

Analemmatic Sundial

Latitude: 56.5° N/S

Earliest Sunrise: 3:08 a.m. Latest Sunset: 8:52 p.m.
 Semi-Major Axis (E-W): 1000 mm Semi-Minor Axis (N-S): 833.9 mm
 Sunrise/Sunset Markers: X = ± 253.2 mm

Local Time		X	Y	Z	W	Local Time		X	Y	Z	W
12:00		0.0	833.9	833.9	0.0						
11:55	12:05	21.8	833.7	834.0	21.8	8:25	3:35	806.4	493.1	945.2	875.5
11:50	12:10	43.6	833.1	834.2	43.6	8:20	3:40	819.2	478.3	948.6	893.0
11:45	12:15	65.4	832.1	834.7	65.4	8:15	3:45	831.5	463.3	951.8	910.3
11:40	12:20	87.2	830.7	835.3	87.2	8:10	3:50	843.4	448.0	955.0	927.5
11:35	12:25	108.9	828.9	836.0	109.0	8:05	3:55	854.9	432.6	958.1	944.4
11:30	12:30	130.5	826.8	837.0	130.7	8:00	4:00	866.0	416.9	961.2	961.2
11:25	12:35	152.1	824.2	838.1	152.4	7:55	4:05	876.7	401.1	964.1	977.7
11:20	12:40	173.6	821.2	839.4	174.1	7:50	4:10	887.0	385.0	967.0	994.1
11:15	12:45	195.1	817.9	840.8	195.7	7:45	4:15	896.9	368.8	969.7	1010.3
11:10	12:50	216.4	814.1	842.4	217.3	7:40	4:20	906.3	352.4	972.4	1026.3
11:05	12:55	237.7	810.0	844.1	238.9	7:35	4:25	915.3	335.8	975.0	1042.0
11:00	1:00	258.8	805.5	846.0	260.4	7:30	4:30	923.9	319.1	977.4	1057.6
10:55	1:05	279.8	800.6	848.1	281.8	7:25	4:35	932.0	302.2	979.8	1073.0
10:50	1:10	300.7	795.3	850.2	303.2	7:20	4:40	939.7	285.2	982.0	1088.2
10:45	1:15	321.4	789.6	852.5	324.5	7:15	4:45	946.9	268.0	984.1	1103.1
10:40	1:20	342.0	783.6	855.0	345.7	7:10	4:50	953.7	250.8	986.1	1117.9
10:35	1:25	362.4	777.2	857.5	366.8	7:05	4:55	960.0	233.3	988.0	1132.4
10:30	1:30	382.7	770.4	860.2	387.9	7:00	5:00	965.9	215.8	989.7	1146.7
10:25	1:35	402.7	763.3	863.0	408.9	6:55	5:05	971.3	198.2	991.4	1160.9
10:20	1:40	422.6	755.8	865.9	429.8	6:50	5:10	976.3	180.5	992.8	1174.8
10:15	1:45	442.3	747.9	868.9	450.6	6:45	5:15	980.8	162.7	994.2	1188.5
10:10	1:50	461.7	739.7	872.0	471.3	6:40	5:20	984.8	144.8	995.4	1201.9
10:05	1:55	481.0	731.1	875.1	491.9	6:35	5:25	988.4	126.9	996.5	1215.2
10:00	2:00	500.0	722.2	878.4	512.3	6:30	5:30	991.4	108.8	997.4	1228.3
9:55	2:05	518.8	712.9	881.7	532.7	6:25	5:35	994.1	90.8	998.2	1241.1
9:50	2:10	537.3	703.3	885.0	552.9	6:20	5:40	996.2	72.7	998.8	1253.7
9:45	2:15	555.6	693.4	888.5	573.1	6:15	5:45	997.9	54.5	999.3	1266.1
9:40	2:20	573.6	683.1	892.0	593.1	6:10	5:50	999.0	36.4	999.7	1278.3
9:35	2:25	591.3	672.5	895.5	612.9	6:05	5:55	999.8	18.2	999.9	1290.3
9:30	2:30	608.8	661.6	899.0	632.7	6:00	6:00	1000.0	0.0	1000.0	1302.1
9:25	2:35	625.9	650.3	902.6	652.3	5:55	6:05	999.8	-18.2	999.9	1313.6
9:20	2:40	642.8	638.8	906.2	671.7	5:50	6:10	999.0	-36.4	999.7	1324.9
9:15	2:45	659.3	626.9	909.8	691.1	5:45	6:15	997.9	-54.5	999.3	1336.0
9:10	2:50	675.6	614.8	913.5	710.2	5:40	6:20	996.2	-72.7	998.8	1346.9
9:05	2:55	691.5	602.4	917.1	729.2	5:35	6:25	994.1	-90.8	998.2	1357.6
9:00	3:00	707.1	589.6	920.7	748.1	5:30	6:30	991.4	-108.8	997.4	1368.1
8:55	3:05	722.4	576.6	924.3	766.8	5:25	6:35	988.4	-126.9	996.5	1378.4
8:50	3:10	737.3	563.4	927.9	785.3	5:20	6:40	984.8	-144.8	995.4	1388.4
8:45	3:15	751.8	549.8	931.4	803.7	5:15	6:45	980.8	-162.7	994.2	1398.2
8:40	3:20	766.0	536.0	935.0	821.9	5:10	6:50	976.3	-180.5	992.8	1407.9
8:35	3:25	779.9	521.9	938.4	840.0	5:05	6:55	971.3	-198.2	991.4	1417.3
8:30	3:30	793.4	507.6	941.9	857.8	5:00	7:00	965.9	-215.8	989.7	1426.5

Analemmatic Sundial

Latitude: 56.5° N/S

Earliest Sunrise: 3:08 a.m. Latest Sunset: 8:52 p.m.
 Semi-Major Axis (E-W): 1000 mm Semi-Minor Axis (N-S): 833.9 mm
 Sunrise/Sunset Markers: X = ± 253.2 mm

Local Time		X	Y	Z	W
4:55	7:05	960.0	-233.3	988.0	1435.5
4:50	7:10	953.7	-250.8	986.1	1444.3
4:45	7:15	946.9	-268.0	984.1	1452.9
4:40	7:20	939.7	-285.2	982.0	1461.3
4:35	7:25	932.0	-302.2	979.8	1469.5
4:30	7:30	923.9	-319.1	977.4	1477.5
4:25	7:35	915.3	-335.8	975.0	1485.3
4:20	7:40	906.3	-352.4	972.4	1492.9
4:15	7:45	896.9	-368.8	969.7	1500.3
4:10	7:50	887.0	-385.0	967.0	1507.5
4:05	7:55	876.7	-401.1	964.1	1514.5
4:00	8:00	866.0	-416.9	961.2	1521.4
3:55	8:05	854.9	-432.6	958.1	1528.0
3:50	8:10	843.4	-448.0	955.0	1534.5
3:45	8:15	831.5	-463.3	951.8	1540.8
3:40	8:20	819.2	-478.3	948.6	1546.9
3:35	8:25	806.4	-493.1	945.2	1552.8
3:30	8:30	793.4	-507.6	941.9	1558.6
3:25	8:35	779.9	-521.9	938.4	1564.1
3:20	8:40	766.0	-536.0	935.0	1569.5
3:15	8:45	751.8	-549.8	931.4	1574.8
3:10	8:50	737.3	-563.4	927.9	1579.8
3:05	8:55	722.4	-576.6	924.3	1584.7
3:00	9:00	707.1	-589.6	920.7	1589.5

Analematic Sundial

Latitude: 56.5° N/S

Date Scale

Semi-Major Axis (E-W): 1000 mm Semi-Minor Axis (N-S): 833.9 mm

Month	Date										
	1	5	6	10	11	15	16	20	21	25	26
January	-234.2	-229.7	-228.4	-222.3	-220.5	-213.0	-210.9	-201.9	-199.5	-189.3	-186.6
February	-169.4	-157.0	-153.8	-140.7	-137.4	-123.7	-120.1	-106.0	-102.4	-87.8	-84.1
March	-73.0	-58.0	-54.2	-39.1	-35.3	-20.0	-16.3	-1.0	2.8	18.0	21.8
April	44.4	59.3	63.0	77.6	81.2	95.5	99.0	113.0	116.4	129.9	133.1
May	149.1	161.4	164.3	175.7	178.5	189.0	191.4	201.0	203.3	211.6	213.5
June	223.9	229.3	230.5	234.5	235.4	237.9	238.3	239.2	239.3	237.6	238.4
July	235.4	231.7	230.5	225.5	224.0	217.4	215.6	207.8	205.7	196.8	194.4
August	179.1	168.0	165.2	153.3	150.3	137.7	134.4	121.4	118.0	104.4	100.9
September	79.8	65.4	61.8	47.1	43.4	28.6	25.0	10.0	6.3	-8.8	-12.5
October	-31.2	-46.3	-49.9	-64.8	-68.5	-83.2	-86.8	-101.2	-104.8	-118.8	-122.3
November	-142.4	-155.4	-158.5	-170.6	-173.6	-184.9	-187.6	-197.8	-200.2	-209.3	-211.5
December	-221.0	-227.4	-228.7	-233.4	-234.4	-237.4	-237.9	-239.2	-239.3	-238.7	-238.4

Northern Hemisphere

Month	Date										
	1	5	6	10	11	15	16	20	21	25	26
January	234.2	229.7	228.4	222.3	220.5	213.0	210.9	201.9	199.5	189.3	186.6
February	169.4	157.0	153.8	140.7	137.4	123.7	120.1	106.0	102.4	87.8	84.1
March	73.0	58.0	54.2	39.1	35.3	20.0	16.3	1.0	-2.8	-18.0	-21.8
April	-44.4	-59.3	-63.0	-77.6	-81.2	-95.5	-99.0	-113.0	-116.4	-129.9	-133.1
May	-149.1	-161.4	-164.3	-175.7	-178.5	-189.0	-191.4	-201.0	-203.3	-211.6	-213.5
June	-223.9	-229.3	-230.5	-234.5	-235.4	-237.9	-238.3	-239.2	-239.3	-237.6	-238.4
July	-235.4	-231.7	-230.5	-225.5	-224.0	-217.4	-215.6	-207.8	-205.7	-196.8	-194.4
August	-179.1	-168.0	-165.2	-153.3	-150.3	-137.7	-134.4	-121.4	-118.0	-104.4	-100.9
September	-79.8	-65.4	-61.8	-47.1	-43.4	-28.6	-25.0	-10.0	-6.3	8.8	12.5
October	31.2	46.3	49.9	64.8	68.5	83.2	86.8	101.2	104.8	118.8	122.3
November	142.4	155.4	158.5	170.6	173.6	184.9	187.6	197.8	200.2	209.3	211.5
December	221.0	227.4	228.7	233.4	234.4	237.4	237.9	239.2	239.3	238.7	238.4

Southern Hemisphere

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

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

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

Analemmatic Sundial

Latitude: 56.5° N/S

Earliest Sunrise: 3:08 a.m. Latest Sunset: 8:52 p.m.
 Semi-Major Axis (E-W): 1500 mm Semi-Minor Axis (N-S): 1250.8 mm
 Sunrise/Sunset Markers: X = ± 379.8 mm

Local Time		X	Y	Z	W	Local Time		X	Y	Z	W
12:00		0.0	1250.8	1250.8	0.0						
11:55	12:05	32.7	1250.5	1251.0	32.7	8:25	3:35	1209.7	739.6	1417.9	1313.2
11:50	12:10	65.4	1249.6	1251.3	65.4	8:20	3:40	1228.7	717.4	1422.8	1339.5
11:45	12:15	98.1	1248.2	1252.0	98.1	8:15	3:45	1247.2	694.9	1427.7	1365.5
11:40	12:20	130.7	1246.1	1252.9	130.8	8:10	3:50	1265.1	672.1	1432.5	1391.2
11:35	12:25	163.3	1243.4	1254.1	163.5	8:05	3:55	1282.4	648.9	1437.2	1416.6
11:30	12:30	195.8	1240.1	1255.5	196.1	8:00	4:00	1299.0	625.4	1441.8	1441.8
11:25	12:35	228.2	1236.3	1257.2	228.6	7:55	4:05	1315.1	601.6	1446.2	1466.6
11:20	12:40	260.5	1231.8	1259.1	261.2	7:50	4:10	1330.5	577.6	1450.5	1491.2
11:15	12:45	292.6	1226.8	1261.2	293.6	7:45	4:15	1345.3	553.2	1454.6	1515.4
11:10	12:50	324.7	1221.2	1263.6	326.0	7:40	4:20	1359.5	528.6	1458.6	1539.4
11:05	12:55	356.5	1215.0	1266.2	358.3	7:35	4:25	1373.0	503.8	1462.5	1563.1
11:00	1:00	388.2	1208.2	1269.0	390.6	7:30	4:30	1385.8	478.7	1466.2	1586.4
10:55	1:05	419.7	1200.9	1272.1	422.7	7:25	4:35	1398.0	453.3	1469.7	1609.5
10:50	1:10	451.1	1192.9	1275.4	454.8	7:20	4:40	1409.5	427.8	1473.0	1632.2
10:45	1:15	482.2	1184.4	1278.8	486.7	7:15	4:45	1420.4	402.1	1476.2	1654.7
10:40	1:20	513.0	1175.4	1282.5	518.5	7:10	4:50	1430.6	376.1	1479.2	1676.8
10:35	1:25	543.7	1165.8	1286.3	550.3	7:05	4:55	1440.1	350.0	1482.0	1698.6
10:30	1:30	574.0	1155.6	1290.3	581.9	7:00	5:00	1448.9	323.7	1484.6	1720.1
10:25	1:35	604.1	1144.9	1294.5	613.3	6:55	5:05	1457.0	297.3	1487.0	1741.3
10:20	1:40	633.9	1133.6	1298.8	644.7	6:50	5:10	1464.4	270.7	1489.3	1762.2
10:15	1:45	663.4	1121.8	1303.3	675.9	6:45	5:15	1471.2	244.0	1491.3	1782.7
10:10	1:50	692.6	1109.5	1307.9	706.9	6:40	5:20	1477.2	217.2	1493.1	1802.9
10:05	1:55	721.5	1096.6	1312.7	737.8	6:35	5:25	1482.5	190.3	1494.7	1822.8
10:00	2:00	750.0	1083.2	1317.5	768.5	6:30	5:30	1487.2	163.3	1496.1	1842.4
9:55	2:05	778.2	1069.3	1322.5	799.0	6:25	5:35	1491.1	136.2	1497.3	1861.7
9:50	2:10	805.9	1054.9	1327.6	829.4	6:20	5:40	1494.3	109.0	1498.3	1880.6
9:45	2:15	833.4	1040.0	1332.7	859.6	6:15	5:45	1496.8	81.8	1499.0	1899.2
9:40	2:20	860.4	1024.6	1337.9	889.6	6:10	5:50	1498.6	54.6	1499.6	1917.5
9:35	2:25	887.0	1008.7	1343.2	919.4	6:05	5:55	1499.6	27.3	1499.9	1935.5
9:30	2:30	913.1	992.3	1348.5	949.0	6:00	6:00	1500.0	0.0	1500.0	1953.1
9:25	2:35	938.9	975.5	1353.9	978.4	5:55	6:05	1499.6	-27.3	1499.9	1970.4
9:20	2:40	964.2	958.2	1359.3	1007.6	5:50	6:10	1498.6	-54.6	1499.6	1987.4
9:15	2:45	989.0	940.4	1364.8	1036.6	5:45	6:15	1496.8	-81.8	1499.0	2004.1
9:10	2:50	1013.4	922.2	1370.2	1065.3	5:40	6:20	1494.3	-109.0	1498.3	2020.4
9:05	2:55	1037.3	903.6	1375.6	1093.9	5:35	6:25	1491.1	-136.2	1497.3	2036.4
9:00	3:00	1060.7	884.5	1381.0	1122.1	5:30	6:30	1487.2	-163.3	1496.1	2052.2
8:55	3:05	1083.5	865.0	1386.4	1150.2	5:25	6:35	1482.5	-190.3	1494.7	2067.5
8:50	3:10	1105.9	845.0	1391.8	1178.0	5:20	6:40	1477.2	-217.2	1493.1	2082.6
8:45	3:15	1127.8	824.7	1397.1	1205.6	5:15	6:45	1471.2	-244.0	1491.3	2097.4
8:40	3:20	1149.1	804.0	1402.4	1232.9	5:10	6:50	1464.4	-270.7	1489.3	2111.8
8:35	3:25	1169.8	782.9	1407.6	1259.9	5:05	6:55	1457.0	-297.3	1487.0	2125.9
8:30	3:30	1190.0	761.5	1412.8	1286.7	5:00	7:00	1448.9	-323.7	1484.6	2139.8

Analemmatic Sundial

Latitude: 56.5° N/S

Earliest Sunrise: 3:08 a.m. Latest Sunset: 8:52 p.m.
 Semi-Major Axis (E-W): 1500 mm Semi-Minor Axis (N-S): 1250.8 mm
 Sunrise/Sunset Markers: $X = \pm 379.8$ mm

Local Time		X	Y	Z	W
4:55	7:05	1440.1	-350.0	1482.0	2153.3
4:50	7:10	1430.6	-376.1	1479.2	2166.5
4:45	7:15	1420.4	-402.1	1476.2	2179.4
4:40	7:20	1409.5	-427.8	1473.0	2191.9
4:35	7:25	1398.0	-453.3	1469.7	2204.2
4:30	7:30	1385.8	-478.7	1466.2	2216.2
4:25	7:35	1373.0	-503.8	1462.5	2227.9
4:20	7:40	1359.5	-528.6	1458.6	2239.3
4:15	7:45	1345.3	-553.2	1454.6	2250.4
4:10	7:50	1330.5	-577.6	1450.5	2261.3
4:05	7:55	1315.1	-601.6	1446.2	2271.8
4:00	8:00	1299.0	-625.4	1441.8	2282.1
3:55	8:05	1282.4	-648.9	1437.2	2292.0
3:50	8:10	1265.1	-672.1	1432.5	2301.7
3:45	8:15	1247.2	-694.9	1427.7	2311.2
3:40	8:20	1228.7	-717.4	1422.8	2320.3
3:35	8:25	1209.7	-739.6	1417.9	2329.2
3:30	8:30	1190.0	-761.5	1412.8	2337.8
3:25	8:35	1169.8	-782.9	1407.6	2346.2
3:20	8:40	1149.1	-804.0	1402.4	2354.3
3:15	8:45	1127.8	-824.7	1397.1	2362.2
3:10	8:50	1105.9	-845.0	1391.8	2369.8
3:05	8:55	1083.5	-865.0	1386.4	2377.1
3:00	9:00	1060.7	-884.5	1381.0	2384.2

Analematic Sundial

Latitude: 56.5° N/S

Date Scale

Semi-Major Axis (E-W): 1500 mm Semi-Minor Axis (N-S): 1250.8 mm

Month	Date										
	1	5	6	10	11	15	16	20	21	25	26
January	-351.3	-344.6	-342.6	-333.5	-330.8	-319.5	-316.3	-302.8	-299.2	-283.9	-279.9
February	-254.1	-235.5	-230.7	-211.0	-206.1	-185.5	-180.2	-159.0	-153.6	-131.7	-126.1
March	-109.4	-87.0	-81.3	-58.6	-53.0	-30.1	-24.4	-1.4	4.2	27.0	32.7
April	66.6	88.9	94.5	116.4	121.8	143.3	148.5	169.5	174.6	194.8	199.7
May	223.7	242.1	246.5	263.6	267.7	283.5	287.2	301.5	304.9	317.5	320.3
June	335.8	343.9	345.8	351.8	353.1	356.9	357.4	358.8	359.0	356.4	357.6
July	353.1	347.5	345.8	338.2	336.0	326.1	323.5	311.7	308.6	295.1	291.6
August	268.7	252.0	247.8	229.9	225.4	206.6	201.7	182.0	177.0	156.6	151.4
September	119.7	98.1	92.7	70.7	65.2	43.0	37.5	15.0	9.4	-13.2	-18.8
October	-46.9	-69.4	-74.9	-97.3	-102.7	-124.8	-130.2	-151.8	-157.2	-178.2	-183.4
November	-213.6	-233.0	-237.7	-256.0	-260.4	-277.3	-281.4	-296.8	-300.4	-314.0	-317.3
December	-331.5	-341.1	-343.1	-350.1	-351.6	-356.0	-356.9	-358.8	-359.0	-358.1	-357.6

Northern Hemisphere

Month	Date										
	1	5	6	10	11	15	16	20	21	25	26
January	351.3	344.6	342.6	333.5	330.8	319.5	316.3	302.8	299.2	283.9	279.9
February	254.1	235.5	230.7	211.0	206.1	185.5	180.2	159.0	153.6	131.7	126.1
March	109.4	87.0	81.3	58.6	53.0	30.1	24.4	1.4	-4.2	-27.0	-32.7
April	-66.6	-88.9	-94.5	-116.4	-121.8	-143.3	-148.5	-169.5	-174.6	-194.8	-199.7
May	-223.7	-242.1	-246.5	-263.6	-267.7	-283.5	-287.2	-301.5	-304.9	-317.5	-320.3
June	-335.8	-343.9	-345.8	-351.8	-353.1	-356.9	-357.4	-358.8	-359.0	-356.4	-357.6
July	-353.1	-347.5	-345.8	-338.2	-336.0	-326.1	-323.5	-311.7	-308.6	-295.1	-291.6
August	-268.7	-252.0	-247.8	-229.9	-225.4	-206.6	-201.7	-182.0	-177.0	-156.6	-151.4
September	-119.7	-98.1	-92.7	-70.7	-65.2	-43.0	-37.5	-15.0	-9.4	13.2	18.8
October	46.9	69.4	74.9	97.3	102.7	124.8	130.2	151.8	157.2	178.2	183.4
November	213.6	233.0	237.7	256.0	260.4	277.3	281.4	296.8	300.4	314.0	317.3
December	331.5	341.1	343.1	350.1	351.6	356.0	356.9	358.8	359.0	358.1	357.6

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: 56.5° N/S

Earliest Sunrise: 3:08 a.m. Latest Sunset: 8:52 p.m.
 Semi-Major Axis (E-W): 2000 mm Semi-Minor Axis (N-S): 1667.8 mm
 Sunrise/Sunset Markers: X = ± 506.5 mm

Local Time		X	Y	Z	W	Local Time		X	Y	Z	W
12:00		0.0	1667.8	1667.8	0.0						
11:55	12:05	43.6	1667.4	1667.9	43.6	8:25	3:35	1612.9	986.2	1890.5	1751.0
11:50	12:10	87.2	1666.2	1668.5	87.3	8:20	3:40	1638.3	956.6	1897.1	1786.0
11:45	12:15	130.8	1664.2	1669.3	130.9	8:15	3:45	1662.9	926.6	1903.7	1820.6
11:40	12:20	174.3	1661.4	1670.5	174.4	8:10	3:50	1686.8	896.1	1910.0	1854.9
11:35	12:25	217.7	1657.9	1672.1	218.0	8:05	3:55	1709.8	865.2	1916.3	1888.8
11:30	12:30	261.1	1653.5	1674.0	261.4	8:00	4:00	1732.1	833.9	1922.3	1922.3
11:25	12:35	304.2	1648.4	1676.2	304.9	7:55	4:05	1753.5	802.2	1928.2	1955.5
11:20	12:40	347.3	1642.4	1678.8	348.2	7:50	4:10	1774.0	770.1	1934.0	1988.2
11:15	12:45	390.2	1635.7	1681.6	391.5	7:45	4:15	1793.7	737.6	1939.5	2020.6
11:10	12:50	432.9	1628.2	1684.8	434.7	7:40	4:20	1812.6	704.8	1944.8	2052.5
11:05	12:55	475.4	1620.0	1688.3	477.8	7:35	4:25	1830.6	671.7	1950.0	2084.1
11:00	1:00	517.6	1610.9	1692.1	520.7	7:30	4:30	1847.8	638.2	1954.9	2115.2
10:55	1:05	559.7	1601.1	1696.1	563.6	7:25	4:35	1864.0	604.5	1959.6	2146.0
10:50	1:10	601.4	1590.6	1700.5	606.3	7:20	4:40	1879.4	570.4	1964.0	2176.3
10:45	1:15	642.9	1579.3	1705.1	648.9	7:15	4:45	1893.9	536.1	1968.3	2206.2
10:40	1:20	684.0	1567.2	1710.0	691.4	7:10	4:50	1907.4	501.5	1972.3	2235.7
10:35	1:25	724.9	1554.4	1715.1	733.7	7:05	4:55	1920.1	466.7	1976.0	2264.8
10:30	1:30	765.4	1540.8	1720.4	775.8	7:00	5:00	1931.9	431.7	1979.5	2293.5
10:25	1:35	805.5	1526.5	1726.0	817.8	6:55	5:05	1942.7	396.4	1982.7	2321.7
10:20	1:40	845.2	1511.5	1731.8	859.6	6:50	5:10	1952.6	361.0	1985.7	2349.5
10:15	1:45	884.6	1495.8	1737.8	901.1	6:45	5:15	1961.6	325.4	1988.4	2376.9
10:10	1:50	923.5	1479.3	1743.9	942.5	6:40	5:20	1969.6	289.6	1990.8	2403.9
10:05	1:55	962.0	1462.2	1750.2	983.7	6:35	5:25	1976.7	253.7	1992.9	2430.4
10:00	2:00	1000.0	1444.3	1756.7	1024.7	6:30	5:30	1982.9	217.7	1994.8	2456.5
9:55	2:05	1037.5	1425.8	1763.3	1065.4	6:25	5:35	1988.1	181.6	1996.4	2482.2
9:50	2:10	1074.6	1406.6	1770.1	1105.9	6:20	5:40	1992.4	145.4	1997.7	2507.5
9:45	2:15	1111.1	1386.7	1777.0	1146.1	6:15	5:45	1995.7	109.1	1998.7	2532.3
9:40	2:20	1147.2	1366.2	1783.9	1186.1	6:10	5:50	1998.1	72.7	1999.4	2556.7
9:35	2:25	1182.6	1345.0	1791.0	1225.9	6:05	5:55	1999.5	36.4	1999.9	2580.6
9:30	2:30	1217.5	1323.1	1798.1	1265.4	6:00	6:00	2000.0	0.0	2000.0	2604.1
9:25	2:35	1251.8	1300.7	1805.2	1304.6	5:55	6:05	1999.5	-36.4	1999.9	2627.2
9:20	2:40	1285.6	1277.6	1812.4	1343.5	5:50	6:10	1998.1	-72.7	1999.4	2649.9
9:15	2:45	1318.7	1253.9	1819.7	1382.1	5:45	6:15	1995.7	-109.1	1998.7	2672.1
9:10	2:50	1351.2	1229.6	1826.9	1420.4	5:40	6:20	1992.4	-145.4	1997.7	2693.9
9:05	2:55	1383.0	1204.7	1834.2	1458.5	5:35	6:25	1988.1	-181.6	1996.4	2715.3
9:00	3:00	1414.2	1179.3	1841.4	1496.2	5:30	6:30	1982.9	-217.7	1994.8	2736.2
8:55	3:05	1444.7	1153.3	1848.6	1533.6	5:25	6:35	1976.7	-253.7	1992.9	2756.7
8:50	3:10	1474.6	1126.7	1855.8	1570.7	5:20	6:40	1969.6	-289.6	1990.8	2776.8
8:45	3:15	1503.7	1099.6	1862.9	1607.4	5:15	6:45	1961.6	-325.4	1988.4	2796.5
8:40	3:20	1532.1	1072.0	1869.9	1643.8	5:10	6:50	1952.6	-361.0	1985.7	2815.7
8:35	3:25	1559.8	1043.9	1876.9	1679.9	5:05	6:55	1942.7	-396.4	1982.7	2834.6
8:30	3:30	1586.7	1015.3	1883.7	1715.6	5:00	7:00	1931.9	-431.7	1979.5	2853.0

Analemmatic Sundial

Latitude: 56.5° N/S

Earliest Sunrise: 3:08 a.m. Latest Sunset: 8:52 p.m.
 Semi-Major Axis (E-W): 2000 mm Semi-Minor Axis (N-S): 1667.8 mm
 Sunrise/Sunset Markers: X = ± 506.5 mm

Local Time		X	Y	Z	W
4:55	7:05	1920.1	-466.7	1976.0	2871.0
4:50	7:10	1907.4	-501.5	1972.3	2888.6
4:45	7:15	1893.9	-536.1	1968.3	2905.8
4:40	7:20	1879.4	-570.4	1964.0	2922.6
4:35	7:25	1864.0	-604.5	1959.6	2939.0
4:30	7:30	1847.8	-638.2	1954.9	2955.0
4:25	7:35	1830.6	-671.7	1950.0	2970.6
4:20	7:40	1812.6	-704.8	1944.8	2985.8
4:15	7:45	1793.7	-737.6	1939.5	3000.6
4:10	7:50	1774.0	-770.1	1934.0	3015.0
4:05	7:55	1753.5	-802.2	1928.2	3029.1
4:00	8:00	1732.1	-833.9	1922.3	3042.7
3:55	8:05	1709.8	-865.2	1916.3	3056.0
3:50	8:10	1686.8	-896.1	1910.0	3069.0
3:45	8:15	1662.9	-926.6	1903.7	3081.5
3:40	8:20	1638.3	-956.6	1897.1	3093.8
3:35	8:25	1612.9	-986.2	1890.5	3105.6
3:30	8:30	1586.7	-1015.3	1883.7	3117.1
3:25	8:35	1559.8	-1043.9	1876.9	3128.3
3:20	8:40	1532.1	-1072.0	1869.9	3139.1
3:15	8:45	1503.7	-1099.6	1862.9	3149.5
3:10	8:50	1474.6	-1126.7	1855.8	3159.7
3:05	8:55	1444.7	-1153.3	1848.6	3169.5
3:00	9:00	1414.2	-1179.3	1841.4	3179.0

Analemmatic Sundial

Latitude: 56.5° N/S

Date Scale

Semi-Major Axis (E-W): 2000 mm Semi-Minor Axis (N-S): 1667.8 mm

Month	Date										
	1	5	6	10	11	15	16	20	21	25	26
January	-468.3	-459.5	-456.8	-444.6	-441.1	-425.9	-421.7	-403.7	-398.9	-378.6	-373.2
February	-338.8	-314.0	-307.6	-281.4	-274.8	-247.4	-240.3	-212.0	-204.8	-175.6	-168.1
March	-145.9	-116.0	-108.4	-78.2	-70.6	-40.1	-32.6	-1.9	5.6	36.0	43.6
April	88.8	118.6	126.0	155.1	162.4	191.1	198.0	226.0	232.8	259.7	266.2
May	298.3	322.8	328.7	351.4	357.0	377.9	382.9	402.0	406.6	423.3	427.1
June	447.8	458.6	461.1	469.0	470.8	475.9	476.5	478.4	478.6	475.2	476.8
July	470.8	463.3	461.1	450.9	448.0	434.8	431.3	415.6	411.4	393.5	388.7
August	358.2	336.0	330.3	306.5	300.5	275.4	268.9	242.7	236.0	208.8	201.8
September	159.7	130.8	123.6	94.2	86.9	57.3	49.9	20.0	12.5	-17.5	-25.1
October	-62.5	-92.5	-99.9	-129.7	-136.9	-166.4	-173.7	-202.4	-209.6	-237.7	-244.5
November	-284.9	-310.7	-316.9	-341.3	-347.2	-369.8	-375.1	-395.7	-400.5	-418.7	-423.1
December	-442.0	-454.8	-457.5	-466.7	-468.8	-474.7	-475.9	-478.4	-478.6	-477.5	-476.8

Northern Hemisphere

Month	Date										
	1	5	6	10	11	15	16	20	21	25	26
January	468.3	459.5	456.8	444.6	441.1	425.9	421.7	403.7	398.9	378.6	373.2
February	338.8	314.0	307.6	281.4	274.8	247.4	240.3	212.0	204.8	175.6	168.1
March	145.9	116.0	108.4	78.2	70.6	40.1	32.6	1.9	-5.6	-36.0	-43.6
April	-88.8	-118.6	-126.0	-155.1	-162.4	-191.1	-198.0	-226.0	-232.8	-259.7	-266.2
May	-298.3	-322.8	-328.7	-351.4	-357.0	-377.9	-382.9	-402.0	-406.6	-423.3	-427.1
June	-447.8	-458.6	-461.1	-469.0	-470.8	-475.9	-476.5	-478.4	-478.6	-475.2	-476.8
July	-470.8	-463.3	-461.1	-450.9	-448.0	-434.8	-431.3	-415.6	-411.4	-393.5	-388.7
August	-358.2	-336.0	-330.3	-306.5	-300.5	-275.4	-268.9	-242.7	-236.0	-208.8	-201.8
September	-159.7	-130.8	-123.6	-94.2	-86.9	-57.3	-49.9	-20.0	-12.5	17.5	25.1
October	62.5	92.5	99.9	129.7	136.9	166.4	173.7	202.4	209.6	237.7	244.5
November	284.9	310.7	316.9	341.3	347.2	369.8	375.1	395.7	400.5	418.7	423.1
December	442.0	454.8	457.5	466.7	468.8	474.7	475.9	478.4	478.6	477.5	476.8

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: 56.5° N/S

Earliest Sunrise: 3:08 a.m. Latest Sunset: 8:52 p.m.
 Semi-Major Axis (E-W): 2500 mm Semi-Minor Axis (N-S): 2084.7 mm
 Sunrise/Sunset Markers: X = ± 633.1 mm

Local Time		X	Y	Z	W	Local Time		X	Y	Z	W
12:00		0.0	2084.7	2084.7	0.0						
11:55	12:05	54.5	2084.2	2084.9	54.5	8:25	3:35	2016.1	1232.7	2363.1	2188.7
11:50	12:10	109.0	2082.7	2085.6	109.1	8:20	3:40	2047.9	1195.7	2371.4	2232.5
11:45	12:15	163.5	2080.3	2086.7	163.6	8:15	3:45	2078.7	1158.2	2379.6	2275.8
11:40	12:20	217.9	2076.8	2088.2	218.0	8:10	3:50	2108.5	1120.1	2387.5	2318.6
11:35	12:25	272.2	2072.3	2090.1	272.4	8:05	3:55	2137.3	1081.5	2395.3	2361.0
11:30	12:30	326.3	2066.9	2092.5	326.8	8:00	4:00	2165.1	1042.4	2402.9	2402.9
11:25	12:35	380.3	2060.5	2095.3	381.1	7:55	4:05	2191.8	1002.7	2410.3	2444.3
11:20	12:40	434.1	2053.0	2098.4	435.3	7:50	4:10	2217.5	962.6	2417.4	2485.3
11:15	12:45	487.7	2044.7	2102.0	489.4	7:45	4:15	2242.2	922.0	2424.4	2525.7
11:10	12:50	541.1	2035.3	2106.0	543.4	7:40	4:20	2265.8	881.0	2431.0	2565.6
11:05	12:55	594.2	2025.0	2110.4	597.2	7:35	4:25	2288.3	839.6	2437.5	2605.1
11:00	1:00	647.0	2013.7	2115.1	650.9	7:30	4:30	2309.7	797.8	2443.6	2644.0
10:55	1:05	699.6	2001.4	2120.2	704.5	7:25	4:35	2330.0	755.6	2449.5	2682.5
10:50	1:10	751.8	1988.2	2125.6	757.9	7:20	4:40	2349.2	713.0	2455.1	2720.4
10:45	1:15	803.6	1974.1	2131.4	811.2	7:15	4:45	2367.3	670.1	2460.3	2757.8
10:40	1:20	855.1	1959.0	2137.5	864.2	7:10	4:50	2384.3	626.9	2465.3	2794.7
10:35	1:25	906.1	1943.0	2143.9	917.1	7:05	4:55	2400.1	583.4	2470.0	2831.0
10:30	1:30	956.7	1926.0	2150.5	969.8	7:00	5:00	2414.8	539.6	2474.4	2866.8
10:25	1:35	1006.9	1908.2	2157.5	1022.2	6:55	5:05	2428.4	495.5	2478.4	2902.2
10:20	1:40	1056.5	1889.4	2164.7	1074.4	6:50	5:10	2440.7	451.2	2482.1	2936.9
10:15	1:45	1105.7	1869.7	2172.2	1126.4	6:45	5:15	2452.0	406.7	2485.5	2971.2
10:10	1:50	1154.4	1849.2	2179.9	1178.2	6:40	5:20	2462.0	362.0	2488.5	3004.9
10:05	1:55	1202.5	1827.7	2187.8	1229.6	6:35	5:25	2470.9	317.1	2491.2	3038.0
10:00	2:00	1250.0	1805.4	2195.9	1280.8	6:30	5:30	2478.6	272.1	2493.5	3070.7
9:55	2:05	1296.9	1782.2	2204.2	1331.7	6:25	5:35	2485.1	227.0	2495.5	3102.8
9:50	2:10	1343.2	1758.2	2212.6	1382.4	6:20	5:40	2490.5	181.7	2497.1	3134.3
9:45	2:15	1388.9	1733.4	2221.2	1432.7	6:15	5:45	2494.6	136.3	2498.4	3165.3
9:40	2:20	1433.9	1707.7	2229.9	1482.7	6:10	5:50	2497.6	90.9	2499.3	3195.8
9:35	2:25	1478.3	1681.2	2238.7	1532.4	6:05	5:55	2499.4	45.5	2499.8	3225.8
9:30	2:30	1521.9	1653.9	2247.6	1581.7	6:00	6:00	2500.0	0.0	2500.0	3255.2
9:25	2:35	1564.8	1625.8	2256.5	1630.7	5:55	6:05	2499.4	-45.5	2499.8	3284.0
9:20	2:40	1607.0	1597.0	2265.5	1679.4	5:50	6:10	2497.6	-90.9	2499.3	3312.3
9:15	2:45	1648.4	1567.4	2274.6	1727.6	5:45	6:15	2494.6	-136.3	2498.4	3340.1
9:10	2:50	1689.0	1537.0	2283.6	1775.6	5:40	6:20	2490.5	-181.7	2497.1	3367.4
9:05	2:55	1728.8	1505.9	2292.7	1823.1	5:35	6:25	2485.1	-227.0	2495.5	3394.1
9:00	3:00	1767.8	1474.1	2301.7	1870.2	5:30	6:30	2478.6	-272.1	2493.5	3420.3
8:55	3:05	1805.9	1441.6	2310.7	1917.0	5:25	6:35	2470.9	-317.1	2491.2	3445.9
8:50	3:10	1843.2	1408.4	2319.7	1963.4	5:20	6:40	2462.0	-362.0	2488.5	3471.0
8:45	3:15	1879.6	1374.5	2328.6	2009.3	5:15	6:45	2452.0	-406.7	2485.5	3495.6
8:40	3:20	1915.1	1340.0	2337.4	2054.8	5:10	6:50	2440.7	-451.2	2482.1	3519.7
8:35	3:25	1949.7	1304.9	2346.1	2099.9	5:05	6:55	2428.4	-495.5	2478.4	3543.2
8:30	3:30	1983.4	1269.1	2354.7	2144.5	5:00	7:00	2414.8	-539.6	2474.4	3566.3

Analemmatic Sundial

Latitude: 56.5° N/S

Earliest Sunrise: 3:08 a.m. Latest Sunset: 8:52 p.m.
 Semi-Major Axis (E-W): 2500 mm Semi-Minor Axis (N-S): 2084.7 mm
 Sunrise/Sunset Markers: X = ± 633.1 mm

Local Time		X	Y	Z	W
4:55	7:05	2400.1	-583.4	2470.0	3588.8
4:50	7:10	2384.3	-626.9	2465.3	3610.8
4:45	7:15	2367.3	-670.1	2460.3	3632.3
4:40	7:20	2349.2	-713.0	2455.1	3653.2
4:35	7:25	2330.0	-755.6	2449.5	3673.7
4:30	7:30	2309.7	-797.8	2443.6	3693.7
4:25	7:35	2288.3	-839.6	2437.5	3713.2
4:20	7:40	2265.8	-881.0	2431.0	3732.2
4:15	7:45	2242.2	-922.0	2424.4	3750.7
4:10	7:50	2217.5	-962.6	2417.4	3768.8
4:05	7:55	2191.8	-1002.7	2410.3	3786.3
4:00	8:00	2165.1	-1042.4	2402.9	3803.4
3:55	8:05	2137.3	-1081.5	2395.3	3820.1
3:50	8:10	2108.5	-1120.1	2387.5	3836.2
3:45	8:15	2078.7	-1158.2	2379.6	3851.9
3:40	8:20	2047.9	-1195.7	2371.4	3867.2
3:35	8:25	2016.1	-1232.7	2363.1	3882.0
3:30	8:30	1983.4	-1269.1	2354.7	3896.4
3:25	8:35	1949.7	-1304.9	2346.1	3910.3
3:20	8:40	1915.1	-1340.0	2337.4	3923.8
3:15	8:45	1879.6	-1374.5	2328.6	3936.9
3:10	8:50	1843.2	-1408.4	2319.7	3949.6
3:05	8:55	1805.9	-1441.6	2310.7	3961.9
3:00	9:00	1767.8	-1474.1	2301.7	3973.7

Analemmatic Sundial

Latitude: 56.5° N/S

Date Scale

Semi-Major Axis (E-W): 2500 mm Semi-Minor Axis (N-S): 2084.7 mm

Month	Date										
	1	5	6	10	11	15	16	20	21	25	26
January	-585.4	-574.4	-571.0	-555.8	-551.3	-532.4	-527.2	-504.7	-498.7	-473.2	-466.5
February	-423.4	-392.5	-384.5	-351.7	-343.5	-309.2	-300.3	-265.0	-256.0	-219.5	-210.2
March	-182.4	-145.0	-135.5	-97.7	-88.3	-50.1	-40.7	-2.4	7.0	45.1	54.5
April	111.0	148.2	157.5	193.9	203.0	238.8	247.5	282.5	291.0	324.7	332.8
May	372.8	403.5	410.8	439.3	446.2	472.4	478.6	502.5	508.2	529.1	533.8
June	559.7	573.2	576.4	586.3	588.6	594.8	595.7	598.0	598.3	594.0	596.0
July	588.6	579.2	576.4	563.7	560.0	543.5	539.1	519.5	514.3	491.9	485.9
August	447.8	420.0	412.9	383.2	375.7	344.3	336.1	303.4	295.1	261.0	252.3
September	199.6	163.6	154.5	117.8	108.6	71.6	62.4	25.0	15.7	-21.9	-31.3
October	-78.1	-115.6	-124.8	-162.1	-171.1	-207.9	-217.1	-253.0	-262.0	-297.1	-305.7
November	-356.1	-388.4	-396.2	-426.6	-434.0	-462.2	-468.9	-494.6	-500.6	-523.3	-528.8
December	-552.5	-568.4	-571.8	-583.4	-586.0	-593.4	-594.8	-598.0	-598.3	-596.8	-596.0

Northern Hemisphere

Month	Date										
	1	5	6	10	11	15	16	20	21	25	26
January	585.4	574.4	571.0	555.8	551.3	532.4	527.2	504.7	498.7	473.2	466.5
February	423.4	392.5	384.5	351.7	343.5	309.2	300.3	265.0	256.0	219.5	210.2
March	182.4	145.0	135.5	97.7	88.3	50.1	40.7	2.4	-7.0	-45.1	-54.5
April	-111.0	-148.2	-157.5	-193.9	-203.0	-238.8	-247.5	-282.5	-291.0	-324.7	-332.8
May	-372.8	-403.5	-410.8	-439.3	-446.2	-472.4	-478.6	-502.5	-508.2	-529.1	-533.8
June	-559.7	-573.2	-576.4	-586.3	-588.6	-594.8	-595.7	-598.0	-598.3	-594.0	-596.0
July	-588.6	-579.2	-576.4	-563.7	-560.0	-543.5	-539.1	-519.5	-514.3	-491.9	-485.9
August	-447.8	-420.0	-412.9	-383.2	-375.7	-344.3	-336.1	-303.4	-295.1	-261.0	-252.3
September	-199.6	-163.6	-154.5	-117.8	-108.6	-71.6	-62.4	-25.0	-15.7	21.9	31.3
October	78.1	115.6	124.8	162.1	171.1	207.9	217.1	253.0	262.0	297.1	305.7
November	356.1	388.4	396.2	426.6	434.0	462.2	468.9	494.6	500.6	523.3	528.8
December	552.5	568.4	571.8	583.4	586.0	593.4	594.8	598.0	598.3	596.8	596.0

Southern Hemisphere

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

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

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