

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: P270429

Luminaire Tested: **NAV-AF-03-D-UNV-SL2-7027-800-HSS**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P270429  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P24258)  
Test Lab: INNOVATION CENTER P2  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: LUMARK  
Catalog Number: NAV-AF-03-D-UNV-SL2-7027-800-HSS  
Description: NAVION ROADWAY AND AREA LUMINAIRE  
(3) 70 CRI, 2700K, 800mA LIGHTSQUARES WITH 16 LEDS EACH AND TYPE II SPILL  
LIGHT ELIMINATOR OPTICS WITH HOUSE SIDE SHIELD  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 10372.3 lumens  
Efficiency: N/A  
Efficacy: 83.6 lumens/watt  
Luminous Opening: Rectangular (W 0.5' x L: 1.5' x H: 0')  
IES Classification: Type II - Medium - Semi-Cutoff  
BUG Rating: B1 - U0 - G2

Input Watts (W): 124  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT

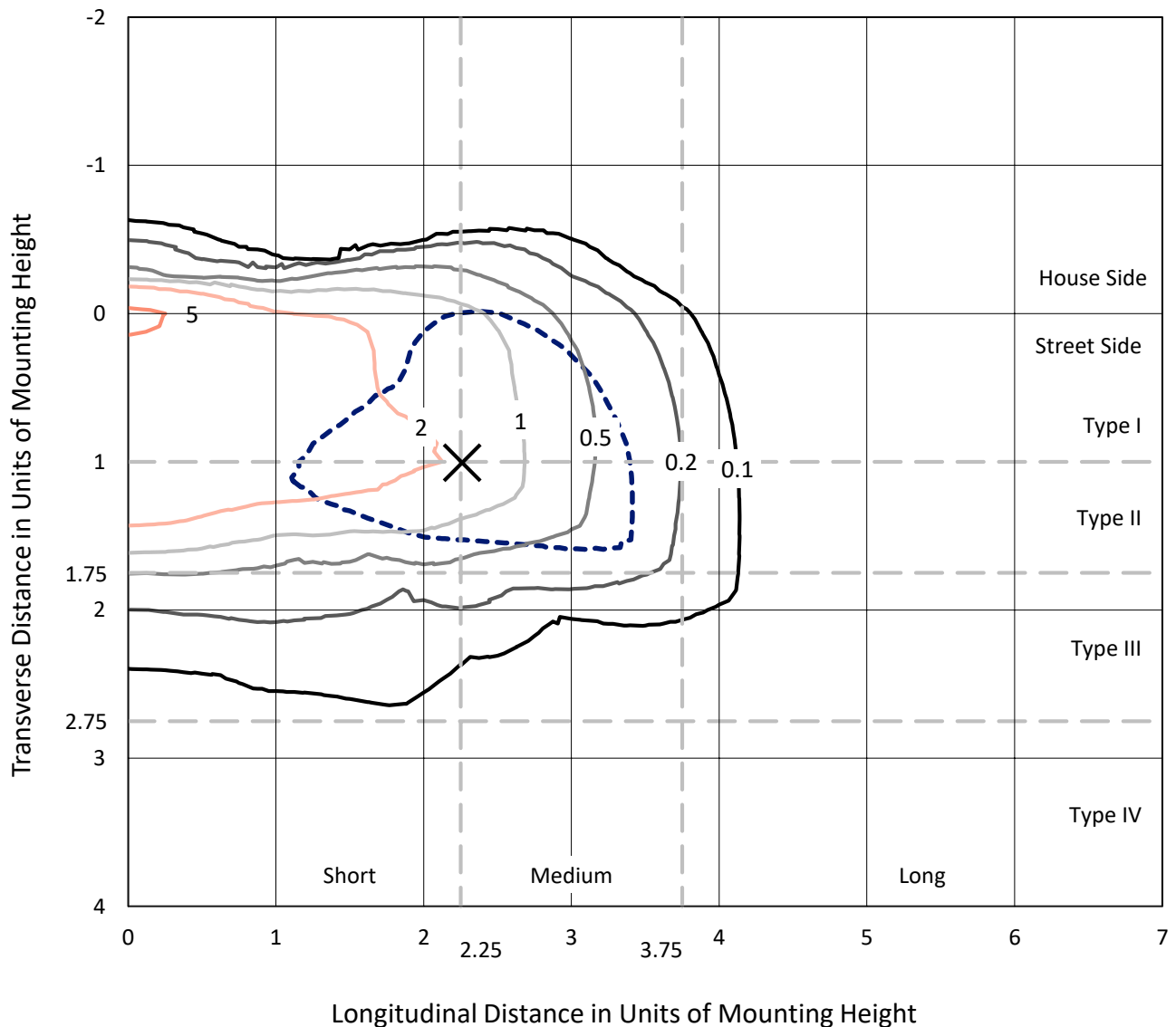


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### Iso-Footcandle Lines of Horizontal Illumination

✕ Max cd  
 - - - 1/2 Max cd

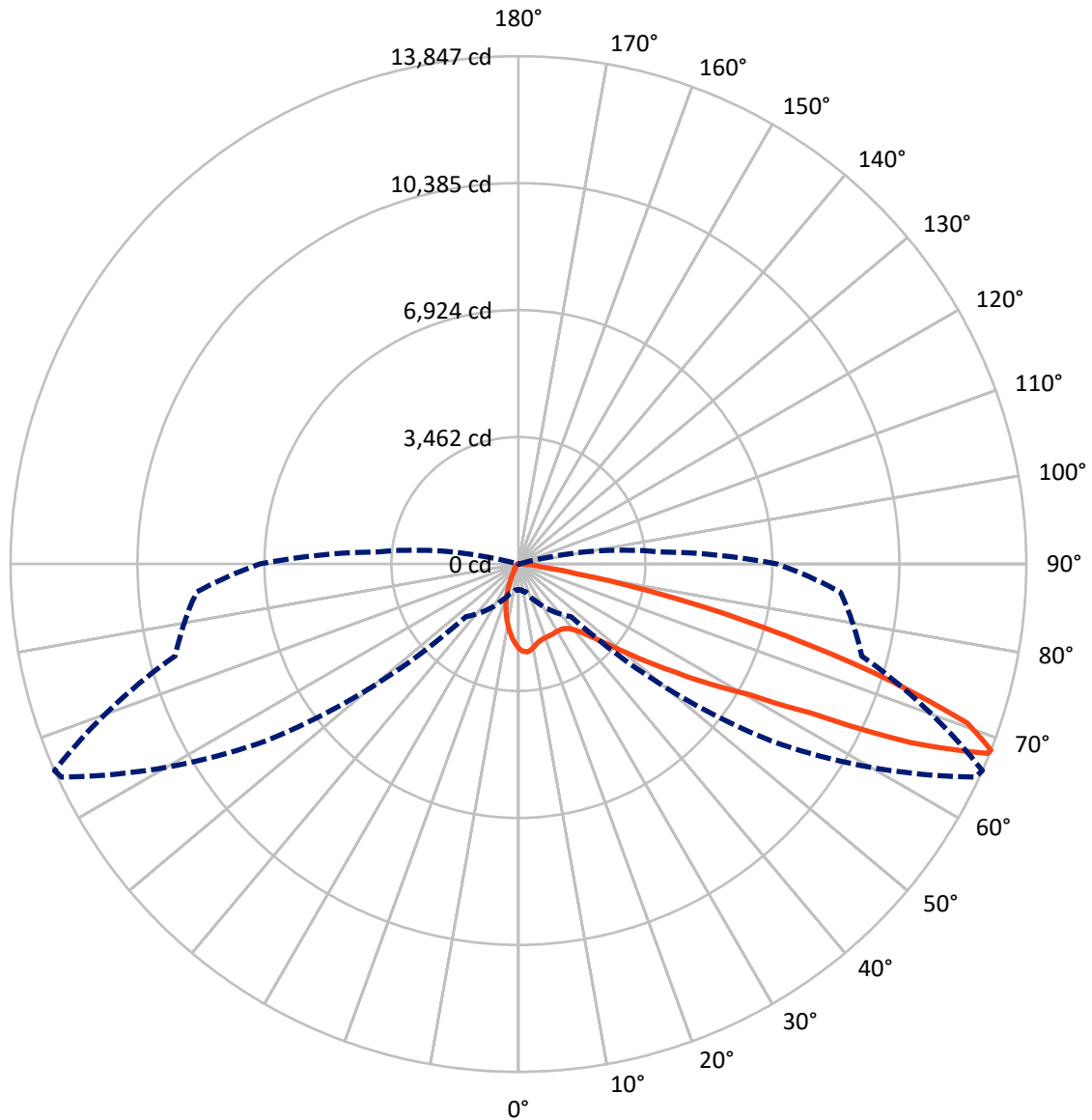


Based on 20 foot mounting height. Maximum calculated value = 5.8 fc  
 Type II - Medium - Semi-Cutoff

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### Luminous Intensity Polar Plot



— Vertical Plane Through 66-Deg Lateral    - - - Horizontal Cone Through 68-Deg Vertical

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**FLUX DISTRIBUTION:**

|                    |           | Downward | Upward | Total   |
|--------------------|-----------|----------|--------|---------|
| <b>House Side</b>  | Lumens    | 1050.6   | 0.0    | 1050.6  |
|                    | % Fixture | 10.1     | 0.0    | 10.1    |
| <b>Street Side</b> | Lumens    | 9321.7   | 0.0    | 9321.7  |
|                    | % Fixture | 89.9     | 0.0    | 89.9    |
| <b>Total</b>       | Lumens    | 10372.3  | 0.0    | 10372.3 |
|                    | % Fixture | 100.0    | 0.0    | 100.0   |

**ZONAL LUMENS:**

| Zone      | Lumens  | % Fixture |
|-----------|---------|-----------|
| 0°-10°    | 189.4   | 1.8       |
| 10°-20°   | 407.6   | 3.9       |
| 20°-30°   | 590.7   | 5.7       |
| 30°-40°   | 904.2   | 8.7       |
| 40°-50°   | 1546.5  | 14.9      |
| 50°-60°   | 2419.2  | 23.3      |
| 60°-70°   | 2785.7  | 26.9      |
| 70°-80°   | 1394.0  | 13.4      |
| 80°-90°   | 135.0   | 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°    | 10372.3 | 100.0     |
| 0°-180°   | 10372.3 | 100.0     |

**Coefficient of Utilization**



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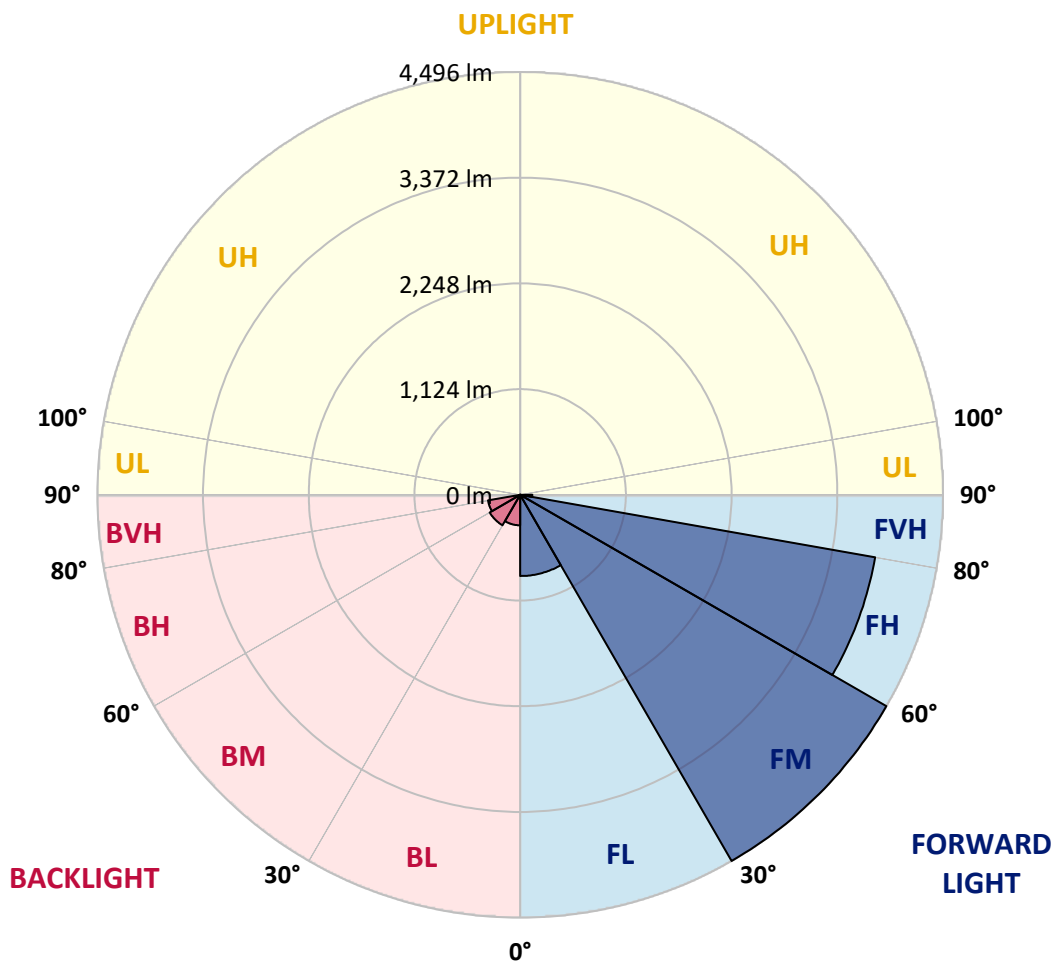
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**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

| Zone           | Lumens | % Fixture | Zone Rating/Lumen Limit |      |         |
|----------------|--------|-----------|-------------------------|------|---------|
|                |        |           | B                       | U    | G       |
| FL (0°-30°)    | 863.4  | 8.3       |                         |      |         |
| FM (30°-60°)   | 4495.8 | 43.3      |                         |      |         |
| FH (60°-80°)   | 3832.5 | 36.9      |                         |      | G2/5000 |
| FVH (80°-90°)  | 129.9  | 1.3       |                         |      | G2/225  |
| BL (0°-30°)    | 324.3  | 3.1       | B1/500                  |      |         |
| BM (30°-60°)   | 374.1  | 3.6       | B1/1000                 |      |         |
| BH (60°-80°)   | 347.1  | 3.3       | B1/500                  |      | G1/500  |
| BVH (80°-90°)  | 5.1    | 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 II Medium





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**CANDELA DISTRIBUTION (FULL):**

|       | 0°     | 5°     | 15°    | 25°    | 35°    | 45°    | 55°    | 65°     | 66°     | 75°    | 85°    |
|-------|--------|--------|--------|--------|--------|--------|--------|---------|---------|--------|--------|
| 0°    | 2310.9 | 2310.9 | 2310.9 | 2310.9 | 2310.9 | 2310.9 | 2310.9 | 2310.9  | 2310.9  | 2310.9 | 2310.9 |
| 2.5°  | 2430.5 | 2432.3 | 2431.4 | 2433.8 | 2432.3 | 2419.9 | 2406.9 | 2379.3  | 2381.6  | 2345.8 | 2305.9 |
| 5°    | 2259.5 | 2273.4 | 2287.3 | 2301.1 | 2334.4 | 2363.8 | 2398.7 | 2406.9  | 2406.9  | 2375.9 | 2317.4 |
| 7.5°  | 2085.2 | 2086.1 | 2101.6 | 2120.3 | 2165.1 | 2218.9 | 2300.3 | 2373.5  | 2375.2  | 2383.4 | 2319.0 |
| 10°   | 1954.3 | 1958.2 | 1968.8 | 1989.2 | 2034.0 | 2086.9 | 2178.1 | 2293.0  | 2301.8  | 2362.2 | 2302.7 |
| 12.5° | 1852.5 | 1857.3 | 1868.7 | 1892.3 | 1933.1 | 1987.6 | 2083.7 | 2214.9  | 2227.0  | 2341.8 | 2297.9 |
| 15°   | 1774.2 | 1780.8 | 1789.8 | 1813.4 | 1857.3 | 1915.1 | 2020.2 | 2162.7  | 2177.3  | 2333.6 | 2313.2 |
| 17.5° | 1741.6 | 1741.6 | 1740.8 | 1757.2 | 1801.1 | 1859.8 | 1969.7 | 2135.0  | 2153.6  | 2340.2 | 2339.4 |
| 20°   | 1755.6 | 1753.1 | 1736.0 | 1731.9 | 1758.8 | 1817.5 | 1929.7 | 2117.0  | 2138.2  | 2352.4 | 2371.0 |
| 22.5° | 1828.8 | 1823.9 | 1785.7 | 1753.9 | 1745.8 | 1784.8 | 1902.9 | 2104.9  | 2130.2  | 2377.6 | 2413.4 |
| 25°   | 1984.4 | 1969.7 | 1916.8 | 1845.1 | 1780.8 | 1776.7 | 1884.1 | 2098.4  | 2125.2  | 2406.9 | 2459.9 |
| 27.5° | 2186.3 | 2182.3 | 2097.5 | 2001.5 | 1877.6 | 1803.5 | 1878.4 | 2093.4  | 2120.3  | 2428.1 | 2497.3 |
| 30°   | 2437.0 | 2438.7 | 2341.0 | 2215.6 | 2028.4 | 1879.3 | 1896.4 | 2091.1  | 2118.7  | 2429.7 | 2513.5 |
| 32.5° | 2696.1 | 2697.6 | 2616.3 | 2481.8 | 2234.4 | 2009.6 | 1946.8 | 2102.5  | 2127.6  | 2423.2 | 2512.7 |
| 35°   | 2945.2 | 2947.6 | 2898.7 | 2790.4 | 2509.5 | 2190.3 | 2042.1 | 2141.5  | 2159.3  | 2427.3 | 2511.1 |
| 37.5° | 3260.3 | 3270.0 | 3209.7 | 3108.9 | 2854.8 | 2455.7 | 2197.7 | 2220.5  | 2235.2  | 2460.6 | 2523.3 |
| 40°   | 3797.7 | 3784.6 | 3612.1 | 3441.0 | 3229.3 | 2779.0 | 2422.4 | 2356.4  | 2361.4  | 2547.0 | 2569.8 |
| 42.5° | 4423.9 | 4407.5 | 4112.0 | 3817.2 | 3614.5 | 3169.1 | 2709.8 | 2564.9  | 2564.1  | 2692.0 | 2670.8 |
| 45°   | 4962.9 | 4953.2 | 4642.0 | 4248.8 | 4041.1 | 3599.8 | 3063.9 | 2865.4  | 2855.6  | 2942.7 | 2854.8 |
| 47.5° | 5345.5 | 5337.4 | 5102.2 | 4707.9 | 4534.6 | 4073.8 | 3506.2 | 3275.0  | 3254.6  | 3270.9 | 3153.6 |
| 50°   | 5383.1 | 5374.1 | 5291.8 | 5038.7 | 5111.0 | 4769.1 | 4052.6 | 3811.5  | 3785.5  | 3760.2 | 3605.4 |
| 52.5° | 5032.9 | 5032.0 | 5075.2 | 5059.0 | 5515.0 | 5664.0 | 4722.7 | 4475.1  | 4444.2  | 4379.9 | 4225.9 |
| 55°   | 4317.2 | 4313.1 | 4476.8 | 4714.6 | 5506.0 | 6587.4 | 5744.5 | 5265.0  | 5224.3  | 5095.5 | 4893.6 |
| 57.5° | 3154.4 | 3133.3 | 3475.3 | 3979.2 | 5119.3 | 6991.1 | 7367.4 | 6246.2  | 6178.5  | 5770.6 | 5459.5 |
| 60°   | 1741.6 | 1749.8 | 2189.4 | 2786.4 | 4203.2 | 6911.4 | 8860.7 | 7390.1  | 7212.6  | 6352.9 | 6039.3 |
| 62.5° | 976.3  | 996.7  | 1324.0 | 1811.0 | 2679.7 | 6264.1 | 9661.9 | 9359.0  | 8931.6  | 7031.9 | 6772.1 |
| 65°   | 738.5  | 750.8  | 915.3  | 1397.3 | 1689.6 | 4377.4 | 9789.8 | 12111.9 | 11743.2 | 8061.1 | 7939.0 |
| 67.5° | 695.4  | 705.1  | 785.7  | 1158.6 | 1538.9 | 2270.1 | 8827.4 | 13740.6 | 13786.9 | 9464.9 | 8842.7 |
| 68°   | 700.3  | 712.4  | 793.1  | 1114.6 | 1536.6 | 2030.8 | 8416.8 | 13748.6 | 13847.3 | 9691.3 | 8811.8 |
| 70°   | 643.2  | 646.5  | 838.7  | 1093.5 | 1489.3 | 1600.1 | 6089.0 | 12806.5 | 12983.3 | 9960.8 | 7999.1 |
| 72.5° | 245.9  | 246.8  | 376.2  | 947.0  | 1560.0 | 1609.0 | 3067.4 | 10122.0 | 10130.9 | 8668.6 | 6236.4 |
| 75°   | 127.7  | 107.4  | 118.0  | 296.4  | 1490.1 | 1568.3 | 1538.9 | 6911.4  | 6868.3  | 5862.6 | 3821.3 |
| 77.5° | 87.9   | 74.9   | 79.1   | 102.5  | 619.7  | 1567.5 | 1111.5 | 3974.5  | 3965.4  | 2494.1 | 1090.4 |
| 80°   | 49.6   | 43.2   | 47.3   | 86.2   | 217.4  | 1471.3 | 1035.7 | 1708.2  | 1609.9  | 438.1  | 176.6  |
| 82.5° | 25.2   | 21.2   | 25.2   | 72.5   | 135.1  | 925.9  | 1007.2 | 670.1   | 596.8   | 104.3  | 114.9  |
| 85°   | 6.5    | 6.5    | 12.1   | 50.5   | 83.9   | 303.6  | 902.9  | 483.6   | 434.8   | 45.6   | 81.4   |
| 87.5° | 1.6    | 0.8    | 4.9    | 18.8   | 30.2   | 65.9   | 500.7  | 269.5   | 232.0   | 23.6   | 47.3   |
| 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°    | 2310.9 | 2310.9 | 2310.9 | 2310.9 | 2310.9 | 2310.9 | 2310.9 | 2310.9 | 2310.9 | 2310.9 | 2310.9 |
| 2.5°  | 2289.7 | 2267.0 | 2222.0 | 2171.7 | 2135.8 | 2096.7 | 2073.8 | 2046.2 | 2025.0 | 2006.4 | 2020.2 |
| 5°    | 2281.5 | 2237.6 | 2138.2 | 2026.7 | 1933.1 | 1843.5 | 1776.7 | 1713.2 | 1665.2 | 1635.1 | 1647.2 |
| 7.5°  | 2260.3 | 2195.2 | 2034.0 | 1859.8 | 1706.7 | 1562.5 | 1445.4 | 1340.2 | 1258.9 | 1214.9 | 1228.7 |
| 10°   | 2224.6 | 2132.5 | 1915.9 | 1674.1 | 1459.9 | 1256.4 | 1082.2 | 925.9  | 807.8  | 752.4  | 765.4  |
| 12.5° | 2198.5 | 2077.2 | 1793.7 | 1495.0 | 1213.3 | 924.1  | 693.0  | 513.8  | 421.8  | 366.4  | 371.3  |
| 15°   | 2187.1 | 2034.0 | 1679.8 | 1306.0 | 943.7  | 593.6  | 374.6  | 271.2  | 239.4  | 228.0  | 228.8  |
| 17.5° | 2188.7 | 1999.7 | 1571.6 | 1109.9 | 671.8  | 341.1  | 229.6  | 206.8  | 201.8  | 199.6  | 199.6  |
| 20°   | 2192.9 | 1965.6 | 1459.1 | 905.4  | 429.8  | 219.8  | 191.3  | 184.1  | 181.5  | 178.4  | 179.1  |
| 22.5° | 2205.0 | 1939.5 | 1346.0 | 700.3  | 264.6  | 179.1  | 169.4  | 162.9  | 158.8  | 153.9  | 154.7  |
| 25°   | 2223.8 | 1919.9 | 1234.5 | 503.9  | 186.5  | 156.3  | 147.4  | 138.3  | 131.2  | 125.5  | 126.2  |
| 27.5° | 2235.2 | 1892.3 | 1115.5 | 343.6  | 154.7  | 136.8  | 124.5  | 112.4  | 104.3  | 99.4   | 98.5   |
| 30°   | 2227.0 | 1847.5 | 980.4  | 225.6  | 136.8  | 118.0  | 103.5  | 89.7   | 81.4   | 77.3   | 77.3   |
| 32.5° | 2205.0 | 1789.8 | 831.3  | 164.5  | 121.4  | 101.8  | 83.9   | 71.7   | 65.9   | 63.5   | 64.3   |
| 35°   | 2179.7 | 1729.4 | 672.7  | 139.2  | 109.1  | 86.2   | 68.5   | 58.6   | 56.1   | 55.3   | 55.3   |
| 37.5° | 2166.0 | 1677.3 | 520.3  | 126.2  | 97.7   | 71.7   | 56.1   | 50.5   | 48.0   | 48.0   | 48.0   |
| 40°   | 2181.4 | 1637.5 | 385.2  | 116.4  | 86.2   | 59.5   | 47.3   | 43.2   | 42.3   | 42.3   | 42.3   |
| 42.5° | 2247.3 | 1623.6 | 281.7  | 108.2  | 74.9   | 49.6   | 40.8   | 37.5   | 36.7   | 37.5   | 37.5   |
| 45°   | 2375.9 | 1653.8 | 213.3  | 100.2  | 64.3   | 40.8   | 35.0   | 32.6   | 32.6   | 33.3   | 33.3   |
| 47.5° | 2594.2 | 1731.2 | 175.1  | 91.9   | 53.8   | 34.1   | 30.2   | 28.4   | 28.4   | 29.4   | 29.4   |
| 50°   | 2933.0 | 1874.5 | 157.2  | 83.1   | 44.7   | 29.4   | 25.2   | 24.4   | 24.4   | 25.2   | 26.1   |
| 52.5° | 3447.5 | 2147.2 | 148.2  | 74.1   | 36.7   | 24.4   | 21.2   | 20.3   | 21.2   | 22.0   | 22.0   |
| 55°   | 4019.9 | 2496.5 | 137.6  | 65.1   | 30.9   | 20.3   | 17.1   | 17.1   | 18.0   | 19.6   | 19.6   |
| 57.5° | 4553.2 | 2833.7 | 127.7  | 53.8   | 26.9   | 16.3   | 13.8   | 13.8   | 15.5   | 17.1   | 17.1   |
| 60°   | 5116.7 | 3164.2 | 114.9  | 43.2   | 22.7   | 13.0   | 11.4   | 11.4   | 13.8   | 15.5   | 16.3   |
| 62.5° | 5812.9 | 3548.6 | 97.7   | 34.1   | 18.0   | 9.8    | 8.2    | 10.6   | 13.0   | 15.5   | 15.5   |
| 65°   | 6819.4 | 4026.6 | 76.5   | 26.9   | 13.8   | 7.4    | 6.5    | 9.8    | 12.1   | 14.6   | 15.5   |
| 67.5° | 7185.0 | 3965.4 | 57.9   | 22.0   | 10.6   | 5.7    | 5.7    | 9.0    | 12.1   | 14.6   | 14.6   |
| 68°   | 7051.4 | 3831.9 | 55.3   | 21.2   | 9.8    | 5.7    | 5.7    | 9.0    | 12.1   | 14.6   | 14.6   |
| 70°   | 6144.3 | 3132.4 | 45.6   | 16.3   | 8.2    | 4.9    | 4.9    | 8.2    | 12.1   | 13.8   | 14.6   |
| 72.5° | 4600.5 | 2081.3 | 39.0   | 10.6   | 7.4    | 4.9    | 4.0    | 8.2    | 11.4   | 13.8   | 13.8   |
| 75°   | 2639.0 | 863.9  | 33.3   | 8.2    | 6.5    | 4.0    | 4.0    | 7.4    | 11.4   | 13.8   | 13.8   |
| 77.5° | 745.9  | 201.8  | 26.9   | 6.5    | 5.7    | 4.0    | 3.2    | 7.4    | 10.6   | 13.0   | 13.0   |
| 80°   | 136.8  | 60.2   | 21.2   | 5.7    | 4.9    | 4.0    | 3.2    | 7.4    | 10.6   | 13.0   | 13.0   |
| 82.5° | 90.4   | 28.4   | 15.5   | 5.7    | 4.9    | 4.0    | 3.2    | 6.5    | 9.8    | 12.1   | 12.1   |
| 85°   | 67.6   | 20.3   | 9.8    | 5.7    | 4.9    | 4.0    | 3.2    | 6.5    | 9.8    | 12.1   | 12.1   |
| 87.5° | 37.5   | 9.0    | 7.4    | 6.5    | 5.7    | 4.0    | 3.2    | 5.7    | 9.0    | 11.4   | 11.4   |
| 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)