

Analemmatic Sundial

Latitude: 27.5° N/S

Earliest Sunrise: 5:04 a.m.    Latest Sunset: 6:56 p.m.  
 Semi-Major Axis (E-W): 1000 mm    Semi-Minor Axis (N-S): 461.7 mm  
 Sunrise/Sunset Markers: X = ± 772.2 mm

Local Time	X	Y	Z	W	Local Time	X	Y	Z	W		
12:00	0.0	461.7	461.7	0.0							
11:55	12:05	21.8	461.6	462.2	21.8	8:25	3:35	806.4	273.0	851.4	828.2
11:50	12:10	43.6	461.3	463.4	43.6	8:20	3:40	819.2	264.8	860.9	842.5
11:45	12:15	65.4	460.8	465.4	65.4	8:15	3:45	831.5	256.5	870.1	856.4
11:40	12:20	87.2	460.0	468.2	87.2	8:10	3:50	843.4	248.1	879.1	870.0
11:35	12:25	108.9	459.0	471.7	108.9	8:05	3:55	854.9	239.5	887.8	883.3
11:30	12:30	130.5	457.8	476.0	130.6	8:00	4:00	866.0	230.9	896.3	896.3
11:25	12:35	152.1	456.4	481.1	152.2	7:55	4:05	876.7	222.1	904.4	908.9
11:20	12:40	173.6	454.7	486.8	173.8	7:50	4:10	887.0	213.2	912.3	921.2
11:15	12:45	195.1	452.9	493.1	195.3	7:45	4:15	896.9	204.2	919.8	933.1
11:10	12:50	216.4	450.8	500.1	216.7	7:40	4:20	906.3	195.1	927.1	944.7
11:05	12:55	237.7	448.5	507.6	238.1	7:35	4:25	915.3	186.0	934.0	956.0
11:00	1:00	258.8	446.0	515.7	259.3	7:30	4:30	923.9	176.7	940.6	966.9
10:55	1:05	279.8	443.3	524.2	280.4	7:25	4:35	932.0	167.4	946.9	977.4
10:50	1:10	300.7	440.4	533.3	301.5	7:20	4:40	939.7	157.9	952.9	987.6
10:45	1:15	321.4	437.2	542.7	322.4	7:15	4:45	946.9	148.4	958.5	997.4
10:40	1:20	342.0	433.9	552.5	343.2	7:10	4:50	953.7	138.9	963.8	1006.9
10:35	1:25	362.4	430.4	562.6	363.8	7:05	4:55	960.0	129.2	968.7	1016.0
10:30	1:30	382.7	426.6	573.1	384.3	7:00	5:00	965.9	119.5	973.3	1024.8
10:25	1:35	402.7	422.6	583.8	404.6	6:55	5:05	971.3	109.8	977.5	1033.2
10:20	1:40	422.6	418.5	594.8	424.8	6:50	5:10	976.3	99.9	981.4	1041.2
10:15	1:45	442.3	414.1	605.9	444.8	6:45	5:15	980.8	90.1	984.9	1048.8
10:10	1:50	461.7	409.6	617.2	464.7	6:40	5:20	984.8	80.2	988.1	1056.1
10:05	1:55	481.0	404.8	628.7	484.3	6:35	5:25	988.4	70.2	990.9	1063.1
10:00	2:00	500.0	399.9	640.2	503.8	6:30	5:30	991.4	60.3	993.3	1069.6
9:55	2:05	518.8	394.8	651.9	523.1	6:25	5:35	994.1	50.3	995.3	1075.9
9:50	2:10	537.3	389.4	663.6	542.1	6:20	5:40	996.2	40.2	997.0	1081.7
9:45	2:15	555.6	383.9	675.3	561.0	6:15	5:45	997.9	30.2	998.3	1087.2
9:40	2:20	573.6	378.2	687.1	579.6	6:10	5:50	999.0	20.1	999.3	1092.3
9:35	2:25	591.3	372.4	698.8	598.0	6:05	5:55	999.8	10.1	999.8	1097.1
9:30	2:30	608.8	366.3	710.5	616.2	6:00	6:00	1000.0	0.0	1000.0	1101.5
9:25	2:35	625.9	360.1	722.1	634.1	5:55	6:05	999.8	-10.1	999.8	1105.5
9:20	2:40	642.8	353.7	733.7	651.8	5:50	6:10	999.0	-20.1	999.3	1109.2
9:15	2:45	659.3	347.2	745.2	669.2	5:45	6:15	997.9	-30.2	998.3	1112.5
9:10	2:50	675.6	340.4	756.5	686.4	5:40	6:20	996.2	-40.2	997.0	1115.5
9:05	2:55	691.5	333.6	767.8	703.3	5:35	6:25	994.1	-50.3	995.3	1118.2
9:00	3:00	707.1	326.5	778.8	719.9	5:30	6:30	991.4	-60.3	993.3	1120.5
8:55	3:05	722.4	319.3	789.8	736.3	5:25	6:35	988.4	-70.2	990.9	1122.4
8:50	3:10	737.3	312.0	800.6	752.3	5:20	6:40	984.8	-80.2	988.1	1124.1
8:45	3:15	751.8	304.5	811.1	768.1	5:15	6:45	980.8	-90.1	984.9	1125.4
8:40	3:20	766.0	296.8	821.5	783.6	5:10	6:50	976.3	-99.9	981.4	1126.3
8:35	3:25	779.9	289.0	831.7	798.8	5:05	6:55	971.3	-109.8	977.5	1127.0
8:30	3:30	793.4	281.1	841.7	813.7	5:00	7:00	965.9	-119.5	973.3	1127.3

## Analemmatic Sundial

Latitude: 27.5° N/S

## Date Scale

Semi-Major Axis (E-W): 1000 mm    Semi-Minor Axis (N-S): 461.7 mm

Month	Date										
	1	5	6	10	11	15	16	20	21	25	26
January	-376.3	-369.2	-367.0	-357.3	-354.4	-342.3	-338.9	-324.4	-320.6	-304.2	-299.9
February	-272.2	-252.3	-247.2	-226.1	-220.8	-198.8	-193.1	-170.3	-164.6	-141.1	-135.1
March	-117.2	-93.2	-87.1	-62.8	-56.7	-32.2	-26.2	-1.5	4.5	29.0	35.0
April	71.4	95.3	101.2	124.7	130.5	153.5	159.1	181.6	187.1	208.7	213.9
May	239.7	259.4	264.1	282.4	286.8	303.7	307.7	323.0	326.7	340.1	343.2
June	359.8	368.5	370.5	376.9	378.3	382.4	382.9	384.4	384.6	381.8	383.1
July	378.3	372.3	370.5	362.3	360.0	349.4	346.5	333.9	330.6	316.2	312.4
August	287.9	270.0	265.4	246.3	241.5	221.3	216.1	195.0	189.7	167.8	162.2
September	128.3	105.1	99.3	75.7	69.8	46.0	40.1	16.1	10.1	-14.1	-20.1
October	-50.2	-74.3	-80.3	-104.2	-110.0	-133.7	-139.5	-162.6	-168.4	-191.0	-196.5
November	-228.9	-249.7	-254.7	-274.2	-279.0	-297.1	-301.4	-317.9	-321.8	-336.4	-340.0
December	-355.1	-365.4	-367.6	-375.1	-376.7	-381.5	-382.4	-384.4	-384.6	-383.7	-383.1

Northern Hemisphere

Month	Date										
	1	5	6	10	11	15	16	20	21	25	26
January	376.3	369.2	367.0	357.3	354.4	342.3	338.9	324.4	320.6	304.2	299.9
February	272.2	252.3	247.2	226.1	220.8	198.8	193.1	170.3	164.6	141.1	135.1
March	117.2	93.2	87.1	62.8	56.7	32.2	26.2	1.5	-4.5	-29.0	-35.0
April	-71.4	-95.3	-101.2	-124.7	-130.5	-153.5	-159.1	-181.6	-187.1	-208.7	-213.9
May	-239.7	-259.4	-264.1	-282.4	-286.8	-303.7	-307.7	-323.0	-326.7	-340.1	-343.2
June	-359.8	-368.5	-370.5	-376.9	-378.3	-382.4	-382.9	-384.4	-384.6	-381.8	-383.1
July	-378.3	-372.3	-370.5	-362.3	-360.0	-349.4	-346.5	-333.9	-330.6	-316.2	-312.4
August	-287.9	-270.0	-265.4	-246.3	-241.5	-221.3	-216.1	-195.0	-189.7	-167.8	-162.2
September	-128.3	-105.1	-99.3	-75.7	-69.8	-46.0	-40.1	-16.1	-10.1	14.1	20.1
October	50.2	74.3	80.3	104.2	110.0	133.7	139.5	162.6	168.4	191.0	196.5
November	228.9	249.7	254.7	274.2	279.0	297.1	301.4	317.9	321.8	336.4	340.0
December	355.1	365.4	367.6	375.1	376.7	381.5	382.4	384.4	384.6	383.7	383.1

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 |

## Analemmatic Sundial

Latitude: 27.5° N/S

Earliest Sunrise: 5:04 a.m.    Latest Sunset: 6:56 p.m.  
 Semi-Major Axis (E-W): 1500 mm    Semi-Minor Axis (N-S): 692.6 mm  
 Sunrise/Sunset Markers: X = ± 1158.3 mm

Local Time	X	Y	Z	W	Local Time	X	Y	Z	W		
12:00	0.0	692.6	692.6	0.0							
11:55	12:05	32.7	692.5	693.2	32.7	8:25	3:35	1209.7	409.6	1277.1	1242.3
11:50	12:10	65.4	692.0	695.1	65.4	8:20	3:40	1228.7	397.3	1291.4	1263.7
11:45	12:15	98.1	691.1	698.1	98.1	8:15	3:45	1247.2	384.8	1305.2	1284.6
11:40	12:20	130.7	690.0	702.3	130.8	8:10	3:50	1265.1	372.1	1318.7	1305.0
11:35	12:25	163.3	688.5	707.6	163.4	8:05	3:55	1282.4	359.3	1331.8	1325.0
11:30	12:30	195.8	686.7	714.1	195.9	8:00	4:00	1299.0	346.3	1344.4	1344.4
11:25	12:35	228.2	684.6	721.6	228.3	7:55	4:05	1315.1	333.1	1356.6	1363.3
11:20	12:40	260.5	682.1	730.1	260.7	7:50	4:10	1330.5	319.8	1368.4	1381.8
11:15	12:45	292.6	679.3	739.7	292.9	7:45	4:15	1345.3	306.3	1379.7	1399.7
11:10	12:50	324.7	676.2	750.1	325.1	7:40	4:20	1359.5	292.7	1390.6	1417.1
11:05	12:55	356.5	672.8	761.4	357.1	7:35	4:25	1373.0	279.0	1401.0	1433.9
11:00	1:00	388.2	669.0	773.5	388.9	7:30	4:30	1385.8	265.1	1410.9	1450.3
10:55	1:05	419.7	665.0	786.4	420.7	7:25	4:35	1398.0	251.0	1420.4	1466.1
10:50	1:10	451.1	660.6	799.9	452.2	7:20	4:40	1409.5	236.9	1429.3	1481.4
10:45	1:15	482.2	655.9	814.0	483.6	7:15	4:45	1420.4	222.6	1437.7	1496.1
10:40	1:20	513.0	650.9	828.7	514.7	7:10	4:50	1430.6	208.3	1445.7	1510.3
10:35	1:25	543.7	645.5	844.0	545.7	7:05	4:55	1440.1	193.8	1453.1	1524.0
10:30	1:30	574.0	639.9	859.6	576.4	7:00	5:00	1448.9	179.3	1459.9	1537.1
10:25	1:35	604.1	634.0	875.7	607.0	6:55	5:05	1457.0	164.6	1466.3	1549.7
10:20	1:40	633.9	627.7	892.1	637.2	6:50	5:10	1464.4	149.9	1472.1	1561.8
10:15	1:45	663.4	621.2	908.9	667.3	6:45	5:15	1471.2	135.1	1477.4	1573.3
10:10	1:50	692.6	614.4	925.8	697.0	6:40	5:20	1477.2	120.3	1482.1	1584.2
10:05	1:55	721.5	607.2	943.0	726.5	6:35	5:25	1482.5	105.4	1486.3	1594.6
10:00	2:00	750.0	599.8	960.4	755.7	6:30	5:30	1487.2	90.4	1489.9	1604.5
9:55	2:05	778.2	592.1	977.8	784.6	6:25	5:35	1491.1	75.4	1493.0	1613.8
9:50	2:10	805.9	584.2	995.4	813.2	6:20	5:40	1494.3	60.4	1495.5	1622.5
9:45	2:15	833.4	575.9	1013.0	841.5	6:15	5:45	1496.8	45.3	1497.5	1630.8
9:40	2:20	860.4	567.4	1030.6	869.4	6:10	5:50	1498.6	30.2	1498.9	1638.4
9:35	2:25	887.0	558.6	1048.2	897.0	6:05	5:55	1499.6	15.1	1499.7	1645.6
9:30	2:30	913.1	549.5	1065.7	924.3	6:00	6:00	1500.0	0.0	1500.0	1652.2
9:25	2:35	938.9	540.2	1083.2	951.2	5:55	6:05	1499.6	-15.1	1499.7	1658.3
9:20	2:40	964.2	530.6	1100.5	977.7	5:50	6:10	1498.6	-30.2	1498.9	1663.8
9:15	2:45	989.0	520.7	1117.7	1003.8	5:45	6:15	1496.8	-45.3	1497.5	1668.8
9:10	2:50	1013.4	510.7	1134.8	1029.6	5:40	6:20	1494.3	-60.4	1495.5	1673.3
9:05	2:55	1037.3	500.3	1151.6	1054.9	5:35	6:25	1491.1	-75.4	1493.0	1677.3
9:00	3:00	1060.7	489.8	1168.3	1079.9	5:30	6:30	1487.2	-90.4	1489.9	1680.7
8:55	3:05	1083.5	479.0	1184.7	1104.4	5:25	6:35	1482.5	-105.4	1486.3	1683.7
8:50	3:10	1105.9	467.9	1200.8	1128.5	5:20	6:40	1477.2	-120.3	1482.1	1686.1
8:45	3:15	1127.8	456.7	1216.7	1152.2	5:15	6:45	1471.2	-135.1	1477.4	1688.1
8:40	3:20	1149.1	445.2	1232.3	1175.4	5:10	6:50	1464.4	-149.9	1472.1	1689.5
8:35	3:25	1169.8	433.5	1247.6	1198.2	5:05	6:55	1457.0	-164.6	1466.3	1690.5
8:30	3:30	1190.0	421.6	1262.5	1220.5	5:00	7:00	1448.9	-179.3	1459.9	1691.0

## Analematic Sundial

Latitude: 27.5° N/S

## Date Scale

Semi-Major Axis (E-W): 1500 mm    Semi-Minor Axis (N-S): 692.6 mm

Month	Date										
	1	5	6	10	11	15	16	20	21	25	26
January	-564.5	-553.8	-550.6	-535.9	-531.6	-513.4	-508.3	-486.6	-480.9	-456.3	-449.8
February	-408.3	-378.5	-370.7	-339.1	-331.2	-298.1	-289.6	-255.5	-246.8	-211.7	-202.6
March	-175.9	-139.8	-130.7	-94.2	-85.1	-48.3	-39.3	-2.3	6.7	43.4	52.5
April	107.1	142.9	151.8	187.0	195.8	230.3	238.7	272.4	280.6	313.0	320.9
May	359.5	389.1	396.1	423.6	430.3	455.5	461.5	484.5	490.1	510.2	514.7
June	539.7	552.8	555.7	565.3	567.5	573.6	574.4	576.6	576.9	572.7	574.7
July	567.5	558.5	555.7	543.5	540.0	524.1	519.8	500.9	495.9	474.3	468.5
August	431.8	405.0	398.2	369.5	362.2	332.0	324.1	292.5	284.5	251.6	243.2
September	192.4	157.7	149.0	113.6	104.7	69.0	60.2	24.2	15.1	-21.1	-30.2
October	-75.3	-111.5	-120.4	-156.3	-165.0	-200.5	-209.3	-244.0	-252.6	-286.5	-294.7
November	-343.4	-374.5	-382.0	-411.4	-418.5	-445.7	-452.2	-476.9	-482.7	-504.6	-509.9
December	-532.7	-548.1	-551.4	-562.6	-565.0	-572.2	-573.6	-576.6	-576.9	-575.5	-574.7

Northern Hemisphere

Month	Date										
	1	5	6	10	11	15	16	20	21	25	26
January	564.5	553.8	550.6	535.9	531.6	513.4	508.3	486.6	480.9	456.3	449.8
February	408.3	378.5	370.7	339.1	331.2	298.1	289.6	255.5	246.8	211.7	202.6
March	175.9	139.8	130.7	94.2	85.1	48.3	39.3	2.3	-6.7	-43.4	-52.5
April	-107.1	-142.9	-151.8	-187.0	-195.8	-230.3	-238.7	-272.4	-280.6	-313.0	-320.9
May	-359.5	-389.1	-396.1	-423.6	-430.3	-455.5	-461.5	-484.5	-490.1	-510.2	-514.7
June	-539.7	-552.8	-555.7	-565.3	-567.5	-573.6	-574.4	-576.6	-576.9	-572.7	-574.7
July	-567.5	-558.5	-555.7	-543.5	-540.0	-524.1	-519.8	-500.9	-495.9	-474.3	-468.5
August	-431.8	-405.0	-398.2	-369.5	-362.2	-332.0	-324.1	-292.5	-284.5	-251.6	-243.2
September	-192.4	-157.7	-149.0	-113.6	-104.7	-69.0	-60.2	-24.2	-15.1	21.1	30.2
October	75.3	111.5	120.4	156.3	165.0	200.5	209.3	244.0	252.6	286.5	294.7
November	343.4	374.5	382.0	411.4	418.5	445.7	452.2	476.9	482.7	504.6	509.9
December	532.7	548.1	551.4	562.6	565.0	572.2	573.6	576.6	576.9	575.5	574.7

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: 27.5° N/S

Earliest Sunrise: 5:04 a.m.    Latest Sunset: 6:56 p.m.  
 Semi-Major Axis (E-W): 2000 mm    Semi-Minor Axis (N-S): 923.5 mm  
 Sunrise/Sunset Markers: X = ± 1544.4 mm

Local Time	X	Y	Z	W	Local Time	X	Y	Z	W		
12:00	0.0	923.5	923.5	0.0							
11:55	12:05	43.6	923.3	924.3	43.6	8:25	3:35	1612.9	546.1	1702.8	1656.5
11:50	12:10	87.2	922.6	926.7	87.2	8:20	3:40	1638.3	529.7	1721.8	1685.0
11:45	12:15	130.8	921.5	930.8	130.8	8:15	3:45	1662.9	513.1	1740.3	1712.8
11:40	12:20	174.3	920.0	936.4	174.3	8:10	3:50	1686.8	496.2	1758.3	1740.1
11:35	12:25	217.7	918.0	943.5	217.8	8:05	3:55	1709.8	479.1	1775.7	1766.6
11:30	12:30	261.1	915.6	952.1	261.2	8:00	4:00	1732.1	461.7	1792.5	1792.5
11:25	12:35	304.2	912.7	962.1	304.4	7:55	4:05	1753.5	444.2	1808.8	1817.8
11:20	12:40	347.3	909.5	973.5	347.6	7:50	4:10	1774.0	426.4	1824.6	1842.3
11:15	12:45	390.2	905.8	986.2	390.6	7:45	4:15	1793.7	408.5	1839.7	1866.2
11:10	12:50	432.9	901.6	1000.1	433.4	7:40	4:20	1812.6	390.3	1854.2	1889.4
11:05	12:55	475.4	897.0	1015.2	476.1	7:35	4:25	1830.6	371.9	1868.0	1911.9
11:00	1:00	517.6	892.0	1031.3	518.6	7:30	4:30	1847.8	353.4	1881.3	1933.7
10:55	1:05	559.7	886.6	1048.5	560.9	7:25	4:35	1864.0	334.7	1893.8	1954.8
10:50	1:10	601.4	880.8	1066.5	602.9	7:20	4:40	1879.4	315.9	1905.7	1975.2
10:45	1:15	642.9	874.5	1085.4	644.7	7:15	4:45	1893.9	296.8	1917.0	1994.8
10:40	1:20	684.0	867.8	1105.0	686.3	7:10	4:50	1907.4	277.7	1927.5	2013.8
10:35	1:25	724.9	860.7	1125.3	727.6	7:05	4:55	1920.1	258.4	1937.4	2032.0
10:30	1:30	765.4	853.2	1146.2	768.6	7:00	5:00	1931.9	239.0	1946.6	2049.5
10:25	1:35	805.5	845.3	1167.6	809.3	6:55	5:05	1942.7	219.5	1955.0	2066.3
10:20	1:40	845.2	837.0	1189.5	849.7	6:50	5:10	1952.6	199.9	1962.8	2082.4
10:15	1:45	884.6	828.3	1211.8	889.7	6:45	5:15	1961.6	180.2	1969.8	2097.7
10:10	1:50	923.5	819.2	1234.4	929.4	6:40	5:20	1969.6	160.4	1976.1	2112.3
10:05	1:55	962.0	809.7	1257.4	968.7	6:35	5:25	1976.7	140.5	1981.7	2126.2
10:00	2:00	1000.0	799.8	1280.5	1007.6	6:30	5:30	1982.9	120.5	1986.6	2139.3
9:55	2:05	1037.5	789.5	1303.8	1046.2	6:25	5:35	1988.1	100.5	1990.7	2151.7
9:50	2:10	1074.6	778.9	1327.2	1084.3	6:20	5:40	1992.4	80.5	1994.0	2163.4
9:45	2:15	1111.1	767.9	1350.6	1122.0	6:15	5:45	1995.7	60.4	1996.6	2174.4
9:40	2:20	1147.2	756.5	1374.1	1159.2	6:10	5:50	1998.1	40.3	1998.5	2184.6
9:35	2:25	1182.6	744.7	1397.6	1196.1	6:05	5:55	1999.5	20.1	1999.6	2194.1
9:30	2:30	1217.5	732.7	1421.0	1232.4	6:00	6:00	2000.0	0.0	2000.0	2202.9
9:25	2:35	1251.8	720.2	1444.2	1268.2	5:55	6:05	1999.5	-20.1	1999.6	2211.0
9:20	2:40	1285.6	707.4	1467.4	1303.6	5:50	6:10	1998.1	-40.3	1998.5	2218.4
9:15	2:45	1318.7	694.3	1490.3	1338.5	5:45	6:15	1995.7	-60.4	1996.6	2225.1
9:10	2:50	1351.2	680.9	1513.0	1372.8	5:40	6:20	1992.4	-80.5	1994.0	2231.1
9:05	2:55	1383.0	667.1	1535.5	1406.6	5:35	6:25	1988.1	-100.5	1990.7	2236.3
9:00	3:00	1414.2	653.0	1557.7	1439.8	5:30	6:30	1982.9	-120.5	1986.6	2241.0
8:55	3:05	1444.7	638.6	1579.6	1472.5	5:25	6:35	1976.7	-140.5	1981.7	2244.9
8:50	3:10	1474.6	623.9	1601.1	1504.7	5:20	6:40	1969.6	-160.4	1976.1	2248.1
8:45	3:15	1503.7	608.9	1622.3	1536.2	5:15	6:45	1961.6	-180.2	1969.8	2250.7
8:40	3:20	1532.1	593.6	1643.1	1567.2	5:10	6:50	1952.6	-199.9	1962.8	2252.7
8:35	3:25	1559.8	578.0	1663.4	1597.6	5:05	6:55	1942.7	-219.5	1955.0	2254.0
8:30	3:30	1586.7	562.2	1683.4	1627.3	5:00	7:00	1931.9	-239.0	1946.6	2254.7

## Analematic Sundial

Latitude: 27.5° N/S

## Date Scale

Semi-Major Axis (E-W): 2000 mm    Semi-Minor Axis (N-S): 923.5 mm

Month	Date										
	1	5	6	10	11	15	16	20	21	25	26
January	-752.7	-738.5	-734.1	-714.6	-708.8	-684.5	-677.8	-648.8	-641.1	-608.4	-599.8
February	-544.4	-504.7	-494.3	-452.2	-441.7	-397.5	-386.2	-340.7	-329.1	-282.2	-270.2
March	-234.5	-186.5	-174.3	-125.6	-113.5	-64.4	-52.3	-3.1	9.0	57.9	70.0
April	142.7	190.5	202.4	249.3	261.0	307.1	318.2	363.2	374.2	417.4	427.9
May	479.3	518.8	528.2	564.8	573.7	607.4	615.4	646.0	653.4	680.3	686.3
June	719.6	737.0	741.0	753.8	756.7	764.7	765.9	768.8	769.2	763.6	766.2
July	756.7	744.6	741.0	724.7	720.0	698.8	693.1	667.9	661.2	632.4	624.7
August	575.7	540.0	530.9	492.6	483.0	442.6	432.1	390.0	379.3	335.5	324.3
September	256.6	210.3	198.7	151.5	139.6	92.0	80.2	32.2	20.1	-28.2	-40.3
October	-100.4	-148.7	-160.5	-208.4	-220.0	-267.3	-279.1	-325.3	-336.8	-381.9	-393.0
November	-457.8	-499.3	-509.4	-548.5	-558.0	-594.3	-602.9	-635.9	-643.6	-672.8	-679.9
December	-710.3	-730.8	-735.2	-750.1	-753.4	-762.9	-764.7	-768.8	-769.2	-767.3	-766.2

Northern Hemisphere

Month	Date										
	1	5	6	10	11	15	16	20	21	25	26
January	752.7	738.5	734.1	714.6	708.8	684.5	677.8	648.8	641.1	608.4	599.8
February	544.4	504.7	494.3	452.2	441.7	397.5	386.2	340.7	329.1	282.2	270.2
March	234.5	186.5	174.3	125.6	113.5	64.4	52.3	3.1	-9.0	-57.9	-70.0
April	-142.7	-190.5	-202.4	-249.3	-261.0	-307.1	-318.2	-363.2	-374.2	-417.4	-427.9
May	-479.3	-518.8	-528.2	-564.8	-573.7	-607.4	-615.4	-646.0	-653.4	-680.3	-686.3
June	-719.6	-737.0	-741.0	-753.8	-756.7	-764.7	-765.9	-768.8	-769.2	-763.6	-766.2
July	-756.7	-744.6	-741.0	-724.7	-720.0	-698.8	-693.1	-667.9	-661.2	-632.4	-624.7
August	-575.7	-540.0	-530.9	-492.6	-483.0	-442.6	-432.1	-390.0	-379.3	-335.5	-324.3
September	-256.6	-210.3	-198.7	-151.5	-139.6	-92.0	-80.2	-32.2	-20.1	28.2	40.3
October	100.4	148.7	160.5	208.4	220.0	267.3	279.1	325.3	336.8	381.9	393.0
November	457.8	499.3	509.4	548.5	558.0	594.3	602.9	635.9	643.6	672.8	679.9
December	710.3	730.8	735.2	750.1	753.4	762.9	764.7	768.8	769.2	767.3	766.2

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: 27.5° N/S

Earliest Sunrise: 5:04 a.m.    Latest Sunset: 6:56 p.m.  
 Semi-Major Axis (E-W): 2500 mm    Semi-Minor Axis (N-S): 1154.4 mm  
 Sunrise/Sunset Markers: X = ± 1930.6 mm

Local Time	X	Y	Z	W	Local Time	X	Y	Z	W		
12:00	0.0	1154.4	1154.4	0.0							
11:55	12:05	54.5	1154.1	1155.4	54.5	8:25	3:35	2016.1	682.6	2128.5	2070.6
11:50	12:10	109.0	1153.3	1158.4	109.1	8:20	3:40	2047.9	662.1	2152.3	2106.2
11:45	12:15	163.5	1151.9	1163.4	163.5	8:15	3:45	2078.7	641.3	2175.4	2141.0
11:40	12:20	217.9	1150.0	1170.4	217.9	8:10	3:50	2108.5	620.2	2197.8	2175.1
11:35	12:25	272.2	1147.5	1179.3	272.3	8:05	3:55	2137.3	598.9	2219.6	2208.3
11:30	12:30	326.3	1144.5	1190.1	326.5	8:00	4:00	2165.1	577.2	2240.7	2240.7
11:25	12:35	380.3	1140.9	1202.7	380.5	7:55	4:05	2191.8	555.2	2261.1	2272.2
11:20	12:40	434.1	1136.8	1216.9	434.5	7:50	4:10	2217.5	533.0	2280.7	2302.9
11:15	12:45	487.7	1132.2	1232.8	488.2	7:45	4:15	2242.2	510.6	2299.6	2332.8
11:10	12:50	541.1	1127.0	1250.2	541.8	7:40	4:20	2265.8	487.9	2317.7	2361.8
11:05	12:55	594.2	1121.3	1269.0	595.1	7:35	4:25	2288.3	464.9	2335.0	2389.9
11:00	1:00	647.0	1115.0	1289.2	648.2	7:30	4:30	2309.7	441.8	2351.6	2417.1
10:55	1:05	699.6	1108.3	1310.6	701.1	7:25	4:35	2330.0	418.4	2367.3	2443.5
10:50	1:10	751.8	1100.9	1333.1	753.7	7:20	4:40	2349.2	394.8	2382.2	2469.0
10:45	1:15	803.6	1093.1	1356.7	805.9	7:15	4:45	2367.3	371.1	2396.2	2493.6
10:40	1:20	855.1	1084.8	1381.2	857.9	7:10	4:50	2384.3	347.1	2409.4	2517.2
10:35	1:25	906.1	1075.9	1406.6	909.5	7:05	4:55	2400.1	323.0	2421.8	2540.0
10:30	1:30	956.7	1066.5	1432.7	960.7	7:00	5:00	2414.8	298.8	2433.2	2561.9
10:25	1:35	1006.9	1056.6	1459.5	1011.6	6:55	5:05	2428.4	274.4	2443.8	2582.9
10:20	1:40	1056.5	1046.2	1486.9	1062.1	6:50	5:10	2440.7	249.9	2453.5	2603.0
10:15	1:45	1105.7	1035.3	1514.8	1112.1	6:45	5:15	2452.0	225.2	2462.3	2622.1
10:10	1:50	1154.4	1023.9	1543.1	1161.7	6:40	5:20	2462.0	200.5	2470.2	2640.4
10:05	1:55	1202.5	1012.1	1571.7	1210.9	6:35	5:25	2470.9	175.6	2477.1	2657.7
10:00	2:00	1250.0	999.7	1600.6	1259.5	6:30	5:30	2478.6	150.7	2483.2	2674.1
9:55	2:05	1296.9	986.9	1629.7	1307.7	6:25	5:35	2485.1	125.7	2488.3	2689.6
9:50	2:10	1343.2	973.6	1659.0	1355.4	6:20	5:40	2490.5	100.6	2492.5	2704.2
9:45	2:15	1388.9	959.8	1688.3	1402.5	6:15	5:45	2494.6	75.5	2495.8	2717.9
9:40	2:20	1433.9	945.6	1717.7	1449.1	6:10	5:50	2497.6	50.4	2498.1	2730.7
9:35	2:25	1478.3	930.9	1747.0	1495.1	6:05	5:55	2499.4	25.2	2499.5	2742.6
9:30	2:30	1521.9	915.8	1776.2	1540.5	6:00	6:00	2500.0	0.0	2500.0	2753.6
9:25	2:35	1564.8	900.3	1805.3	1585.3	5:55	6:05	2499.4	-25.2	2499.5	2763.8
9:20	2:40	1607.0	884.3	1834.2	1629.5	5:50	6:10	2497.6	-50.4	2498.1	2773.0
9:15	2:45	1648.4	867.9	1862.9	1673.1	5:45	6:15	2494.6	-75.5	2495.8	2781.3
9:10	2:50	1689.0	851.1	1891.3	1716.0	5:40	6:20	2490.5	-100.6	2492.5	2788.8
9:05	2:55	1728.8	833.9	1919.4	1758.2	5:35	6:25	2485.1	-125.7	2488.3	2795.4
9:00	3:00	1767.8	816.3	1947.1	1799.8	5:30	6:30	2478.6	-150.7	2483.2	2801.2
8:55	3:05	1805.9	798.3	1974.5	1840.7	5:25	6:35	2470.9	-175.6	2477.1	2806.1
8:50	3:10	1843.2	779.9	2001.4	1880.9	5:20	6:40	2462.0	-200.5	2470.2	2810.2
8:45	3:15	1879.6	761.1	2027.9	1920.3	5:15	6:45	2452.0	-225.2	2462.3	2813.4
8:40	3:20	1915.1	742.0	2053.8	1959.0	5:10	6:50	2440.7	-249.9	2453.5	2815.9
8:35	3:25	1949.7	722.5	2079.3	1997.0	5:05	6:55	2428.4	-274.4	2443.8	2817.5
8:30	3:30	1983.4	702.7	2104.2	2034.2	5:00	7:00	2414.8	-298.8	2433.2	2818.3

## Analemmatic Sundial

Latitude: 27.5° N/S

## Date Scale

Semi-Major Axis (E-W): 2500 mm    Semi-Minor Axis (N-S): 1154.4 mm

Month	Date										
	1	5	6	10	11	15	16	20	21	25	26
January	-940.8	-923.1	-917.6	-893.2	-886.0	-855.7	-847.2	-811.1	-801.4	-760.5	-749.7
February	-680.5	-630.8	-617.9	-565.2	-552.1	-496.9	-482.7	-425.8	-411.4	-352.8	-337.7
March	-293.1	-233.1	-217.8	-157.0	-141.8	-80.5	-65.4	-3.9	11.2	72.4	87.5
April	178.4	238.2	253.0	311.7	326.3	383.8	397.8	454.0	467.7	521.7	534.8
May	599.2	648.5	660.2	706.0	717.1	759.2	769.2	807.6	816.8	850.3	857.9
June	899.5	921.3	926.2	942.2	945.9	955.9	957.3	961.0	961.4	954.6	957.8
July	945.9	930.8	926.2	905.9	900.0	873.5	866.4	834.8	826.5	790.5	780.9
August	719.7	675.0	663.6	615.8	603.7	553.3	540.2	487.6	474.2	419.4	405.4
September	320.7	262.9	248.3	189.3	174.5	115.1	100.3	40.3	25.2	-35.2	-50.3
October	-125.5	-185.8	-200.6	-260.5	-275.0	-334.2	-348.8	-406.6	-421.0	-477.4	-491.2
November	-572.3	-624.2	-636.7	-685.6	-697.5	-742.8	-753.6	-794.9	-804.5	-841.0	-849.9
December	-887.8	-913.5	-919.0	-937.6	-941.7	-953.6	-955.9	-961.0	-961.4	-959.2	-957.8

Northern Hemisphere

Month	Date										
	1	5	6	10	11	15	16	20	21	25	26
January	940.8	923.1	917.6	893.2	886.0	855.7	847.2	811.1	801.4	760.5	749.7
February	680.5	630.8	617.9	565.2	552.1	496.9	482.7	425.8	411.4	352.8	337.7
March	293.1	233.1	217.8	157.0	141.8	80.5	65.4	3.9	-11.2	-72.4	-87.5
April	-178.4	-238.2	-253.0	-311.7	-326.3	-383.8	-397.8	-454.0	-467.7	-521.7	-534.8
May	-599.2	-648.5	-660.2	-706.0	-717.1	-759.2	-769.2	-807.6	-816.8	-850.3	-857.9
June	-899.5	-921.3	-926.2	-942.2	-945.9	-955.9	-957.3	-961.0	-961.4	-954.6	-957.8
July	-945.9	-930.8	-926.2	-905.9	-900.0	-873.5	-866.4	-834.8	-826.5	-790.5	-780.9
August	-719.7	-675.0	-663.6	-615.8	-603.7	-553.3	-540.2	-487.6	-474.2	-419.4	-405.4
September	-320.7	-262.9	-248.3	-189.3	-174.5	-115.1	-100.3	-40.3	-25.2	35.2	50.3
October	125.5	185.8	200.6	260.5	275.0	334.2	348.8	406.6	421.0	477.4	491.2
November	572.3	624.2	636.7	685.6	697.5	742.8	753.6	794.9	804.5	841.0	849.9
December	887.8	913.5	919.0	937.6	941.7	953.6	955.9	961.0	961.4	959.2	957.8

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 |