

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: P884791

Luminaire Tested: **NAV-SB5D-735-U-T4FT**

Issue Date: 10/7/2024

Test Information

Test Method: LM-79-08
Report Number: P884791
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2405-108-24)
Test Lab: INNOVATION CENTER
Issue Date: 10/7/2024
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: LUMARK
Catalog Number: NAV-SB5D-735-U-T4FT
Description: NAVION ROADWAY AND AREA HIGH DENSITY LED LUMINAIRE
(5) 70 CRI, 3500K, 900mA LIGHTSQUARES WITH 26 LEDS EACH AND TYPE IV
FORWARD THROW OPTICS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 51036 lumens
Efficiency: N/A
Efficacy: 139.9 lumens/watt
Luminous Opening: Rectangular (W 1' x L: 1.5' x H: 0')
IES Classification: Type IV - Short
BUG Rating: B4 - U0 - G5

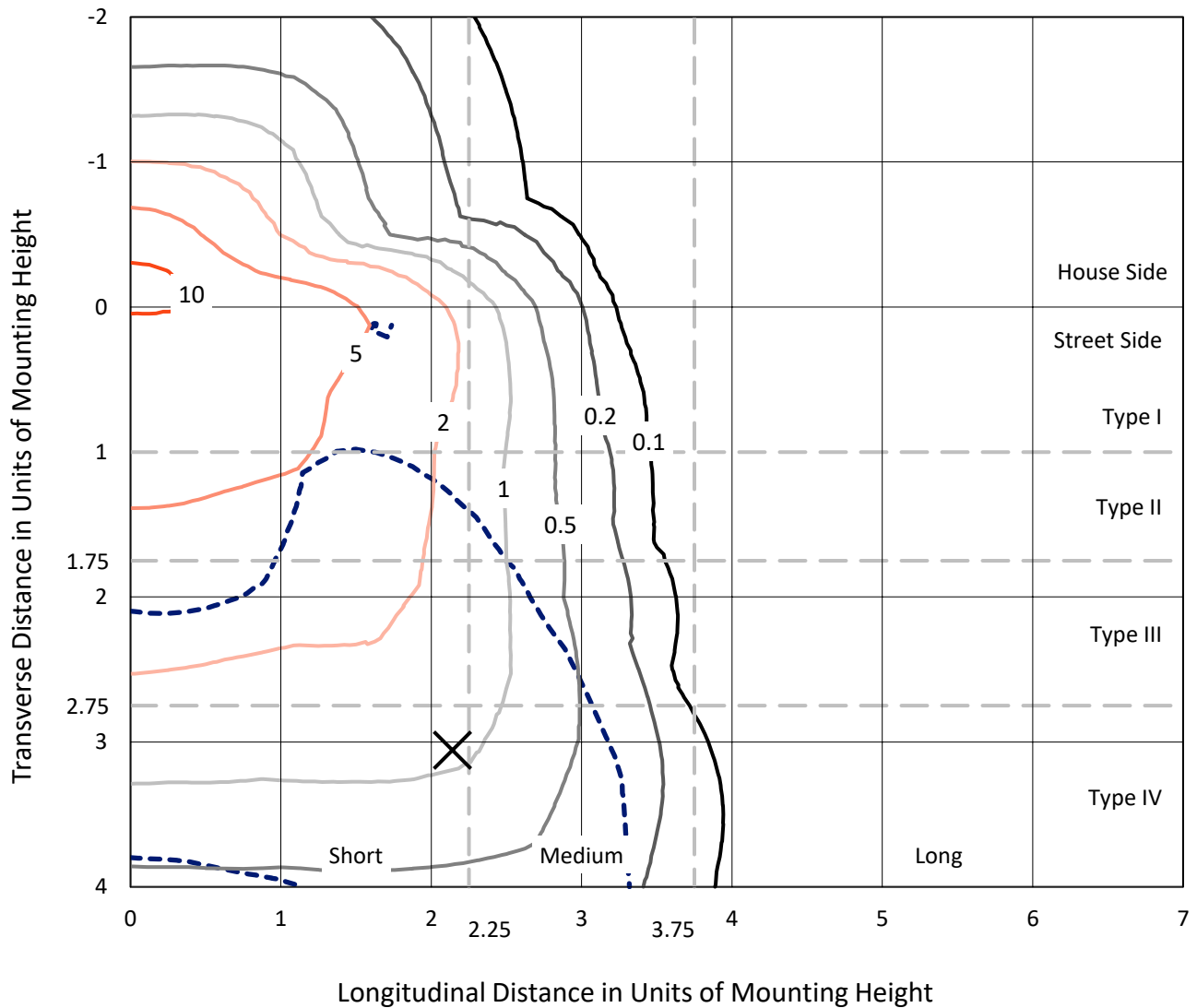
Input Watts (W): 364.9
Input Voltage (V): 120.0
Input Current (Ain): 3.094
Voltage Rise (V): NR
Power Factor: 0.998
Total Harmonic Distortion (THDi): 3.28
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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Iso-Footcandle Lines of Horizontal Illumination

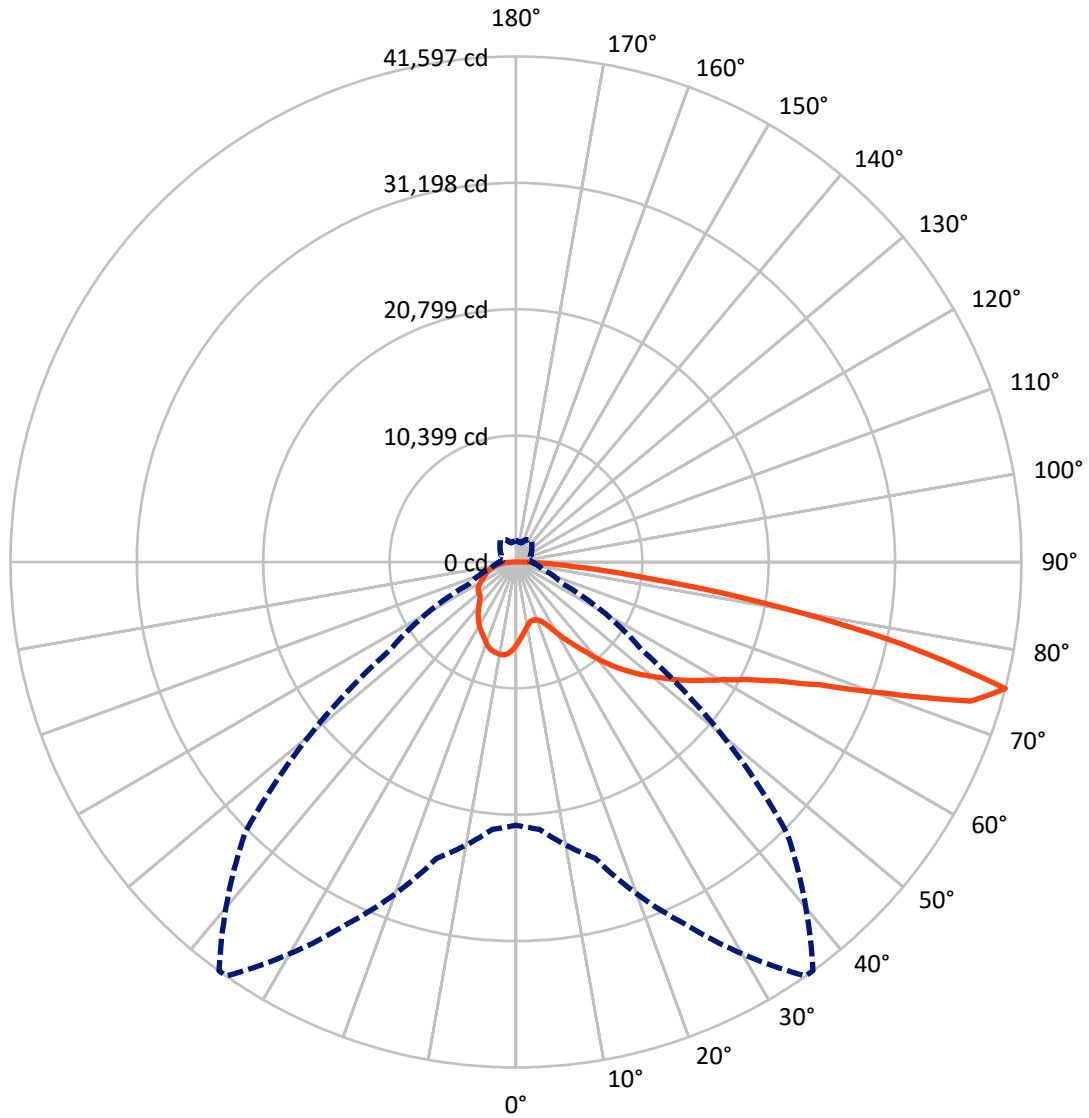
× Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 12 fc
 Type IV - Short - N/A

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Luminous Intensity Polar Plot



— Vertical Plane Through 35-Deg Lateral - - - Horizontal Cone Through 75-Deg Vertical

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FLUX DISTRIBUTION:

| | | Downward | Upward | Total |
|--------------------|-----------|----------|--------|---------|
| House Side | Lumens | 12145.3 | 0.0 | 12145.3 |
| | % Fixture | 23.8 | 0.0 | 23.8 |
| Street Side | Lumens | 38890.7 | 0.0 | 38890.7 |
| | % Fixture | 76.2 | 0.0 | 76.2 |
| Total | Lumens | 51036.0 | 0.0 | 51036.0 |
| | % Fixture | 100.0 | 0.0 | 100.0 |

ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|---------|-----------|
| 0°-10° | 643.9 | 1.3 |
| 10°-20° | 1857.3 | 3.6 |
| 20°-30° | 3118.9 | 6.1 |
| 30°-40° | 4847.2 | 9.5 |
| 40°-50° | 7194.6 | 14.1 |
| 50°-60° | 9932.5 | 19.5 |
| 60°-70° | 12050.4 | 23.6 |
| 70°-80° | 9958.8 | 19.5 |
| 80°-90° | 1432.4 | 2.8 |
| 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° | 51036.0 | 100.0 |
| 0°-180° | 51036.0 | 100.0 |

Coefficient of Utilization



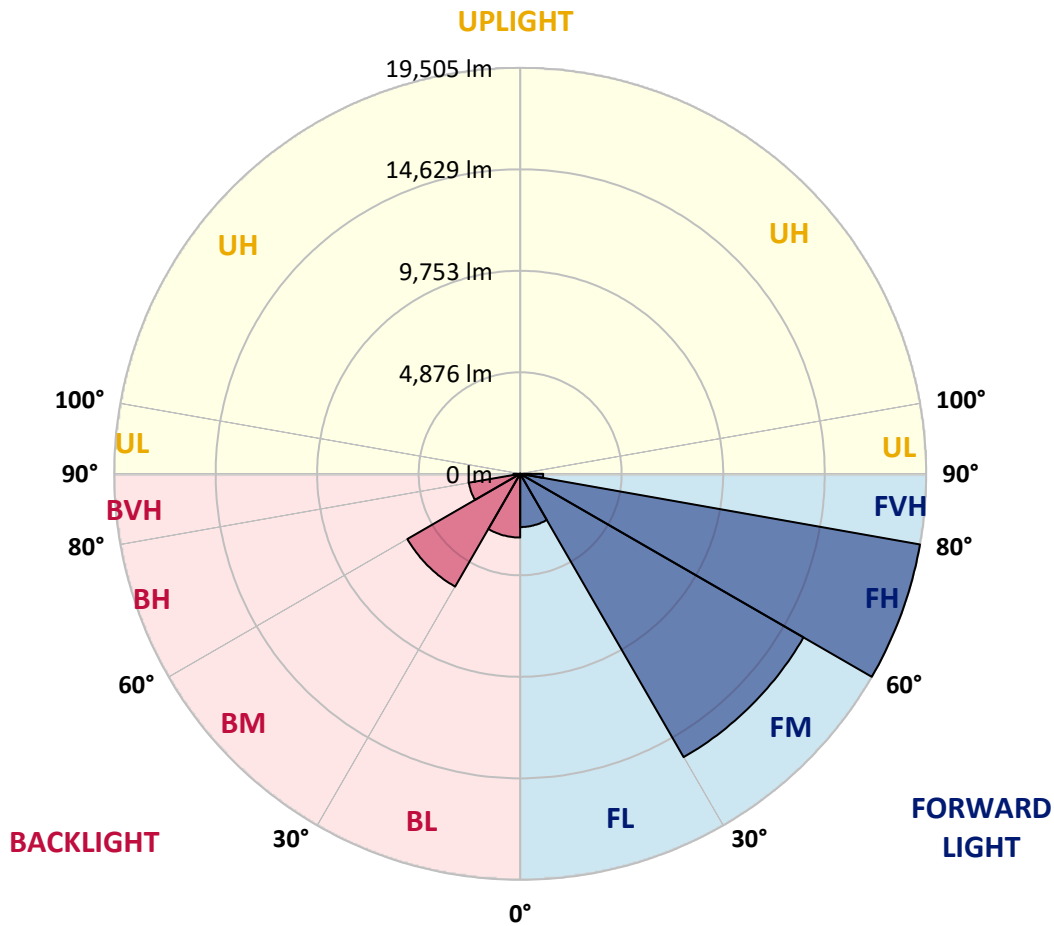
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

| Zone | Lumens | % Fixture | Zone Rating/Lumen Limit | | |
|----------------|---------|-----------|-------------------------|------|---------|
| | | | B | U | G |
| FL (0°-30°) | 2559.4 | 5.0 | | | |
| FM (30°-60°) | 15716.3 | 30.8 | | | |
| FH (60°-80°) | 19505.2 | 38.2 | | | G5 |
| FVH (80°-90°) | 1109.8 | 2.2 | | | G5 |
| BL (0°-30°) | 3060.8 | 6.0 | B4/5000 | | |
| BM (30°-60°) | 6258.0 | 12.3 | B4/8500 | | |
| BH (60°-80°) | 2504.0 | 4.9 | B4/5000 | | G4/5000 |
| BVH (80°-90°) | 322.5 | 0.6 | | | G3/500 |
| UL (90°-100°) | 0.0 | 0.0 | | U0/0 | |
| UH (100°-180°) | 0.0 | 0.0 | | U0/0 | |

BUG Rating: B4-U0-G5

Type IV Short



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CANDELA DISTRIBUTION (FULL):

| | 0° | 5° | 15° | 25° | 35° | 36° | 45° | 55° | 65° | 75° | 85° |
|-------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| 0° | 6800.9 | 6800.9 | 6800.9 | 6800.9 | 6800.9 | 6800.9 | 6800.9 | 6800.9 | 6800.9 | 6800.9 | 6800.9 |
| 2.5° | 6271.2 | 6309.8 | 6326.3 | 6318.1 | 6359.5 | 6353.9 | 6411.9 | 6483.6 | 6582.9 | 6679.5 | 6820.2 |
| 5° | 5788.3 | 5829.7 | 5865.6 | 5898.7 | 5978.7 | 6003.5 | 6094.6 | 6232.5 | 6414.6 | 6599.5 | 6831.2 |
| 7.5° | 5338.6 | 5374.5 | 5429.7 | 5490.4 | 5625.6 | 5650.4 | 5802.1 | 6017.3 | 6271.2 | 6541.5 | 6861.6 |
| 10° | 4971.7 | 5007.6 | 5065.5 | 5134.5 | 5302.8 | 5333.1 | 5526.2 | 5813.2 | 6144.3 | 6486.4 | 6894.7 |
| 12.5° | 4814.4 | 4825.5 | 4858.6 | 4927.5 | 5073.8 | 5093.1 | 5305.5 | 5633.8 | 6020.1 | 6445.0 | 6944.4 |
| 15° | 4806.1 | 4828.2 | 4831.0 | 4866.8 | 4988.2 | 4996.5 | 5192.4 | 5518.0 | 5942.8 | 6436.7 | 7018.9 |
| 17.5° | 4888.9 | 4905.5 | 4880.6 | 4902.7 | 5004.8 | 5018.6 | 5173.1 | 5462.8 | 5918.0 | 6472.6 | 7145.8 |
| 20° | 5109.6 | 5123.4 | 5048.9 | 5018.6 | 5093.1 | 5104.1 | 5255.9 | 5498.7 | 5942.8 | 6547.1 | 7319.6 |
| 22.5° | 5578.7 | 5586.9 | 5404.8 | 5280.7 | 5286.2 | 5291.7 | 5424.2 | 5644.9 | 6039.4 | 6682.3 | 7540.3 |
| 25° | 6309.8 | 6304.3 | 6014.6 | 5774.6 | 5636.6 | 5606.3 | 5694.5 | 5882.2 | 6202.2 | 6861.6 | 7824.5 |
| 27.5° | 7165.1 | 7123.7 | 6834.0 | 6475.3 | 6174.6 | 6130.5 | 6111.1 | 6191.2 | 6433.9 | 7098.9 | 8172.1 |
| 30° | 8130.7 | 8092.1 | 7780.3 | 7311.3 | 6894.7 | 6823.0 | 6640.9 | 6599.5 | 6778.8 | 7421.7 | 8654.9 |
| 32.5° | 9190.2 | 9165.3 | 8792.9 | 8224.5 | 7667.2 | 7584.4 | 7278.2 | 7167.8 | 7308.5 | 7910.0 | 9328.1 |
| 35° | 10078.6 | 10056.5 | 9747.5 | 9162.6 | 8481.1 | 8379.0 | 8067.3 | 7943.1 | 8014.8 | 8536.3 | 10208.2 |
| 37.5° | 10881.4 | 10870.4 | 10605.5 | 10144.8 | 9441.2 | 9317.1 | 8966.7 | 8925.3 | 8911.5 | 9361.2 | 11276.0 |
| 40° | 11626.4 | 11598.8 | 11322.9 | 11080.1 | 10558.6 | 10445.5 | 10136.5 | 10100.6 | 9995.8 | 10376.5 | 12484.4 |
| 42.5° | 12451.3 | 12379.6 | 11979.5 | 11866.4 | 11725.7 | 11631.9 | 11447.0 | 11452.5 | 11220.8 | 11521.5 | 13764.6 |
| 45° | 13124.5 | 13083.1 | 12672.0 | 12605.8 | 12757.5 | 12718.9 | 12878.9 | 12920.3 | 12470.6 | 12721.7 | 15094.4 |
| 47.5° | 13847.3 | 13808.7 | 13461.1 | 13414.2 | 13825.3 | 13836.3 | 14401.9 | 14415.7 | 13690.1 | 13968.7 | 16427.0 |
| 50° | 14738.5 | 14683.3 | 14338.4 | 14396.4 | 14857.1 | 14898.5 | 15933.1 | 15839.3 | 14813.0 | 15235.1 | 17748.5 |
| 52.5° | 15326.1 | 15359.3 | 15284.8 | 15378.6 | 16007.6 | 16046.2 | 17439.5 | 17199.5 | 15924.8 | 16484.9 | 19045.3 |
| 55° | 15759.3 | 15825.5 | 16057.3 | 16272.5 | 17221.6 | 17260.2 | 18860.4 | 18493.5 | 16846.3 | 17643.7 | 20264.7 |
| 57.5° | 16316.6 | 16222.8 | 16656.0 | 17075.3 | 18374.8 | 18476.9 | 20242.7 | 19740.5 | 17663.0 | 18642.4 | 21100.7 |
| 60° | 17116.7 | 17050.5 | 17387.1 | 18007.9 | 19666.0 | 19828.8 | 21704.9 | 20863.4 | 18261.7 | 19434.3 | 21263.5 |
| 62.5° | 18739.0 | 18573.5 | 18625.9 | 19174.9 | 21293.8 | 21509.0 | 23354.8 | 21842.9 | 18559.7 | 19743.3 | 20391.6 |
| 65° | 21164.2 | 20880.0 | 20615.1 | 20995.9 | 23586.5 | 23799.0 | 25217.1 | 22612.6 | 18449.3 | 19144.6 | 18076.9 |
| 67.5° | 24218.3 | 23936.9 | 23611.4 | 23970.0 | 26963.5 | 27131.8 | 27515.3 | 23045.8 | 17580.2 | 16838.1 | 13985.3 |
| 70° | 26737.3 | 26632.5 | 27021.5 | 28497.5 | 32357.3 | 32362.9 | 30461.9 | 22687.1 | 15199.2 | 11938.1 | 8092.1 |
| 72.5° | 26403.5 | 26340.0 | 28389.9 | 32953.3 | 39155.5 | 39009.3 | 33251.3 | 19972.3 | 10238.6 | 5385.5 | 3032.1 |
| 75° | 21660.8 | 22071.9 | 25247.5 | 32873.3 | 41597.2 | 41577.9 | 31543.4 | 12696.8 | 4235.0 | 2232.0 | 1567.1 |
| 77.5° | 11615.3 | 12266.4 | 16391.1 | 24270.8 | 32473.2 | 32961.6 | 22176.7 | 4442.0 | 1818.2 | 1429.2 | 1084.3 |
| 80° | 3788.1 | 4356.4 | 6533.3 | 12357.5 | 21100.7 | 21009.7 | 9504.7 | 1743.7 | 1244.3 | 1012.5 | 750.4 |
| 82.5° | 1608.5 | 1674.7 | 2919.0 | 5835.2 | 10829.0 | 10660.7 | 3026.6 | 1001.5 | 874.6 | 692.5 | 463.5 |
| 85° | 629.0 | 703.5 | 1288.4 | 2698.3 | 4690.3 | 4588.2 | 1092.6 | 496.6 | 560.1 | 452.5 | 275.9 |
| 87.5° | 206.9 | 251.1 | 460.8 | 924.3 | 1459.5 | 1407.1 | 267.6 | 171.1 | 242.8 | 206.9 | 99.3 |
| 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° | 6800.9 | 6800.9 | 6800.9 | 6800.9 | 6800.9 | 6800.9 | 6800.9 | 6800.9 | 6800.9 | 6800.9 | 6800.9 |
| 2.5° | 6858.8 | 6903.0 | 6955.4 | 7032.6 | 7098.9 | 7154.0 | 7212.0 | 7247.8 | 7261.6 | 7303.0 | 7300.3 |
| 5° | 6908.5 | 7005.1 | 7134.7 | 7261.6 | 7385.8 | 7460.3 | 7526.5 | 7559.6 | 7590.0 | 7612.0 | 7617.6 |
| 7.5° | 6991.3 | 7115.4 | 7319.6 | 7485.1 | 7590.0 | 7650.7 | 7694.8 | 7683.8 | 7694.8 | 7700.3 | 7708.6 |
| 10° | 7063.0 | 7236.8 | 7479.6 | 7636.9 | 7716.9 | 7719.6 | 7708.6 | 7670.0 | 7650.7 | 7653.4 | 7658.9 |
| 12.5° | 7148.5 | 7341.7 | 7603.8 | 7736.2 | 7758.3 | 7697.6 | 7650.7 | 7584.4 | 7559.6 | 7548.6 | 7543.1 |
| 15° | 7264.4 | 7485.1 | 7738.9 | 7788.6 | 7733.4 | 7656.2 | 7576.2 | 7468.6 | 7413.4 | 7369.2 | 7383.0 |
| 17.5° | 7405.1 | 7647.9 | 7843.8 | 7807.9 | 7689.3 | 7562.4 | 7432.7 | 7269.9 | 7156.8 | 7109.9 | 7112.7 |
| 20° | 7601.0 | 7819.0 | 7923.8 | 7766.5 | 7587.2 | 7394.1 | 7173.4 | 6974.7 | 6869.9 | 6823.0 | 6817.4 |
| 22.5° | 7838.3 | 8048.0 | 8001.0 | 7694.8 | 7441.0 | 7132.0 | 6856.1 | 6709.8 | 6657.4 | 6624.3 | 6629.8 |
| 25° | 8122.4 | 8301.8 | 8056.2 | 7590.0 | 7200.9 | 6784.3 | 6571.9 | 6525.0 | 6500.2 | 6475.3 | 6475.3 |
| 27.5° | 8492.1 | 8588.7 | 8097.6 | 7435.5 | 6825.7 | 6414.6 | 6337.4 | 6345.7 | 6337.4 | 6296.0 | 6304.3 |
| 30° | 8980.5 | 8961.2 | 8136.2 | 7184.4 | 6395.3 | 6080.8 | 6086.3 | 6122.2 | 6127.7 | 6100.1 | 6113.9 |
| 32.5° | 9623.3 | 9427.4 | 8155.6 | 6858.8 | 5984.2 | 5788.3 | 5793.9 | 5832.5 | 5860.1 | 5813.2 | 5835.2 |
| 35° | 10401.4 | 9971.0 | 8125.2 | 6450.5 | 5667.0 | 5509.7 | 5468.3 | 5479.3 | 5487.6 | 5443.5 | 5473.8 |
| 37.5° | 11309.1 | 10580.7 | 7990.0 | 5998.0 | 5404.8 | 5236.5 | 5148.3 | 5073.8 | 5029.6 | 4988.2 | 5015.8 |
| 40° | 12305.1 | 11245.6 | 7741.7 | 5556.6 | 5112.4 | 4946.9 | 4814.4 | 4673.7 | 4524.7 | 4469.6 | 4494.4 |
| 42.5° | 13348.0 | 11929.8 | 7441.0 | 5134.5 | 4775.8 | 4640.6 | 4499.9 | 4295.7 | 4072.3 | 3959.1 | 3972.9 |
| 45° | 14429.5 | 12630.6 | 7145.8 | 4717.9 | 4430.9 | 4373.0 | 4210.2 | 3964.7 | 3721.9 | 3578.4 | 3567.4 |
| 47.5° | 15488.9 | 13292.8 | 6712.6 | 4298.5 | 4108.1 | 4171.6 | 4044.7 | 3818.4 | 3548.1 | 3321.8 | 3297.0 |
| 50° | 16501.5 | 13913.5 | 6003.5 | 3873.6 | 3846.0 | 4110.9 | 3989.5 | 3663.9 | 3354.9 | 3065.2 | 3040.4 |
| 52.5° | 17505.7 | 14415.7 | 5095.8 | 3487.4 | 3705.3 | 4094.3 | 3917.8 | 3559.1 | 3181.1 | 2877.6 | 2844.5 |
| 55° | 18358.3 | 14675.0 | 4221.2 | 3156.3 | 3501.1 | 3953.6 | 3832.2 | 3434.9 | 2935.6 | 2612.8 | 2585.2 |
| 57.5° | 18843.9 | 14465.3 | 3492.9 | 2830.7 | 3219.7 | 3721.9 | 3686.0 | 3170.1 | 2643.1 | 2394.8 | 2361.7 |
| 60° | 18634.2 | 13615.6 | 2896.9 | 2546.5 | 2952.1 | 3470.8 | 3432.2 | 2908.0 | 2419.6 | 2185.1 | 2152.0 |
| 62.5° | 17478.2 | 11996.1 | 2425.1 | 2298.2 | 2709.3 | 3214.2 | 3178.3 | 2706.6 | 2248.6 | 2022.3 | 1986.5 |
| 65° | 15149.6 | 9758.5 | 2058.2 | 2091.3 | 2463.8 | 2905.2 | 2957.6 | 2538.3 | 2113.4 | 1892.7 | 1856.8 |
| 67.5° | 11554.6 | 7068.5 | 1771.3 | 1912.0 | 2223.7 | 2601.7 | 2753.5 | 2416.9 | 2000.3 | 1790.6 | 1757.5 |
| 70° | 6585.7 | 4014.3 | 1528.5 | 1738.2 | 2011.3 | 2320.3 | 2596.2 | 2320.3 | 1878.9 | 1705.1 | 1683.0 |
| 72.5° | 2496.9 | 1843.0 | 1321.6 | 1564.3 | 1807.1 | 2083.0 | 2422.4 | 2168.6 | 1738.2 | 1608.5 | 1586.4 |
| 75° | 1332.6 | 1122.9 | 1111.9 | 1360.2 | 1572.6 | 1851.3 | 2204.4 | 2019.6 | 1633.3 | 1699.5 | 1754.7 |
| 77.5° | 907.7 | 794.6 | 929.8 | 1164.3 | 1316.0 | 1594.7 | 1972.7 | 1793.3 | 1415.4 | 1409.8 | 1299.5 |
| 80° | 629.0 | 562.8 | 756.0 | 938.1 | 1018.1 | 1340.9 | 1721.6 | 1539.5 | 1153.3 | 1076.0 | 1029.1 |
| 82.5° | 378.0 | 366.9 | 565.6 | 700.8 | 720.1 | 1034.6 | 1426.4 | 1291.2 | 943.6 | 822.2 | 827.7 |
| 85° | 206.9 | 218.0 | 361.4 | 411.1 | 419.4 | 722.9 | 1117.4 | 998.8 | 725.6 | 609.7 | 615.3 |
| 87.5° | 57.9 | 74.5 | 132.4 | 162.8 | 201.4 | 375.2 | 664.9 | 593.2 | 364.2 | 253.8 | 253.8 |
| 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)