

Analemmatic Sundial

Latitude: 36.5° N/S

Earliest Sunrise: 4:40 a.m.    Latest Sunset: 7:20 p.m.  
 Semi-Major Axis (E-W): 1000 mm    Semi-Minor Axis (N-S): 594.8 mm  
 Sunrise/Sunset Markers: X = ± 621.8 mm

Local Time	X	Y	Z	W	Local Time	X	Y	Z	W		
12:00	0.0	594.8	594.8	0.0							
11:55	12:05	21.8	594.7	595.1	21.8	8:10	3:50	843.4	319.6	901.9	887.2
11:50	12:10	43.6	594.3	595.9	43.6	8:05	3:55	854.9	308.6	908.9	901.6
11:45	12:15	65.4	593.5	597.1	65.4	8:00	4:00	866.0	297.4	915.7	915.7
11:40	12:20	87.2	592.6	598.9	87.2	7:55	4:05	876.7	286.1	922.2	929.5
11:35	12:25	108.9	591.3	601.2	108.9	7:50	4:10	887.0	274.7	928.6	943.0
11:30	12:30	130.5	589.7	604.0	130.6	7:45	4:15	896.9	263.1	934.7	956.3
11:25	12:35	152.1	587.9	607.3	152.3	7:40	4:20	906.3	251.4	940.5	969.2
11:20	12:40	173.6	585.8	611.0	173.9	7:35	4:25	915.3	239.6	946.1	981.8
11:15	12:45	195.1	583.4	615.1	195.4	7:30	4:30	923.9	227.6	951.5	994.2
11:10	12:50	216.4	580.7	619.7	216.9	7:25	4:35	932.0	215.6	956.6	1006.2
11:05	12:55	237.7	577.8	624.8	238.3	7:20	4:40	939.7	203.4	961.5	1017.9
11:00	1:00	258.8	574.6	630.2	259.6	7:15	4:45	946.9	191.2	966.0	1029.4
10:55	1:05	279.8	571.1	635.9	280.8	7:10	4:50	953.7	178.9	970.3	1040.5
10:50	1:10	300.7	567.3	642.1	302.0	7:05	4:55	960.0	166.4	974.4	1051.3
10:45	1:15	321.4	563.3	648.5	323.0	7:00	5:00	965.9	154.0	978.1	1061.8
10:40	1:20	342.0	559.0	655.3	343.9	6:55	5:05	971.3	141.4	981.6	1072.0
10:35	1:25	362.4	554.4	662.3	364.7	6:50	5:10	976.3	128.7	984.7	1081.8
10:30	1:30	382.7	549.5	669.7	385.4	6:45	5:15	980.8	116.0	987.6	1091.4
10:25	1:35	402.7	544.4	677.2	405.9	6:40	5:20	984.8	103.3	990.2	1100.7
10:20	1:40	422.6	539.1	685.0	426.3	6:35	5:25	988.4	90.5	992.5	1109.6
10:15	1:45	442.3	533.5	693.0	446.5	6:30	5:30	991.4	77.6	994.5	1118.2
10:10	1:50	461.7	527.6	701.1	466.6	6:25	5:35	994.1	64.8	996.2	1126.6
10:05	1:55	481.0	521.5	709.4	486.5	6:20	5:40	996.2	51.8	997.5	1134.6
10:00	2:00	500.0	515.1	717.9	506.3	6:15	5:45	997.9	38.9	998.6	1142.3
9:55	2:05	518.8	508.5	726.4	525.9	6:10	5:50	999.0	25.9	999.4	1149.7
9:50	2:10	537.3	501.7	735.1	545.3	6:05	5:55	999.8	13.0	999.8	1156.7
9:45	2:15	555.6	494.6	743.8	564.5	6:00	6:00	1000.0	0.0	1000.0	1163.5
9:40	2:20	573.6	487.3	752.6	583.6	5:55	6:05	999.8	-13.0	999.8	1170.0
9:35	2:25	591.3	479.7	761.4	602.4	5:50	6:10	999.0	-25.9	999.4	1176.2
9:30	2:30	608.8	471.9	770.2	621.0	5:45	6:15	997.9	-38.9	998.6	1182.1
9:25	2:35	625.9	463.9	779.1	639.5	5:40	6:20	996.2	-51.8	997.5	1187.7
9:20	2:40	642.8	455.7	787.9	657.7	5:35	6:25	994.1	-64.8	996.2	1193.0
9:15	2:45	659.3	447.2	796.7	675.7	5:30	6:30	991.4	-77.6	994.5	1198.0
9:10	2:50	675.6	438.5	805.4	693.4	5:25	6:35	988.4	-90.5	992.5	1202.7
9:05	2:55	691.5	429.7	814.1	711.0	5:20	6:40	984.8	-103.3	990.2	1207.1
9:00	3:00	707.1	420.6	822.7	728.3	5:15	6:45	980.8	-116.0	987.6	1211.3
8:55	3:05	722.4	411.3	831.3	745.3	5:10	6:50	976.3	-128.7	984.7	1215.2
8:50	3:10	737.3	401.9	839.7	762.1	5:05	6:55	971.3	-141.4	981.6	1218.8
8:45	3:15	751.8	392.2	848.0	778.7	5:00	7:00	965.9	-154.0	978.1	1222.2
8:40	3:20	766.0	382.3	856.2	795.0	4:55	7:05	960.0	-166.4	974.4	1225.2
8:35	3:25	779.9	372.3	864.2	811.0	4:50	7:10	953.7	-178.9	970.3	1228.1
8:30	3:30	793.4	362.1	872.1	826.8	4:45	7:15	946.9	-191.2	966.0	1230.7
8:25	3:35	806.4	351.7	879.8	842.3	4:40	7:20	939.7	-203.4	961.5	1233.0
8:20	3:40	819.2	341.2	887.4	857.5	4:35	7:25	932.0	-215.6	956.6	1235.1
8:15	3:45	831.5	330.5	894.7	872.5	4:30	7:30	923.9	-227.6	951.5	1236.9

## Analemmatic Sundial

Latitude: 36.5° N/S

## Date Scale

Semi-Major Axis (E-W): 1000 mm    Semi-Minor Axis (N-S): 594.8 mm

Month	Date										
	1	5	6	10	11	15	16	20	21	25	26
January	-341.1	-334.6	-332.6	-323.8	-321.2	-310.2	-307.1	-294.0	-290.5	-275.7	-271.8
February	-246.7	-228.7	-224.0	-204.9	-200.1	-180.1	-175.0	-154.4	-149.1	-127.9	-122.4
March	-106.3	-84.5	-79.0	-56.9	-51.4	-29.2	-23.7	-1.4	4.1	26.2	31.7
April	64.7	86.3	91.7	113.0	118.3	139.1	144.2	164.6	169.5	189.1	193.9
May	217.2	235.1	239.3	255.9	259.9	275.2	278.8	292.7	296.1	308.2	311.0
June	326.1	334.0	335.8	341.5	342.9	346.5	347.0	348.4	348.5	346.0	347.2
July	342.9	337.4	335.8	328.4	326.2	316.6	314.1	302.6	299.6	286.6	283.1
August	260.9	244.7	240.6	223.2	218.9	200.6	195.8	176.7	171.9	152.0	147.0
September	116.3	95.3	90.0	68.6	63.3	41.7	36.4	14.6	9.1	-12.8	-18.2
October	-45.5	-67.4	-72.7	-94.4	-99.7	-121.1	-126.5	-147.4	-152.6	-173.1	-178.1
November	-207.4	-226.3	-230.8	-248.5	-252.8	-269.3	-273.2	-288.1	-291.6	-304.9	-308.1
December	-321.8	-331.2	-333.1	-339.9	-341.4	-345.7	-346.5	-348.4	-348.5	-347.7	-347.2

Northern Hemisphere

Month	Date										
	1	5	6	10	11	15	16	20	21	25	26
January	341.1	334.6	332.6	323.8	321.2	310.2	307.1	294.0	290.5	275.7	271.8
February	246.7	228.7	224.0	204.9	200.1	180.1	175.0	154.4	149.1	127.9	122.4
March	106.3	84.5	79.0	56.9	51.4	29.2	23.7	1.4	-4.1	-26.2	-31.7
April	-64.7	-86.3	-91.7	-113.0	-118.3	-139.1	-144.2	-164.6	-169.5	-189.1	-193.9
May	-217.2	-235.1	-239.3	-255.9	-259.9	-275.2	-278.8	-292.7	-296.1	-308.2	-311.0
June	-326.1	-334.0	-335.8	-341.5	-342.9	-346.5	-347.0	-348.4	-348.5	-346.0	-347.2
July	-342.9	-337.4	-335.8	-328.4	-326.2	-316.6	-314.1	-302.6	-299.6	-286.6	-283.1
August	-260.9	-244.7	-240.6	-223.2	-218.9	-200.6	-195.8	-176.7	-171.9	-152.0	-147.0
September	-116.3	-95.3	-90.0	-68.6	-63.3	-41.7	-36.4	-14.6	-9.1	12.8	18.2
October	45.5	67.4	72.7	94.4	99.7	121.1	126.5	147.4	152.6	173.1	178.1
November	207.4	226.3	230.8	248.5	252.8	269.3	273.2	288.1	291.6	304.9	308.1
December	321.8	331.2	333.1	339.9	341.4	345.7	346.5	348.4	348.5	347.7	347.2

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: 36.5° N/S

Earliest Sunrise: 4:40 a.m.    Latest Sunset: 7:20 p.m.  
 Semi-Major Axis (E-W): 1500 mm    Semi-Minor Axis (N-S): 892.2 mm  
 Sunrise/Sunset Markers: X = ± 932.7 mm

Local Time	X	Y	Z	W	Local Time	X	Y	Z	W		
12:00	0.0	892.2	892.2	0.0							
11:55	12:05	32.7	892.0	892.6	32.7	8:10	3:50	1265.1	479.4	1352.9	1330.7
11:50	12:10	65.4	891.4	893.8	65.4	8:05	3:55	1282.4	462.9	1363.3	1352.3
11:45	12:15	98.1	890.3	895.7	98.1	8:00	4:00	1299.0	446.1	1373.5	1373.5
11:40	12:20	130.7	888.8	898.4	130.8	7:55	4:05	1315.1	429.2	1383.3	1394.2
11:35	12:25	163.3	886.9	901.8	163.4	7:50	4:10	1330.5	412.0	1392.8	1414.5
11:30	12:30	195.8	884.6	906.0	195.9	7:45	4:15	1345.3	394.6	1402.0	1434.4
11:25	12:35	228.2	881.8	910.9	228.4	7:40	4:20	1359.5	377.1	1410.8	1453.8
11:20	12:40	260.5	878.7	916.5	260.8	7:35	4:25	1373.0	359.3	1419.2	1472.8
11:15	12:45	292.6	875.1	922.7	293.1	7:30	4:30	1385.8	341.4	1427.3	1491.3
11:10	12:50	324.7	871.1	929.6	325.3	7:25	4:35	1398.0	323.4	1434.9	1509.3
11:05	12:55	356.5	866.7	937.1	357.4	7:20	4:40	1409.5	305.2	1442.2	1526.9
11:00	1:00	388.2	861.8	945.2	389.4	7:15	4:45	1420.4	286.8	1449.1	1544.0
10:55	1:05	419.7	856.6	953.9	421.3	7:10	4:50	1430.6	268.3	1455.5	1560.7
10:50	1:10	451.1	850.9	963.1	452.9	7:05	4:55	1440.1	249.7	1461.6	1576.9
10:45	1:15	482.2	844.9	972.8	484.5	7:00	5:00	1448.9	230.9	1467.2	1592.7
10:40	1:20	513.0	838.4	982.9	515.8	6:55	5:05	1457.0	212.1	1472.4	1608.0
10:35	1:25	543.7	831.6	993.5	547.0	6:50	5:10	1464.4	193.1	1477.1	1622.8
10:30	1:30	574.0	824.3	1004.5	578.0	6:45	5:15	1471.2	174.1	1481.4	1637.1
10:25	1:35	604.1	816.7	1015.8	608.8	6:40	5:20	1477.2	154.9	1485.3	1651.0
10:20	1:40	633.9	808.6	1027.5	639.4	6:35	5:25	1482.5	135.7	1488.7	1664.4
10:15	1:45	663.4	800.2	1039.5	669.8	6:30	5:30	1487.2	116.5	1491.7	1677.3
10:10	1:50	692.6	791.4	1051.7	699.9	6:25	5:35	1491.1	97.1	1494.2	1689.8
10:05	1:55	721.5	782.2	1064.2	729.8	6:20	5:40	1494.3	77.8	1496.3	1701.8
10:00	2:00	750.0	772.7	1076.8	759.5	6:15	5:45	1496.8	58.4	1497.9	1713.4
9:55	2:05	778.2	762.8	1089.7	788.9	6:10	5:50	1498.6	38.9	1499.1	1724.5
9:50	2:10	805.9	752.5	1102.6	818.0	6:05	5:55	1499.6	19.5	1499.8	1735.1
9:45	2:15	833.4	741.9	1115.7	846.8	6:00	6:00	1500.0	0.0	1500.0	1745.3
9:40	2:20	860.4	730.9	1128.9	875.4	5:55	6:05	1499.6	-19.5	1499.8	1755.0
9:35	2:25	887.0	719.5	1142.1	903.6	5:50	6:10	1498.6	-38.9	1499.1	1764.3
9:30	2:30	913.1	707.9	1155.4	931.6	5:45	6:15	1496.8	-58.4	1497.9	1773.1
9:25	2:35	938.9	695.8	1168.6	959.2	5:40	6:20	1494.3	-77.8	1496.3	1781.5
9:20	2:40	964.2	683.5	1181.9	986.5	5:35	6:25	1491.1	-97.1	1494.2	1789.5
9:15	2:45	989.0	670.8	1195.1	1013.5	5:30	6:30	1487.2	-116.5	1491.7	1797.0
9:10	2:50	1013.4	657.8	1208.2	1040.1	5:25	6:35	1482.5	-135.7	1488.7	1804.1
9:05	2:55	1037.3	644.5	1221.2	1066.4	5:20	6:40	1477.2	-154.9	1485.3	1810.7
9:00	3:00	1060.7	630.9	1234.1	1092.4	5:15	6:45	1471.2	-174.1	1481.4	1817.0
8:55	3:05	1083.5	617.0	1246.9	1118.0	5:10	6:50	1464.4	-193.1	1477.1	1822.8
8:50	3:10	1105.9	602.8	1259.5	1143.2	5:05	6:55	1457.0	-212.1	1472.4	1828.2
8:45	3:15	1127.8	588.3	1272.0	1168.0	5:00	7:00	1448.9	-230.9	1467.2	1833.2
8:40	3:20	1149.1	573.5	1284.2	1192.4	4:55	7:05	1440.1	-249.7	1461.6	1837.9
8:35	3:25	1169.8	558.5	1296.3	1216.5	4:50	7:10	1430.6	-268.3	1455.5	1842.1
8:30	3:30	1190.0	543.2	1308.1	1240.2	4:45	7:15	1420.4	-286.8	1449.1	1846.0
8:25	3:35	1209.7	527.6	1319.7	1263.4	4:40	7:20	1409.5	-305.2	1442.2	1849.5
8:20	3:40	1228.7	511.8	1331.0	1286.3	4:35	7:25	1398.0	-323.4	1434.9	1852.6
8:15	3:45	1247.2	495.7	1342.1	1308.7	4:30	7:30	1385.8	-341.4	1427.3	1855.4

## Analematic Sundial

Latitude: 36.5° N/S

## Date Scale

Semi-Major Axis (E-W): 1500 mm    Semi-Minor Axis (N-S): 892.2 mm

Month	Date										
	1	5	6	10	11	15	16	20	21	25	26
January	-511.6	-501.9	-499.0	-485.7	-481.8	-465.3	-460.7	-441.0	-435.8	-413.5	-407.7
February	-370.0	-343.0	-336.0	-307.4	-300.2	-270.2	-262.5	-231.5	-223.7	-191.8	-183.6
March	-159.4	-126.7	-118.4	-85.4	-77.1	-43.8	-35.6	-2.1	6.1	39.4	47.6
April	97.0	129.5	137.6	169.5	177.4	208.7	216.3	246.9	254.3	283.7	290.8
May	325.8	352.6	359.0	383.9	389.9	412.8	418.2	439.1	444.1	462.4	466.5
June	489.1	500.9	503.6	512.3	514.3	519.8	520.5	522.5	522.8	519.0	520.8
July	514.3	506.1	503.6	492.6	489.4	475.0	471.1	453.9	449.4	429.8	424.6
August	391.3	367.0	360.8	334.8	328.3	300.9	293.7	265.1	257.8	228.1	220.4
September	174.4	142.9	135.0	102.9	94.9	62.6	54.5	21.9	13.7	-19.2	-27.4
October	-68.3	-101.0	-109.1	-141.6	-149.5	-181.7	-189.7	-221.1	-228.9	-259.6	-267.1
November	-311.2	-339.4	-346.2	-372.8	-379.3	-403.9	-409.8	-432.2	-437.4	-457.3	-462.1
December	-482.8	-496.7	-499.7	-509.8	-512.1	-518.5	-519.8	-522.5	-522.8	-521.5	-520.8

Northern Hemisphere

Month	Date										
	1	5	6	10	11	15	16	20	21	25	26
January	511.6	501.9	499.0	485.7	481.8	465.3	460.7	441.0	435.8	413.5	407.7
February	370.0	343.0	336.0	307.4	300.2	270.2	262.5	231.5	223.7	191.8	183.6
March	159.4	126.7	118.4	85.4	77.1	43.8	35.6	2.1	-6.1	-39.4	-47.6
April	-97.0	-129.5	-137.6	-169.5	-177.4	-208.7	-216.3	-246.9	-254.3	-283.7	-290.8
May	-325.8	-352.6	-359.0	-383.9	-389.9	-412.8	-418.2	-439.1	-444.1	-462.4	-466.5
June	-489.1	-500.9	-503.6	-512.3	-514.3	-519.8	-520.5	-522.5	-522.8	-519.0	-520.8
July	-514.3	-506.1	-503.6	-492.6	-489.4	-475.0	-471.1	-453.9	-449.4	-429.8	-424.6
August	-391.3	-367.0	-360.8	-334.8	-328.3	-300.9	-293.7	-265.1	-257.8	-228.1	-220.4
September	-174.4	-142.9	-135.0	-102.9	-94.9	-62.6	-54.5	-21.9	-13.7	19.2	27.4
October	68.3	101.0	109.1	141.6	149.5	181.7	189.7	221.1	228.9	259.6	267.1
November	311.2	339.4	346.2	372.8	379.3	403.9	409.8	432.2	437.4	457.3	462.1
December	482.8	496.7	499.7	509.8	512.1	518.5	519.8	522.5	522.8	521.5	520.8

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: 36.5° N/S

Earliest Sunrise: 4:40 a.m.    Latest Sunset: 7:20 p.m.  
 Semi-Major Axis (E-W): 2000 mm    Semi-Minor Axis (N-S): 1189.6 mm  
 Sunrise/Sunset Markers: X = ± 1243.6 mm

Local Time	X	Y	Z	W	Local Time	X	Y	Z	W		
12:00	0.0	1189.6	1189.6	0.0							
11:55	12:05	43.6	1189.4	1190.2	43.6	8:10	3:50	1686.8	639.2	1803.8	1774.3
11:50	12:10	87.2	1188.5	1191.7	87.2	8:05	3:55	1709.8	617.2	1817.8	1803.1
11:45	12:15	130.8	1187.1	1194.3	130.8	8:00	4:00	1732.1	594.8	1831.3	1831.3
11:40	12:20	174.3	1185.1	1197.9	174.4	7:55	4:05	1753.5	572.2	1844.5	1859.0
11:35	12:25	217.7	1182.6	1202.5	217.8	7:50	4:10	1774.0	549.3	1857.1	1886.0
11:30	12:30	261.1	1179.5	1208.0	261.3	7:45	4:15	1793.7	526.2	1869.3	1912.5
11:25	12:35	304.2	1175.8	1214.5	304.6	7:40	4:20	1812.6	502.8	1881.0	1938.4
11:20	12:40	347.3	1171.6	1222.0	347.8	7:35	4:25	1830.6	479.1	1892.3	1963.7
11:15	12:45	390.2	1166.8	1230.3	390.8	7:30	4:30	1847.8	455.3	1903.0	1988.4
11:10	12:50	432.9	1161.4	1239.5	433.8	7:25	4:35	1864.0	431.2	1913.2	2012.4
11:05	12:55	475.4	1155.6	1249.5	476.6	7:20	4:40	1879.4	406.9	1922.9	2035.9
11:00	1:00	517.6	1149.1	1260.3	519.2	7:15	4:45	1893.9	382.4	1932.1	2058.7
10:55	1:05	559.7	1142.1	1271.9	561.7	7:10	4:50	1907.4	357.7	1940.7	2081.0
10:50	1:10	601.4	1134.6	1284.1	603.9	7:05	4:55	1920.1	332.9	1948.7	2102.6
10:45	1:15	642.9	1126.5	1297.0	646.0	7:00	5:00	1931.9	307.9	1956.2	2123.6
10:40	1:20	684.0	1117.9	1310.6	687.8	6:55	5:05	1942.7	282.8	1963.2	2143.9
10:35	1:25	724.9	1108.8	1324.7	729.4	6:50	5:10	1952.6	257.5	1969.5	2163.7
10:30	1:30	765.4	1099.1	1339.3	770.7	6:45	5:15	1961.6	232.1	1975.3	2182.8
10:25	1:35	805.5	1088.9	1354.4	811.8	6:40	5:20	1969.6	206.6	1980.4	2201.3
10:20	1:40	845.2	1078.2	1370.0	852.6	6:35	5:25	1976.7	181.0	1985.0	2219.2
10:15	1:45	884.6	1067.0	1386.0	893.0	6:30	5:30	1982.9	155.3	1989.0	2236.5
10:10	1:50	923.5	1055.2	1402.3	933.2	6:25	5:35	1988.1	129.5	1992.3	2253.1
10:05	1:55	962.0	1043.0	1418.9	973.1	6:20	5:40	1992.4	103.7	1995.1	2269.1
10:00	2:00	1000.0	1030.3	1435.8	1012.6	6:15	5:45	1995.7	77.8	1997.2	2284.5
9:55	2:05	1037.5	1017.0	1452.9	1051.8	6:10	5:50	1998.1	51.9	1998.8	2299.3
9:50	2:10	1074.6	1003.3	1470.2	1090.6	6:05	5:55	1999.5	26.0	1999.7	2313.5
9:45	2:15	1111.1	989.2	1487.6	1129.1	6:00	6:00	2000.0	0.0	2000.0	2327.1
9:40	2:20	1147.2	974.5	1505.2	1167.2	5:55	6:05	1999.5	-26.0	1999.7	2340.0
9:35	2:25	1182.6	959.4	1522.8	1204.8	5:50	6:10	1998.1	-51.9	1998.8	2352.4
9:30	2:30	1217.5	943.8	1540.5	1242.1	5:45	6:15	1995.7	-77.8	1997.2	2364.2
9:25	2:35	1251.8	927.8	1558.2	1278.9	5:40	6:20	1992.4	-103.7	1995.1	2375.4
9:20	2:40	1285.6	911.3	1575.8	1315.4	5:35	6:25	1988.1	-129.5	1992.3	2386.0
9:15	2:45	1318.7	894.4	1593.4	1351.3	5:30	6:30	1982.9	-155.3	1989.0	2396.0
9:10	2:50	1351.2	877.1	1610.9	1386.9	5:25	6:35	1976.7	-181.0	1985.0	2405.4
9:05	2:55	1383.0	859.4	1628.3	1421.9	5:20	6:40	1969.6	-206.6	1980.4	2414.3
9:00	3:00	1414.2	841.2	1645.5	1456.5	5:15	6:45	1961.6	-232.1	1975.3	2422.6
8:55	3:05	1444.7	822.7	1662.5	1490.6	5:10	6:50	1952.6	-257.5	1969.5	2430.4
8:50	3:10	1474.6	803.7	1679.4	1524.2	5:05	6:55	1942.7	-282.8	1963.2	2437.6
8:45	3:15	1503.7	784.4	1696.0	1557.3	5:00	7:00	1931.9	-307.9	1956.2	2444.3
8:40	3:20	1532.1	764.7	1712.3	1589.9	4:55	7:05	1920.1	-332.9	1948.7	2450.5
8:35	3:25	1559.8	744.6	1728.4	1622.0	4:50	7:10	1907.4	-357.7	1940.7	2456.2
8:30	3:30	1586.7	724.2	1744.2	1653.6	4:45	7:15	1893.9	-382.4	1932.1	2461.3
8:25	3:35	1612.9	703.4	1759.6	1684.6	4:40	7:20	1879.4	-406.9	1922.9	2466.0
8:20	3:40	1638.3	682.4	1774.7	1715.0	4:35	7:25	1864.0	-431.2	1913.2	2470.1
8:15	3:45	1662.9	660.9	1789.5	1745.0	4:30	7:30	1847.8	-455.3	1903.0	2473.8

## Analemmatic Sundial

Latitude: 36.5° N/S

## Date Scale

Semi-Major Axis (E-W): 2000 mm    Semi-Minor Axis (N-S): 1189.6 mm

Month	Date										
	1	5	6	10	11	15	16	20	21	25	26
January	-682.1	-669.2	-665.3	-647.6	-642.4	-620.4	-614.2	-588.0	-581.0	-551.4	-543.6
February	-493.4	-457.4	-448.0	-409.8	-400.3	-360.3	-350.0	-308.7	-298.3	-255.8	-244.9
March	-212.5	-169.0	-157.9	-113.8	-102.8	-58.4	-47.4	-2.8	8.1	52.5	63.4
April	129.4	172.7	183.5	225.9	236.5	278.3	288.4	329.1	339.1	378.3	387.8
May	434.4	470.1	478.7	511.9	519.9	550.4	557.7	585.5	592.2	616.5	622.0
June	652.2	667.9	671.5	683.1	685.7	693.1	694.1	696.7	697.1	692.1	694.4
July	685.7	674.8	671.5	656.8	652.5	633.3	628.1	605.3	599.2	573.1	566.2
August	521.8	489.4	481.1	446.5	437.7	401.1	391.6	353.5	343.8	304.1	293.9
September	232.5	190.6	180.0	137.3	126.5	83.4	72.7	29.2	18.2	-25.5	-36.5
October	-91.0	-134.7	-145.5	-188.9	-199.4	-242.3	-252.9	-294.8	-305.2	-346.1	-356.1
November	-414.9	-452.5	-461.6	-497.1	-505.7	-538.6	-546.4	-576.3	-583.3	-609.8	-616.2
December	-643.7	-662.3	-666.3	-679.8	-682.8	-691.4	-693.1	-696.7	-697.1	-695.4	-694.4

Northern Hemisphere

Month	Date										
	1	5	6	10	11	15	16	20	21	25	26
January	682.1	669.2	665.3	647.6	642.4	620.4	614.2	588.0	581.0	551.4	543.6
February	493.4	457.4	448.0	409.8	400.3	360.3	350.0	308.7	298.3	255.8	244.9
March	212.5	169.0	157.9	113.8	102.8	58.4	47.4	2.8	-8.1	-52.5	-63.4
April	-129.4	-172.7	-183.5	-225.9	-236.5	-278.3	-288.4	-329.1	-339.1	-378.3	-387.8
May	-434.4	-470.1	-478.7	-511.9	-519.9	-550.4	-557.7	-585.5	-592.2	-616.5	-622.0
June	-652.2	-667.9	-671.5	-683.1	-685.7	-693.1	-694.1	-696.7	-697.1	-692.1	-694.4
July	-685.7	-674.8	-671.5	-656.8	-652.5	-633.3	-628.1	-605.3	-599.2	-573.1	-566.2
August	-521.8	-489.4	-481.1	-446.5	-437.7	-401.1	-391.6	-353.5	-343.8	-304.1	-293.9
September	-232.5	-190.6	-180.0	-137.3	-126.5	-83.4	-72.7	-29.2	-18.2	25.5	36.5
October	91.0	134.7	145.5	188.9	199.4	242.3	252.9	294.8	305.2	346.1	356.1
November	414.9	452.5	461.6	497.1	505.7	538.6	546.4	576.3	583.3	609.8	616.2
December	643.7	662.3	666.3	679.8	682.8	691.4	693.1	696.7	697.1	695.4	694.4

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: 36.5° N/S

Earliest Sunrise: 4:40 a.m.    Latest Sunset: 7:20 p.m.  
 Semi-Major Axis (E-W): 2500 mm    Semi-Minor Axis (N-S): 1487.1 mm  
 Sunrise/Sunset Markers: X = ± 1554.4 mm

Local Time	X	Y	Z	W	Local Time	X	Y	Z	W		
12:00	0.0	1487.1	1487.1	0.0							
11:55	12:05	54.5	1486.7	1487.7	54.5	8:10	3:50	2108.5	799.0	2254.8	2217.9
11:50	12:10	109.0	1485.6	1489.6	109.1	8:05	3:55	2137.3	771.4	2272.2	2253.9
11:45	12:15	163.5	1483.9	1492.9	163.5	8:00	4:00	2165.1	743.5	2289.2	2289.2
11:40	12:20	217.9	1481.4	1497.3	218.0	7:55	4:05	2191.8	715.3	2305.6	2323.7
11:35	12:25	272.2	1478.2	1503.1	272.3	7:50	4:10	2217.5	686.6	2321.4	2357.6
11:30	12:30	326.3	1474.3	1510.0	326.6	7:45	4:15	2242.2	657.7	2336.7	2390.6
11:25	12:35	380.3	1469.7	1518.2	380.7	7:40	4:20	2265.8	628.5	2351.3	2423.0
11:20	12:40	434.1	1464.5	1527.5	434.7	7:35	4:25	2288.3	598.9	2365.4	2454.6
11:15	12:45	487.7	1458.5	1537.9	488.6	7:30	4:30	2309.7	569.1	2378.8	2485.4
11:10	12:50	541.1	1451.8	1549.4	542.2	7:25	4:35	2330.0	539.0	2391.5	2515.5
11:05	12:55	594.2	1444.4	1561.9	595.7	7:20	4:40	2349.2	508.6	2403.7	2544.8
11:00	1:00	647.0	1436.4	1575.4	649.0	7:15	4:45	2367.3	478.0	2415.1	2573.4
10:55	1:05	699.6	1427.6	1589.8	702.1	7:10	4:50	2384.3	447.2	2425.9	2601.2
10:50	1:10	751.8	1418.2	1605.2	754.9	7:05	4:55	2400.1	416.1	2435.9	2628.2
10:45	1:15	803.6	1408.1	1621.3	807.5	7:00	5:00	2414.8	384.9	2445.3	2654.5
10:40	1:20	855.1	1397.4	1638.2	859.7	6:55	5:05	2428.4	353.5	2453.9	2679.9
10:35	1:25	906.1	1385.9	1655.9	911.7	6:50	5:10	2440.7	321.9	2461.9	2704.6
10:30	1:30	956.7	1373.9	1674.2	963.4	6:45	5:15	2452.0	290.1	2469.1	2728.5
10:25	1:35	1006.9	1361.1	1693.1	1014.7	6:40	5:20	2462.0	258.2	2475.5	2751.6
10:20	1:40	1056.5	1347.7	1712.5	1065.7	6:35	5:25	2470.9	226.2	2481.2	2774.0
10:15	1:45	1105.7	1333.7	1732.4	1116.3	6:30	5:30	2478.6	194.1	2486.2	2795.6
10:10	1:50	1154.4	1319.0	1752.8	1166.5	6:25	5:35	2485.1	161.9	2490.4	2816.4
10:05	1:55	1202.5	1303.7	1773.6	1216.4	6:20	5:40	2490.5	129.6	2493.9	2836.4
10:00	2:00	1250.0	1287.8	1794.7	1265.8	6:15	5:45	2494.6	97.3	2496.5	2855.7
9:55	2:05	1296.9	1271.3	1816.1	1314.8	6:10	5:50	2497.6	64.9	2498.5	2874.2
9:50	2:10	1343.2	1254.2	1837.7	1363.3	6:05	5:55	2499.4	32.4	2499.6	2891.9
9:45	2:15	1388.9	1236.4	1859.5	1411.4	6:00	6:00	2500.0	0.0	2500.0	2908.8
9:40	2:20	1433.9	1218.1	1881.5	1458.9	5:55	6:05	2499.4	-32.4	2499.6	2925.0
9:35	2:25	1478.3	1199.2	1903.5	1506.0	5:50	6:10	2497.6	-64.9	2498.5	2940.5
9:30	2:30	1521.9	1179.8	1925.6	1552.6	5:45	6:15	2494.6	-97.3	2496.5	2955.2
9:25	2:35	1564.8	1159.7	1947.7	1598.7	5:40	6:20	2490.5	-129.6	2493.9	2969.2
9:20	2:40	1607.0	1139.2	1969.8	1644.2	5:35	6:25	2485.1	-161.9	2490.4	2982.4
9:15	2:45	1648.4	1118.0	1991.8	1689.2	5:30	6:30	2478.6	-194.1	2486.2	2995.0
9:10	2:50	1689.0	1096.4	2013.6	1733.6	5:25	6:35	2470.9	-226.2	2481.2	3006.8
9:05	2:55	1728.8	1074.2	2035.3	1777.4	5:20	6:40	2462.0	-258.2	2475.5	3017.9
9:00	3:00	1767.8	1051.5	2056.9	1820.6	5:15	6:45	2452.0	-290.1	2469.1	3028.3
8:55	3:05	1805.9	1028.3	2078.2	1863.3	5:10	6:50	2440.7	-321.9	2461.9	3038.0
8:50	3:10	1843.2	1004.6	2099.2	1905.3	5:05	6:55	2428.4	-353.5	2453.9	3047.0
8:45	3:15	1879.6	980.5	2120.0	1946.7	5:00	7:00	2414.8	-384.9	2445.3	3055.4
8:40	3:20	1915.1	955.9	2140.4	1987.4	4:55	7:05	2400.1	-416.1	2435.9	3063.1
8:35	3:25	1949.7	930.8	2160.5	2027.5	4:50	7:10	2384.3	-447.2	2425.9	3070.2
8:30	3:30	1983.4	905.3	2180.2	2067.0	4:45	7:15	2367.3	-478.0	2415.1	3076.6
8:25	3:35	2016.1	879.3	2199.5	2105.7	4:40	7:20	2349.2	-508.6	2403.7	3082.5
8:20	3:40	2047.9	852.9	2218.4	2143.8	4:35	7:25	2330.0	-539.0	2391.5	3087.7
8:15	3:45	2078.7	826.2	2236.8	2181.2	4:30	7:30	2309.7	-569.1	2378.8	3092.3

## Analematic Sundial

Latitude: 36.5° N/S

## Date Scale

Semi-Major Axis (E-W): 2500 mm    Semi-Minor Axis (N-S): 1487.1 mm

Month	Date										
	1	5	6	10	11	15	16	20	21	25	26
January	-852.6	-836.5	-831.6	-809.5	-803.0	-775.5	-767.8	-735.0	-726.3	-689.2	-679.4
February	-616.7	-571.7	-560.0	-512.3	-500.3	-450.3	-437.4	-385.9	-372.8	-319.7	-306.1
March	-265.6	-211.2	-197.4	-142.3	-128.5	-73.0	-59.3	-3.5	10.2	65.6	79.3
April	161.7	215.8	229.3	282.4	295.7	347.8	360.5	411.4	423.9	472.8	484.7
May	543.0	587.7	598.3	639.8	649.9	688.1	697.1	731.8	740.2	770.6	777.5
June	815.2	834.9	839.4	853.9	857.2	866.3	867.6	870.9	871.3	865.1	868.0
July	857.2	843.5	839.4	820.9	815.6	791.6	785.1	756.6	749.0	716.4	707.7
August	652.2	611.7	601.4	558.1	547.1	501.4	489.5	441.8	429.7	380.1	367.4
September	290.7	238.2	225.1	171.6	158.2	104.3	90.9	36.5	22.8	-31.9	-45.6
October	-113.8	-168.4	-181.8	-236.1	-249.2	-302.9	-316.1	-368.5	-381.5	-432.7	-445.2
November	-518.6	-565.6	-577.0	-621.3	-632.1	-673.2	-683.0	-720.3	-729.1	-762.2	-770.2
December	-804.6	-827.9	-832.8	-849.7	-853.5	-864.2	-866.3	-870.9	-871.3	-869.2	-868.0

Northern Hemisphere

Month	Date										
	1	5	6	10	11	15	16	20	21	25	26
January	852.6	836.5	831.6	809.5	803.0	775.5	767.8	735.0	726.3	689.2	679.4
February	616.7	571.7	560.0	512.3	500.3	450.3	437.4	385.9	372.8	319.7	306.1
March	265.6	211.2	197.4	142.3	128.5	73.0	59.3	3.5	-10.2	-65.6	-79.3
April	-161.7	-215.8	-229.3	-282.4	-295.7	-347.8	-360.5	-411.4	-423.9	-472.8	-484.7
May	-543.0	-587.7	-598.3	-639.8	-649.9	-688.1	-697.1	-731.8	-740.2	-770.6	-777.5
June	-815.2	-834.9	-839.4	-853.9	-857.2	-866.3	-867.6	-870.9	-871.3	-865.1	-868.0
July	-857.2	-843.5	-839.4	-820.9	-815.6	-791.6	-785.1	-756.6	-749.0	-716.4	-707.7
August	-652.2	-611.7	-601.4	-558.1	-547.1	-501.4	-489.5	-441.8	-429.7	-380.1	-367.4
September	-290.7	-238.2	-225.1	-171.6	-158.2	-104.3	-90.9	-36.5	-22.8	31.9	45.6
October	113.8	168.4	181.8	236.1	249.2	302.9	316.1	368.5	381.5	432.7	445.2
November	518.6	565.6	577.0	621.3	632.1	673.2	683.0	720.3	729.1	762.2	770.2
December	804.6	827.9	832.8	849.7	853.5	864.2	866.3	870.9	871.3	869.2	868.0

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 |