

Analemmatic Sundial

Latitude: 51.0° N/S

Earliest Sunrise: 3:44 a.m. Latest Sunset: 8:16 p.m.
 Semi-Major Axis (E-W): 1000 mm Semi-Minor Axis (N-S): 777.1 mm
 Sunrise/Sunset Markers: X = ± 352.8 mm

| Local Time | | X | Y | Z | W | Local Time | | X | Y | Z | W |
|------------|-------|-------|-------|-------|-------|------------|------|--------|--------|--------|--------|
| 12:00 | | 0.0 | 777.1 | 777.1 | 0.0 | | | | | | |
| 11:55 | 12:05 | 21.8 | 777.0 | 777.3 | 21.8 | 8:25 | 3:35 | 806.4 | 459.5 | 928.2 | 866.7 |
| 11:50 | 12:10 | 43.6 | 776.4 | 777.6 | 43.6 | 8:20 | 3:40 | 819.2 | 445.8 | 932.6 | 883.6 |
| 11:45 | 12:15 | 65.4 | 775.5 | 778.2 | 65.4 | 8:15 | 3:45 | 831.5 | 431.8 | 936.9 | 900.4 |
| 11:40 | 12:20 | 87.2 | 774.2 | 779.1 | 87.2 | 8:10 | 3:50 | 843.4 | 417.6 | 941.1 | 916.8 |
| 11:35 | 12:25 | 108.9 | 772.5 | 780.2 | 109.0 | 8:05 | 3:55 | 854.9 | 403.2 | 945.2 | 933.1 |
| 11:30 | 12:30 | 130.5 | 770.5 | 781.5 | 130.7 | 8:00 | 4:00 | 866.0 | 388.6 | 949.2 | 949.2 |
| 11:25 | 12:35 | 152.1 | 768.1 | 783.0 | 152.4 | 7:55 | 4:05 | 876.7 | 373.8 | 953.1 | 965.1 |
| 11:20 | 12:40 | 173.6 | 765.3 | 784.8 | 174.0 | 7:50 | 4:10 | 887.0 | 358.8 | 956.8 | 980.7 |
| 11:15 | 12:45 | 195.1 | 762.2 | 786.8 | 195.7 | 7:45 | 4:15 | 896.9 | 343.7 | 960.5 | 996.1 |
| 11:10 | 12:50 | 216.4 | 758.7 | 789.0 | 217.2 | 7:40 | 4:20 | 906.3 | 328.4 | 964.0 | 1011.3 |
| 11:05 | 12:55 | 237.7 | 754.9 | 791.4 | 238.7 | 7:35 | 4:25 | 915.3 | 313.0 | 967.3 | 1026.3 |
| 11:00 | 1:00 | 258.8 | 750.7 | 794.0 | 260.2 | 7:30 | 4:30 | 923.9 | 297.4 | 970.6 | 1041.0 |
| 10:55 | 1:05 | 279.8 | 746.1 | 796.8 | 281.5 | 7:25 | 4:35 | 932.0 | 281.7 | 973.6 | 1055.5 |
| 10:50 | 1:10 | 300.7 | 741.2 | 799.9 | 302.8 | 7:20 | 4:40 | 939.7 | 265.8 | 976.6 | 1069.8 |
| 10:45 | 1:15 | 321.4 | 735.9 | 803.0 | 324.1 | 7:15 | 4:45 | 946.9 | 249.8 | 979.3 | 1083.9 |
| 10:40 | 1:20 | 342.0 | 730.3 | 806.4 | 345.2 | 7:10 | 4:50 | 953.7 | 233.7 | 981.9 | 1097.7 |
| 10:35 | 1:25 | 362.4 | 724.3 | 809.9 | 366.3 | 7:05 | 4:55 | 960.0 | 217.5 | 984.4 | 1111.3 |
| 10:30 | 1:30 | 382.7 | 718.0 | 813.6 | 387.2 | 7:00 | 5:00 | 965.9 | 201.1 | 986.6 | 1124.6 |
| 10:25 | 1:35 | 402.7 | 711.3 | 817.4 | 408.1 | 6:55 | 5:05 | 971.3 | 184.7 | 988.7 | 1137.8 |
| 10:20 | 1:40 | 422.6 | 704.3 | 821.4 | 428.8 | 6:50 | 5:10 | 976.3 | 168.2 | 990.7 | 1150.6 |
| 10:15 | 1:45 | 442.3 | 697.0 | 825.5 | 449.5 | 6:45 | 5:15 | 980.8 | 151.6 | 992.4 | 1163.3 |
| 10:10 | 1:50 | 461.7 | 689.3 | 829.7 | 470.0 | 6:40 | 5:20 | 984.8 | 134.9 | 994.0 | 1175.7 |
| 10:05 | 1:55 | 481.0 | 681.3 | 834.0 | 490.4 | 6:35 | 5:25 | 988.4 | 118.2 | 995.4 | 1187.9 |
| 10:00 | 2:00 | 500.0 | 673.0 | 838.4 | 510.7 | 6:30 | 5:30 | 991.4 | 101.4 | 996.6 | 1199.8 |
| 9:55 | 2:05 | 518.8 | 664.4 | 842.9 | 530.9 | 6:25 | 5:35 | 994.1 | 84.6 | 997.7 | 1211.5 |
| 9:50 | 2:10 | 537.3 | 655.4 | 847.5 | 550.9 | 6:20 | 5:40 | 996.2 | 67.7 | 998.5 | 1223.0 |
| 9:45 | 2:15 | 555.6 | 646.2 | 852.2 | 570.8 | 6:15 | 5:45 | 997.9 | 50.8 | 999.2 | 1234.2 |
| 9:40 | 2:20 | 573.6 | 636.6 | 856.9 | 590.5 | 6:10 | 5:50 | 999.0 | 33.9 | 999.6 | 1245.2 |
| 9:35 | 2:25 | 591.3 | 626.7 | 861.6 | 610.1 | 6:05 | 5:55 | 999.8 | 17.0 | 999.9 | 1256.0 |
| 9:30 | 2:30 | 608.8 | 616.6 | 866.4 | 629.6 | 6:00 | 6:00 | 1000.0 | 0.0 | 1000.0 | 1266.5 |
| 9:25 | 2:35 | 625.9 | 606.1 | 871.3 | 648.9 | 5:55 | 6:05 | 999.8 | -17.0 | 999.9 | 1276.8 |
| 9:20 | 2:40 | 642.8 | 595.3 | 876.1 | 668.0 | 5:50 | 6:10 | 999.0 | -33.9 | 999.6 | 1286.8 |
| 9:15 | 2:45 | 659.3 | 584.3 | 881.0 | 687.0 | 5:45 | 6:15 | 997.9 | -50.8 | 999.2 | 1296.6 |
| 9:10 | 2:50 | 675.6 | 573.0 | 885.8 | 705.8 | 5:40 | 6:20 | 996.2 | -67.7 | 998.5 | 1306.2 |
| 9:05 | 2:55 | 691.5 | 561.4 | 890.7 | 724.4 | 5:35 | 6:25 | 994.1 | -84.6 | 997.7 | 1315.6 |
| 9:00 | 3:00 | 707.1 | 549.5 | 895.5 | 742.8 | 5:30 | 6:30 | 991.4 | -101.4 | 996.6 | 1324.7 |
| 8:55 | 3:05 | 722.4 | 537.4 | 900.3 | 761.1 | 5:25 | 6:35 | 988.4 | -118.2 | 995.4 | 1333.6 |
| 8:50 | 3:10 | 737.3 | 525.0 | 905.1 | 779.2 | 5:20 | 6:40 | 984.8 | -134.9 | 994.0 | 1342.3 |
| 8:45 | 3:15 | 751.8 | 512.4 | 909.8 | 797.1 | 5:15 | 6:45 | 980.8 | -151.6 | 992.4 | 1350.8 |
| 8:40 | 3:20 | 766.0 | 499.5 | 914.5 | 814.8 | 5:10 | 6:50 | 976.3 | -168.2 | 990.7 | 1359.0 |
| 8:35 | 3:25 | 779.9 | 486.4 | 919.2 | 832.3 | 5:05 | 6:55 | 971.3 | -184.7 | 988.7 | 1367.0 |
| 8:30 | 3:30 | 793.4 | 473.1 | 923.7 | 849.6 | 5:00 | 7:00 | 965.9 | -201.1 | 986.6 | 1374.8 |

Analemmatic Sundial

Latitude: 51.0° N/S

Earliest Sunrise: 3:44 a.m. Latest Sunset: 8:16 p.m.
 Semi-Major Axis (E-W): 1000 mm Semi-Minor Axis (N-S): 777.1 mm
 Sunrise/Sunset Markers: X = ± 352.8 mm

| Local Time | | X | Y | Z | W |
|------------|------|-------|--------|-------|--------|
| 4:55 | 7:05 | 960.0 | -217.5 | 984.4 | 1382.4 |
| 4:50 | 7:10 | 953.7 | -233.7 | 981.9 | 1389.7 |
| 4:45 | 7:15 | 946.9 | -249.8 | 979.3 | 1396.9 |
| 4:40 | 7:20 | 939.7 | -265.8 | 976.6 | 1403.8 |
| 4:35 | 7:25 | 932.0 | -281.7 | 973.6 | 1410.6 |
| 4:30 | 7:30 | 923.9 | -297.4 | 970.6 | 1417.1 |
| 4:25 | 7:35 | 915.3 | -313.0 | 967.3 | 1423.4 |
| 4:20 | 7:40 | 906.3 | -328.4 | 964.0 | 1429.6 |
| 4:15 | 7:45 | 896.9 | -343.7 | 960.5 | 1435.5 |
| 4:10 | 7:50 | 887.0 | -358.8 | 956.8 | 1441.3 |
| 4:05 | 7:55 | 876.7 | -373.8 | 953.1 | 1446.8 |
| 4:00 | 8:00 | 866.0 | -388.6 | 949.2 | 1452.2 |
| 3:55 | 8:05 | 854.9 | -403.2 | 945.2 | 1457.4 |
| 3:50 | 8:10 | 843.4 | -417.6 | 941.1 | 1462.4 |
| 3:45 | 8:15 | 831.5 | -431.8 | 936.9 | 1467.2 |
| 3:40 | 8:20 | 819.2 | -445.8 | 932.6 | 1471.9 |
| 3:35 | 8:25 | 806.4 | -459.5 | 928.2 | 1476.4 |
| 3:30 | 8:30 | 793.4 | -473.1 | 923.7 | 1480.7 |

Analematic Sundial

Latitude: 51.0° N/S

Date Scale

Semi-Major Axis (E-W): 1000 mm Semi-Minor Axis (N-S): 777.1 mm

| Month | Date | | | | | | | | | | |
|-----------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| | 1 | 5 | 6 | 10 | 11 | 15 | 16 | 20 | 21 | 25 | 26 |
| January | -267.0 | -262.0 | -260.4 | -253.5 | -251.5 | -242.8 | -240.4 | -230.2 | -227.4 | -215.8 | -212.8 |
| February | -193.1 | -179.0 | -175.4 | -160.4 | -156.7 | -141.0 | -137.0 | -120.8 | -116.8 | -100.1 | -95.8 |
| March | -83.2 | -66.1 | -61.8 | -44.6 | -40.3 | -22.9 | -18.6 | -1.1 | 3.2 | 20.5 | 24.8 |
| April | 50.6 | 67.6 | 71.8 | 88.4 | 92.6 | 108.9 | 112.9 | 128.8 | 132.7 | 148.1 | 151.8 |
| May | 170.0 | 184.0 | 187.4 | 200.4 | 203.5 | 215.5 | 218.3 | 229.2 | 231.8 | 241.3 | 243.5 |
| June | 255.3 | 261.4 | 262.9 | 267.4 | 268.4 | 271.3 | 271.7 | 272.7 | 272.9 | 270.9 | 271.8 |
| July | 268.4 | 264.2 | 262.9 | 257.1 | 255.4 | 247.9 | 245.9 | 236.9 | 234.5 | 224.3 | 221.6 |
| August | 204.2 | 191.6 | 188.3 | 174.8 | 171.3 | 157.0 | 153.3 | 138.4 | 134.6 | 119.0 | 115.0 |
| September | 91.0 | 74.6 | 70.5 | 53.7 | 49.5 | 32.7 | 28.5 | 11.4 | 7.1 | -10.0 | -14.3 |
| October | -35.6 | -52.7 | -56.9 | -73.9 | -78.1 | -94.8 | -99.0 | -115.4 | -119.5 | -135.5 | -139.4 |
| November | -162.4 | -177.1 | -180.7 | -194.6 | -197.9 | -210.8 | -213.9 | -225.6 | -228.3 | -238.7 | -241.2 |
| December | -252.0 | -259.3 | -260.8 | -266.1 | -267.3 | -270.6 | -271.3 | -272.7 | -272.9 | -272.2 | -271.8 |

Northern Hemisphere

| Month | Date | | | | | | | | | | |
|-----------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| | 1 | 5 | 6 | 10 | 11 | 15 | 16 | 20 | 21 | 25 | 26 |
| January | 267.0 | 262.0 | 260.4 | 253.5 | 251.5 | 242.8 | 240.4 | 230.2 | 227.4 | 215.8 | 212.8 |
| February | 193.1 | 179.0 | 175.4 | 160.4 | 156.7 | 141.0 | 137.0 | 120.8 | 116.8 | 100.1 | 95.8 |
| March | 83.2 | 66.1 | 61.8 | 44.6 | 40.3 | 22.9 | 18.6 | 1.1 | -3.2 | -20.5 | -24.8 |
| April | -50.6 | -67.6 | -71.8 | -88.4 | -92.6 | -108.9 | -112.9 | -128.8 | -132.7 | -148.1 | -151.8 |
| May | -170.0 | -184.0 | -187.4 | -200.4 | -203.5 | -215.5 | -218.3 | -229.2 | -231.8 | -241.3 | -243.5 |
| June | -255.3 | -261.4 | -262.9 | -267.4 | -268.4 | -271.3 | -271.7 | -272.7 | -272.9 | -270.9 | -271.8 |
| July | -268.4 | -264.2 | -262.9 | -257.1 | -255.4 | -247.9 | -245.9 | -236.9 | -234.5 | -224.3 | -221.6 |
| August | -204.2 | -191.6 | -188.3 | -174.8 | -171.3 | -157.0 | -153.3 | -138.4 | -134.6 | -119.0 | -115.0 |
| September | -91.0 | -74.6 | -70.5 | -53.7 | -49.5 | -32.7 | -28.5 | -11.4 | -7.1 | 10.0 | 14.3 |
| October | 35.6 | 52.7 | 56.9 | 73.9 | 78.1 | 94.8 | 99.0 | 115.4 | 119.5 | 135.5 | 139.4 |
| November | 162.4 | 177.1 | 180.7 | 194.6 | 197.9 | 210.8 | 213.9 | 225.6 | 228.3 | 238.7 | 241.2 |
| December | 252.0 | 259.3 | 260.8 | 266.1 | 267.3 | 270.6 | 271.3 | 272.7 | 272.9 | 272.2 | 271.8 |

Southern Hemisphere

The shaded "Date" boxes identify the two extremes of the "Date Scale" that occur on the Summer and Winter Solstices.

A number of "Date Scale" configurations are available including the following "Date Line" combinations:

- | | | |
|---------|------------|--------------------|
| a) 1 | c) 1,10,20 | e) 1,5,10,15,20,25 |
| b) 1,15 | d) 1,11,21 | f) 1,6,11,16,21,26 |

Analemmatic Sundial

Latitude: 51.0° N/S

Earliest Sunrise: 3:44 a.m. Latest Sunset: 8:16 p.m.
 Semi-Major Axis (E-W): 1500 mm Semi-Minor Axis (N-S): 1165.7 mm
 Sunrise/Sunset Markers: X = ± 529.2 mm

| Local Time | | X | Y | Z | W | Local Time | | X | Y | Z | W |
|------------|-------|--------|--------|--------|--------|------------|------|--------|--------|--------|--------|
| 12:00 | | 0.0 | 1165.7 | 1165.7 | 0.0 | | | | | | |
| 11:55 | 12:05 | 32.7 | 1165.4 | 1165.9 | 32.7 | 8:25 | 3:35 | 1209.7 | 689.3 | 1392.3 | 1300.1 |
| 11:50 | 12:10 | 65.4 | 1164.6 | 1166.4 | 65.4 | 8:20 | 3:40 | 1228.7 | 668.6 | 1398.9 | 1325.5 |
| 11:45 | 12:15 | 98.1 | 1163.2 | 1167.4 | 98.1 | 8:15 | 3:45 | 1247.2 | 647.6 | 1405.3 | 1350.5 |
| 11:40 | 12:20 | 130.7 | 1161.3 | 1168.6 | 130.8 | 8:10 | 3:50 | 1265.1 | 626.3 | 1411.6 | 1375.3 |
| 11:35 | 12:25 | 163.3 | 1158.8 | 1170.2 | 163.4 | 8:05 | 3:55 | 1282.4 | 604.7 | 1417.8 | 1399.7 |
| 11:30 | 12:30 | 195.8 | 1155.7 | 1172.2 | 196.0 | 8:00 | 4:00 | 1299.0 | 582.9 | 1423.8 | 1423.8 |
| 11:25 | 12:35 | 228.2 | 1152.2 | 1174.5 | 228.6 | 7:55 | 4:05 | 1315.1 | 560.7 | 1429.6 | 1447.6 |
| 11:20 | 12:40 | 260.5 | 1148.0 | 1177.2 | 261.1 | 7:50 | 4:10 | 1330.5 | 538.3 | 1435.3 | 1471.0 |
| 11:15 | 12:45 | 292.6 | 1143.3 | 1180.2 | 293.5 | 7:45 | 4:15 | 1345.3 | 515.6 | 1440.7 | 1494.2 |
| 11:10 | 12:50 | 324.7 | 1138.1 | 1183.5 | 325.8 | 7:40 | 4:20 | 1359.5 | 492.7 | 1446.0 | 1517.0 |
| 11:05 | 12:55 | 356.5 | 1132.3 | 1187.1 | 358.1 | 7:35 | 4:25 | 1373.0 | 469.5 | 1451.0 | 1539.4 |
| 11:00 | 1:00 | 388.2 | 1126.0 | 1191.0 | 390.3 | 7:30 | 4:30 | 1385.8 | 446.1 | 1455.9 | 1561.5 |
| 10:55 | 1:05 | 419.7 | 1119.1 | 1195.3 | 422.3 | 7:25 | 4:35 | 1398.0 | 422.5 | 1460.5 | 1583.3 |
| 10:50 | 1:10 | 451.1 | 1111.8 | 1199.8 | 454.3 | 7:20 | 4:40 | 1409.5 | 398.7 | 1464.8 | 1604.7 |
| 10:45 | 1:15 | 482.2 | 1103.9 | 1204.6 | 486.1 | 7:15 | 4:45 | 1420.4 | 374.7 | 1469.0 | 1625.8 |
| 10:40 | 1:20 | 513.0 | 1095.4 | 1209.6 | 517.8 | 7:10 | 4:50 | 1430.6 | 350.5 | 1472.9 | 1646.5 |
| 10:35 | 1:25 | 543.7 | 1086.5 | 1214.9 | 549.4 | 7:05 | 4:55 | 1440.1 | 326.2 | 1476.6 | 1666.9 |
| 10:30 | 1:30 | 574.0 | 1077.0 | 1220.4 | 580.8 | 7:00 | 5:00 | 1448.9 | 301.7 | 1480.0 | 1686.9 |
| 10:25 | 1:35 | 604.1 | 1067.0 | 1226.1 | 612.1 | 6:55 | 5:05 | 1457.0 | 277.1 | 1483.1 | 1706.6 |
| 10:20 | 1:40 | 633.9 | 1056.5 | 1232.1 | 643.3 | 6:50 | 5:10 | 1464.4 | 252.3 | 1486.0 | 1726.0 |
| 10:15 | 1:45 | 663.4 | 1045.5 | 1238.2 | 674.2 | 6:45 | 5:15 | 1471.2 | 227.4 | 1488.7 | 1744.9 |
| 10:10 | 1:50 | 692.6 | 1034.0 | 1244.5 | 705.0 | 6:40 | 5:20 | 1477.2 | 202.4 | 1491.0 | 1763.5 |
| 10:05 | 1:55 | 721.5 | 1022.0 | 1251.0 | 735.7 | 6:35 | 5:25 | 1482.5 | 177.3 | 1493.1 | 1781.8 |
| 10:00 | 2:00 | 750.0 | 1009.5 | 1257.6 | 766.1 | 6:30 | 5:30 | 1487.2 | 152.2 | 1494.9 | 1799.7 |
| 9:55 | 2:05 | 778.2 | 996.6 | 1264.4 | 796.3 | 6:25 | 5:35 | 1491.1 | 126.9 | 1496.5 | 1817.3 |
| 9:50 | 2:10 | 805.9 | 983.2 | 1271.3 | 826.4 | 6:20 | 5:40 | 1494.3 | 101.6 | 1497.7 | 1834.5 |
| 9:45 | 2:15 | 833.4 | 969.3 | 1278.3 | 856.2 | 6:15 | 5:45 | 1496.8 | 76.2 | 1498.7 | 1851.3 |
| 9:40 | 2:20 | 860.4 | 954.9 | 1285.3 | 885.8 | 6:10 | 5:50 | 1498.6 | 50.8 | 1499.4 | 1867.8 |
| 9:35 | 2:25 | 887.0 | 940.1 | 1292.5 | 915.2 | 6:05 | 5:55 | 1499.6 | 25.4 | 1499.9 | 1883.9 |
| 9:30 | 2:30 | 913.1 | 924.8 | 1299.7 | 944.4 | 6:00 | 6:00 | 1500.0 | 0.0 | 1500.0 | 1899.7 |
| 9:25 | 2:35 | 938.9 | 909.1 | 1306.9 | 973.3 | 5:55 | 6:05 | 1499.6 | -25.4 | 1499.9 | 1915.1 |
| 9:20 | 2:40 | 964.2 | 893.0 | 1314.2 | 1002.0 | 5:50 | 6:10 | 1498.6 | -50.8 | 1499.4 | 1930.2 |
| 9:15 | 2:45 | 989.0 | 876.4 | 1321.5 | 1030.5 | 5:45 | 6:15 | 1496.8 | -76.2 | 1498.7 | 1945.0 |
| 9:10 | 2:50 | 1013.4 | 859.5 | 1328.8 | 1058.7 | 5:40 | 6:20 | 1494.3 | -101.6 | 1497.7 | 1959.3 |
| 9:05 | 2:55 | 1037.3 | 842.1 | 1336.0 | 1086.6 | 5:35 | 6:25 | 1491.1 | -126.9 | 1496.5 | 1973.4 |
| 9:00 | 3:00 | 1060.7 | 824.3 | 1343.3 | 1114.3 | 5:30 | 6:30 | 1487.2 | -152.2 | 1494.9 | 1987.1 |
| 8:55 | 3:05 | 1083.5 | 806.1 | 1350.5 | 1141.7 | 5:25 | 6:35 | 1482.5 | -177.3 | 1493.1 | 2000.4 |
| 8:50 | 3:10 | 1105.9 | 787.5 | 1357.7 | 1168.8 | 5:20 | 6:40 | 1477.2 | -202.4 | 1491.0 | 2013.4 |
| 8:45 | 3:15 | 1127.8 | 768.6 | 1364.8 | 1195.6 | 5:15 | 6:45 | 1471.2 | -227.4 | 1488.7 | 2026.1 |
| 8:40 | 3:20 | 1149.1 | 749.3 | 1371.8 | 1222.2 | 5:10 | 6:50 | 1464.4 | -252.3 | 1486.0 | 2038.5 |
| 8:35 | 3:25 | 1169.8 | 729.7 | 1378.7 | 1248.5 | 5:05 | 6:55 | 1457.0 | -277.1 | 1483.1 | 2050.5 |
| 8:30 | 3:30 | 1190.0 | 709.6 | 1385.6 | 1274.4 | 5:00 | 7:00 | 1448.9 | -301.7 | 1480.0 | 2062.2 |

Analemmatic Sundial

Latitude: 51.0° N/S

Earliest Sunrise: 3:44 a.m. Latest Sunset: 8:16 p.m.
 Semi-Major Axis (E-W): 1500 mm Semi-Minor Axis (N-S): 1165.7 mm
 Sunrise/Sunset Markers: X = ± 529.2 mm

| Local Time | | X | Y | Z | W |
|------------|------|--------|--------|--------|--------|
| 4:55 | 7:05 | 1440.1 | -326.2 | 1476.6 | 2073.6 |
| 4:50 | 7:10 | 1430.6 | -350.5 | 1472.9 | 2084.6 |
| 4:45 | 7:15 | 1420.4 | -374.7 | 1469.0 | 2095.3 |
| 4:40 | 7:20 | 1409.5 | -398.7 | 1464.8 | 2105.8 |
| 4:35 | 7:25 | 1398.0 | -422.5 | 1460.5 | 2115.9 |
| 4:30 | 7:30 | 1385.8 | -446.1 | 1455.9 | 2125.7 |
| 4:25 | 7:35 | 1373.0 | -469.5 | 1451.0 | 2135.2 |
| 4:20 | 7:40 | 1359.5 | -492.7 | 1446.0 | 2144.4 |
| 4:15 | 7:45 | 1345.3 | -515.6 | 1440.7 | 2153.3 |
| 4:10 | 7:50 | 1330.5 | -538.3 | 1435.3 | 2161.9 |
| 4:05 | 7:55 | 1315.1 | -560.7 | 1429.6 | 2170.2 |
| 4:00 | 8:00 | 1299.0 | -582.9 | 1423.8 | 2178.3 |
| 3:55 | 8:05 | 1282.4 | -604.7 | 1417.8 | 2186.1 |
| 3:50 | 8:10 | 1265.1 | -626.3 | 1411.6 | 2193.6 |
| 3:45 | 8:15 | 1247.2 | -647.6 | 1405.3 | 2200.9 |
| 3:40 | 8:20 | 1228.7 | -668.6 | 1398.9 | 2207.9 |
| 3:35 | 8:25 | 1209.7 | -689.3 | 1392.3 | 2214.6 |
| 3:30 | 8:30 | 1190.0 | -709.6 | 1385.6 | 2221.1 |

Analemmatic Sundial

Latitude: 51.0° N/S

Date Scale

Semi-Major Axis (E-W): 1500 mm Semi-Minor Axis (N-S): 1165.7 mm

| Month | Date | | | | | | | | | | |
|-----------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| | 1 | 5 | 6 | 10 | 11 | 15 | 16 | 20 | 21 | 25 | 26 |
| January | -400.5 | -392.9 | -390.6 | -380.2 | -377.2 | -364.3 | -360.7 | -345.3 | -341.2 | -323.7 | -319.2 |
| February | -289.7 | -268.5 | -263.0 | -240.6 | -235.0 | -211.5 | -205.5 | -181.3 | -175.1 | -150.2 | -143.8 |
| March | -124.8 | -99.2 | -92.7 | -66.8 | -60.4 | -34.3 | -27.9 | -1.6 | 4.8 | 30.8 | 37.3 |
| April | 76.0 | 101.4 | 107.7 | 132.7 | 138.9 | 163.4 | 169.3 | 193.3 | 199.1 | 222.1 | 227.7 |
| May | 255.1 | 276.0 | 281.1 | 300.5 | 305.3 | 323.2 | 327.4 | 343.8 | 347.7 | 362.0 | 365.2 |
| June | 382.9 | 392.2 | 394.3 | 401.1 | 402.6 | 406.9 | 407.5 | 409.1 | 409.3 | 406.3 | 407.7 |
| July | 402.6 | 396.2 | 394.3 | 385.6 | 383.1 | 371.8 | 368.8 | 355.4 | 351.8 | 336.5 | 332.4 |
| August | 306.4 | 287.3 | 282.5 | 262.1 | 257.0 | 235.5 | 229.9 | 207.5 | 201.9 | 178.5 | 172.6 |
| September | 136.5 | 111.9 | 105.7 | 80.6 | 74.3 | 49.0 | 42.7 | 17.1 | 10.7 | -15.0 | -21.4 |
| October | -53.4 | -79.1 | -85.4 | -110.9 | -117.1 | -142.3 | -148.5 | -173.1 | -179.2 | -203.2 | -209.1 |
| November | -243.6 | -265.7 | -271.0 | -291.8 | -296.9 | -316.2 | -320.8 | -338.4 | -342.5 | -358.0 | -361.8 |
| December | -377.9 | -388.9 | -391.2 | -399.1 | -400.9 | -406.0 | -406.9 | -409.1 | -409.3 | -408.3 | -407.7 |

Northern Hemisphere

| Month | Date | | | | | | | | | | |
|-----------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| | 1 | 5 | 6 | 10 | 11 | 15 | 16 | 20 | 21 | 25 | 26 |
| January | 400.5 | 392.9 | 390.6 | 380.2 | 377.2 | 364.3 | 360.7 | 345.3 | 341.2 | 323.7 | 319.2 |
| February | 289.7 | 268.5 | 263.0 | 240.6 | 235.0 | 211.5 | 205.5 | 181.3 | 175.1 | 150.2 | 143.8 |
| March | 124.8 | 99.2 | 92.7 | 66.8 | 60.4 | 34.3 | 27.9 | 1.6 | -4.8 | -30.8 | -37.3 |
| April | -76.0 | -101.4 | -107.7 | -132.7 | -138.9 | -163.4 | -169.3 | -193.3 | -199.1 | -222.1 | -227.7 |
| May | -255.1 | -276.0 | -281.1 | -300.5 | -305.3 | -323.2 | -327.4 | -343.8 | -347.7 | -362.0 | -365.2 |
| June | -382.9 | -392.2 | -394.3 | -401.1 | -402.6 | -406.9 | -407.5 | -409.1 | -409.3 | -406.3 | -407.7 |
| July | -402.6 | -396.2 | -394.3 | -385.6 | -383.1 | -371.8 | -368.8 | -355.4 | -351.8 | -336.5 | -332.4 |
| August | -306.4 | -287.3 | -282.5 | -262.1 | -257.0 | -235.5 | -229.9 | -207.5 | -201.9 | -178.5 | -172.6 |
| September | -136.5 | -111.9 | -105.7 | -80.6 | -74.3 | -49.0 | -42.7 | -17.1 | -10.7 | 15.0 | 21.4 |
| October | 53.4 | 79.1 | 85.4 | 110.9 | 117.1 | 142.3 | 148.5 | 173.1 | 179.2 | 203.2 | 209.1 |
| November | 243.6 | 265.7 | 271.0 | 291.8 | 296.9 | 316.2 | 320.8 | 338.4 | 342.5 | 358.0 | 361.8 |
| December | 377.9 | 388.9 | 391.2 | 399.1 | 400.9 | 406.0 | 406.9 | 409.1 | 409.3 | 408.3 | 407.7 |

Southern Hemisphere

The shaded "Date" boxes identify the two extremes of the "Date Scale" that occur on the Summer and Winter Solstices.

A number of "Date Scale" configurations are available including the following "Date Line" combinations:

- | | | |
|---------|------------|--------------------|
| a) 1 | c) 1,10,20 | e) 1,5,10,15,20,25 |
| b) 1,15 | d) 1,11,21 | f) 1,6,11,16,21,26 |

Analemmatic Sundial

Latitude: 51.0° N/S

Earliest Sunrise: 3:44 a.m. Latest Sunset: 8:16 p.m.
 Semi-Major Axis (E-W): 2000 mm Semi-Minor Axis (N-S): 1554.3 mm
 Sunrise/Sunset Markers: X = ± 705.6 mm

| Local Time | | X | Y | Z | W | Local Time | | X | Y | Z | W |
|------------|-------|--------|--------|--------|--------|------------|------|--------|--------|--------|--------|
| 12:00 | | 0.0 | 1554.3 | 1554.3 | 0.0 | | | | | | |
| 11:55 | 12:05 | 43.6 | 1553.9 | 1554.5 | 43.6 | 8:25 | 3:35 | 1612.9 | 919.1 | 1856.4 | 1733.5 |
| 11:50 | 12:10 | 87.2 | 1552.8 | 1555.3 | 87.3 | 8:20 | 3:40 | 1638.3 | 891.5 | 1865.2 | 1767.3 |
| 11:45 | 12:15 | 130.8 | 1551.0 | 1556.5 | 130.8 | 8:15 | 3:45 | 1662.9 | 863.5 | 1873.8 | 1800.7 |
| 11:40 | 12:20 | 174.3 | 1548.4 | 1558.2 | 174.4 | 8:10 | 3:50 | 1686.8 | 835.1 | 1882.2 | 1833.7 |
| 11:35 | 12:25 | 217.7 | 1545.1 | 1560.3 | 217.9 | 8:05 | 3:55 | 1709.8 | 806.3 | 1890.4 | 1866.3 |
| 11:30 | 12:30 | 261.1 | 1541.0 | 1563.0 | 261.4 | 8:00 | 4:00 | 1732.1 | 777.1 | 1898.4 | 1898.4 |
| 11:25 | 12:35 | 304.2 | 1536.2 | 1566.0 | 304.8 | 7:55 | 4:05 | 1753.5 | 747.6 | 1906.2 | 1930.1 |
| 11:20 | 12:40 | 347.3 | 1530.7 | 1569.6 | 348.1 | 7:50 | 4:10 | 1774.0 | 717.7 | 1913.7 | 1961.4 |
| 11:15 | 12:45 | 390.2 | 1524.4 | 1573.6 | 391.3 | 7:45 | 4:15 | 1793.7 | 687.4 | 1921.0 | 1992.2 |
| 11:10 | 12:50 | 432.9 | 1517.4 | 1578.0 | 434.4 | 7:40 | 4:20 | 1812.6 | 656.9 | 1928.0 | 2022.6 |
| 11:05 | 12:55 | 475.4 | 1509.7 | 1582.8 | 477.5 | 7:35 | 4:25 | 1830.6 | 626.0 | 1934.7 | 2052.5 |
| 11:00 | 1:00 | 517.6 | 1501.3 | 1588.1 | 520.3 | 7:30 | 4:30 | 1847.8 | 594.8 | 1941.1 | 2082.0 |
| 10:55 | 1:05 | 559.7 | 1492.2 | 1593.7 | 563.1 | 7:25 | 4:35 | 1864.0 | 563.3 | 1947.3 | 2111.1 |
| 10:50 | 1:10 | 601.4 | 1482.4 | 1599.7 | 605.7 | 7:20 | 4:40 | 1879.4 | 531.6 | 1953.1 | 2139.6 |
| 10:45 | 1:15 | 642.9 | 1471.8 | 1606.1 | 648.1 | 7:15 | 4:45 | 1893.9 | 499.6 | 1958.7 | 2167.7 |
| 10:40 | 1:20 | 684.0 | 1460.6 | 1612.8 | 690.4 | 7:10 | 4:50 | 1907.4 | 467.4 | 1963.9 | 2195.4 |
| 10:35 | 1:25 | 724.9 | 1448.6 | 1619.9 | 732.5 | 7:05 | 4:55 | 1920.1 | 434.9 | 1968.7 | 2222.6 |
| 10:30 | 1:30 | 765.4 | 1436.0 | 1627.2 | 774.5 | 7:00 | 5:00 | 1931.9 | 402.3 | 1973.3 | 2249.3 |
| 10:25 | 1:35 | 805.5 | 1422.7 | 1634.9 | 816.2 | 6:55 | 5:05 | 1942.7 | 369.4 | 1977.5 | 2275.5 |
| 10:20 | 1:40 | 845.2 | 1408.7 | 1642.8 | 857.7 | 6:50 | 5:10 | 1952.6 | 336.4 | 1981.4 | 2301.3 |
| 10:15 | 1:45 | 884.6 | 1394.0 | 1651.0 | 899.0 | 6:45 | 5:15 | 1961.6 | 303.2 | 1984.9 | 2326.6 |
| 10:10 | 1:50 | 923.5 | 1378.7 | 1659.4 | 940.0 | 6:40 | 5:20 | 1969.6 | 269.9 | 1988.0 | 2351.4 |
| 10:05 | 1:55 | 962.0 | 1362.7 | 1668.0 | 980.9 | 6:35 | 5:25 | 1976.7 | 236.4 | 1990.8 | 2375.7 |
| 10:00 | 2:00 | 1000.0 | 1346.1 | 1676.9 | 1021.5 | 6:30 | 5:30 | 1982.9 | 202.9 | 1993.2 | 2399.6 |
| 9:55 | 2:05 | 1037.5 | 1328.8 | 1685.9 | 1061.8 | 6:25 | 5:35 | 1988.1 | 169.2 | 1995.3 | 2423.0 |
| 9:50 | 2:10 | 1074.6 | 1310.9 | 1695.0 | 1101.8 | 6:20 | 5:40 | 1992.4 | 135.5 | 1997.0 | 2446.0 |
| 9:45 | 2:15 | 1111.1 | 1292.3 | 1704.3 | 1141.6 | 6:15 | 5:45 | 1995.7 | 101.7 | 1998.3 | 2468.4 |
| 9:40 | 2:20 | 1147.2 | 1273.2 | 1713.8 | 1181.1 | 6:10 | 5:50 | 1998.1 | 67.8 | 1999.2 | 2490.4 |
| 9:35 | 2:25 | 1182.6 | 1253.5 | 1723.3 | 1220.3 | 6:05 | 5:55 | 1999.5 | 33.9 | 1999.8 | 2511.9 |
| 9:30 | 2:30 | 1217.5 | 1233.1 | 1732.9 | 1259.2 | 6:00 | 6:00 | 2000.0 | 0.0 | 2000.0 | 2532.9 |
| 9:25 | 2:35 | 1251.8 | 1212.2 | 1742.5 | 1297.8 | 5:55 | 6:05 | 1999.5 | -33.9 | 1999.8 | 2553.5 |
| 9:20 | 2:40 | 1285.6 | 1190.7 | 1752.2 | 1336.0 | 5:50 | 6:10 | 1998.1 | -67.8 | 1999.2 | 2573.6 |
| 9:15 | 2:45 | 1318.7 | 1168.6 | 1762.0 | 1373.9 | 5:45 | 6:15 | 1995.7 | -101.7 | 1998.3 | 2593.3 |
| 9:10 | 2:50 | 1351.2 | 1145.9 | 1771.7 | 1411.5 | 5:40 | 6:20 | 1992.4 | -135.5 | 1997.0 | 2612.5 |
| 9:05 | 2:55 | 1383.0 | 1122.8 | 1781.4 | 1448.8 | 5:35 | 6:25 | 1988.1 | -169.2 | 1995.3 | 2631.2 |
| 9:00 | 3:00 | 1414.2 | 1099.1 | 1791.1 | 1485.7 | 5:30 | 6:30 | 1982.9 | -202.9 | 1993.2 | 2649.4 |
| 8:55 | 3:05 | 1444.7 | 1074.8 | 1800.7 | 1522.2 | 5:25 | 6:35 | 1976.7 | -236.4 | 1990.8 | 2667.2 |
| 8:50 | 3:10 | 1474.6 | 1050.1 | 1810.2 | 1558.4 | 5:20 | 6:40 | 1969.6 | -269.9 | 1988.0 | 2684.6 |
| 8:45 | 3:15 | 1503.7 | 1024.8 | 1819.7 | 1594.2 | 5:15 | 6:45 | 1961.6 | -303.2 | 1984.9 | 2701.5 |
| 8:40 | 3:20 | 1532.1 | 999.1 | 1829.1 | 1629.6 | 5:10 | 6:50 | 1952.6 | -336.4 | 1981.4 | 2718.0 |
| 8:35 | 3:25 | 1559.8 | 972.9 | 1838.3 | 1664.6 | 5:05 | 6:55 | 1942.7 | -369.4 | 1977.5 | 2734.0 |
| 8:30 | 3:30 | 1586.7 | 946.2 | 1847.4 | 1699.2 | 5:00 | 7:00 | 1931.9 | -402.3 | 1973.3 | 2749.6 |

Analemmatic Sundial

Latitude: 51.0° N/S

Earliest Sunrise: 3:44 a.m. Latest Sunset: 8:16 p.m.
 Semi-Major Axis (E-W): 2000 mm Semi-Minor Axis (N-S): 1554.3 mm
 Sunrise/Sunset Markers: $X = \pm 705.6$ mm

| Local Time | X | Y | Z | W | |
|------------|------|--------|--------|--------|--------|
| 4:55 | 7:05 | 1920.1 | -434.9 | 1968.7 | 2764.7 |
| 4:50 | 7:10 | 1907.4 | -467.4 | 1963.9 | 2779.5 |
| 4:45 | 7:15 | 1893.9 | -499.6 | 1958.7 | 2793.8 |
| 4:40 | 7:20 | 1879.4 | -531.6 | 1953.1 | 2807.7 |
| 4:35 | 7:25 | 1864.0 | -563.3 | 1947.3 | 2821.2 |
| 4:30 | 7:30 | 1847.8 | -594.8 | 1941.1 | 2834.2 |
| 4:25 | 7:35 | 1830.6 | -626.0 | 1934.7 | 2846.9 |
| 4:20 | 7:40 | 1812.6 | -656.9 | 1928.0 | 2859.2 |
| 4:15 | 7:45 | 1793.7 | -687.4 | 1921.0 | 2871.0 |
| 4:10 | 7:50 | 1774.0 | -717.7 | 1913.7 | 2882.5 |
| 4:05 | 7:55 | 1753.5 | -747.6 | 1906.2 | 2893.7 |
| 4:00 | 8:00 | 1732.1 | -777.1 | 1898.4 | 2904.4 |
| 3:55 | 8:05 | 1709.8 | -806.3 | 1890.4 | 2914.8 |
| 3:50 | 8:10 | 1686.8 | -835.1 | 1882.2 | 2924.8 |
| 3:45 | 8:15 | 1662.9 | -863.5 | 1873.8 | 2934.5 |
| 3:40 | 8:20 | 1638.3 | -891.5 | 1865.2 | 2943.8 |
| 3:35 | 8:25 | 1612.9 | -919.1 | 1856.4 | 2952.8 |
| 3:30 | 8:30 | 1586.7 | -946.2 | 1847.4 | 2961.4 |

Analematic Sundial

Latitude: 51.0° N/S

Date Scale

Semi-Major Axis (E-W): 2000 mm Semi-Minor Axis (N-S): 1554.3 mm

| Month | Date | | | | | | | | | | |
|-----------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| | 1 | 5 | 6 | 10 | 11 | 15 | 16 | 20 | 21 | 25 | 26 |
| January | -534.0 | -523.9 | -520.8 | -507.0 | -502.9 | -485.7 | -480.9 | -460.3 | -454.9 | -431.7 | -425.5 |
| February | -386.2 | -358.1 | -350.7 | -320.8 | -313.3 | -282.0 | -274.0 | -241.7 | -233.5 | -200.2 | -191.7 |
| March | -166.4 | -132.3 | -123.6 | -89.1 | -80.5 | -45.7 | -37.1 | -2.2 | 6.4 | 41.1 | 49.7 |
| April | 101.3 | 135.2 | 143.6 | 176.9 | 185.2 | 217.9 | 225.8 | 257.7 | 265.5 | 296.1 | 303.6 |
| May | 340.1 | 368.1 | 374.7 | 400.7 | 407.0 | 430.9 | 436.6 | 458.4 | 463.6 | 482.6 | 486.9 |
| June | 510.6 | 522.9 | 525.7 | 534.8 | 536.9 | 542.6 | 543.4 | 545.4 | 545.7 | 541.8 | 543.6 |
| July | 536.9 | 528.3 | 525.7 | 514.2 | 510.8 | 495.8 | 491.7 | 473.8 | 469.1 | 448.7 | 443.2 |
| August | 408.5 | 383.1 | 376.7 | 349.5 | 342.7 | 314.0 | 306.6 | 276.7 | 269.1 | 238.1 | 230.1 |
| September | 182.0 | 149.2 | 141.0 | 107.5 | 99.1 | 65.3 | 56.9 | 22.8 | 14.3 | -20.0 | -28.6 |
| October | -71.3 | -105.5 | -113.9 | -147.9 | -156.1 | -189.7 | -198.0 | -230.8 | -239.0 | -271.0 | -278.8 |
| November | -324.8 | -354.3 | -361.4 | -389.1 | -395.9 | -421.6 | -427.7 | -451.2 | -456.6 | -477.4 | -482.4 |
| December | -503.9 | -518.5 | -521.6 | -532.2 | -534.5 | -541.3 | -542.6 | -545.4 | -545.7 | -544.4 | -543.6 |

Northern Hemisphere

| Month | Date | | | | | | | | | | |
|-----------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| | 1 | 5 | 6 | 10 | 11 | 15 | 16 | 20 | 21 | 25 | 26 |
| January | 534.0 | 523.9 | 520.8 | 507.0 | 502.9 | 485.7 | 480.9 | 460.3 | 454.9 | 431.7 | 425.5 |
| February | 386.2 | 358.1 | 350.7 | 320.8 | 313.3 | 282.0 | 274.0 | 241.7 | 233.5 | 200.2 | 191.7 |
| March | 166.4 | 132.3 | 123.6 | 89.1 | 80.5 | 45.7 | 37.1 | 2.2 | -6.4 | -41.1 | -49.7 |
| April | -101.3 | -135.2 | -143.6 | -176.9 | -185.2 | -217.9 | -225.8 | -257.7 | -265.5 | -296.1 | -303.6 |
| May | -340.1 | -368.1 | -374.7 | -400.7 | -407.0 | -430.9 | -436.6 | -458.4 | -463.6 | -482.6 | -486.9 |
| June | -510.6 | -522.9 | -525.7 | -534.8 | -536.9 | -542.6 | -543.4 | -545.4 | -545.7 | -541.8 | -543.6 |
| July | -536.9 | -528.3 | -525.7 | -514.2 | -510.8 | -495.8 | -491.7 | -473.8 | -469.1 | -448.7 | -443.2 |
| August | -408.5 | -383.1 | -376.7 | -349.5 | -342.7 | -314.0 | -306.6 | -276.7 | -269.1 | -238.1 | -230.1 |
| September | -182.0 | -149.2 | -141.0 | -107.5 | -99.1 | -65.3 | -56.9 | -22.8 | -14.3 | 20.0 | 28.6 |
| October | 71.3 | 105.5 | 113.9 | 147.9 | 156.1 | 189.7 | 198.0 | 230.8 | 239.0 | 271.0 | 278.8 |
| November | 324.8 | 354.3 | 361.4 | 389.1 | 395.9 | 421.6 | 427.7 | 451.2 | 456.6 | 477.4 | 482.4 |
| December | 503.9 | 518.5 | 521.6 | 532.2 | 534.5 | 541.3 | 542.6 | 545.4 | 545.7 | 544.4 | 543.6 |

Southern Hemisphere

The shaded "Date" boxes identify the two extremes of the "Date Scale" that occur on the Summer and Winter Solstices.

A number of "Date Scale" configurations are available including the following "Date Line" combinations:

- | | | |
|---------|------------|--------------------|
| a) 1 | c) 1,10,20 | e) 1,5,10,15,20,25 |
| b) 1,15 | d) 1,11,21 | f) 1,6,11,16,21,26 |

Analemmatic Sundial

Latitude: 51.0° N/S

Earliest Sunrise: 3:44 a.m. Latest Sunset: 8:16 p.m.
 Semi-Major Axis (E-W): 2500 mm Semi-Minor Axis (N-S): 1942.9 mm
 Sunrise/Sunset Markers: X = ± 882.0 mm

| Local Time | | X | Y | Z | W | Local Time | | X | Y | Z | W |
|------------|-------|--------|--------|--------|--------|------------|------|--------|--------|--------|--------|
| 12:00 | | 0.0 | 1942.9 | 1942.9 | 0.0 | | | | | | |
| 11:55 | 12:05 | 54.5 | 1942.4 | 1943.2 | 54.5 | 8:25 | 3:35 | 2016.1 | 1148.8 | 2320.5 | 2166.8 |
| 11:50 | 12:10 | 109.0 | 1941.0 | 1944.1 | 109.1 | 8:20 | 3:40 | 2047.9 | 1114.4 | 2331.5 | 2209.1 |
| 11:45 | 12:15 | 163.5 | 1938.7 | 1945.6 | 163.6 | 8:15 | 3:45 | 2078.7 | 1079.4 | 2342.2 | 2250.9 |
| 11:40 | 12:20 | 217.9 | 1935.5 | 1947.7 | 218.0 | 8:10 | 3:50 | 2108.5 | 1043.9 | 2352.7 | 2292.1 |
| 11:35 | 12:25 | 272.2 | 1931.3 | 1950.4 | 272.4 | 8:05 | 3:55 | 2137.3 | 1007.9 | 2363.0 | 2332.8 |
| 11:30 | 12:30 | 326.3 | 1926.2 | 1953.7 | 326.7 | 8:00 | 4:00 | 2165.1 | 971.4 | 2373.0 | 2373.0 |
| 11:25 | 12:35 | 380.3 | 1920.3 | 1957.6 | 381.0 | 7:55 | 4:05 | 2191.8 | 934.5 | 2382.7 | 2412.6 |
| 11:20 | 12:40 | 434.1 | 1913.3 | 1962.0 | 435.1 | 7:50 | 4:10 | 2217.5 | 897.1 | 2392.1 | 2451.7 |
| 11:15 | 12:45 | 487.7 | 1905.5 | 1967.0 | 489.2 | 7:45 | 4:15 | 2242.2 | 859.3 | 2401.2 | 2490.3 |
| 11:10 | 12:50 | 541.1 | 1896.8 | 1972.5 | 543.1 | 7:40 | 4:20 | 2265.8 | 821.1 | 2410.0 | 2528.3 |
| 11:05 | 12:55 | 594.2 | 1887.2 | 1978.5 | 596.8 | 7:35 | 4:25 | 2288.3 | 782.5 | 2418.4 | 2565.7 |
| 11:00 | 1:00 | 647.0 | 1876.7 | 1985.1 | 650.4 | 7:30 | 4:30 | 2309.7 | 743.5 | 2426.4 | 2602.5 |
| 10:55 | 1:05 | 699.6 | 1865.2 | 1992.1 | 703.9 | 7:25 | 4:35 | 2330.0 | 704.2 | 2434.1 | 2638.8 |
| 10:50 | 1:10 | 751.8 | 1852.9 | 1999.6 | 757.1 | 7:20 | 4:40 | 2349.2 | 664.5 | 2441.4 | 2674.5 |
| 10:45 | 1:15 | 803.6 | 1839.8 | 2007.6 | 810.2 | 7:15 | 4:45 | 2367.3 | 624.5 | 2448.3 | 2709.7 |
| 10:40 | 1:20 | 855.1 | 1825.7 | 2016.0 | 863.0 | 7:10 | 4:50 | 2384.3 | 584.2 | 2454.8 | 2744.2 |
| 10:35 | 1:25 | 906.1 | 1810.8 | 2024.8 | 915.7 | 7:05 | 4:55 | 2400.1 | 543.7 | 2460.9 | 2778.2 |
| 10:30 | 1:30 | 956.7 | 1795.0 | 2034.0 | 968.1 | 7:00 | 5:00 | 2414.8 | 502.9 | 2466.6 | 2811.6 |
| 10:25 | 1:35 | 1006.9 | 1778.3 | 2043.6 | 1020.2 | 6:55 | 5:05 | 2428.4 | 461.8 | 2471.9 | 2844.4 |
| 10:20 | 1:40 | 1056.5 | 1760.8 | 2053.5 | 1072.1 | 6:50 | 5:10 | 2440.7 | 420.5 | 2476.7 | 2876.6 |
| 10:15 | 1:45 | 1105.7 | 1742.5 | 2063.7 | 1123.7 | 6:45 | 5:15 | 2452.0 | 379.0 | 2481.1 | 2908.2 |
| 10:10 | 1:50 | 1154.4 | 1723.3 | 2074.2 | 1175.1 | 6:40 | 5:20 | 2462.0 | 337.4 | 2485.0 | 2939.2 |
| 10:05 | 1:55 | 1202.5 | 1703.4 | 2085.0 | 1226.1 | 6:35 | 5:25 | 2470.9 | 295.6 | 2488.5 | 2969.7 |
| 10:00 | 2:00 | 1250.0 | 1682.6 | 2096.1 | 1276.8 | 6:30 | 5:30 | 2478.6 | 253.6 | 2491.6 | 2999.5 |
| 9:55 | 2:05 | 1296.9 | 1661.0 | 2107.3 | 1327.2 | 6:25 | 5:35 | 2485.1 | 211.5 | 2494.1 | 3028.8 |
| 9:50 | 2:10 | 1343.2 | 1638.6 | 2118.8 | 1377.3 | 6:20 | 5:40 | 2490.5 | 169.3 | 2496.2 | 3057.4 |
| 9:45 | 2:15 | 1388.9 | 1615.4 | 2130.4 | 1427.0 | 6:15 | 5:45 | 2494.6 | 127.1 | 2497.9 | 3085.5 |
| 9:40 | 2:20 | 1433.9 | 1591.5 | 2142.2 | 1476.4 | 6:10 | 5:50 | 2497.6 | 84.7 | 2499.1 | 3113.0 |
| 9:35 | 2:25 | 1478.3 | 1566.8 | 2154.1 | 1525.4 | 6:05 | 5:55 | 2499.4 | 42.4 | 2499.8 | 3139.9 |
| 9:30 | 2:30 | 1521.9 | 1541.4 | 2166.1 | 1574.0 | 6:00 | 6:00 | 2500.0 | 0.0 | 2500.0 | 3166.2 |
| 9:25 | 2:35 | 1564.8 | 1515.2 | 2178.2 | 1622.2 | 5:55 | 6:05 | 2499.4 | -42.4 | 2499.8 | 3191.9 |
| 9:20 | 2:40 | 1607.0 | 1488.3 | 2190.3 | 1670.0 | 5:50 | 6:10 | 2497.6 | -84.7 | 2499.1 | 3217.0 |
| 9:15 | 2:45 | 1648.4 | 1460.7 | 2202.5 | 1717.4 | 5:45 | 6:15 | 2494.6 | -127.1 | 2497.9 | 3241.6 |
| 9:10 | 2:50 | 1689.0 | 1432.4 | 2214.6 | 1764.4 | 5:40 | 6:20 | 2490.5 | -169.3 | 2496.2 | 3265.6 |
| 9:05 | 2:55 | 1728.8 | 1403.5 | 2226.7 | 1811.0 | 5:35 | 6:25 | 2485.1 | -211.5 | 2494.1 | 3289.0 |
| 9:00 | 3:00 | 1767.8 | 1373.8 | 2238.8 | 1857.1 | 5:30 | 6:30 | 2478.6 | -253.6 | 2491.6 | 3311.8 |
| 8:55 | 3:05 | 1805.9 | 1343.5 | 2250.9 | 1902.8 | 5:25 | 6:35 | 2470.9 | -295.6 | 2488.5 | 3334.1 |
| 8:50 | 3:10 | 1843.2 | 1312.6 | 2262.8 | 1948.0 | 5:20 | 6:40 | 2462.0 | -337.4 | 2485.0 | 3355.7 |
| 8:45 | 3:15 | 1879.6 | 1281.0 | 2274.6 | 1992.7 | 5:15 | 6:45 | 2452.0 | -379.0 | 2481.1 | 3376.9 |
| 8:40 | 3:20 | 1915.1 | 1248.8 | 2286.3 | 2037.0 | 5:10 | 6:50 | 2440.7 | -420.5 | 2476.7 | 3397.5 |
| 8:35 | 3:25 | 1949.7 | 1216.1 | 2297.9 | 2080.8 | 5:05 | 6:55 | 2428.4 | -461.8 | 2471.9 | 3417.5 |
| 8:30 | 3:30 | 1983.4 | 1182.7 | 2309.3 | 2124.1 | 5:00 | 7:00 | 2414.8 | -502.9 | 2466.6 | 3437.0 |

Analemmatic Sundial**Latitude: 51.0° N/S**

Earliest Sunrise: 3:44 a.m. Latest Sunset: 8:16 p.m.
 Semi-Major Axis (E-W): 2500 mm Semi-Minor Axis (N-S): 1942.9 mm
 Sunrise/Sunset Markers: X = ± 882.0 mm

| Local Time | | X | Y | Z | W |
|------------|------|--------|---------|--------|--------|
| 4:55 | 7:05 | 2400.1 | -543.7 | 2460.9 | 3455.9 |
| 4:50 | 7:10 | 2384.3 | -584.2 | 2454.8 | 3474.3 |
| 4:45 | 7:15 | 2367.3 | -624.5 | 2448.3 | 3492.2 |
| 4:40 | 7:20 | 2349.2 | -664.5 | 2441.4 | 3509.6 |
| 4:35 | 7:25 | 2330.0 | -704.2 | 2434.1 | 3526.4 |
| 4:30 | 7:30 | 2309.7 | -743.5 | 2426.4 | 3542.8 |
| 4:25 | 7:35 | 2288.3 | -782.5 | 2418.4 | 3558.6 |
| 4:20 | 7:40 | 2265.8 | -821.1 | 2410.0 | 3574.0 |
| 4:15 | 7:45 | 2242.2 | -859.3 | 2401.2 | 3588.8 |
| 4:10 | 7:50 | 2217.5 | -897.1 | 2392.1 | 3603.2 |
| 4:05 | 7:55 | 2191.8 | -934.5 | 2382.7 | 3617.1 |
| 4:00 | 8:00 | 2165.1 | -971.4 | 2373.0 | 3630.5 |
| 3:55 | 8:05 | 2137.3 | -1007.9 | 2363.0 | 3643.5 |
| 3:50 | 8:10 | 2108.5 | -1043.9 | 2352.7 | 3656.0 |
| 3:45 | 8:15 | 2078.7 | -1079.4 | 2342.2 | 3668.1 |
| 3:40 | 8:20 | 2047.9 | -1114.4 | 2331.5 | 3679.8 |
| 3:35 | 8:25 | 2016.1 | -1148.8 | 2320.5 | 3691.0 |
| 3:30 | 8:30 | 1983.4 | -1182.7 | 2309.3 | 3701.8 |

Analematic Sundial

Latitude: 51.0° N/S

Date Scale

Semi-Major Axis (E-W): 2500 mm Semi-Minor Axis (N-S): 1942.9 mm

| Month | Date | | | | | | | | | | |
|-----------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| | 1 | 5 | 6 | 10 | 11 | 15 | 16 | 20 | 21 | 25 | 26 |
| January | -667.5 | -654.9 | -651.0 | -633.7 | -628.6 | -607.1 | -601.1 | -575.4 | -568.6 | -539.6 | -531.9 |
| February | -482.8 | -447.6 | -438.4 | -401.0 | -391.7 | -352.5 | -342.5 | -302.1 | -291.9 | -250.3 | -239.6 |
| March | -208.0 | -165.4 | -154.5 | -111.4 | -100.6 | -57.1 | -46.4 | -2.7 | 8.0 | 51.4 | 62.1 |
| April | 126.6 | 169.0 | 179.5 | 221.1 | 231.5 | 272.3 | 282.2 | 322.1 | 331.8 | 370.2 | 379.5 |
| May | 425.1 | 460.1 | 468.4 | 500.9 | 508.8 | 538.7 | 545.7 | 572.9 | 579.5 | 603.3 | 608.7 |
| June | 638.2 | 653.6 | 657.2 | 668.5 | 671.1 | 678.2 | 679.2 | 681.8 | 682.1 | 677.2 | 679.5 |
| July | 671.1 | 660.4 | 657.2 | 642.7 | 638.5 | 619.7 | 614.7 | 592.3 | 586.4 | 560.8 | 554.0 |
| August | 510.6 | 478.9 | 470.8 | 436.9 | 428.3 | 392.6 | 383.2 | 345.9 | 336.4 | 297.6 | 287.6 |
| September | 227.6 | 186.5 | 176.2 | 134.3 | 123.8 | 81.6 | 71.2 | 28.6 | 17.8 | -25.0 | -35.7 |
| October | -89.1 | -131.8 | -142.4 | -184.8 | -195.1 | -237.1 | -247.5 | -288.5 | -298.7 | -338.7 | -348.5 |
| November | -406.0 | -442.8 | -451.7 | -486.4 | -494.9 | -527.0 | -534.7 | -563.9 | -570.8 | -596.7 | -603.0 |
| December | -629.9 | -648.1 | -652.0 | -665.2 | -668.2 | -676.6 | -678.2 | -681.8 | -682.1 | -680.5 | -679.5 |

Northern Hemisphere

| Month | Date | | | | | | | | | | |
|-----------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| | 1 | 5 | 6 | 10 | 11 | 15 | 16 | 20 | 21 | 25 | 26 |
| January | 667.5 | 654.9 | 651.0 | 633.7 | 628.6 | 607.1 | 601.1 | 575.4 | 568.6 | 539.6 | 531.9 |
| February | 482.8 | 447.6 | 438.4 | 401.0 | 391.7 | 352.5 | 342.5 | 302.1 | 291.9 | 250.3 | 239.6 |
| March | 208.0 | 165.4 | 154.5 | 111.4 | 100.6 | 57.1 | 46.4 | 2.7 | -8.0 | -51.4 | -62.1 |
| April | -126.6 | -169.0 | -179.5 | -221.1 | -231.5 | -272.3 | -282.2 | -322.1 | -331.8 | -370.2 | -379.5 |
| May | -425.1 | -460.1 | -468.4 | -500.9 | -508.8 | -538.7 | -545.7 | -572.9 | -579.5 | -603.3 | -608.7 |
| June | -638.2 | -653.6 | -657.2 | -668.5 | -671.1 | -678.2 | -679.2 | -681.8 | -682.1 | -677.2 | -679.5 |
| July | -671.1 | -660.4 | -657.2 | -642.7 | -638.5 | -619.7 | -614.7 | -592.3 | -586.4 | -560.8 | -554.0 |
| August | -510.6 | -478.9 | -470.8 | -436.9 | -428.3 | -392.6 | -383.2 | -345.9 | -336.4 | -297.6 | -287.6 |
| September | -227.6 | -186.5 | -176.2 | -134.3 | -123.8 | -81.6 | -71.2 | -28.6 | -17.8 | 25.0 | 35.7 |
| October | 89.1 | 131.8 | 142.4 | 184.8 | 195.1 | 237.1 | 247.5 | 288.5 | 298.7 | 338.7 | 348.5 |
| November | 406.0 | 442.8 | 451.7 | 486.4 | 494.9 | 527.0 | 534.7 | 563.9 | 570.8 | 596.7 | 603.0 |
| December | 629.9 | 648.1 | 652.0 | 665.2 | 668.2 | 676.6 | 678.2 | 681.8 | 682.1 | 680.5 | 679.5 |

Southern Hemisphere

The shaded "Date" boxes identify the two extremes of the "Date Scale" that occur on the Summer and Winter Solstices.

A number of "Date Scale" configurations are available including the following "Date Line" combinations:

- | | | |
|---------|------------|--------------------|
| a) 1 | c) 1,10,20 | e) 1,5,10,15,20,25 |
| b) 1,15 | d) 1,11,21 | f) 1,6,11,16,21,26 |