

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: P197002

Luminaire Tested: **NAV-AF-04-D-UNV-RW-8030-800**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P197002  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P24161)  
Test Lab: INNOVATION CENTER P2  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: LUMARK  
Catalog Number: NAV-AF-04-D-UNV-RW-8030-800  
Description: NAVION ROADWAY AND AREA LUMINAIRE  
(4) 80 CRI, 3000K, 800mA LIGHTSQUARES WITH 16 LEDS EACH AND RECTANGULAR WIDE OPTICS  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 16437 lumens  
Efficiency: N/A  
Efficacy: 96.1 lumens/watt  
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')  
IES Classification: Type II - Medium - Full Cutoff  
BUG Rating: B4 - U0 - G4

Input Watts (W): 171  
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

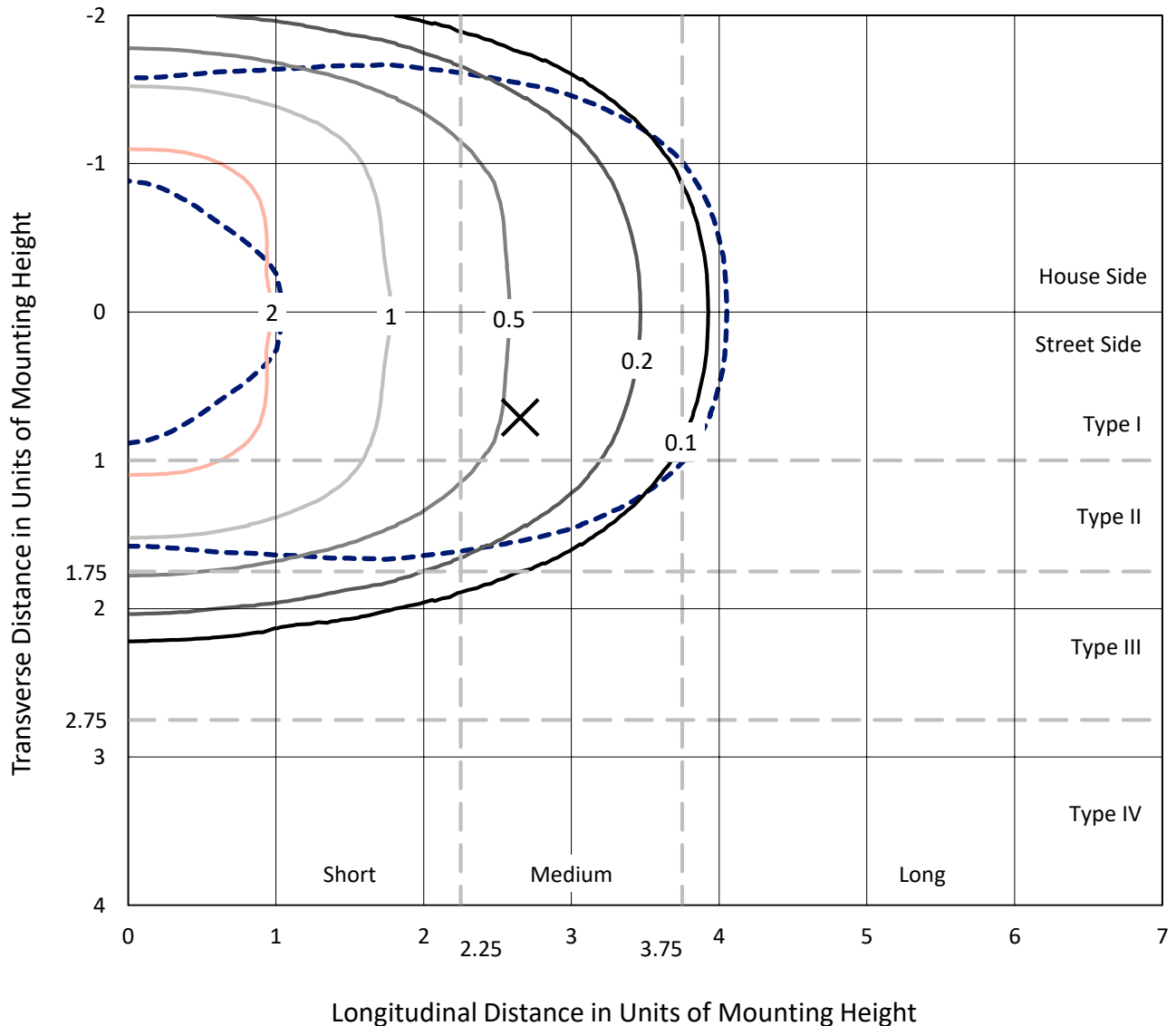


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### Iso-Footcandle Lines of Horizontal Illumination

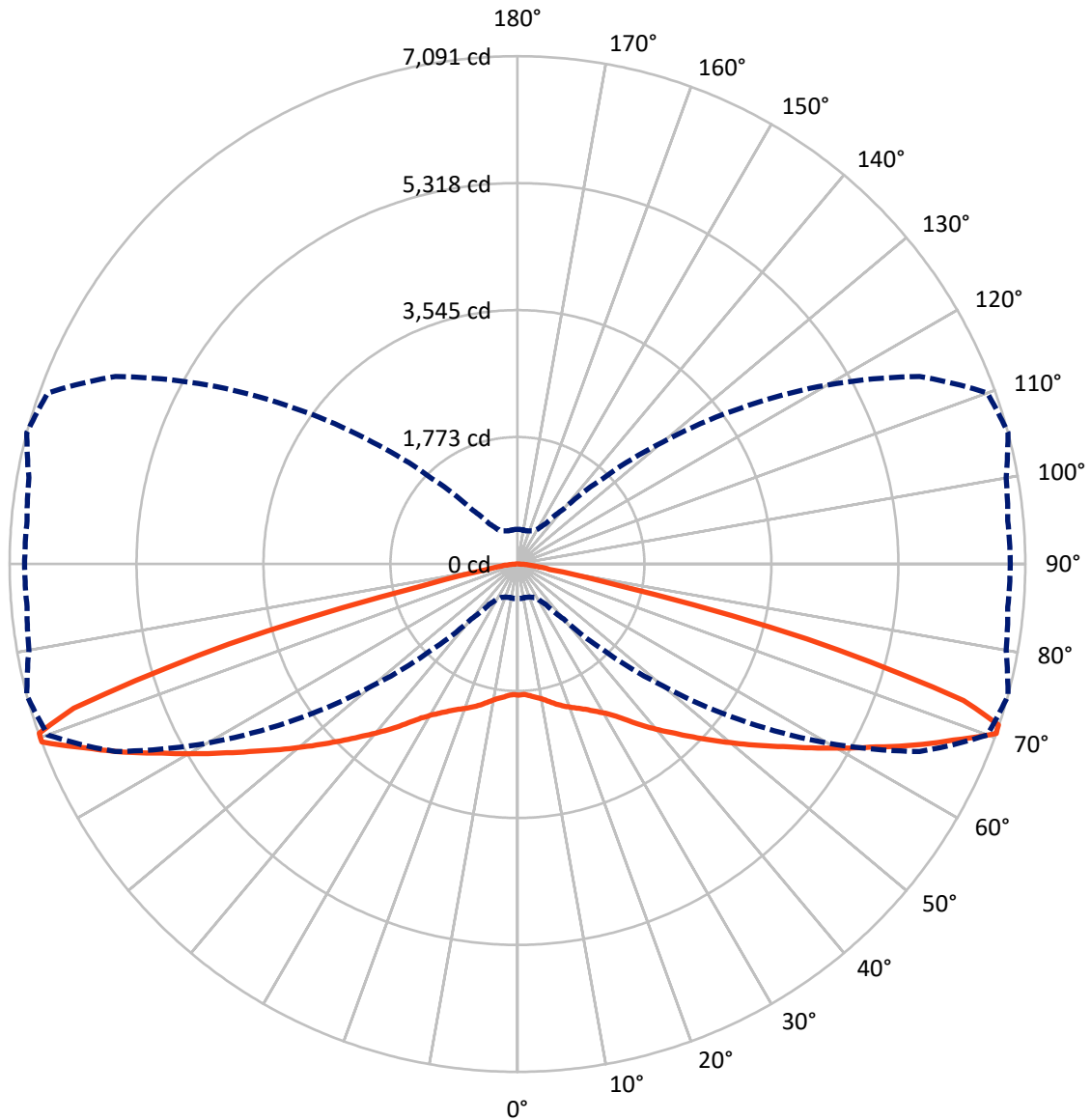
× Max cd  
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 3 fc  
 Type II - Medium - Full Cutoff

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### Luminous Intensity Polar Plot



— Vertical Plane Through 75-Deg Lateral      - - - Horizontal Cone Through 70-Deg Vertical

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**FLUX DISTRIBUTION:**

|                    |           | Downward | Upward | Total   |
|--------------------|-----------|----------|--------|---------|
| <b>House Side</b>  | Lumens    | 8218.5   | 0.0    | 8218.5  |
|                    | % Fixture | 50.0     | 0.0    | 50.0    |
| <b>Street Side</b> | Lumens    | 8218.5   | 0.0    | 8218.5  |
|                    | % Fixture | 50.0     | 0.0    | 50.0    |
| <b>Total</b>       | Lumens    | 16437.0  | 0.0    | 16437.0 |
|                    | % Fixture | 100.0    | 0.0    | 100.0   |

**Coefficient of Utilization**

**ZONAL LUMENS:**

| Zone      | Lumens  | % Fixture |
|-----------|---------|-----------|
| 0°-10°    | 175.6   | 1.1       |
| 10°-20°   | 544.5   | 3.3       |
| 20°-30°   | 1022.7  | 6.2       |
| 30°-40°   | 1801.5  | 11.0      |
| 40°-50°   | 2985.6  | 18.2      |
| 50°-60°   | 4153.4  | 25.3      |
| 60°-70°   | 3920.9  | 23.9      |
| 70°-80°   | 1674.6  | 10.2      |
| 80°-90°   | 158.2   | 1.0       |
| 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°    | 16437.0 | 100.0     |
| 0°-180°   | 16437.0 | 100.0     |



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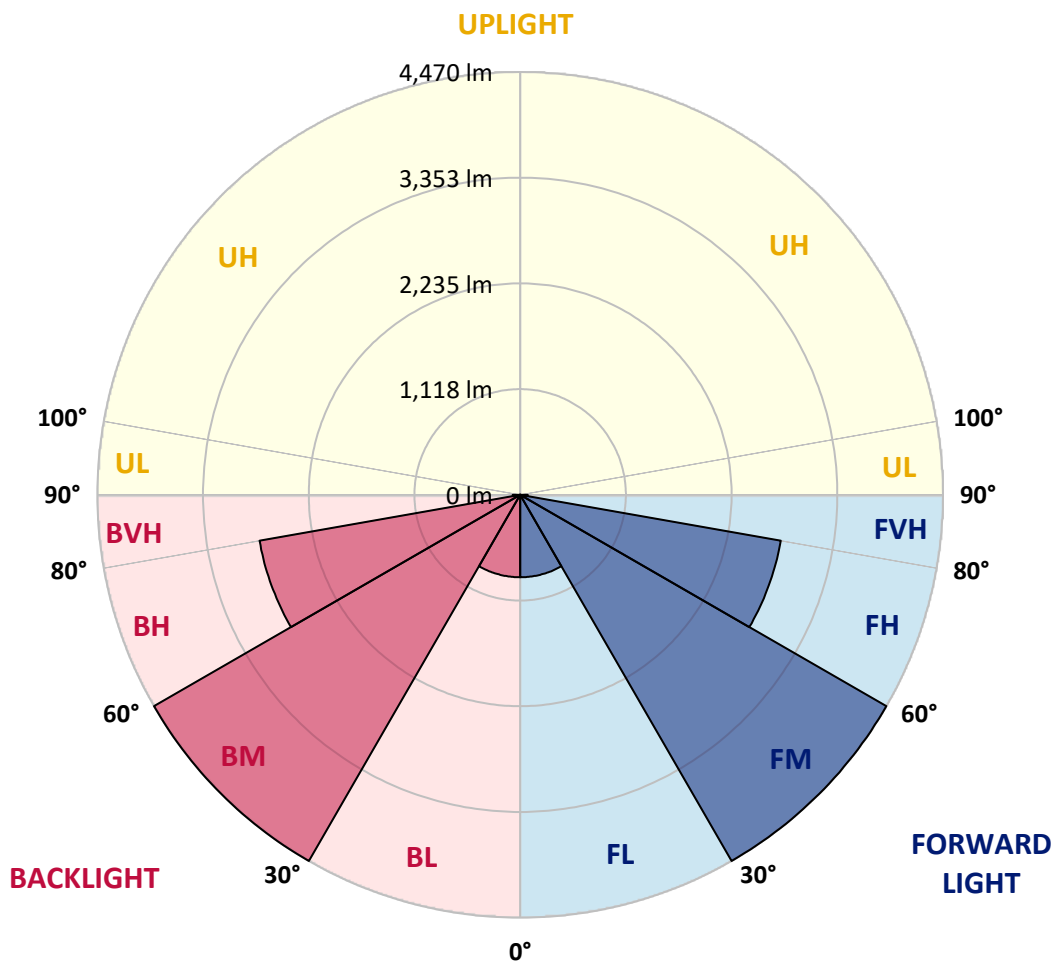
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**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

| Zone           | Lumens | % Fixture | Zone Rating/Lumen Limit |      |         |
|----------------|--------|-----------|-------------------------|------|---------|
|                |        |           | B                       | U    | G       |
| FL (0°-30°)    | 871.4  | 5.3       |                         |      |         |
| FM (30°-60°)   | 4470.2 | 27.2      |                         |      |         |
| FH (60°-80°)   | 2797.8 | 17.0      |                         |      | G2/5000 |
| FVH (80°-90°)  | 79.1   | 0.5       |                         |      | G1/100  |
| BL (0°-30°)    | 871.4  | 5.3       | B2/1000                 |      |         |
| BM (30°-60°)   | 4470.2 | 27.2      | B3/5000                 |      |         |
| BH (60°-80°)   | 2797.8 | 17.0      | B4/5000                 |      | G4/5000 |
| BVH (80°-90°)  | 79.1   | 0.5       |                         |      | G1/100  |
| UL (90°-100°)  | 0.0    | 0.0       |                         | U0/0 |         |
| UH (100°-180°) | 0.0    | 0.0       |                         | U0/0 |         |

**BUG Rating: B4-U0-G4**

Type II Medium





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**CANDELA DISTRIBUTION (FULL):**

|       | 0°     | 5°     | 10°    | 15°    | 20°    | 25°    | 30°    | 35°    | 40°    | 45°    | 50°    |
|-------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 0°    | 1830.4 | 1830.4 | 1830.4 | 1830.4 | 1830.4 | 1830.4 | 1830.4 | 1830.4 | 1830.4 | 1830.4 | 1830.4 |
| 2.5°  | 1841.8 | 1840.7 | 1841.8 | 1838.7 | 1839.7 | 1838.7 | 1838.7 | 1834.5 | 1834.5 | 1832.5 | 1829.4 |
| 5°    | 1821.1 | 1823.2 | 1823.2 | 1823.2 | 1826.3 | 1826.3 | 1830.4 | 1831.5 | 1834.5 | 1837.6 | 1839.7 |
| 7.5°  | 1787.2 | 1788.2 | 1791.3 | 1793.3 | 1799.5 | 1807.8 | 1816.0 | 1825.3 | 1833.5 | 1843.8 | 1855.1 |
| 10°   | 1758.3 | 1760.4 | 1765.5 | 1770.7 | 1782.0 | 1792.3 | 1806.7 | 1821.1 | 1835.6 | 1853.1 | 1870.6 |
| 12.5° | 1742.9 | 1746.0 | 1754.2 | 1762.4 | 1779.9 | 1793.3 | 1812.9 | 1835.6 | 1855.1 | 1871.6 | 1891.2 |
| 15°   | 1744.9 | 1746.0 | 1757.3 | 1768.6 | 1793.3 | 1811.9 | 1839.7 | 1866.5 | 1890.2 | 1908.7 | 1931.4 |
| 17.5° | 1774.8 | 1776.9 | 1788.2 | 1804.7 | 1828.4 | 1852.1 | 1881.9 | 1909.7 | 1941.7 | 1963.3 | 1990.1 |
| 20°   | 1833.5 | 1836.6 | 1849.0 | 1866.5 | 1892.2 | 1916.9 | 1947.8 | 1976.7 | 2009.7 | 2035.4 | 2062.2 |
| 22.5° | 1909.7 | 1914.9 | 1928.3 | 1949.9 | 1975.7 | 2005.5 | 2037.5 | 2067.3 | 2098.2 | 2124.0 | 2146.6 |
| 25°   | 2011.7 | 2017.9 | 2032.3 | 2053.9 | 2079.7 | 2111.6 | 2144.6 | 2175.5 | 2207.4 | 2227.0 | 2245.5 |
| 27.5° | 2148.7 | 2159.0 | 2174.5 | 2192.0 | 2214.6 | 2248.6 | 2279.5 | 2305.3 | 2336.2 | 2357.8 | 2370.2 |
| 30°   | 2333.1 | 2347.5 | 2359.9 | 2378.4 | 2394.9 | 2430.9 | 2455.7 | 2476.3 | 2500.0 | 2512.3 | 2515.4 |
| 32.5° | 2558.7 | 2572.1 | 2584.4 | 2597.8 | 2620.5 | 2653.4 | 2677.1 | 2688.5 | 2700.8 | 2698.8 | 2687.4 |
| 35°   | 2813.1 | 2823.4 | 2830.6 | 2854.3 | 2891.4 | 2913.0 | 2930.5 | 2934.6 | 2936.7 | 2915.1 | 2893.4 |
| 37.5° | 3080.9 | 3093.3 | 3099.5 | 3136.5 | 3171.6 | 3196.3 | 3204.5 | 3213.8 | 3207.6 | 3171.6 | 3132.4 |
| 40°   | 3370.4 | 3383.8 | 3402.3 | 3434.2 | 3475.4 | 3499.1 | 3509.4 | 3508.4 | 3503.2 | 3461.0 | 3397.1 |
| 42.5° | 3654.7 | 3671.1 | 3686.6 | 3742.2 | 3776.2 | 3816.4 | 3821.5 | 3820.5 | 3809.2 | 3760.8 | 3686.6 |
| 45°   | 3895.7 | 3915.3 | 3947.2 | 4009.0 | 4063.6 | 4112.0 | 4131.6 | 4138.8 | 4127.5 | 4076.0 | 3991.5 |
| 47.5° | 4094.5 | 4107.9 | 4148.1 | 4223.3 | 4293.3 | 4364.4 | 4403.5 | 4431.3 | 4430.3 | 4393.2 | 4303.6 |
| 50°   | 4230.5 | 4245.9 | 4295.4 | 4379.8 | 4467.4 | 4550.8 | 4628.1 | 4690.9 | 4720.8 | 4694.0 | 4610.6 |
| 52.5° | 4269.6 | 4289.2 | 4354.1 | 4455.0 | 4557.0 | 4669.3 | 4784.6 | 4895.9 | 4962.8 | 4979.3 | 4914.4 |
| 55°   | 4104.8 | 4126.4 | 4221.2 | 4361.3 | 4529.2 | 4695.0 | 4870.1 | 5028.8 | 5166.8 | 5230.7 | 5204.9 |
| 57.5° | 3624.8 | 3640.2 | 3760.8 | 3942.0 | 4182.1 | 4473.6 | 4768.2 | 5058.6 | 5295.5 | 5461.4 | 5490.2 |
| 60°   | 2866.7 | 2886.2 | 3018.1 | 3209.7 | 3482.6 | 3851.4 | 4263.4 | 4739.3 | 5203.9 | 5584.0 | 5772.5 |
| 62.5° | 1934.5 | 1947.8 | 2074.5 | 2249.7 | 2548.4 | 2903.7 | 3363.2 | 3965.7 | 4628.1 | 5306.9 | 5838.4 |
| 65°   | 1015.6 | 1015.6 | 1101.1 | 1223.7 | 1461.7 | 1779.9 | 2250.7 | 2868.7 | 3656.7 | 4504.5 | 5393.4 |
| 67.5° | 589.2  | 588.2  | 607.7  | 635.5  | 710.7  | 839.5  | 1099.1 | 1553.3 | 2299.1 | 3285.9 | 4297.4 |
| 70°   | 486.2  | 483.1  | 480.0  | 480.0  | 491.3  | 510.9  | 560.4  | 685.0  | 1002.3 | 1694.5 | 2644.2 |
| 71°   | 464.6  | 462.5  | 454.3  | 451.2  | 456.3  | 466.6  | 488.2  | 545.9  | 711.8  | 1155.7 | 1974.6 |
| 72.5° | 438.8  | 433.7  | 421.3  | 416.1  | 417.2  | 421.3  | 427.5  | 450.1  | 500.6  | 657.2  | 1125.9 |
| 75°   | 399.7  | 387.3  | 371.9  | 364.6  | 361.6  | 360.5  | 360.5  | 366.7  | 378.0  | 396.6  | 461.5  |
| 77.5° | 354.3  | 336.8  | 320.3  | 313.1  | 308.0  | 304.9  | 302.8  | 298.7  | 296.7  | 304.9  | 328.6  |
| 80°   | 299.7  | 281.2  | 267.8  | 263.7  | 260.6  | 254.4  | 246.2  | 237.9  | 232.8  | 236.9  | 251.3  |
| 82.5° | 231.8  | 213.2  | 215.3  | 216.3  | 211.2  | 200.9  | 192.6  | 183.4  | 174.1  | 172.0  | 179.2  |
| 85°   | 184.4  | 175.1  | 168.9  | 182.3  | 171.0  | 158.6  | 147.3  | 131.8  | 110.2  | 90.6   | 98.9   |
| 87.5° | 79.3   | 80.3   | 115.4  | 174.1  | 152.4  | 122.6  | 102.0  | 82.4   | 52.5   | 39.1   | 40.2   |
| 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):**

|       | 55°    | 60°    | 65°    | 70°    | 75°    | 80°    | 85°    | 90°    |
|-------|--------|--------|--------|--------|--------|--------|--------|--------|
| 0°    | 1830.4 | 1830.4 | 1830.4 | 1830.4 | 1830.4 | 1830.4 | 1830.4 | 1830.4 |
| 2.5°  | 1828.4 | 1828.4 | 1825.3 | 1823.2 | 1823.2 | 1823.2 | 1821.1 | 1822.2 |
| 5°    | 1840.7 | 1842.8 | 1844.8 | 1843.8 | 1846.9 | 1850.0 | 1849.0 | 1847.9 |
| 7.5°  | 1861.3 | 1867.5 | 1873.7 | 1876.8 | 1880.9 | 1885.0 | 1886.0 | 1883.0 |
| 10°   | 1881.9 | 1894.3 | 1903.6 | 1911.8 | 1916.9 | 1921.1 | 1924.2 | 1923.1 |
| 12.5° | 1907.7 | 1925.2 | 1941.7 | 1958.1 | 1969.5 | 1975.7 | 1981.8 | 1979.8 |
| 15°   | 1949.9 | 1969.5 | 1990.1 | 2011.7 | 2029.2 | 2038.5 | 2047.8 | 2045.7 |
| 17.5° | 2007.6 | 2025.1 | 2041.6 | 2063.2 | 2084.8 | 2095.1 | 2105.4 | 2104.4 |
| 20°   | 2079.7 | 2093.1 | 2102.4 | 2114.7 | 2135.3 | 2146.6 | 2155.9 | 2152.8 |
| 22.5° | 2162.1 | 2166.2 | 2167.3 | 2171.4 | 2187.9 | 2201.2 | 2213.6 | 2216.7 |
| 25°   | 2251.7 | 2248.6 | 2242.4 | 2239.4 | 2250.7 | 2265.1 | 2280.6 | 2284.7 |
| 27.5° | 2363.0 | 2352.7 | 2337.2 | 2324.9 | 2327.9 | 2346.5 | 2364.0 | 2368.1 |
| 30°   | 2503.1 | 2479.4 | 2446.4 | 2422.7 | 2418.6 | 2438.2 | 2456.7 | 2462.9 |
| 32.5° | 2662.7 | 2630.8 | 2585.5 | 2549.4 | 2534.0 | 2551.5 | 2567.9 | 2577.2 |
| 35°   | 2852.2 | 2817.2 | 2762.6 | 2716.3 | 2691.6 | 2702.9 | 2731.7 | 2742.0 |
| 37.5° | 3076.8 | 3028.4 | 2967.6 | 2908.9 | 2867.7 | 2869.8 | 2900.7 | 2913.0 |
| 40°   | 3325.0 | 3255.0 | 3177.7 | 3104.6 | 3044.9 | 3040.7 | 3068.6 | 3077.8 |
| 42.5° | 3583.6 | 3494.0 | 3403.3 | 3307.5 | 3233.4 | 3220.0 | 3256.0 | 3257.1 |
| 45°   | 3861.7 | 3746.3 | 3634.1 | 3522.8 | 3445.6 | 3421.9 | 3456.9 | 3461.0 |
| 47.5° | 4158.4 | 4014.2 | 3881.3 | 3760.8 | 3677.3 | 3640.2 | 3674.2 | 3680.4 |
| 50°   | 4467.4 | 4318.0 | 4163.5 | 4029.6 | 3931.7 | 3886.4 | 3926.6 | 3930.7 |
| 52.5° | 4773.3 | 4632.2 | 4478.7 | 4325.2 | 4206.8 | 4155.3 | 4202.7 | 4217.1 |
| 55°   | 5081.3 | 4945.3 | 4801.1 | 4647.6 | 4498.3 | 4453.0 | 4504.5 | 4519.9 |
| 57.5° | 5401.6 | 5270.8 | 5140.0 | 4985.5 | 4840.3 | 4771.2 | 4826.9 | 4848.5 |
| 60°   | 5755.0 | 5639.6 | 5516.0 | 5360.4 | 5217.3 | 5136.9 | 5184.3 | 5209.0 |
| 62.5° | 6102.1 | 6078.4 | 5966.1 | 5804.4 | 5623.1 | 5542.8 | 5582.9 | 5600.4 |
| 65°   | 6130.9 | 6515.1 | 6510.0 | 6349.3 | 6095.9 | 5961.0 | 5972.3 | 5980.5 |
| 67.5° | 5351.2 | 6232.9 | 6796.3 | 6846.8 | 6564.6 | 6353.4 | 6328.7 | 6333.9 |
| 70°   | 3788.6 | 4998.9 | 6194.8 | 6979.7 | 7090.9 | 6927.2 | 6873.6 | 6881.8 |
| 71°   | 3035.6 | 4289.2 | 5605.6 | 6661.4 | 7082.7 | 7035.3 | 7005.5 | 7027.1 |
| 72.5° | 1937.5 | 3160.2 | 4441.6 | 5704.5 | 6513.1 | 6744.8 | 6778.8 | 6792.2 |
| 75°   | 703.5  | 1359.7 | 2301.2 | 3297.2 | 4179.0 | 4785.7 | 5119.4 | 5146.2 |
| 77.5° | 378.0  | 487.2  | 753.0  | 1124.8 | 1413.2 | 1567.8 | 1586.3 | 1593.5 |
| 80°   | 278.1  | 322.4  | 368.8  | 421.3  | 454.3  | 460.4  | 449.1  | 425.4  |
| 82.5° | 196.7  | 222.5  | 241.0  | 259.6  | 273.0  | 261.6  | 217.3  | 165.8  |
| 85°   | 114.3  | 125.7  | 136.0  | 145.2  | 147.3  | 139.1  | 91.7   | 75.2   |
| 87.5° | 45.3   | 49.4   | 48.4   | 54.6   | 52.5   | 48.4   | 36.1   | 30.9   |
| 90°   | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    |

(END OF REPORT)