

# The Sundial Primer - "Dialling Guide"

created by Carl Sabanski

## Horizontal Shadow Plane Sundial

Latitude: 64.5° N/S

Earliest Sunrise: 1:16 a.m. Latest Sunset: 10:44 p.m.

E-W Dimension: 1000 mm

| Local Time | X     | Y      | Local Time | X    | Y    | Local Time | X      | Y    |       |       |       |
|------------|-------|--------|------------|------|------|------------|--------|------|-------|-------|-------|
| 12:00      | 0.0   | -500.0 |            |      |      |            |        |      |       |       |       |
| 11:55      | 12:05 | 9.8    | -500.0     | 8:25 | 3:35 | 500.0      | -406.2 | 4:40 | 7:20  | 500.0 | 201.6 |
| 11:50      | 12:10 | 19.7   | -500.0     | 8:20 | 3:40 | 500.0      | -387.9 | 4:35 | 7:25  | 500.0 | 215.4 |
| 11:45      | 12:15 | 29.6   | -500.0     | 8:15 | 3:45 | 500.0      | -370.1 | 4:30 | 7:30  | 500.0 | 229.5 |
| 11:40      | 12:20 | 39.5   | -500.0     | 8:10 | 3:50 | 500.0      | -352.9 | 4:25 | 7:35  | 500.0 | 243.8 |
| 11:35      | 12:25 | 49.4   | -500.0     | 8:05 | 3:55 | 500.0      | -336.2 | 4:20 | 7:40  | 500.0 | 258.3 |
| 11:30      | 12:30 | 59.4   | -500.0     | 8:00 | 4:00 | 500.0      | -319.8 | 4:15 | 7:45  | 500.0 | 273.2 |
| 11:25      | 12:35 | 69.5   | -500.0     | 7:55 | 4:05 | 500.0      | -303.9 | 4:10 | 7:50  | 500.0 | 288.4 |
| 11:20      | 12:40 | 79.6   | -500.0     | 7:50 | 4:10 | 500.0      | -288.4 | 4:05 | 7:55  | 500.0 | 303.9 |
| 11:15      | 12:45 | 89.8   | -500.0     | 7:45 | 4:15 | 500.0      | -273.2 | 4:00 | 8:00  | 500.0 | 319.8 |
| 11:10      | 12:50 | 100.0  | -500.0     | 7:40 | 4:20 | 500.0      | -258.3 | 3:55 | 8:05  | 500.0 | 336.2 |
| 11:05      | 12:55 | 110.4  | -500.0     | 7:35 | 4:25 | 500.0      | -243.8 | 3:50 | 8:10  | 500.0 | 352.9 |
| 11:00      | 1:00  | 120.9  | -500.0     | 7:30 | 4:30 | 500.0      | -229.5 | 3:45 | 8:15  | 500.0 | 370.1 |
| 10:55      | 1:05  | 131.5  | -500.0     | 7:25 | 4:35 | 500.0      | -215.4 | 3:40 | 8:20  | 500.0 | 387.9 |
| 10:50      | 1:10  | 142.3  | -500.0     | 7:20 | 4:40 | 500.0      | -201.6 | 3:35 | 8:25  | 500.0 | 406.2 |
| 10:45      | 1:15  | 153.2  | -500.0     | 7:15 | 4:45 | 500.0      | -188.0 | 3:30 | 8:30  | 500.0 | 425.1 |
| 10:40      | 1:20  | 164.3  | -500.0     | 7:10 | 4:50 | 500.0      | -174.7 | 3:25 | 8:35  | 500.0 | 444.6 |
| 10:35      | 1:25  | 175.5  | -500.0     | 7:05 | 4:55 | 500.0      | -161.5 | 3:20 | 8:40  | 500.0 | 464.8 |
| 10:30      | 1:30  | 186.9  | -500.0     | 7:00 | 5:00 | 500.0      | -148.4 | 3:15 | 8:45  | 500.0 | 485.8 |
| 10:25      | 1:35  | 198.6  | -500.0     | 6:55 | 5:05 | 500.0      | -135.6 | 3:10 | 8:50  | 492.5 | 500.0 |
| 10:20      | 1:40  | 210.4  | -500.0     | 6:50 | 5:10 | 500.0      | -122.8 | 3:05 | 8:55  | 471.4 | 500.0 |
| 10:15      | 1:45  | 222.6  | -500.0     | 6:45 | 5:15 | 500.0      | -110.2 | 3:00 | 9:00  | 451.3 | 500.0 |
| 10:10      | 1:50  | 234.9  | -500.0     | 6:40 | 5:20 | 500.0      | -97.7  | 2:55 | 9:05  | 432.0 | 500.0 |
| 10:05      | 1:55  | 247.6  | -500.0     | 6:35 | 5:25 | 500.0      | -85.3  | 2:50 | 9:10  | 413.5 | 500.0 |
| 10:00      | 2:00  | 260.6  | -500.0     | 6:30 | 5:30 | 500.0      | -72.9  | 2:45 | 9:15  | 395.8 | 500.0 |
| 9:55       | 2:05  | 273.9  | -500.0     | 6:25 | 5:35 | 500.0      | -60.7  | 2:40 | 9:20  | 378.7 | 500.0 |
| 9:50       | 2:10  | 287.5  | -500.0     | 6:20 | 5:40 | 500.0      | -48.5  | 2:35 | 9:25  | 362.2 | 500.0 |
| 9:45       | 2:15  | 301.5  | -500.0     | 6:15 | 5:45 | 500.0      | -36.3  | 2:30 | 9:30  | 346.3 | 500.0 |
| 9:40       | 2:20  | 316.0  | -500.0     | 6:10 | 5:50 | 500.0      | -24.2  | 2:25 | 9:35  | 330.9 | 500.0 |
| 9:35       | 2:25  | 330.9  | -500.0     | 6:05 | 5:55 | 500.0      | -12.1  | 2:20 | 9:40  | 316.0 | 500.0 |
| 9:30       | 2:30  | 346.3  | -500.0     | 6:00 | 6:00 | 500.0      | 0.0    | 2:15 | 9:45  | 301.5 | 500.0 |
| 9:25       | 2:35  | 362.2  | -500.0     | 5:55 | 6:05 | 500.0      | 12.1   | 2:10 | 9:50  | 287.5 | 500.0 |
| 9:20       | 2:40  | 378.7  | -500.0     | 5:50 | 6:10 | 500.0      | 24.2   | 2:05 | 9:55  | 273.9 | 500.0 |
| 9:15       | 2:45  | 395.8  | -500.0     | 5:45 | 6:15 | 500.0      | 36.3   | 2:00 | 10:00 | 260.6 | 500.0 |
| 9:10       | 2:50  | 413.5  | -500.0     | 5:40 | 6:20 | 500.0      | 48.5   | 1:55 | 10:05 | 247.6 | 500.0 |
| 9:05       | 2:55  | 432.0  | -500.0     | 5:35 | 6:25 | 500.0      | 60.7   | 1:50 | 10:10 | 234.9 | 500.0 |
| 9:00       | 3:00  | 451.3  | -500.0     | 5:30 | 6:30 | 500.0      | 72.9   | 1:45 | 10:15 | 222.6 | 500.0 |
| 8:55       | 3:05  | 471.4  | -500.0     | 5:25 | 6:35 | 500.0      | 85.3   | 1:40 | 10:20 | 210.4 | 500.0 |
| 8:50       | 3:10  | 492.5  | -500.0     | 5:20 | 6:40 | 500.0      | 97.7   | 1:35 | 10:25 | 198.6 | 500.0 |
| 8:45       | 3:15  | 500.0  | -485.8     | 5:15 | 6:45 | 500.0      | 110.2  | 1:30 | 10:30 | 186.9 | 500.0 |
| 8:40       | 3:20  | 500.0  | -464.8     | 5:10 | 6:50 | 500.0      | 122.8  | 1:25 | 10:35 | 175.5 | 500.0 |
| 8:35       | 3:25  | 500.0  | -444.6     | 5:05 | 6:55 | 500.0      | 135.6  | 1:20 | 10:40 | 164.3 | 500.0 |
| 8:30       | 3:30  | 500.0  | -425.1     | 5:00 | 7:00 | 500.0      | 148.4  | 1:15 | 10:45 | 153.2 | 500.0 |
|            |       |        |            | 4:55 | 7:05 | 500.0      | 161.5  |      |       |       |       |
|            |       |        |            | 4:50 | 7:10 | 500.0      | 174.7  |      |       |       |       |
|            |       |        |            | 4:45 | 7:15 | 500.0      | 188.0  |      |       |       |       |

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## Horizontal Shadow Plane Sundial

Latitude: 64.5° N/S

Earliest Sunrise: 1:16 a.m. Latest Sunset: 10:44 p.m.

E-W Dimension: 3000 mm

| Local Time |       | X      | Y       | Local Time |      | X      | Y       | Local Time |       | X      | Y      |
|------------|-------|--------|---------|------------|------|--------|---------|------------|-------|--------|--------|
| 12:00      |       | 0.0    | -1500.0 |            |      |        |         |            |       |        |        |
| 11:55      | 12:05 | 29.5   | -1500.0 | 8:25       | 3:35 | 1500.0 | -1218.6 | 4:40       | 7:20  | 1500.0 | 604.9  |
| 11:50      | 12:10 | 59.1   | -1500.0 | 8:20       | 3:40 | 1500.0 | -1163.7 | 4:35       | 7:25  | 1500.0 | 646.3  |
| 11:45      | 12:15 | 88.7   | -1500.0 | 8:15       | 3:45 | 1500.0 | -1110.4 | 4:30       | 7:30  | 1500.0 | 688.4  |
| 11:40      | 12:20 | 118.4  | -1500.0 | 8:10       | 3:50 | 1500.0 | -1058.7 | 4:25       | 7:35  | 1500.0 | 731.3  |
| 11:35      | 12:25 | 148.3  | -1500.0 | 8:05       | 3:55 | 1500.0 | -1008.5 | 4:20       | 7:40  | 1500.0 | 775.0  |
| 11:30      | 12:30 | 178.2  | -1500.0 | 8:00       | 4:00 | 1500.0 | -959.5  | 4:15       | 7:45  | 1500.0 | 819.6  |
| 11:25      | 12:35 | 208.4  | -1500.0 | 7:55       | 4:05 | 1500.0 | -911.7  | 4:10       | 7:50  | 1500.0 | 865.1  |
| 11:20      | 12:40 | 238.7  | -1500.0 | 7:50       | 4:10 | 1500.0 | -865.1  | 4:05       | 7:55  | 1500.0 | 911.7  |
| 11:15      | 12:45 | 269.3  | -1500.0 | 7:45       | 4:15 | 1500.0 | -819.6  | 4:00       | 8:00  | 1500.0 | 959.5  |
| 11:10      | 12:50 | 300.1  | -1500.0 | 7:40       | 4:20 | 1500.0 | -775.0  | 3:55       | 8:05  | 1500.0 | 1008.5 |
| 11:05      | 12:55 | 331.3  | -1500.0 | 7:35       | 4:25 | 1500.0 | -731.3  | 3:50       | 8:10  | 1500.0 | 1058.7 |
| 11:00      | 1:00  | 362.8  | -1500.0 | 7:30       | 4:30 | 1500.0 | -688.4  | 3:45       | 8:15  | 1500.0 | 1110.4 |
| 10:55      | 1:05  | 394.6  | -1500.0 | 7:25       | 4:35 | 1500.0 | -646.3  | 3:40       | 8:20  | 1500.0 | 1163.7 |
| 10:50      | 1:10  | 426.9  | -1500.0 | 7:20       | 4:40 | 1500.0 | -604.9  | 3:35       | 8:25  | 1500.0 | 1218.6 |
| 10:45      | 1:15  | 459.6  | -1500.0 | 7:15       | 4:45 | 1500.0 | -564.1  | 3:30       | 8:30  | 1500.0 | 1275.2 |
| 10:40      | 1:20  | 492.8  | -1500.0 | 7:10       | 4:50 | 1500.0 | -524.0  | 3:25       | 8:35  | 1500.0 | 1333.8 |
| 10:35      | 1:25  | 526.5  | -1500.0 | 7:05       | 4:55 | 1500.0 | -484.4  | 3:20       | 8:40  | 1500.0 | 1394.5 |
| 10:30      | 1:30  | 560.8  | -1500.0 | 7:00       | 5:00 | 1500.0 | -445.3  | 3:15       | 8:45  | 1500.0 | 1457.4 |
| 10:25      | 1:35  | 595.7  | -1500.0 | 6:55       | 5:05 | 1500.0 | -406.7  | 3:10       | 8:50  | 1477.5 | 1500.0 |
| 10:20      | 1:40  | 631.3  | -1500.0 | 6:50       | 5:10 | 1500.0 | -368.4  | 3:05       | 8:55  | 1414.3 | 1500.0 |
| 10:15      | 1:45  | 667.7  | -1500.0 | 6:45       | 5:15 | 1500.0 | -330.6  | 3:00       | 9:00  | 1353.9 | 1500.0 |
| 10:10      | 1:50  | 704.8  | -1500.0 | 6:40       | 5:20 | 1500.0 | -293.0  | 2:55       | 9:05  | 1296.1 | 1500.0 |
| 10:05      | 1:55  | 742.8  | -1500.0 | 6:35       | 5:25 | 1500.0 | -255.8  | 2:50       | 9:10  | 1240.6 | 1500.0 |
| 10:00      | 2:00  | 781.7  | -1500.0 | 6:30       | 5:30 | 1500.0 | -218.8  | 2:45       | 9:15  | 1187.3 | 1500.0 |
| 9:55       | 2:05  | 821.6  | -1500.0 | 6:25       | 5:35 | 1500.0 | -182.0  | 2:40       | 9:20  | 1136.0 | 1500.0 |
| 9:50       | 2:10  | 862.5  | -1500.0 | 6:20       | 5:40 | 1500.0 | -145.4  | 2:35       | 9:25  | 1086.6 | 1500.0 |
| 9:45       | 2:15  | 904.6  | -1500.0 | 6:15       | 5:45 | 1500.0 | -108.9  | 2:30       | 9:30  | 1038.9 | 1500.0 |
| 9:40       | 2:20  | 948.0  | -1500.0 | 6:10       | 5:50 | 1500.0 | -72.6   | 2:25       | 9:35  | 992.7  | 1500.0 |
| 9:35       | 2:25  | 992.7  | -1500.0 | 6:05       | 5:55 | 1500.0 | -36.3   | 2:20       | 9:40  | 948.0  | 1500.0 |
| 9:30       | 2:30  | 1038.9 | -1500.0 | 6:00       | 6:00 | 1500.0 | 0.0     | 2:15       | 9:45  | 904.6  | 1500.0 |
| 9:25       | 2:35  | 1086.6 | -1500.0 | 5:55       | 6:05 | 1500.0 | 36.3    | 2:10       | 9:50  | 862.5  | 1500.0 |
| 9:20       | 2:40  | 1136.0 | -1500.0 | 5:50       | 6:10 | 1500.0 | 72.6    | 2:05       | 9:55  | 821.6  | 1500.0 |
| 9:15       | 2:45  | 1187.3 | -1500.0 | 5:45       | 6:15 | 1500.0 | 108.9   | 2:00       | 10:00 | 781.7  | 1500.0 |
| 9:10       | 2:50  | 1240.6 | -1500.0 | 5:40       | 6:20 | 1500.0 | 145.4   | 1:55       | 10:05 | 742.8  | 1500.0 |
| 9:05       | 2:55  | 1296.1 | -1500.0 | 5:35       | 6:25 | 1500.0 | 182.0   | 1:50       | 10:10 | 704.8  | 1500.0 |
| 9:00       | 3:00  | 1353.9 | -1500.0 | 5:30       | 6:30 | 1500.0 | 218.8   | 1:45       | 10:15 | 667.7  | 1500.0 |
| 8:55       | 3:05  | 1414.3 | -1500.0 | 5:25       | 6:35 | 1500.0 | 255.8   | 1:40       | 10:20 | 631.3  | 1500.0 |
| 8:50       | 3:10  | 1477.5 | -1500.0 | 5:20       | 6:40 | 1500.0 | 293.0   | 1:35       | 10:25 | 595.7  | 1500.0 |
| 8:45       | 3:15  | 1500.0 | -1457.4 | 5:15       | 6:45 | 1500.0 | 330.6   | 1:30       | 10:30 | 560.8  | 1500.0 |
| 8:40       | 3:20  | 1500.0 | -1394.5 | 5:10       | 6:50 | 1500.0 | 368.4   | 1:25       | 10:35 | 526.5  | 1500.0 |
| 8:35       | 3:25  | 1500.0 | -1333.8 | 5:05       | 6:55 | 1500.0 | 406.7   | 1:20       | 10:40 | 492.8  | 1500.0 |
| 8:30       | 3:30  | 1500.0 | -1275.2 | 5:00       | 7:00 | 1500.0 | 445.3   | 1:15       | 10:45 | 459.6  | 1500.0 |
|            |       |        |         | 4:55       | 7:05 | 1500.0 | 484.4   |            |       |        |        |
|            |       |        |         | 4:50       | 7:10 | 1500.0 | 524.0   |            |       |        |        |
|            |       |        |         | 4:45       | 7:15 | 1500.0 | 564.1   |            |       |        |        |