 1,369594E+22 | 1,728806E+22 | 1,942842E+22 | 1,942874E+22 | 1,728867E+22 | 1,369650E+22 | 9,653750E+21 | 6,243887E+21 | 4,341726E+21 | 4,341697E+21 | 6,243758E+21 | 9,653484E+21 |
| 2961              | 1,369627E+22 | 1,728864E+22 | 1,942894E+22 | 1,942899E+22 | 1,728859E+22 | 1,369601E+22 | 9,653264E+21 | 6,243701E+21 | 4,341813E+21 | 4,342006E+21 | 6,244226E+21 | 9,653915E+21 |
| 2962              | 1,369643E+22 | 1,728833E+22 | 1,942802E+22 | 1,942762E+22 | 1,728766E+22 | 1,369596E+22 | 9,653686E+21 | 6,244224E+21 | 4,342191E+21 | 4,342096E+21 | 6,243994E+21 | 9,653462E+21 |
| 2963              | 1,369587E+22 | 1,728789E+22 | 1,942813E+22 | 1,942830E+22 | 1,728835E+22 | 1,369645E+22 | 9,653937E+21 | 6,244347E+21 | 4,342348E+21 | 4,342323E+21 | 6,244232E+21 | 9,653702E+21 |
| 2964              | 1,369625E+22 | 1,728843E+22 | 1,942861E+22 | 1,942850E+22 | 1,728800E+22 | 1,369572E+22 | 9,653433E+21 | 6,244170E+21 | 4,342352E+21 | 4,342431E+21 | 6,244396E+21 | 9,653780E+21 |
| 2965              | 1,369606E+22 | 1,728779E+22 | 1,942751E+22 | 1,942742E+22 | 1,728775E+22 | 1,369614E+22 | 9,653966E+21 | 6,244574E+21 | 4,342546E+21 | 4,342406E+21 | 6,244185E+21 | 9,653432E+21 |
| 2966              | 1,369564E+22 | 1,728769E+22 | 1,942819E+22 | 1,942849E+22 | 1,728850E+22 | 1,369639E+22 | 9,653788E+21 | 6,244271E+21 | 4,342359E+21 | 4,342426E+21 | 6,244427E+21 | 9,653895E+21 |
| 2967              | 1,369623E+22 | 1,728809E+22 | 1,942811E+22 | 1,942802E+22 | 1,728779E+22 | 1,369581E+22 | 9,653513E+21 | 6,244107E+21 | 4,342178E+21 | 4,342194E+21 | 6,244171E+21 | 9,653651E+21 |
| 2968              | 1,369598E+22 | 1,728772E+22 | 1,942760E+22 | 1,942776E+22 | 1,728807E+22 | 1,369631E+22 | 9,653911E+21 | 6,244255E+21 | 4,342091E+21 | 4,341956E+21 | 6,243858E+21 | 9,653424E+21 |
| 2969              | 1,369613E+22 | 1,728854E+22 | 1,942889E+22 | 1,942883E+22 | 1,728853E+22 | 1,369608E+22 | 9,653315E+21 | 6,243698E+21 | 4,341738E+21 | 4,341860E+21 | 6,244035E+21 | 9,653747E+21 |
| 2970              | 1,369639E+22 | 1,728858E+22 | 1,942867E+22 | 1,942825E+22 | 1,728785E+22 | 1,369584E+22 | 9,653375E+21 | 6,243752E+21 | 4,341630E+21 | 4,341548E+21 | 6,243574E+21 | 9,653259E+21 |
| 2971              | 1,369590E+22 | 1,728814E+22 | 1,942869E+22 | 1,942907E+22 | 1,728890E+22 | 1,369652E+22 | 9,653604E+21 | 6,243692E+21 | 4,341489E+21 | 4,341433E+21 | 6,243513E+21 | 9,653339E+21 |
| 2972              | 1,369631E+22 | 1,728890E+22 | 1,942944E+22 | 1,942958E+22 | 1,728901E+22 | 1,369609E+22 | 9,653047E+21 | 6,243254E+21 | 4,341217E+21 | 4,341348E+21 | 6,243624E+21 | 9,653555E+21 |
| 2973              | 1,369643E+22 | 1,728865E+22 | 1,942858E+22 | 1,942828E+22 | 1,728831E+22 | 1,369627E+22 | 9,653491E+21 | 6,243599E+21 | 4,341339E+21 | 4,341226E+21 | 6,243308E+21 | 9,653138E+21 |
| 2974              | 1,369599E+22 | 1,728848E+22 | 1,942914E+22 | 1,942930E+22 | 1,728903E+22 | 1,369662E+22 | 9,653564E+21 | 6,243552E+21 | 4,341345E+21 | 4,341349E+21 | 6,243512E+21 | 9,653432E+21 |
| 2975              | 1,369644E+22 | 1,728894E+22 | 1,942931E+22 | 1,942913E+22 | 1,728842E+22 | 1,369587E+22 | 9,653157E+21 | 6,243466E+21 | 4,341411E+21 | 4,341464E+21 | 6,243603E+21 | 9,653363E+21 |
| 2976              | 1,369610E+22 | 1,728827E+22 | 1,942836E+22 | 1,942833E+22 | 1,728827E+22 | 1,369619E+22 | 9,653654E+21 | 6,243950E+21 | 4,341757E+21 | 4,341636E+21 | 6,243592E+21 | 9,653181E+21 |

| 1                 | 2            | 3            | 4            | 5            | 6            | 7            | 8            | 9            | 10           | 11           | 12           | 13           |
|-------------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|
| Longitude $\odot$ | 0° - 30°     | 30° - 60°    | 60° - 90°    | 90° - 120°   | 120° - 150°  | 150° - 180°  | 180° - 210°  | 210° - 240°  | 240° - 270°  | 270° - 300°  | 300° - 330°  | 330° - 360°  |
| Years             |              |              |              |              |              |              |              |              |              |              |              |              |
| 2977              | 1,369586E+22 | 1,728834E+22 | 1,942894E+22 | 1,942908E+22 | 1,728882E+22 | 1,369628E+22 | 9,653389E+21 | 6,243752E+21 | 4,341838E+21 | 4,341999E+21 | 6,244165E+21 | 9,653781E+21 |
| 2978              | 1,369621E+22 | 1,728819E+22 | 1,942825E+22 | 1,942796E+22 | 1,728768E+22 | 1,369578E+22 | 9,653469E+21 | 6,244060E+21 | 4,342142E+21 | 4,342171E+21 | 6,244169E+21 | 9,653641E+21 |
| 2979              | 1,369586E+22 | 1,728749E+22 | 1,942745E+22 | 1,942775E+22 | 1,728806E+22 | 1,369633E+22 | 9,654016E+21 | 6,244512E+21 | 4,342492E+21 | 4,342418E+21 | 6,244266E+21 | 9,653657E+21 |
| 2980              | 1,369609E+22 | 1,728811E+22 | 1,942814E+22 | 1,942815E+22 | 1,728806E+22 | 1,369590E+22 | 9,653556E+21 | 6,244333E+21 | 4,342596E+21 | 4,342730E+21 | 6,244701E+21 | 9,654054E+21 |
| 2981              | 1,369627E+22 | 1,728786E+22 | 1,942732E+22 | 1,942673E+22 | 1,728690E+22 | 1,369566E+22 | 9,653901E+21 | 6,244825E+21 | 4,342977E+21 | 4,342881E+21 | 6,244581E+21 | 9,653654E+21 |
| 2982              | 1,369560E+22 | 1,728726E+22 | 1,942741E+22 | 1,942764E+22 | 1,728780E+22 | 1,369617E+22 | 9,654136E+21 | 6,244950E+21 | 4,343116E+21 | 4,343079E+21 | 6,244796E+21 | 9,653872E+21 |
| 2983              | 1,369590E+22 | 1,728763E+22 | 1,942765E+22 | 1,942770E+22 | 1,728757E+22 | 1,369561E+22 | 9,653618E+21 | 6,244684E+21 | 4,343070E+21 | 4,343178E+21 | 6,244993E+21 | 9,654019E+21 |
| 2984              | 1,369576E+22 | 1,728705E+22 | 1,942663E+22 | 1,942658E+22 | 1,728714E+22 | 1,369592E+22 | 9,654112E+21 | 6,245009E+21 | 4,343150E+21 | 4,343040E+21 | 6,244711E+21 | 9,653719E+21 |
| 2985              | 1,369558E+22 | 1,728718E+22 | 1,942731E+22 | 1,942758E+22 | 1,728789E+22 | 1,369621E+22 | 9,653961E+21 | 6,244688E+21 | 4,342916E+21 | 4,343004E+21 | 6,244885E+21 | 9,654096E+21 |
| 2986              | 1,369613E+22 | 1,728765E+22 | 1,942736E+22 | 1,942709E+22 | 1,728704E+22 | 1,369552E+22 | 9,653688E+21 | 6,244594E+21 | 4,342788E+21 | 4,342780E+21 | 6,244597E+21 | 9,653809E+21 |
| 2987              | 1,369585E+22 | 1,728733E+22 | 1,942702E+22 | 1,942714E+22 | 1,728757E+22 | 1,369606E+22 | 9,654012E+21 | 6,244711E+21 | 4,342706E+21 | 4,342545E+21 | 6,244254E+21 | 9,653478E+21 |
| 2988              | 1,369584E+22 | 1,728801E+22 | 1,942829E+22 | 1,942834E+22 | 1,728825E+22 | 1,369599E+22 | 9,653465E+21 | 6,244142E+21 | 4,342341E+21 | 4,342445E+21 | 6,244449E+21 | 9,653888E+21 |
| 2989              | 1,369620E+22 | 1,728801E+22 | 1,942790E+22 | 1,942751E+22 | 1,728736E+22 | 1,369569E+22 | 9,653526E+21 | 6,244177E+21 | 4,342228E+21 | 4,342176E+21 | 6,244090E+21 | 9,653513E+21 |
| 2990              | 1,369576E+22 | 1,728756E+22 | 1,942788E+22 | 1,942831E+22 | 1,728837E+22 | 1,369637E+22 | 9,653848E+21 | 6,244199E+21 | 4,342100E+21 | 4,342029E+21 | 6,243961E+21 | 9,653520E+21 |
| 2991              | 1,369614E+22 | 1,728832E+22 | 1,942854E+22 | 1,942867E+22 | 1,728843E+22 | 1,369597E+22 | 9,653296E+21 | 6,243794E+21 | 4,341888E+21 | 4,342000E+21 | 6,244098E+21 | 9,653700E+21 |
| 2992              | 1,369620E+22 | 1,728816E+22 | 1,942796E+22 | 1,942753E+22 | 1,728761E+22 | 1,369597E+22 | 9,653638E+21 | 6,244101E+21 | 4,342007E+21 | 4,341890E+21 | 6,243798E+21 | 9,653300E+21 |
| 2993              | 1,369580E+22 | 1,728798E+22 | 1,942844E+22 | 1,942857E+22 | 1,728844E+22 | 1,369638E+22 | 9,653716E+21 | 6,244041E+21 | 4,342031E+21 | 4,342068E+21 | 6,244064E+21 | 9,653586E+21 |
| 2994              | 1,369612E+22 | 1,728824E+22 | 1,942845E+22 | 1,942830E+22 | 1,728779E+22 | 1,369562E+22 | 9,653353E+21 | 6,244041E+21 | 4,342173E+21 | 4,342238E+21 | 6,244224E+21 | 9,653642E+21 |
| 2995              | 1,369588E+22 | 1,728756E+22 | 1,942739E+22 | 1,942752E+22 | 1,728782E+22 | 1,369605E+22 | 9,653823E+21 | 6,244494E+21 | 4,342514E+21 | 4,342402E+21 | 6,244185E+21 | 9,653441E+21 |
| 2996              | 1,369568E+22 | 1,728766E+22 | 1,942792E+22 | 1,942813E+22 | 1,728829E+22 | 1,369622E+22 | 9,653683E+21 | 6,244345E+21 | 4,342590E+21 | 4,342730E+21 | 6,244721E+21 | 9,654086E+21 |
| 2997              | 1,369621E+22 | 1,728771E+22 | 1,942732E+22 | 1,942687E+22 | 1,728684E+22 | 1,369549E+22 | 9,653718E+21 | 6,244679E+21 | 4,342927E+21 | 4,342942E+21 | 6,244761E+21 | 9,653922E+21 |
| 2998              | 1,369579E+22 | 1,728706E+22 | 1,942675E+22 | 1,942690E+22 | 1,728729E+22 | 1,369598E+22 | 9,654229E+21 | 6,245150E+21 | 4,343294E+21 | 4,343184E+21 | 6,244791E+21 | 9,653773E+21 |
| 2999              | 1,369578E+22 | 1,728748E+22 | 1,942736E+22 | 1,942736E+22 | 1,728746E+22 | 1,369568E+22 | 9,653767E+21 | 6,244941E+21 | 4,343410E+21 | 4,343544E+21 | 6,245288E+21 | 9,654162E+21 |