

Analemmatic Sundial

Latitude: 58.5° N/S

Earliest Sunrise: 2:49 a.m. Latest Sunset: 9:11 p.m.
 Semi-Major Axis (E-W): 1000 mm Semi-Minor Axis (N-S): 852.6 mm
 Sunrise/Sunset Markers: X = ± 218.3 mm

Local Time		X	Y	Z	W	Local Time		X	Y	Z	W
12:00		0.0	852.6	852.6	0.0						
11:55	12:05	21.8	852.4	852.7	21.8	8:25	3:35	806.4	504.2	951.1	878.5
11:50	12:10	43.6	851.8	852.9	43.6	8:20	3:40	819.2	489.1	954.0	896.2
11:45	12:15	65.4	850.8	853.3	65.4	8:15	3:45	831.5	473.7	956.9	913.7
11:40	12:20	87.2	849.4	853.9	87.2	8:10	3:50	843.4	458.1	959.8	931.1
11:35	12:25	108.9	847.6	854.5	109.0	8:05	3:55	854.9	442.3	962.6	948.3
11:30	12:30	130.5	845.3	855.4	130.7	8:00	4:00	866.0	426.3	965.3	965.3
11:25	12:35	152.1	842.7	856.3	152.4	7:55	4:05	876.7	410.1	967.9	982.1
11:20	12:40	173.6	839.7	857.5	174.1	7:50	4:10	887.0	393.7	970.5	998.7
11:15	12:45	195.1	836.3	858.7	195.8	7:45	4:15	896.9	377.1	972.9	1015.1
11:10	12:50	216.4	832.4	860.1	217.4	7:40	4:20	906.3	360.3	975.3	1031.4
11:05	12:55	237.7	828.2	861.6	238.9	7:35	4:25	915.3	343.4	977.6	1047.4
11:00	1:00	258.8	823.6	863.3	260.4	7:30	4:30	923.9	326.3	979.8	1063.3
10:55	1:05	279.8	818.6	865.1	281.9	7:25	4:35	932.0	309.0	981.9	1079.0
10:50	1:10	300.7	813.2	867.0	303.3	7:20	4:40	939.7	291.6	983.9	1094.4
10:45	1:15	321.4	807.4	869.0	324.6	7:15	4:45	946.9	274.1	985.8	1109.7
10:40	1:20	342.0	801.2	871.2	345.9	7:10	4:50	953.7	256.4	987.6	1124.8
10:35	1:25	362.4	794.7	873.4	367.0	7:05	4:55	960.0	238.6	989.3	1139.6
10:30	1:30	382.7	787.7	875.8	388.1	7:00	5:00	965.9	220.7	990.8	1154.3
10:25	1:35	402.7	780.4	878.2	409.2	6:55	5:05	971.3	202.7	992.3	1168.8
10:20	1:40	422.6	772.8	880.8	430.1	6:50	5:10	976.3	184.5	993.6	1183.0
10:15	1:45	442.3	764.7	883.4	450.9	6:45	5:15	980.8	166.3	994.8	1197.1
10:10	1:50	461.7	756.3	886.1	471.7	6:40	5:20	984.8	148.1	995.9	1210.9
10:05	1:55	481.0	747.5	888.9	492.3	6:35	5:25	988.4	129.7	996.8	1224.5
10:00	2:00	500.0	738.4	891.8	512.9	6:30	5:30	991.4	111.3	997.7	1238.0
9:55	2:05	518.8	728.9	894.7	533.3	6:25	5:35	994.1	92.8	998.4	1251.2
9:50	2:10	537.3	719.1	897.7	553.6	6:20	5:40	996.2	74.3	999.0	1264.2
9:45	2:15	555.6	708.9	900.7	573.9	6:15	5:45	997.9	55.8	999.4	1277.0
9:40	2:20	573.6	698.4	903.8	593.9	6:10	5:50	999.0	37.2	999.7	1289.6
9:35	2:25	591.3	687.6	906.9	613.9	6:05	5:55	999.8	18.6	999.9	1302.0
9:30	2:30	608.8	676.4	910.0	633.7	6:00	6:00	1000.0	0.0	1000.0	1314.2
9:25	2:35	625.9	665.0	913.2	653.5	5:55	6:05	999.8	-18.6	999.9	1326.1
9:20	2:40	642.8	653.2	916.4	673.0	5:50	6:10	999.0	-37.2	999.7	1337.9
9:15	2:45	659.3	641.0	919.6	692.5	5:45	6:15	997.9	-55.8	999.4	1349.4
9:10	2:50	675.6	628.6	922.8	711.8	5:40	6:20	996.2	-74.3	999.0	1360.8
9:05	2:55	691.5	615.9	926.0	730.9	5:35	6:25	994.1	-92.8	998.4	1371.9
9:00	3:00	707.1	602.9	929.2	749.9	5:30	6:30	991.4	-111.3	997.7	1382.8
8:55	3:05	722.4	589.6	932.4	768.8	5:25	6:35	988.4	-129.7	996.8	1393.5
8:50	3:10	737.3	576.0	935.6	787.5	5:20	6:40	984.8	-148.1	995.9	1404.0
8:45	3:15	751.8	562.2	938.8	806.0	5:15	6:45	980.8	-166.3	994.8	1414.3
8:40	3:20	766.0	548.1	941.9	824.4	5:10	6:50	976.3	-184.5	993.6	1424.4
8:35	3:25	779.9	533.7	945.0	842.6	5:05	6:55	971.3	-202.7	992.3	1434.3
8:30	3:30	793.4	519.1	948.1	860.6	5:00	7:00	965.9	-220.7	990.8	1444.0

Analemmatic Sundial

Latitude: 58.5° N/S

Earliest Sunrise: 2:49 a.m. Latest Sunset: 9:11 p.m.
 Semi-Major Axis (E-W): 1000 mm Semi-Minor Axis (N-S): 852.6 mm
 Sunrise/Sunset Markers: X = ± 218.3 mm

Local Time		X	Y	Z	W	Local Time		X	Y	Z	W
4:55	7:05	960.0	-238.6	989.3	1453.4	2:55	9:05	691.5	-615.9	926.0	1623.2
4:50	7:10	953.7	-256.4	987.6	1462.7	2:50	9:10	675.6	-628.6	922.8	1628.1
4:45	7:15	946.9	-274.1	985.8	1471.8	2:45	9:15	659.3	-641.0	919.6	1632.7
4:40	7:20	939.7	-291.6	983.9	1480.7						
4:35	7:25	932.0	-309.0	981.9	1489.3						
4:30	7:30	923.9	-326.3	979.8	1497.8						
4:25	7:35	915.3	-343.4	977.6	1506.1						
4:20	7:40	906.3	-360.3	975.3	1514.2						
4:15	7:45	896.9	-377.1	972.9	1522.1						
4:10	7:50	887.0	-393.7	970.5	1529.8						
4:05	7:55	876.7	-410.1	967.9	1537.3						
4:00	8:00	866.0	-426.3	965.3	1544.6						
3:55	8:05	854.9	-442.3	962.6	1551.7						
3:50	8:10	843.4	-458.1	959.8	1558.7						
3:45	8:15	831.5	-473.7	956.9	1565.4						
3:40	8:20	819.2	-489.1	954.0	1572.0						
3:35	8:25	806.4	-504.2	951.1	1578.4						
3:30	8:30	793.4	-519.1	948.1	1584.6						
3:25	8:35	779.9	-533.7	945.0	1590.6						
3:20	8:40	766.0	-548.1	941.9	1596.5						
3:15	8:45	751.8	-562.2	938.8	1602.2						
3:10	8:50	737.3	-576.0	935.6	1607.7						
3:05	8:55	722.4	-589.6	932.4	1613.0						
3:00	9:00	707.1	-602.9	929.2	1618.2						

Analemmatic Sundial

Latitude: 58.5° N/S

Date Scale

Semi-Major Axis (E-W): 1000 mm Semi-Minor Axis (N-S): 852.6 mm

Month	Date										
	1	5	6	10	11	15	16	20	21	25	26
January	-221.7	-217.5	-216.2	-210.5	-208.8	-201.6	-199.6	-191.1	-188.8	-179.2	-176.7
February	-160.3	-148.6	-145.6	-133.2	-130.1	-117.1	-113.7	-100.3	-96.9	-83.1	-79.6
March	-69.1	-54.9	-51.3	-37.0	-33.4	-19.0	-15.4	-0.9	2.6	17.1	20.6
April	42.0	56.1	59.6	73.4	76.9	90.4	93.7	107.0	110.2	122.9	126.0
May	141.2	152.8	155.6	166.3	169.0	178.9	181.2	190.3	192.4	200.4	202.1
June	212.0	217.1	218.2	222.0	222.9	225.2	225.6	226.4	226.5	224.9	225.7
July	222.9	219.3	218.2	213.4	212.1	205.8	204.1	196.7	194.7	186.3	184.0
August	169.6	159.0	156.4	145.1	142.3	130.4	127.3	114.9	111.7	98.8	95.5
September	75.6	61.9	58.5	44.6	41.1	27.1	23.6	9.5	5.9	-8.3	-11.9
October	-29.6	-43.8	-47.3	-61.4	-64.8	-78.7	-82.2	-95.8	-99.2	-112.5	-115.7
November	-134.8	-147.1	-150.0	-161.5	-164.3	-175.0	-177.6	-187.3	-189.6	-198.2	-200.3
December	-209.2	-215.3	-216.5	-220.9	-221.9	-224.7	-225.2	-226.4	-226.5	-226.0	-225.7

Northern Hemisphere

Month	Date										
	1	5	6	10	11	15	16	20	21	25	26
January	221.7	217.5	216.2	210.5	208.8	201.6	199.6	191.1	188.8	179.2	176.7
February	160.3	148.6	145.6	133.2	130.1	117.1	113.7	100.3	96.9	83.1	79.6
March	69.1	54.9	51.3	37.0	33.4	19.0	15.4	0.9	-2.6	-17.1	-20.6
April	-42.0	-56.1	-59.6	-73.4	-76.9	-90.4	-93.7	-107.0	-110.2	-122.9	-126.0
May	-141.2	-152.8	-155.6	-166.3	-169.0	-178.9	-181.2	-190.3	-192.4	-200.4	-202.1
June	-212.0	-217.1	-218.2	-222.0	-222.9	-225.2	-225.6	-226.4	-226.5	-224.9	-225.7
July	-222.9	-219.3	-218.2	-213.4	-212.1	-205.8	-204.1	-196.7	-194.7	-186.3	-184.0
August	-169.6	-159.0	-156.4	-145.1	-142.3	-130.4	-127.3	-114.9	-111.7	-98.8	-95.5
September	-75.6	-61.9	-58.5	-44.6	-41.1	-27.1	-23.6	-9.5	-5.9	8.3	11.9
October	29.6	43.8	47.3	61.4	64.8	78.7	82.2	95.8	99.2	112.5	115.7
November	134.8	147.1	150.0	161.5	164.3	175.0	177.6	187.3	189.6	198.2	200.3
December	209.2	215.3	216.5	220.9	221.9	224.7	225.2	226.4	226.5	226.0	225.7

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: 58.5° N/S

Earliest Sunrise: 2:49 a.m. Latest Sunset: 9:11 p.m.
 Semi-Major Axis (E-W): 1500 mm Semi-Minor Axis (N-S): 1279.0 mm
 Sunrise/Sunset Markers: X = ± 327.5 mm

Local Time		X	Y	Z	W	Local Time		X	Y	Z	W
12:00		0.0	1279.0	1279.0	0.0						
11:55	12:05	32.7	1278.7	1279.1	32.7	8:25	3:35	1209.7	756.3	1426.6	1317.8
11:50	12:10	65.4	1277.7	1279.4	65.4	8:20	3:40	1228.7	733.6	1431.1	1344.3
11:45	12:15	98.1	1276.2	1280.0	98.1	8:15	3:45	1247.2	710.6	1435.4	1370.6
11:40	12:20	130.7	1274.1	1280.8	130.8	8:10	3:50	1265.1	687.2	1439.7	1396.7
11:35	12:25	163.3	1271.4	1281.8	163.5	8:05	3:55	1282.4	663.5	1443.8	1422.4
11:30	12:30	195.8	1268.0	1283.0	196.1	8:00	4:00	1299.0	639.5	1447.9	1447.9
11:25	12:35	228.2	1264.1	1284.5	228.7	7:55	4:05	1315.1	615.2	1451.9	1473.1
11:20	12:40	260.5	1259.5	1286.2	261.2	7:50	4:10	1330.5	590.6	1455.7	1498.1
11:15	12:45	292.6	1254.4	1288.1	293.7	7:45	4:15	1345.3	565.7	1459.4	1522.7
11:10	12:50	324.7	1248.6	1290.2	326.1	7:40	4:20	1359.5	540.5	1463.0	1547.1
11:05	12:55	356.5	1242.3	1292.5	358.4	7:35	4:25	1373.0	515.1	1466.4	1571.2
11:00	1:00	388.2	1235.4	1294.9	390.7	7:30	4:30	1385.8	489.4	1469.7	1594.9
10:55	1:05	419.7	1227.9	1297.6	422.8	7:25	4:35	1398.0	463.5	1472.9	1618.4
10:50	1:10	451.1	1219.8	1300.5	454.9	7:20	4:40	1409.5	437.4	1475.9	1641.6
10:45	1:15	482.2	1211.1	1303.5	486.9	7:15	4:45	1420.4	411.1	1478.7	1664.5
10:40	1:20	513.0	1201.8	1306.7	518.8	7:10	4:50	1430.6	384.6	1481.4	1687.1
10:35	1:25	543.7	1192.0	1310.1	550.6	7:05	4:55	1440.1	357.9	1483.9	1709.4
10:30	1:30	574.0	1181.6	1313.7	582.2	7:00	5:00	1448.9	331.0	1486.2	1731.4
10:25	1:35	604.1	1170.6	1317.3	613.8	6:55	5:05	1457.0	304.0	1488.4	1753.1
10:20	1:40	633.9	1159.1	1321.2	645.2	6:50	5:10	1464.4	276.8	1490.4	1774.5
10:15	1:45	663.4	1147.1	1325.1	676.4	6:45	5:15	1471.2	249.5	1492.2	1795.6
10:10	1:50	692.6	1134.5	1329.2	707.5	6:40	5:20	1477.2	222.1	1493.8	1816.4
10:05	1:55	721.5	1121.3	1333.4	738.5	6:35	5:25	1482.5	194.6	1495.3	1836.8
10:00	2:00	750.0	1107.6	1337.6	769.3	6:30	5:30	1487.2	166.9	1496.5	1856.9
9:55	2:05	778.2	1093.4	1342.0	800.0	6:25	5:35	1491.1	139.2	1497.6	1876.8
9:50	2:10	805.9	1078.7	1346.5	830.5	6:20	5:40	1494.3	111.5	1498.4	1896.3
9:45	2:15	833.4	1063.4	1351.0	860.8	6:15	5:45	1496.8	83.6	1499.1	1915.5
9:40	2:20	860.4	1047.7	1355.7	890.9	6:10	5:50	1498.6	55.8	1499.6	1934.4
9:35	2:25	887.0	1031.4	1360.3	920.9	6:05	5:55	1499.6	27.9	1499.9	1953.0
9:30	2:30	913.1	1014.7	1365.1	950.6	6:00	6:00	1500.0	0.0	1500.0	1971.2
9:25	2:35	938.9	997.4	1369.8	980.2	5:55	6:05	1499.6	-27.9	1499.9	1989.2
9:20	2:40	964.2	979.7	1374.6	1009.5	5:50	6:10	1498.6	-55.8	1499.6	2006.8
9:15	2:45	989.0	961.6	1379.4	1038.7	5:45	6:15	1496.8	-83.6	1499.1	2024.1
9:10	2:50	1013.4	942.9	1384.2	1067.6	5:40	6:20	1494.3	-111.5	1498.4	2041.1
9:05	2:55	1037.3	923.9	1389.1	1096.4	5:35	6:25	1491.1	-139.2	1497.6	2057.8
9:00	3:00	1060.7	904.4	1393.9	1124.9	5:30	6:30	1487.2	-166.9	1496.5	2074.2
8:55	3:05	1083.5	884.4	1398.7	1153.1	5:25	6:35	1482.5	-194.6	1495.3	2090.3
8:50	3:10	1105.9	864.1	1403.4	1181.2	5:20	6:40	1477.2	-222.1	1493.8	2106.0
8:45	3:15	1127.8	843.3	1408.2	1209.0	5:15	6:45	1471.2	-249.5	1492.2	2121.5
8:40	3:20	1149.1	822.1	1412.9	1236.6	5:10	6:50	1464.4	-276.8	1490.4	2136.6
8:35	3:25	1169.8	800.5	1417.5	1263.9	5:05	6:55	1457.0	-304.0	1488.4	2151.4
8:30	3:30	1190.0	778.6	1422.1	1290.9	5:00	7:00	1448.9	-331.0	1486.2	2165.9

Analemmatic Sundial

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 Semi-Major Axis (E-W): 1500 mm Semi-Minor Axis (N-S): 1279.0 mm
 Sunrise/Sunset Markers: X = ± 327.5 mm

Local Time		X	Y	Z	W	Local Time		X	Y	Z	W
4:55	7:05	1440.1	-357.9	1483.9	2180.2	2:55	9:05	1037.3	-923.9	1389.1	2434.8
4:50	7:10	1430.6	-384.6	1481.4	2194.1	2:50	9:10	1013.4	-942.9	1384.2	2442.1
4:45	7:15	1420.4	-411.1	1478.7	2207.7	2:45	9:15	989.0	-961.6	1379.4	2449.1
4:40	7:20	1409.5	-437.4	1475.9	2221.0						
4:35	7:25	1398.0	-463.5	1472.9	2234.0						
4:30	7:30	1385.8	-489.4	1469.7	2246.7						
4:25	7:35	1373.0	-515.1	1466.4	2259.1						
4:20	7:40	1359.5	-540.5	1463.0	2271.3						
4:15	7:45	1345.3	-565.7	1459.4	2283.1						
4:10	7:50	1330.5	-590.6	1455.7	2294.6						
4:05	7:55	1315.1	-615.2	1451.9	2305.9						
4:00	8:00	1299.0	-639.5	1447.9	2316.9						
3:55	8:05	1282.4	-663.5	1443.8	2327.6						
3:50	8:10	1265.1	-687.2	1439.7	2338.0						
3:45	8:15	1247.2	-710.6	1435.4	2348.1						
3:40	8:20	1228.7	-733.6	1431.1	2358.0						
3:35	8:25	1209.7	-756.3	1426.6	2367.6						
3:30	8:30	1190.0	-778.6	1422.1	2376.9						
3:25	8:35	1169.8	-800.5	1417.5	2386.0						
3:20	8:40	1149.1	-822.1	1412.9	2394.7						
3:15	8:45	1127.8	-843.3	1408.2	2403.3						
3:10	8:50	1105.9	-864.1	1403.4	2411.5						
3:05	8:55	1083.5	-884.4	1398.7	2419.6						
3:00	9:00	1060.7	-904.4	1393.9	2427.3						

Analemmatic Sundial

Latitude: 58.5° N/S

Date Scale

Semi-Major Axis (E-W): 1500 mm Semi-Minor Axis (N-S): 1279.0 mm

Month	Date										
	1	5	6	10	11	15	16	20	21	25	26
January	-332.5	-326.2	-324.3	-315.7	-313.2	-302.4	-299.4	-286.7	-283.2	-268.8	-265.0
February	-240.5	-223.0	-218.4	-199.8	-195.1	-175.6	-170.6	-150.5	-145.4	-124.7	-119.4
March	-103.6	-82.4	-77.0	-55.5	-50.1	-28.5	-23.1	-1.4	4.0	25.6	30.9
April	63.1	84.2	89.4	110.1	115.3	135.7	140.6	160.5	165.3	184.4	189.0
May	211.8	229.2	233.3	249.5	253.4	268.3	271.9	285.4	288.7	300.5	303.2
June	317.9	325.6	327.4	333.0	334.3	337.9	338.3	339.6	339.8	337.4	338.5
July	334.3	329.0	327.4	320.2	318.1	308.7	306.2	295.1	292.1	279.4	276.0
August	254.4	238.6	234.5	217.6	213.4	195.6	190.9	172.3	167.6	148.2	143.3
September	113.4	92.9	87.8	66.9	61.7	40.7	35.5	14.2	8.9	-12.4	-17.8
October	-44.4	-65.7	-70.9	-92.1	-97.2	-118.1	-123.3	-143.7	-148.8	-168.7	-173.6
November	-202.3	-220.6	-225.0	-242.3	-246.5	-262.5	-266.4	-280.9	-284.3	-297.2	-300.4
December	-313.8	-322.9	-324.8	-331.4	-332.8	-337.0	-337.9	-339.6	-339.8	-339.0	-338.5

Northern Hemisphere

Month	Date										
	1	5	6	10	11	15	16	20	21	25	26
January	332.5	326.2	324.3	315.7	313.2	302.4	299.4	286.7	283.2	268.8	265.0
February	240.5	223.0	218.4	199.8	195.1	175.6	170.6	150.5	145.4	124.7	119.4
March	103.6	82.4	77.0	55.5	50.1	28.5	23.1	1.4	-4.0	-25.6	-30.9
April	-63.1	-84.2	-89.4	-110.1	-115.3	-135.7	-140.6	-160.5	-165.3	-184.4	-189.0
May	-211.8	-229.2	-233.3	-249.5	-253.4	-268.3	-271.9	-285.4	-288.7	-300.5	-303.2
June	-317.9	-325.6	-327.4	-333.0	-334.3	-337.9	-338.3	-339.6	-339.8	-337.4	-338.5
July	-334.3	-329.0	-327.4	-320.2	-318.1	-308.7	-306.2	-295.1	-292.1	-279.4	-276.0
August	-254.4	-238.6	-234.5	-217.6	-213.4	-195.6	-190.9	-172.3	-167.6	-148.2	-143.3
September	-113.4	-92.9	-87.8	-66.9	-61.7	-40.7	-35.5	-14.2	-8.9	12.4	17.8
October	44.4	65.7	70.9	92.1	97.2	118.1	123.3	143.7	148.8	168.7	173.6
November	202.3	220.6	225.0	242.3	246.5	262.5	266.4	280.9	284.3	297.2	300.4
December	313.8	322.9	324.8	331.4	332.8	337.0	337.9	339.6	339.8	339.0	338.5

Southern Hemisphere

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

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

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

Analemmatic Sundial

Latitude: 58.5° N/S

Earliest Sunrise: 2:49 a.m. Latest Sunset: 9:11 p.m.
 Semi-Major Axis (E-W): 2000 mm Semi-Minor Axis (N-S): 1705.3 mm
 Sunrise/Sunset Markers: X = ± 436.6 mm

Local Time		X	Y	Z	W	Local Time		X	Y	Z	W
12:00		0.0	1705.3	1705.3	0.0						
11:55	12:05	43.6	1704.9	1705.4	43.6	8:25	3:35	1612.9	1008.3	1902.2	1757.0
11:50	12:10	87.2	1703.7	1705.9	87.3	8:20	3:40	1638.3	978.1	1908.1	1792.4
11:45	12:15	130.8	1701.6	1706.6	130.9	8:15	3:45	1662.9	947.4	1913.9	1827.5
11:40	12:20	174.3	1698.8	1707.7	174.4	8:10	3:50	1686.8	916.2	1919.6	1862.2
11:35	12:25	217.7	1695.1	1709.1	218.0	8:05	3:55	1709.8	884.7	1925.1	1896.6
11:30	12:30	261.1	1690.7	1710.7	261.5	8:00	4:00	1732.1	852.6	1930.5	1930.5
11:25	12:35	304.2	1685.4	1712.7	304.9	7:55	4:05	1753.5	820.2	1935.8	1964.2
11:20	12:40	347.3	1679.4	1714.9	348.3	7:50	4:10	1774.0	787.4	1940.9	1997.4
11:15	12:45	390.2	1672.5	1717.4	391.6	7:45	4:15	1793.7	754.2	1945.9	2030.3
11:10	12:50	432.9	1664.9	1720.2	434.8	7:40	4:20	1812.6	720.7	1950.6	2062.8
11:05	12:55	475.4	1656.4	1723.3	477.9	7:35	4:25	1830.6	686.8	1955.2	2094.9
11:00	1:00	517.6	1647.2	1726.6	520.9	7:30	4:30	1847.8	652.6	1959.6	2126.6
10:55	1:05	559.7	1637.2	1730.2	563.8	7:25	4:35	1864.0	618.1	1963.8	2157.9
10:50	1:10	601.4	1626.4	1734.0	606.6	7:20	4:40	1879.4	583.2	1967.8	2188.8
10:45	1:15	642.9	1614.8	1738.0	649.2	7:15	4:45	1893.9	548.1	1971.6	2219.4
10:40	1:20	684.0	1602.4	1742.3	691.7	7:10	4:50	1907.4	512.8	1975.2	2249.5
10:35	1:25	724.9	1589.3	1746.8	734.1	7:05	4:55	1920.1	477.2	1978.5	2279.3
10:30	1:30	765.4	1575.5	1751.5	776.3	7:00	5:00	1931.9	441.4	1981.6	2308.6
10:25	1:35	805.5	1560.9	1756.4	818.3	6:55	5:05	1942.7	405.3	1984.5	2337.5
10:20	1:40	845.2	1545.5	1761.5	860.2	6:50	5:10	1952.6	369.1	1987.2	2366.0
10:15	1:45	884.6	1529.4	1766.8	901.9	6:45	5:15	1961.6	332.7	1989.6	2394.1
10:10	1:50	923.5	1512.6	1772.2	943.4	6:40	5:20	1969.6	296.1	1991.8	2421.8
10:05	1:55	962.0	1495.1	1777.8	984.7	6:35	5:25	1976.7	259.4	1993.7	2449.1
10:00	2:00	1000.0	1476.8	1783.5	1025.8	6:30	5:30	1982.9	222.6	1995.3	2475.9
9:55	2:05	1037.5	1457.9	1789.4	1066.6	6:25	5:35	1988.1	185.6	1996.8	2502.4
9:50	2:10	1074.6	1438.2	1795.3	1107.3	6:20	5:40	1992.4	148.6	1997.9	2528.4
9:45	2:15	1111.1	1417.9	1801.4	1147.7	6:15	5:45	1995.7	111.5	1998.8	2554.0
9:40	2:20	1147.2	1396.9	1807.6	1187.9	6:10	5:50	1998.1	74.4	1999.5	2579.2
9:35	2:25	1182.6	1375.2	1813.8	1227.8	6:05	5:55	1999.5	37.2	1999.9	2604.0
9:30	2:30	1217.5	1352.9	1820.1	1267.5	6:00	6:00	2000.0	0.0	2000.0	2628.3
9:25	2:35	1251.8	1329.9	1826.4	1306.9	5:55	6:05	1999.5	-37.2	1999.9	2652.2
9:20	2:40	1285.6	1306.3	1832.8	1346.1	5:50	6:10	1998.1	-74.4	1999.5	2675.7
9:15	2:45	1318.7	1282.1	1839.2	1384.9	5:45	6:15	1995.7	-111.5	1998.8	2698.8
9:10	2:50	1351.2	1257.3	1845.6	1423.5	5:40	6:20	1992.4	-148.6	1997.9	2721.5
9:05	2:55	1383.0	1231.8	1852.1	1461.8	5:35	6:25	1988.1	-185.6	1996.8	2743.8
9:00	3:00	1414.2	1205.8	1858.5	1499.8	5:30	6:30	1982.9	-222.6	1995.3	2765.6
8:55	3:05	1444.7	1179.2	1864.9	1537.5	5:25	6:35	1976.7	-259.4	1993.7	2787.0
8:50	3:10	1474.6	1152.1	1871.3	1574.9	5:20	6:40	1969.6	-296.1	1991.8	2808.0
8:45	3:15	1503.7	1124.4	1877.6	1612.0	5:15	6:45	1961.6	-332.7	1989.6	2828.6
8:40	3:20	1532.1	1096.1	1883.8	1648.7	5:10	6:50	1952.6	-369.1	1987.2	2848.8
8:35	3:25	1559.8	1067.4	1890.0	1685.2	5:05	6:55	1942.7	-405.3	1984.5	2868.6
8:30	3:30	1586.7	1038.1	1896.1	1721.3	5:00	7:00	1931.9	-441.4	1981.6	2887.9

Analemmatic Sundial

Latitude: 58.5° N/S

Earliest Sunrise: 2:49 a.m. Latest Sunset: 9:11 p.m.
 Semi-Major Axis (E-W): 2000 mm Semi-Minor Axis (N-S): 1705.3 mm
 Sunrise/Sunset Markers: X = ± 436.6 mm

Local Time	X	Y	Z	W	Local Time	X	Y	Z	W		
4:55	7:05	1920.1	-477.2	1978.5	2906.9	2:55	9:05	1383.0	-1231.8	1852.1	3246.4
4:50	7:10	1907.4	-512.8	1975.2	2925.4	2:50	9:10	1351.2	-1257.3	1845.6	3256.1
4:45	7:15	1893.9	-548.1	1971.6	2943.6	2:45	9:15	1318.7	-1282.1	1839.2	3265.5
4:40	7:20	1879.4	-583.2	1967.8	2961.3						
4:35	7:25	1864.0	-618.1	1963.8	2978.7						
4:30	7:30	1847.8	-652.6	1959.6	2995.6						
4:25	7:35	1830.6	-686.8	1955.2	3012.2						
4:20	7:40	1812.6	-720.7	1950.6	3028.3						
4:15	7:45	1793.7	-754.2	1945.9	3044.1						
4:10	7:50	1774.0	-787.4	1940.9	3059.5						
4:05	7:55	1753.5	-820.2	1935.8	3074.5						
4:00	8:00	1732.1	-852.6	1930.5	3089.2						
3:55	8:05	1709.8	-884.7	1925.1	3103.4						
3:50	8:10	1686.8	-916.2	1919.6	3117.3						
3:45	8:15	1662.9	-947.4	1913.9	3130.8						
3:40	8:20	1638.3	-978.1	1908.1	3144.0						
3:35	8:25	1612.9	-1008.3	1902.2	3156.8						
3:30	8:30	1586.7	-1038.1	1896.1	3169.2						
3:25	8:35	1559.8	-1067.4	1890.0	3181.3						
3:20	8:40	1532.1	-1096.1	1883.8	3193.0						
3:15	8:45	1503.7	-1124.4	1877.6	3204.4						
3:10	8:50	1474.6	-1152.1	1871.3	3215.4						
3:05	8:55	1444.7	-1179.2	1864.9	3226.1						
3:00	9:00	1414.2	-1205.8	1858.5	3236.4						

Analemmatic Sundial

Latitude: 58.5° N/S

Date Scale

Semi-Major Axis (E-W): 2000 mm Semi-Minor Axis (N-S): 1705.3 mm

Month	Date										
	1	5	6	10	11	15	16	20	21	25	26
January	-443.4	-435.0	-432.4	-420.9	-417.5	-403.2	-399.3	-382.2	-377.7	-358.4	-353.3
February	-320.7	-297.3	-291.2	-266.4	-260.2	-234.2	-227.5	-200.7	-193.9	-166.3	-159.2
March	-138.1	-109.8	-102.6	-74.0	-66.8	-38.0	-30.8	-1.8	5.3	34.1	41.2
April	84.1	112.2	119.2	146.9	153.8	180.9	187.5	213.9	220.4	245.9	252.0
May	282.4	305.6	311.1	332.7	337.9	357.8	362.5	380.6	384.9	400.7	404.3
June	423.9	434.1	436.5	444.0	445.7	450.5	451.1	452.9	453.1	449.8	451.3
July	445.7	438.6	436.5	426.9	424.1	411.6	408.3	393.4	389.5	372.5	368.0
August	339.1	318.1	312.7	290.2	284.5	260.7	254.5	229.8	223.5	197.6	191.0
September	151.1	123.9	117.0	89.2	82.2	54.2	47.3	19.0	11.9	-16.6	-23.7
October	-59.2	-87.6	-94.6	-122.8	-129.6	-157.5	-164.4	-191.6	-198.4	-225.0	-231.5
November	-269.7	-294.1	-300.0	-323.1	-328.7	-350.1	-355.1	-374.6	-379.1	-396.3	-400.5
December	-418.4	-430.5	-433.1	-441.9	-443.8	-449.4	-450.5	-452.9	-453.1	-452.0	-451.3

Northern Hemisphere

Month	Date										
	1	5	6	10	11	15	16	20	21	25	26
January	443.4	435.0	432.4	420.9	417.5	403.2	399.3	382.2	377.7	358.4	353.3
February	320.7	297.3	291.2	266.4	260.2	234.2	227.5	200.7	193.9	166.3	159.2
March	138.1	109.8	102.6	74.0	66.8	38.0	30.8	1.8	-5.3	-34.1	-41.2
April	-84.1	-112.2	-119.2	-146.9	-153.8	-180.9	-187.5	-213.9	-220.4	-245.9	-252.0
May	-282.4	-305.6	-311.1	-332.7	-337.9	-357.8	-362.5	-380.6	-384.9	-400.7	-404.3
June	-423.9	-434.1	-436.5	-444.0	-445.7	-450.5	-451.1	-452.9	-453.1	-449.8	-451.3
July	-445.7	-438.6	-436.5	-426.9	-424.1	-411.6	-408.3	-393.4	-389.5	-372.5	-368.0
August	-339.1	-318.1	-312.7	-290.2	-284.5	-260.7	-254.5	-229.8	-223.5	-197.6	-191.0
September	-151.1	-123.9	-117.0	-89.2	-82.2	-54.2	-47.3	-19.0	-11.9	16.6	23.7
October	59.2	87.6	94.6	122.8	129.6	157.5	164.4	191.6	198.4	225.0	231.5
November	269.7	294.1	300.0	323.1	328.7	350.1	355.1	374.6	379.1	396.3	400.5
December	418.4	430.5	433.1	441.9	443.8	449.4	450.5	452.9	453.1	452.0	451.3

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: 58.5° N/S

Earliest Sunrise: 2:49 a.m. Latest Sunset: 9:11 p.m.
 Semi-Major Axis (E-W): 2500 mm Semi-Minor Axis (N-S): 2131.6 mm
 Sunrise/Sunset Markers: X = ± 545.8 mm

Local Time		X	Y	Z	W	Local Time		X	Y	Z	W
12:00		0.0	2131.6	2131.6	0.0						
11:55	12:05	54.5	2131.1	2131.8	54.5	8:25	3:35	2016.1	1260.4	2377.7	2196.3
11:50	12:10	109.0	2129.6	2132.4	109.1	8:20	3:40	2047.9	1222.6	2385.1	2240.5
11:45	12:15	163.5	2127.0	2133.3	163.6	8:15	3:45	2078.7	1184.3	2392.4	2284.4
11:40	12:20	217.9	2123.5	2134.6	218.0	8:10	3:50	2108.5	1145.3	2399.5	2327.8
11:35	12:25	272.2	2118.9	2136.3	272.5	8:05	3:55	2137.3	1105.8	2406.4	2370.7
11:30	12:30	326.3	2113.4	2138.4	326.8	8:00	4:00	2165.1	1065.8	2413.2	2413.2
11:25	12:35	380.3	2106.8	2140.8	381.1	7:55	4:05	2191.8	1025.3	2419.8	2455.2
11:20	12:40	434.1	2099.2	2143.6	435.3	7:50	4:10	2217.5	984.3	2426.1	2496.8
11:15	12:45	487.7	2090.6	2146.8	489.4	7:45	4:15	2242.2	942.8	2432.3	2537.8
11:10	12:50	541.1	2081.1	2150.3	543.5	7:40	4:20	2265.8	900.9	2438.3	2578.5
11:05	12:55	594.2	2070.5	2154.1	597.3	7:35	4:25	2288.3	858.5	2444.0	2618.6
11:00	1:00	647.0	2059.0	2158.2	651.1	7:30	4:30	2309.7	815.7	2449.5	2658.2
10:55	1:05	699.6	2046.4	2162.7	704.7	7:25	4:35	2330.0	772.6	2454.8	2697.4
10:50	1:10	751.8	2032.9	2167.5	758.2	7:20	4:40	2349.2	729.1	2459.8	2736.1
10:45	1:15	803.6	2018.5	2172.6	811.5	7:15	4:45	2367.3	685.2	2464.5	2774.2
10:40	1:20	855.1	2003.0	2177.9	864.7	7:10	4:50	2384.3	641.0	2468.9	2811.9
10:35	1:25	906.1	1986.7	2183.5	917.6	7:05	4:55	2400.1	596.5	2473.1	2849.1
10:30	1:30	956.7	1969.3	2189.4	970.4	7:00	5:00	2414.8	551.7	2477.0	2885.7
10:25	1:35	1006.9	1951.1	2195.6	1022.9	6:55	5:05	2428.4	506.7	2480.6	2921.9
10:20	1:40	1056.5	1931.9	2201.9	1075.3	6:50	5:10	2440.7	461.4	2484.0	2957.5
10:15	1:45	1105.7	1911.8	2208.5	1127.4	6:45	5:15	2452.0	415.9	2487.0	2992.6
10:10	1:50	1154.4	1890.8	2215.3	1179.2	6:40	5:20	2462.0	370.1	2489.7	3027.3
10:05	1:55	1202.5	1868.8	2222.3	1230.8	6:35	5:25	2470.9	324.3	2492.1	3061.3
10:00	2:00	1250.0	1846.0	2229.4	1282.2	6:30	5:30	2478.6	278.2	2494.2	3094.9
9:55	2:05	1296.9	1822.3	2236.7	1333.3	6:25	5:35	2485.1	232.1	2496.0	3128.0
9:50	2:10	1343.2	1797.8	2244.2	1384.1	6:20	5:40	2490.5	185.8	2497.4	3160.5
9:45	2:15	1388.9	1772.4	2251.7	1434.6	6:15	5:45	2494.6	139.4	2498.5	3192.5
9:40	2:20	1433.9	1746.1	2259.4	1484.9	6:10	5:50	2497.6	93.0	2499.4	3224.0
9:35	2:25	1478.3	1719.0	2267.2	1534.8	6:05	5:55	2499.4	46.5	2499.8	3254.9
9:30	2:30	1521.9	1691.1	2275.1	1584.4	6:00	6:00	2500.0	0.0	2500.0	3285.4
9:25	2:35	1564.8	1662.4	2283.0	1633.6	5:55	6:05	2499.4	-46.5	2499.8	3315.3
9:20	2:40	1607.0	1632.9	2291.0	1682.6	5:50	6:10	2497.6	-93.0	2499.4	3344.7
9:15	2:45	1648.4	1602.6	2299.0	1731.2	5:45	6:15	2494.6	-139.4	2498.5	3373.5
9:10	2:50	1689.0	1571.6	2307.1	1779.4	5:40	6:20	2490.5	-185.8	2497.4	3401.9
9:05	2:55	1728.8	1539.8	2315.1	1827.3	5:35	6:25	2485.1	-232.1	2496.0	3429.7
9:00	3:00	1767.8	1507.3	2323.1	1874.8	5:30	6:30	2478.6	-278.2	2494.2	3457.0
8:55	3:05	1805.9	1474.0	2331.1	1921.9	5:25	6:35	2470.9	-324.3	2492.1	3483.8
8:50	3:10	1843.2	1440.1	2339.1	1968.6	5:20	6:40	2462.0	-370.1	2489.7	3510.0
8:45	3:15	1879.6	1405.5	2347.0	2015.0	5:15	6:45	2452.0	-415.9	2487.0	3535.8
8:40	3:20	1915.1	1370.2	2354.8	2060.9	5:10	6:50	2440.7	-461.4	2484.0	3561.0
8:35	3:25	1949.7	1334.2	2362.5	2106.5	5:05	6:55	2428.4	-506.7	2480.6	3585.7
8:30	3:30	1983.4	1297.6	2370.2	2151.6	5:00	7:00	2414.8	-551.7	2477.0	3609.9

Analemmatic Sundial

Latitude: 58.5° N/S

Earliest Sunrise: 2:49 a.m. Latest Sunset: 9:11 p.m.
 Semi-Major Axis (E-W): 2500 mm Semi-Minor Axis (N-S): 2131.6 mm
 Sunrise/Sunset Markers: X = ± 545.8 mm

Local Time		X	Y	Z	W	Local Time		X	Y	Z	W
4:55	7:05	2400.1	-596.5	2473.1	3633.6	2:55	9:05	1728.8	-1539.8	2315.1	4058.1
4:50	7:10	2384.3	-641.0	2468.9	3656.8	2:50	9:10	1689.0	-1571.6	2307.1	4070.2
4:45	7:15	2367.3	-685.2	2464.5	3679.5	2:45	9:15	1648.4	-1602.6	2299.0	4081.9
4:40	7:20	2349.2	-729.1	2459.8	3701.6						
4:35	7:25	2330.0	-772.6	2454.8	3723.3						
4:30	7:30	2309.7	-815.7	2449.5	3744.5						
4:25	7:35	2288.3	-858.5	2444.0	3765.2						
4:20	7:40	2265.8	-900.9	2438.3	3785.4						
4:15	7:45	2242.2	-942.8	2432.3	3805.2						
4:10	7:50	2217.5	-984.3	2426.1	3824.4						
4:05	7:55	2191.8	-1025.3	2419.8	3843.2						
4:00	8:00	2165.1	-1065.8	2413.2	3861.5						
3:55	8:05	2137.3	-1105.8	2406.4	3879.3						
3:50	8:10	2108.5	-1145.3	2399.5	3896.6						
3:45	8:15	2078.7	-1184.3	2392.4	3913.5						
3:40	8:20	2047.9	-1222.6	2385.1	3930.0						
3:35	8:25	2016.1	-1260.4	2377.7	3946.0						
3:30	8:30	1983.4	-1297.6	2370.2	3961.5						
3:25	8:35	1949.7	-1334.2	2362.5	3976.6						
3:20	8:40	1915.1	-1370.2	2354.8	3991.2						
3:15	8:45	1879.6	-1405.5	2347.0	4005.5						
3:10	8:50	1843.2	-1440.1	2339.1	4019.2						
3:05	8:55	1805.9	-1474.0	2331.1	4032.6						
3:00	9:00	1767.8	-1507.3	2323.1	4045.5						

Analematic Sundial

Latitude: 58.5° N/S

Date Scale

Semi-Major Axis (E-W): 2500 mm Semi-Minor Axis (N-S): 2131.6 mm

Month	Date										
	1	5	6	10	11	15	16	20	21	25	26
January	-554.2	-543.7	-540.5	-526.2	-521.9	-504.0	-499.1	-477.8	-472.1	-448.0	-441.6
February	-400.9	-371.6	-364.0	-333.0	-325.2	-292.7	-284.3	-250.8	-242.3	-207.8	-199.0
March	-172.7	-137.3	-128.3	-92.5	-83.6	-47.4	-38.5	-2.3	6.6	42.6	51.6
April	105.1	140.3	149.1	183.6	192.2	226.1	234.3	267.4	275.5	307.3	315.0
May	352.9	382.0	388.9	415.9	422.4	447.2	453.1	475.7	481.1	500.9	505.3
June	529.9	542.7	545.6	555.0	557.2	563.1	563.9	566.1	566.3	562.3	564.2
July	557.2	548.3	545.6	533.6	530.1	514.5	510.3	491.8	486.8	465.6	460.0
August	423.9	397.6	390.9	362.7	355.6	325.9	318.2	287.2	279.3	247.1	238.8
September	188.9	154.8	146.3	111.5	102.8	67.8	59.1	23.7	14.8	-20.7	-29.6
October	-73.9	-109.5	-118.2	-153.4	-162.0	-196.9	-205.5	-239.5	-248.0	-281.2	-289.3
November	-337.1	-367.7	-375.1	-403.9	-410.9	-437.6	-443.9	-468.2	-473.9	-495.4	-500.6
December	-523.0	-538.1	-541.3	-552.3	-554.7	-561.7	-563.1	-566.1	-566.3	-565.0	-564.2

Northern Hemisphere

Month	Date										
	1	5	6	10	11	15	16	20	21	25	26
January	554.2	543.7	540.5	526.2	521.9	504.0	499.1	477.8	472.1	448.0	441.6
February	400.9	371.6	364.0	333.0	325.2	292.7	284.3	250.8	242.3	207.8	199.0
March	172.7	137.3	128.3	92.5	83.6	47.4	38.5	2.3	-6.6	-42.6	-51.6
April	-105.1	-140.3	-149.1	-183.6	-192.2	-226.1	-234.3	-267.4	-275.5	-307.3	-315.0
May	-352.9	-382.0	-388.9	-415.9	-422.4	-447.2	-453.1	-475.7	-481.1	-500.9	-505.3
June	-529.9	-542.7	-545.6	-555.0	-557.2	-563.1	-563.9	-566.1	-566.3	-562.3	-564.2
July	-557.2	-548.3	-545.6	-533.6	-530.1	-514.5	-510.3	-491.8	-486.8	-465.6	-460.0
August	-423.9	-397.6	-390.9	-362.7	-355.6	-325.9	-318.2	-287.2	-279.3	-247.1	-238.8
September	-188.9	-154.8	-146.3	-111.5	-102.8	-67.8	-59.1	-23.7	-14.8	20.7	29.6
October	73.9	109.5	118.2	153.4	162.0	196.9	205.5	239.5	248.0	281.2	289.3
November	337.1	367.7	375.1	403.9	410.9	437.6	443.9	468.2	473.9	495.4	500.6
December	523.0	538.1	541.3	552.3	554.7	561.7	563.1	566.1	566.3	565.0	564.2

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