

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: P270357

Luminaire Tested: **NAV-AF-02-D-UNV-SL3-7027-800-HSS**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P270357  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P24263)  
Test Lab: INNOVATION CENTER P2  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: LUMARK  
Catalog Number: NAV-AF-02-D-UNV-SL3-7027-800-HSS  
Description: NAVION ROADWAY AND AREA LUMINAIRE  
(2) 70 CRI, 2700K, 800mA LIGHTSQUARES WITH 16 LEDS EACH AND TYPE III  
SPILL LIGHT ELIMINATOR OPTICS WITH HOUSE SIDE SHIELD  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 7258 lumens  
Efficiency: N/A  
Efficacy: 85.4 lumens/watt  
Luminous Opening: Rectangular (W 0.5' x L: 1' x H: 0')  
IES Classification: Type III - Medium - Non-Cutoff  
BUG Rating: B1 - U0 - G2

Input Watts (W): 85  
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

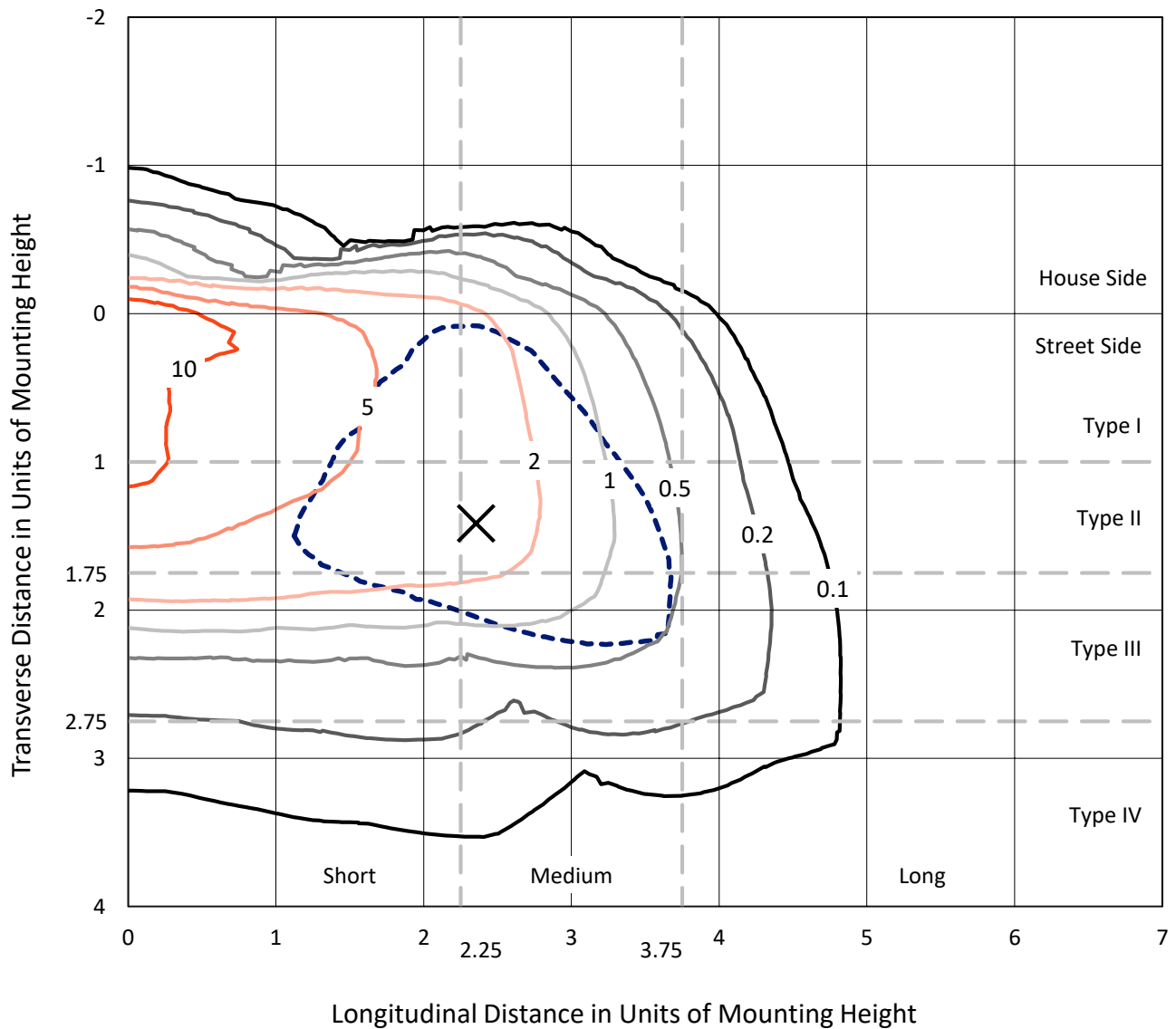


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### Iso-Footcandle Lines of Horizontal Illumination

× Max cd  
 - - - 1/2 Max cd

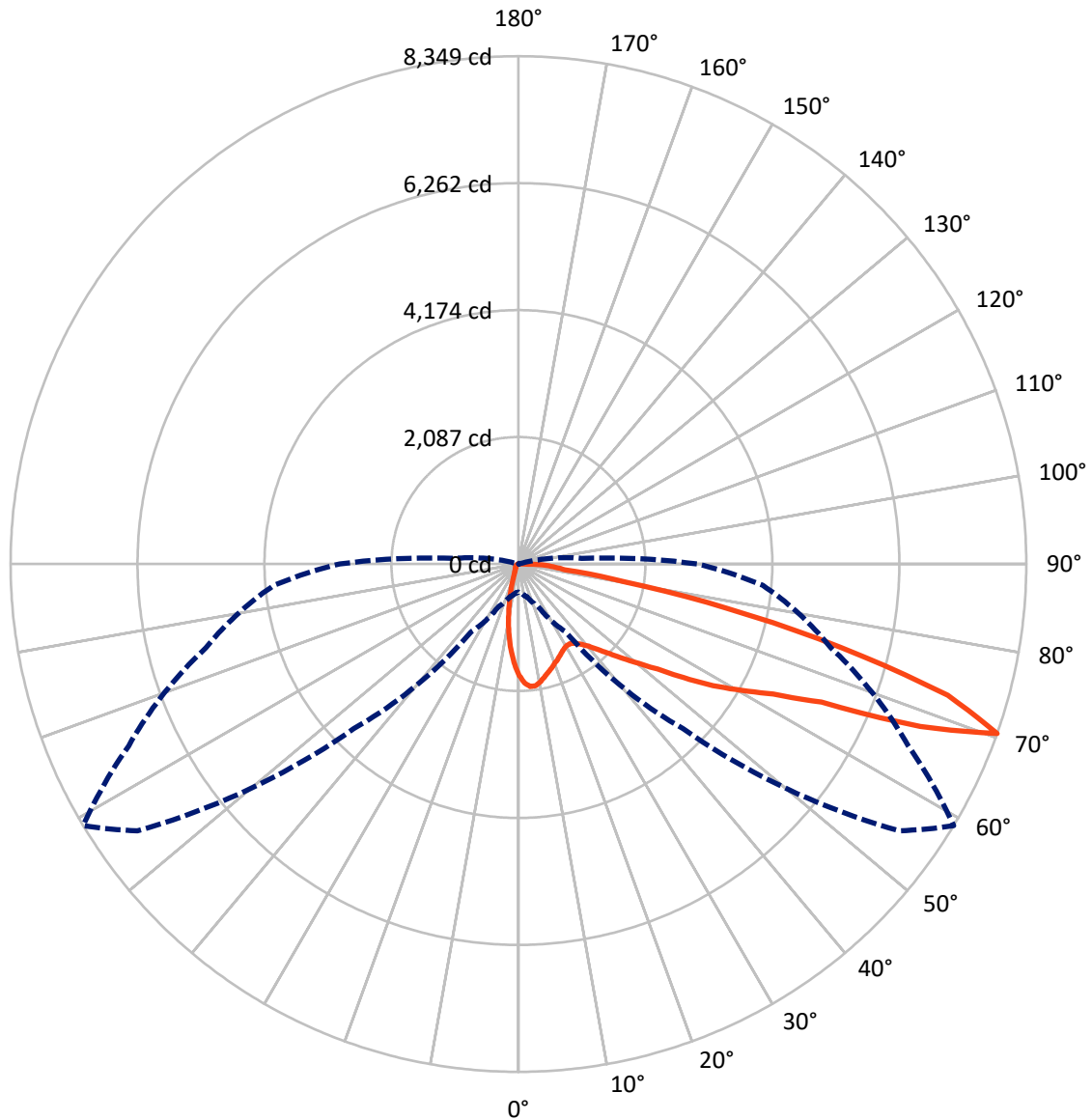


Based on 10 foot mounting height. Maximum calculated value = 19.5 fc  
 Type III - Medium - Non-Cutoff

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### Luminous Intensity Polar Plot



— Vertical Plane Through 59-Deg Lateral      - - - Horizontal Cone Through 70-Deg Vertical

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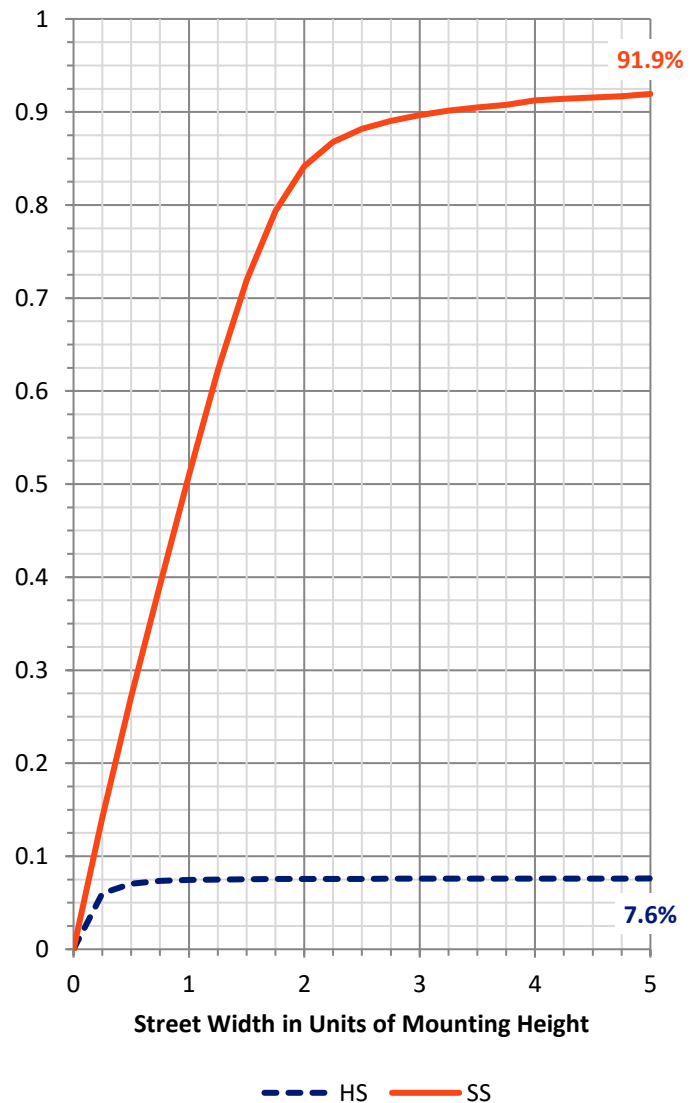
**FLUX DISTRIBUTION:**

|                    |           | Downward | Upward | Total  |
|--------------------|-----------|----------|--------|--------|
| <b>House Side</b>  | Lumens    | 558.0    | 0.0    | 558.0  |
|                    | % Fixture | 7.7      | 0.0    | 7.7    |
| <b>Street Side</b> | Lumens    | 6700.1   | 0.0    | 6700.1 |
|                    | % Fixture | 92.3     | 0.0    | 92.3   |
| <b>Total</b>       | Lumens    | 7258.0   | 0.0    | 7258.0 |
|                    | % Fixture | 100.0    | 0.0    | 100.0  |

**Coefficient of Utilization**

**ZONAL LUMENS:**

| Zone      | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10°    | 150.9  | 2.1       |
| 10°-20°   | 316.5  | 4.4       |
| 20°-30°   | 428.5  | 5.9       |
| 30°-40°   | 618.4  | 8.5       |
| 40°-50°   | 1027.0 | 14.1      |
| 50°-60°   | 1570.9 | 21.6      |
| 60°-70°   | 1953.8 | 26.9      |
| 70°-80°   | 1080.1 | 14.9      |
| 80°-90°   | 112.0  | 1.5       |
| 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°    | 7258.0 | 100.0     |
| 0°-180°   | 7258.0 | 100.0     |



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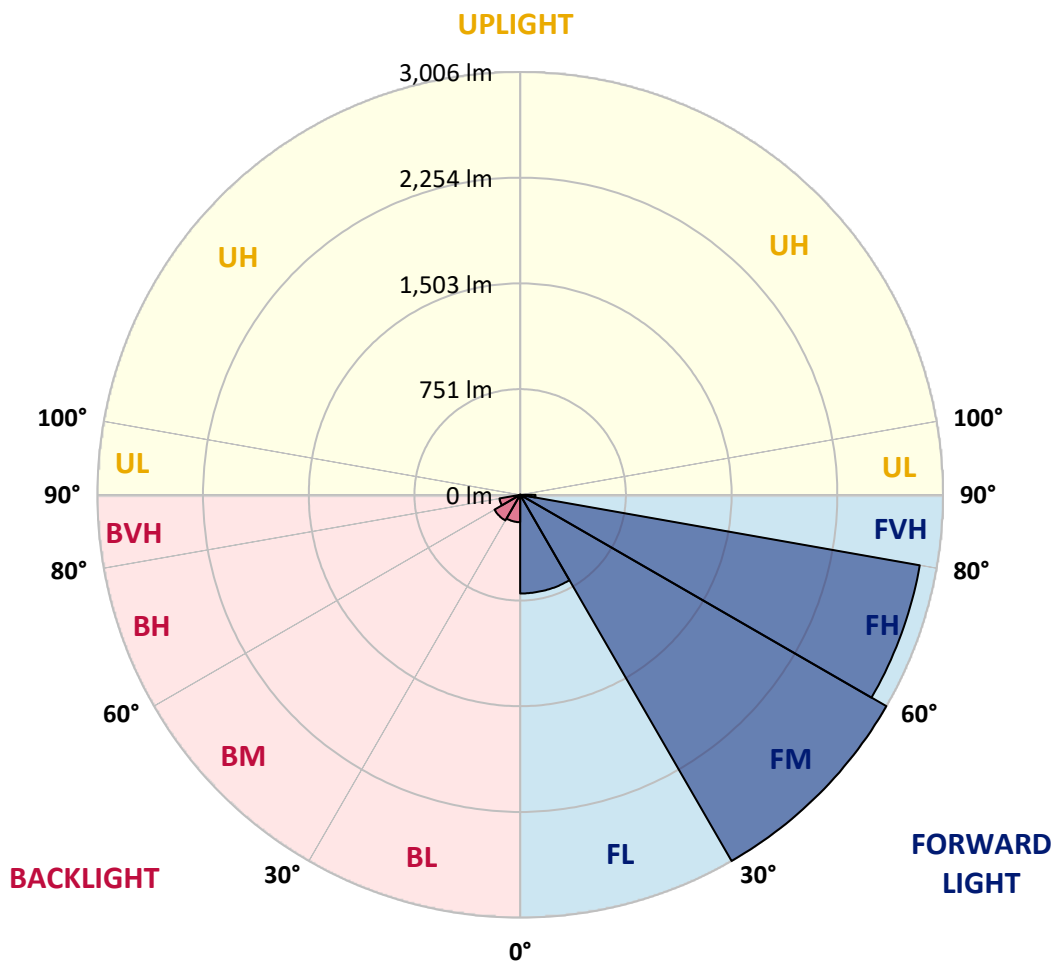
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**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

| Zone |             | Lumens | % Fixture | Zone Rating/Lumen Limit |      |         |
|------|-------------|--------|-----------|-------------------------|------|---------|
|      |             |        |           | B                       | U    | G       |
| FL   | (0°-30°)    | 701.5  | 9.7       |                         |      |         |
| FM   | (30°-60°)   | 3005.6 | 41.4      |                         |      |         |
| FH   | (60°-80°)   | 2884.2 | 39.7      |                         |      | G2/5000 |
| FVH  | (80°-90°)   | 108.8  | 1.5       |                         |      | G2/225  |
| BL   | (0°-30°)    | 194.4  | 2.7       | B1/500                  |      |         |
| BM   | (30°-60°)   | 210.6  | 2.9       | B0/220                  |      |         |
| BH   | (60°-80°)   | 149.7  | 2.1       | B1/500                  |      | G1/500  |
| BVH  | (80°-90°)   | 3.2    | 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 Medium





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**CANDELA DISTRIBUTION (FULL):**

|       | 0°     | 5°     | 15°    | 25°    | 35°    | 45°    | 55°    | 59°    | 65°    | 75°    | 85°    |
|-------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 0°    | 1835.2 | 1835.2 | 1835.2 | 1835.2 | 1835.2 | 1835.2 | 1835.2 | 1835.2 | 1835.2 | 1835.2 | 1835.2 |
| 2.5°  | 2074.5 | 2071.3 | 2057.6 | 2054.9 | 2039.5 | 2008.9 | 1973.2 | 1959.1 | 1930.0 | 1884.0 | 1833.1 |
| 5°    | 2109.1 | 2110.7 | 2111.7 | 2105.7 | 2103.7 | 2078.4 | 2039.1 | 2022.1 | 1983.2 | 1907.6 | 1814.4 |
| 7.5°  | 1979.9 | 1984.3 | 1997.9 | 2003.8 | 2030.2 | 2040.1 | 2031.8 | 2020.8 | 1990.3 | 1901.1 | 1770.1 |
| 10°   | 1843.5 | 1851.8 | 1866.5 | 1876.4 | 1908.7 | 1934.9 | 1968.4 | 1971.2 | 1964.6 | 1879.2 | 1720.3 |
| 12.5° | 1726.4 | 1734.0 | 1750.4 | 1770.1 | 1803.0 | 1836.9 | 1886.8 | 1904.2 | 1926.1 | 1864.9 | 1684.7 |
| 15°   | 1625.7 | 1627.8 | 1643.7 | 1668.3 | 1711.6 | 1758.2 | 1817.2 | 1843.0 | 1885.7 | 1859.4 | 1657.4 |
| 17.5° | 1537.4 | 1538.0 | 1548.4 | 1570.9 | 1623.3 | 1684.7 | 1753.8 | 1787.6 | 1841.9 | 1851.8 | 1633.3 |
| 20°   | 1479.4 | 1478.9 | 1479.4 | 1491.5 | 1538.0 | 1610.8 | 1694.7 | 1730.1 | 1799.8 | 1842.5 | 1608.7 |
| 22.5° | 1459.7 | 1457.1 | 1444.4 | 1440.1 | 1469.5 | 1533.6 | 1633.7 | 1680.4 | 1761.9 | 1839.6 | 1590.5 |
| 25°   | 1483.8 | 1482.2 | 1455.3 | 1430.1 | 1432.8 | 1472.9 | 1571.9 | 1628.8 | 1732.4 | 1849.5 | 1586.1 |
| 27.5° | 1561.6 | 1558.3 | 1517.1 | 1467.9 | 1436.7 | 1443.8 | 1526.0 | 1585.6 | 1708.8 | 1873.7 | 1592.2 |
| 30°   | 1663.4 | 1663.9 | 1620.2 | 1560.4 | 1487.1 | 1446.6 | 1501.2 | 1557.8 | 1692.9 | 1909.7 | 1605.4 |
| 32.5° | 1776.7 | 1776.2 | 1745.0 | 1676.0 | 1582.4 | 1496.9 | 1512.2 | 1559.8 | 1695.1 | 1962.8 | 1630.6 |
| 35°   | 1893.8 | 1887.9 | 1877.5 | 1816.7 | 1707.1 | 1585.1 | 1562.2 | 1597.1 | 1718.1 | 2033.0 | 1673.3 |
| 37.5° | 2029.1 | 2026.9 | 2037.4 | 1973.2 | 1861.6 | 1714.9 | 1649.6 | 1673.3 | 1776.2 | 2136.3 | 1742.3 |
| 40°   | 2244.2 | 2232.3 | 2237.1 | 2150.2 | 2035.6 | 1889.6 | 1772.4 | 1778.4 | 1868.7 | 2273.3 | 1851.1 |
| 42.5° | 2654.4 | 2605.7 | 2514.3 | 2351.0 | 2227.3 | 2083.3 | 1932.8 | 1922.4 | 1999.5 | 2439.2 | 1994.6 |
| 45°   | 3144.4 | 3088.6 | 2858.0 | 2572.8 | 2419.0 | 2291.3 | 2131.0 | 2103.0 | 2160.6 | 2636.9 | 2179.6 |
| 47.5° | 3553.4 | 3493.1 | 3187.6 | 2804.4 | 2613.9 | 2506.0 | 2350.5 | 2317.6 | 2353.3 | 2866.3 | 2402.0 |
| 50°   | 3693.0 | 3659.7 | 3391.5 | 2997.1 | 2810.4 | 2746.9 | 2625.9 | 2571.2 | 2579.9 | 3113.7 | 2661.5 |
| 52.5° | 3629.1 | 3617.5 | 3438.0 | 3129.1 | 2992.3 | 3013.1 | 2927.5 | 2870.2 | 2860.3 | 3384.3 | 2948.3 |
| 55°   | 3493.8 | 3488.3 | 3400.7 | 3202.5 | 3152.6 | 3256.6 | 3350.9 | 3301.0 | 3207.9 | 3671.7 | 3185.5 |
| 57.5° | 3300.5 | 3321.3 | 3384.3 | 3343.8 | 3349.8 | 3514.0 | 3744.0 | 3769.6 | 3630.6 | 3900.6 | 3361.3 |
| 60°   | 2784.1 | 2840.0 | 3128.5 | 3495.3 | 3776.3 | 3942.2 | 4165.0 | 4213.2 | 3988.7 | 4057.1 | 3564.4 |
| 62.5° | 2058.1 | 2138.1 | 2549.3 | 3223.3 | 4011.1 | 4756.3 | 4725.2 | 4703.7 | 4330.4 | 4266.9 | 3933.9 |
| 65°   | 1208.8 | 1302.5 | 1650.2 | 2518.6 | 3656.9 | 5279.8 | 5770.9 | 5475.2 | 4851.0 | 4702.6 | 4522.5 |
| 67.5° | 602.3  | 602.9  | 760.0  | 1329.4 | 2702.6 | 4914.5 | 7297.4 | 7126.6 | 5958.2 | 5344.9 | 4754.6 |
| 70°   | 463.2  | 475.8  | 562.2  | 772.5  | 1366.6 | 3827.8 | 7647.4 | 8348.7 | 7070.6 | 5316.4 | 4034.2 |
| 72.5° | 392.6  | 400.7  | 500.4  | 672.3  | 1021.7 | 2101.3 | 6620.1 | 7379.5 | 6747.1 | 4491.9 | 2973.6 |
| 75°   | 282.5  | 289.1  | 443.0  | 609.9  | 940.6  | 1042.6 | 4541.1 | 5473.1 | 5062.4 | 3159.8 | 1636.5 |
| 77.5° | 70.1   | 69.4   | 154.4  | 495.0  | 841.5  | 868.4  | 2605.7 | 3509.6 | 2904.6 | 1293.7 | 420.4  |
| 80°   | 31.3   | 30.2   | 35.0   | 104.1  | 783.0  | 819.7  | 1146.0 | 1772.4 | 1114.2 | 209.8  | 128.6  |
| 82.5° | 21.9   | 20.8   | 21.9   | 38.3   | 261.8  | 760.5  | 692.7  | 768.2  | 407.9  | 71.8   | 54.7   |
| 85°   | 7.1    | 6.6    | 12.0   | 32.2   | 73.4   | 438.6  | 675.6  | 573.7  | 303.4  | 30.6   | 36.7   |
| 87.5° | 1.1    | 1.1    | 4.4    | 17.5   | 21.4   | 146.2  | 396.4  | 397.5  | 136.4  | 18.1   | 16.3   |
| 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°    | 1835.2 | 1835.2 | 1835.2 | 1835.2 | 1835.2 | 1835.2 | 1835.2 | 1835.2 | 1835.2 | 1835.2 | 1835.2 |
| 2.5°  | 1807.4 | 1775.1 | 1729.6 | 1684.2 | 1643.1 | 1601.0 | 1567.1 | 1551.2 | 1544.0 | 1534.1 | 1512.8 |
| 5°    | 1765.8 | 1707.1 | 1607.5 | 1509.5 | 1418.1 | 1330.5 | 1255.6 | 1212.7 | 1166.8 | 1164.7 | 1142.1 |
| 7.5°  | 1699.0 | 1615.7 | 1458.6 | 1306.3 | 1166.8 | 1033.2 | 918.2  | 843.8  | 792.8  | 761.0  | 739.1  |
| 10°   | 1624.6 | 1517.7 | 1309.6 | 1095.7 | 905.6  | 727.1  | 579.2  | 482.8  | 424.3  | 394.7  | 377.7  |
| 12.5° | 1565.3 | 1431.2 | 1162.9 | 893.5  | 655.5  | 450.6  | 313.1  | 243.1  | 211.9  | 199.9  | 194.4  |
| 15°   | 1514.5 | 1351.8 | 1025.5 | 712.9  | 437.5  | 259.0  | 181.2  | 158.2  | 153.3  | 153.3  | 152.7  |
| 17.5° | 1463.0 | 1275.1 | 891.8  | 535.5  | 275.4  | 169.7  | 142.9  | 139.6  | 140.1  | 141.8  | 141.8  |
| 20°   | 1414.2 | 1202.3 | 763.2  | 381.6  | 180.6  | 135.7  | 129.7  | 128.6  | 130.3  | 132.5  | 132.0  |
| 22.5° | 1374.9 | 1138.3 | 642.7  | 262.2  | 139.1  | 123.2  | 119.4  | 117.7  | 118.8  | 120.5  | 120.0  |
| 25°   | 1346.9 | 1083.5 | 532.2  | 182.8  | 121.0  | 112.3  | 107.8  | 105.7  | 104.7  | 105.7  | 105.1  |
| 27.5° | 1329.9 | 1037.5 | 428.1  | 137.4  | 108.4  | 101.2  | 95.8   | 91.4   | 88.8   | 88.8   | 87.7   |
| 30°   | 1319.0 | 994.3  | 335.6  | 113.8  | 98.1   | 90.3   | 82.6   | 76.6   | 72.3   | 71.1   | 70.6   |
| 32.5° | 1318.4 | 957.1  | 250.7  | 100.7  | 88.2   | 79.4   | 70.1   | 62.4   | 57.5   | 56.5   | 55.9   |
| 35°   | 1332.1 | 927.0  | 184.5  | 90.9   | 79.4   | 69.0   | 58.6   | 50.3   | 46.1   | 46.1   | 45.5   |
| 37.5° | 1367.7 | 909.4  | 139.6  | 83.3   | 72.3   | 60.2   | 49.2   | 41.6   | 37.8   | 38.8   | 38.8   |
| 40°   | 1434.0 | 906.1  | 113.8  | 77.3   | 66.3   | 52.6   | 40.0   | 34.0   | 32.2   | 34.0   | 34.0   |
| 42.5° | 1535.3 | 923.6  | 101.2  | 72.9   | 60.7   | 44.8   | 33.3   | 29.0   | 28.4   | 30.2   | 30.2   |
| 45°   | 1667.3 | 958.1  | 94.2   | 69.0   | 54.7   | 37.2   | 27.9   | 25.2   | 24.7   | 26.8   | 26.8   |
| 47.5° | 1827.2 | 1004.8 | 87.7   | 64.6   | 48.7   | 30.6   | 23.5   | 21.4   | 21.4   | 23.5   | 24.1   |
| 50°   | 2016.5 | 1067.6 | 81.0   | 60.2   | 43.7   | 25.7   | 19.8   | 18.1   | 18.7   | 20.8   | 21.4   |
| 52.5° | 2234.4 | 1144.9 | 75.0   | 56.5   | 38.3   | 20.8   | 16.3   | 15.4   | 15.9   | 18.1   | 18.7   |
| 55°   | 2422.2 | 1212.3 | 67.9   | 52.6   | 31.3   | 17.0   | 13.7   | 13.1   | 13.7   | 16.3   | 16.3   |
| 57.5° | 2586.0 | 1276.9 | 61.4   | 46.5   | 24.7   | 13.7   | 11.0   | 11.0   | 12.0   | 14.8   | 15.4   |
| 60°   | 2803.3 | 1378.7 | 55.9   | 39.4   | 18.7   | 10.4   | 8.8    | 9.3    | 11.0   | 13.1   | 13.7   |
| 62.5° | 3188.3 | 1551.7 | 48.7   | 32.9   | 13.7   | 8.3    | 7.1    | 7.6    | 9.8    | 12.5   | 13.1   |
| 65°   | 3670.0 | 1715.5 | 40.6   | 27.4   | 10.4   | 6.0    | 5.5    | 7.1    | 9.8    | 12.5   | 13.1   |
| 67.5° | 3620.8 | 1492.1 | 31.8   | 21.9   | 7.6    | 4.9    | 4.4    | 6.6    | 9.3    | 12.5   | 13.1   |
| 70°   | 2936.4 | 1045.7 | 23.5   | 14.8   | 6.0    | 4.4    | 4.4    | 6.6    | 9.3    | 12.0   | 12.5   |
| 72.5° | 2036.7 | 582.0  | 18.1   | 9.8    | 5.5    | 4.4    | 3.9    | 6.0    | 8.8    | 12.0   | 12.5   |
| 75°   | 969.1  | 178.6  | 14.3   | 7.1    | 4.9    | 3.9    | 3.2    | 6.0    | 8.8    | 12.0   | 12.5   |
| 77.5° | 186.2  | 45.5   | 11.5   | 6.0    | 4.4    | 3.9    | 3.2    | 5.5    | 8.8    | 11.5   | 12.0   |
| 80°   | 63.1   | 20.2   | 9.3    | 5.5    | 4.4    | 3.9    | 3.2    | 5.5    | 8.3    | 11.0   | 11.5   |
| 82.5° | 34.5   | 11.5   | 8.3    | 4.9    | 4.4    | 3.2    | 2.8    | 4.9    | 7.6    | 11.0   | 11.5   |
| 85°   | 26.8   | 8.3    | 6.6    | 4.9    | 4.4    | 3.2    | 2.8    | 4.9    | 7.6    | 10.4   | 11.0   |
| 87.5° | 13.7   | 6.0    | 5.5    | 4.9    | 4.4    | 3.2    | 2.8    | 4.4    | 7.1    | 9.8    | 11.0   |
| 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)