

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: P368533

Luminaire Tested: **MSA-SA4C-750-U-T4W-HSS**

Issue Date: 12/2/2019

**Test Information**

Test Method: LM-79-08  
Report Number: P368533  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-1910-543-15)  
Test Lab: INNOVATION CENTER  
Issue Date: 12/2/2019  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: INVUE  
Catalog Number: MSA-SA4C-750-U-T4W-HSS  
Description: MESA POST TOP DECORATIVE LUMINAIRE. (4) LIGHTSQUARES WITH 16 LEDS  
EACH AND TYPE IV WIDE OPTICS WITH HOUSE SIDE SHIELD  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 18140 lumens  
Efficiency: N/A  
Efficacy: 80.6 lumens/watt  
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')  
IES Classification: Type IV - Short  
BUG Rating: B2 - U0 - G4

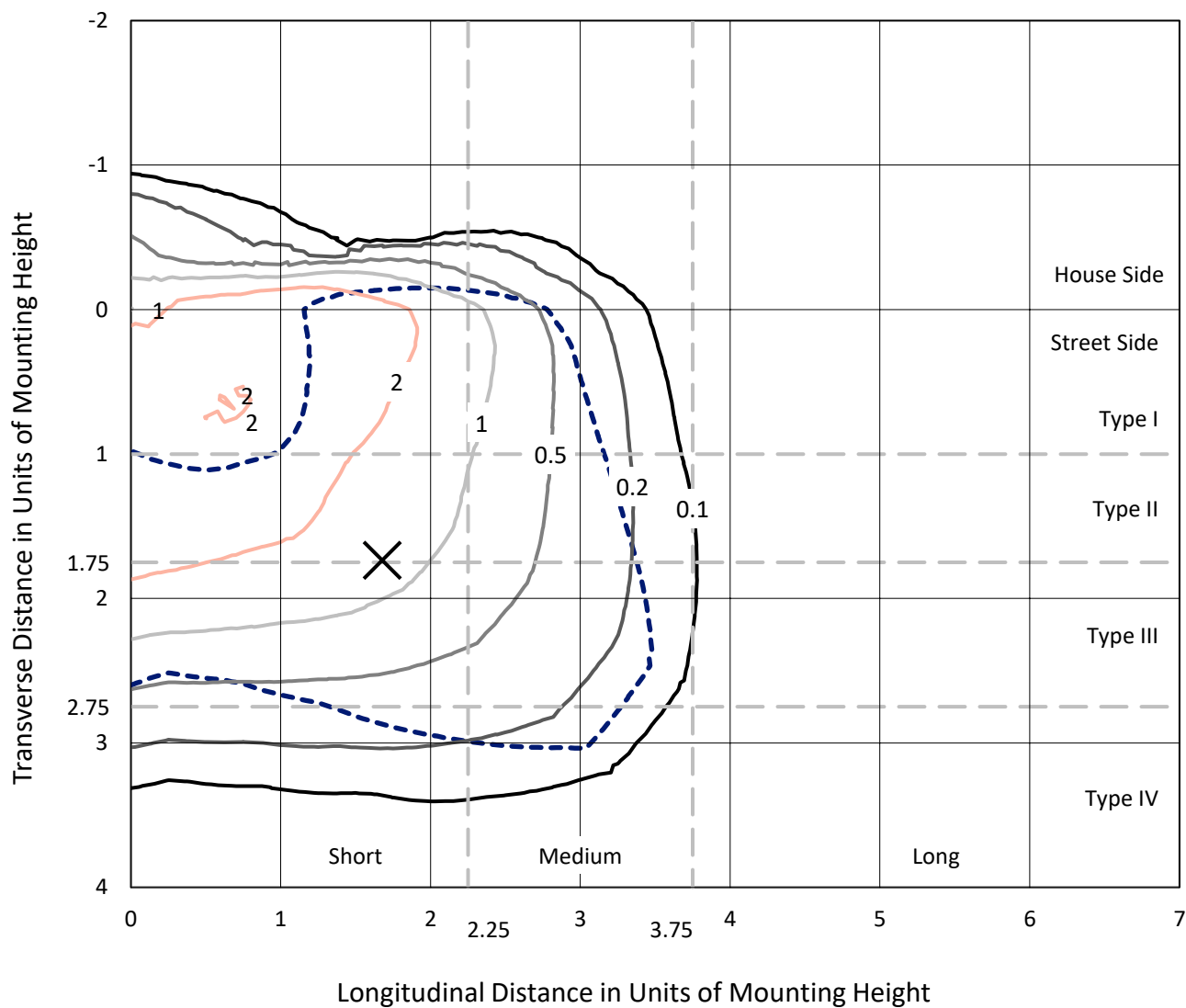
Input Watts (W): 225  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 24 FT



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## Iso-Footcandle Lines of Horizontal Illumination

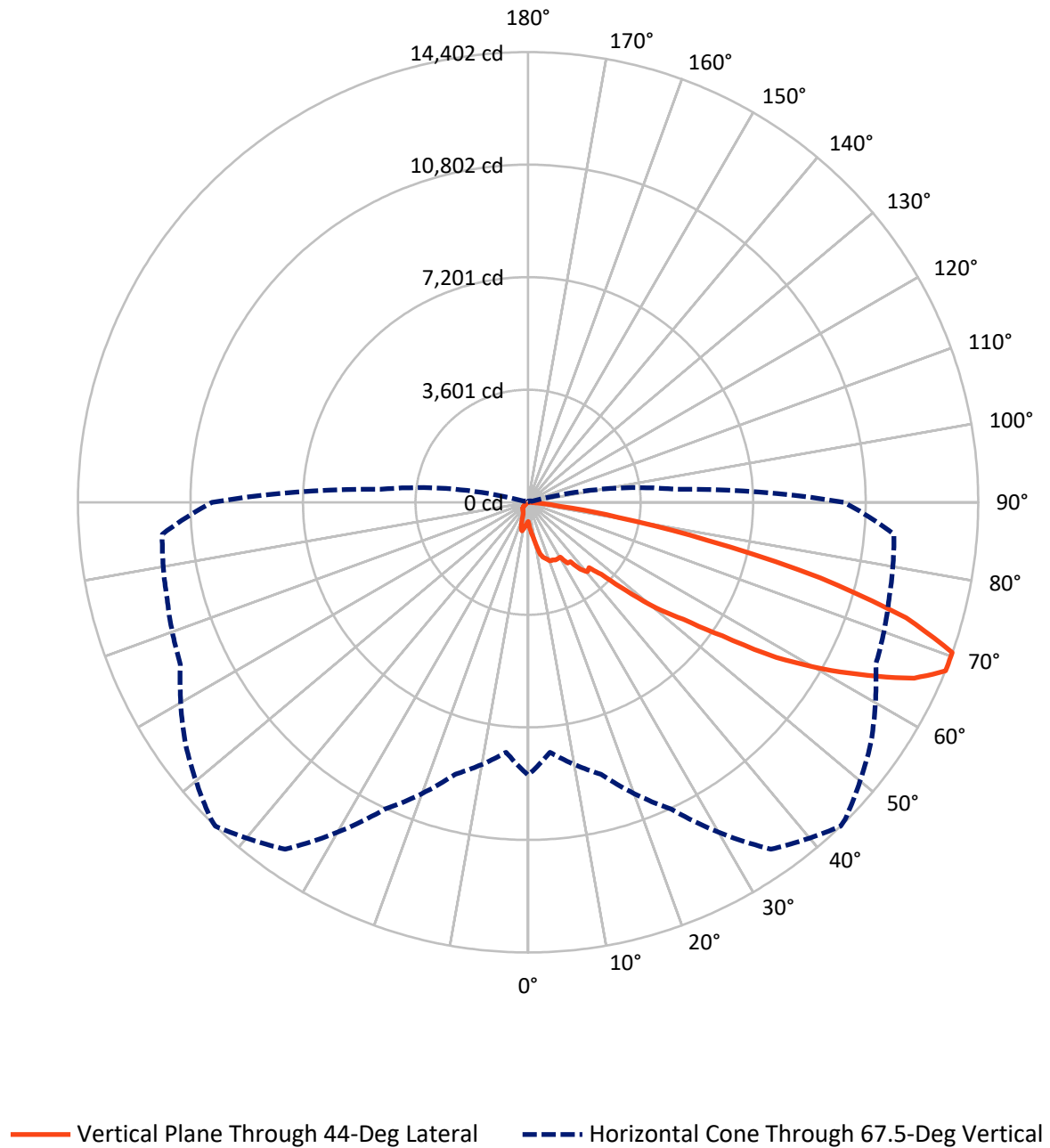
✕ Max cd  
 --- 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 4.2 fc  
 Type IV - Short - N/A

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## Luminous Intensity Polar Plot



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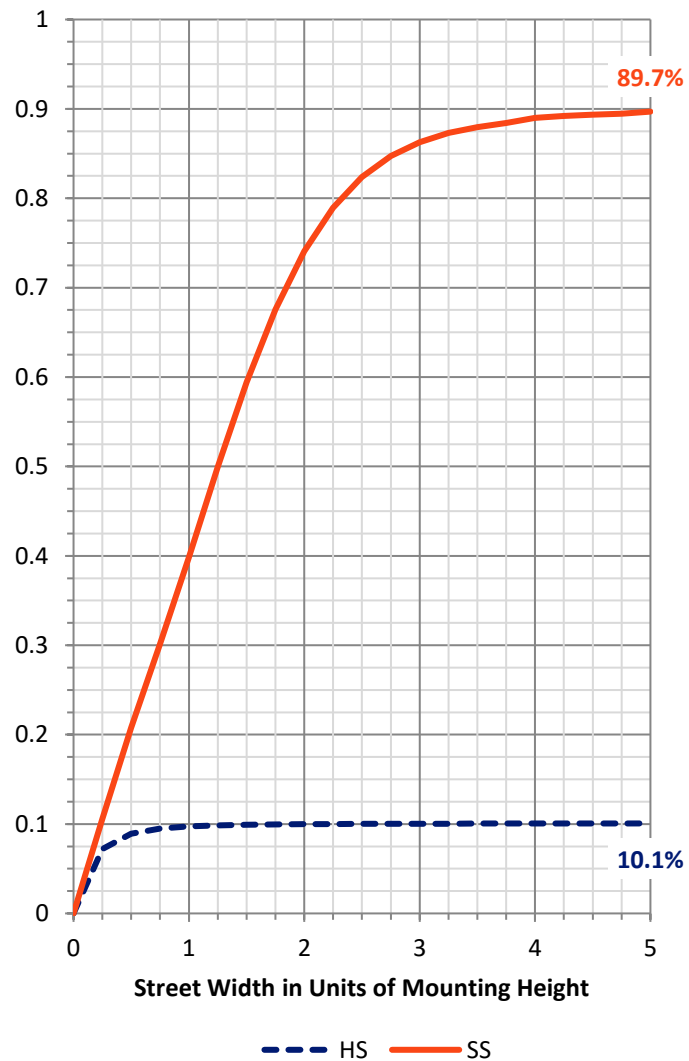
**FLUX DISTRIBUTION:**

|                    |           | Downward | Upward | Total   |
|--------------------|-----------|----------|--------|---------|
| <b>House Side</b>  | Lumens    | 1842.7   | 0.0    | 1842.7  |
|                    | % Fixture | 10.2     | 0.0    | 10.2    |
| <b>Street Side</b> | Lumens    | 16297.3  | 0.0    | 16297.3 |
|                    | % Fixture | 89.8     | 0.0    | 89.8    |
| <b>Total</b>       | Lumens    | 18140.0  | 0.0    | 18140.0 |
|                    | % Fixture | 100.0    | 0.0    | 100.0   |

**ZONAL LUMENS:**

| Zone      | Lumens  | % Fixture |
|-----------|---------|-----------|
| 0°-10°    | 90.6    | 0.5       |
| 10°-20°   | 379.2   | 2.1       |
| 20°-30°   | 671.8   | 3.7       |
| 30°-40°   | 1092.0  | 6.0       |
| 40°-50°   | 2185.2  | 12.0      |
| 50°-60°   | 4483.0  | 24.7      |
| 60°-70°   | 6158.3  | 33.9      |
| 70°-80°   | 2894.5  | 16.0      |
| 80°-90°   | 185.4   | 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°    | 18140.0 | 100.0     |
| 0°-180°   | 18140.0 | 100.0     |

**Coefficient of Utilization**



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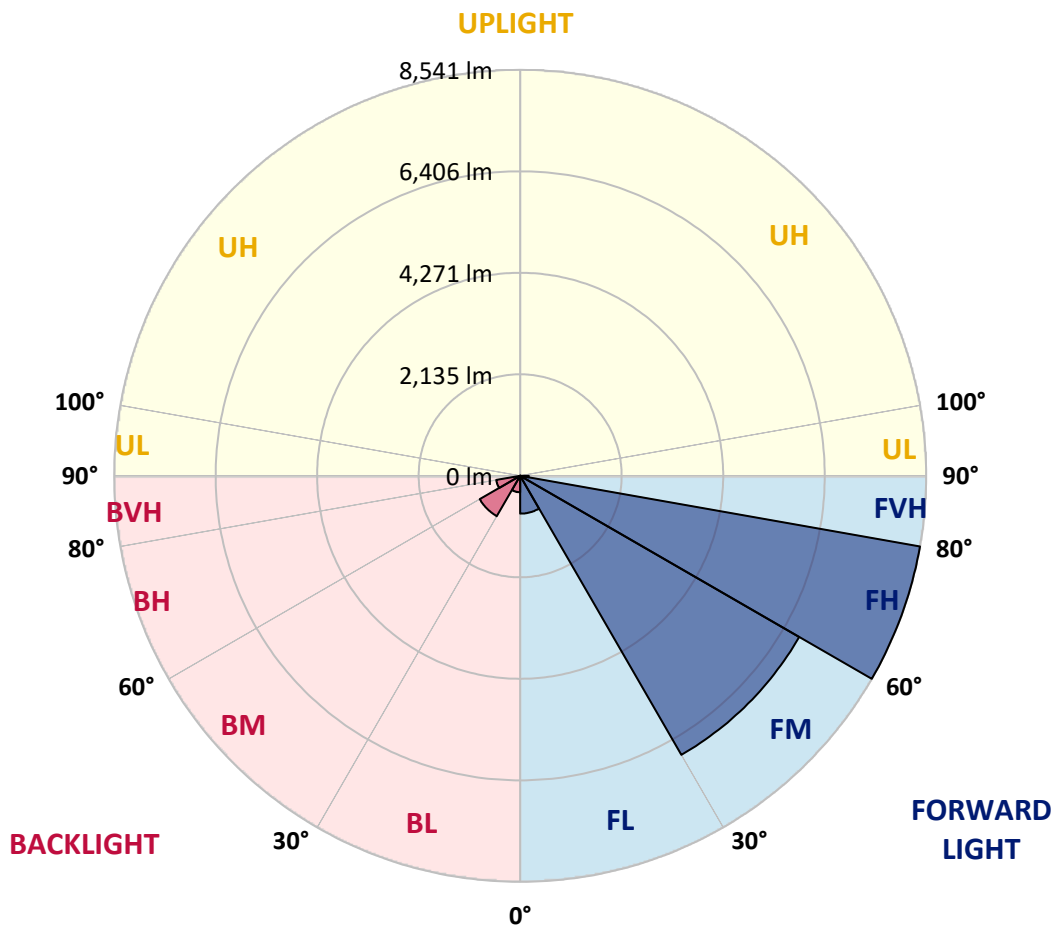
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**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

| Zone |             | Lumens | % Fixture | Zone Rating/Lumen Limit |      |          |
|------|-------------|--------|-----------|-------------------------|------|----------|
|      |             |        |           | B                       | U    | G        |
| FL   | (0°-30°)    | 795.7  | 4.4       |                         |      |          |
| FM   | (30°-60°)   | 6778.6 | 37.4      |                         |      |          |
| FH   | (60°-80°)   | 8541.4 | 47.1      |                         |      | G4/12000 |
| FVH  | (80°-90°)   | 181.6  | 1.0       |                         |      | G2/225   |
| BL   | (0°-30°)    | 346.0  | 1.9       | B1/500                  |      |          |
| BM   | (30°-60°)   | 981.6  | 5.4       | B1/1000                 |      |          |
| BH   | (60°-80°)   | 511.3  | 2.8       | B2/1000                 |      | G2/1000  |
| BVH  | (80°-90°)   | 3.8    | 0.0       |                         |      | G0/10    |
| UL   | (90°-100°)  | 0.0    | 0.0       |                         | U0/0 |          |
| UH   | (100°-180°) | 0.0    | 0.0       |                         | U0/0 |          |

**BUG Rating: B2-U0-G4**

Type IV Short



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**CANDELA DISTRIBUTION (FULL):**

|       | 0°      | 5°      | 15°     | 25°     | 35°     | 44°     | 45°     | 55°     | 65°     | 75°     | 85°     |
|-------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| 0°    | 611.2   | 611.2   | 611.2   | 611.2   | 611.2   | 611.2   | 611.2   | 611.2   | 611.2   | 611.2   | 611.2   |
| 2.5°  | 777.2   | 752.2   | 716.2   | 724.2   | 728.2   | 739.2   | 740.2   | 726.2   | 686.2   | 675.2   | 724.2   |
| 5°    | 1089.3  | 1028.3  | 1017.3  | 994.3   | 948.3   | 923.3   | 917.3   | 942.3   | 910.3   | 900.3   | 913.3   |
| 7.5°  | 1391.4  | 1339.4  | 1282.4  | 1251.4  | 1155.3  | 1096.3  | 1093.3  | 1103.3  | 1109.3  | 1074.3  | 1092.3  |
| 10°   | 1592.4  | 1535.4  | 1523.4  | 1450.4  | 1367.4  | 1353.4  | 1347.4  | 1309.4  | 1278.4  | 1252.4  | 1165.3  |
| 12.5° | 1774.5  | 1773.5  | 1795.5  | 1690.5  | 1677.5  | 1691.5  | 1686.5  | 1550.4  | 1519.4  | 1410.4  | 1385.4  |
| 15°   | 2016.6  | 2076.6  | 1981.6  | 1893.5  | 1781.5  | 1829.5  | 1816.5  | 1729.5  | 1708.5  | 1634.5  | 1527.4  |
| 17.5° | 2267.6  | 2283.6  | 2124.6  | 1989.6  | 1960.6  | 1897.5  | 1910.5  | 1879.5  | 1773.5  | 1832.5  | 1726.5  |
| 20°   | 2273.6  | 2308.7  | 2138.6  | 1915.5  | 2004.6  | 2001.6  | 2002.6  | 1972.6  | 1832.5  | 1970.6  | 1873.5  |
| 22.5° | 2357.7  | 2271.6  | 2113.6  | 1971.6  | 1987.6  | 2002.6  | 2018.6  | 1981.6  | 1951.6  | 1985.6  | 2003.6  |
| 25°   | 2323.7  | 2289.6  | 2137.6  | 2043.6  | 2028.6  | 2040.6  | 2044.6  | 2091.6  | 2072.6  | 2154.6  | 2109.6  |
| 27.5° | 2411.7  | 2362.7  | 2090.6  | 2107.6  | 2054.6  | 2040.6  | 2016.6  | 2173.6  | 2229.6  | 2164.6  | 2284.6  |
| 30°   | 2562.7  | 2555.7  | 2171.6  | 2196.6  | 2155.6  | 2032.6  | 2096.6  | 2301.6  | 2371.7  | 2331.7  | 2477.7  |
| 32.5° | 2798.8  | 2822.8  | 2408.7  | 2246.6  | 2267.6  | 2322.7  | 2298.6  | 2301.6  | 2478.7  | 2567.7  | 2683.8  |
| 35°   | 3133.9  | 3120.9  | 2639.7  | 2436.7  | 2326.7  | 2335.7  | 2369.7  | 2532.7  | 2761.8  | 2755.8  | 2878.8  |
| 37.5° | 3792.1  | 3650.0  | 3048.9  | 2630.7  | 2663.8  | 2708.8  | 2683.8  | 2902.8  | 2924.8  | 2932.8  | 3226.9  |
| 40°   | 4762.3  | 4573.3  | 3694.0  | 3039.9  | 2721.8  | 2920.8  | 2908.8  | 2962.8  | 3109.9  | 3164.9  | 3594.0  |
| 42.5° | 6040.7  | 5786.6  | 4829.4  | 3792.1  | 3001.8  | 2864.8  | 2938.8  | 3040.9  | 3535.0  | 3692.0  | 4162.2  |
| 45°   | 7453.1  | 6939.0  | 5961.7  | 4864.4  | 3704.0  | 3278.9  | 3334.9  | 3525.0  | 4210.2  | 4470.3  | 4989.4  |
| 47.5° | 8368.4  | 7916.2  | 7083.0  | 5814.6  | 4436.3  | 4213.2  | 4218.2  | 4259.2  | 5003.4  | 5485.5  | 6181.7  |
| 50°   | 9163.6  | 8682.4  | 7909.2  | 6807.9  | 5731.6  | 5309.5  | 5213.5  | 5024.4  | 6013.7  | 6672.9  | 7445.1  |
| 52.5° | 10285.9 | 9723.7  | 8735.5  | 7973.2  | 7209.0  | 6214.8  | 6180.7  | 6244.8  | 7205.0  | 7898.2  | 8740.5  |
| 55°   | 11298.2 | 10615.0 | 9671.7  | 9191.6  | 8893.5  | 7545.1  | 7574.1  | 7681.2  | 8734.5  | 9101.6  | 9892.8  |
| 57.5° | 11745.3 | 11005.1 | 10520.0 | 10303.9 | 10144.9 | 9362.6  | 9264.6  | 9200.6  | 9940.8  | 10080.8 | 11100.1 |
| 60°   | 12038.4 | 11334.2 | 11114.1 | 11164.1 | 11646.3 | 10816.0 | 10727.0 | 10354.9 | 10939.1 | 11054.1 | 12182.4 |
| 62.5° | 11853.3 | 11211.2 | 11258.2 | 11675.3 | 12745.6 | 12199.4 | 11942.4 | 11320.2 | 11755.3 | 11848.3 | 12959.7 |
| 65°   | 10688.0 | 10018.8 | 10623.0 | 11632.3 | 13583.8 | 13570.8 | 13451.8 | 12211.4 | 12207.4 | 12326.5 | 13019.7 |
| 67.5° | 8730.5  | 8028.3  | 9005.5  | 10826.1 | 13548.8 | 14402.1 | 14346.0 | 13393.8 | 12272.5 | 11954.4 | 11749.3 |
| 70°   | 6069.7  | 5460.5  | 6568.9  | 8940.5  | 12341.5 | 14396.1 | 14306.0 | 14188.0 | 11758.3 | 10289.9 | 9109.6  |
| 72.5° | 3153.9  | 2818.8  | 3851.1  | 6160.7  | 9837.8  | 12648.6 | 12945.6 | 12751.6 | 10039.8 | 7476.1  | 5364.5  |
| 75°   | 1071.3  | 961.3   | 1588.4  | 3269.9  | 6539.8  | 9658.7  | 10006.8 | 9809.8  | 6818.9  | 4011.1  | 2121.6  |
| 77.5° | 415.1   | 386.1   | 569.2   | 1327.4  | 3280.9  | 5885.7  | 6263.8  | 6062.7  | 3657.0  | 1469.4  | 499.1   |
| 80°   | 236.1   | 228.1   | 314.1   | 598.2   | 1446.4  | 2927.8  | 3193.9  | 2896.8  | 1318.4  | 495.1   | 130.0   |
| 82.5° | 100.0   | 103.0   | 175.0   | 323.1   | 727.2   | 1033.3  | 1152.3  | 1051.3  | 552.2   | 339.1   | 48.0    |
| 85°   | 22.0    | 27.0    | 83.0    | 180.1   | 305.1   | 295.1   | 309.1   | 343.1   | 339.1   | 249.1   | 21.0    |
| 87.5° | 0.0     | 0.0     | 26.0    | 49.0    | 73.0    | 48.0    | 38.0    | 67.0    | 104.0   | 100.0   | 9.0     |
| 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°    | 611.2   | 611.2  | 611.2  | 611.2  | 611.2  | 611.2 | 611.2 | 611.2 | 611.2 | 611.2 | 611.2 |
| 2.5°  | 733.2   | 723.2  | 660.2  | 656.2  | 660.2  | 649.2 | 648.2 | 625.2 | 627.2 | 679.2 | 683.2 |
| 5°    | 913.3   | 863.2  | 809.2  | 792.2  | 776.2  | 740.2 | 760.2 | 760.2 | 760.2 | 793.2 | 803.2 |
| 7.5°  | 1076.3  | 1009.3 | 933.3  | 869.2  | 807.2  | 762.2 | 793.2 | 815.2 | 828.2 | 871.2 | 891.3 |
| 10°   | 1150.3  | 1084.3 | 1016.3 | 925.3  | 877.2  | 860.2 | 824.2 | 805.2 | 828.2 | 819.2 | 830.2 |
| 12.5° | 1308.4  | 1248.4 | 1131.3 | 1037.3 | 1001.3 | 943.3 | 837.2 | 763.2 | 714.2 | 706.2 | 704.2 |
| 15°   | 1462.4  | 1425.4 | 1268.4 | 1142.3 | 1017.3 | 883.2 | 702.2 | 604.2 | 552.2 | 543.2 | 544.2 |
| 17.5° | 1657.5  | 1604.5 | 1373.4 | 1192.3 | 980.3  | 739.2 | 542.2 | 458.1 | 454.1 | 476.1 | 478.1 |
| 20°   | 1787.5  | 1700.5 | 1426.4 | 1151.3 | 858.2  | 559.2 | 424.1 | 404.1 | 436.1 | 476.1 | 472.1 |
| 22.5° | 1911.5  | 1817.5 | 1496.4 | 1115.3 | 665.2  | 424.1 | 390.1 | 392.1 | 419.1 | 462.1 | 473.1 |
| 25°   | 1993.6  | 1959.6 | 1582.4 | 1031.3 | 507.1  | 367.1 | 373.1 | 388.1 | 411.1 | 452.1 | 452.1 |
| 27.5° | 2240.6  | 2081.6 | 1572.4 | 868.2  | 390.1  | 342.1 | 356.1 | 375.1 | 387.1 | 436.1 | 441.1 |
| 30°   | 2390.7  | 2338.7 | 1624.5 | 702.2  | 342.1  | 310.1 | 337.1 | 354.1 | 362.1 | 418.1 | 420.1 |
| 32.5° | 2574.7  | 2459.7 | 1687.5 | 518.1  | 318.1  | 308.1 | 302.1 | 315.1 | 338.1 | 387.1 | 390.1 |
| 35°   | 2798.8  | 2764.8 | 1597.5 | 407.1  | 310.1  | 288.1 | 276.1 | 283.1 | 298.1 | 331.1 | 338.1 |
| 37.5° | 3255.9  | 3053.9 | 1543.4 | 349.1  | 310.1  | 281.1 | 268.1 | 250.1 | 252.1 | 275.1 | 288.1 |
| 40°   | 3641.0  | 3579.0 | 1392.4 | 339.1  | 296.1  | 271.1 | 239.1 | 217.1 | 202.1 | 209.1 | 214.1 |
| 42.5° | 4348.2  | 4061.1 | 1197.3 | 334.1  | 283.1  | 245.1 | 203.1 | 180.1 | 157.0 | 159.0 | 167.0 |
| 45°   | 5206.5  | 4587.3 | 1023.3 | 329.1  | 274.1  | 219.1 | 171.0 | 144.0 | 120.0 | 121.0 | 129.0 |
| 47.5° | 6352.8  | 5354.5 | 812.2  | 314.1  | 258.1  | 195.1 | 138.0 | 110.0 | 96.0  | 99.0  | 106.0 |
| 50°   | 7655.2  | 6027.7 | 642.2  | 291.1  | 239.1  | 172.0 | 112.0 | 89.0  | 84.0  | 87.0  | 95.0  |
| 52.5° | 8818.5  | 6523.8 | 530.1  | 270.1  | 212.1  | 140.0 | 94.0  | 79.0  | 77.0  | 79.0  | 85.0  |
| 55°   | 9852.8  | 6811.9 | 443.1  | 246.1  | 182.1  | 113.0 | 85.0  | 73.0  | 72.0  | 71.0  | 75.0  |
| 57.5° | 10823.1 | 6894.9 | 346.1  | 208.1  | 148.0  | 98.0  | 79.0  | 68.0  | 66.0  | 63.0  | 66.0  |
| 60°   | 11530.3 | 6752.9 | 254.1  | 167.0  | 121.0  | 89.0  | 74.0  | 61.0  | 58.0  | 53.0  | 55.0  |
| 62.5° | 11871.3 | 6363.8 | 192.1  | 134.0  | 103.0  | 81.0  | 66.0  | 53.0  | 49.0  | 43.0  | 44.0  |
| 65°   | 11547.3 | 5722.6 | 151.0  | 113.0  | 88.0   | 68.0  | 56.0  | 45.0  | 40.0  | 34.0  | 34.0  |
| 67.5° | 10111.9 | 4747.3 | 128.0  | 98.0   | 74.0   | 58.0  | 46.0  | 41.0  | 33.0  | 28.0  | 27.0  |
| 70°   | 7422.1  | 3415.0 | 110.0  | 86.0   | 64.0   | 50.0  | 39.0  | 37.0  | 32.0  | 27.0  | 25.0  |
| 72.5° | 4189.2  | 1932.5 | 94.0   | 76.0   | 54.0   | 42.0  | 33.0  | 34.0  | 31.0  | 25.0  | 23.0  |
| 75°   | 1598.5  | 651.2  | 78.0   | 63.0   | 44.0   | 32.0  | 28.0  | 28.0  | 28.0  | 21.0  | 18.0  |
| 77.5° | 396.1   | 166.0  | 62.0   | 51.0   | 35.0   | 21.0  | 23.0  | 24.0  | 24.0  | 18.0  | 13.0  |
| 80°   | 109.0   | 56.0   | 37.0   | 37.0   | 25.0   | 12.0  | 16.0  | 16.0  | 13.0  | 6.0   | 0.0   |
| 82.5° | 40.0    | 21.0   | 13.0   | 16.0   | 11.0   | 4.0   | 6.0   | 4.0   | 3.0   | 0.0   | 0.0   |
| 85°   | 17.0    | 11.0   | 8.0    | 9.0    | 5.0    | 0.0   | 1.0   | 2.0   | 0.0   | 0.0   | 0.0   |
| 87.5° | 7.0     | 5.0    | 4.0    | 4.0    | 2.0    | 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)