

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: P883817

Luminaire Tested: **NAV-SB4B-830-U-T2**

Issue Date: 10/7/2024

Test Information

Test Method: LM-79-08
Report Number: P883817
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-830-U-T2
Description: NAVION ROADWAY AND AREA HIGH DENSITY LED LUMINAIRE
(4) 80 CRI, 3000K, 450mA LIGHTSQUARES WITH 26 LEDS EACH AND TYPE II OPTICS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 19785 lumens
Efficiency: N/A
Efficacy: 134.6 lumens/watt
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')
IES Classification: Type II - Medium
BUG Rating: B3 - U0 - G3

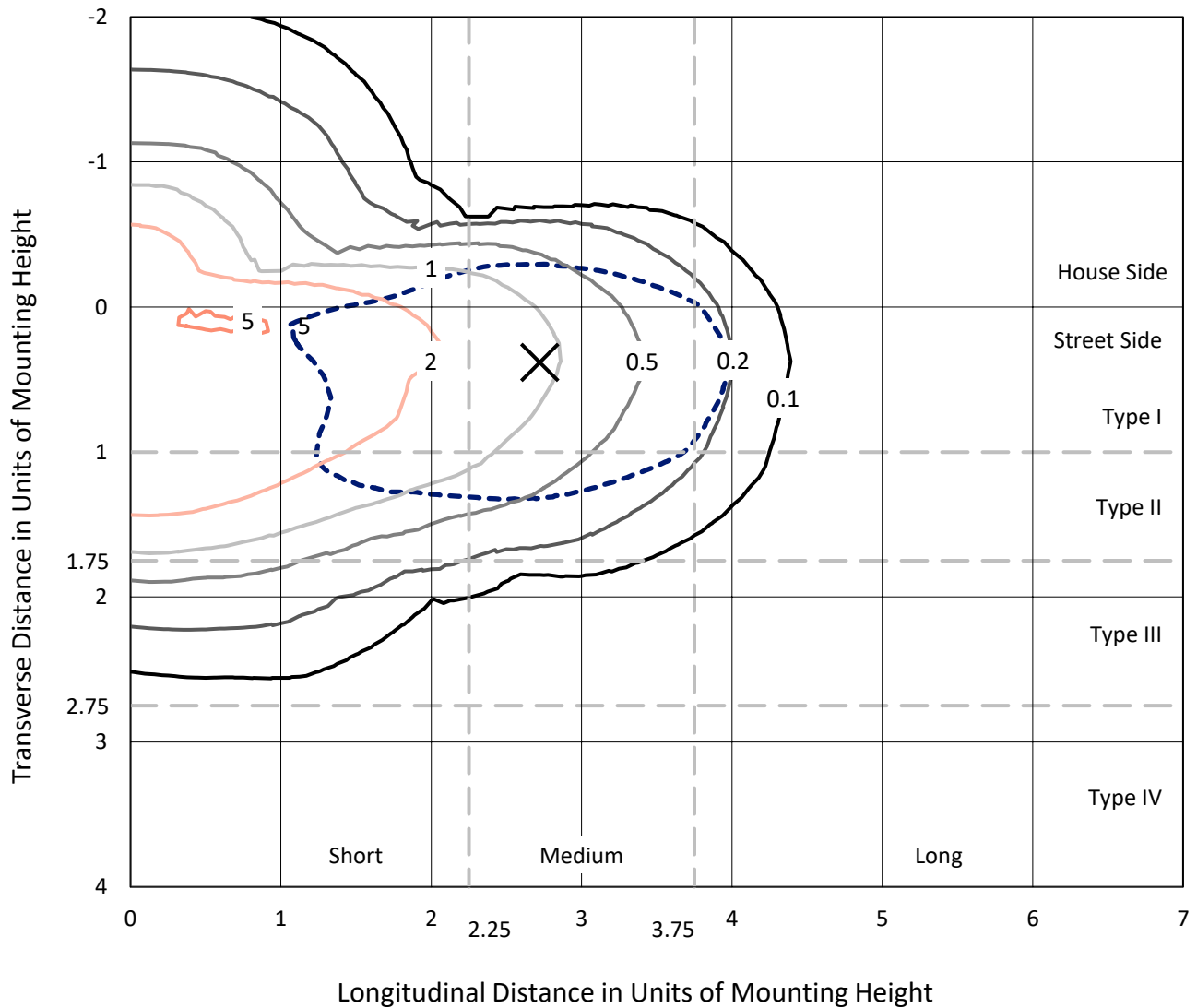
Input Watts (W): 147
Input Voltage (V): 120.0
Input Current (Ain): 1.255
Voltage Rise (V): NR
Power Factor: 0.988
Total Harmonic Distortion (THDi): 13.593
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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Iso-Footcandle Lines of Horizontal Illumination

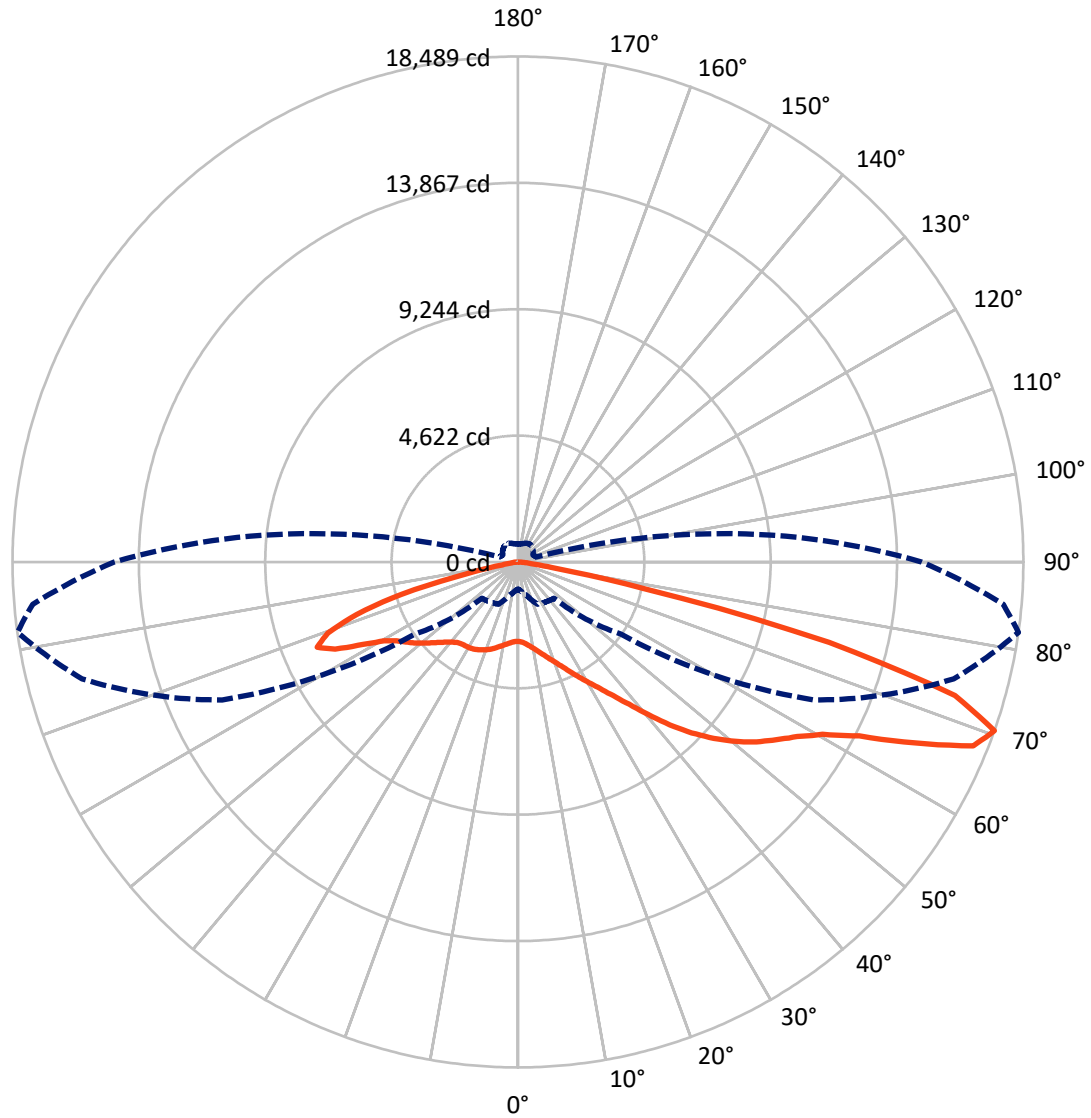
✕ Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 5.3 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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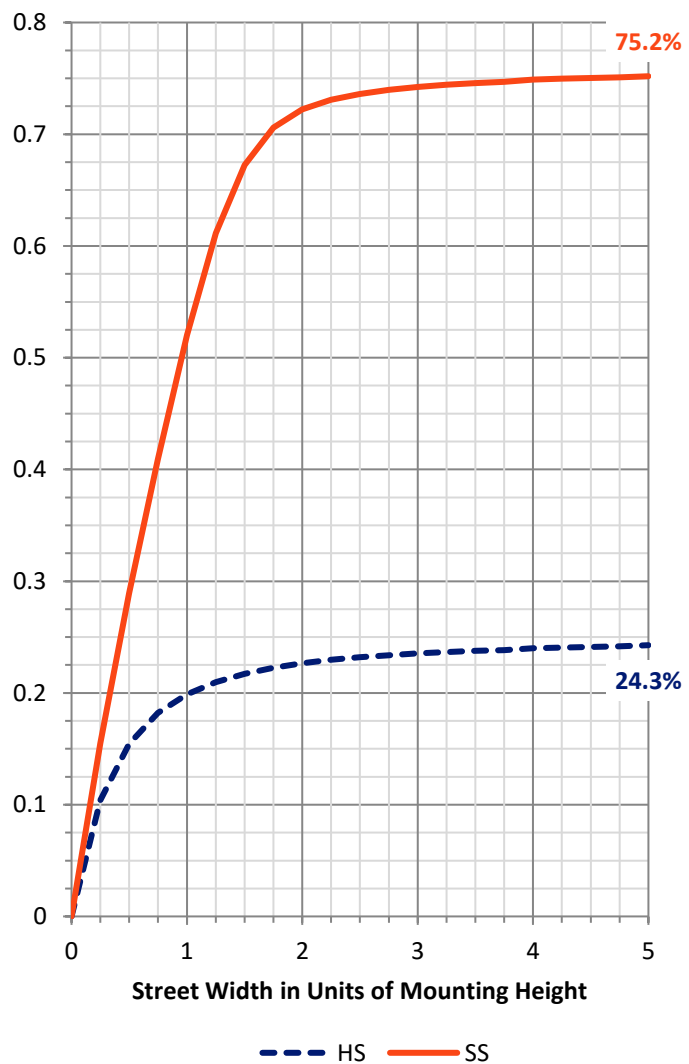
FLUX DISTRIBUTION:

| | | Downward | Upward | Total |
|--------------------|-----------|----------|--------|---------|
| House Side | Lumens | 4877.5 | 0.0 | 4877.5 |
| | % Fixture | 24.7 | 0.0 | 24.7 |
| Street Side | Lumens | 14907.5 | 0.0 | 14907.5 |
| | % Fixture | 75.3 | 0.0 | 75.3 |
| Total | Lumens | 19785.0 | 0.0 | 19785.0 |
| | % Fixture | 100.0 | 0.0 | 100.0 |

ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|---------|-----------|
| 0°-10° | 273.9 | 1.4 |
| 10°-20° | 786.9 | 4.0 |
| 20°-30° | 1316.4 | 6.7 |
| 30°-40° | 2056.5 | 10.4 |
| 40°-50° | 3275.2 | 16.6 |
| 50°-60° | 4557.9 | 23.0 |
| 60°-70° | 4767.7 | 24.1 |
| 70°-80° | 2491.9 | 12.6 |
| 80°-90° | 258.8 | 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° | 19785.0 | 100.0 |
| 0°-180° | 19785.0 | 100.0 |

Coefficient of Utilization



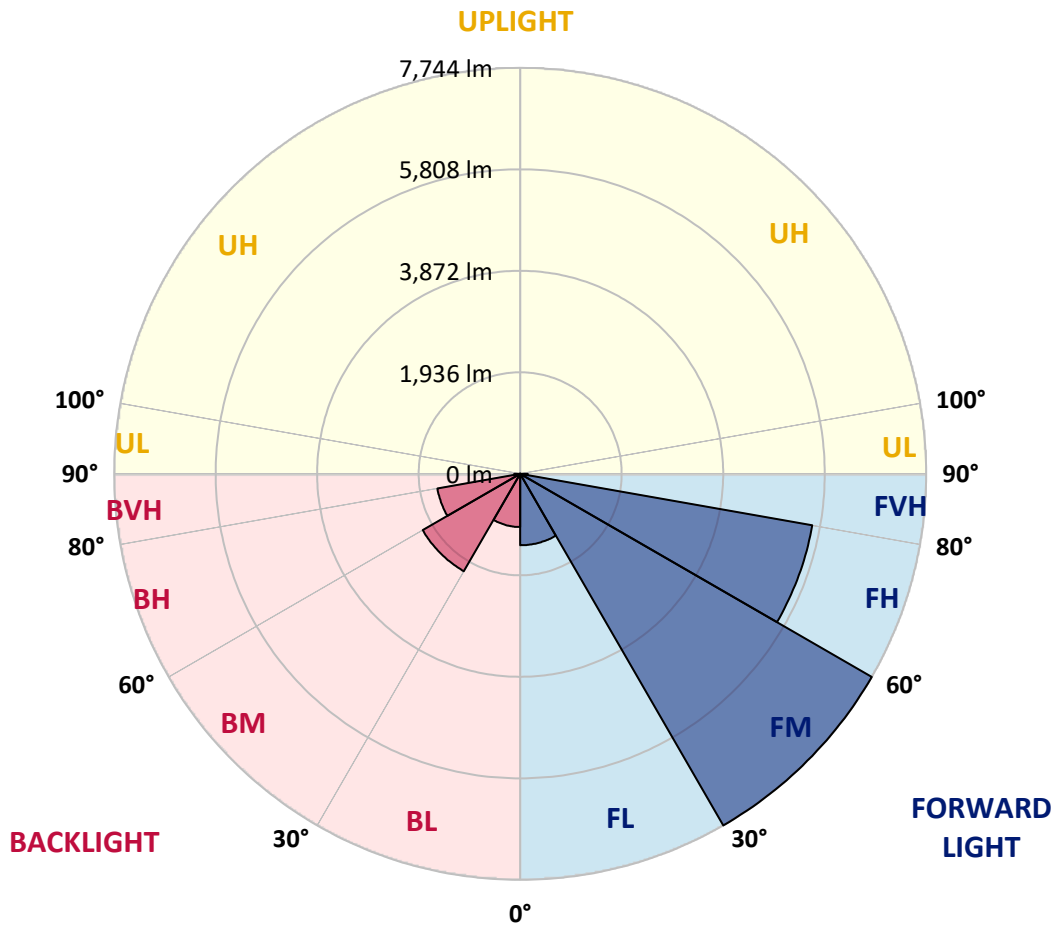
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

| Zone | Lumens | % Fixture | Zone Rating/Lumen Limit | | |
|----------------|--------|-----------|-------------------------|------|---------|
| | | | B | U | G |
| FL (0°-30°) | 1362.4 | 6.9 | | | |
| FM (30°-60°) | 7743.7 | 39.1 | | | |
| FH (60°-80°) | 5656.6 | 28.6 | | | G3/7500 |
| FVH (80°-90°) | 144.9 | 0.7 | | | G2/225 |
| BL (0°-30°) | 1014.7 | 5.1 | B3/2500 | | |
| BM (30°-60°) | 2145.9 | 10.8 | B2/2500 | | |
| BH (60°-80°) | 1603.0 | 8.1 | B3/2500 | | G3/2500 |
| BVH (80°-90°) | 113.9 | 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° | 2900.7 | 2900.7 | 2900.7 | 2900.7 | 2900.7 | 2900.7 | 2900.7 | 2900.7 | 2900.7 | 2900.7 | 2900.7 |
| 2.5° | 2970.0 | 2986.8 | 2981.6 | 2976.3 | 2976.3 | 2969.0 | 2967.9 | 2957.4 | 2949.0 | 2935.4 | 2932.2 |
| 5° | 3007.8 | 3025.7 | 3023.6 | 3027.8 | 3041.4 | 3044.6 | 3047.7 | 3041.4 | 3024.6 | 3007.8 | 3000.5 |
| 7.5° | 2974.2 | 2994.2 | 3000.5 | 3025.7 | 3067.7 | 3105.4 | 3133.8 | 3145.3 | 3129.6 | 3105.4 | 3093.9 |
| 10° | 2860.8 | 2882.9 | 2904.9 | 2964.8 | 3039.3 | 3128.5 | 3204.1 | 3249.3 | 3246.1 | 3223.0 | 3203.1 |
| 12.5° | 2630.9 | 2654.0 | 2701.3 | 2817.8 | 2954.3 | 3111.7 | 3252.4 | 3346.9 | 3379.5 | 3362.7 | 3328.0 |
| 15° | 2447.2 | 2467.1 | 2502.8 | 2622.5 | 2799.9 | 3039.3 | 3270.3 | 3454.0 | 3536.9 | 3527.5 | 3485.5 |
| 17.5° | 2441.9 | 2450.3 | 2472.4 | 2529.1 | 2665.6 | 2925.9 | 3251.4 | 3559.0 | 3717.5 | 3716.5 | 3664.0 |
| 20° | 2534.3 | 2537.5 | 2550.1 | 2561.6 | 2639.3 | 2839.8 | 3203.1 | 3646.1 | 3920.1 | 3920.1 | 3863.4 |
| 22.5° | 2662.4 | 2660.3 | 2672.9 | 2662.4 | 2700.2 | 2832.5 | 3172.6 | 3722.8 | 4145.8 | 4162.6 | 4091.3 |
| 25° | 2854.5 | 2844.0 | 2840.9 | 2816.7 | 2824.1 | 2900.7 | 3206.2 | 3809.9 | 4413.6 | 4448.2 | 4359.0 |
| 27.5° | 3110.7 | 3093.9 | 3082.4 | 3026.7 | 3007.8 | 3041.4 | 3309.1 | 3914.9 | 4711.7 | 4771.6 | 4658.2 |
| 30° | 3444.5 | 3414.1 | 3397.3 | 3300.7 | 3232.5 | 3237.7 | 3464.5 | 4054.5 | 5023.5 | 5120.1 | 4976.3 |
| 32.5° | 3900.2 | 3852.9 | 3807.8 | 3649.3 | 3524.3 | 3483.4 | 3665.0 | 4247.7 | 5361.6 | 5515.9 | 5331.1 |
| 35° | 4410.4 | 4372.6 | 4324.3 | 4079.7 | 3887.6 | 3793.1 | 3935.9 | 4517.5 | 5757.4 | 6002.0 | 5761.6 |
| 37.5° | 4901.7 | 4869.2 | 4892.3 | 4562.6 | 4314.9 | 4177.3 | 4290.7 | 4879.7 | 6245.5 | 6606.7 | 6301.2 |
| 40° | 5409.9 | 5384.7 | 5387.8 | 5072.9 | 4784.2 | 4629.8 | 4721.2 | 5334.3 | 6805.1 | 7325.8 | 6950.0 |
| 42.5° | 5962.1 | 5943.2 | 5880.2 | 5600.9 | 5276.5 | 5132.7 | 5216.7 | 5859.2 | 7405.6 | 8144.7 | 7661.8 |
| 45° | 6580.4 | 6568.9 | 6510.1 | 6189.9 | 5818.3 | 5656.6 | 5770.0 | 6438.7 | 8009.3 | 8915.3 | 8376.7 |
| 47.5° | 7114.8 | 7124.3 | 7116.9 | 6847.1 | 6461.8 | 6224.5 | 6360.0 | 7043.4 | 8571.0 | 9639.7 | 9062.3 |
| 50° | 7372.0 | 7421.4 | 7493.8 | 7409.8 | 7170.5 | 6929.0 | 6955.2 | 7627.1 | 9106.4 | 10319.0 | 9719.5 |
| 52.5° | 7237.6 | 7331.1 | 7528.5 | 7662.8 | 7755.2 | 7704.8 | 7634.5 | 8206.7 | 9610.3 | 10932.1 | 10341.0 |
| 55° | 6736.9 | 6868.1 | 7195.7 | 7520.1 | 7991.4 | 8357.8 | 8450.2 | 8849.2 | 10101.6 | 11471.7 | 10928.9 |
| 57.5° | 5824.6 | 6037.7 | 6331.6 | 6987.8 | 7781.5 | 8673.8 | 9401.4 | 9740.5 | 10622.4 | 12048.0 | 11544.1 |
| 60° | 4260.3 | 4545.8 | 4911.2 | 5887.5 | 7046.6 | 8504.8 | 10210.8 | 11109.5 | 11362.5 | 12794.5 | 12345.2 |
| 62.5° | 2726.5 | 2902.8 | 3238.8 | 4158.4 | 5490.7 | 7638.7 | 10458.6 | 12820.7 | 12617.1 | 14018.6 | 13546.2 |
| 65° | 1866.6 | 1980.0 | 2287.6 | 2804.1 | 3549.5 | 5686.0 | 9795.1 | 14103.7 | 14609.7 | 15958.7 | 15599.7 |
| 67.5° | 1356.4 | 1442.5 | 1705.0 | 2157.4 | 2312.8 | 3364.8 | 7600.9 | 14044.9 | 16546.6 | 17957.6 | 17399.1 |
| 70° | 989.0 | 1049.8 | 1270.3 | 1705.0 | 1779.5 | 1871.9 | 4604.6 | 11938.9 | 16504.7 | 18488.9 | 17820.1 |
| 72.5° | 732.8 | 774.8 | 922.8 | 1322.8 | 1440.4 | 1264.0 | 2279.2 | 8677.0 | 14182.4 | 16723.0 | 16186.5 |
| 75° | 530.2 | 561.7 | 670.9 | 1012.1 | 1152.7 | 962.7 | 1137.0 | 5070.8 | 9892.7 | 11763.5 | 11858.0 |
| 77.5° | 405.2 | 429.4 | 500.8 | 741.2 | 922.8 | 722.3 | 705.5 | 2332.8 | 4690.7 | 4713.8 | 4978.4 |
| 80° | 325.5 | 341.2 | 380.0 | 521.8 | 707.6 | 540.7 | 459.8 | 941.7 | 1482.4 | 1254.6 | 1316.5 |
| 82.5° | 239.4 | 265.6 | 321.3 | 366.4 | 506.0 | 372.7 | 280.3 | 475.6 | 563.8 | 485.0 | 489.2 |
| 85° | 136.5 | 154.3 | 194.2 | 262.5 | 323.4 | 227.8 | 160.6 | 211.0 | 262.5 | 215.2 | 192.1 |
| 87.5° | 48.3 | 63.0 | 68.2 | 102.9 | 140.7 | 94.5 | 61.9 | 60.9 | 86.1 | 64.0 | 53.5 |
| 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° | 2900.7 | 2900.7 | 2900.7 | 2900.7 | 2900.7 | 2900.7 | 2900.7 | 2900.7 | 2900.7 | 2900.7 | 2900.7 |
| 2.5° | 2921.7 | 2916.5 | 2895.5 | 2867.1 | 2837.7 | 2809.4 | 2799.9 | 2780.0 | 2766.3 | 2759.0 | 2767.4 |
| 5° | 2980.5 | 2963.7 | 2914.4 | 2851.4 | 2785.2 | 2713.9 | 2663.5 | 2617.3 | 2583.7 | 2552.2 | 2564.8 |
| 7.5° | 3064.5 | 3035.1 | 2950.1 | 2839.8 | 2722.3 | 2603.6 | 2515.4 | 2448.2 | 2403.1 | 2373.7 | 2380.0 |
| 10° | 3162.1 | 3117.0 | 2986.8 | 2822.0 | 2640.4 | 2470.3 | 2366.4 | 2308.6 | 2280.3 | 2264.5 | 2268.7 |
| 12.5° | 3274.5 | 3210.4 | 3024.6 | 2781.0 | 2515.4 | 2321.2 | 2249.8 | 2233.0 | 2234.1 | 2235.1 | 2237.2 |
| 15° | 3413.1 | 3323.8 | 3055.1 | 2691.8 | 2352.7 | 2206.8 | 2194.2 | 2221.5 | 2249.8 | 2263.5 | 2262.4 |
| 17.5° | 3569.5 | 3443.5 | 3060.3 | 2544.8 | 2193.1 | 2133.3 | 2173.2 | 2232.0 | 2275.0 | 2293.9 | 2298.1 |
| 20° | 3737.5 | 3565.3 | 3022.5 | 2337.0 | 2061.9 | 2073.4 | 2144.8 | 2220.4 | 2267.7 | 2291.8 | 2298.1 |
| 22.5° | 3929.6 | 3695.5 | 2932.2 | 2118.6 | 1954.8 | 2008.4 | 2092.3 | 2165.8 | 2215.2 | 2239.3 | 2245.6 |
| 25° | 4149.0 | 3841.4 | 2790.5 | 1934.9 | 1862.4 | 1934.9 | 2018.9 | 2079.7 | 2119.6 | 2141.7 | 2148.0 |
| 27.5° | 4392.6 | 3993.6 | 2601.5 | 1788.9 | 1781.6 | 1859.3 | 1928.6 | 1975.8 | 1996.8 | 2013.6 | 2019.9 |
| 30° | 4637.2 | 4132.2 | 2372.7 | 1678.7 | 1711.3 | 1784.7 | 1834.1 | 1855.1 | 1861.4 | 1864.5 | 1871.9 |
| 32.5° | 4901.7 | 4251.9 | 2132.2 | 1587.4 | 1644.1 | 1712.3 | 1741.7 | 1751.1 | 1721.7 | 1701.8 | 1708.1 |
| 35° | 5221.9 | 4380.0 | 1897.1 | 1514.9 | 1577.9 | 1636.7 | 1646.2 | 1637.8 | 1603.1 | 1562.2 | 1564.3 |
| 37.5° | 5617.7 | 4539.5 | 1709.2 | 1463.5 | 1516.0 | 1554.8 | 1543.3 | 1541.2 | 1544.3 | 1496.0 | 1499.2 |
| 40° | 6102.8 | 4747.4 | 1571.6 | 1423.6 | 1465.6 | 1474.0 | 1441.4 | 1459.3 | 1475.0 | 1401.5 | 1403.6 |
| 42.5° | 6641.3 | 4998.3 | 1484.5 | 1396.3 | 1423.6 | 1403.6 | 1353.3 | 1373.2 | 1371.1 | 1274.5 | 1273.5 |
| 45° | 7190.4 | 5271.3 | 1454.0 | 1376.3 | 1384.7 | 1344.9 | 1289.2 | 1294.5 | 1250.4 | 1163.2 | 1166.4 |
| 47.5° | 7736.3 | 5564.2 | 1472.9 | 1359.6 | 1336.5 | 1291.3 | 1248.3 | 1225.2 | 1160.1 | 1095.0 | 1095.0 |
| 50° | 8271.7 | 5871.8 | 1542.2 | 1326.0 | 1270.3 | 1244.1 | 1212.6 | 1171.6 | 1102.3 | 1046.7 | 1042.5 |
| 52.5° | 8768.3 | 6181.5 | 1619.9 | 1270.3 | 1187.4 | 1203.1 | 1183.2 | 1135.9 | 1067.7 | 1011.0 | 1012.1 |
| 55° | 9238.7 | 6491.2 | 1650.4 | 1193.7 | 1109.7 | 1167.4 | 1155.9 | 1068.7 | 986.9 | 940.7 | 936.5 |
| 57.5° | 9751.0 | 6863.9 | 1616.8 | 1096.0 | 1046.7 | 1126.5 | 1082.4 | 985.8 | 938.6 | 903.9 | 900.8 |
| 60° | 10460.7 | 7448.7 | 1544.3 | 975.3 | 986.9 | 1065.6 | 990.0 | 950.1 | 898.7 | 859.8 | 857.7 |
| 62.5° | 11639.7 | 8539.5 | 1427.8 | 855.6 | 916.5 | 975.3 | 945.9 | 906.0 | 853.5 | 815.7 | 815.7 |
| 65° | 13382.4 | 10055.4 | 1208.4 | 762.2 | 837.8 | 887.1 | 898.7 | 858.8 | 804.2 | 764.3 | 766.4 |
| 67.5° | 14852.2 | 11006.6 | 914.4 | 684.5 | 756.9 | 815.7 | 848.3 | 809.4 | 751.7 | 712.8 | 713.9 |
| 70° | 14771.4 | 10315.8 | 698.1 | 607.9 | 685.6 | 745.4 | 787.4 | 756.9 | 695.0 | 658.3 | 661.4 |
| 72.5° | 13119.9 | 8629.7 | 564.8 | 530.2 | 613.1 | 671.9 | 722.3 | 699.2 | 636.2 | 600.5 | 600.5 |
| 75° | 9638.6 | 6125.9 | 451.4 | 451.4 | 522.8 | 595.3 | 650.9 | 636.2 | 578.5 | 553.3 | 545.9 |
| 77.5° | 4062.9 | 2570.0 | 353.8 | 374.8 | 434.6 | 511.3 | 580.6 | 585.8 | 535.4 | 566.9 | 514.4 |
| 80° | 1080.3 | 708.6 | 269.8 | 295.0 | 341.2 | 422.0 | 505.0 | 502.9 | 448.3 | 418.9 | 389.5 |
| 82.5° | 411.5 | 279.3 | 192.1 | 207.9 | 246.7 | 323.4 | 400.0 | 412.6 | 358.0 | 309.7 | 309.7 |
| 85° | 158.5 | 119.7 | 118.6 | 124.9 | 143.8 | 214.2 | 302.4 | 312.9 | 269.8 | 228.9 | 236.2 |
| 87.5° | 40.9 | 35.7 | 44.1 | 42.0 | 66.1 | 114.4 | 173.2 | 179.5 | 164.8 | 95.5 | 136.5 |
| 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)