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|---|---|---|---|---|---|---|---|---|
| Date: October 31, 2021 | | | | | | | Jazmin Mondragon | |
| Location: Katherine B. Winniford Park, 4900 Highlands Dr, McKinney Texas 75070 | | | | | | | | |
| bucket D1: 10.7" | | | | | | | | |
| bucket D2: 7.5" | | | | | | | | |
| D: (10.7-7.5)/2= 3.2/2= 1.6" | | | | | | | | |
| H: 43.5" | | | | | | | | |
| smallest z1:46.85 | | | | | | | | |
| smallest z2: | | | | | | | | |
| A= z2-z1 | | | | | | | | |
| R= 180*D/(A*pi) | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| Time C/T | S | x1 | L=S+x1-D | | tan(z)= L/H | | Z=ATAN(L/H) | |
| 1:10 PM | 49" | 5" | 49+5-1.6=52.4 | | 52.4/43.5=1.20 | | z=ATAN (52.4/43.5)= 50.30 | |
| 1:15 PM | 44" | 5" | 44+5-1.6=47.4 | | 47.4/43.5=1.09 | | z=ATAN (47.4/43.5)= 47.46 | |
| 1:20 PM | 43" | 5" | 43+5-1.6=46.4 | | 46.4/43.5=1.07 | | z=ATAN (46.4/43.5)= 46.85 | |
| 1:25 PM | 43" | 5" | 43+5-1.6=46.4 | | 46.4/43.5=1.07 | | z=ATAN (46.4/43.5)= 46.85 | |
| 1:30 PM | 43" | 5" | 43+5-1.6=46.4 | | 46.4/43.5=1.07 | | z=ATAN (46.4/43.5)= 46.85 | |
| 1:35 PM | 44" | 5" | 44+5-1.6=47.4 | | 47.4/43.5=1.09 | | z=ATAN (47.4/43.5)= 47.46 | |
| 1:40 PM | 44" | 5" | 44+5-1.6=47.4 | | 47.4/43.5=1.09 | | z=ATAN (47.4/43.5)= 47.46 | |
| 1:45 PM | 45" | 5" | 45+5-1.6=48.4 | | 48.4/43.5=1.11 | | z=ATAN (48.4/43.5)= 48.05 | |
| 1:50 PM | 45" | 5" | 45+5-1.6=48.4 | | 48.4/43.5=1.11 | | z=ATAN (48.4/43.5)= 48.05 | |
| 1:55 PM | 46" | 5" | 46+5-1.6=49.4 | | 49.4/43.5=1.14 | | z=ATAN (49.4/43.5)= 48.63 | |

For this day the site for z2 is Wichita, Kansas, 37.7 deg N, 97.34 deg W.
The z2 angle is 52.05deg at true solar noon. Use D = 500km for these data