

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: P963113

Luminaire Tested: **NAV-SB2D-827-U-T2U-HSS**

Issue Date: 1/21/2025

### Test Information

Test Method: LM-79-08  
Report Number: P963113  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2411-289-17)  
Test Lab: INNOVATION CENTER  
Issue Date: 1/21/2025  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: LUMARK  
Catalog Number: NAV-SB2D-827-U-T2U-HSS  
Description: NAVION ROADWAY AND AREA HIGH DENSITY LED LUMINAIRE  
(2) 80 CRI, 2700K, 900mA LIGHTSQUARES WITH 26 LEDS EACH AND TYPE II U  
OPTICS WITH HOUSE SIDE SHIELD  
Light Source: -  
Ballast/Driver: -

### Summary

Lumens per Lamp: N/A  
Luminaire Lumens: 13862.1 lumens  
Efficiency: N/A  
Efficacy: 93.9 lumens/watt  
Luminous Opening: Rectangular (W 0.5' x L: 1' x H: 0')  
IES Classification: Type II - Short  
BUG Rating: B2 - U0 - G2

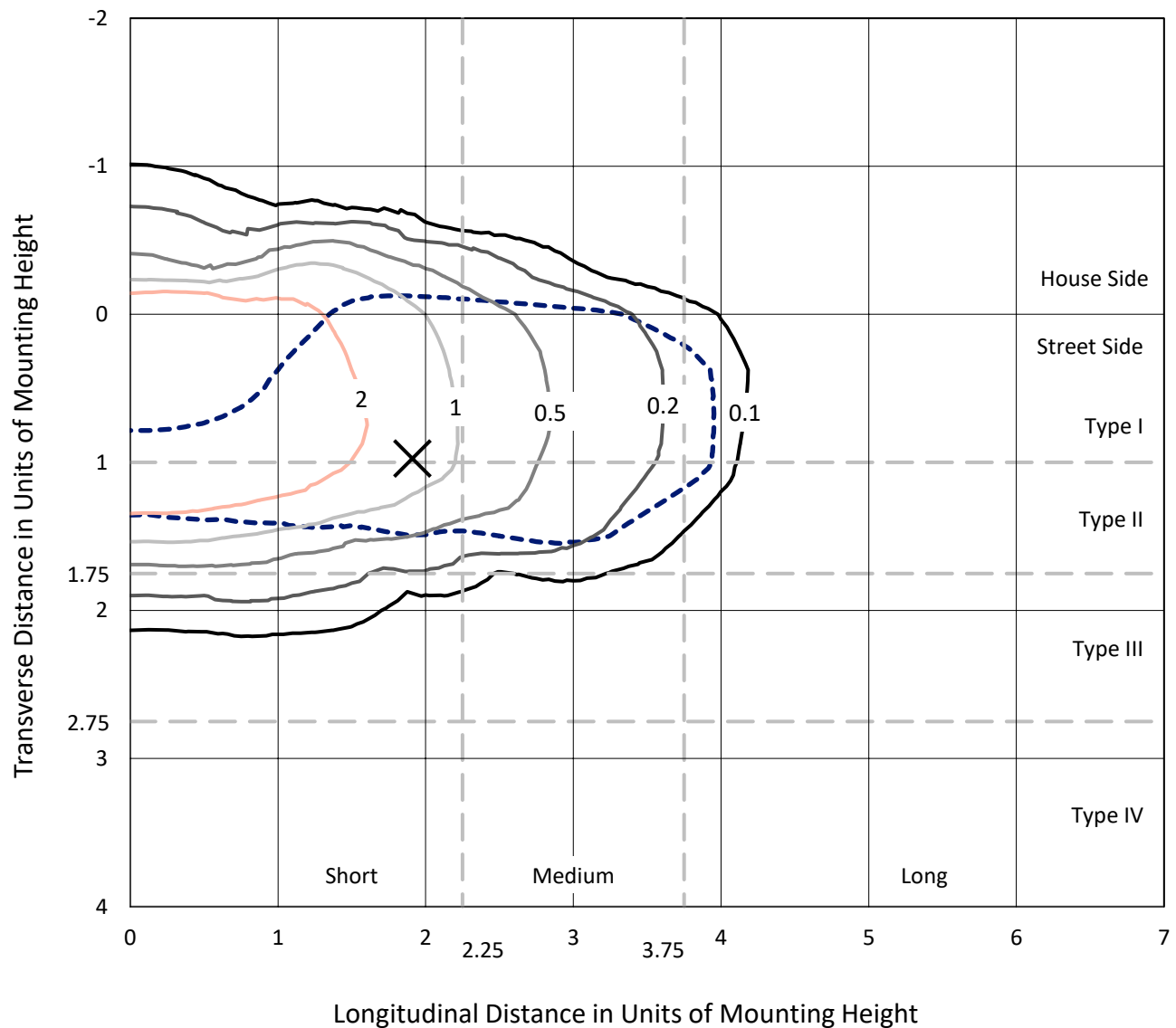
Input Watts (W): 147.6  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 24 FT



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## Iso-Footcandle Lines of Horizontal Illumination

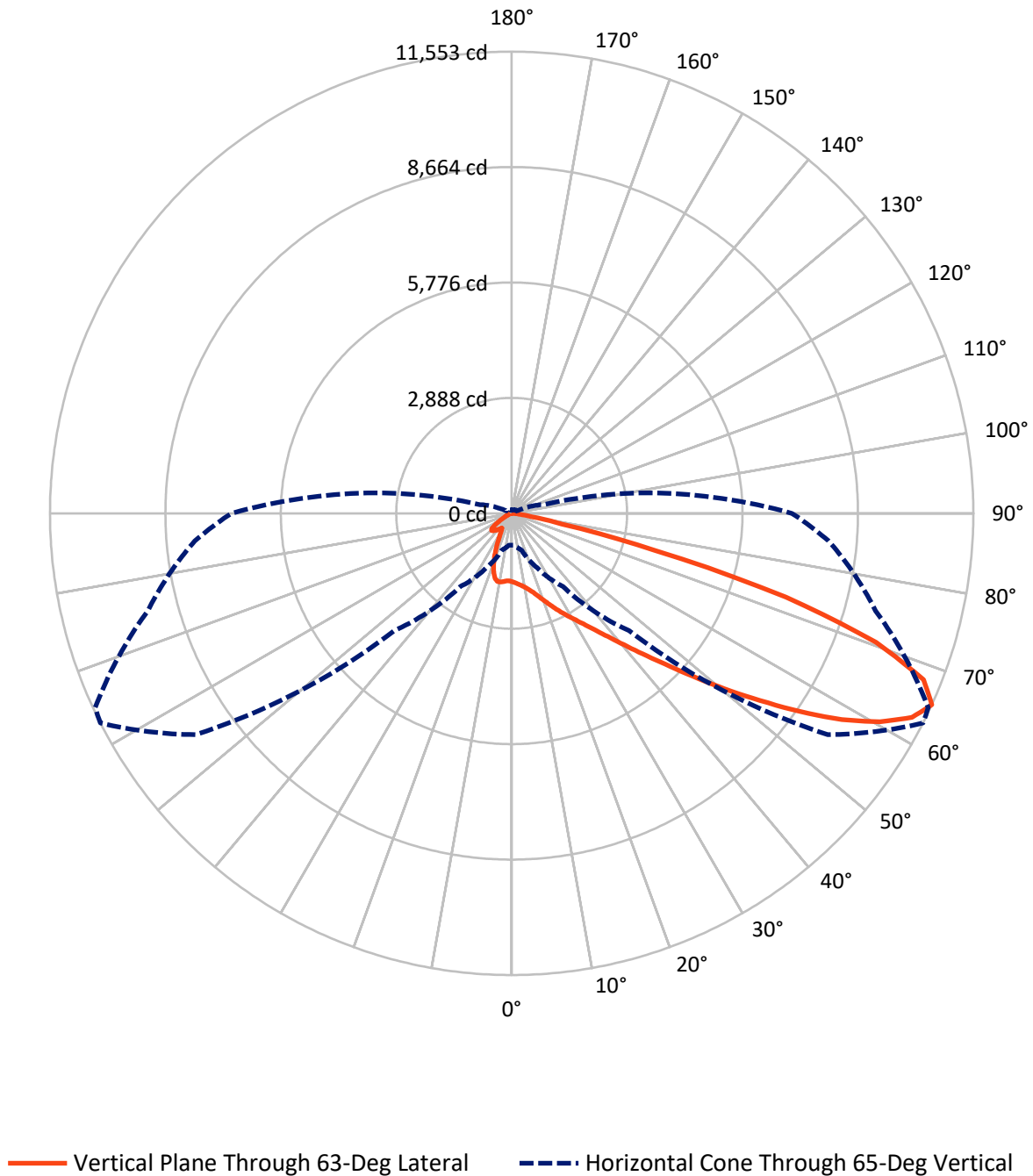
× Max cd  
- - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 4.7 fc  
Type II - Short - N/A

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## Luminous Intensity Polar Plot



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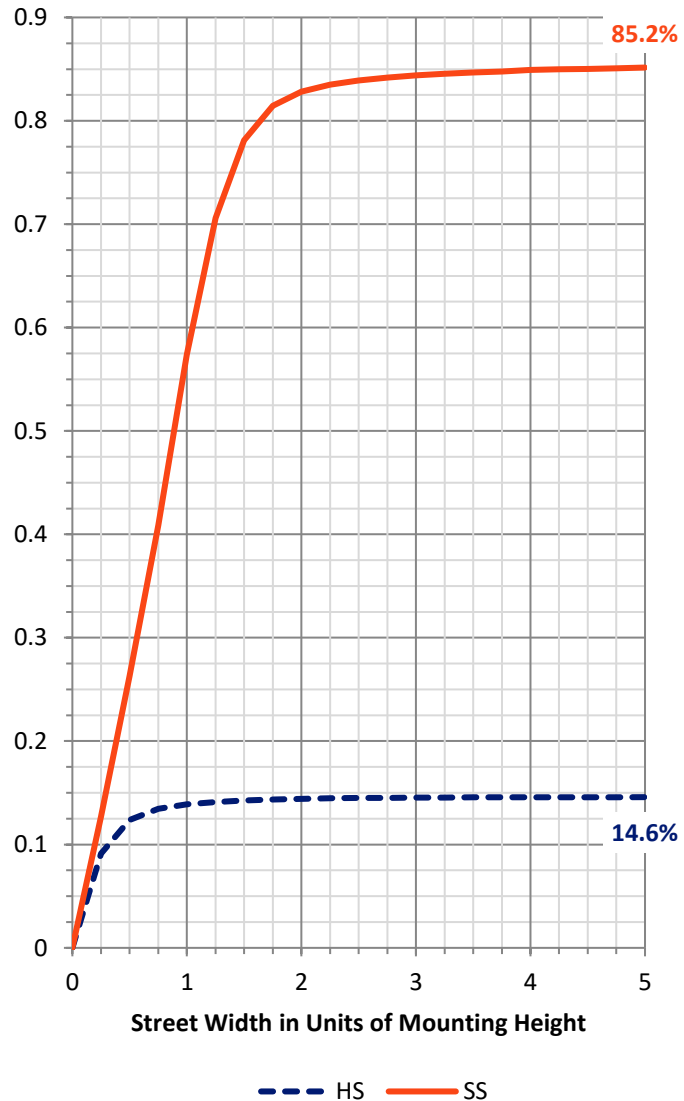
**FLUX DISTRIBUTION:**

|                    |           | Downward | Upward | Total   |
|--------------------|-----------|----------|--------|---------|
| <b>House Side</b>  | Lumens    | 2037.6   | 0.0    | 2037.6  |
|                    | % Fixture | 14.7     | 0.0    | 14.7    |
| <b>Street Side</b> | Lumens    | 11824.5  | 0.0    | 11824.5 |
|                    | % Fixture | 85.3     | 0.0    | 85.3    |
| <b>Total</b>       | Lumens    | 13862.1  | 0.0    | 13862.1 |
|                    | % Fixture | 100.0    | 0.0    | 100.0   |

**ZONAL LUMENS:**

| Zone      | Lumens  | % Fixture |
|-----------|---------|-----------|
| 0°-10°    | 161.2   | 1.2       |
| 10°-20°   | 447.3   | 3.2       |
| 20°-30°   | 778.8   | 5.6       |
| 30°-40°   | 1403.7  | 10.1      |
| 40°-50°   | 2783.9  | 20.1      |
| 50°-60°   | 3792.2  | 27.4      |
| 60°-70°   | 3026.9  | 21.8      |
| 70°-80°   | 1369.7  | 9.9       |
| 80°-90°   | 98.5    | 0.7       |
| 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°    | 13862.1 | 100.0     |
| 0°-180°   | 13862.1 | 100.0     |

**Coefficient of Utilization**



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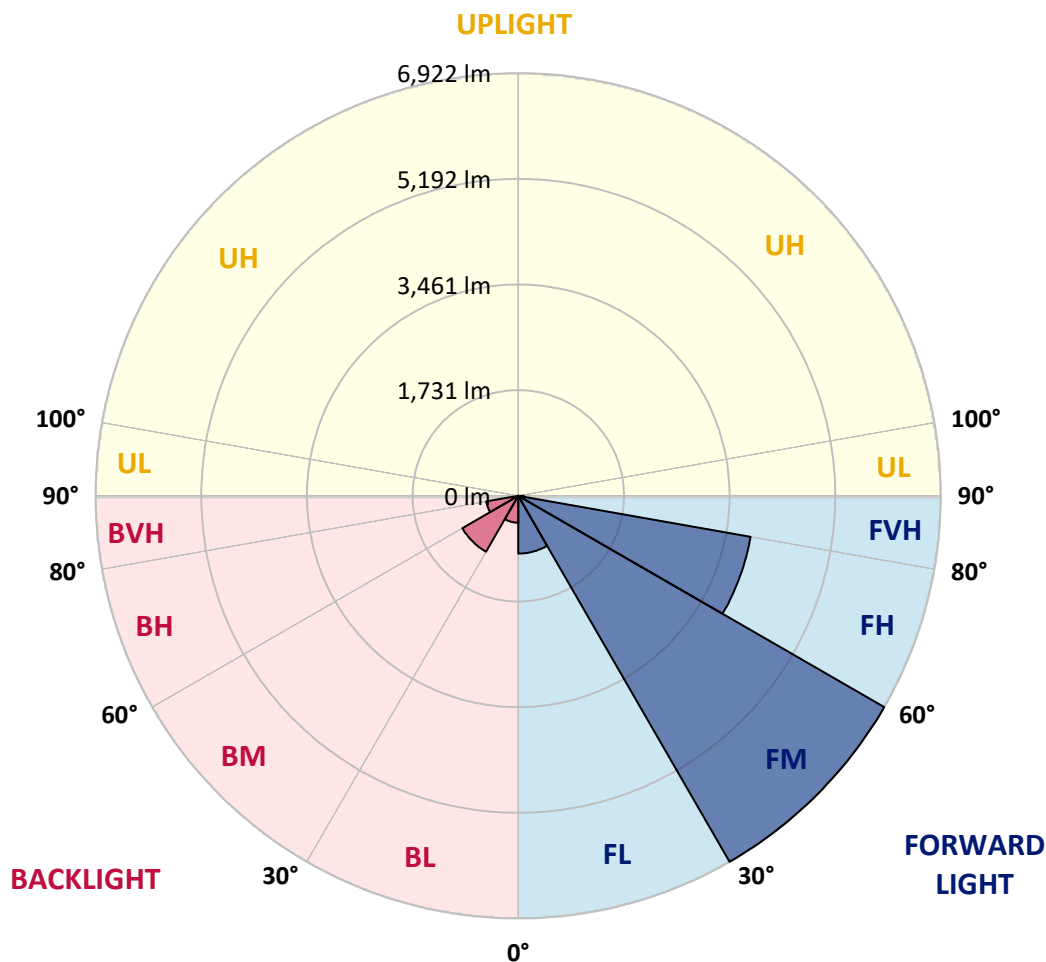
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**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

| Zone |             | Lumens | % Fixture | Zone Rating/Lumen Limit |      |         |
|------|-------------|--------|-----------|-------------------------|------|---------|
|      |             |        |           | B                       | U    | G       |
| FL   | (0°-30°)    | 946.3  | 6.8       |                         |      |         |
| FM   | (30°-60°)   | 6922.4 | 49.9      |                         |      |         |
| FH   | (60°-80°)   | 3864.7 | 27.9      |                         |      | G2/5000 |
| FVH  | (80°-90°)   | 91.2   | 0.7       |                         |      | G1/100  |
| BL   | (0°-30°)    | 441.0  | 3.2       | B1/500                  |      |         |
| BM   | (30°-60°)   | 1057.4 | 7.6       | B2/2500                 |      |         |
| BH   | (60°-80°)   | 531.9  | 3.8       | B2/1000                 |      | G2/1000 |
| BVH  | (80°-90°)   | 7.3    | 0.1       |                         |      | G0/10   |
| UL   | (90°-100°)  | 0.0    | 0.0       |                         | U0/0 |         |
| UH   | (100°-180°) | 0.0    | 0.0       |                         | U0/0 |         |

**BUG Rating: B2-U0-G2**

Type II Short



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**CANDELA DISTRIBUTION (FULL):**

|       | 0°     | 5°     | 15°    | 25°    | 35°    | 45°     | 55°     | 63°     | 65°     | 75°    | 85°    |
|-------|--------|--------|--------|--------|--------|---------|---------|---------|---------|--------|--------|
| 0°    | 1710.8 | 1710.8 | 1710.8 | 1710.8 | 1710.8 | 1710.8  | 1710.8  | 1710.8  | 1710.8  | 1710.8 | 1710.8 |
| 2.5°  | 1750.9 | 1746.1 | 1752.9 | 1750.0 | 1748.0 | 1744.2  | 1742.3  | 1740.4  | 1736.6  | 1733.7 | 1722.3 |
| 5°    | 1755.6 | 1752.9 | 1759.5 | 1765.2 | 1770.9 | 1776.6  | 1779.5  | 1783.3  | 1779.5  | 1771.9 | 1760.4 |
| 7.5°  | 1715.6 | 1713.7 | 1728.0 | 1745.2 | 1770.9 | 1792.8  | 1816.7  | 1830.0  | 1831.0  | 1828.2 | 1815.8 |
| 10°   | 1712.8 | 1708.0 | 1722.3 | 1743.3 | 1776.6 | 1815.8  | 1857.7  | 1886.3  | 1890.1  | 1902.5 | 1889.2 |
| 12.5° | 1757.6 | 1752.9 | 1772.8 | 1795.7 | 1830.0 | 1871.0  | 1922.6  | 1962.6  | 1968.3  | 1985.5 | 1976.0 |
| 15°   | 1832.9 | 1826.2 | 1849.1 | 1878.7 | 1922.6 | 1969.3  | 2023.7  | 2059.8  | 2064.7  | 2085.7 | 2068.4 |
| 17.5° | 1920.6 | 1914.0 | 1940.6 | 1972.1 | 2019.9 | 2083.7  | 2146.7  | 2186.7  | 2192.5  | 2205.8 | 2174.3 |
| 20°   | 2033.2 | 2024.6 | 2045.6 | 2074.2 | 2124.7 | 2201.0  | 2276.3  | 2333.6  | 2332.6  | 2332.6 | 2281.1 |
| 22.5° | 2163.9 | 2150.4 | 2168.6 | 2191.4 | 2239.2 | 2331.7  | 2431.8  | 2499.5  | 2499.5  | 2472.8 | 2387.9 |
| 25°   | 2304.0 | 2290.7 | 2310.7 | 2331.7 | 2373.6 | 2478.6  | 2595.8  | 2679.8  | 2683.6  | 2637.8 | 2502.3 |
| 27.5° | 2479.5 | 2462.4 | 2477.5 | 2502.3 | 2527.1 | 2633.9  | 2773.2  | 2870.5  | 2872.4  | 2801.8 | 2611.1 |
| 30°   | 2817.1 | 2768.4 | 2720.8 | 2694.0 | 2705.5 | 2811.4  | 2960.1  | 3067.9  | 3077.5  | 2980.2 | 2729.4 |
| 32.5° | 3435.1 | 3425.6 | 3257.7 | 3038.3 | 2923.9 | 3002.1  | 3169.0  | 3298.7  | 3304.4  | 3179.4 | 2882.9 |
| 35°   | 4395.4 | 4383.9 | 4114.0 | 3696.4 | 3323.5 | 3257.7  | 3422.7  | 3576.2  | 3572.3  | 3431.2 | 3082.2 |
| 37.5° | 5541.7 | 5531.2 | 5175.4 | 4616.6 | 4013.0 | 3643.9  | 3749.8  | 3910.9  | 3934.8  | 3749.8 | 3339.7 |
| 40°   | 6521.0 | 6482.0 | 6256.9 | 5718.1 | 4928.4 | 4284.7  | 4215.1  | 4321.9  | 4346.7  | 4127.4 | 3666.7 |
| 42.5° | 7262.9 | 7229.6 | 7115.1 | 6778.5 | 6036.6 | 5232.6  | 4763.5  | 4804.5  | 4832.2  | 4568.9 | 4042.5 |
| 45°   | 7647.3 | 7639.6 | 7685.4 | 7654.0 | 7165.7 | 6396.1  | 5547.4  | 5376.6  | 5387.2  | 5058.2 | 4468.8 |
| 47.5° | 7701.6 | 7697.9 | 7906.7 | 8202.4 | 8136.6 | 7708.3  | 6553.4  | 6090.0  | 6052.8  | 5610.3 | 4932.3 |
| 50°   | 7381.2 | 7373.6 | 7774.1 | 8328.2 | 8785.0 | 8810.8  | 7695.9  | 6893.9  | 6811.9  | 6181.6 | 5415.8 |
| 52.5° | 6358.0 | 6356.0 | 7014.1 | 7936.3 | 9012.9 | 9775.8  | 8825.0  | 7777.0  | 7639.6  | 6786.1 | 5927.0 |
| 55°   | 4892.2 | 4927.5 | 5681.9 | 6771.9 | 8597.2 | 10240.3 | 9838.8  | 8757.4  | 8546.6  | 7394.6 | 6398.0 |
| 57.5° | 3465.5 | 3517.1 | 4262.8 | 5233.6 | 7307.8 | 9965.7  | 10524.5 | 9739.7  | 9512.6  | 8001.2 | 6875.8 |
| 60°   | 1861.5 | 1907.3 | 2654.0 | 3812.7 | 5436.7 | 8941.4  | 10885.9 | 10592.1 | 10377.6 | 8577.1 | 7306.8 |
| 62.5° | 1109.0 | 1124.3 | 1433.4 | 2461.3 | 3677.3 | 6831.0  | 10732.4 | 11241.6 | 11065.2 | 9060.6 | 7681.7 |
| 65°   | 796.3  | 799.2  | 954.6  | 1503.0 | 2232.4 | 4150.3  | 9655.7  | 11552.5 | 11498.1 | 9424.9 | 7959.1 |
| 67.5° | 670.5  | 668.5  | 733.4  | 998.5  | 1521.1 | 2078.9  | 7400.3  | 11112.8 | 11343.7 | 9655.7 | 8116.5 |
| 70°   | 575.0  | 577.9  | 654.2  | 731.4  | 1143.4 | 1176.8  | 3679.1  | 9675.7  | 10167.8 | 9716.7 | 8106.9 |
| 72.5° | 428.1  | 437.7  | 508.3  | 666.6  | 863.0  | 809.6   | 1270.3  | 7174.3  | 8064.1  | 9155.0 | 7686.4 |
| 75°   | 302.3  | 307.1  | 357.6  | 560.8  | 643.7  | 589.4   | 648.5   | 3708.8  | 4849.3  | 7018.9 | 6291.2 |
| 77.5° | 232.7  | 241.3  | 270.8  | 392.0  | 634.2  | 413.9   | 396.7   | 1283.6  | 1972.1  | 4239.9 | 4313.3 |
| 80°   | 125.9  | 141.1  | 195.5  | 283.2  | 445.4  | 292.7   | 196.5   | 511.2   | 668.5   | 1982.7 | 1663.2 |
| 82.5° | 64.9   | 72.5   | 136.3  | 204.1  | 253.7  | 255.5   | 97.3    | 212.7   | 275.6   | 612.2  | 228.0  |
| 85°   | 25.7   | 31.5   | 91.5   | 112.5  | 130.7  | 125.9   | 43.9    | 85.8    | 99.2    | 169.7  | 69.6   |
| 87.5° | 5.7    | 9.5    | 33.4   | 25.7   | 24.8   | 26.8    | 10.5    | 20.0    | 19.1    | 20.0   | 12.4   |
| 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°    | 1710.8 | 1710.8 | 1710.8 | 1710.8 | 1710.8 | 1710.8 | 1710.8 | 1710.8 | 1710.8 | 1710.8 | 1710.8 |
| 2.5°  | 1721.4 | 1717.5 | 1707.0 | 1695.6 | 1682.2 | 1674.6 | 1669.8 | 1668.9 | 1662.2 | 1657.4 | 1662.2 |
| 5°    | 1750.0 | 1746.1 | 1726.1 | 1702.2 | 1676.5 | 1656.5 | 1637.4 | 1620.2 | 1595.4 | 1590.7 | 1588.7 |
| 7.5°  | 1807.2 | 1796.7 | 1764.2 | 1731.8 | 1683.2 | 1625.0 | 1554.4 | 1473.4 | 1400.9 | 1378.9 | 1368.5 |
| 10°   | 1877.7 | 1863.4 | 1822.4 | 1765.2 | 1657.4 | 1499.2 | 1328.4 | 1170.1 | 1044.3 | 1009.0 | 995.6  |
| 12.5° | 1957.9 | 1945.4 | 1891.1 | 1785.2 | 1549.7 | 1262.6 | 1001.3 | 804.8  | 682.9  | 652.3  | 643.7  |
| 15°   | 2053.2 | 2035.0 | 1959.7 | 1754.7 | 1357.0 | 959.4  | 687.6  | 571.2  | 527.4  | 521.6  | 515.9  |
| 17.5° | 2154.2 | 2124.7 | 2020.8 | 1645.0 | 1097.7 | 681.8  | 531.2  | 497.8  | 478.8  | 473.0  | 470.2  |
| 20°   | 2246.8 | 2208.7 | 2057.0 | 1479.1 | 820.1  | 531.2  | 475.9  | 454.0  | 436.8  | 430.1  | 426.3  |
| 22.5° | 2339.3 | 2284.9 | 2057.0 | 1253.1 | 615.1  | 471.1  | 436.8  | 416.8  | 396.7  | 388.2  | 383.3  |
| 25°   | 2435.6 | 2363.1 | 2020.8 | 1001.3 | 495.0  | 432.0  | 399.5  | 377.6  | 360.5  | 350.0  | 346.1  |
| 27.5° | 2529.1 | 2428.9 | 1937.8 | 762.9  | 440.5  | 397.7  | 365.2  | 344.3  | 328.1  | 320.4  | 320.4  |
| 30°   | 2617.7 | 2493.8 | 1821.4 | 578.8  | 405.3  | 364.3  | 333.7  | 315.7  | 299.4  | 291.8  | 292.7  |
| 32.5° | 2737.9 | 2575.8 | 1697.5 | 474.9  | 374.7  | 332.8  | 305.1  | 288.0  | 273.7  | 267.9  | 267.9  |
| 35°   | 2904.8 | 2696.9 | 1590.7 | 466.4  | 349.0  | 307.1  | 279.4  | 263.2  | 248.9  | 244.2  | 244.2  |
| 37.5° | 3141.3 | 2892.4 | 1534.4 | 523.6  | 328.1  | 284.2  | 258.4  | 241.3  | 228.0  | 224.1  | 223.1  |
| 40°   | 3433.1 | 3157.5 | 1565.0 | 580.8  | 313.8  | 264.1  | 239.3  | 222.2  | 210.7  | 206.0  | 205.0  |
| 42.5° | 3779.3 | 3484.6 | 1733.7 | 624.6  | 304.2  | 247.0  | 221.3  | 202.1  | 194.5  | 192.6  | 192.6  |
| 45°   | 4177.0 | 3844.2 | 1992.2 | 671.4  | 288.9  | 230.8  | 203.2  | 188.8  | 183.1  | 182.1  | 181.2  |
| 47.5° | 4629.0 | 4239.0 | 2291.6 | 729.5  | 273.7  | 215.6  | 188.8  | 179.3  | 174.6  | 172.6  | 172.6  |
| 50°   | 5077.2 | 4636.6 | 2599.6 | 762.0  | 261.3  | 201.2  | 177.4  | 169.7  | 165.9  | 165.0  | 165.0  |
| 52.5° | 5546.4 | 5045.8 | 2848.6 | 731.4  | 250.8  | 189.7  | 167.8  | 162.2  | 158.3  | 157.3  | 157.3  |
| 55°   | 5993.7 | 5376.6 | 2891.4 | 620.8  | 229.8  | 178.4  | 157.3  | 154.5  | 149.8  | 149.8  | 148.7  |
| 57.5° | 6379.0 | 5542.6 | 2588.2 | 455.8  | 208.9  | 161.1  | 146.9  | 144.0  | 140.2  | 139.2  | 138.3  |
| 60°   | 6732.7 | 5494.9 | 1997.9 | 307.1  | 185.9  | 144.0  | 133.6  | 131.6  | 127.8  | 123.0  | 122.1  |
| 62.5° | 6932.1 | 5285.1 | 1366.5 | 200.3  | 163.1  | 125.9  | 118.3  | 117.3  | 108.8  | 99.2   | 97.3   |
| 65°   | 7007.4 | 4854.1 | 852.6  | 145.9  | 136.3  | 107.7  | 102.1  | 100.1  | 87.7   | 77.3   | 76.3   |
| 67.5° | 6941.6 | 4144.6 | 430.1  | 115.4  | 107.7  | 89.7   | 83.9   | 83.9   | 75.3   | 65.8   | 64.9   |
| 70°   | 6678.4 | 3107.0 | 181.2  | 92.5   | 82.9   | 68.7   | 68.7   | 72.5   | 63.9   | 53.4   | 52.5   |
| 72.5° | 6107.2 | 2090.4 | 96.4   | 70.5   | 62.0   | 48.6   | 56.3   | 59.1   | 50.5   | 40.1   | 40.1   |
| 75°   | 4855.0 | 1275.0 | 66.7   | 52.5   | 39.1   | 34.3   | 42.9   | 44.8   | 34.3   | 26.8   | 25.7   |
| 77.5° | 3320.6 | 732.4  | 44.8   | 33.4   | 24.8   | 20.0   | 29.5   | 27.7   | 18.1   | 12.4   | 13.3   |
| 80°   | 1458.2 | 305.1  | 25.7   | 15.3   | 9.5    | 7.6    | 10.5   | 7.6    | 5.7    | 3.8    | 3.8    |
| 82.5° | 170.7  | 71.5   | 9.5    | 5.7    | 3.8    | 1.9    | 0.9    | 0.0    | 0.0    | 0.0    | 0.0    |
| 85°   | 35.3   | 8.6    | 4.8    | 1.9    | 0.9    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    |
| 87.5° | 6.7    | 1.9    | 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)