

Scaled data based on original data using
LM-79-08 Approved Method: Electrical and Photometric Measurements of Solid-
State Lighting Products

Test Report Prepared for
Cooper Lighting Solutions
(formerly Eaton)

Brand: LUMARK

Report Number: P883978

Luminaire Tested: **NAV-SB4C-827-U-T3-HSS**

Issue Date: 10/7/2024

Test Information

Test Method: LM-79-08
Report Number: P883978
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2405-108-6)
Test Lab: INNOVATION CENTER
Issue Date: 10/7/2024
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: LUMARK
Catalog Number: NAV-SB4C-827-U-T3-HSS
Description: NAVION ROADWAY AND AREA HIGH DENSITY LED LUMINAIRE
(4) 80 CRI, 2700K, 615mA LIGHTSQUARES WITH 26 LEDS EACH AND TYPE III
OPTICS WITH HOUSE SIDE SHIELD
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 19340 lumens
Efficiency: N/A
Efficacy: 96.4 lumens/watt
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')
IES Classification: Type III - Short
BUG Rating: B2 - U0 - G3

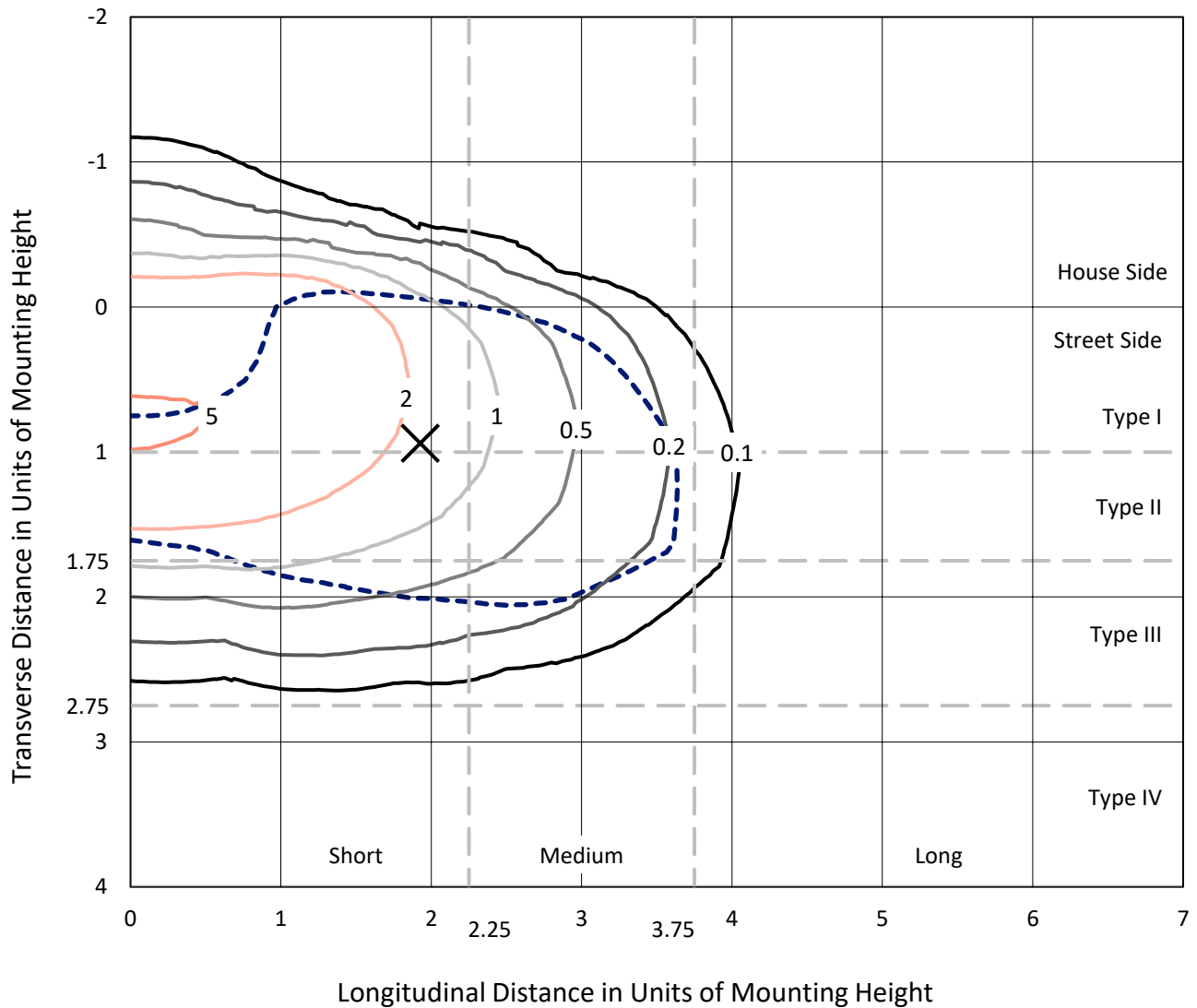
Input Watts (W): 200.7
Input Voltage (V): 120.0
Input Current (Ain): 1.714
Voltage Rise (V): NR
Power Factor: 0.994
Total Harmonic Distortion (THDi): 9.472
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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Iso-Footcandle Lines of Horizontal Illumination

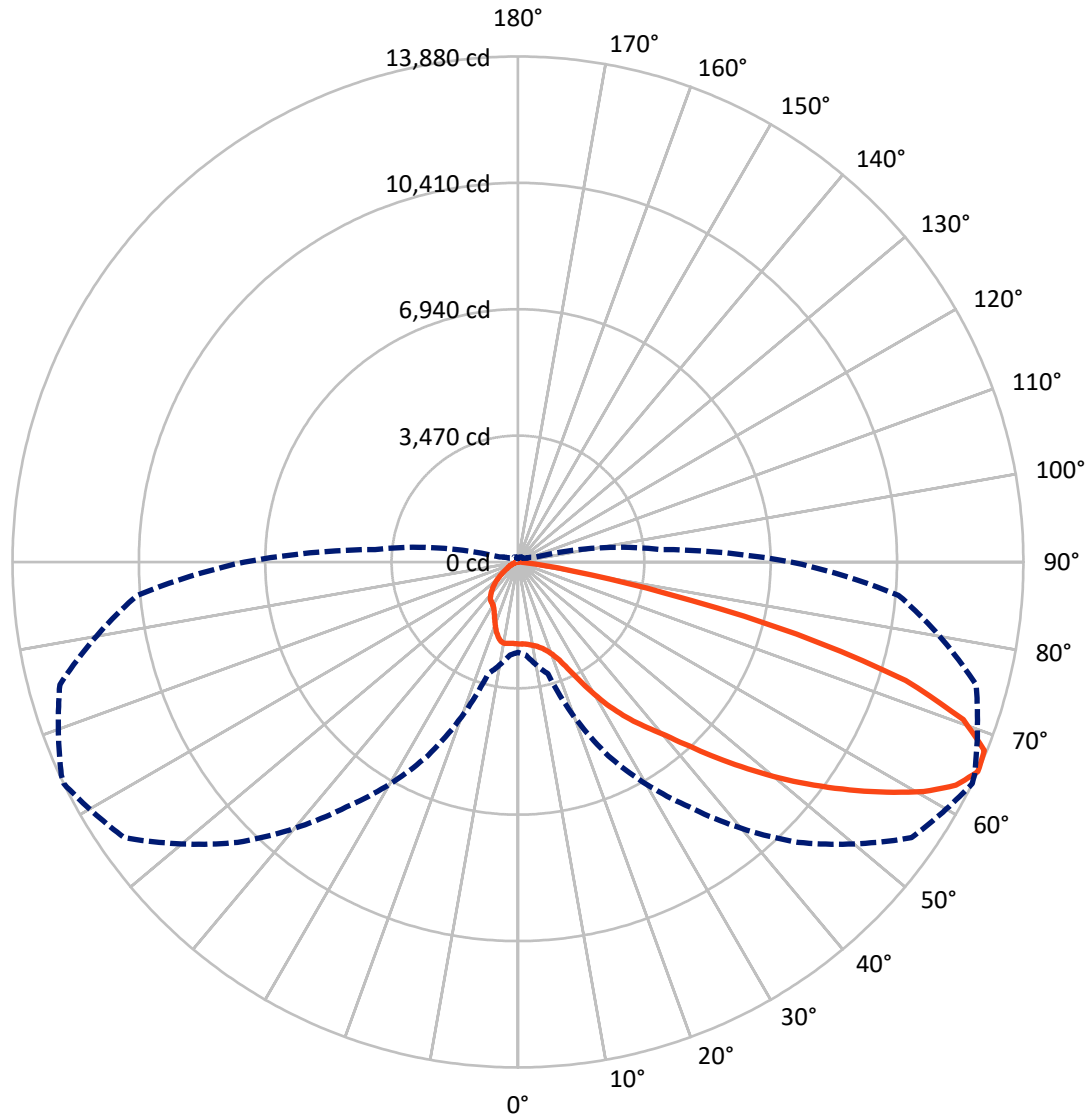
✕ Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 5.7 fc
 Type III - Short - N/A

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Luminous Intensity Polar Plot



— Vertical Plane Through 64-Deg Lateral - - - Horizontal Cone Through 65-Deg Vertical

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FLUX DISTRIBUTION:

| | | Downward | Upward | Total |
|--------------------|-----------|----------|--------|---------|
| House Side | Lumens | 2586.4 | 0.0 | 2586.4 |
| | % Fixture | 13.4 | 0.0 | 13.4 |
| Street Side | Lumens | 16753.7 | 0.0 | 16753.7 |
| | % Fixture | 86.6 | 0.0 | 86.6 |
| Total | Lumens | 19340.0 | 0.0 | 19340.0 |
| | % Fixture | 100.0 | 0.0 | 100.0 |

ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|---------|-----------|
| 0°-10° | 207.5 | 1.1 |
| 10°-20° | 562.9 | 2.9 |
| 20°-30° | 1066.6 | 5.5 |
| 30°-40° | 2158.4 | 11.2 |
| 40°-50° | 3676.8 | 19.0 |
| 50°-60° | 5000.1 | 25.9 |
| 60°-70° | 4695.4 | 24.3 |
| 70°-80° | 1881.2 | 9.7 |
| 80°-90° | 91.1 | 0.5 |
| 90°-100° | 0.0 | 0.0 |
| 100°-110° | 0.0 | 0.0 |
| 110°-120° | 0.0 | 0.0 |
| 120°-130° | 0.0 | 0.0 |
| 130°-140° | 0.0 | 0.0 |
| 140°-150° | 0.0 | 0.0 |
| 150°-160° | 0.0 | 0.0 |
| 160°-170° | 0.0 | 0.0 |
| 170°-180° | 0.0 | 0.0 |
| 0°-90° | 19340.0 | 100.0 |
| 0°-180° | 19340.0 | 100.0 |

Coefficient of Utilization



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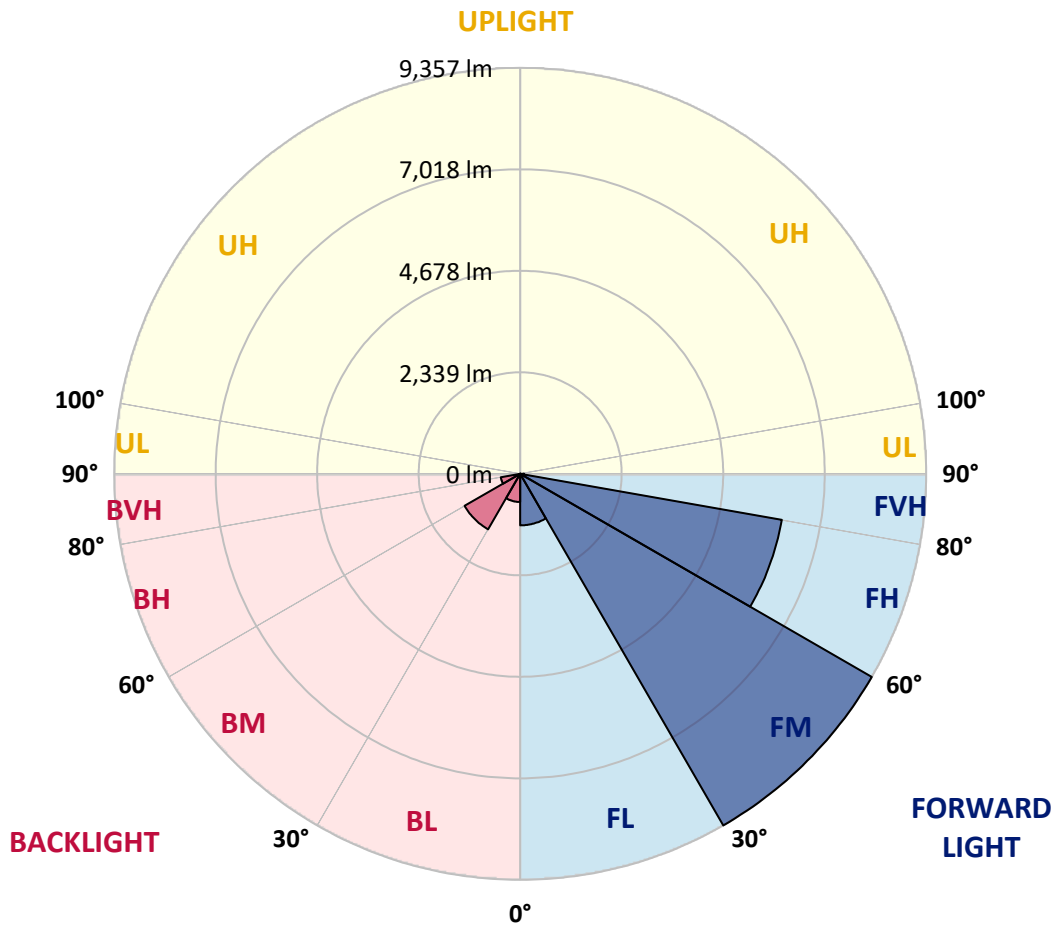
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

| Zone | Lumens | % Fixture | Zone Rating/Lumen Limit | | |
|----------------|--------|-----------|-------------------------|------|---------|
| | | | B | U | G |
| FL (0°-30°) | 1187.7 | 6.1 | | | |
| FM (30°-60°) | 9356.7 | 48.4 | | | |
| FH (60°-80°) | 6122.6 | 31.7 | | | G3/7500 |
| FVH (80°-90°) | 86.7 | 0.4 | | | G1/100 |
| BL (0°-30°) | 649.4 | 3.4 | B2/1000 | | |
| BM (30°-60°) | 1478.6 | 7.6 | B2/2500 | | |
| BH (60°-80°) | 453.9 | 2.3 | B1/500 | | G1/500 |
| BVH (80°-90°) | 4.5 | 0.0 | | | G0/10 |
| UL (90°-100°) | 0.0 | 0.0 | | U0/0 | |
| UH (100°-180°) | 0.0 | 0.0 | | U0/0 | |

BUG Rating: B2-U0-G3

Type III Short



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CANDELA DISTRIBUTION (FULL):

| | 0° | 5° | 15° | 25° | 35° | 45° | 55° | 64° | 65° | 75° | 85° |
|-------|--------|--------|--------|--------|---------|---------|---------|---------|---------|---------|---------|
| 0° | 2249.4 | 2249.4 | 2249.4 | 2249.4 | 2249.4 | 2249.4 | 2249.4 | 2249.4 | 2249.4 | 2249.4 | 2249.4 |
| 2.5° | 2241.7 | 2257.2 | 2253.3 | 2249.4 | 2248.1 | 2250.7 | 2252.0 | 2250.7 | 2250.7 | 2250.7 | 2252.0 |
| 5° | 2198.9 | 2211.8 | 2211.8 | 2220.9 | 2233.9 | 2249.4 | 2261.1 | 2263.7 | 2266.3 | 2270.2 | 2268.9 |
| 7.5° | 2117.2 | 2127.6 | 2135.4 | 2165.2 | 2197.6 | 2239.1 | 2274.1 | 2292.2 | 2294.8 | 2309.1 | 2314.3 |
| 10° | 2061.4 | 2074.4 | 2087.4 | 2118.5 | 2165.2 | 2227.4 | 2287.0 | 2331.1 | 2337.6 | 2371.3 | 2386.9 |
| 12.5° | 2058.9 | 2071.8 | 2088.7 | 2122.4 | 2176.8 | 2243.0 | 2315.6 | 2379.1 | 2390.8 | 2440.0 | 2472.4 |
| 15° | 2086.1 | 2101.6 | 2117.2 | 2158.7 | 2217.0 | 2297.4 | 2375.2 | 2454.3 | 2466.0 | 2536.0 | 2571.0 |
| 17.5° | 2141.8 | 2162.6 | 2174.2 | 2215.7 | 2278.0 | 2367.4 | 2469.8 | 2560.6 | 2571.0 | 2652.7 | 2696.7 |
| 20° | 2252.0 | 2276.7 | 2280.6 | 2314.3 | 2375.2 | 2471.1 | 2593.0 | 2705.8 | 2718.8 | 2812.1 | 2861.4 |
| 22.5° | 2480.2 | 2515.2 | 2484.1 | 2501.0 | 2555.4 | 2651.4 | 2783.6 | 2926.2 | 2944.4 | 3050.7 | 3094.8 |
| 25° | 2882.1 | 2931.4 | 2851.0 | 2822.5 | 2845.8 | 2945.7 | 3111.6 | 3291.8 | 3312.6 | 3398.1 | 3420.2 |
| 27.5° | 3671.7 | 3608.2 | 3486.3 | 3367.0 | 3297.0 | 3354.1 | 3540.8 | 3763.8 | 3789.7 | 3872.7 | 3846.7 |
| 30° | 4539.1 | 4483.3 | 4318.7 | 4054.2 | 3888.2 | 3879.2 | 4051.6 | 4300.5 | 4330.3 | 4409.4 | 4330.3 |
| 32.5° | 5407.7 | 5354.6 | 5175.7 | 4850.2 | 4562.4 | 4419.8 | 4539.1 | 4815.2 | 4830.8 | 4881.4 | 4764.7 |
| 35° | 6262.1 | 6207.7 | 6028.8 | 5695.6 | 5341.6 | 5017.5 | 4994.2 | 5305.3 | 5310.5 | 5363.7 | 5189.9 |
| 37.5° | 7121.7 | 7076.3 | 6885.8 | 6559.0 | 6210.3 | 5763.0 | 5546.5 | 5769.5 | 5775.9 | 5827.8 | 5647.6 |
| 40° | 7735.0 | 7754.4 | 7623.5 | 7370.7 | 7071.2 | 6582.4 | 6166.2 | 6263.4 | 6224.5 | 6311.4 | 6203.8 |
| 42.5° | 8261.4 | 8300.2 | 8186.2 | 8059.1 | 7885.4 | 7454.9 | 6933.7 | 6916.9 | 6854.6 | 6901.3 | 6789.8 |
| 45° | 8716.4 | 8748.8 | 8646.4 | 8616.6 | 8612.7 | 8310.6 | 7772.6 | 7671.4 | 7584.6 | 7575.5 | 7442.0 |
| 47.5° | 8883.7 | 8945.9 | 8990.0 | 9089.8 | 9284.3 | 9157.2 | 8639.9 | 8483.1 | 8385.8 | 8314.5 | 8103.2 |
| 50° | 8947.2 | 9013.3 | 9163.7 | 9454.1 | 9914.4 | 9968.9 | 9503.4 | 9327.1 | 9207.8 | 9078.2 | 8767.0 |
| 52.5° | 8861.6 | 8979.6 | 9181.9 | 9670.7 | 10338.4 | 10619.7 | 10331.9 | 10177.6 | 10041.5 | 9830.1 | 9368.6 |
| 55° | 8357.3 | 8475.3 | 8888.9 | 9668.1 | 10549.7 | 11076.1 | 11115.0 | 11046.3 | 10893.3 | 10560.1 | 9854.8 |
| 57.5° | 7294.2 | 7469.2 | 8123.9 | 9338.8 | 10545.8 | 11468.9 | 11882.5 | 11931.8 | 11760.6 | 11283.5 | 10237.2 |
| 60° | 5821.3 | 6058.6 | 6857.2 | 8608.8 | 10220.4 | 11681.5 | 12555.4 | 12801.7 | 12620.2 | 11996.6 | 10547.1 |
| 62.5° | 4062.0 | 4336.8 | 5092.7 | 7465.3 | 9476.2 | 11528.6 | 13046.8 | 13501.8 | 13364.4 | 12634.5 | 10666.4 |
| 65° | 2477.6 | 2565.8 | 3175.2 | 5874.5 | 8210.8 | 10888.1 | 13198.5 | 13880.4 | 13835.0 | 13024.7 | 10490.1 |
| 67.5° | 1650.5 | 1724.4 | 1899.4 | 4028.3 | 6373.6 | 9608.4 | 12835.4 | 13814.3 | 13827.3 | 12961.2 | 9844.4 |
| 70° | 994.4 | 1058.0 | 1172.0 | 2342.8 | 4130.7 | 7605.3 | 11711.4 | 12971.6 | 13046.8 | 12112.0 | 8620.5 |
| 72.5° | 409.7 | 452.5 | 556.2 | 1061.8 | 2139.2 | 4826.9 | 9325.8 | 11137.0 | 11312.0 | 10184.1 | 6616.1 |
| 75° | 232.1 | 254.1 | 326.7 | 532.9 | 928.3 | 2249.4 | 5648.9 | 7906.1 | 8164.1 | 7019.3 | 3980.3 |
| 77.5° | 154.3 | 164.7 | 211.3 | 344.9 | 522.5 | 767.5 | 2414.1 | 4119.0 | 4611.7 | 3833.8 | 1723.1 |
| 80° | 103.7 | 112.8 | 145.2 | 230.8 | 339.7 | 329.3 | 768.8 | 1526.0 | 1877.3 | 1317.3 | 420.1 |
| 82.5° | 70.0 | 71.3 | 103.7 | 151.7 | 215.2 | 159.5 | 226.9 | 474.5 | 596.4 | 381.2 | 159.5 |
| 85° | 40.2 | 38.9 | 76.5 | 88.2 | 95.9 | 66.1 | 68.7 | 142.6 | 186.7 | 160.8 | 90.8 |
| 87.5° | 5.2 | 7.8 | 29.8 | 23.3 | 13.0 | 14.3 | 14.3 | 24.6 | 36.3 | 38.9 | 19.4 |
| 90° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

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CANDELA DISTRIBUTION (continued):

| | 90° | 95° | 105° | 115° | 125° | 135° | 145° | 155° | 165° | 175° | 180° |
|-------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 0° | 2249.4 | 2249.4 | 2249.4 | 2249.4 | 2249.4 | 2249.4 | 2249.4 | 2249.4 | 2249.4 | 2249.4 | 2249.4 |
| 2.5° | 2252.0 | 2250.7 | 2246.8 | 2243.0 | 2233.9 | 2228.7 | 2231.3 | 2228.7 | 2227.4 | 2228.7 | 2233.9 |
| 5° | 2268.9 | 2265.0 | 2254.6 | 2241.7 | 2223.5 | 2201.5 | 2187.2 | 2166.5 | 2147.0 | 2135.4 | 2137.9 |
| 7.5° | 2314.3 | 2310.4 | 2296.1 | 2259.8 | 2201.5 | 2109.4 | 2025.1 | 1951.2 | 1895.5 | 1863.1 | 1864.4 |
| 10° | 2386.9 | 2380.4 | 2358.3 | 2278.0 | 2125.0 | 1924.0 | 1756.8 | 1618.0 | 1527.3 | 1484.5 | 1480.6 |
| 12.5° | 2472.4 | 2464.7 | 2425.8 | 2261.1 | 1979.8 | 1666.0 | 1435.2 | 1281.0 | 1196.7 | 1159.1 | 1155.2 |
| 15° | 2573.6 | 2563.2 | 2486.7 | 2180.7 | 1768.4 | 1380.8 | 1169.5 | 1054.1 | 999.6 | 965.9 | 967.2 |
| 17.5° | 2699.3 | 2681.2 | 2532.1 | 2060.2 | 1539.0 | 1163.0 | 1006.1 | 919.2 | 871.3 | 838.8 | 836.2 |
| 20° | 2862.7 | 2832.9 | 2568.4 | 1916.2 | 1327.6 | 1025.5 | 895.9 | 823.3 | 787.0 | 758.5 | 753.3 |
| 22.5° | 3090.9 | 3048.1 | 2612.5 | 1760.7 | 1178.5 | 930.9 | 814.2 | 761.1 | 731.2 | 698.8 | 693.6 |
| 25° | 3373.5 | 3323.0 | 2666.9 | 1616.7 | 1076.1 | 849.2 | 754.6 | 710.5 | 675.5 | 637.9 | 634.0 |
| 27.5° | 3769.0 | 3678.2 | 2731.7 | 1498.8 | 987.9 | 779.2 | 700.1 | 650.8 | 610.7 | 579.5 | 573.1 |
| 30° | 4209.8 | 4060.7 | 2788.8 | 1427.5 | 907.6 | 714.4 | 628.8 | 579.5 | 541.9 | 519.9 | 516.0 |
| 32.5° | 4627.2 | 4425.0 | 2826.4 | 1396.3 | 835.0 | 640.5 | 551.0 | 497.9 | 469.3 | 462.9 | 466.7 |
| 35° | 5021.4 | 4754.3 | 2822.5 | 1366.5 | 770.1 | 566.6 | 474.5 | 420.1 | 398.0 | 401.9 | 401.9 |
| 37.5° | 5475.2 | 5105.7 | 2795.3 | 1319.8 | 717.0 | 499.2 | 408.4 | 360.4 | 341.0 | 342.3 | 347.5 |
| 40° | 6002.8 | 5511.5 | 2778.4 | 1231.7 | 658.6 | 436.9 | 353.9 | 315.1 | 300.8 | 295.6 | 294.3 |
| 42.5° | 6565.5 | 5904.3 | 2781.0 | 1131.9 | 586.0 | 381.2 | 316.3 | 283.9 | 271.0 | 267.1 | 265.8 |
| 45° | 7130.8 | 6279.0 | 2784.9 | 1028.1 | 509.5 | 338.4 | 289.1 | 261.9 | 254.1 | 248.9 | 248.9 |
| 47.5° | 7662.4 | 6597.9 | 2712.3 | 916.6 | 434.3 | 306.0 | 267.1 | 248.9 | 242.4 | 236.0 | 236.0 |
| 50° | 8157.6 | 6810.6 | 2537.3 | 787.0 | 374.7 | 280.0 | 250.2 | 237.3 | 230.8 | 224.3 | 224.3 |
| 52.5° | 8542.7 | 6844.3 | 2248.1 | 653.4 | 333.2 | 260.6 | 239.9 | 228.2 | 220.4 | 213.9 | 212.6 |
| 55° | 8713.8 | 6632.9 | 1837.2 | 529.0 | 300.8 | 243.7 | 229.5 | 217.8 | 208.7 | 202.3 | 201.0 |
| 57.5° | 8669.8 | 6188.2 | 1432.6 | 425.3 | 269.7 | 226.9 | 216.5 | 208.7 | 198.4 | 188.0 | 186.7 |
| 60° | 8453.2 | 5593.1 | 1080.0 | 353.9 | 241.2 | 208.7 | 202.3 | 195.8 | 181.5 | 166.0 | 163.4 |
| 62.5° | 8078.5 | 4845.1 | 770.1 | 293.0 | 210.0 | 188.0 | 185.4 | 180.2 | 159.5 | 130.9 | 128.4 |
| 65° | 7505.5 | 3936.2 | 518.6 | 243.7 | 180.2 | 164.7 | 166.0 | 156.9 | 129.7 | 97.2 | 94.6 |
| 67.5° | 6667.9 | 2878.2 | 331.9 | 199.7 | 150.4 | 137.4 | 138.7 | 133.5 | 110.2 | 83.0 | 79.1 |
| 70° | 5600.9 | 1905.9 | 216.5 | 151.7 | 120.6 | 106.3 | 114.1 | 115.4 | 93.3 | 67.4 | 64.8 |
| 72.5° | 4106.0 | 1125.4 | 151.7 | 112.8 | 88.2 | 73.9 | 93.3 | 95.9 | 75.2 | 50.6 | 48.0 |
| 75° | 2340.2 | 534.2 | 114.1 | 81.7 | 54.5 | 51.9 | 72.6 | 72.6 | 51.9 | 33.7 | 31.1 |
| 77.5° | 982.8 | 223.0 | 80.4 | 53.2 | 31.1 | 29.8 | 49.3 | 45.4 | 25.9 | 15.6 | 15.6 |
| 80° | 283.9 | 99.8 | 42.8 | 25.9 | 13.0 | 11.7 | 19.4 | 14.3 | 6.5 | 2.6 | 2.6 |
| 82.5° | 111.5 | 44.1 | 16.9 | 10.4 | 5.2 | 5.2 | 2.6 | 0.0 | 0.0 | 0.0 | 0.0 |
| 85° | 66.1 | 18.2 | 7.8 | 3.9 | 1.3 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 87.5° | 16.9 | 3.9 | 2.6 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 90° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

(END OF REPORT)