

Analemmatic Sundial

Latitude: 43.0° N/S

Earliest Sunrise: 4:19 a.m. Latest Sunset: 7:41 p.m.
 Semi-Major Axis (E-W): 1000 mm Semi-Minor Axis (N-S): 682.0 mm
 Sunrise/Sunset Markers: X = ± 502.4 mm

Local Time		X	Y	Z	W	Local Time		X	Y	Z	W
12:00		0.0	682.0	682.0	0.0						
11:55	12:05	21.8	681.8	682.2	21.8	8:25	3:35	806.4	403.3	901.7	853.3
11:50	12:10	43.6	681.3	682.7	43.6	8:20	3:40	819.2	391.2	907.8	869.2
11:45	12:15	65.4	680.5	683.7	65.4	8:15	3:45	831.5	378.9	913.7	885.0
11:40	12:20	87.2	679.4	685.0	87.2	8:10	3:50	843.4	366.4	919.6	900.5
11:35	12:25	108.9	677.9	686.6	108.9	8:05	3:55	854.9	353.8	925.2	915.7
11:30	12:30	130.5	676.2	688.6	130.7	8:00	4:00	866.0	341.0	930.7	930.7
11:25	12:35	152.1	674.1	691.0	152.3	7:55	4:05	876.7	328.0	936.1	945.5
11:20	12:40	173.6	671.6	693.7	174.0	7:50	4:10	887.0	314.9	941.3	960.0
11:15	12:45	195.1	668.9	696.8	195.5	7:45	4:15	896.9	301.6	946.2	974.2
11:10	12:50	216.4	665.8	700.1	217.0	7:40	4:20	906.3	288.2	951.0	988.2
11:05	12:55	237.7	662.5	703.8	238.5	7:35	4:25	915.3	274.7	955.6	1001.9
11:00	1:00	258.8	658.8	707.8	259.9	7:30	4:30	923.9	261.0	960.0	1015.3
10:55	1:05	279.8	654.8	712.0	281.2	7:25	4:35	932.0	247.2	964.2	1028.4
10:50	1:10	300.7	650.4	716.6	302.4	7:20	4:40	939.7	233.3	968.2	1041.3
10:45	1:15	321.4	645.8	721.4	323.5	7:15	4:45	946.9	219.2	972.0	1054.0
10:40	1:20	342.0	640.9	726.4	344.5	7:10	4:50	953.7	205.1	975.5	1066.3
10:35	1:25	362.4	635.6	731.7	365.4	7:05	4:55	960.0	190.8	978.8	1078.4
10:30	1:30	382.7	630.1	737.2	386.2	7:00	5:00	965.9	176.5	981.9	1090.2
10:25	1:35	402.7	624.2	742.9	406.9	6:55	5:05	971.3	162.1	984.8	1101.7
10:20	1:40	422.6	618.1	748.8	427.4	6:50	5:10	976.3	147.6	987.4	1113.0
10:15	1:45	442.3	611.7	754.8	447.8	6:45	5:15	980.8	133.1	989.8	1124.0
10:10	1:50	461.7	604.9	761.0	468.1	6:40	5:20	984.8	118.4	991.9	1134.7
10:05	1:55	481.0	597.9	767.4	488.3	6:35	5:25	988.4	103.7	993.8	1145.1
10:00	2:00	500.0	590.6	773.8	508.3	6:30	5:30	991.4	89.0	995.4	1155.2
9:55	2:05	518.8	583.0	780.4	528.1	6:25	5:35	994.1	74.2	996.8	1165.1
9:50	2:10	537.3	575.2	787.1	547.8	6:20	5:40	996.2	59.4	998.0	1174.7
9:45	2:15	555.6	567.1	793.9	567.3	6:15	5:45	997.9	44.6	998.9	1184.1
9:40	2:20	573.6	558.7	800.7	586.7	6:10	5:50	999.0	29.7	999.5	1193.1
9:35	2:25	591.3	550.0	807.6	605.9	6:05	5:55	999.8	14.9	999.9	1201.9
9:30	2:30	608.8	541.1	814.5	624.9	6:00	6:00	1000.0	0.0	1000.0	1210.4
9:25	2:35	625.9	531.9	821.4	643.7	5:55	6:05	999.8	-14.9	999.9	1218.7
9:20	2:40	642.8	522.4	828.3	662.3	5:50	6:10	999.0	-29.7	999.5	1226.7
9:15	2:45	659.3	512.8	835.3	680.7	5:45	6:15	997.9	-44.6	998.9	1234.4
9:10	2:50	675.6	502.8	842.2	698.9	5:40	6:20	996.2	-59.4	998.0	1241.8
9:05	2:55	691.5	492.7	849.1	717.0	5:35	6:25	994.1	-74.2	996.8	1249.0
9:00	3:00	707.1	482.2	855.9	734.8	5:30	6:30	991.4	-89.0	995.4	1256.0
8:55	3:05	722.4	471.6	862.7	752.4	5:25	6:35	988.4	-103.7	993.8	1262.6
8:50	3:10	737.3	460.8	869.4	769.8	5:20	6:40	984.8	-118.4	991.9	1269.1
8:45	3:15	751.8	449.7	876.1	786.9	5:15	6:45	980.8	-133.1	989.8	1275.2
8:40	3:20	766.0	438.4	882.6	803.8	5:10	6:50	976.3	-147.6	987.4	1281.2
8:35	3:25	779.9	426.9	889.1	820.6	5:05	6:55	971.3	-162.1	984.8	1286.9
8:30	3:30	793.4	415.2	895.4	837.0	5:00	7:00	965.9	-176.5	981.9	1292.3

Analemmatic Sundial**Latitude: 43.0° N/S**

Earliest Sunrise: 4:19 a.m. Latest Sunset: 7:41 p.m.
 Semi-Major Axis (E-W): 1000 mm Semi-Minor Axis (N-S): 682.0 mm
 Sunrise/Sunset Markers: X = ± 502.4 mm

Local Time		X	Y	Z	W
4:55	7:05	960.0	-190.8	978.8	1297.5
4:50	7:10	953.7	-205.1	975.5	1302.5
4:45	7:15	946.9	-219.2	972.0	1307.2
4:40	7:20	939.7	-233.3	968.2	1311.8
4:35	7:25	932.0	-247.2	964.2	1316.1
4:30	7:30	923.9	-261.0	960.0	1320.1
4:25	7:35	915.3	-274.7	955.6	1324.0
4:20	7:40	906.3	-288.2	951.0	1327.7
4:15	7:45	896.9	-301.6	946.2	1331.1

Analematic Sundial

Latitude: 43.0° N/S

Date Scale

Semi-Major Axis (E-W): 1000 mm Semi-Minor Axis (N-S): 682.0 mm

Month	Date										
	1	5	6	10	11	15	16	20	21	25	26
January	-310.3	-304.4	-302.6	-294.6	-292.2	-282.2	-279.4	-267.5	-264.3	-250.8	-247.3
February	-224.4	-208.1	-203.8	-186.4	-182.1	-163.9	-159.2	-140.4	-135.7	-116.4	-111.4
March	-96.7	-76.9	-71.8	-51.8	-46.8	-26.6	-21.6	-1.3	3.7	23.9	28.9
April	58.8	78.5	83.5	102.8	107.6	126.6	131.2	149.7	154.3	172.1	176.4
May	197.6	213.9	217.7	232.8	236.5	250.4	253.7	266.3	269.4	280.4	282.9
June	296.7	303.8	305.5	310.7	311.9	315.3	315.7	316.9	317.1	314.8	315.9
July	311.9	307.0	305.5	298.8	296.8	288.1	285.7	275.3	272.6	260.7	257.6
August	237.3	222.6	218.9	203.1	199.1	182.5	178.1	160.8	156.4	138.3	133.7
September	105.8	86.7	81.9	62.4	57.6	37.9	33.1	13.3	8.3	-11.6	-16.6
October	-41.4	-61.3	-66.2	-85.9	-90.7	-110.2	-115.1	-134.1	-138.9	-157.5	-162.0
November	-188.7	-205.8	-210.0	-226.1	-230.0	-245.0	-248.5	-262.2	-265.3	-277.4	-280.3
December	-292.8	-301.3	-303.1	-309.2	-310.6	-314.5	-315.3	-316.9	-317.1	-316.3	-315.9

Northern Hemisphere

Month	Date										
	1	5	6	10	11	15	16	20	21	25	26
January	310.3	304.4	302.6	294.6	292.2	282.2	279.4	267.5	264.3	250.8	247.3
February	224.4	208.1	203.8	186.4	182.1	163.9	159.2	140.4	135.7	116.4	111.4
March	96.7	76.9	71.8	51.8	46.8	26.6	21.6	1.3	-3.7	-23.9	-28.9
April	-58.8	-78.5	-83.5	-102.8	-107.6	-126.6	-131.2	-149.7	-154.3	-172.1	-176.4
May	-197.6	-213.9	-217.7	-232.8	-236.5	-250.4	-253.7	-266.3	-269.4	-280.4	-282.9
June	-296.7	-303.8	-305.5	-310.7	-311.9	-315.3	-315.7	-316.9	-317.1	-314.8	-315.9
July	-311.9	-307.0	-305.5	-298.8	-296.8	-288.1	-285.7	-275.3	-272.6	-260.7	-257.6
August	-237.3	-222.6	-218.9	-203.1	-199.1	-182.5	-178.1	-160.8	-156.4	-138.3	-133.7
September	-105.8	-86.7	-81.9	-62.4	-57.6	-37.9	-33.1	-13.3	-8.3	11.6	16.6
October	41.4	61.3	66.2	85.9	90.7	110.2	115.1	134.1	138.9	157.5	162.0
November	188.7	205.8	210.0	226.1	230.0	245.0	248.5	262.2	265.3	277.4	280.3
December	292.8	301.3	303.1	309.2	310.6	314.5	315.3	316.9	317.1	316.3	315.9

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: 43.0° N/S

Earliest Sunrise: 4:19 a.m. Latest Sunset: 7:41 p.m.
 Semi-Major Axis (E-W): 1500 mm Semi-Minor Axis (N-S): 1023.0 mm
 Sunrise/Sunset Markers: X = ± 753.6 mm

Local Time		X	Y	Z	W	Local Time		X	Y	Z	W
12:00		0.0	1023.0	1023.0	0.0						
11:55	12:05	32.7	1022.8	1023.3	32.7	8:25	3:35	1209.7	604.9	1352.5	1279.9
11:50	12:10	65.4	1022.0	1024.1	65.4	8:20	3:40	1228.7	586.8	1361.6	1303.9
11:45	12:15	98.1	1020.8	1025.5	98.1	8:15	3:45	1247.2	568.3	1370.6	1327.5
11:40	12:20	130.7	1019.1	1027.5	130.8	8:10	3:50	1265.1	549.7	1379.3	1350.7
11:35	12:25	163.3	1016.9	1029.9	163.4	8:05	3:55	1282.4	530.7	1387.8	1373.6
11:30	12:30	195.8	1014.2	1033.0	196.0	8:00	4:00	1299.0	511.5	1396.1	1396.1
11:25	12:35	228.2	1011.1	1036.5	228.5	7:55	4:05	1315.1	492.1	1404.1	1418.2
11:20	12:40	260.5	1007.5	1040.6	260.9	7:50	4:10	1330.5	472.4	1411.9	1440.0
11:15	12:45	292.6	1003.3	1045.1	293.3	7:45	4:15	1345.3	452.5	1419.4	1461.3
11:10	12:50	324.7	998.7	1050.2	325.6	7:40	4:20	1359.5	432.3	1426.6	1482.2
11:05	12:55	356.5	993.7	1055.7	357.7	7:35	4:25	1373.0	412.0	1433.5	1502.8
11:00	1:00	388.2	988.1	1061.7	389.8	7:30	4:30	1385.8	391.5	1440.1	1522.9
10:55	1:05	419.7	982.1	1068.1	421.7	7:25	4:35	1398.0	370.8	1446.3	1542.7
10:50	1:10	451.1	975.7	1074.9	453.5	7:20	4:40	1409.5	349.9	1452.3	1562.0
10:45	1:15	482.2	968.7	1082.1	485.2	7:15	4:45	1420.4	328.8	1458.0	1580.9
10:40	1:20	513.0	961.3	1089.6	516.7	7:10	4:50	1430.6	307.6	1463.3	1599.5
10:35	1:25	543.7	953.4	1097.5	548.1	7:05	4:55	1440.1	286.3	1468.3	1617.6
10:30	1:30	574.0	945.1	1105.8	579.3	7:00	5:00	1448.9	264.8	1472.9	1635.3
10:25	1:35	604.1	936.4	1114.3	610.3	6:55	5:05	1457.0	243.2	1477.2	1652.6
10:20	1:40	633.9	927.2	1123.2	641.1	6:50	5:10	1464.4	221.4	1481.1	1669.5
10:15	1:45	663.4	917.5	1132.2	671.8	6:45	5:15	1471.2	199.6	1484.7	1685.9
10:10	1:50	692.6	907.4	1141.5	702.2	6:40	5:20	1477.2	177.6	1487.9	1702.0
10:05	1:55	721.5	896.9	1151.1	732.4	6:35	5:25	1482.5	155.6	1490.7	1717.6
10:00	2:00	750.0	885.9	1160.8	762.4	6:30	5:30	1487.2	133.5	1493.1	1732.9
9:55	2:05	778.2	874.6	1170.6	792.2	6:25	5:35	1491.1	111.4	1495.2	1747.7
9:50	2:10	805.9	862.8	1180.7	821.7	6:20	5:40	1494.3	89.2	1496.9	1762.1
9:45	2:15	833.4	850.6	1190.8	851.0	6:15	5:45	1496.8	66.9	1498.3	1776.1
9:40	2:20	860.4	838.0	1201.0	880.0	6:10	5:50	1498.6	44.6	1499.2	1789.7
9:35	2:25	887.0	825.0	1211.3	908.8	6:05	5:55	1499.6	22.3	1499.8	1802.9
9:30	2:30	913.1	811.6	1221.7	937.3	6:00	6:00	1500.0	0.0	1500.0	1815.6
9:25	2:35	938.9	797.8	1232.1	965.5	5:55	6:05	1499.6	-22.3	1499.8	1828.0
9:20	2:40	964.2	783.7	1242.5	993.4	5:50	6:10	1498.6	-44.6	1499.2	1840.0
9:15	2:45	989.0	769.1	1252.9	1021.1	5:45	6:15	1496.8	-66.9	1498.3	1851.6
9:10	2:50	1013.4	754.2	1263.3	1048.4	5:40	6:20	1494.3	-89.2	1496.9	1862.7
9:05	2:55	1037.3	739.0	1273.6	1075.5	5:35	6:25	1491.1	-111.4	1495.2	1873.5
9:00	3:00	1060.7	723.4	1283.8	1102.2	5:30	6:30	1487.2	-133.5	1493.1	1883.9
8:55	3:05	1083.5	707.4	1294.0	1128.6	5:25	6:35	1482.5	-155.6	1490.7	1894.0
8:50	3:10	1105.9	691.1	1304.1	1154.6	5:20	6:40	1477.2	-177.6	1487.9	1903.6
8:45	3:15	1127.8	674.5	1314.1	1180.4	5:15	6:45	1471.2	-199.6	1484.7	1912.9
8:40	3:20	1149.1	657.6	1323.9	1205.8	5:10	6:50	1464.4	-221.4	1481.1	1921.8
8:35	3:25	1169.8	640.3	1333.6	1230.8	5:05	6:55	1457.0	-243.2	1477.2	1930.3
8:30	3:30	1190.0	622.8	1343.1	1255.5	5:00	7:00	1448.9	-264.8	1472.9	1938.5

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 Semi-Major Axis (E-W): 1500 mm Semi-Minor Axis (N-S): 1023.0 mm
 Sunrise/Sunset Markers: $X = \pm 753.6$ mm

Local Time		X	Y	Z	W
4:55	7:05	1440.1	-286.3	1468.3	1946.3
4:50	7:10	1430.6	-307.6	1463.3	1953.7
4:45	7:15	1420.4	-328.8	1458.0	1960.9
4:40	7:20	1409.5	-349.9	1452.3	1967.6
4:35	7:25	1398.0	-370.8	1446.3	1974.1
4:30	7:30	1385.8	-391.5	1440.1	1980.2
4:25	7:35	1373.0	-412.0	1433.5	1986.0
4:20	7:40	1359.5	-432.3	1426.6	1991.5
4:15	7:45	1345.3	-452.5	1419.4	1996.7

Analemmatic Sundial

Latitude: 43.0° N/S

Date Scale

Semi-Major Axis (E-W): 1500 mm Semi-Minor Axis (N-S): 1023.0 mm

Month	Date										
	1	5	6	10	11	15	16	20	21	25	26
January	-465.4	-456.6	-454.0	-441.9	-438.3	-423.3	-419.1	-401.2	-396.5	-376.2	-370.9
February	-336.7	-312.1	-305.7	-279.6	-273.1	-245.8	-238.8	-210.7	-203.5	-174.5	-167.1
March	-145.0	-115.3	-107.8	-77.7	-70.2	-39.8	-32.4	-1.9	5.6	35.8	43.3
April	88.3	117.8	125.2	154.2	161.4	189.9	196.8	224.6	231.4	258.1	264.6
May	296.4	320.8	326.6	349.3	354.8	375.6	380.5	399.5	404.1	420.7	424.4
June	445.0	455.8	458.2	466.1	467.9	472.9	473.6	475.4	475.6	472.2	473.8
July	467.9	460.5	458.2	448.1	445.2	432.1	428.6	413.0	408.9	391.1	386.3
August	356.0	333.9	328.3	304.6	298.7	273.7	267.2	241.2	234.6	207.5	200.6
September	158.7	130.0	122.9	93.7	86.3	56.9	49.6	19.9	12.4	-17.4	-24.9
October	-62.1	-91.9	-99.3	-128.9	-136.1	-165.3	-172.6	-201.1	-208.3	-236.2	-243.0
November	-283.1	-308.8	-315.0	-339.2	-345.1	-367.5	-372.8	-393.2	-398.0	-416.1	-420.5
December	-439.2	-451.9	-454.6	-463.9	-465.9	-471.8	-472.9	-475.4	-475.6	-474.5	-473.8

Northern Hemisphere

Month	Date										
	1	5	6	10	11	15	16	20	21	25	26
January	465.4	456.6	454.0	441.9	438.3	423.3	419.1	401.2	396.5	376.2	370.9
February	336.7	312.1	305.7	279.6	273.1	245.8	238.8	210.7	203.5	174.5	167.1
March	145.0	115.3	107.8	77.7	70.2	39.8	32.4	1.9	-5.6	-35.8	-43.3
April	-88.3	-117.8	-125.2	-154.2	-161.4	-189.9	-196.8	-224.6	-231.4	-258.1	-264.6
May	-296.4	-320.8	-326.6	-349.3	-354.8	-375.6	-380.5	-399.5	-404.1	-420.7	-424.4
June	-445.0	-455.8	-458.2	-466.1	-467.9	-472.9	-473.6	-475.4	-475.6	-472.2	-473.8
July	-467.9	-460.5	-458.2	-448.1	-445.2	-432.1	-428.6	-413.0	-408.9	-391.1	-386.3
August	-356.0	-333.9	-328.3	-304.6	-298.7	-273.7	-267.2	-241.2	-234.6	-207.5	-200.6
September	-158.7	-130.0	-122.9	-93.7	-86.3	-56.9	-49.6	-19.9	-12.4	17.4	24.9
October	62.1	91.9	99.3	128.9	136.1	165.3	172.6	201.1	208.3	236.2	243.0
November	283.1	308.8	315.0	339.2	345.1	367.5	372.8	393.2	398.0	416.1	420.5
December	439.2	451.9	454.6	463.9	465.9	471.8	472.9	475.4	475.6	474.5	473.8

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: 43.0° N/S

Earliest Sunrise: 4:19 a.m. Latest Sunset: 7:41 p.m.
 Semi-Major Axis (E-W): 2000 mm Semi-Minor Axis (N-S): 1364.0 mm
 Sunrise/Sunset Markers: X = ± 1004.8 mm

Local Time		X	Y	Z	W	Local Time		X	Y	Z	W
12:00		0.0	1364.0	1364.0	0.0						
11:55	12:05	43.6	1363.7	1364.4	43.6	8:25	3:35	1612.9	806.5	1803.3	1706.5
11:50	12:10	87.2	1362.7	1365.5	87.2	8:20	3:40	1638.3	782.4	1815.5	1738.5
11:45	12:15	130.8	1361.1	1367.3	130.8	8:15	3:45	1662.9	757.8	1827.5	1770.0
11:40	12:20	174.3	1358.8	1369.9	174.4	8:10	3:50	1686.8	732.9	1839.1	1801.0
11:35	12:25	217.7	1355.9	1373.3	217.9	8:05	3:55	1709.8	707.6	1850.5	1831.5
11:30	12:30	261.1	1352.3	1377.3	261.3	8:00	4:00	1732.1	682.0	1861.5	1861.5
11:25	12:35	304.2	1348.1	1382.0	304.7	7:55	4:05	1753.5	656.1	1872.2	1891.0
11:20	12:40	347.3	1343.3	1387.4	347.9	7:50	4:10	1774.0	629.8	1882.5	1919.9
11:15	12:45	390.2	1337.8	1393.5	391.1	7:45	4:15	1793.7	603.3	1892.5	1948.4
11:10	12:50	432.9	1331.7	1400.3	434.1	7:40	4:20	1812.6	576.4	1902.1	1976.3
11:05	12:55	475.4	1324.9	1407.6	477.0	7:35	4:25	1830.6	549.3	1911.3	2003.7
11:00	1:00	517.6	1317.5	1415.6	519.7	7:30	4:30	1847.8	522.0	1920.1	2030.6
10:55	1:05	559.7	1309.5	1424.1	562.3	7:25	4:35	1864.0	494.4	1928.5	2056.9
10:50	1:10	601.4	1300.9	1433.2	604.7	7:20	4:40	1879.4	466.5	1936.4	2082.7
10:45	1:15	642.9	1291.6	1442.8	646.9	7:15	4:45	1893.9	438.4	1943.9	2107.9
10:40	1:20	684.0	1281.7	1452.8	689.0	7:10	4:50	1907.4	410.2	1951.0	2132.6
10:35	1:25	724.9	1271.3	1463.4	730.8	7:05	4:55	1920.1	381.7	1957.7	2156.8
10:30	1:30	765.4	1260.2	1474.4	772.4	7:00	5:00	1931.9	353.0	1963.8	2180.4
10:25	1:35	805.5	1248.5	1485.8	813.7	6:55	5:05	1942.7	324.2	1969.6	2203.5
10:20	1:40	845.2	1236.2	1497.5	854.8	6:50	5:10	1952.6	295.2	1974.8	2226.0
10:15	1:45	884.6	1223.3	1509.6	895.7	6:45	5:15	1961.6	266.1	1979.5	2247.9
10:10	1:50	923.5	1209.9	1522.1	936.3	6:40	5:20	1969.6	236.9	1983.8	2269.3
10:05	1:55	962.0	1195.9	1534.8	976.6	6:35	5:25	1976.7	207.5	1987.6	2290.2
10:00	2:00	1000.0	1181.3	1547.7	1016.6	6:30	5:30	1982.9	178.0	1990.9	2310.5
9:55	2:05	1037.5	1166.1	1560.9	1056.3	6:25	5:35	1988.1	148.5	1993.7	2330.2
9:50	2:10	1074.6	1150.4	1574.2	1095.6	6:20	5:40	1992.4	118.9	1995.9	2349.5
9:45	2:15	1111.1	1134.1	1587.7	1134.7	6:15	5:45	1995.7	89.2	1997.7	2368.1
9:40	2:20	1147.2	1117.3	1601.4	1173.4	6:10	5:50	1998.1	59.5	1999.0	2386.2
9:35	2:25	1182.6	1100.0	1615.1	1211.7	6:05	5:55	1999.5	29.8	1999.7	2403.8
9:30	2:30	1217.5	1082.1	1628.9	1249.7	6:00	6:00	2000.0	0.0	2000.0	2420.8
9:25	2:35	1251.8	1063.8	1642.8	1287.3	5:55	6:05	1999.5	-29.8	1999.7	2437.3
9:20	2:40	1285.6	1044.9	1656.6	1324.6	5:50	6:10	1998.1	-59.5	1999.0	2453.3
9:15	2:45	1318.7	1025.5	1670.5	1361.4	5:45	6:15	1995.7	-89.2	1997.7	2468.7
9:10	2:50	1351.2	1005.6	1684.3	1397.9	5:40	6:20	1992.4	-118.9	1995.9	2483.7
9:05	2:55	1383.0	985.3	1698.1	1433.9	5:35	6:25	1988.1	-148.5	1993.7	2498.0
9:00	3:00	1414.2	964.5	1711.8	1469.6	5:30	6:30	1982.9	-178.0	1990.9	2511.9
8:55	3:05	1444.7	943.2	1725.4	1504.8	5:25	6:35	1976.7	-207.5	1987.6	2525.3
8:50	3:10	1474.6	921.5	1738.8	1539.5	5:20	6:40	1969.6	-236.9	1983.8	2538.1
8:45	3:15	1503.7	899.3	1752.1	1573.8	5:15	6:45	1961.6	-266.1	1979.5	2550.5
8:40	3:20	1532.1	876.8	1765.2	1607.7	5:10	6:50	1952.6	-295.2	1974.8	2562.3
8:35	3:25	1559.8	853.8	1778.1	1641.1	5:05	6:55	1942.7	-324.2	1969.6	2573.7
8:30	3:30	1586.7	830.3	1790.8	1674.0	5:00	7:00	1931.9	-353.0	1963.8	2584.6

Analemmatic Sundial**Latitude: 43.0° N/S**

Earliest Sunrise: 4:19 a.m. Latest Sunset: 7:41 p.m.
 Semi-Major Axis (E-W): 2000 mm Semi-Minor Axis (N-S): 1364.0 mm
 Sunrise/Sunset Markers: $X = \pm 1004.8$ mm

Local Time		X	Y	Z	W
4:55	7:05	1920.1	-381.7	1957.7	2595.0
4:50	7:10	1907.4	-410.2	1951.0	2605.0
4:45	7:15	1893.9	-438.4	1943.9	2614.5
4:40	7:20	1879.4	-466.5	1936.4	2623.5
4:35	7:25	1864.0	-494.4	1928.5	2632.1
4:30	7:30	1847.8	-522.0	1920.1	2640.3
4:25	7:35	1830.6	-549.3	1911.3	2648.0
4:20	7:40	1812.6	-576.4	1902.1	2655.4
4:15	7:45	1793.7	-603.3	1892.5	2662.3

Analemmatic Sundial

Latitude: 43.0° N/S

Date Scale

Semi-Major Axis (E-W): 2000 mm Semi-Minor Axis (N-S): 1364.0 mm

Month	Date										
	1	5	6	10	11	15	16	20	21	25	26
January	-620.6	-608.9	-605.3	-589.2	-584.4	-564.4	-558.8	-535.0	-528.6	-501.7	-494.5
February	-448.9	-416.1	-407.6	-372.8	-364.2	-327.8	-318.4	-280.9	-271.4	-232.7	-222.8
March	-193.3	-153.7	-143.7	-103.6	-93.6	-53.1	-43.2	-2.6	7.4	47.8	57.7
April	117.7	157.1	166.9	205.6	215.2	253.2	262.4	299.5	308.5	344.2	352.8
May	395.2	427.7	435.5	465.7	473.0	500.8	507.4	532.7	538.8	560.9	565.9
June	593.3	607.7	611.0	621.5	623.9	630.5	631.5	633.9	634.2	629.6	631.8
July	623.9	614.0	611.0	597.5	593.6	576.2	571.5	550.7	545.1	521.4	515.1
August	474.7	445.2	437.7	406.2	398.2	365.0	356.3	321.6	312.8	276.6	267.4
September	211.6	173.4	163.8	124.9	115.1	75.9	66.2	26.6	16.6	-23.2	-33.2
October	-82.8	-122.6	-132.3	-171.8	-181.4	-220.4	-230.1	-268.2	-277.7	-314.9	-324.0
November	-377.5	-411.7	-420.0	-452.2	-460.1	-490.0	-497.1	-524.3	-530.6	-554.8	-560.6
December	-585.6	-602.6	-606.2	-618.5	-621.2	-629.0	-630.5	-633.9	-634.2	-632.7	-631.8

Northern Hemisphere

Month	Date										
	1	5	6	10	11	15	16	20	21	25	26
January	620.6	608.9	605.3	589.2	584.4	564.4	558.8	535.0	528.6	501.7	494.5
February	448.9	416.1	407.6	372.8	364.2	327.8	318.4	280.9	271.4	232.7	222.8
March	193.3	153.7	143.7	103.6	93.6	53.1	43.2	2.6	-7.4	-47.8	-57.7
April	-117.7	-157.1	-166.9	-205.6	-215.2	-253.2	-262.4	-299.5	-308.5	-344.2	-352.8
May	-395.2	-427.7	-435.5	-465.7	-473.0	-500.8	-507.4	-532.7	-538.8	-560.9	-565.9
June	-593.3	-607.7	-611.0	-621.5	-623.9	-630.5	-631.5	-633.9	-634.2	-629.6	-631.8
July	-623.9	-614.0	-611.0	-597.5	-593.6	-576.2	-571.5	-550.7	-545.1	-521.4	-515.1
August	-474.7	-445.2	-437.7	-406.2	-398.2	-365.0	-356.3	-321.6	-312.8	-276.6	-267.4
September	-211.6	-173.4	-163.8	-124.9	-115.1	-75.9	-66.2	-26.6	-16.6	23.2	33.2
October	82.8	122.6	132.3	171.8	181.4	220.4	230.1	268.2	277.7	314.9	324.0
November	377.5	411.7	420.0	452.2	460.1	490.0	497.1	524.3	530.6	554.8	560.6
December	585.6	602.6	606.2	618.5	621.2	629.0	630.5	633.9	634.2	632.7	631.8

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: 43.0° N/S

Earliest Sunrise: 4:19 a.m. Latest Sunset: 7:41 p.m.
 Semi-Major Axis (E-W): 2500 mm Semi-Minor Axis (N-S): 1705.0 mm
 Sunrise/Sunset Markers: X = ± 1256.0 mm

Local Time		X	Y	Z	W	Local Time		X	Y	Z	W
12:00		0.0	1705.0	1705.0	0.0						
11:55	12:05	54.5	1704.6	1705.5	54.5	8:25	3:35	2016.1	1008.2	2254.1	2133.1
11:50	12:10	109.0	1703.4	1706.9	109.1	8:20	3:40	2047.9	977.9	2269.4	2173.1
11:45	12:15	163.5	1701.3	1709.2	163.5	8:15	3:45	2078.7	947.2	2284.3	2212.5
11:40	12:20	217.9	1698.5	1712.4	218.0	8:10	3:50	2108.5	916.1	2298.9	2251.2
11:35	12:25	272.2	1694.9	1716.6	272.4	8:05	3:55	2137.3	884.5	2313.1	2289.4
11:30	12:30	326.3	1690.4	1721.6	326.6	8:00	4:00	2165.1	852.5	2326.9	2326.9
11:25	12:35	380.3	1685.2	1727.5	380.8	7:55	4:05	2191.8	820.1	2340.2	2363.7
11:20	12:40	434.1	1679.1	1734.3	434.9	7:50	4:10	2217.5	787.3	2353.1	2399.9
11:15	12:45	487.7	1672.2	1741.9	488.8	7:45	4:15	2242.2	754.1	2365.6	2435.5
11:10	12:50	541.1	1664.6	1750.3	542.6	7:40	4:20	2265.8	720.6	2377.6	2470.4
11:05	12:55	594.2	1656.1	1759.5	596.2	7:35	4:25	2288.3	686.7	2389.1	2504.6
11:00	1:00	647.0	1646.9	1769.4	649.7	7:30	4:30	2309.7	652.5	2400.1	2538.2
10:55	1:05	699.6	1636.9	1780.1	702.9	7:25	4:35	2330.0	618.0	2410.6	2571.1
10:50	1:10	751.8	1626.1	1791.5	755.9	7:20	4:40	2349.2	583.1	2420.5	2603.4
10:45	1:15	803.6	1614.5	1803.4	808.7	7:15	4:45	2367.3	548.1	2429.9	2634.9
10:40	1:20	855.1	1602.2	1816.1	861.2	7:10	4:50	2384.3	512.7	2438.8	2665.8
10:35	1:25	906.1	1589.1	1829.2	913.5	7:05	4:55	2400.1	477.1	2447.1	2696.0
10:30	1:30	956.7	1575.2	1843.0	965.5	7:00	5:00	2414.8	441.3	2454.8	2725.5
10:25	1:35	1006.9	1560.6	1857.2	1017.2	6:55	5:05	2428.4	405.3	2461.9	2754.3
10:20	1:40	1056.5	1545.3	1871.9	1068.6	6:50	5:10	2440.7	369.0	2468.5	2782.4
10:15	1:45	1105.7	1529.2	1887.1	1119.6	6:45	5:15	2452.0	332.6	2474.4	2809.9
10:10	1:50	1154.4	1512.3	1902.6	1170.3	6:40	5:20	2462.0	296.1	2479.8	2836.7
10:05	1:55	1202.5	1494.8	1918.4	1220.7	6:35	5:25	2470.9	259.4	2484.5	2862.7
10:00	2:00	1250.0	1476.6	1934.6	1270.7	6:30	5:30	2478.6	222.5	2488.6	2888.1
9:55	2:05	1296.9	1457.6	1951.1	1320.3	6:25	5:35	2485.1	185.6	2492.1	2912.8
9:50	2:10	1343.2	1438.0	1967.8	1369.5	6:20	5:40	2490.5	148.6	2494.9	2936.8
9:45	2:15	1388.9	1417.7	1984.7	1418.3	6:15	5:45	2494.6	111.5	2497.1	2960.1
9:40	2:20	1433.9	1396.7	2001.7	1466.7	6:10	5:50	2497.6	74.4	2498.7	2982.8
9:35	2:25	1478.3	1375.0	2018.9	1514.7	6:05	5:55	2499.4	37.2	2499.7	3004.8
9:30	2:30	1521.9	1352.7	2036.1	1562.2	6:00	6:00	2500.0	0.0	2500.0	3026.1
9:25	2:35	1564.8	1329.7	2053.5	1609.2	5:55	6:05	2499.4	-37.2	2499.7	3046.7
9:20	2:40	1607.0	1306.1	2070.8	1655.7	5:50	6:10	2497.6	-74.4	2498.7	3066.6
9:15	2:45	1648.4	1281.9	2088.1	1701.8	5:45	6:15	2494.6	-111.5	2497.1	3085.9
9:10	2:50	1689.0	1257.1	2105.4	1747.4	5:40	6:20	2490.5	-148.6	2494.9	3104.6
9:05	2:55	1728.8	1231.6	2122.6	1792.4	5:35	6:25	2485.1	-185.6	2492.1	3122.6
9:00	3:00	1767.8	1205.6	2139.7	1836.9	5:30	6:30	2478.6	-222.5	2488.6	3139.9
8:55	3:05	1805.9	1179.0	2156.7	1880.9	5:25	6:35	2470.9	-259.4	2484.5	3156.6
8:50	3:10	1843.2	1151.9	2173.5	1924.4	5:20	6:40	2462.0	-296.1	2479.8	3172.7
8:45	3:15	1879.6	1124.2	2190.1	1967.3	5:15	6:45	2452.0	-332.6	2474.4	3188.1
8:40	3:20	1915.1	1096.0	2206.5	2009.6	5:10	6:50	2440.7	-369.0	2468.5	3202.9
8:35	3:25	1949.7	1067.2	2222.7	2051.4	5:05	6:55	2428.4	-405.3	2461.9	3217.2
8:30	3:30	1983.4	1037.9	2238.6	2092.6	5:00	7:00	2414.8	-441.3	2454.8	3230.8

Analemmatic Sundial**Latitude: 43.0° N/S**

Earliest Sunrise: 4:19 a.m. Latest Sunset: 7:41 p.m.
 Semi-Major Axis (E-W): 2500 mm Semi-Minor Axis (N-S): 1705.0 mm
 Sunrise/Sunset Markers: $X = \pm 1256.0$ mm

Local Time		X	Y	Z	W
4:55	7:05	2400.1	-477.1	2447.1	3243.8
4:50	7:10	2384.3	-512.7	2438.8	3256.2
4:45	7:15	2367.3	-548.1	2429.9	3268.1
4:40	7:20	2349.2	-583.1	2420.5	3279.4
4:35	7:25	2330.0	-618.0	2410.6	3290.2
4:30	7:30	2309.7	-652.5	2400.1	3300.4
4:25	7:35	2288.3	-686.7	2389.1	3310.0
4:20	7:40	2265.8	-720.6	2377.6	3319.2
4:15	7:45	2242.2	-754.1	2365.6	3327.8

Analemmatic Sundial

Latitude: 43.0° N/S

Date Scale

Semi-Major Axis (E-W): 2500 mm Semi-Minor Axis (N-S): 1705.0 mm

Month	Date										
	1	5	6	10	11	15	16	20	21	25	26
January	-775.7	-761.1	-756.6	-736.5	-730.6	-705.5	-698.6	-668.7	-660.8	-627.1	-618.2
February	-561.1	-520.1	-509.5	-466.0	-455.2	-409.7	-398.0	-351.1	-339.2	-290.9	-278.5
March	-241.7	-192.2	-179.6	-129.5	-117.0	-66.4	-53.9	-3.2	9.3	59.7	72.2
April	147.1	196.4	208.6	257.0	269.0	316.5	328.0	374.3	385.6	430.2	441.0
May	494.0	534.7	544.4	582.1	591.3	626.0	634.2	665.8	673.4	701.1	707.3
June	741.7	759.6	763.7	776.9	779.9	788.2	789.3	792.3	792.7	787.0	789.7
July	779.9	767.5	763.7	746.9	742.1	720.2	714.3	688.3	681.4	651.8	643.9
August	593.4	556.6	547.2	507.7	497.8	456.2	445.4	402.0	391.0	345.8	334.3
September	264.5	216.7	204.8	156.1	143.9	94.9	82.7	33.2	20.7	-29.0	-41.5
October	-103.5	-153.2	-165.4	-214.8	-226.8	-275.5	-287.6	-335.2	-347.1	-393.6	-405.0
November	-471.8	-514.6	-525.0	-565.3	-575.1	-612.5	-621.4	-655.4	-663.3	-693.4	-700.8
December	-732.0	-753.2	-757.7	-773.1	-776.5	-786.3	-788.2	-792.3	-792.7	-790.8	-789.7

Northern Hemisphere

Month	Date										
	1	5	6	10	11	15	16	20	21	25	26
January	775.7	761.1	756.6	736.5	730.6	705.5	698.6	668.7	660.8	627.1	618.2
February	561.1	520.1	509.5	466.0	455.2	409.7	398.0	351.1	339.2	290.9	278.5
March	241.7	192.2	179.6	129.5	117.0	66.4	53.9	3.2	-9.3	-59.7	-72.2
April	-147.1	-196.4	-208.6	-257.0	-269.0	-316.5	-328.0	-374.3	-385.6	-430.2	-441.0
May	-494.0	-534.7	-544.4	-582.1	-591.3	-626.0	-634.2	-665.8	-673.4	-701.1	-707.3
June	-741.7	-759.6	-763.7	-776.9	-779.9	-788.2	-789.3	-792.3	-792.7	-787.0	-789.7
July	-779.9	-767.5	-763.7	-746.9	-742.1	-720.2	-714.3	-688.3	-681.4	-651.8	-643.9
August	-593.4	-556.6	-547.2	-507.7	-497.8	-456.2	-445.4	-402.0	-391.0	-345.8	-334.3
September	-264.5	-216.7	-204.8	-156.1	-143.9	-94.9	-82.7	-33.2	-20.7	29.0	41.5
October	103.5	153.2	165.4	214.8	226.8	275.5	287.6	335.2	347.1	393.6	405.0
November	471.8	514.6	525.0	565.3	575.1	612.5	621.4	655.4	663.3	693.4	700.8
December	732.0	753.2	757.7	773.1	776.5	786.3	788.2	792.3	792.7	790.8	789.7

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 |