

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: P882724

Luminaire Tested: **NAV-SB2D-727-U-SL4**

Issue Date: 10/7/2024

Test Information

Test Method: LM-79-08
Report Number: P882724
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2405-108-9)
Test Lab: INNOVATION CENTER
Issue Date: 10/7/2024
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: LUMARK
Catalog Number: NAV-SB2D-727-U-SL4
Description: NAVION ROADWAY AND AREA HIGH DENSITY LED LUMINAIRE
(2) 70 CRI, 2700K, 900mA LIGHTSQUARES WITH 26 LEDS EACH AND TYPE IV SPILL
LIGHT ELIMINATOR OPTICS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 18631 lumens
Efficiency: N/A
Efficacy: 126.2 lumens/watt
Luminous Opening: Rectangular (W 0.5' x L: 1' x H: 0')
IES Classification: Type IV - Medium
BUG Rating: B3 - U0 - G3

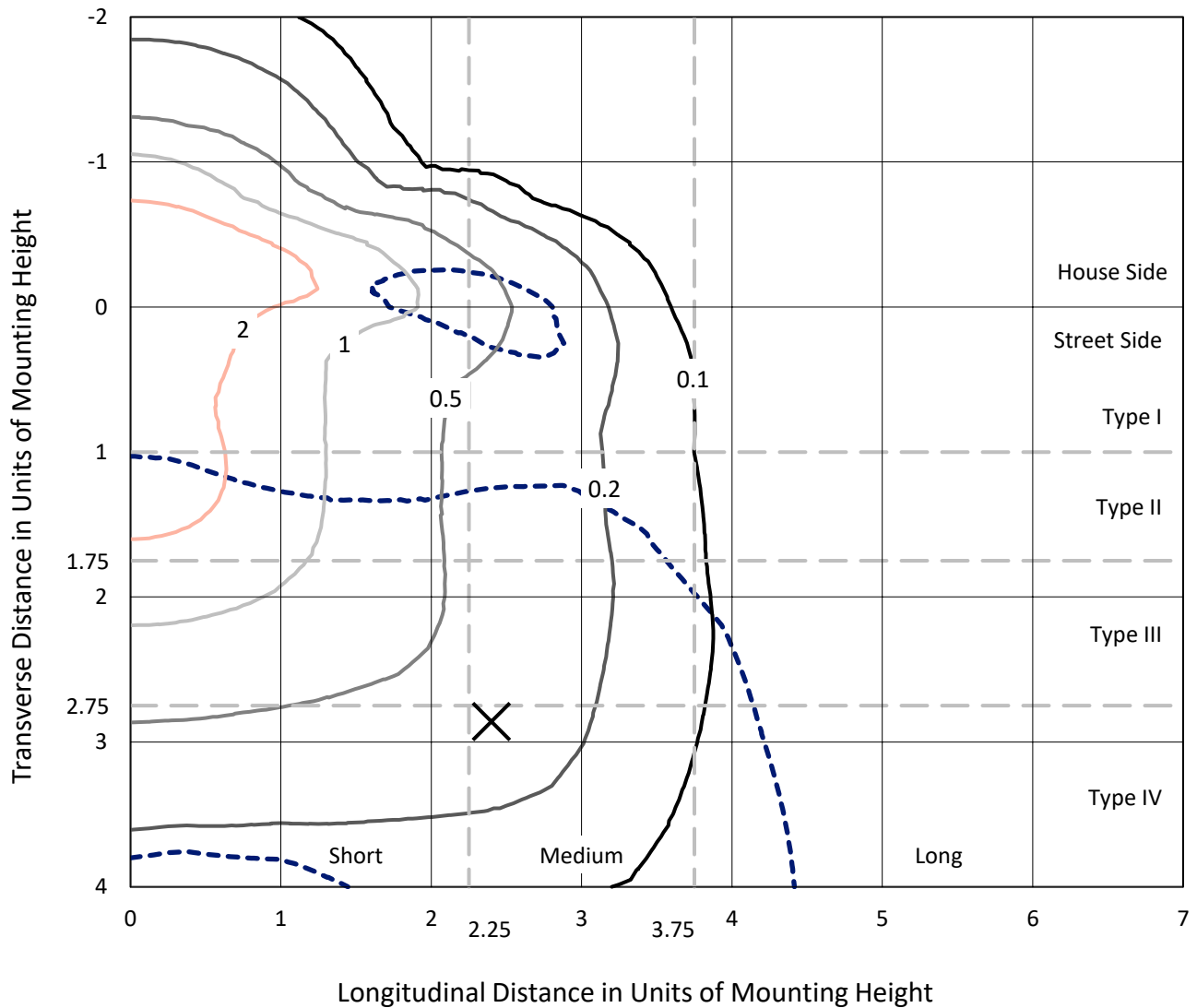
Input Watts (W): 147.6
Input Voltage (V): 120.0
Input Current (Ain): 1.234
Voltage Rise (V): NR
Power Factor: 0.999
Total Harmonic Distortion (THDi): 3.108
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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Iso-Footcandle Lines of Horizontal Illumination

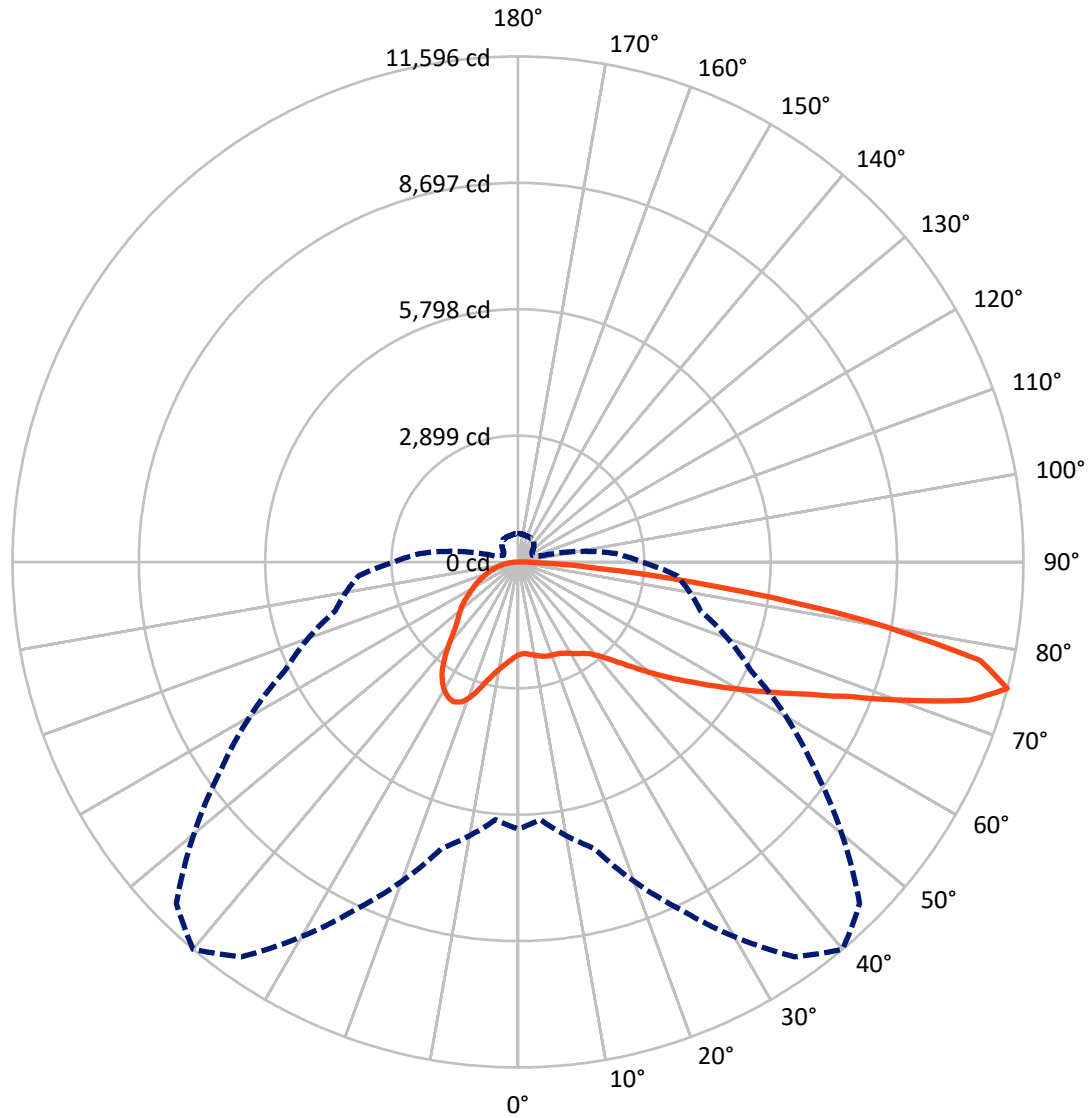
✕ Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 4.4 fc
 Type IV - Medium - N/A

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Luminous Intensity Polar Plot



— Vertical Plane Through 40-Deg Lateral - - - Horizontal Cone Through 75-Deg Vertical

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FLUX DISTRIBUTION:

| | | Downward | Upward | Total |
|--------------------|-----------|----------|--------|---------|
| House Side | Lumens | 5772.5 | 0.0 | 5772.5 |
| | % Fixture | 31.0 | 0.0 | 31.0 |
| Street Side | Lumens | 12858.5 | 0.0 | 12858.5 |
| | % Fixture | 69.0 | 0.0 | 69.0 |
| Total | Lumens | 18631.0 | 0.0 | 18631.0 |
| | % Fixture | 100.0 | 0.0 | 100.0 |

Coefficient of Utilization

ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|---------|-----------|
| 0°-10° | 212.7 | 1.1 |
| 10°-20° | 714.0 | 3.8 |
| 20°-30° | 1303.7 | 7.0 |
| 30°-40° | 1849.0 | 9.9 |
| 40°-50° | 2496.7 | 13.4 |
| 50°-60° | 3358.8 | 18.0 |
| 60°-70° | 4263.1 | 22.9 |
| 70°-80° | 3869.0 | 20.8 |
| 80°-90° | 564.0 | 3.0 |
| 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° | 18631.0 | 100.0 |
| 0°-180° | 18631.0 | 100.0 |



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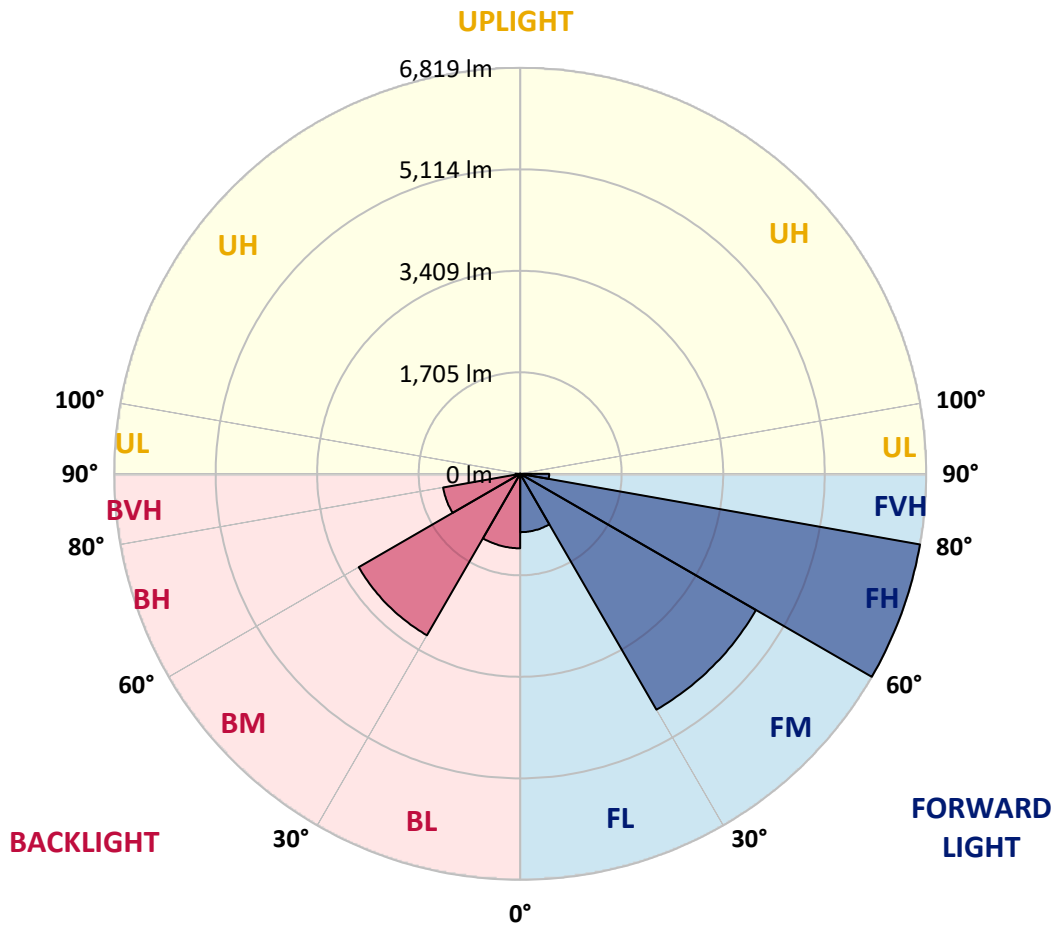
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

| Zone | | Lumens | % Fixture | Zone Rating/Lumen Limit | | |
|------|-------------|--------|-----------|-------------------------|------|---------|
| | | | | B | U | G |
| FL | (0°-30°) | 980.0 | 5.3 | | | |
| FM | (30°-60°) | 4573.5 | 24.5 | | | |
| FH | (60°-80°) | 6818.7 | 36.6 | | | G3/7500 |
| FVH | (80°-90°) | 486.3 | 2.6 | | | G3/500 |
| BL | (0°-30°) | 1250.4 | 6.7 | B3/2500 | | |
| BM | (30°-60°) | 3131.1 | 16.8 | B3/5000 | | |
| BH | (60°-80°) | 1313.4 | 7.0 | B3/2500 | | G3/2500 |
| BVH | (80°-90°) | 77.6 | 0.4 | | | G1/100 |
| UL | (90°-100°) | 0.0 | 0.0 | | U0/0 | |
| UH | (100°-180°) | 0.0 | 0.0 | | U0/0 | |

BUG Rating: B3-U0-G3

Type IV Medium



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CANDELA DISTRIBUTION (FULL):

| | 0° | 5° | 15° | 25° | 35° | 40° | 45° | 55° | 65° | 75° | 85° |
|-------|--------|--------|--------|--------|---------|---------|---------|--------|--------|--------|--------|
| 0° | 2130.5 | 2130.5 | 2130.5 | 2130.5 | 2130.5 | 2130.5 | 2130.5 | 2130.5 | 2130.5 | 2130.5 | 2130.5 |
| 2.5° | 2097.9 | 2109.7 | 2106.8 | 2102.8 | 2102.8 | 2103.8 | 2102.8 | 2109.7 | 2116.6 | 2123.6 | 2134.4 |
| 5° | 2119.6 | 2131.5 | 2125.5 | 2120.6 | 2116.6 | 2115.7 | 2112.7 | 2111.7 | 2115.7 | 2124.6 | 2139.4 |
| 7.5° | 2162.1 | 2174.0 | 2165.1 | 2156.2 | 2148.3 | 2144.3 | 2140.4 | 2134.4 | 2131.5 | 2136.4 | 2157.2 |
| 10° | 2209.5 | 2221.4 | 2210.5 | 2194.7 | 2181.9 | 2176.9 | 2173.0 | 2167.0 | 2163.1 | 2166.1 | 2188.8 |
| 12.5° | 2257.0 | 2268.8 | 2254.0 | 2232.3 | 2215.5 | 2212.5 | 2207.6 | 2205.6 | 2204.6 | 2203.6 | 2226.3 |
| 15° | 2301.4 | 2311.3 | 2292.5 | 2266.8 | 2249.1 | 2244.1 | 2239.2 | 2242.1 | 2247.1 | 2253.0 | 2278.7 |
| 17.5° | 2336.0 | 2345.9 | 2318.2 | 2284.6 | 2267.8 | 2265.9 | 2262.9 | 2272.8 | 2286.6 | 2301.4 | 2333.1 |
| 20° | 2367.6 | 2377.5 | 2341.9 | 2296.5 | 2276.7 | 2276.7 | 2277.7 | 2298.5 | 2318.2 | 2340.0 | 2383.4 |
| 22.5° | 2412.1 | 2420.0 | 2376.5 | 2314.3 | 2285.6 | 2287.6 | 2295.5 | 2316.3 | 2341.0 | 2370.6 | 2430.9 |
| 25° | 2478.3 | 2484.2 | 2430.9 | 2347.9 | 2315.3 | 2321.2 | 2328.1 | 2338.0 | 2361.7 | 2396.3 | 2477.3 |
| 27.5° | 2585.0 | 2590.0 | 2519.8 | 2407.2 | 2357.8 | 2367.6 | 2377.5 | 2370.6 | 2381.5 | 2411.1 | 2514.9 |
| 30° | 2735.2 | 2738.2 | 2649.3 | 2500.1 | 2429.9 | 2434.8 | 2436.8 | 2408.2 | 2387.4 | 2411.1 | 2541.6 |
| 32.5° | 2913.1 | 2912.1 | 2806.4 | 2612.7 | 2511.9 | 2507.0 | 2490.2 | 2433.8 | 2385.4 | 2406.2 | 2565.3 |
| 35° | 3188.8 | 3177.9 | 3041.6 | 2770.8 | 2604.8 | 2574.2 | 2534.6 | 2462.5 | 2395.3 | 2401.2 | 2586.0 |
| 37.5° | 3645.3 | 3611.7 | 3423.0 | 3029.7 | 2743.1 | 2665.1 | 2606.8 | 2508.9 | 2417.0 | 2399.3 | 2610.7 |
| 40° | 4160.2 | 4117.7 | 3910.2 | 3384.5 | 2950.7 | 2825.2 | 2731.3 | 2575.2 | 2452.6 | 2408.2 | 2647.3 |
| 42.5° | 4770.9 | 4710.6 | 4487.2 | 3802.5 | 3213.5 | 3031.7 | 2890.4 | 2659.1 | 2505.0 | 2436.8 | 2696.7 |
| 45° | 5520.9 | 5440.8 | 5124.6 | 4273.8 | 3544.5 | 3302.4 | 3113.7 | 2786.6 | 2585.0 | 2492.1 | 2770.8 |
| 47.5° | 6278.8 | 6298.6 | 5848.9 | 4813.3 | 3941.8 | 3636.4 | 3393.4 | 2978.3 | 2701.6 | 2581.1 | 2890.4 |
| 50° | 7084.1 | 7098.0 | 6569.3 | 5411.2 | 4392.4 | 4013.9 | 3707.6 | 3192.8 | 2863.7 | 2707.6 | 3069.2 |
| 52.5° | 7712.6 | 7714.6 | 7223.5 | 6036.7 | 4861.8 | 4428.9 | 4046.5 | 3437.8 | 3051.4 | 2875.6 | 3307.4 |
| 55° | 8105.9 | 8101.0 | 7682.0 | 6628.6 | 5401.3 | 4864.7 | 4422.0 | 3716.5 | 3280.7 | 3073.2 | 3606.8 |
| 57.5° | 8391.5 | 8376.7 | 7998.2 | 7137.5 | 5976.4 | 5379.6 | 4846.9 | 4032.7 | 3551.5 | 3308.4 | 4001.1 |
| 60° | 8500.2 | 8491.3 | 8212.6 | 7577.2 | 6581.2 | 5948.7 | 5337.1 | 4386.5 | 3858.8 | 3586.0 | 4508.0 |
| 62.5° | 8541.7 | 8558.5 | 8423.1 | 8003.1 | 7228.4 | 6579.2 | 5875.6 | 4809.4 | 4204.6 | 3900.3 | 5042.6 |
| 65° | 8687.9 | 8718.6 | 8690.9 | 8560.5 | 7959.7 | 7317.3 | 6590.1 | 5312.4 | 4582.1 | 4237.2 | 5600.9 |
| 67.5° | 8977.5 | 9008.1 | 9020.0 | 9227.5 | 8853.0 | 8237.3 | 7481.4 | 5938.9 | 5023.8 | 4587.1 | 6020.9 |
| 70° | 8970.5 | 8961.7 | 9171.1 | 9758.1 | 9971.6 | 9511.1 | 8683.0 | 6709.6 | 5550.5 | 4877.6 | 6074.2 |
| 72.5° | 8165.2 | 8094.0 | 8589.1 | 9752.2 | 10902.4 | 10841.1 | 10150.4 | 7703.7 | 6005.1 | 4913.1 | 5270.9 |
| 75° | 6125.6 | 5935.9 | 6810.4 | 8788.7 | 11057.5 | 11596.1 | 11083.2 | 8320.3 | 5897.4 | 4341.0 | 3668.1 |
| 77.5° | 2619.6 | 2428.9 | 3459.6 | 6506.1 | 9896.5 | 10840.1 | 10227.5 | 7259.0 | 4707.6 | 2870.6 | 1801.4 |
| 80° | 685.8 | 684.8 | 1045.5 | 2949.7 | 6730.4 | 8005.1 | 7022.9 | 4687.8 | 2689.8 | 1025.7 | 497.0 |
| 82.5° | 283.6 | 276.7 | 384.4 | 1147.3 | 3288.6 | 4492.2 | 3666.1 | 2091.0 | 971.4 | 277.7 | 165.0 |
| 85° | 105.7 | 104.7 | 186.8 | 396.3 | 1160.1 | 1852.8 | 1340.9 | 534.6 | 242.1 | 135.4 | 74.1 |
| 87.5° | 29.6 | 28.7 | 40.5 | 137.4 | 282.6 | 428.9 | 229.3 | 87.9 | 68.2 | 53.4 | 21.7 |
| 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° | 2130.5 | 2130.5 | 2130.5 | 2130.5 | 2130.5 | 2130.5 | 2130.5 | 2130.5 | 2130.5 | 2130.5 | 2130.5 |
| 2.5° | 2137.4 | 2142.3 | 2151.2 | 2158.1 | 2167.0 | 2176.9 | 2190.8 | 2199.7 | 2208.5 | 2214.5 | 2210.5 |
| 5° | 2146.3 | 2157.2 | 2179.9 | 2202.6 | 2229.3 | 2254.0 | 2282.7 | 2303.4 | 2320.2 | 2325.1 | 2327.1 |
| 7.5° | 2166.1 | 2183.8 | 2222.4 | 2260.9 | 2303.4 | 2343.9 | 2385.4 | 2421.0 | 2449.7 | 2460.5 | 2461.5 |
| 10° | 2200.6 | 2224.4 | 2278.7 | 2333.1 | 2389.4 | 2451.6 | 2505.0 | 2556.4 | 2596.9 | 2613.7 | 2614.7 |
| 12.5° | 2244.1 | 2273.8 | 2344.9 | 2420.0 | 2498.1 | 2584.0 | 2653.2 | 2716.5 | 2766.9 | 2789.6 | 2789.6 |
| 15° | 2300.4 | 2339.0 | 2429.9 | 2530.7 | 2645.3 | 2764.9 | 2852.8 | 2923.0 | 2979.3 | 3007.0 | 3005.0 |
| 17.5° | 2361.7 | 2413.1 | 2527.7 | 2679.9 | 2843.9 | 3001.1 | 3103.8 | 3155.2 | 3213.5 | 3240.2 | 3239.2 |
| 20° | 2421.0 | 2484.2 | 2648.3 | 2869.6 | 3088.0 | 3255.0 | 3338.0 | 3351.8 | 3355.8 | 3358.8 | 3366.7 |
| 22.5° | 2482.3 | 2567.2 | 2799.5 | 3108.8 | 3343.0 | 3458.6 | 3470.4 | 3411.1 | 3328.1 | 3289.6 | 3300.5 |
| 25° | 2549.5 | 2662.1 | 2997.1 | 3372.6 | 3562.3 | 3576.2 | 3485.3 | 3341.0 | 3183.9 | 3111.7 | 3122.6 |
| 27.5° | 2614.7 | 2771.8 | 3234.3 | 3624.6 | 3720.4 | 3598.9 | 3403.2 | 3198.7 | 3009.0 | 2932.9 | 2941.8 |
| 30° | 2679.9 | 2897.3 | 3496.1 | 3844.9 | 3792.6 | 3542.6 | 3273.8 | 3045.5 | 2854.8 | 2774.8 | 2783.7 |
| 32.5° | 2746.1 | 3043.5 | 3797.5 | 4004.0 | 3779.7 | 3423.0 | 3112.7 | 2873.6 | 2705.6 | 2621.6 | 2632.5 |
| 35° | 2821.2 | 3223.4 | 4083.1 | 4091.0 | 3693.8 | 3247.1 | 2900.3 | 2668.0 | 2521.8 | 2454.6 | 2469.4 |
| 37.5° | 2919.0 | 3451.7 | 4335.1 | 4112.7 | 3543.6 | 2989.2 | 2636.4 | 2425.0 | 2304.4 | 2273.8 | 2295.5 |
| 40° | 3040.6 | 3726.4 | 4527.8 | 4078.1 | 3321.2 | 2675.9 | 2347.9 | 2178.9 | 2110.7 | 2117.6 | 2141.3 |
| 42.5° | 3198.7 | 4033.7 | 4663.1 | 3989.2 | 3011.9 | 2352.8 | 2094.9 | 2019.8 | 2052.4 | 2080.1 | 2105.8 |
| 45° | 3404.2 | 4352.9 | 4747.1 | 3838.0 | 2662.1 | 2079.1 | 1945.7 | 1963.5 | 1988.2 | 1991.1 | 2010.9 |
| 47.5° | 3667.1 | 4676.0 | 4802.5 | 3609.8 | 2305.4 | 1886.4 | 1850.8 | 1854.8 | 1849.8 | 1829.1 | 1844.9 |
| 50° | 3995.1 | 4990.2 | 4851.9 | 3307.4 | 2002.0 | 1765.8 | 1718.4 | 1704.6 | 1636.4 | 1569.2 | 1578.1 |
| 52.5° | 4368.7 | 5278.8 | 4872.6 | 2931.9 | 1765.8 | 1665.1 | 1588.0 | 1501.0 | 1373.5 | 1352.8 | 1359.7 |
| 55° | 4783.7 | 5545.6 | 4819.3 | 2470.4 | 1567.2 | 1535.6 | 1419.0 | 1314.3 | 1300.4 | 1282.6 | 1285.6 |
| 57.5° | 5279.8 | 5833.1 | 4710.6 | 1955.6 | 1363.7 | 1384.4 | 1270.8 | 1282.6 | 1257.9 | 1230.3 | 1225.3 |
| 60° | 5822.3 | 6130.6 | 4519.9 | 1486.2 | 1153.2 | 1195.7 | 1232.2 | 1231.3 | 1224.3 | 1201.6 | 1193.7 |
| 62.5° | 6310.4 | 6326.2 | 4144.4 | 1138.4 | 968.4 | 1049.4 | 1149.2 | 1148.2 | 1142.3 | 1129.5 | 1124.5 |
| 65° | 6600.9 | 6296.6 | 3517.9 | 896.3 | 816.2 | 928.9 | 1036.6 | 1044.5 | 1045.5 | 1044.5 | 1044.5 |
| 67.5° | 6549.5 | 5949.7 | 2658.2 | 713.5 | 690.7 | 806.3 | 924.9 | 935.8 | 943.7 | 945.7 | 947.6 |
| 70° | 5968.5 | 5187.9 | 1733.2 | 569.2 | 579.1 | 698.6 | 819.2 | 830.1 | 837.0 | 844.9 | 848.8 |
| 72.5° | 4652.3 | 3814.3 | 992.1 | 460.5 | 481.2 | 605.7 | 714.4 | 727.3 | 731.2 | 746.1 | 752.0 |
| 75° | 2835.0 | 2243.1 | 535.6 | 362.7 | 395.3 | 517.8 | 610.7 | 625.5 | 632.4 | 650.2 | 652.2 |
| 77.5° | 1347.9 | 971.4 | 305.3 | 282.6 | 318.2 | 422.9 | 515.8 | 532.6 | 513.8 | 523.7 | 515.8 |
| 80° | 455.5 | 360.7 | 192.7 | 215.4 | 243.1 | 330.0 | 413.1 | 429.9 | 390.3 | 388.3 | 384.4 |
| 82.5° | 159.1 | 146.2 | 122.5 | 143.3 | 157.1 | 236.2 | 312.3 | 334.0 | 290.5 | 289.5 | 275.7 |
| 85° | 62.3 | 59.3 | 68.2 | 78.1 | 93.9 | 145.3 | 205.5 | 216.4 | 178.9 | 144.3 | 142.3 |
| 87.5° | 12.8 | 13.8 | 16.8 | 17.8 | 28.7 | 50.4 | 74.1 | 90.9 | 72.1 | 61.3 | 56.3 |
| 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)