

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: INVUE

Report Number: P367441

Luminaire Tested: **MSA-SA2C-740-U-SL3-HSS**

Issue Date: 12/2/2019

**Test Information**

Test Method: LM-79-08  
Report Number: P367441  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-1910-543-19)  
Test Lab: INNOVATION CENTER  
Issue Date: 12/2/2019  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: INVUE  
Catalog Number: MSA-SA2C-740-U-SL3-HSS  
Description: MESA POST TOP DECORATIVE LUMINAIRE. (2) 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: 10130 lumens  
Efficiency: N/A  
Efficacy: 89.6 lumens/watt  
Luminous Opening: Rectangular (W 0.5' x L: 1' x H: 0')  
IES Classification: Type III - Short  
BUG Rating: B1 - U0 - G2

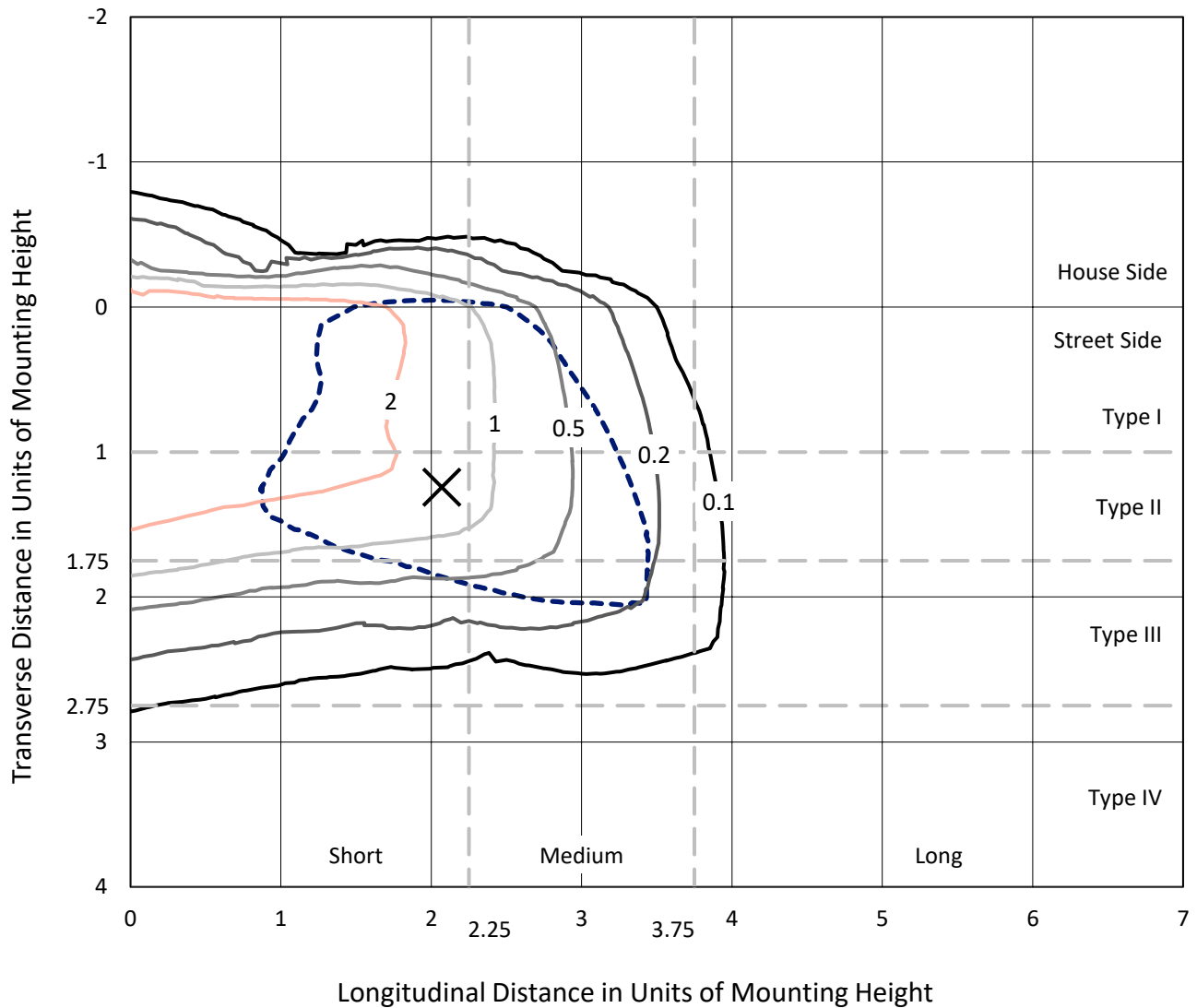
Input Watts (W): 113  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 24 FT



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### Iso-Footcandle Lines of Horizontal Illumination

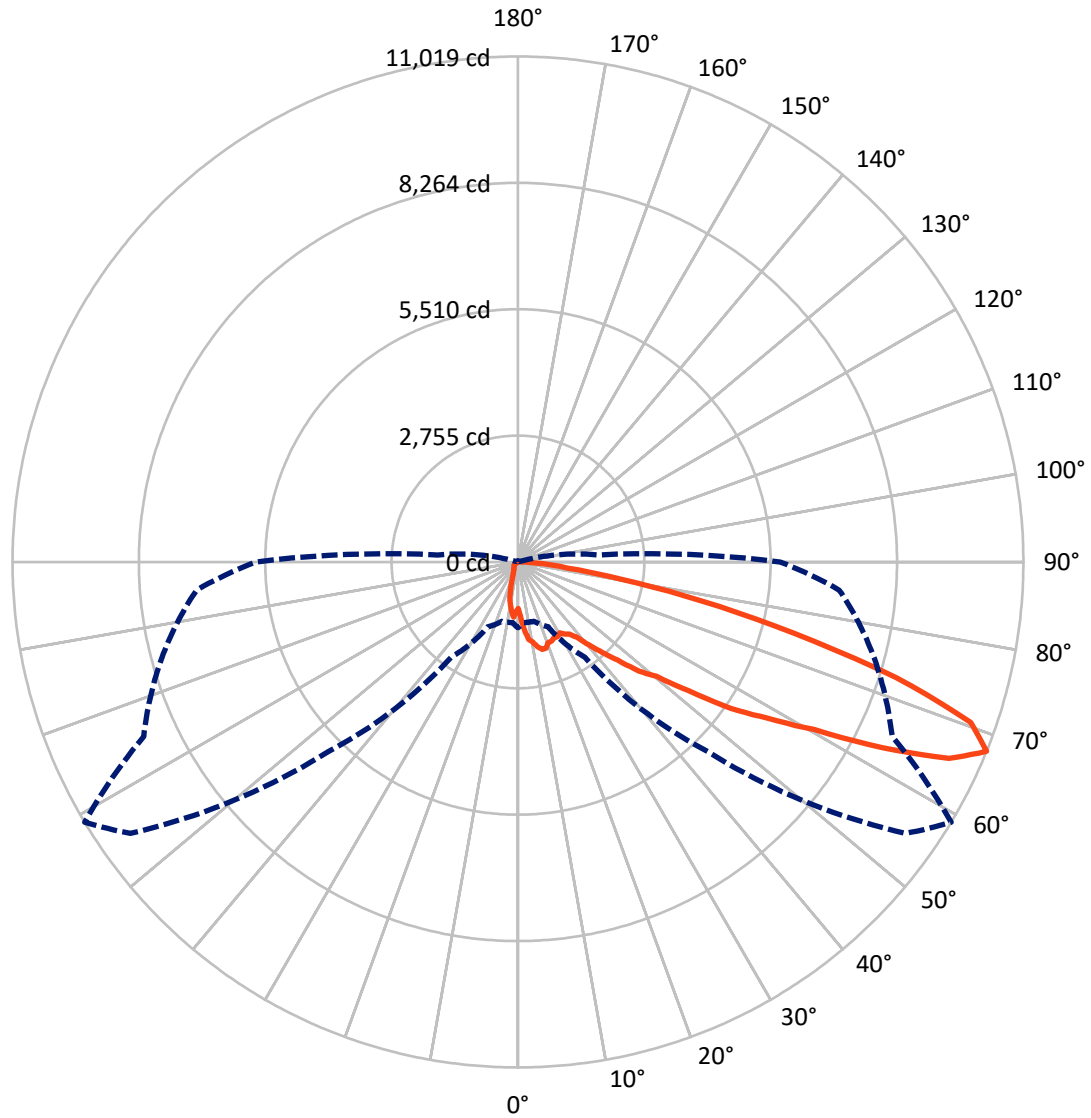
✕ Max cd  
 - - - 1/2 Max cd



Based on 20 foot mounting height. Maximum calculated value = 4.5 fc  
 Type III - Short - N/A

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### Luminous Intensity Polar Plot



— Vertical Plane Through 59-Deg Lateral    - - - Horizontal Cone Through 67.5-Deg Vertical

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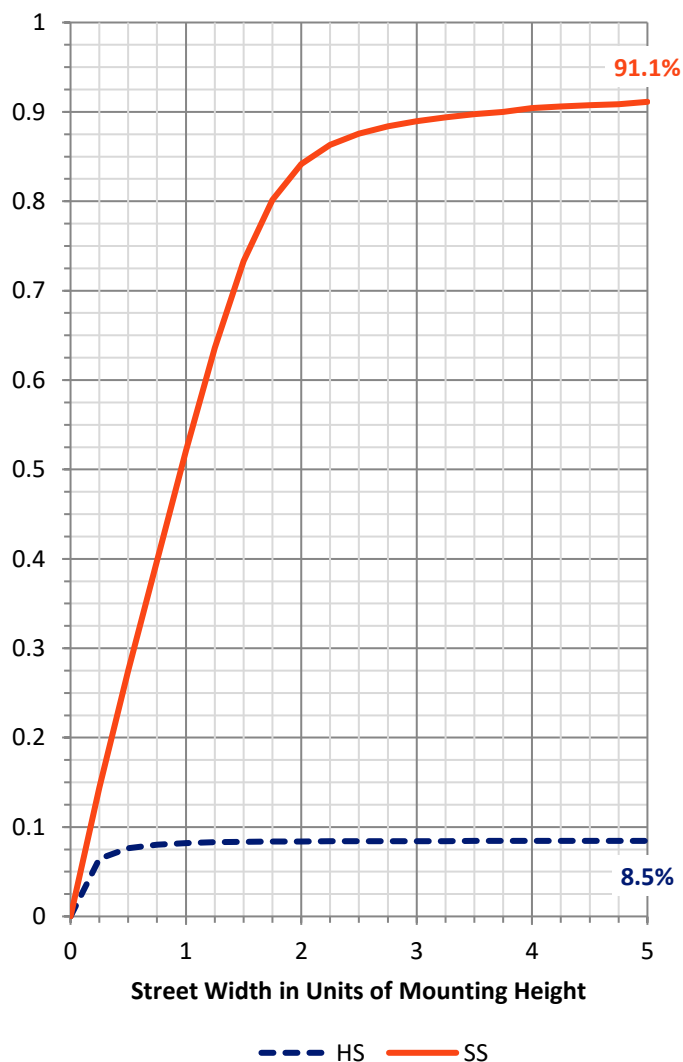
**FLUX DISTRIBUTION:**

|                    |           | Downward | Upward | Total   |
|--------------------|-----------|----------|--------|---------|
| <b>House Side</b>  | Lumens    | 861.5    | 0.0    | 861.5   |
|                    | % Fixture | 8.5      | 0.0    | 8.5     |
| <b>Street Side</b> | Lumens    | 9268.5   | 0.0    | 9268.5  |
|                    | % Fixture | 91.5     | 0.0    | 91.5    |
| <b>Total</b>       | Lumens    | 10130.0  | 0.0    | 10130.0 |
|                    | % Fixture | 100.0    | 0.0    | 100.0   |

**ZONAL LUMENS:**

| Zone      | Lumens  | % Fixture |
|-----------|---------|-----------|
| 0°-10°    | 123.2   | 1.2       |
| 10°-20°   | 347.0   | 3.4       |
| 20°-30°   | 516.1   | 5.1       |
| 30°-40°   | 796.3   | 7.9       |
| 40°-50°   | 1421.1  | 14.0      |
| 50°-60°   | 2528.9  | 25.0      |
| 60°-70°   | 2945.3  | 29.1      |
| 70°-80°   | 1309.8  | 12.9      |
| 80°-90°   | 142.2   | 1.4       |
| 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°    | 10130.0 | 100.0     |
| 0°-180°   | 10130.0 | 100.0     |

**Coefficient of Utilization**



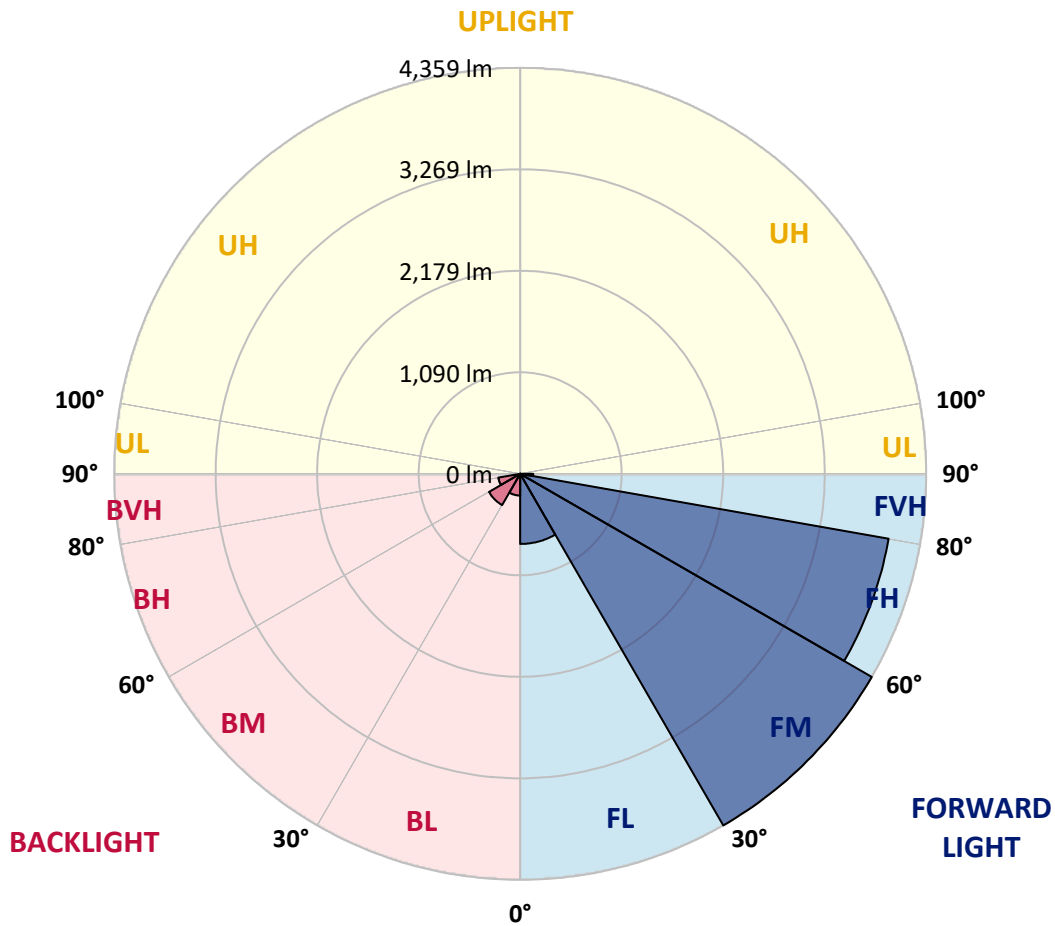
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**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

| Zone           | Lumens | % Fixture | Zone Rating/Lumen Limit |      |         |
|----------------|--------|-----------|-------------------------|------|---------|
|                |        |           | B                       | U    | G       |
| FL (0°-30°)    | 753.4  | 7.4       |                         |      |         |
| FM (30°-60°)   | 4358.9 | 43.0      |                         |      |         |
| FH (60°-80°)   | 4016.5 | 39.6      |                         |      | G2/5000 |
| FVH (80°-90°)  | 139.7  | 1.4       |                         |      | G2/225  |
| BL (0°-30°)    | 233.0  | 2.3       | B1/500                  |      |         |
| BM (30°-60°)   | 387.3  | 3.8       | B1/1000                 |      |         |
| BH (60°-80°)   | 238.6  | 2.4       | B1/500                  |      | G1/500  |
| BVH (80°-90°)  | 2.5    | 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°     | 59°     | 65°    | 75°    | 85°    |
|-------|--------|--------|--------|--------|--------|--------|---------|---------|--------|--------|--------|
| 0°    | 1013.5 | 1013.5 | 1013.5 | 1013.5 | 1013.5 | 1013.5 | 1013.5  | 1013.5  | 1013.5 | 1013.5 | 1013.5 |
| 2.5°  | 1321.3 | 1271.5 | 1200.8 | 1221.8 | 1240.8 | 1258.7 | 1229.0  | 1212.0  | 1203.8 | 1131.0 | 1222.3 |
| 5°    | 1622.4 | 1560.3 | 1528.0 | 1519.8 | 1499.3 | 1453.6 | 1529.5  | 1495.7  | 1507.0 | 1521.3 | 1551.1 |
| 7.5°  | 1714.2 | 1686.0 | 1639.3 | 1656.7 | 1578.8 | 1572.1 | 1677.3  | 1706.5  | 1745.0 | 1718.8 | 1754.7 |
| 10°   | 1667.0 | 1618.3 | 1640.3 | 1634.2 | 1631.1 | 1699.8 | 1773.7  | 1775.2  | 1832.7 | 1860.4 | 1738.8 |
| 12.5° | 1573.7 | 1579.3 | 1658.3 | 1652.1 | 1754.7 | 1892.2 | 1909.1  | 1891.2  | 1985.0 | 1936.8 | 1918.3 |
| 15°   | 1635.7 | 1681.9 | 1638.3 | 1653.2 | 1689.6 | 1861.4 | 1921.4  | 1976.8  | 2065.5 | 2094.3 | 1969.6 |
| 17.5° | 1710.6 | 1715.2 | 1635.7 | 1617.3 | 1709.1 | 1789.1 | 1930.6  | 1976.3  | 1985.0 | 2236.9 | 2085.0 |
| 20°   | 1670.1 | 1709.6 | 1614.7 | 1498.3 | 1640.8 | 1749.6 | 1893.2  | 1878.8  | 1937.3 | 2278.9 | 2111.2 |
| 22.5° | 1777.8 | 1721.4 | 1599.8 | 1512.1 | 1560.3 | 1659.3 | 1780.9  | 1874.7  | 1962.4 | 2178.4 | 2145.1 |
| 25°   | 1788.1 | 1767.5 | 1659.3 | 1581.3 | 1573.1 | 1598.3 | 1767.5  | 1828.1  | 1965.5 | 2268.7 | 2116.3 |
| 27.5° | 1903.5 | 1879.9 | 1658.3 | 1666.0 | 1589.0 | 1511.6 | 1702.9  | 1845.0  | 2021.4 | 2213.8 | 2177.4 |
| 30°   | 2052.2 | 2054.3 | 1768.6 | 1792.7 | 1682.9 | 1558.3 | 1755.7  | 1794.7  | 2059.4 | 2301.5 | 2222.5 |
| 32.5° | 2203.0 | 2265.1 | 1986.6 | 1858.8 | 1824.5 | 1735.2 | 1690.1  | 1870.1  | 2017.8 | 2451.3 | 2335.3 |
| 35°   | 2432.3 | 2474.3 | 2166.1 | 2051.7 | 1916.8 | 1815.2 | 1868.6  | 1933.2  | 2167.1 | 2649.8 | 2483.6 |
| 37.5° | 2820.6 | 2744.7 | 2488.2 | 2289.2 | 2256.9 | 2107.1 | 2133.8  | 2075.8  | 2319.4 | 2883.7 | 2777.0 |
| 40°   | 3039.1 | 2970.3 | 2703.6 | 2606.7 | 2400.5 | 2423.6 | 2339.4  | 2373.3  | 2540.5 | 3127.3 | 3044.2 |
| 42.5° | 3266.8 | 3201.2 | 2967.3 | 2898.5 | 2702.1 | 2606.7 | 2568.7  | 2690.3  | 2879.6 | 3533.0 | 3427.4 |
| 45°   | 3495.6 | 3328.9 | 3229.9 | 3264.3 | 3176.0 | 2987.3 | 2943.2  | 3051.4  | 3249.9 | 4031.6 | 3831.5 |
| 47.5° | 3688.4 | 3547.9 | 3473.5 | 3457.6 | 3423.3 | 3685.4 | 3505.8  | 3553.5  | 3641.3 | 4472.7 | 4335.2 |
| 50°   | 4036.2 | 3897.7 | 3781.3 | 3749.0 | 3916.2 | 4288.0 | 4011.1  | 3918.7  | 4094.2 | 5005.6 | 4918.9 |
| 52.5° | 4538.4 | 4361.9 | 4176.7 | 4177.3 | 4492.7 | 4696.9 | 4828.2  | 4666.1  | 4698.9 | 5591.9 | 5553.4 |
| 55°   | 4942.0 | 4717.9 | 4564.5 | 4685.6 | 5155.9 | 5270.3 | 5771.4  | 5629.3  | 5586.8 | 6135.6 | 6088.4 |
| 57.5° | 4997.4 | 4728.7 | 4655.8 | 4868.2 | 5511.9 | 6242.3 | 6781.4  | 6426.4  | 6361.3 | 6590.6 | 6684.4 |
| 60°   | 4480.4 | 4195.2 | 4250.1 | 4591.7 | 5627.8 | 6834.7 | 7708.7  | 7418.9  | 7005.0 | 7123.5 | 7188.1 |
| 62.5° | 3341.7 | 3114.0 | 3267.8 | 3720.2 | 5181.1 | 7231.7 | 8782.3  | 8916.7  | 7751.8 | 7523.6 | 7509.7 |
| 65°   | 2168.1 | 2025.5 | 2126.6 | 2497.4 | 3920.8 | 7186.6 | 9741.5  | 10324.1 | 8340.2 | 7849.8 | 7610.8 |
| 67.5° | 1434.1 | 1325.9 | 1340.3 | 1559.8 | 2535.4 | 5844.8 | 10314.9 | 11019.2 | 9001.8 | 8035.0 | 7031.7 |
| 70°   | 1068.9 | 983.8  | 988.9  | 1107.9 | 1504.9 | 3854.6 | 9515.3  | 10470.8 | 9243.4 | 7393.3 | 5675.5 |
| 72.5° | 770.9  | 714.0  | 761.7  | 894.0  | 1199.2 | 2038.4 | 7092.2  | 8623.3  | 8060.1 | 5831.4 | 3823.9 |
| 75°   | 534.0  | 496.5  | 574.5  | 747.8  | 1094.6 | 1265.4 | 4686.6  | 6207.4  | 5649.4 | 3658.7 | 1728.6 |
| 77.5° | 296.0  | 284.7  | 397.0  | 609.4  | 993.5  | 1037.1 | 2870.8  | 4078.8  | 3133.5 | 1311.5 | 411.4  |
| 80°   | 129.3  | 125.2  | 192.3  | 457.5  | 835.0  | 937.1  | 1616.2  | 2261.5  | 1232.6 | 233.9  | 132.8  |
| 82.5° | 55.4   | 53.3   | 82.1   | 275.4  | 606.8  | 783.7  | 996.6   | 1088.4  | 424.2  | 72.3   | 75.4   |
| 85°   | 9.7    | 10.8   | 32.8   | 145.2  | 369.3  | 398.0  | 721.7   | 644.2   | 213.4  | 34.4   | 53.9   |
| 87.5° | 0.0    | 0.0    | 5.1    | 28.2   | 69.2   | 113.9  | 312.9   | 225.7   | 40.5   | 11.3   | 9.2    |
| 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):**

|       | 90°    | 95°    | 105°   | 115°   | 125°   | 135°   | 145°   | 155°   | 165°   | 175°   | 180°   |
|-------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 0°    | 1013.5 | 1013.5 | 1013.5 | 1013.5 | 1013.5 | 1013.5 | 1013.5 | 1013.5 | 1013.5 | 1013.5 | 1013.5 |
| 2.5°  | 1235.1 | 1206.4 | 1097.1 | 1083.3 | 1068.4 | 1046.4 | 1038.2 | 991.0  | 984.8  | 1045.3 | 1045.3 |
| 5°    | 1537.2 | 1434.7 | 1330.5 | 1248.5 | 1175.1 | 1073.6 | 1044.8 | 1015.1 | 991.0  | 984.8  | 1003.8 |
| 7.5°  | 1696.8 | 1571.6 | 1408.0 | 1199.2 | 1030.0 | 882.7  | 821.2  | 778.1  | 729.9  | 744.3  | 751.9  |
| 10°   | 1688.0 | 1555.2 | 1346.4 | 1078.2 | 890.4  | 727.8  | 571.4  | 480.1  | 429.3  | 404.2  | 401.1  |
| 12.5° | 1773.7 | 1648.5 | 1304.9 | 981.7  | 742.2  | 517.5  | 359.6  | 294.4  | 257.0  | 257.5  | 254.4  |
| 15°   | 1823.4 | 1687.0 | 1256.7 | 859.7  | 522.7  | 332.9  | 249.3  | 234.9  | 229.8  | 235.4  | 232.4  |
| 17.5° | 1911.2 | 1727.5 | 1147.4 | 677.6  | 359.6  | 251.3  | 229.3  | 223.6  | 230.3  | 242.1  | 239.0  |
| 20°   | 1904.5 | 1657.3 | 992.0  | 477.5  | 265.7  | 226.2  | 217.0  | 208.2  | 222.1  | 234.4  | 232.4  |
| 22.5° | 1898.3 | 1588.5 | 845.8  | 352.4  | 222.1  | 206.2  | 198.5  | 194.9  | 202.1  | 216.5  | 219.5  |
| 25°   | 1844.0 | 1554.7 | 697.6  | 264.7  | 201.1  | 187.2  | 183.6  | 180.5  | 183.1  | 194.9  | 194.4  |
| 27.5° | 1910.6 | 1469.0 | 538.6  | 222.1  | 186.2  | 169.8  | 166.7  | 161.6  | 156.4  | 166.7  | 168.2  |
| 30°   | 1896.8 | 1480.8 | 422.1  | 195.4  | 171.3  | 149.3  | 150.3  | 139.5  | 130.3  | 139.5  | 139.5  |
| 32.5° | 1947.1 | 1394.6 | 338.0  | 177.5  | 156.4  | 140.5  | 127.7  | 116.4  | 109.8  | 115.4  | 116.4  |
| 35°   | 2020.4 | 1398.2 | 264.7  | 166.2  | 143.6  | 125.2  | 109.8  | 98.5   | 92.3   | 94.9   | 96.4   |
| 37.5° | 2266.1 | 1373.6 | 221.1  | 157.5  | 139.0  | 115.9  | 100.0  | 85.1   | 81.0   | 84.1   | 85.7   |
| 40°   | 2426.1 | 1439.3 | 194.9  | 152.9  | 127.2  | 106.7  | 85.7   | 74.9   | 71.3   | 72.8   | 75.4   |
| 42.5° | 2727.7 | 1475.7 | 182.1  | 147.7  | 116.4  | 91.3   | 73.3   | 67.2   | 62.1   | 64.1   | 66.2   |
| 45°   | 3050.4 | 1537.7 | 172.3  | 142.1  | 108.2  | 80.0   | 64.6   | 59.5   | 52.8   | 53.3   | 55.4   |
| 47.5° | 3446.9 | 1685.5 | 161.1  | 132.3  | 96.9   | 72.8   | 57.4   | 49.8   | 43.6   | 43.1   | 45.7   |
| 50°   | 3979.3 | 1882.9 | 150.8  | 120.0  | 89.8   | 66.7   | 50.3   | 40.5   | 35.4   | 33.9   | 35.9   |
| 52.5° | 4547.6 | 2138.4 | 140.0  | 111.3  | 81.0   | 58.5   | 43.1   | 32.8   | 28.2   | 27.2   | 28.7   |
| 55°   | 5110.8 | 2383.6 | 129.8  | 105.7  | 71.8   | 50.3   | 36.4   | 27.2   | 23.1   | 22.1   | 23.1   |
| 57.5° | 5752.4 | 2648.7 | 116.4  | 94.4   | 63.1   | 43.6   | 30.3   | 22.6   | 19.0   | 18.0   | 18.5   |
| 60°   | 6235.6 | 2742.1 | 105.1  | 82.1   | 54.9   | 38.5   | 25.6   | 18.0   | 15.4   | 14.4   | 14.9   |
| 62.5° | 6464.9 | 2589.8 | 94.4   | 71.3   | 48.2   | 33.3   | 21.5   | 14.9   | 12.8   | 11.8   | 11.8   |
| 65°   | 6405.4 | 2252.3 | 83.6   | 61.0   | 41.5   | 27.7   | 16.9   | 12.8   | 11.3   | 9.7    | 9.2    |
| 67.5° | 5718.1 | 1762.4 | 71.3   | 51.3   | 34.9   | 22.6   | 14.4   | 12.3   | 10.3   | 9.2    | 7.7    |
| 70°   | 4534.8 | 1276.2 | 58.0   | 42.6   | 29.2   | 18.5   | 11.3   | 11.3   | 9.7    | 9.2    | 7.2    |
| 72.5° | 2972.4 | 803.2  | 47.2   | 34.4   | 24.1   | 14.4   | 8.7    | 10.3   | 9.2    | 9.2    | 6.7    |
| 75°   | 1288.0 | 287.2  | 38.0   | 27.7   | 20.0   | 9.7    | 7.7    | 9.2    | 9.7    | 9.2    | 7.7    |
| 77.5° | 301.6  | 89.2   | 29.7   | 22.1   | 16.4   | 6.7    | 7.7    | 9.2    | 9.7    | 8.7    | 6.7    |
| 80°   | 113.4  | 38.0   | 19.5   | 14.4   | 12.8   | 4.1    | 6.7    | 5.6    | 5.1    | 3.6    | 1.0    |
| 82.5° | 68.7   | 15.9   | 10.3   | 7.2    | 6.2    | 1.0    | 3.1    | 2.1    | 1.0    | 1.0    | 0.0    |
| 85°   | 48.7   | 7.7    | 5.6    | 5.1    | 3.1    | 0.0    | 0.5    | 0.0    | 0.0    | 0.5    | 0.0    |
| 87.5° | 6.7    | 2.1    | 2.6    | 2.6    | 2.1    | 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)