

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: P883807

Luminaire Tested: **NAV-SB4B-827-U-T2**

Issue Date: 10/7/2024

Test Information

Test Method: LM-79-08
Report Number: P883807
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2405-108-3)
Test Lab: INNOVATION CENTER
Issue Date: 10/7/2024
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: LUMARK
Catalog Number: NAV-SB4B-827-U-T2
Description: NAVION ROADWAY AND AREA HIGH DENSITY LED LUMINAIRE
(4) 80 CRI, 2700K, 450mA LIGHTSQUARES WITH 26 LEDS EACH AND TYPE II OPTICS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 18372 lumens
Efficiency: N/A
Efficacy: 125.0 lumens/watt
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')
IES Classification: Type II - Medium
BUG Rating: B3 - U0 - G3

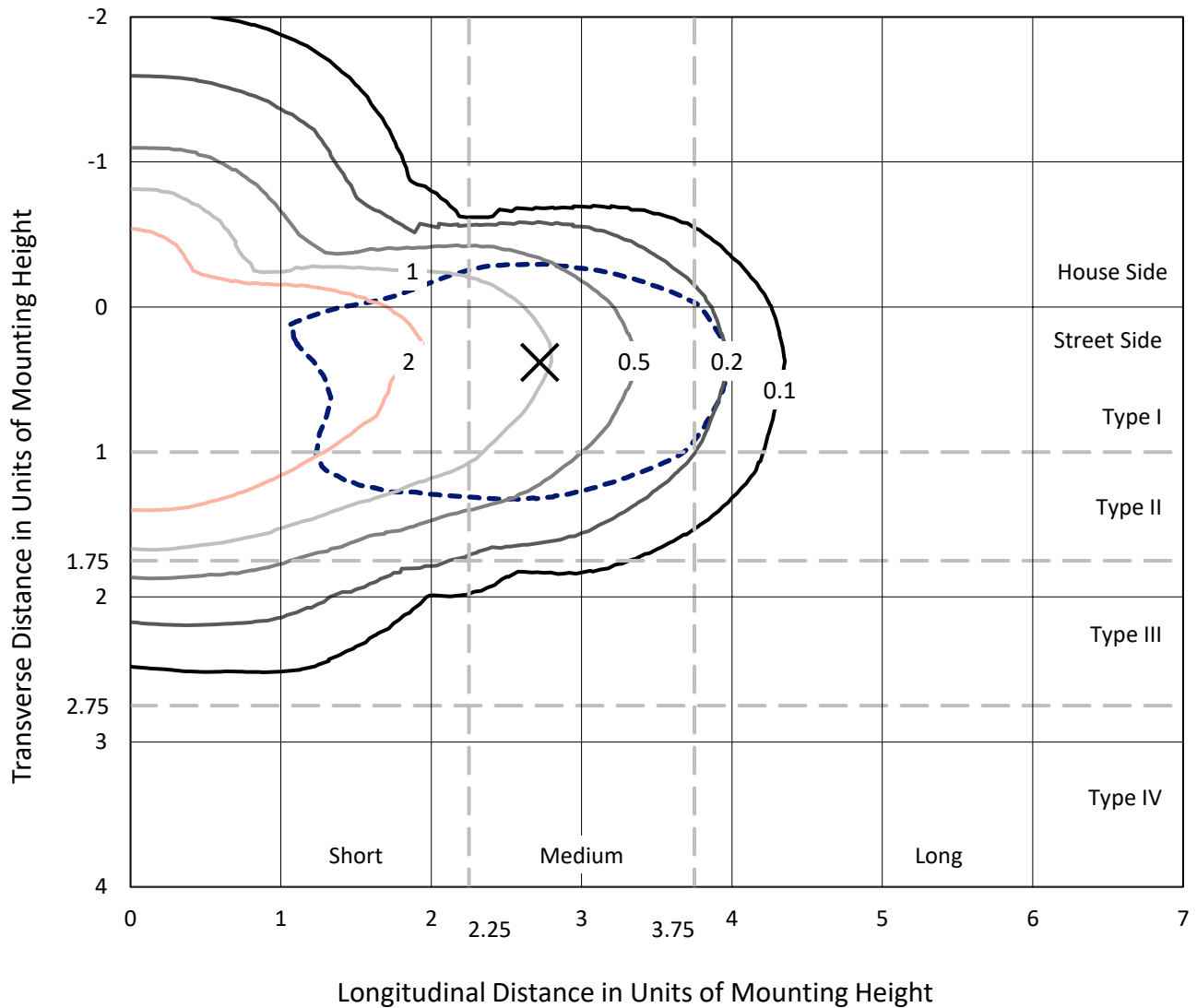
Input Watts (W): 147
Input Voltage (V): 120.0
Input Current (Ain): 1.255
Voltage Rise (V): NR
Power Factor: 0.988
Total Harmonic Distortion (THDi): 13.593
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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Iso-Footcandle Lines of Horizontal Illumination

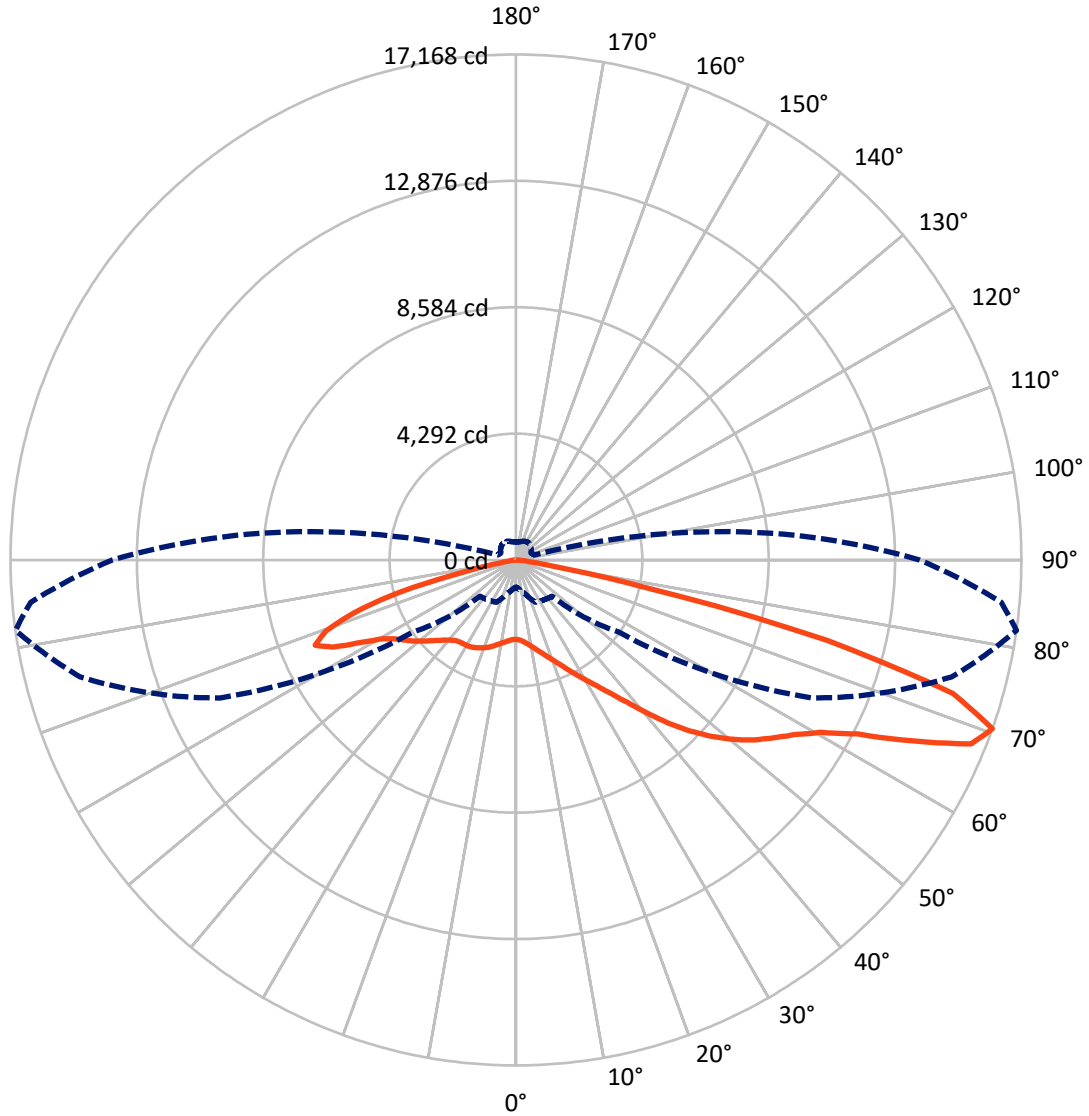
✕ Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 4.9 fc
 Type II - Medium - N/A

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Luminous Intensity Polar Plot



— Vertical Plane Through 82-Deg Lateral - - - Horizontal Cone Through 70-Deg Vertical

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FLUX DISTRIBUTION:

| | | Downward | Upward | Total |
|--------------------|-----------|----------|--------|---------|
| House Side | Lumens | 4529.2 | 0.0 | 4529.2 |
| | % Fixture | 24.7 | 0.0 | 24.7 |
| Street Side | Lumens | 13842.8 | 0.0 | 13842.8 |
| | % Fixture | 75.3 | 0.0 | 75.3 |
| Total | Lumens | 18372.0 | 0.0 | 18372.0 |
| | % Fixture | 100.0 | 0.0 | 100.0 |

ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|---------|-----------|
| 0°-10° | 254.3 | 1.4 |
| 10°-20° | 730.7 | 4.0 |
| 20°-30° | 1222.4 | 6.7 |
| 30°-40° | 1909.6 | 10.4 |
| 40°-50° | 3041.3 | 16.6 |
| 50°-60° | 4232.3 | 23.0 |
| 60°-70° | 4427.2 | 24.1 |
| 70°-80° | 2313.9 | 12.6 |
| 80°-90° | 240.3 | 1.3 |
| 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° | 18372.0 | 100.0 |
| 0°-180° | 18372.0 | 100.0 |

Coefficient of Utilization



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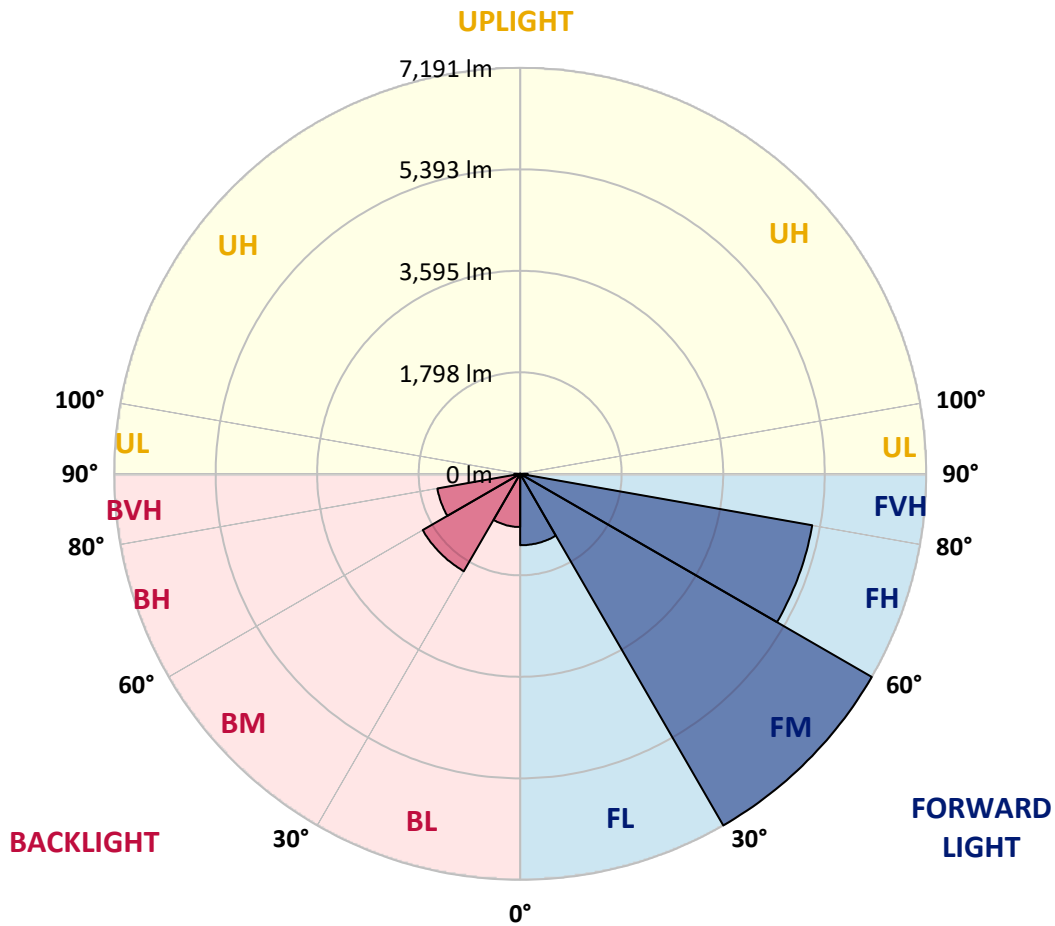
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

| Zone | Lumens | % Fixture | Zone Rating/Lumen Limit | | |
|----------------|--------|-----------|-------------------------|------|---------|
| | | | B | U | G |
| FL (0°-30°) | 1265.1 | 6.9 | | | |
| FM (30°-60°) | 7190.6 | 39.1 | | | |
| FH (60°-80°) | 5252.6 | 28.6 | | | G3/7500 |
| FVH (80°-90°) | 134.5 | 0.7 | | | G2/225 |
| BL (0°-30°) | 942.2 | 5.1 | B2/1000 | | |
| BM (30°-60°) | 1992.6 | 10.8 | B2/2500 | | |
| BH (60°-80°) | 1488.5 | 8.1 | B3/2500 | | G3/2500 |
| BVH (80°-90°) | 105.8 | 0.6 | | | G2/225 |
| UL (90°-100°) | 0.0 | 0.0 | | U0/0 | |
| UH (100°-180°) | 0.0 | 0.0 | | U0/0 | |

BUG Rating: B3-U0-G3

Type II Medium



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CANDELA DISTRIBUTION (FULL):

| | 0° | 5° | 15° | 25° | 35° | 45° | 55° | 65° | 75° | 82° | 85° |
|-------|--------|--------|--------|--------|--------|--------|--------|---------|---------|---------|---------|
| 0° | 2693.6 | 2693.6 | 2693.6 | 2693.6 | 2693.6 | 2693.6 | 2693.6 | 2693.6 | 2693.6 | 2693.6 | 2693.6 |
| 2.5° | 2757.9 | 2773.5 | 2768.6 | 2763.8 | 2763.8 | 2756.9 | 2756.0 | 2746.2 | 2738.4 | 2725.7 | 2722.8 |
| 5° | 2793.0 | 2809.6 | 2807.6 | 2811.5 | 2824.2 | 2827.1 | 2830.0 | 2824.2 | 2808.6 | 2793.0 | 2786.2 |
| 7.5° | 2761.8 | 2780.3 | 2786.2 | 2809.6 | 2848.6 | 2883.7 | 2910.0 | 2920.7 | 2906.1 | 2883.7 | 2872.9 |
| 10° | 2656.5 | 2677.0 | 2697.5 | 2753.0 | 2822.2 | 2905.1 | 2975.3 | 3017.2 | 3014.3 | 2992.8 | 2974.3 |
| 12.5° | 2443.0 | 2464.5 | 2508.3 | 2616.6 | 2743.3 | 2889.5 | 3020.1 | 3107.9 | 3138.1 | 3122.5 | 3090.3 |
| 15° | 2272.4 | 2290.9 | 2324.1 | 2435.2 | 2600.0 | 2822.2 | 3036.7 | 3207.3 | 3284.3 | 3275.6 | 3236.6 |
| 17.5° | 2267.5 | 2275.3 | 2295.8 | 2348.5 | 2475.2 | 2717.0 | 3019.2 | 3304.8 | 3452.0 | 3451.0 | 3402.3 |
| 20° | 2353.3 | 2356.3 | 2368.0 | 2378.7 | 2450.8 | 2637.0 | 2974.3 | 3385.7 | 3640.2 | 3640.2 | 3587.5 |
| 22.5° | 2472.3 | 2470.3 | 2482.0 | 2472.3 | 2507.4 | 2630.2 | 2946.1 | 3456.9 | 3849.8 | 3865.4 | 3799.1 |
| 25° | 2650.7 | 2640.9 | 2638.0 | 2615.6 | 2622.4 | 2693.6 | 2977.3 | 3537.8 | 4098.4 | 4130.5 | 4047.7 |
| 27.5° | 2888.5 | 2872.9 | 2862.2 | 2810.5 | 2793.0 | 2824.2 | 3072.8 | 3635.3 | 4375.2 | 4430.8 | 4325.5 |
| 30° | 3198.5 | 3170.3 | 3154.7 | 3065.0 | 3001.6 | 3006.5 | 3217.1 | 3764.9 | 4664.8 | 4754.4 | 4620.9 |
| 32.5° | 3621.6 | 3577.8 | 3535.9 | 3388.6 | 3272.6 | 3234.6 | 3403.3 | 3944.3 | 4978.7 | 5122.0 | 4950.4 |
| 35° | 4095.4 | 4060.3 | 4015.5 | 3788.3 | 3609.9 | 3522.2 | 3654.8 | 4194.9 | 5346.2 | 5573.3 | 5350.1 |
| 37.5° | 4551.7 | 4521.4 | 4542.9 | 4236.8 | 4006.7 | 3879.0 | 3984.3 | 4531.2 | 5799.5 | 6134.9 | 5851.2 |
| 40° | 5023.5 | 5000.1 | 5003.0 | 4710.6 | 4442.5 | 4299.2 | 4384.0 | 4953.3 | 6319.1 | 6802.6 | 6453.6 |
| 42.5° | 5536.3 | 5518.7 | 5460.2 | 5200.9 | 4899.7 | 4766.1 | 4844.1 | 5440.7 | 6876.7 | 7563.0 | 7114.6 |
| 45° | 6110.5 | 6099.8 | 6045.2 | 5747.8 | 5402.7 | 5252.6 | 5357.9 | 5978.9 | 7437.3 | 8278.6 | 7778.5 |
| 47.5° | 6606.7 | 6615.5 | 6608.6 | 6358.1 | 6000.3 | 5780.0 | 5905.8 | 6540.4 | 7958.8 | 8951.3 | 8415.1 |
| 50° | 6845.5 | 6891.4 | 6958.6 | 6880.6 | 6658.4 | 6434.1 | 6458.5 | 7082.4 | 8456.0 | 9582.0 | 9025.3 |
| 52.5° | 6720.8 | 6807.5 | 6990.8 | 7115.6 | 7201.4 | 7154.6 | 7089.3 | 7620.6 | 8924.0 | 10151.3 | 9602.5 |
| 55° | 6255.7 | 6377.6 | 6681.8 | 6983.0 | 7420.7 | 7760.9 | 7846.7 | 8217.2 | 9380.2 | 10652.4 | 10148.4 |
| 57.5° | 5408.6 | 5606.5 | 5879.4 | 6488.7 | 7225.7 | 8054.4 | 8730.0 | 9044.8 | 9863.7 | 11187.6 | 10719.7 |
| 60° | 3956.0 | 4221.2 | 4560.4 | 5467.1 | 6543.3 | 7897.4 | 9481.6 | 10316.1 | 10551.0 | 11880.7 | 11463.5 |
| 62.5° | 2531.7 | 2695.5 | 3007.5 | 3861.5 | 5098.6 | 7093.2 | 9711.7 | 11905.1 | 11716.0 | 13017.4 | 12578.7 |
| 65° | 1733.3 | 1838.6 | 2124.2 | 2603.9 | 3296.0 | 5279.9 | 9095.5 | 13096.4 | 13566.3 | 14819.0 | 14485.6 |
| 67.5° | 1259.5 | 1339.5 | 1583.2 | 2003.4 | 2147.6 | 3124.5 | 7058.1 | 13041.8 | 15364.9 | 16675.1 | 16156.5 |
| 70° | 918.3 | 974.9 | 1179.6 | 1583.2 | 1652.4 | 1738.2 | 4275.8 | 11086.2 | 15325.9 | 17168.4 | 16547.4 |
| 72.5° | 680.5 | 719.5 | 856.9 | 1228.3 | 1337.5 | 1173.7 | 2116.4 | 8057.3 | 13169.5 | 15528.7 | 15030.5 |
| 75° | 492.3 | 521.6 | 622.9 | 939.8 | 1070.4 | 894.0 | 1055.8 | 4708.6 | 9186.2 | 10923.4 | 11011.2 |
| 77.5° | 376.3 | 398.7 | 465.0 | 688.3 | 856.9 | 670.7 | 655.1 | 2166.2 | 4355.7 | 4377.2 | 4622.8 |
| 80° | 302.2 | 316.8 | 352.9 | 484.5 | 657.1 | 502.1 | 427.0 | 874.5 | 1376.5 | 1165.0 | 1222.5 |
| 82.5° | 222.3 | 246.6 | 298.3 | 340.2 | 469.9 | 346.1 | 260.3 | 441.6 | 523.5 | 450.4 | 454.3 |
| 85° | 126.7 | 143.3 | 180.4 | 243.7 | 300.3 | 211.5 | 149.2 | 195.9 | 243.7 | 199.8 | 178.4 |
| 87.5° | 44.8 | 58.5 | 63.4 | 95.5 | 130.6 | 87.7 | 57.5 | 56.5 | 79.9 | 59.5 | 49.7 |
| 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° | 2693.6 | 2693.6 | 2693.6 | 2693.6 | 2693.6 | 2693.6 | 2693.6 | 2693.6 | 2693.6 | 2693.6 | 2693.6 |
| 2.5° | 2713.1 | 2708.2 | 2688.7 | 2662.4 | 2635.1 | 2608.8 | 2600.0 | 2581.5 | 2568.8 | 2562.0 | 2569.8 |
| 5° | 2767.7 | 2752.1 | 2706.2 | 2647.7 | 2586.3 | 2520.0 | 2473.2 | 2430.4 | 2399.2 | 2369.9 | 2381.6 |
| 7.5° | 2845.6 | 2818.3 | 2739.4 | 2637.0 | 2527.8 | 2417.7 | 2335.8 | 2273.4 | 2231.5 | 2204.2 | 2210.0 |
| 10° | 2936.3 | 2894.4 | 2773.5 | 2620.4 | 2451.8 | 2293.9 | 2197.4 | 2143.7 | 2117.4 | 2102.8 | 2106.7 |
| 12.5° | 3040.6 | 2981.2 | 2808.6 | 2582.4 | 2335.8 | 2155.4 | 2089.1 | 2073.5 | 2074.5 | 2075.5 | 2077.4 |
| 15° | 3169.3 | 3086.4 | 2836.9 | 2499.6 | 2184.7 | 2049.2 | 2037.5 | 2062.8 | 2089.1 | 2101.8 | 2100.8 |
| 17.5° | 3314.6 | 3197.6 | 2841.7 | 2363.1 | 2036.5 | 1980.9 | 2018.0 | 2072.6 | 2112.5 | 2130.1 | 2134.0 |
| 20° | 3470.5 | 3310.7 | 2806.6 | 2170.1 | 1914.6 | 1925.4 | 1991.7 | 2061.8 | 2105.7 | 2128.1 | 2134.0 |
| 22.5° | 3648.9 | 3431.5 | 2722.8 | 1967.3 | 1815.2 | 1864.9 | 1942.9 | 2011.2 | 2057.0 | 2079.4 | 2085.2 |
| 25° | 3852.7 | 3567.0 | 2591.2 | 1796.7 | 1729.4 | 1796.7 | 1874.7 | 1931.2 | 1968.3 | 1988.7 | 1994.6 |
| 27.5° | 4078.9 | 3708.4 | 2415.7 | 1661.2 | 1654.4 | 1726.5 | 1790.8 | 1834.7 | 1854.2 | 1869.8 | 1875.6 |
| 30° | 4306.0 | 3837.1 | 2203.2 | 1558.8 | 1589.0 | 1657.3 | 1703.1 | 1722.6 | 1728.4 | 1731.4 | 1738.2 |
| 32.5° | 4551.7 | 3948.2 | 1980.0 | 1474.0 | 1526.6 | 1590.0 | 1617.3 | 1626.1 | 1598.8 | 1580.3 | 1586.1 |
| 35° | 4849.0 | 4067.2 | 1761.6 | 1406.7 | 1465.2 | 1519.8 | 1528.6 | 1520.8 | 1488.6 | 1450.6 | 1452.6 |
| 37.5° | 5216.5 | 4215.3 | 1587.1 | 1359.0 | 1407.7 | 1443.8 | 1433.1 | 1431.1 | 1434.0 | 1389.2 | 1392.1 |
| 40° | 5666.9 | 4408.4 | 1459.4 | 1321.9 | 1360.9 | 1368.7 | 1338.5 | 1355.1 | 1369.7 | 1301.5 | 1303.4 |
| 42.5° | 6167.0 | 4641.4 | 1378.5 | 1296.6 | 1321.9 | 1303.4 | 1256.6 | 1275.1 | 1273.2 | 1183.5 | 1182.5 |
| 45° | 6676.9 | 4894.8 | 1350.2 | 1278.1 | 1285.9 | 1248.8 | 1197.1 | 1202.0 | 1161.1 | 1080.2 | 1083.1 |
| 47.5° | 7183.8 | 5166.8 | 1367.7 | 1262.5 | 1241.0 | 1199.1 | 1159.1 | 1137.7 | 1077.2 | 1016.8 | 1016.8 |
| 50° | 7681.0 | 5452.4 | 1432.1 | 1231.3 | 1179.6 | 1155.2 | 1126.0 | 1088.0 | 1023.6 | 971.9 | 968.0 |
| 52.5° | 8142.1 | 5740.0 | 1504.2 | 1179.6 | 1102.6 | 1117.2 | 1098.7 | 1054.8 | 991.4 | 938.8 | 939.8 |
| 55° | 8578.9 | 6027.6 | 1532.5 | 1108.4 | 1030.4 | 1084.1 | 1073.3 | 992.4 | 916.4 | 873.5 | 869.6 |
| 57.5° | 9054.6 | 6373.7 | 1501.3 | 1017.8 | 971.9 | 1046.0 | 1005.1 | 915.4 | 871.5 | 839.4 | 836.4 |
| 60° | 9713.6 | 6916.7 | 1434.0 | 905.7 | 916.4 | 989.5 | 919.3 | 882.3 | 834.5 | 798.4 | 796.5 |
| 62.5° | 10808.4 | 7929.6 | 1325.8 | 794.5 | 851.1 | 905.7 | 878.4 | 841.3 | 792.6 | 757.5 | 757.5 |
| 65° | 12426.7 | 9337.3 | 1122.1 | 707.8 | 777.9 | 823.8 | 834.5 | 797.4 | 746.8 | 709.7 | 711.7 |
| 67.5° | 13791.5 | 10220.5 | 849.1 | 635.6 | 702.9 | 757.5 | 787.7 | 751.6 | 698.0 | 661.9 | 662.9 |
| 70° | 13716.4 | 9579.1 | 648.3 | 564.4 | 636.6 | 692.2 | 731.2 | 702.9 | 645.4 | 611.2 | 614.2 |
| 72.5° | 12182.9 | 8013.4 | 524.5 | 492.3 | 569.3 | 623.9 | 670.7 | 649.3 | 590.8 | 557.6 | 557.6 |
| 75° | 8950.3 | 5688.4 | 419.2 | 419.2 | 485.5 | 552.8 | 604.4 | 590.8 | 537.2 | 513.8 | 506.9 |
| 77.5° | 3772.7 | 2386.5 | 328.5 | 348.0 | 403.6 | 474.8 | 539.1 | 544.0 | 497.2 | 526.4 | 477.7 |
| 80° | 1003.1 | 658.0 | 250.5 | 273.9 | 316.8 | 391.9 | 468.9 | 467.0 | 416.3 | 389.0 | 361.7 |
| 82.5° | 382.1 | 259.3 | 178.4 | 193.0 | 229.1 | 300.3 | 371.4 | 383.1 | 332.4 | 287.6 | 287.6 |
| 85° | 147.2 | 111.1 | 110.2 | 116.0 | 133.6 | 198.9 | 280.8 | 290.5 | 250.5 | 212.5 | 219.3 |
| 87.5° | 38.0 | 33.1 | 40.9 | 39.0 | 61.4 | 106.3 | 160.9 | 166.7 | 153.1 | 88.7 | 126.7 |
| 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)