

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: P882108

Luminaire Tested: **NAV-SB1D-827-U-T3-HSS**

Issue Date: 10/7/2024

**Test Information**

Test Method: LM-79-08  
Report Number: P882108  
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-SB1D-827-U-T3-HSS  
Description: NAVION ROADWAY AND AREA HIGH DENSITY LED LUMINAIRE  
(1) 80 CRI, 2700K, 900mA LIGHTSQUARE WITH 26 LEDS AND TYPE III OPTICS  
WITH HOUSE SIDE SHIELD  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

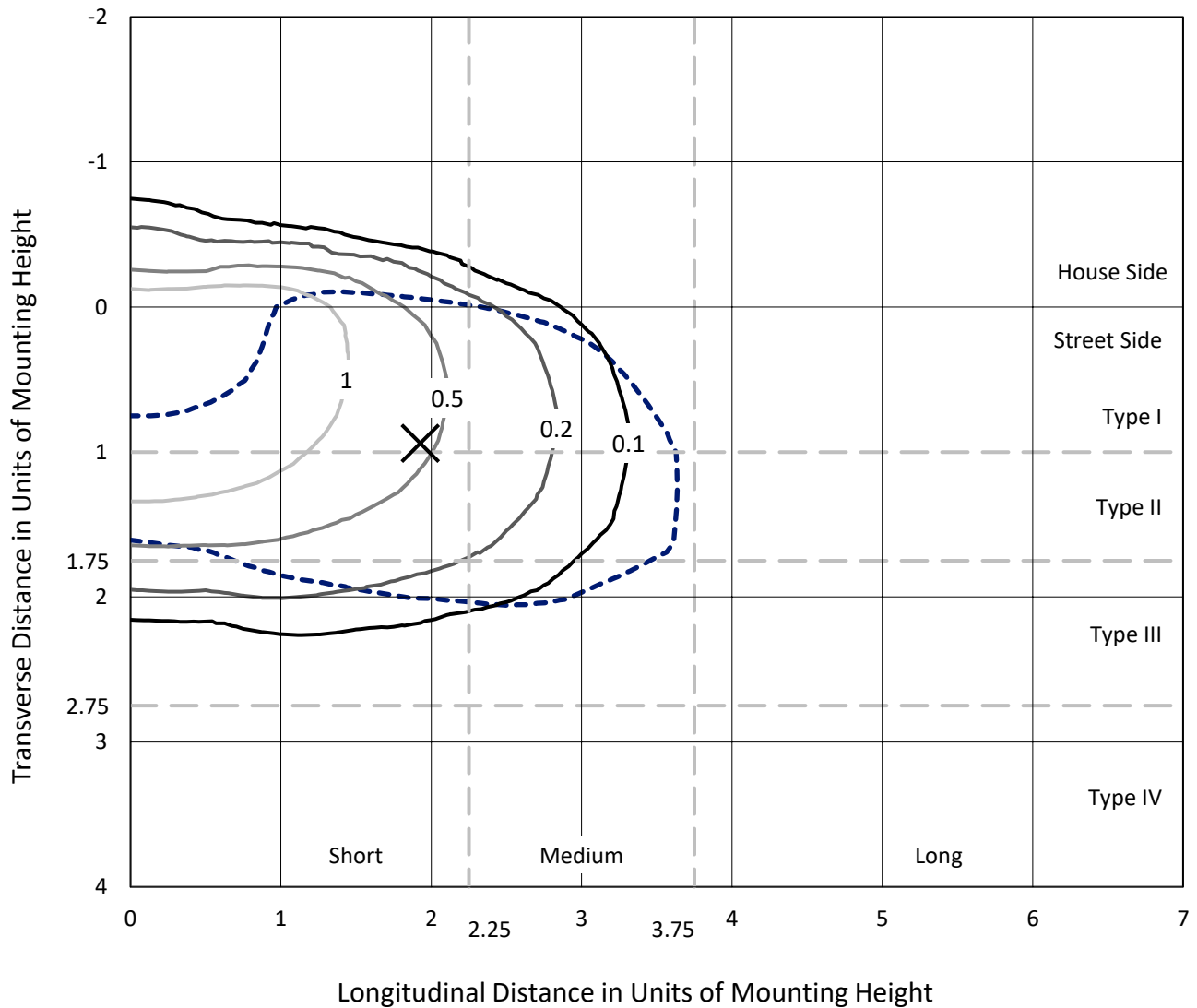
Lumens per Lamp: N/A  
Luminaire Lumens: 6490 lumens  
Efficiency: N/A  
Efficacy: 81.5 lumens/watt  
Luminous Opening: Rectangular (W 0.5' x L: 0.5' x H: 0')  
IES Classification: Type III - Short  
BUG Rating: B1 - U0 - G2  
  
Input Watts (W): 79.6  
Input Voltage (V): 120.0  
Input Current (Ain): 0.638  
Voltage Rise (V): NR  
Power Factor: 0.997  
Total Harmonic Distortion (THDi): 6.673  
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

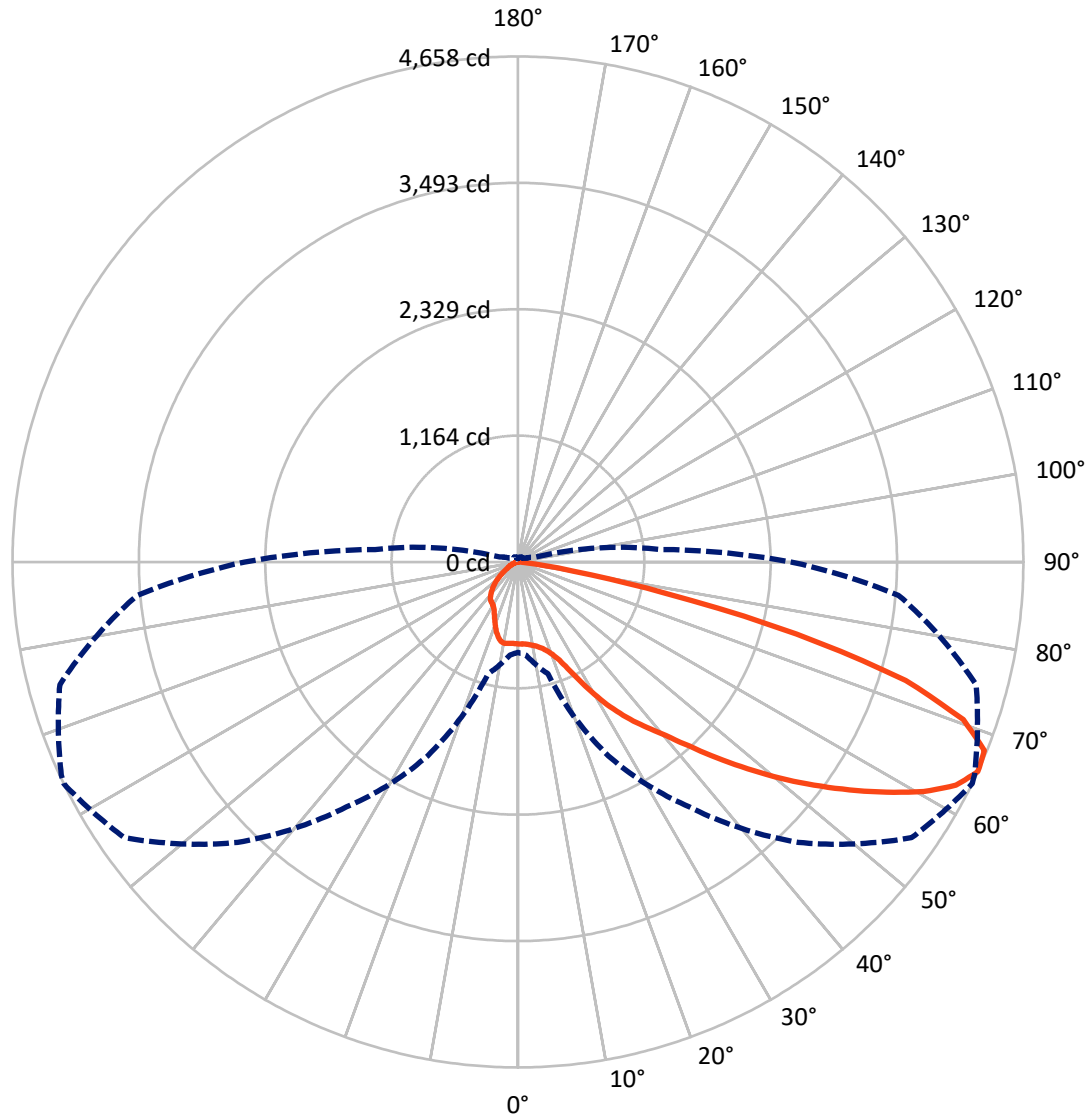
✕ Max cd  
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 1.9 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  |
|--------------------|-----------|----------|--------|--------|
| <b>House Side</b>  | Lumens    | 867.9    | 0.0    | 867.9  |
|                    | % Fixture | 13.4     | 0.0    | 13.4   |
| <b>Street Side</b> | Lumens    | 5622.1   | 0.0    | 5622.1 |
|                    | % Fixture | 86.6     | 0.0    | 86.6   |
| <b>Total</b>       | Lumens    | 6490.0   | 0.0    | 6490.0 |
|                    | % Fixture | 100.0    | 0.0    | 100.0  |

**ZONAL LUMENS:**

| Zone      | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10°    | 69.6   | 1.1       |
| 10°-20°   | 188.9  | 2.9       |
| 20°-30°   | 357.9  | 5.5       |
| 30°-40°   | 724.3  | 11.2      |
| 40°-50°   | 1233.8 | 19.0      |
| 50°-60°   | 1677.9 | 25.9      |
| 60°-70°   | 1575.6 | 24.3      |
| 70°-80°   | 631.3  | 9.7       |
| 80°-90°   | 30.6   | 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°    | 6490.0 | 100.0     |
| 0°-180°   | 6490.0 | 100.0     |

**Coefficient of Utilization**



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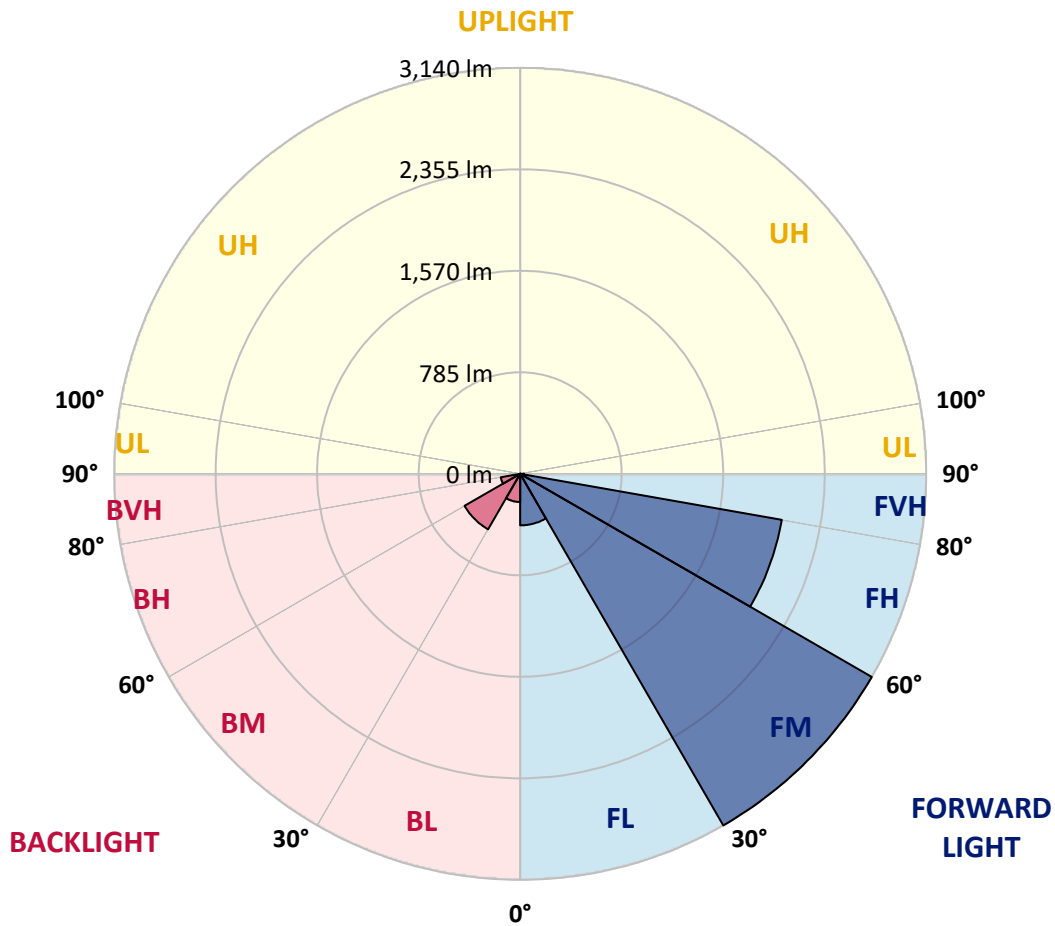
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**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

| Zone           | Lumens | % Fixture | Zone Rating/Lumen Limit |      |         |
|----------------|--------|-----------|-------------------------|------|---------|
|                |        |           | B                       | U    | G       |
| FL (0°-30°)    | 398.6  | 6.1       |                         |      |         |
| FM (30°-60°)   | 3139.9 | 48.4      |                         |      |         |
| FH (60°-80°)   | 2054.6 | 31.7      |                         |      | G2/5000 |
| FVH (80°-90°)  | 29.1   | 0.4       |                         |      | G1/100  |
| BL (0°-30°)    | 217.9  | 3.4       | B1/500                  |      |         |
| BM (30°-60°)   | 496.2  | 7.6       | B1/1000                 |      |         |
| BH (60°-80°)   | 152.3  | 2.3       | B1/500                  |      | G1/500  |
| BVH (80°-90°)  | 1.5    | 0.0       |                         |      | G0/10   |
| UL (90°-100°)  | 0.0    | 0.0       |                         | U0/0 |         |
| UH (100°-180°) | 0.0    | 0.0       |                         | U0/0 |         |

**BUG Rating: B1-U0-G2**

Type III Short



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**CANDELA DISTRIBUTION (FULL):**

|       | 0°     | 5°     | 15°    | 25°    | 35°    | 45°    | 55°    | 64°    | 65°    | 75°    | 85°    |
|-------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 0°    | 754.9  | 754.9  | 754.9  | 754.9  | 754.9  | 754.9  | 754.9  | 754.9  | 754.9  | 754.9  | 754.9  |
| 2.5°  | 752.2  | 757.5  | 756.2  | 754.9  | 754.4  | 755.3  | 755.7  | 755.3  | 755.3  | 755.3  | 755.7  |
| 5°    | 737.9  | 742.2  | 742.2  | 745.3  | 749.6  | 754.9  | 758.8  | 759.6  | 760.5  | 761.8  | 761.4  |
| 7.5°  | 710.5  | 714.0  | 716.6  | 726.6  | 737.5  | 751.4  | 763.1  | 769.2  | 770.1  | 774.9  | 776.6  |
| 10°   | 691.8  | 696.1  | 700.5  | 710.9  | 726.6  | 747.5  | 767.5  | 782.3  | 784.4  | 795.8  | 801.0  |
| 12.5° | 690.9  | 695.2  | 700.9  | 712.2  | 730.5  | 752.7  | 777.0  | 798.4  | 802.3  | 818.8  | 829.7  |
| 15°   | 700.0  | 705.3  | 710.5  | 724.4  | 744.0  | 771.0  | 797.1  | 823.6  | 827.5  | 851.0  | 862.8  |
| 17.5° | 718.7  | 725.7  | 729.6  | 743.5  | 764.4  | 794.4  | 828.8  | 859.3  | 862.8  | 890.2  | 905.0  |
| 20°   | 755.7  | 764.0  | 765.3  | 776.6  | 797.1  | 829.3  | 870.1  | 908.0  | 912.4  | 943.7  | 960.2  |
| 22.5° | 832.3  | 844.0  | 833.6  | 839.3  | 857.5  | 889.7  | 934.1  | 982.0  | 988.1  | 1023.7 | 1038.5 |
| 25°   | 967.2  | 983.7  | 956.7  | 947.2  | 955.0  | 988.5  | 1044.2 | 1104.7 | 1111.6 | 1140.3 | 1147.7 |
| 27.5° | 1232.1 | 1210.8 | 1169.9 | 1129.9 | 1106.4 | 1125.5 | 1188.2 | 1263.0 | 1271.7 | 1299.6 | 1290.9 |
| 30°   | 1523.2 | 1504.5 | 1449.2 | 1360.5 | 1304.8 | 1301.7 | 1359.6 | 1443.1 | 1453.1 | 1479.7 | 1453.1 |
| 32.5° | 1814.7 | 1796.9 | 1736.8 | 1627.6 | 1531.0 | 1483.2 | 1523.2 | 1615.9 | 1621.1 | 1638.1 | 1598.9 |
| 35°   | 2101.4 | 2083.1 | 2023.1 | 1911.3 | 1792.5 | 1683.7 | 1675.9 | 1780.3 | 1782.1 | 1799.9 | 1741.6 |
| 37.5° | 2389.9 | 2374.6 | 2310.7 | 2201.0 | 2084.0 | 1933.9 | 1861.2 | 1936.1 | 1938.3 | 1955.7 | 1895.2 |
| 40°   | 2595.7 | 2602.2 | 2558.2 | 2473.4 | 2372.9 | 2208.9 | 2069.2 | 2101.8 | 2088.8 | 2117.9 | 2081.8 |
| 42.5° | 2772.3 | 2785.3 | 2747.1 | 2704.4 | 2646.1 | 2501.7 | 2326.8 | 2321.1 | 2300.2 | 2315.9 | 2278.5 |
| 45°   | 2925.0 | 2935.9 | 2901.5 | 2891.5 | 2890.2 | 2788.8 | 2608.3 | 2574.3 | 2545.2 | 2542.1 | 2497.3 |
| 47.5° | 2981.1 | 3002.0 | 3016.8 | 3050.3 | 3115.6 | 3072.9 | 2899.3 | 2846.7 | 2814.1 | 2790.1 | 2719.2 |
| 50°   | 3002.4 | 3024.6 | 3075.1 | 3172.6 | 3327.0 | 3345.3 | 3189.1 | 3129.9 | 3089.9 | 3046.4 | 2942.0 |
| 52.5° | 2973.7 | 3013.3 | 3081.2 | 3245.2 | 3469.3 | 3563.7 | 3467.1 | 3415.3 | 3369.7 | 3298.7 | 3143.8 |
| 55°   | 2804.5 | 2844.1 | 2982.9 | 3244.4 | 3540.2 | 3716.8 | 3729.9 | 3706.8 | 3655.5 | 3543.7 | 3307.0 |
| 57.5° | 2447.7 | 2506.5 | 2726.2 | 3133.8 | 3538.9 | 3848.7 | 3987.5 | 4004.0 | 3946.6 | 3786.5 | 3435.3 |
| 60°   | 1953.5 | 2033.1 | 2301.1 | 2888.9 | 3429.7 | 3920.0 | 4213.3 | 4295.9 | 4235.0 | 4025.7 | 3539.3 |
| 62.5° | 1363.1 | 1455.3 | 1709.0 | 2505.2 | 3180.0 | 3868.7 | 4378.2 | 4530.9 | 4484.7 | 4239.8 | 3579.4 |
| 65°   | 831.4  | 861.0  | 1065.5 | 1971.3 | 2755.3 | 3653.8 | 4429.1 | 4657.9 | 4642.7 | 4370.8 | 3520.2 |
| 67.5° | 553.8  | 578.6  | 637.4  | 1351.8 | 2138.8 | 3224.3 | 4307.2 | 4635.7 | 4640.1 | 4349.4 | 3303.5 |
| 70°   | 333.7  | 355.0  | 393.3  | 786.2  | 1386.1 | 2552.1 | 3930.0 | 4352.9 | 4378.2 | 4064.5 | 2892.8 |
| 72.5° | 137.5  | 151.8  | 186.6  | 356.3  | 717.9  | 1619.8 | 3129.5 | 3737.3 | 3796.0 | 3417.5 | 2220.2 |
| 75°   | 77.9   | 85.3   | 109.6  | 178.8  | 311.5  | 754.9  | 1895.6 | 2653.1 | 2739.7 | 2355.5 | 1335.7 |
| 77.5° | 51.8   | 55.3   | 70.9   | 115.7  | 175.3  | 257.6  | 810.1  | 1382.2 | 1547.6 | 1286.5 | 578.2  |
| 80°   | 34.8   | 37.9   | 48.7   | 77.4   | 114.0  | 110.5  | 258.0  | 512.1  | 630.0  | 442.0  | 141.0  |
| 82.5° | 23.5   | 23.9   | 34.8   | 50.9   | 72.2   | 53.5   | 76.1   | 159.2  | 200.1  | 127.9  | 53.5   |
| 85°   | 13.5   | 13.1   | 25.7   | 29.6   | 32.2   | 22.2   | 23.1   | 47.9   | 62.7   | 53.9   | 30.5   |
| 87.5° | 1.7    | 2.6    | 10.0   | 7.8    | 4.4    | 4.8    | 4.8    | 8.3    | 12.2   | 13.1   | 6.5    |
| 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°    | 754.9  | 754.9  | 754.9 | 754.9 | 754.9 | 754.9 | 754.9 | 754.9 | 754.9 | 754.9 | 754.9 |
| 2.5°  | 755.7  | 755.3  | 754.0 | 752.7 | 749.6 | 747.9 | 748.8 | 747.9 | 747.5 | 747.9 | 749.6 |
| 5°    | 761.4  | 760.1  | 756.6 | 752.2 | 746.2 | 738.8 | 734.0 | 727.0 | 720.5 | 716.6 | 717.4 |
| 7.5°  | 776.6  | 775.3  | 770.5 | 758.3 | 738.8 | 707.9 | 679.6 | 654.8 | 636.1 | 625.2 | 625.6 |
| 10°   | 801.0  | 798.8  | 791.4 | 764.4 | 713.1 | 645.7 | 589.5 | 543.0 | 512.5 | 498.2 | 496.9 |
| 12.5° | 829.7  | 827.1  | 814.0 | 758.8 | 664.4 | 559.1 | 481.6 | 429.9 | 401.6 | 389.0 | 387.7 |
| 15°   | 863.6  | 860.1  | 834.5 | 731.8 | 593.4 | 463.4 | 392.4 | 353.7 | 335.4 | 324.1 | 324.6 |
| 17.5° | 905.8  | 899.7  | 849.7 | 691.3 | 516.4 | 390.3 | 337.6 | 308.5 | 292.4 | 281.5 | 280.6 |
| 20°   | 960.6  | 950.6  | 861.9 | 643.0 | 445.5 | 344.1 | 300.6 | 276.3 | 264.1 | 254.5 | 252.8 |
| 22.5° | 1037.2 | 1022.9 | 876.7 | 590.8 | 395.5 | 312.4 | 273.2 | 255.4 | 245.4 | 234.5 | 232.8 |
| 25°   | 1132.1 | 1115.1 | 894.9 | 542.5 | 361.1 | 285.0 | 253.2 | 238.4 | 226.7 | 214.1 | 212.8 |
| 27.5° | 1264.8 | 1234.3 | 916.7 | 502.9 | 331.5 | 261.5 | 234.9 | 218.4 | 204.9 | 194.5 | 192.3 |
| 30°   | 1412.7 | 1362.7 | 935.8 | 479.0 | 304.6 | 239.7 | 211.0 | 194.5 | 181.9 | 174.5 | 173.2 |
| 32.5° | 1552.8 | 1484.9 | 948.5 | 468.6 | 280.2 | 214.9 | 184.9 | 167.1 | 157.5 | 155.3 | 156.6 |
| 35°   | 1685.0 | 1595.4 | 947.2 | 458.6 | 258.4 | 190.1 | 159.2 | 141.0 | 133.6 | 134.9 | 134.9 |
| 37.5° | 1837.3 | 1713.3 | 938.0 | 442.9 | 240.6 | 167.5 | 137.0 | 121.0 | 114.4 | 114.9 | 116.6 |
| 40°   | 2014.4 | 1849.5 | 932.4 | 413.3 | 221.0 | 146.6 | 118.8 | 105.7 | 100.9 | 99.2  | 98.8  |
| 42.5° | 2203.2 | 1981.3 | 933.2 | 379.8 | 196.7 | 127.9 | 106.2 | 95.3  | 90.9  | 89.6  | 89.2  |
| 45°   | 2392.9 | 2107.1 | 934.5 | 345.0 | 171.0 | 113.6 | 97.0  | 87.9  | 85.3  | 83.5  | 83.5  |
| 47.5° | 2571.3 | 2214.1 | 910.2 | 307.6 | 145.7 | 102.7 | 89.6  | 83.5  | 81.4  | 79.2  | 79.2  |
| 50°   | 2737.5 | 2285.4 | 851.4 | 264.1 | 125.7 | 94.0  | 84.0  | 79.6  | 77.4  | 75.3  | 75.3  |
| 52.5° | 2866.7 | 2296.8 | 754.4 | 219.3 | 111.8 | 87.4  | 80.5  | 76.6  | 74.0  | 71.8  | 71.4  |
| 55°   | 2924.1 | 2225.8 | 616.5 | 177.5 | 100.9 | 81.8  | 77.0  | 73.1  | 70.0  | 67.9  | 67.4  |
| 57.5° | 2909.3 | 2076.6 | 480.8 | 142.7 | 90.5  | 76.1  | 72.7  | 70.0  | 66.6  | 63.1  | 62.7  |
| 60°   | 2836.7 | 1876.9 | 362.4 | 118.8 | 80.9  | 70.0  | 67.9  | 65.7  | 60.9  | 55.7  | 54.8  |
| 62.5° | 2710.9 | 1625.9 | 258.4 | 98.3  | 70.5  | 63.1  | 62.2  | 60.5  | 53.5  | 43.9  | 43.1  |
| 65°   | 2518.6 | 1320.9 | 174.0 | 81.8  | 60.5  | 55.3  | 55.7  | 52.6  | 43.5  | 32.6  | 31.8  |
| 67.5° | 2237.6 | 965.9  | 111.4 | 67.0  | 50.5  | 46.1  | 46.6  | 44.8  | 37.0  | 27.8  | 26.5  |
| 70°   | 1879.5 | 639.6  | 72.7  | 50.9  | 40.5  | 35.7  | 38.3  | 38.7  | 31.3  | 22.6  | 21.8  |
| 72.5° | 1377.9 | 377.6  | 50.9  | 37.9  | 29.6  | 24.8  | 31.3  | 32.2  | 25.2  | 17.0  | 16.1  |
| 75°   | 785.3  | 179.3  | 38.3  | 27.4  | 18.3  | 17.4  | 24.4  | 24.4  | 17.4  | 11.3  | 10.4  |
| 77.5° | 329.8  | 74.8   | 27.0  | 17.8  | 10.4  | 10.0  | 16.5  | 15.2  | 8.7   | 5.2   | 5.2   |
| 80°   | 95.3   | 33.5   | 14.4  | 8.7   | 4.4   | 3.9   | 6.5   | 4.8   | 2.2   | 0.9   | 0.9   |
| 82.5° | 37.4   | 14.8   | 5.7   | 3.5   | 1.7   | 1.7   | 0.9   | 0.0   | 0.0   | 0.0   | 0.0   |
| 85°   | 22.2   | 6.1    | 2.6   | 1.3   | 0.4   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |
| 87.5° | 5.7    | 1.3    | 0.9   | 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)