

Analemmatic Sundial

Latitude: 27.0° N/S

Earliest Sunrise: 5:05 a.m. Latest Sunset: 6:55 p.m.  
 Semi-Major Axis (E-W): 1000 mm Semi-Minor Axis (N-S): 454.0 mm  
 Sunrise/Sunset Markers: X = ± 779.8 mm

Local Time	X	Y	Z	W	Local Time	X	Y	Z	W		
12:00	0.0	454.0	454.0	0.0							
11:55	12:05	21.8	453.9	454.4	21.8	8:25	3:35	806.4	268.4	850.0	827.5
11:50	12:10	43.6	453.6	455.7	43.6	8:20	3:40	819.2	260.4	859.5	841.7
11:45	12:15	65.4	453.0	457.7	65.4	8:15	3:45	831.5	252.2	868.9	855.6
11:40	12:20	87.2	452.3	460.6	87.2	8:10	3:50	843.4	243.9	878.0	869.2
11:35	12:25	108.9	451.3	464.2	108.9	8:05	3:55	854.9	235.5	886.8	882.4
11:30	12:30	130.5	450.1	468.7	130.6	8:00	4:00	866.0	227.0	895.3	895.3
11:25	12:35	152.1	448.7	473.8	152.2	7:55	4:05	876.7	218.4	903.5	907.8
11:20	12:40	173.6	447.1	479.6	173.8	7:50	4:10	887.0	209.6	911.4	920.1
11:15	12:45	195.1	445.3	486.1	195.3	7:45	4:15	896.9	200.8	919.1	931.9
11:10	12:50	216.4	443.2	493.3	216.7	7:40	4:20	906.3	191.9	926.4	943.5
11:05	12:55	237.7	441.0	501.0	238.0	7:35	4:25	915.3	182.8	933.4	954.6
11:00	1:00	258.8	438.5	509.2	259.3	7:30	4:30	923.9	173.7	940.1	965.5
10:55	1:05	279.8	435.9	518.0	280.4	7:25	4:35	932.0	164.5	946.4	975.9
10:50	1:10	300.7	433.0	527.2	301.4	7:20	4:40	939.7	155.3	952.4	986.0
10:45	1:15	321.4	429.9	536.8	322.3	7:15	4:45	946.9	145.9	958.1	995.8
10:40	1:20	342.0	426.6	546.8	343.1	7:10	4:50	953.7	136.5	963.4	1005.2
10:35	1:25	362.4	423.1	557.1	363.8	7:05	4:55	960.0	127.0	968.4	1014.2
10:30	1:30	382.7	419.4	567.8	384.2	7:00	5:00	965.9	117.5	973.0	1022.9
10:25	1:35	402.7	415.5	578.7	404.6	6:55	5:05	971.3	107.9	977.3	1031.2
10:20	1:40	422.6	411.5	589.8	424.8	6:50	5:10	976.3	98.3	981.2	1039.1
10:15	1:45	442.3	407.2	601.2	444.8	6:45	5:15	980.8	88.6	984.8	1046.6
10:10	1:50	461.7	402.7	612.7	464.6	6:40	5:20	984.8	78.8	988.0	1053.8
10:05	1:55	481.0	398.0	624.3	484.2	6:35	5:25	988.4	69.1	990.8	1060.7
10:00	2:00	500.0	393.2	636.1	503.7	6:30	5:30	991.4	59.3	993.2	1067.1
9:55	2:05	518.8	388.1	647.9	522.9	6:25	5:35	994.1	49.4	995.3	1073.2
9:50	2:10	537.3	382.9	659.8	542.0	6:20	5:40	996.2	39.6	997.0	1079.0
9:45	2:15	555.6	377.5	671.7	560.8	6:15	5:45	997.9	29.7	998.3	1084.3
9:40	2:20	573.6	371.9	683.6	579.4	6:10	5:50	999.0	19.8	999.2	1089.3
9:35	2:25	591.3	366.1	695.5	597.8	6:05	5:55	999.8	9.9	999.8	1094.0
9:30	2:30	608.8	360.2	707.3	615.9	6:00	6:00	1000.0	0.0	1000.0	1098.2
9:25	2:35	625.9	354.1	719.1	633.9	5:55	6:05	999.8	-9.9	999.8	1102.1
9:20	2:40	642.8	347.8	730.8	651.5	5:50	6:10	999.0	-19.8	999.2	1105.7
9:15	2:45	659.3	341.3	742.5	668.9	5:45	6:15	997.9	-29.7	998.3	1108.9
9:10	2:50	675.6	334.7	754.0	686.0	5:40	6:20	996.2	-39.6	997.0	1111.8
9:05	2:55	691.5	327.9	765.3	702.9	5:35	6:25	994.1	-49.4	995.3	1114.3
9:00	3:00	707.1	321.0	776.6	719.5	5:30	6:30	991.4	-59.3	993.2	1116.4
8:55	3:05	722.4	313.9	787.6	735.8	5:25	6:35	988.4	-69.1	990.8	1118.2
8:50	3:10	737.3	306.7	798.5	751.8	5:20	6:40	984.8	-78.8	988.0	1119.7
8:45	3:15	751.8	299.3	809.2	767.6	5:15	6:45	980.8	-88.6	984.8	1120.9
8:40	3:20	766.0	291.8	819.7	783.0	5:10	6:50	976.3	-98.3	981.2	1121.7
8:35	3:25	779.9	284.2	830.0	798.2	5:05	6:55	971.3	-107.9	977.3	1122.2
8:30	3:30	793.4	276.4	840.1	813.0	5:00	7:00	965.9	-117.5	973.0	1122.3

## Analematic Sundial

Latitude: 27.0° N/S

## Date Scale

Semi-Major Axis (E-W): 1000 mm    Semi-Minor Axis (N-S): 454.0 mm

Month	Date										
	1	5	6	10	11	15	16	20	21	25	26
January	-378.0	-370.9	-368.7	-358.9	-356.0	-343.8	-340.4	-325.9	-322.0	-305.6	-301.2
February	-273.4	-253.5	-248.3	-227.1	-221.8	-199.7	-193.9	-171.1	-165.3	-141.8	-135.7
March	-117.8	-93.6	-87.5	-63.1	-57.0	-32.4	-26.3	-1.6	4.5	29.1	35.2
April	71.7	95.7	101.7	125.2	131.1	154.2	159.8	182.4	187.9	209.6	214.9
May	240.7	260.5	265.3	283.7	288.1	305.1	309.1	324.5	328.2	341.7	344.7
June	361.4	370.2	372.2	378.6	380.0	384.1	384.7	386.1	386.3	383.5	384.8
July	380.0	374.0	372.2	364.0	361.6	351.0	348.1	335.4	332.1	317.6	313.8
August	289.2	271.2	266.6	247.4	242.6	222.3	217.0	195.9	190.5	168.5	162.9
September	128.9	105.6	99.8	76.1	70.1	46.2	40.3	16.2	10.1	-14.2	-20.2
October	-50.4	-74.7	-80.6	-104.7	-110.5	-134.3	-140.2	-163.4	-169.2	-191.8	-197.4
November	-229.9	-250.8	-255.8	-275.5	-280.2	-298.5	-302.8	-319.4	-323.2	-337.9	-341.5
December	-356.7	-367.1	-369.2	-376.7	-378.4	-383.2	-384.1	-386.1	-386.3	-385.4	-384.8

Northern Hemisphere

Month	Date										
	1	5	6	10	11	15	16	20	21	25	26
January	378.0	370.9	368.7	358.9	356.0	343.8	340.4	325.9	322.0	305.6	301.2
February	273.4	253.5	248.3	227.1	221.8	199.7	193.9	171.1	165.3	141.8	135.7
March	117.8	93.6	87.5	63.1	57.0	32.4	26.3	1.6	-4.5	-29.1	-35.2
April	-71.7	-95.7	-101.7	-125.2	-131.1	-154.2	-159.8	-182.4	-187.9	-209.6	-214.9
May	-240.7	-260.5	-265.3	-283.7	-288.1	-305.1	-309.1	-324.5	-328.2	-341.7	-344.7
June	-361.4	-370.2	-372.2	-378.6	-380.0	-384.1	-384.7	-386.1	-386.3	-383.5	-384.8
July	-380.0	-374.0	-372.2	-364.0	-361.6	-351.0	-348.1	-335.4	-332.1	-317.6	-313.8
August	-289.2	-271.2	-266.6	-247.4	-242.6	-222.3	-217.0	-195.9	-190.5	-168.5	-162.9
September	-128.9	-105.6	-99.8	-76.1	-70.1	-46.2	-40.3	-16.2	-10.1	14.2	20.2
October	50.4	74.7	80.6	104.7	110.5	134.3	140.2	163.4	169.2	191.8	197.4
November	229.9	250.8	255.8	275.5	280.2	298.5	302.8	319.4	323.2	337.9	341.5
December	356.7	367.1	369.2	376.7	378.4	383.2	384.1	386.1	386.3	385.4	384.8

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: 27.0° N/S

Earliest Sunrise: 5:05 a.m.    Latest Sunset: 6:55 p.m.  
 Semi-Major Axis (E-W): 1500 mm    Semi-Minor Axis (N-S): 681.0 mm  
 Sunrise/Sunset Markers: X = ± 1169.7 mm

Local Time	X	Y	Z	W	Local Time	X	Y	Z	W		
12:00	0.0	681.0	681.0	0.0							
11:55	12:05	32.7	680.8	681.6	32.7	8:25	3:35	1209.7	402.7	1274.9	1241.3
11:50	12:10	65.4	680.3	683.5	65.4	8:20	3:40	1228.7	390.6	1289.3	1262.6
11:45	12:15	98.1	679.5	686.6	98.1	8:15	3:45	1247.2	378.3	1303.3	1283.4
11:40	12:20	130.7	678.4	690.9	130.8	8:10	3:50	1265.1	365.9	1316.9	1303.7
11:35	12:25	163.3	676.9	696.4	163.4	8:05	3:55	1282.4	353.3	1330.1	1323.6
11:30	12:30	195.8	675.2	703.0	195.9	8:00	4:00	1299.0	340.5	1342.9	1342.9
11:25	12:35	228.2	673.1	710.7	228.3	7:55	4:05	1315.1	327.5	1355.3	1361.8
11:20	12:40	260.5	670.6	719.4	260.7	7:50	4:10	1330.5	314.4	1367.2	1380.1
11:15	12:45	292.6	667.9	729.2	292.9	7:45	4:15	1345.3	301.2	1378.6	1397.9
11:10	12:50	324.7	664.8	739.9	325.1	7:40	4:20	1359.5	287.8	1389.6	1415.2
11:05	12:55	356.5	661.5	751.4	357.1	7:35	4:25	1373.0	274.3	1400.1	1431.9
11:00	1:00	388.2	657.8	763.8	388.9	7:30	4:30	1385.8	260.6	1410.1	1448.2
10:55	1:05	419.7	653.8	776.9	420.6	7:25	4:35	1398.0	246.8	1419.6	1463.9
10:50	1:10	451.1	649.5	790.7	452.2	7:20	4:40	1409.5	232.9	1428.7	1479.0
10:45	1:15	482.2	644.8	805.2	483.5	7:15	4:45	1420.4	218.9	1437.2	1493.7
10:40	1:20	513.0	639.9	820.2	514.7	7:10	4:50	1430.6	204.8	1445.2	1507.8
10:35	1:25	543.7	634.7	835.7	545.6	7:05	4:55	1440.1	190.6	1452.6	1521.3
10:30	1:30	574.0	629.1	851.7	576.4	7:00	5:00	1448.9	176.3	1459.6	1534.3
10:25	1:35	604.1	623.3	868.0	606.9	6:55	5:05	1457.0	161.9	1466.0	1546.7
10:20	1:40	633.9	617.2	884.7	637.1	6:50	5:10	1464.4	147.4	1471.8	1558.6
10:15	1:45	663.4	610.8	901.8	667.1	6:45	5:15	1471.2	132.9	1477.2	1570.0
10:10	1:50	692.6	604.0	919.0	696.9	6:40	5:20	1477.2	118.3	1481.9	1580.8
10:05	1:55	721.5	597.0	936.5	726.4	6:35	5:25	1482.5	103.6	1486.2	1591.0
10:00	2:00	750.0	589.8	954.1	755.5	6:30	5:30	1487.2	88.9	1489.8	1600.7
9:55	2:05	778.2	582.2	971.8	784.4	6:25	5:35	1491.1	74.1	1492.9	1609.8
9:50	2:10	805.9	574.3	989.7	813.0	6:20	5:40	1494.3	59.4	1495.5	1618.4
9:45	2:15	833.4	566.2	1007.5	841.2	6:15	5:45	1496.8	44.5	1497.5	1626.5
9:40	2:20	860.4	557.8	1025.4	869.1	6:10	5:50	1498.6	29.7	1498.9	1634.0
9:35	2:25	887.0	549.2	1043.2	896.7	6:05	5:55	1499.6	14.9	1499.7	1640.9
9:30	2:30	913.1	540.3	1061.0	923.9	6:00	6:00	1500.0	0.0	1500.0	1647.3
9:25	2:35	938.9	531.1	1078.7	950.8	5:55	6:05	1499.6	-14.9	1499.7	1653.2
9:20	2:40	964.2	521.7	1096.3	977.3	5:50	6:10	1498.6	-29.7	1498.9	1658.6
9:15	2:45	989.0	512.0	1113.7	1003.4	5:45	6:15	1496.8	-44.5	1497.5	1663.4
9:10	2:50	1013.4	502.1	1130.9	1029.1	5:40	6:20	1494.3	-59.4	1495.5	1667.6
9:05	2:55	1037.3	491.9	1148.0	1054.4	5:35	6:25	1491.1	-74.1	1492.9	1671.4
9:00	3:00	1060.7	481.5	1164.8	1079.3	5:30	6:30	1487.2	-88.9	1489.8	1674.6
8:55	3:05	1083.5	470.9	1181.5	1103.7	5:25	6:35	1482.5	-103.6	1486.2	1677.3
8:50	3:10	1105.9	460.1	1197.8	1127.8	5:20	6:40	1477.2	-118.3	1481.9	1679.6
8:45	3:15	1127.8	449.0	1213.9	1151.4	5:15	6:45	1471.2	-132.9	1477.2	1681.3
8:40	3:20	1149.1	437.7	1229.6	1174.5	5:10	6:50	1464.4	-147.4	1471.8	1682.5
8:35	3:25	1169.8	426.2	1245.1	1197.2	5:05	6:55	1457.0	-161.9	1466.0	1683.2
8:30	3:30	1190.0	414.6	1260.2	1219.5	5:00	7:00	1448.9	-176.3	1459.6	1683.5

## Analemmatic Sundial

Latitude: 27.0° N/S

## Date Scale

Semi-Major Axis (E-W): 1500 mm    Semi-Minor Axis (N-S): 681.0 mm

Month	Date										
	1	5	6	10	11	15	16	20	21	25	26
January	-567.0	-556.3	-553.1	-538.4	-534.0	-515.7	-510.6	-488.8	-483.0	-458.4	-451.9
February	-410.1	-380.2	-372.4	-340.7	-332.7	-299.5	-290.9	-256.6	-247.9	-212.6	-203.6
March	-176.7	-140.5	-131.3	-94.6	-85.5	-48.5	-39.4	-2.3	6.8	43.6	52.7
April	107.5	143.5	152.5	187.8	196.6	231.3	239.8	273.6	281.9	314.5	322.3
May	361.1	390.8	397.9	425.5	432.2	457.6	463.6	486.7	492.3	512.5	517.1
June	542.2	555.2	558.3	567.9	570.1	576.1	577.0	579.2	579.5	575.3	577.3
July	570.1	561.0	558.3	546.0	542.4	526.5	522.2	503.2	498.1	476.4	470.7
August	433.7	406.8	400.0	371.1	363.9	333.5	325.6	293.9	285.8	252.8	244.3
September	193.3	158.4	149.7	114.1	105.2	69.3	60.5	24.3	15.2	-21.2	-30.3
October	-75.7	-112.0	-120.9	-157.0	-165.8	-201.4	-210.2	-245.1	-253.7	-287.7	-296.1
November	-344.9	-376.2	-383.7	-413.2	-420.4	-447.7	-454.2	-479.1	-484.9	-506.9	-512.2
December	-535.1	-550.6	-553.9	-565.1	-567.6	-574.8	-576.1	-579.2	-579.5	-578.1	-577.3

Northern Hemisphere

Month	Date										
	1	5	6	10	11	15	16	20	21	25	26
January	567.0	556.3	553.1	538.4	534.0	515.7	510.6	488.8	483.0	458.4	451.9
February	410.1	380.2	372.4	340.7	332.7	299.5	290.9	256.6	247.9	212.6	203.6
March	176.7	140.5	131.3	94.6	85.5	48.5	39.4	2.3	-6.8	-43.6	-52.7
April	-107.5	-143.5	-152.5	-187.8	-196.6	-231.3	-239.8	-273.6	-281.9	-314.5	-322.3
May	-361.1	-390.8	-397.9	-425.5	-432.2	-457.6	-463.6	-486.7	-492.3	-512.5	-517.1
June	-542.2	-555.2	-558.3	-567.9	-570.1	-576.1	-577.0	-579.2	-579.5	-575.3	-577.3
July	-570.1	-561.0	-558.3	-546.0	-542.4	-526.5	-522.2	-503.2	-498.1	-476.4	-470.7
August	-433.7	-406.8	-400.0	-371.1	-363.9	-333.5	-325.6	-293.9	-285.8	-252.8	-244.3
September	-193.3	-158.4	-149.7	-114.1	-105.2	-69.3	-60.5	-24.3	-15.2	21.2	30.3
October	75.7	112.0	120.9	157.0	165.8	201.4	210.2	245.1	253.7	287.7	296.1
November	344.9	376.2	383.7	413.2	420.4	447.7	454.2	479.1	484.9	506.9	512.2
December	535.1	550.6	553.9	565.1	567.6	574.8	576.1	579.2	579.5	578.1	577.3

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: 27.0° N/S

Earliest Sunrise: 5:05 a.m. Latest Sunset: 6:55 p.m.  
 Semi-Major Axis (E-W): 2000 mm Semi-Minor Axis (N-S): 908.0 mm  
 Sunrise/Sunset Markers: X = ± 1559.6 mm

Local Time	X	Y	Z	W	Local Time	X	Y	Z	W		
12:00	0.0	908.0	908.0	0.0							
11:55	12:05	43.6	907.8	908.8	43.6	8:25	3:35	1612.9	536.9	1699.9	1655.0
11:50	12:10	87.2	907.1	911.3	87.2	8:20	3:40	1638.3	520.8	1719.1	1683.4
11:45	12:15	130.8	906.0	915.4	130.8	8:15	3:45	1662.9	504.4	1737.8	1711.2
11:40	12:20	174.3	904.5	921.2	174.3	8:10	3:50	1686.8	487.9	1755.9	1738.3
11:35	12:25	217.7	902.6	928.5	217.8	8:05	3:55	1709.8	471.0	1773.5	1764.8
11:30	12:30	261.1	900.2	937.3	261.2	8:00	4:00	1732.1	454.0	1790.6	1790.6
11:25	12:35	304.2	897.4	947.6	304.4	7:55	4:05	1753.5	436.7	1807.0	1815.7
11:20	12:40	347.3	894.2	959.3	347.6	7:50	4:10	1774.0	419.3	1822.9	1840.1
11:15	12:45	390.2	890.5	972.3	390.6	7:45	4:15	1793.7	401.6	1838.2	1863.9
11:10	12:50	432.9	886.5	986.5	433.4	7:40	4:20	1812.6	383.7	1852.8	1886.9
11:05	12:55	475.4	882.0	1001.9	476.1	7:35	4:25	1830.6	365.7	1866.8	1909.3
11:00	1:00	517.6	877.0	1018.4	518.6	7:30	4:30	1847.8	347.5	1880.1	1930.9
10:55	1:05	559.7	871.7	1035.9	560.8	7:25	4:35	1864.0	329.1	1892.8	1951.8
10:50	1:10	601.4	866.0	1054.3	602.9	7:20	4:40	1879.4	310.5	1904.9	1972.1
10:45	1:15	642.9	859.8	1073.6	644.7	7:15	4:45	1893.9	291.9	1916.2	1991.6
10:40	1:20	684.0	853.2	1093.6	686.2	7:10	4:50	1907.4	273.0	1926.9	2010.3
10:35	1:25	724.9	846.2	1114.3	727.5	7:05	4:55	1920.1	254.1	1936.8	2028.4
10:30	1:30	765.4	838.9	1135.6	768.5	7:00	5:00	1931.9	235.0	1946.1	2045.7
10:25	1:35	805.5	831.1	1157.4	809.2	6:55	5:05	1942.7	215.8	1954.6	2062.3
10:20	1:40	845.2	822.9	1179.7	849.5	6:50	5:10	1952.6	196.5	1962.5	2078.2
10:15	1:45	884.6	814.3	1202.3	889.5	6:45	5:15	1961.6	177.1	1969.6	2093.3
10:10	1:50	923.5	805.4	1225.4	929.2	6:40	5:20	1969.6	157.7	1975.9	2107.7
10:05	1:55	962.0	796.1	1248.6	968.5	6:35	5:25	1976.7	138.1	1981.5	2121.3
10:00	2:00	1000.0	786.3	1272.1	1007.4	6:30	5:30	1982.9	118.5	1986.4	2134.3
9:55	2:05	1037.5	776.2	1295.8	1045.9	6:25	5:35	1988.1	98.8	1990.6	2146.5
9:50	2:10	1074.6	765.8	1319.5	1084.0	6:20	5:40	1992.4	79.1	1994.0	2157.9
9:45	2:15	1111.1	755.0	1343.4	1121.6	6:15	5:45	1995.7	59.4	1996.6	2168.6
9:40	2:20	1147.2	743.8	1367.2	1158.8	6:10	5:50	1998.1	39.6	1998.5	2178.6
9:35	2:25	1182.6	732.2	1391.0	1195.6	6:05	5:55	1999.5	19.8	1999.6	2187.9
9:30	2:30	1217.5	720.3	1414.7	1231.9	6:00	6:00	2000.0	0.0	2000.0	2196.5
9:25	2:35	1251.8	708.1	1438.2	1267.7	5:55	6:05	1999.5	-19.8	1999.6	2204.3
9:20	2:40	1285.6	695.6	1461.7	1303.0	5:50	6:10	1998.1	-39.6	1998.5	2211.4
9:15	2:45	1318.7	682.7	1484.9	1337.8	5:45	6:15	1995.7	-59.4	1996.6	2217.8
9:10	2:50	1351.2	669.4	1507.9	1372.1	5:40	6:20	1992.4	-79.1	1994.0	2223.5
9:05	2:55	1383.0	655.9	1530.7	1405.8	5:35	6:25	1988.1	-98.8	1990.6	2228.5
9:00	3:00	1414.2	642.0	1553.1	1439.0	5:30	6:30	1982.9	-118.5	1986.4	2232.8
8:55	3:05	1444.7	627.9	1575.3	1471.6	5:25	6:35	1976.7	-138.1	1981.5	2236.5
8:50	3:10	1474.6	613.4	1597.1	1503.7	5:20	6:40	1969.6	-157.7	1975.9	2239.4
8:45	3:15	1503.7	598.7	1618.5	1535.2	5:15	6:45	1961.6	-177.1	1969.6	2241.7
8:40	3:20	1532.1	583.6	1639.5	1566.0	5:10	6:50	1952.6	-196.5	1962.5	2243.3
8:35	3:25	1559.8	568.3	1660.1	1596.3	5:05	6:55	1942.7	-215.8	1954.6	2244.3
8:30	3:30	1586.7	552.7	1680.2	1626.0	5:00	7:00	1931.9	-235.0	1946.1	2244.7

## Analematic Sundial

Latitude: 27.0° N/S

## Date Scale

Semi-Major Axis (E-W): 2000 mm    Semi-Minor Axis (N-S): 908.0 mm

Month	Date										
	1	5	6	10	11	15	16	20	21	25	26
January	-756.1	-741.8	-737.4	-717.8	-712.0	-687.6	-680.8	-651.8	-644.0	-611.2	-602.5
February	-546.9	-506.9	-496.5	-454.2	-443.6	-399.3	-387.9	-342.2	-330.6	-283.5	-271.4
March	-235.6	-187.3	-175.0	-126.2	-114.0	-64.7	-52.6	-3.1	9.0	58.2	70.3
April	143.4	191.4	203.3	250.4	262.2	308.4	319.7	364.8	375.9	419.3	429.8
May	481.5	521.1	530.6	567.3	576.3	610.1	618.1	649.0	656.4	683.3	689.4
June	722.9	740.3	744.3	757.2	760.1	768.2	769.3	772.3	772.6	767.1	769.7
July	760.1	748.0	744.3	728.0	723.2	702.0	696.2	670.9	664.1	635.2	627.5
August	578.3	542.4	533.3	494.9	485.2	444.6	434.1	391.8	381.1	337.0	325.8
September	257.7	211.2	199.6	152.1	140.2	92.5	80.6	32.3	20.2	-28.3	-40.4
October	-100.9	-149.3	-161.2	-209.3	-221.0	-268.5	-280.3	-326.7	-338.3	-383.7	-394.7
November	-459.9	-501.6	-511.7	-550.9	-560.5	-596.9	-605.6	-638.8	-646.5	-675.9	-683.0
December	-713.5	-734.1	-738.5	-753.5	-756.8	-766.4	-768.2	-772.3	-772.6	-770.8	-769.7

Northern Hemisphere

Month	Date										
	1	5	6	10	11	15	16	20	21	25	26
January	756.1	741.8	737.4	717.8	712.0	687.6	680.8	651.8	644.0	611.2	602.5
February	546.9	506.9	496.5	454.2	443.6	399.3	387.9	342.2	330.6	283.5	271.4
March	235.6	187.3	175.0	126.2	114.0	64.7	52.6	3.1	-9.0	-58.2	-70.3
April	-143.4	-191.4	-203.3	-250.4	-262.2	-308.4	-319.7	-364.8	-375.9	-419.3	-429.8
May	-481.5	-521.1	-530.6	-567.3	-576.3	-610.1	-618.1	-649.0	-656.4	-683.3	-689.4
June	-722.9	-740.3	-744.3	-757.2	-760.1	-768.2	-769.3	-772.3	-772.6	-767.1	-769.7
July	-760.1	-748.0	-744.3	-728.0	-723.2	-702.0	-696.2	-670.9	-664.1	-635.2	-627.5
August	-578.3	-542.4	-533.3	-494.9	-485.2	-444.6	-434.1	-391.8	-381.1	-337.0	-325.8
September	-257.7	-211.2	-199.6	-152.1	-140.2	-92.5	-80.6	-32.3	-20.2	28.3	40.4
October	100.9	149.3	161.2	209.3	221.0	268.5	280.3	326.7	338.3	383.7	394.7
November	459.9	501.6	511.7	550.9	560.5	596.9	605.6	638.8	646.5	675.9	683.0
December	713.5	734.1	738.5	753.5	756.8	766.4	768.2	772.3	772.6	770.8	769.7

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: 27.0° N/S

Earliest Sunrise: 5:05 a.m.    Latest Sunset: 6:55 p.m.  
 Semi-Major Axis (E-W): 2500 mm    Semi-Minor Axis (N-S): 1135.0 mm  
 Sunrise/Sunset Markers: X = ± 1949.5 mm

Local Time	X	Y	Z	W	Local Time	X	Y	Z	W		
12:00	0.0	1135.0	1135.0	0.0							
11:55	12:05	54.5	1134.7	1136.0	54.5	8:25	3:35	2016.1	671.1	2124.9	2068.8
11:50	12:10	109.0	1133.9	1139.1	109.1	8:20	3:40	2047.9	651.0	2148.9	2104.3
11:45	12:15	163.5	1132.5	1144.3	163.5	8:15	3:45	2078.7	630.6	2172.2	2139.0
11:40	12:20	217.9	1130.7	1151.5	217.9	8:10	3:50	2108.5	609.8	2194.9	2172.9
11:35	12:25	272.2	1128.2	1160.6	272.3	8:05	3:55	2137.3	588.8	2216.9	2206.0
11:30	12:30	326.3	1125.3	1171.6	326.5	8:00	4:00	2165.1	567.5	2238.2	2238.2
11:25	12:35	380.3	1121.8	1184.5	380.5	7:55	4:05	2191.8	545.9	2258.8	2269.6
11:20	12:40	434.1	1117.7	1199.1	434.5	7:50	4:10	2217.5	524.1	2278.6	2300.1
11:15	12:45	487.7	1113.2	1215.3	488.2	7:45	4:15	2242.2	502.0	2297.7	2329.8
11:10	12:50	541.1	1108.1	1233.1	541.8	7:40	4:20	2265.8	479.7	2316.0	2358.6
11:05	12:55	594.2	1102.5	1252.4	595.1	7:35	4:25	2288.3	457.1	2333.5	2386.6
11:00	1:00	647.0	1096.3	1273.0	648.2	7:30	4:30	2309.7	434.3	2350.2	2413.6
10:55	1:05	699.6	1089.6	1294.9	701.0	7:25	4:35	2330.0	411.4	2366.1	2439.8
10:50	1:10	751.8	1082.4	1317.9	753.6	7:20	4:40	2349.2	388.2	2381.1	2465.1
10:45	1:15	803.6	1074.7	1342.0	805.9	7:15	4:45	2367.3	364.8	2395.3	2489.4
10:40	1:20	855.1	1066.5	1367.0	857.8	7:10	4:50	2384.3	341.3	2408.6	2512.9
10:35	1:25	906.1	1057.8	1392.8	909.4	7:05	4:55	2400.1	317.6	2421.0	2535.5
10:30	1:30	956.7	1048.6	1419.4	960.6	7:00	5:00	2414.8	293.8	2432.6	2557.1
10:25	1:35	1006.9	1038.9	1446.7	1011.4	6:55	5:05	2428.4	269.8	2443.3	2577.9
10:20	1:40	1056.5	1028.6	1474.6	1061.9	6:50	5:10	2440.7	245.7	2453.1	2597.7
10:15	1:45	1105.7	1017.9	1502.9	1111.9	6:45	5:15	2452.0	221.4	2461.9	2616.6
10:10	1:50	1154.4	1006.7	1531.7	1161.5	6:40	5:20	2462.0	197.1	2469.9	2634.6
10:05	1:55	1202.5	995.1	1560.8	1210.6	6:35	5:25	2470.9	172.7	2476.9	2651.7
10:00	2:00	1250.0	982.9	1590.2	1259.2	6:30	5:30	2478.6	148.1	2483.0	2667.8
9:55	2:05	1296.9	970.3	1619.7	1307.3	6:25	5:35	2485.1	123.6	2488.2	2683.1
9:50	2:10	1343.2	957.2	1649.4	1355.0	6:20	5:40	2490.5	98.9	2492.5	2697.4
9:45	2:15	1388.9	943.7	1679.2	1402.0	6:15	5:45	2494.6	74.2	2495.8	2710.8
9:40	2:20	1433.9	929.7	1709.0	1448.6	6:10	5:50	2497.6	49.5	2498.1	2723.3
9:35	2:25	1478.3	915.3	1738.7	1494.5	6:05	5:55	2499.4	24.8	2499.5	2734.9
9:30	2:30	1521.9	900.4	1768.3	1539.9	6:00	6:00	2500.0	0.0	2500.0	2745.6
9:25	2:35	1564.8	885.2	1797.8	1584.6	5:55	6:05	2499.4	-24.8	2499.5	2755.4
9:20	2:40	1607.0	869.4	1827.1	1628.8	5:50	6:10	2497.6	-49.5	2498.1	2764.3
9:15	2:45	1648.4	853.3	1856.1	1672.3	5:45	6:15	2494.6	-74.2	2495.8	2772.3
9:10	2:50	1689.0	836.8	1884.9	1715.1	5:40	6:20	2490.5	-98.9	2492.5	2779.4
9:05	2:55	1728.8	819.9	1913.3	1757.3	5:35	6:25	2485.1	-123.6	2488.2	2785.6
9:00	3:00	1767.8	802.5	1941.4	1798.8	5:30	6:30	2478.6	-148.1	2483.0	2791.0
8:55	3:05	1805.9	784.9	1969.1	1839.5	5:25	6:35	2470.9	-172.7	2476.9	2795.6
8:50	3:10	1843.2	766.8	1996.3	1879.6	5:20	6:40	2462.0	-197.1	2469.9	2799.3
8:45	3:15	1879.6	748.3	2023.1	1919.0	5:15	6:45	2452.0	-221.4	2461.9	2802.1
8:40	3:20	1915.1	729.5	2049.4	1957.6	5:10	6:50	2440.7	-245.7	2453.1	2804.2
8:35	3:25	1949.7	710.4	2075.1	1995.4	5:05	6:55	2428.4	-269.8	2443.3	2805.4
8:30	3:30	1983.4	690.9	2100.3	2032.5	5:00	7:00	2414.8	-293.8	2432.6	2805.8

## Analematic Sundial

Latitude: 27.0° N/S

## Date Scale

Semi-Major Axis (E-W): 2500 mm    Semi-Minor Axis (N-S): 1135.0 mm

Month	Date										
	1	5	6	10	11	15	16	20	21	25	26
January	-945.1	-927.2	-921.8	-897.3	-890.0	-859.5	-851.1	-814.7	-805.0	-764.0	-753.1
February	-683.6	-633.7	-620.7	-567.8	-554.6	-499.1	-484.9	-427.7	-413.2	-354.4	-339.3
March	-294.4	-234.1	-218.8	-157.7	-142.5	-80.9	-65.7	-3.9	11.3	72.7	87.9
April	179.2	239.2	254.2	313.1	327.7	385.6	399.6	456.0	469.8	524.1	537.2
May	601.9	651.4	663.2	709.2	720.3	762.6	772.7	811.2	820.4	854.2	861.8
June	903.6	925.4	930.4	946.4	950.1	960.2	961.6	965.3	965.8	958.9	962.1
July	950.1	935.0	930.4	909.9	904.0	877.4	870.3	838.6	830.2	794.1	784.4
August	722.9	678.0	666.6	618.6	606.5	555.8	542.6	489.8	476.3	421.3	407.2
September	322.2	264.0	249.5	190.2	175.3	115.6	100.8	40.4	25.3	-35.4	-50.5
October	-126.1	-186.7	-201.5	-261.7	-276.3	-335.7	-350.4	-408.4	-422.9	-479.6	-493.4
November	-574.8	-627.0	-639.6	-688.7	-700.6	-746.2	-757.0	-798.4	-808.1	-844.8	-853.7
December	-891.8	-917.7	-923.1	-941.9	-946.0	-957.9	-960.2	-965.3	-965.8	-963.5	-962.1

Northern Hemisphere

Month	Date										
	1	5	6	10	11	15	16	20	21	25	26
January	945.1	927.2	921.8	897.3	890.0	859.5	851.1	814.7	805.0	764.0	753.1
February	683.6	633.7	620.7	567.8	554.6	499.1	484.9	427.7	413.2	354.4	339.3
March	294.4	234.1	218.8	157.7	142.5	80.9	65.7	3.9	-11.3	-72.7	-87.9
April	-179.2	-239.2	-254.2	-313.1	-327.7	-385.6	-399.6	-456.0	-469.8	-524.1	-537.2
May	-601.9	-651.4	-663.2	-709.2	-720.3	-762.6	-772.7	-811.2	-820.4	-854.2	-861.8
June	-903.6	-925.4	-930.4	-946.4	-950.1	-960.2	-961.6	-965.3	-965.8	-958.9	-962.1
July	-950.1	-935.0	-930.4	-909.9	-904.0	-877.4	-870.3	-838.6	-830.2	-794.1	-784.4
August	-722.9	-678.0	-666.6	-618.6	-606.5	-555.8	-542.6	-489.8	-476.3	-421.3	-407.2
September	-322.2	-264.0	-249.5	-190.2	-175.3	-115.6	-100.8	-40.4	-25.3	35.4	50.5
October	126.1	186.7	201.5	261.7	276.3	335.7	350.4	408.4	422.9	479.6	493.4
November	574.8	627.0	639.6	688.7	700.6	746.2	757.0	798.4	808.1	844.8	853.7
December	891.8	917.7	923.1	941.9	946.0	957.9	960.2	965.3	965.8	963.5	962.1

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 |