

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: P368256

Luminaire Tested: **MSA-SA4A-750-U-SL3**

Issue Date: 12/2/2019

**Test Information**

Test Method: LM-79-08  
Report Number: P368256  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-1910-543-18)  
Test Lab: INNOVATION CENTER  
Issue Date: 12/2/2019  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: INVUE  
Catalog Number: MSA-SA4A-750-U-SL3  
Description: MESA POST TOP DECORATIVE LUMINAIRE. (4) LIGHTSQUARES WITH 16 LEDS  
EACH AND TYPE III SPILL LIGHT ELIMINATOR OPTICS.  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 15212 lumens  
Efficiency: N/A  
Efficacy: 117.9 lumens/watt  
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')  
IES Classification: Type III - Short  
BUG Rating: B2 - U0 - G3

Input Watts (W): 129  
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



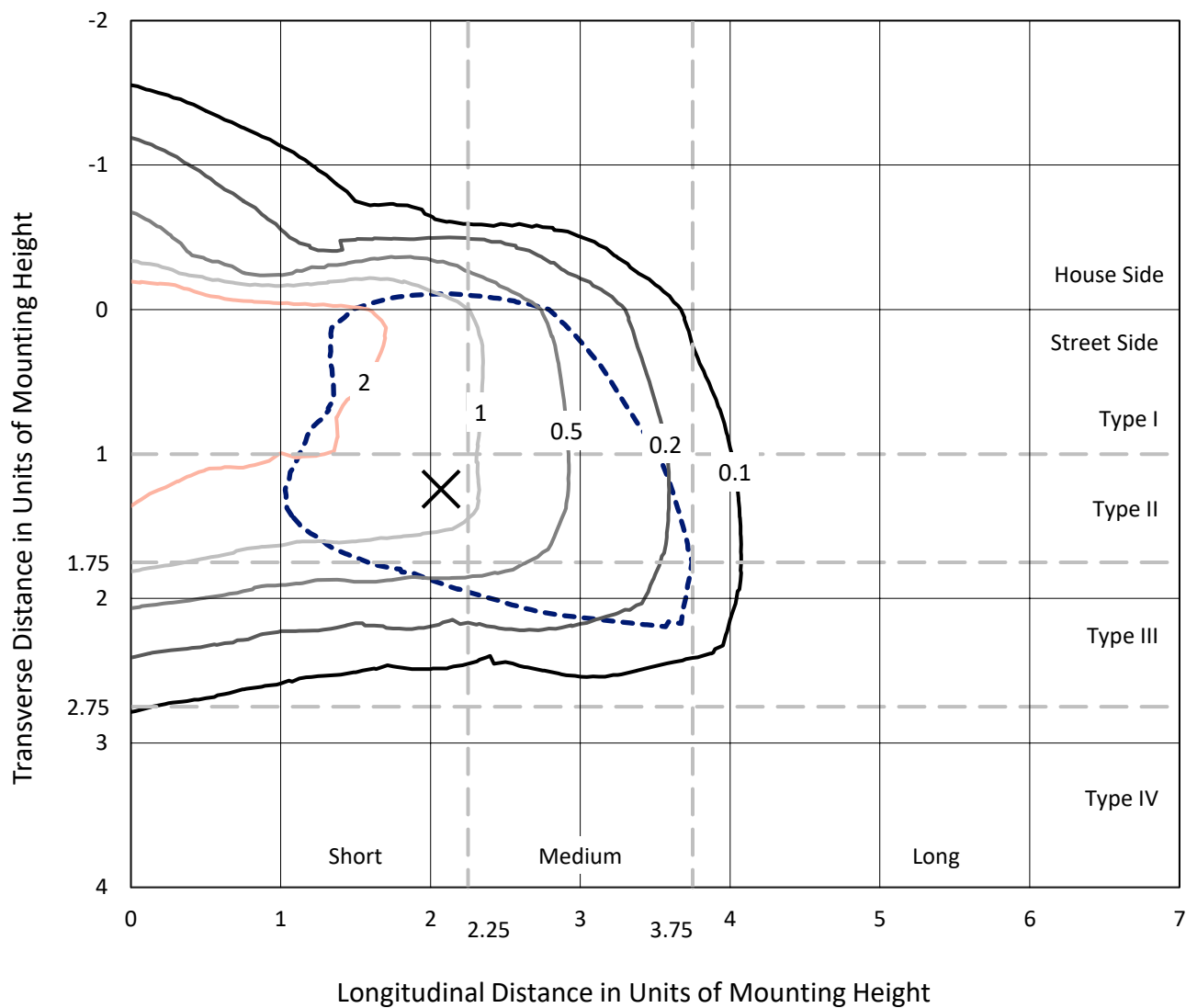
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## Iso-Footcandle Lines of Horizontal Illumination

✕ Max cd

--- 1/2 Max cd

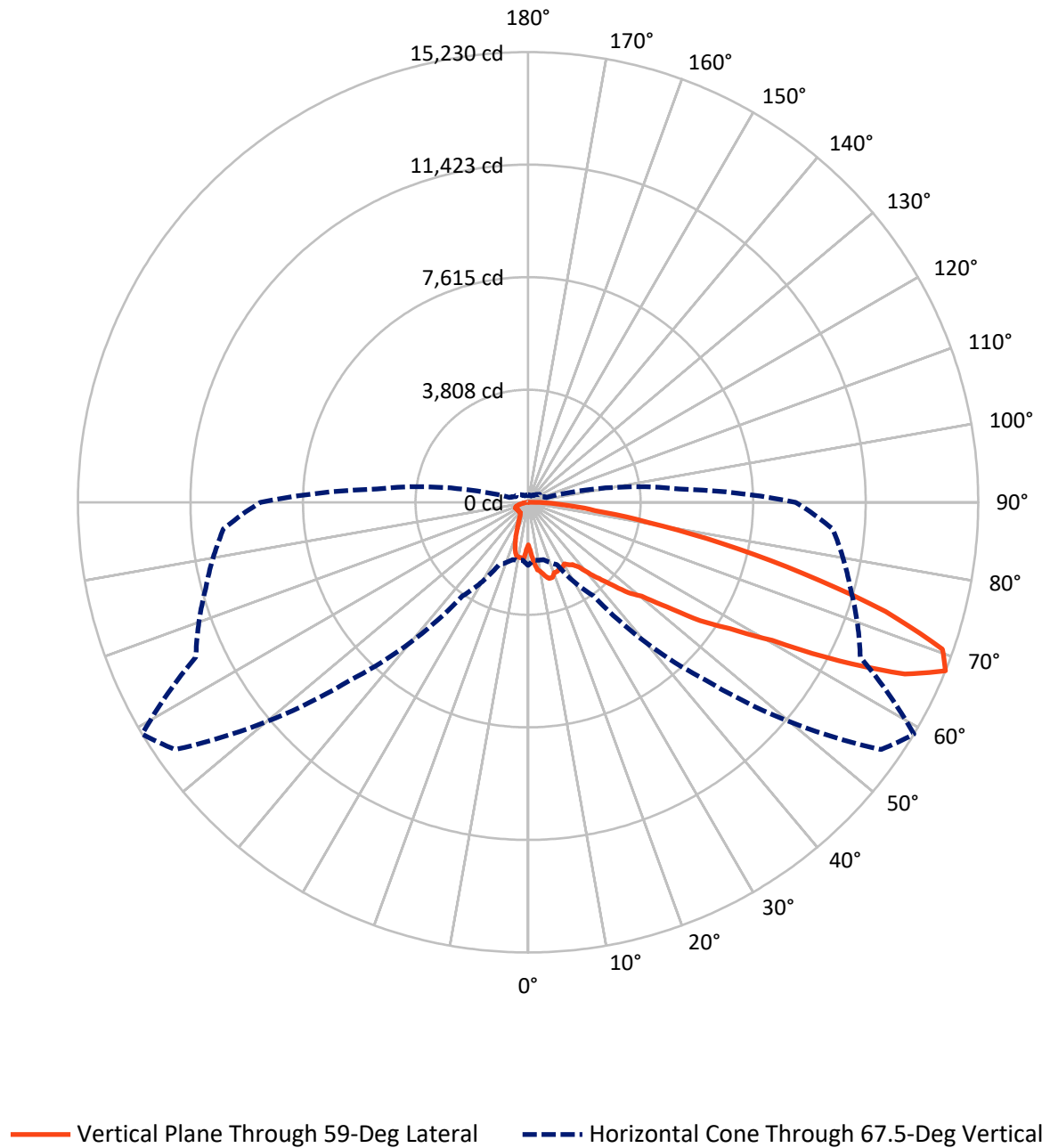


Based on 25 foot mounting height. Maximum calculated value = 3.9 fc  
 Type III - Short - N/A

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## Luminous Intensity Polar Plot



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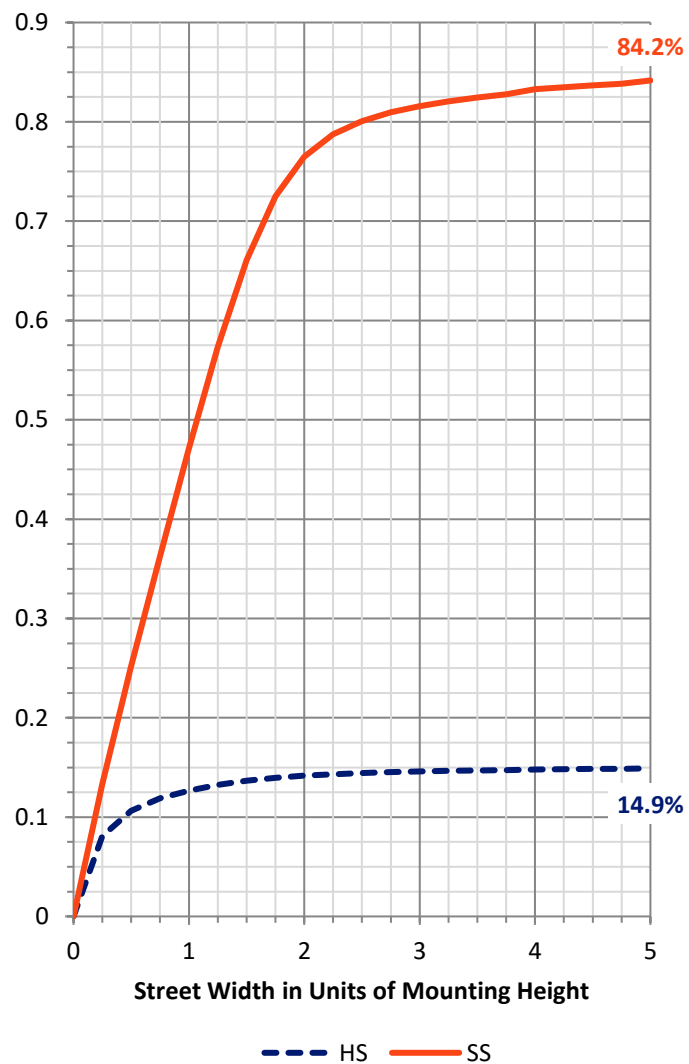
**FLUX DISTRIBUTION:**

|                    |           | Downward | Upward | Total   |
|--------------------|-----------|----------|--------|---------|
| <b>House Side</b>  | Lumens    | 2289.7   | 0.0    | 2289.7  |
|                    | % Fixture | 15.1     | 0.0    | 15.1    |
| <b>Street Side</b> | Lumens    | 12922.3  | 0.0    | 12922.3 |
|                    | % Fixture | 84.9     | 0.0    | 84.9    |
| <b>Total</b>       | Lumens    | 15212.0  | 0.0    | 15212.0 |
|                    | % Fixture | 100.0    | 0.0    | 100.0   |

**ZONAL LUMENS:**

| Zone      | Lumens  | % Fixture |
|-----------|---------|-----------|
| 0°-10°    | 188.0   | 1.2       |
| 10°-20°   | 556.3   | 3.7       |
| 20°-30°   | 794.5   | 5.2       |
| 30°-40°   | 1170.7  | 7.7       |
| 40°-50°   | 1978.0  | 13.0      |
| 50°-60°   | 3442.1  | 22.6      |
| 60°-70°   | 4386.2  | 28.8      |
| 70°-80°   | 2322.6  | 15.3      |
| 80°-90°   | 373.6   | 2.5       |
| 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°    | 15212.0 | 100.0     |
| 0°-180°   | 15212.0 | 100.0     |

**Coefficient of Utilization**



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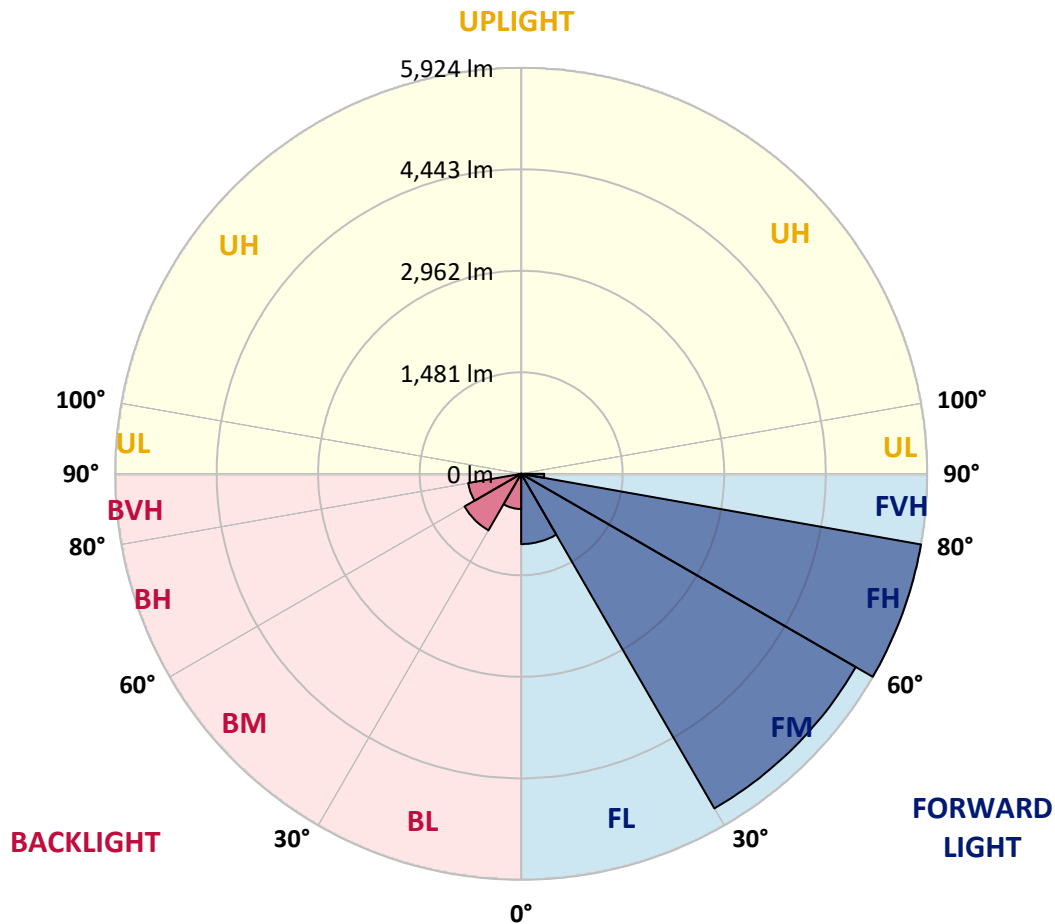
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**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

| Zone |             | Lumens | % Fixture | Zone Rating/Lumen Limit |      |         |
|------|-------------|--------|-----------|-------------------------|------|---------|
|      |             |        |           | B                       | U    | G       |
| FL   | (0°-30°)    | 1025.3 | 6.7       |                         |      |         |
| FM   | (30°-60°)   | 5637.4 | 37.1      |                         |      |         |
| FH   | (60°-80°)   | 5924.0 | 38.9      |                         |      | G3/7500 |
| FVH  | (80°-90°)   | 335.6  | 2.2       |                         |      | G3/500  |
| BL   | (0°-30°)    | 513.5  | 3.4       | B2/1000                 |      |         |
| BM   | (30°-60°)   | 953.4  | 6.3       | B1/1000                 |      |         |
| BH   | (60°-80°)   | 784.8  | 5.2       | B2/1000                 |      | G2/1000 |
| BVH  | (80°-90°)   | 38.0   | 0.3       |                         |      | G1/100  |
| UL   | (90°-100°)  | 0.0    | 0.0       |                         | U0/0 |         |
| UH   | (100°-180°) | 0.0    | 0.0       |                         | U0/0 |         |

**BUG Rating: B2-U0-G3**

Type III Short



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**CANDELA DISTRIBUTION (FULL):**

|       | 0°     | 5°     | 15°    | 25°    | 35°    | 45°    | 55°     | 59°     | 65°     | 75°     | 85°     |
|-------|--------|--------|--------|--------|--------|--------|---------|---------|---------|---------|---------|
| 0°    | 1439.5 | 1439.5 | 1439.5 | 1439.5 | 1439.5 | 1439.5 | 1439.5  | 1439.5  | 1439.5  | 1439.5  | 1439.5  |
| 2.5°  | 1797.2 | 1713.4 | 1624.5 | 1649.6 | 1700.5 | 1723.7 | 1698.6  | 1674.1  | 1642.5  | 1605.1  | 1732.8  |
| 5°    | 2179.5 | 2055.1 | 2037.0 | 2036.4 | 2018.3 | 1946.1 | 2039.0  | 2032.5  | 2069.9  | 2108.6  | 2207.9  |
| 7.5°  | 2288.4 | 2242.0 | 2191.7 | 2215.6 | 2124.7 | 2120.8 | 2265.2  | 2306.5  | 2378.7  | 2354.8  | 2488.3  |
| 10°   | 2232.3 | 2180.1 | 2206.6 | 2196.9 | 2205.3 | 2300.7 | 2389.0  | 2391.6  | 2468.9  | 2545.0  | 2459.3  |
| 12.5° | 2133.7 | 2137.6 | 2242.7 | 2238.8 | 2374.2 | 2551.4 | 2577.9  | 2557.2  | 2683.6  | 2632.0  | 2705.5  |
| 15°   | 2204.0 | 2251.0 | 2224.6 | 2247.2 | 2300.7 | 2526.3 | 2599.8  | 2674.6  | 2794.5  | 2840.9  | 2767.4  |
| 17.5° | 2316.2 | 2341.3 | 2222.7 | 2210.4 | 2320.7 | 2427.7 | 2610.1  | 2673.9  | 2692.6  | 3023.3  | 2919.5  |
| 20°   | 2268.4 | 2319.4 | 2203.3 | 2054.4 | 2237.5 | 2379.3 | 2559.2  | 2539.8  | 2630.7  | 3037.5  | 2951.1  |
| 22.5° | 2403.8 | 2319.4 | 2171.8 | 2066.0 | 2130.5 | 2260.7 | 2413.5  | 2540.5  | 2648.1  | 2954.3  | 2996.9  |
| 25°   | 2429.6 | 2389.6 | 2251.7 | 2146.6 | 2124.7 | 2171.1 | 2389.0  | 2472.2  | 2653.9  | 3067.8  | 2972.4  |
| 27.5° | 2586.9 | 2526.9 | 2245.9 | 2249.1 | 2140.2 | 2058.3 | 2311.6  | 2486.3  | 2719.7  | 2997.5  | 3032.3  |
| 30°   | 2782.2 | 2736.4 | 2383.8 | 2396.7 | 2245.9 | 2095.0 | 2364.5  | 2417.4  | 2757.7  | 3107.1  | 3107.8  |
| 32.5° | 2928.5 | 3009.1 | 2655.2 | 2479.9 | 2426.4 | 2313.6 | 2283.3  | 2521.1  | 2713.2  | 3305.7  | 3236.7  |
| 35°   | 3192.2 | 3254.7 | 2864.1 | 2723.6 | 2542.4 | 2415.4 | 2503.7  | 2589.5  | 2898.3  | 3566.7  | 3428.1  |
| 37.5° | 3680.2 | 3608.0 | 3252.2 | 3031.0 | 2963.4 | 2780.3 | 2829.3  | 2769.3  | 3099.4  | 3860.0  | 3803.3  |
| 40°   | 3962.5 | 3900.0 | 3525.5 | 3403.0 | 3134.8 | 3158.0 | 3096.8  | 3140.6  | 3368.2  | 4172.0  | 4154.0  |
| 42.5° | 4241.0 | 4157.2 | 3840.7 | 3755.6 | 3488.1 | 3374.6 | 3385.6  | 3527.4  | 3782.7  | 4676.1  | 4616.2  |
| 45°   | 4516.3 | 4301.6 | 4163.0 | 4185.6 | 4056.6 | 3823.9 | 3840.1  | 3973.5  | 4235.2  | 5252.4  | 5114.5  |
| 47.5° | 4727.1 | 4549.8 | 4441.5 | 4413.8 | 4350.0 | 4661.3 | 4522.1  | 4576.2  | 4691.6  | 5765.6  | 5713.3  |
| 50°   | 5126.1 | 4919.2 | 4778.0 | 4738.0 | 4954.6 | 5387.8 | 5104.2  | 4987.5  | 5233.1  | 6428.9  | 6401.8  |
| 52.5° | 5764.9 | 5507.1 | 5271.8 | 5269.2 | 5582.5 | 5863.5 | 6063.4  | 5862.3  | 5952.5  | 7108.3  | 7185.7  |
| 55°   | 6322.5 | 6024.1 | 5812.6 | 5929.3 | 6375.4 | 6547.5 | 7226.3  | 7069.0  | 6992.9  | 7794.2  | 8015.3  |
| 57.5° | 6530.7 | 6182.0 | 6044.0 | 6216.2 | 6873.7 | 7758.1 | 8475.6  | 8061.7  | 7987.6  | 8570.3  | 9033.8  |
| 60°   | 6073.7 | 5705.0 | 5713.3 | 6037.6 | 7176.7 | 8647.1 | 9841.5  | 9490.2  | 9055.7  | 9536.6  | 9989.2  |
| 62.5° | 4771.5 | 4438.3 | 4655.5 | 5148.7 | 6922.7 | 9510.9 | 11672.3 | 11820.6 | 10276.0 | 10337.9 | 10519.1 |
| 65°   | 3243.1 | 3012.4 | 3208.3 | 3691.1 | 5614.7 | 9982.1 | 13416.0 | 14010.4 | 11387.4 | 10862.6 | 10747.9 |
| 67.5° | 2134.4 | 1971.3 | 2009.3 | 2330.3 | 3865.2 | 8509.7 | 14582.1 | 15230.0 | 12403.3 | 11293.3 | 10344.4 |
| 70°   | 1652.8 | 1521.3 | 1504.6 | 1672.8 | 2292.3 | 5911.9 | 13891.1 | 14876.1 | 13022.1 | 10889.7 | 9016.4  |
| 72.5° | 1297.0 | 1197.1 | 1206.1 | 1367.9 | 1775.3 | 3279.9 | 10749.2 | 12650.2 | 12090.0 | 9391.6  | 6927.2  |
| 75°   | 1011.4 | 929.6  | 975.3  | 1160.3 | 1641.9 | 2038.3 | 7416.5  | 9601.1  | 9347.1  | 6954.3  | 3950.9  |
| 77.5° | 734.2  | 681.4  | 746.5  | 988.2  | 1543.2 | 1748.9 | 4616.8  | 6698.3  | 5988.0  | 3570.6  | 1355.7  |
| 80°   | 481.5  | 451.9  | 505.4  | 805.8  | 1399.5 | 1683.1 | 2853.1  | 4104.4  | 2958.8  | 1003.0  | 513.1   |
| 82.5° | 283.6  | 270.7  | 315.2  | 545.4  | 1124.9 | 1577.4 | 1902.9  | 2280.7  | 1210.6  | 424.2   | 272.7   |
| 85°   | 148.9  | 139.2  | 186.9  | 313.3  | 775.5  | 1440.1 | 1498.1  | 1365.3  | 584.7   | 184.4   | 130.2   |
| 87.5° | 49.6   | 48.3   | 79.3   | 121.2  | 293.3  | 764.5  | 799.3   | 648.5   | 241.1   | 53.5    | 28.4    |
| 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°    | 1439.5 | 1439.5 | 1439.5 | 1439.5 | 1439.5 | 1439.5 | 1439.5 | 1439.5 | 1439.5 | 1439.5 | 1439.5 |
| 2.5°  | 1750.2 | 1724.4 | 1576.1 | 1596.7 | 1616.1 | 1606.4 | 1600.6 | 1533.6 | 1527.1 | 1622.5 | 1614.8 |
| 5°    | 2205.3 | 2098.3 | 1971.9 | 1966.1 | 1883.0 | 1797.9 | 1814.6 | 1787.6 | 1795.3 | 1834.6 | 1838.5 |
| 7.5°  | 2445.7 | 2312.3 | 2191.7 | 1995.8 | 1829.5 | 1694.7 | 1716.0 | 1709.6 | 1692.2 | 1781.1 | 1805.0 |
| 10°   | 2441.2 | 2322.6 | 2186.6 | 1949.4 | 1837.2 | 1727.6 | 1596.1 | 1471.7 | 1434.9 | 1391.1 | 1395.0 |
| 12.5° | 2602.4 | 2497.3 | 2200.8 | 1959.0 | 1806.9 | 1618.0 | 1371.8 | 1235.8 | 1105.5 | 1103.0 | 1070.1 |
| 15°   | 2652.6 | 2575.3 | 2231.1 | 1903.6 | 1594.8 | 1324.1 | 1069.4 | 921.8  | 827.7  | 809.0  | 781.3  |
| 17.5° | 2779.6 | 2658.4 | 2138.9 | 1724.4 | 1348.6 | 1035.3 | 803.9  | 700.7  | 693.0  | 705.9  | 691.7  |
| 20°   | 2788.0 | 2591.4 | 1972.6 | 1459.4 | 1083.6 | 784.5  | 655.6  | 604.0  | 631.7  | 663.3  | 662.0  |
| 22.5° | 2780.9 | 2507.0 | 1828.8 | 1233.8 | 814.2  | 630.4  | 574.4  | 562.8  | 588.5  | 635.6  | 641.4  |
| 25°   | 2708.7 | 2479.2 | 1649.0 | 1013.4 | 660.7  | 540.2  | 524.7  | 531.8  | 564.1  | 619.5  | 619.5  |
| 27.5° | 2784.2 | 2366.4 | 1423.3 | 824.5  | 555.7  | 480.9  | 491.9  | 509.9  | 533.8  | 596.9  | 608.5  |
| 30°   | 2759.7 | 2403.8 | 1241.6 | 664.0  | 489.9  | 439.6  | 464.1  | 482.2  | 509.3  | 575.0  | 580.8  |
| 32.5° | 2825.4 | 2303.9 | 1088.8 | 558.2  | 446.7  | 423.5  | 429.3  | 453.8  | 489.3  | 540.8  | 551.2  |
| 35°   | 2926.0 | 2340.6 | 913.4  | 502.2  | 425.5  | 404.8  | 415.8  | 435.1  | 470.6  | 520.9  | 529.2  |
| 37.5° | 3247.0 | 2338.7 | 792.2  | 471.2  | 421.6  | 401.0  | 406.1  | 419.7  | 460.9  | 506.7  | 526.0  |
| 40°   | 3453.3 | 2472.8 | 682.0  | 464.1  | 417.1  | 399.0  | 394.5  | 409.3  | 442.2  | 496.4  | 509.9  |
| 42.5° | 3840.7 | 2554.7 | 634.3  | 461.6  | 416.4  | 388.1  | 383.6  | 401.0  | 433.2  | 483.5  | 504.1  |
| 45°   | 4250.0 | 2671.3 | 596.3  | 460.3  | 414.5  | 386.1  | 372.6  | 394.5  | 421.6  | 469.9  | 493.8  |
| 47.5° | 4731.6 | 2918.2 | 575.0  | 455.8  | 410.6  | 388.7  | 368.7  | 379.7  | 410.0  | 458.3  | 482.2  |
| 50°   | 5362.0 | 3245.1 | 579.5  | 449.3  | 416.4  | 389.4  | 362.9  | 368.1  | 395.8  | 442.9  | 467.4  |
| 52.5° | 6128.5 | 3751.1 | 608.5  | 451.9  | 420.3  | 386.1  | 360.3  | 357.8  | 381.6  | 422.9  | 447.4  |
| 55°   | 7052.2 | 4469.2 | 695.6  | 464.1  | 420.3  | 385.5  | 356.5  | 344.9  | 362.9  | 396.4  | 420.3  |
| 57.5° | 8166.8 | 5300.8 | 865.7  | 469.9  | 417.1  | 381.6  | 348.1  | 327.5  | 338.4  | 366.1  | 388.7  |
| 60°   | 9124.1 | 5971.8 | 1041.1 | 473.8  | 423.5  | 372.6  | 331.3  | 305.6  | 312.6  | 333.9  | 353.9  |
| 62.5° | 9612.1 | 6160.1 | 1093.9 | 470.6  | 440.9  | 366.8  | 311.4  | 282.3  | 283.0  | 301.0  | 319.1  |
| 65°   | 9703.6 | 5909.3 | 881.9  | 467.4  | 463.5  | 366.1  | 297.2  | 262.4  | 257.9  | 270.7  | 286.2  |
| 67.5° | 9051.2 | 5129.3 | 636.2  | 460.3  | 466.1  | 362.3  | 287.5  | 246.2  | 234.6  | 243.7  | 256.6  |
| 70°   | 7685.3 | 4130.8 | 534.4  | 446.1  | 435.1  | 342.9  | 270.7  | 229.5  | 214.0  | 220.5  | 230.1  |
| 72.5° | 5729.5 | 3056.2 | 466.1  | 415.8  | 379.0  | 293.3  | 245.0  | 210.8  | 194.7  | 199.2  | 206.3  |
| 75°   | 3183.2 | 1630.3 | 390.0  | 361.6  | 309.4  | 237.2  | 208.9  | 186.9  | 172.8  | 174.7  | 182.4  |
| 77.5° | 1057.2 | 601.4  | 286.2  | 286.9  | 234.0  | 183.1  | 172.1  | 159.9  | 148.9  | 149.6  | 156.0  |
| 80°   | 479.0  | 332.6  | 205.0  | 206.3  | 163.1  | 132.8  | 132.1  | 128.3  | 121.2  | 119.3  | 123.8  |
| 82.5° | 277.8  | 201.8  | 140.5  | 134.1  | 105.1  | 86.4   | 96.0   | 94.1   | 92.2   | 85.1   | 86.4   |
| 85°   | 136.7  | 108.3  | 73.5   | 69.6   | 58.0   | 43.2   | 51.6   | 53.5   | 51.6   | 43.8   | 43.2   |
| 87.5° | 33.5   | 35.5   | 18.0   | 16.8   | 9.7    | 4.5    | 7.7    | 7.7    | 9.7    | 6.4    | 3.2    |
| 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)