

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: P368264

Luminaire Tested: **MSA-SA4A-750-U-T2**

Issue Date: 12/2/2019

**Test Information**

Test Method: LM-79-08  
Report Number: P368264  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-1910-543-8)  
Test Lab: INNOVATION CENTER  
Issue Date: 12/2/2019  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: INVUE  
Catalog Number: MSA-SA4A-750-U-T2  
Description: MESA POST TOP DECORATIVE LUMINAIRE. (4) LIGHTSQUARES WITH 16 LEDS EACH AND TYPE II OPTICS.  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 15463 lumens  
Efficiency: N/A  
Efficacy: 119.9 lumens/watt  
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')  
IES Classification: Type II - Medium  
BUG Rating: B2 - U0 - G3

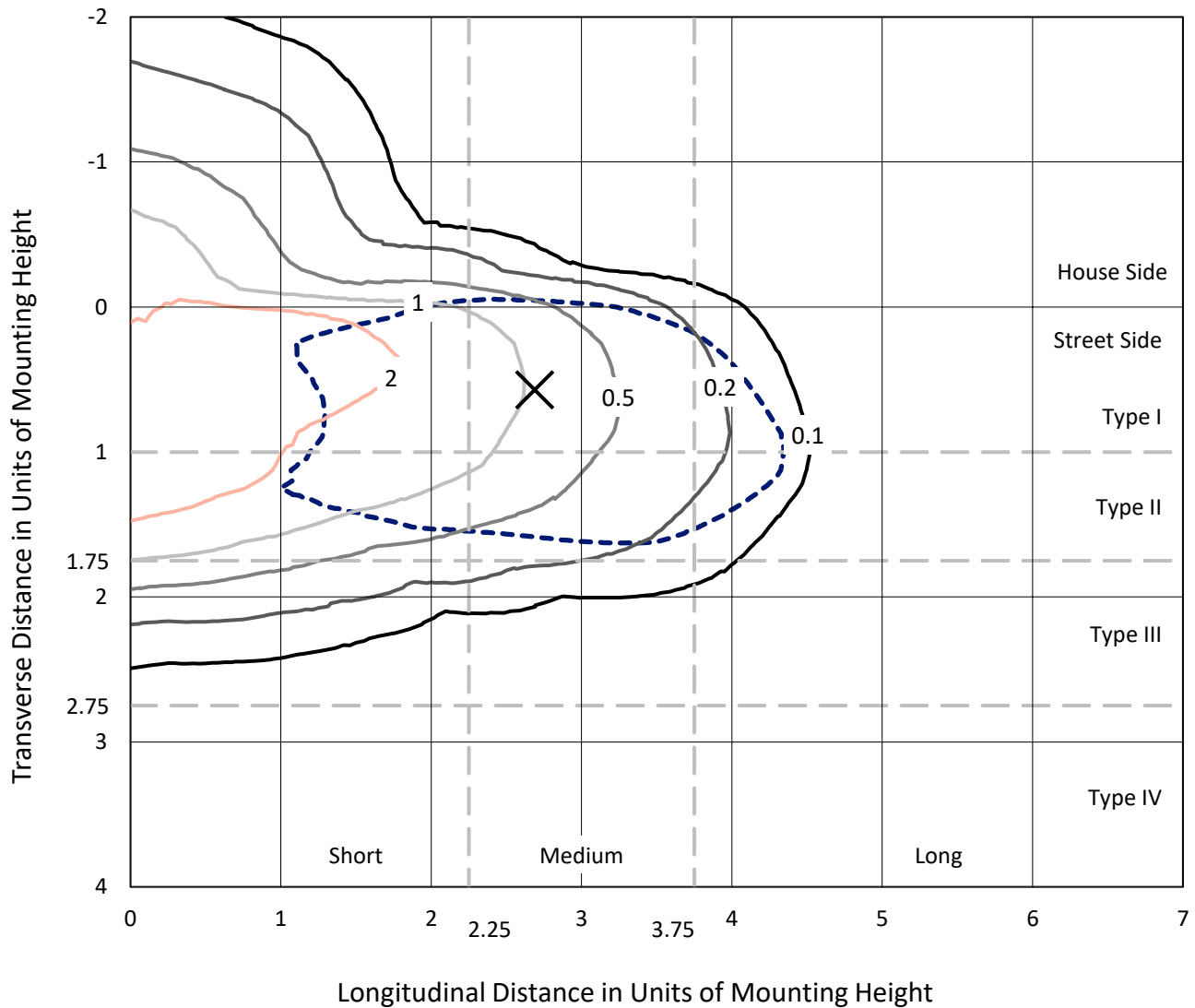
Input Watts (W): 129  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 24 FT



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## Iso-Footcandle Lines of Horizontal Illumination

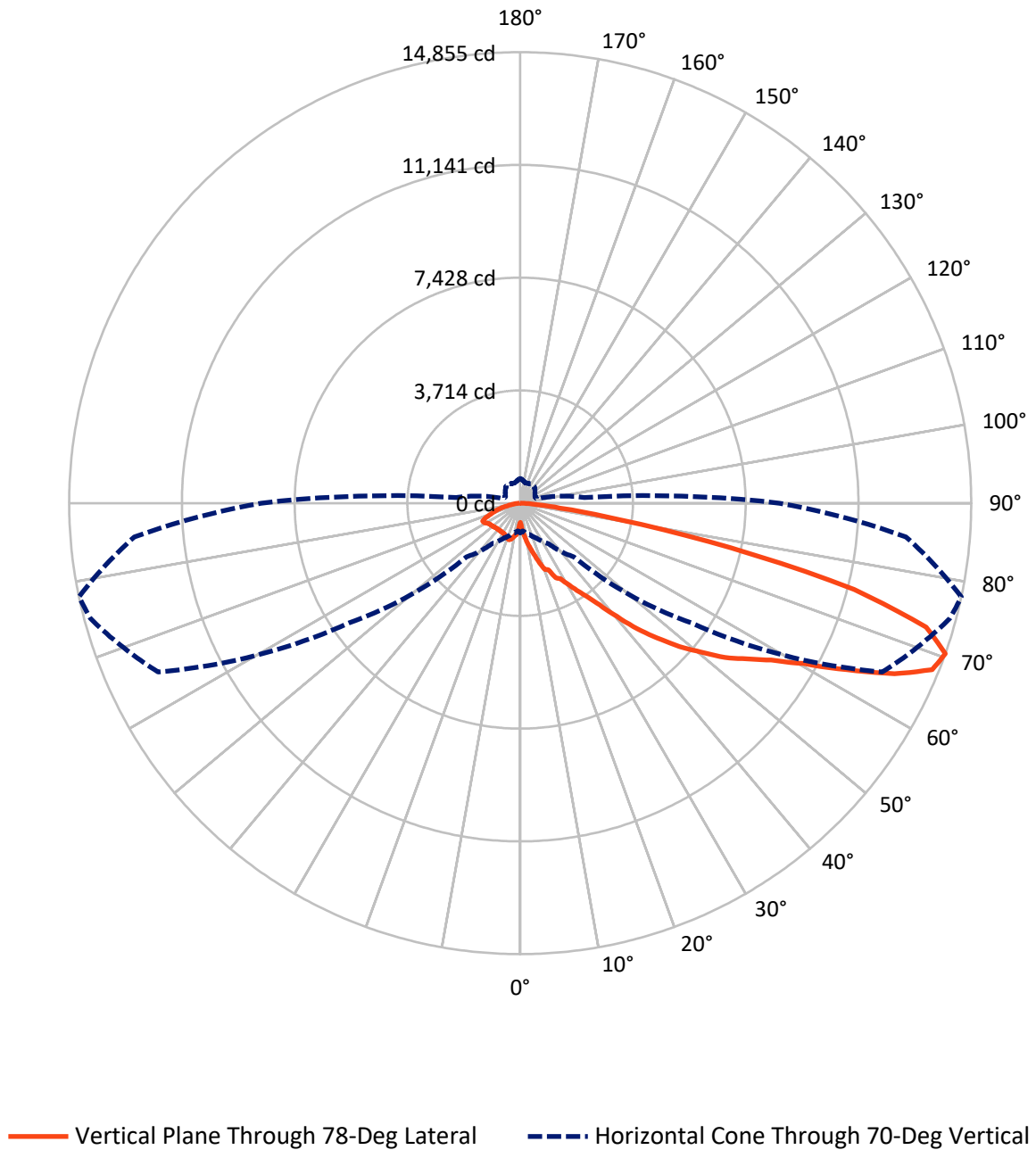
✕ Max cd  
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 3.7 fc  
 Type II - Medium - N/A

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## Luminous Intensity Polar Plot



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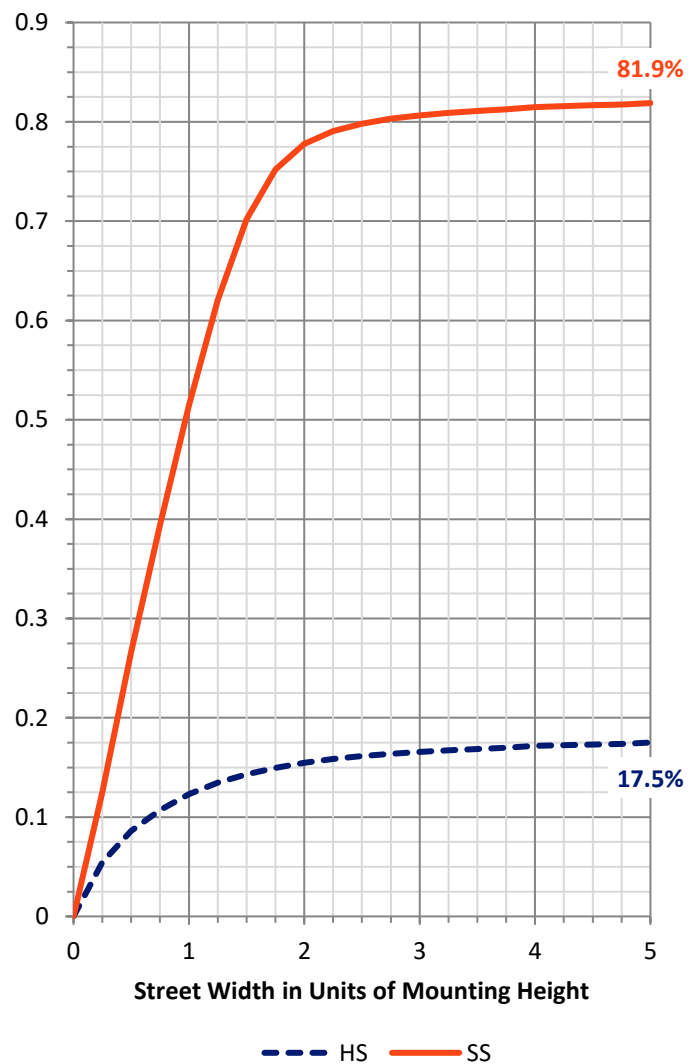
**FLUX DISTRIBUTION:**

|                    |           | Downward | Upward | Total   |
|--------------------|-----------|----------|--------|---------|
| <b>House Side</b>  | Lumens    | 2759.9   | 0.0    | 2759.9  |
|                    | % Fixture | 17.8     | 0.0    | 17.8    |
| <b>Street Side</b> | Lumens    | 12703.1  | 0.0    | 12703.1 |
|                    | % Fixture | 82.2     | 0.0    | 82.2    |
| <b>Total</b>       | Lumens    | 15463.0  | 0.0    | 15463.0 |
|                    | % Fixture | 100.0    | 0.0    | 100.0   |

**ZONAL LUMENS:**

| Zone      | Lumens  | % Fixture |
|-----------|---------|-----------|
| 0°-10°    | 97.4    | 0.6       |
| 10°-20°   | 429.2   | 2.8       |
| 20°-30°   | 826.2   | 5.3       |
| 30°-40°   | 1391.7  | 9.0       |
| 40°-50°   | 2408.0  | 15.6      |
| 50°-60°   | 3635.8  | 23.5      |
| 60°-70°   | 4027.1  | 26.0      |
| 70°-80°   | 2321.8  | 15.0      |
| 80°-90°   | 325.6   | 2.1       |
| 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°    | 15463.0 | 100.0     |
| 0°-180°   | 15463.0 | 100.0     |

**Coefficient of Utilization**



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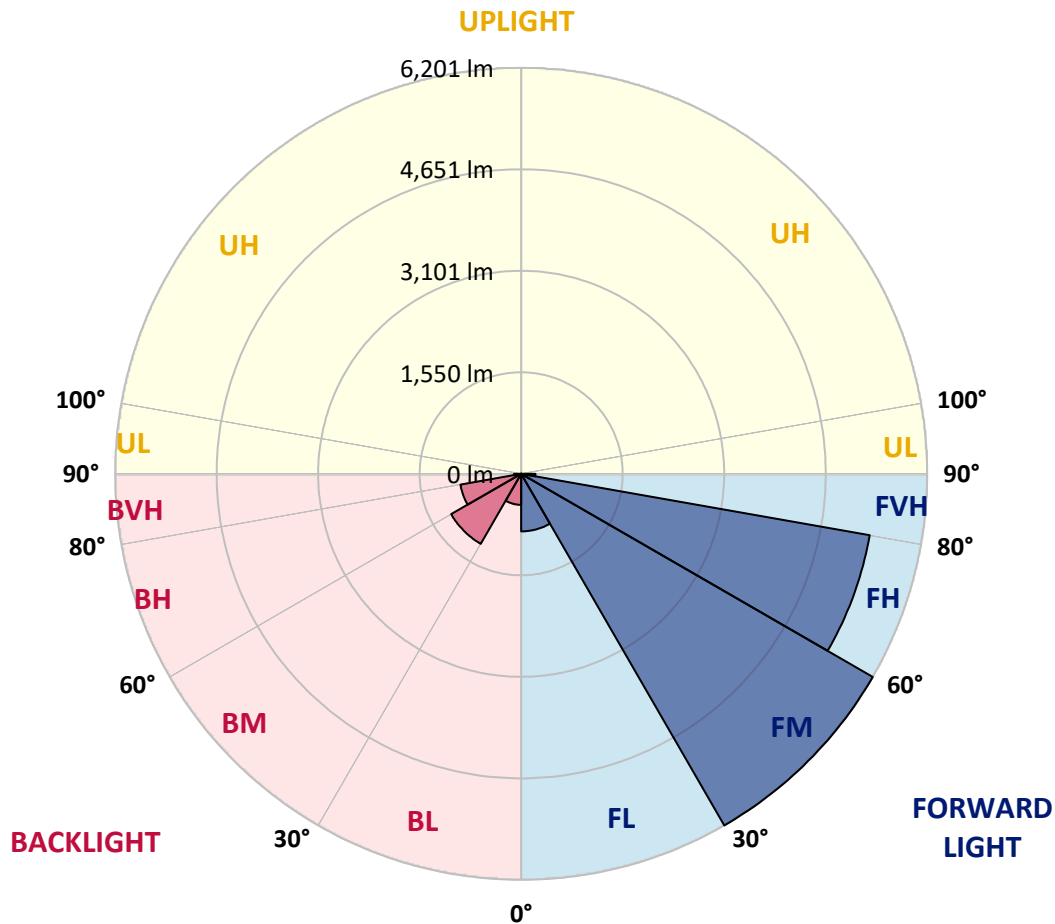
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**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

| Zone |             | Lumens | % Fixture | Zone Rating/Lumen Limit |      |         |
|------|-------------|--------|-----------|-------------------------|------|---------|
|      |             |        |           | B                       | U    | G       |
| FL   | (0°-30°)    | 879.0  | 5.7       |                         |      |         |
| FM   | (30°-60°)   | 6201.1 | 40.1      |                         |      |         |
| FH   | (60°-80°)   | 5405.7 | 35.0      |                         |      | G3/7500 |
| FVH  | (80°-90°)   | 217.2  | 1.4       |                         |      | G2/225  |
| BL   | (0°-30°)    | 473.9  | 3.1       | B1/500                  |      |         |
| BM   | (30°-60°)   | 1234.4 | 8.0       | B2/2500                 |      |         |
| BH   | (60°-80°)   | 943.2  | 6.1       | B2/1000                 |      | G2/1000 |
| BVH  | (80°-90°)   | 108.4  | 0.7       |                         |      | G2/225  |
| UL   | (90°-100°)  | 0.0    | 0.0       |                         | U0/0 |         |
| UH   | (100°-180°) | 0.0    | 0.0       |                         | U0/0 |         |

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

Type II Medium



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**CANDELA DISTRIBUTION (FULL):**

|       | 0°     | 5°     | 15°    | 25°    | 35°    | 45°    | 55°     | 65°     | 75°     | 78°     | 85°     |
|-------|--------|--------|--------|--------|--------|--------|---------|---------|---------|---------|---------|
| 0°    | 630.4  | 630.4  | 630.4  | 630.4  | 630.4  | 630.4  | 630.4   | 630.4   | 630.4   | 630.4   | 630.4   |
| 2.5°  | 811.6  | 782.6  | 738.7  | 756.8  | 778.7  | 781.3  | 774.2   | 734.2   | 720.7   | 751.0   | 760.0   |
| 5°    | 1137.1 | 1088.1 | 1058.5 | 1048.8 | 1015.9 | 947.6  | 996.6   | 971.4   | 976.6   | 961.8   | 990.8   |
| 7.5°  | 1411.1 | 1378.2 | 1334.4 | 1322.1 | 1246.7 | 1193.2 | 1226.7  | 1215.7  | 1162.9  | 1142.3  | 1175.1  |
| 10°   | 1550.3 | 1514.2 | 1516.1 | 1489.7 | 1469.7 | 1474.9 | 1458.1  | 1409.8  | 1370.5  | 1342.7  | 1263.4  |
| 12.5° | 1634.1 | 1643.1 | 1691.5 | 1677.9 | 1753.4 | 1815.2 | 1768.2  | 1696.6  | 1572.2  | 1547.1  | 1468.4  |
| 15°   | 1833.3 | 1866.8 | 1821.7 | 1842.3 | 1874.5 | 1993.1 | 1973.8  | 1958.3  | 1826.8  | 1777.8  | 1632.8  |
| 17.5° | 2038.3 | 2044.7 | 1976.4 | 1965.4 | 2042.8 | 2102.7 | 2178.2  | 2091.1  | 2107.2  | 2073.1  | 1838.4  |
| 20°   | 2082.1 | 2126.6 | 2028.6 | 1960.9 | 2120.1 | 2238.7 | 2332.2  | 2240.0  | 2325.1  | 2334.2  | 2008.0  |
| 22.5° | 2242.6 | 2189.1 | 2060.2 | 1993.8 | 2133.0 | 2278.7 | 2430.8  | 2482.4  | 2455.3  | 2379.3  | 2171.7  |
| 25°   | 2354.1 | 2325.8 | 2194.3 | 2120.8 | 2173.6 | 2307.7 | 2574.6  | 2709.3  | 2733.2  | 2722.9  | 2327.7  |
| 27.5° | 2561.1 | 2575.2 | 2304.5 | 2325.1 | 2251.6 | 2263.9 | 2661.0  | 3010.4  | 2861.4  | 2820.2  | 2521.1  |
| 30°   | 2887.9 | 2824.7 | 2521.1 | 2537.8 | 2416.0 | 2395.4 | 2843.4  | 3270.1  | 3136.7  | 3087.1  | 2680.3  |
| 32.5° | 3228.9 | 3234.7 | 2866.0 | 2722.9 | 2657.7 | 2637.1 | 2807.3  | 3406.1  | 3484.8  | 3420.3  | 2920.8  |
| 35°   | 3709.8 | 3676.2 | 3239.8 | 3051.6 | 2816.3 | 2780.2 | 3064.5  | 3800.7  | 3945.0  | 3764.6  | 3206.3  |
| 37.5° | 4442.0 | 4340.8 | 3832.9 | 3397.8 | 3223.7 | 3182.5 | 3431.9  | 4154.5  | 4479.4  | 4255.1  | 3673.0  |
| 40°   | 5029.9 | 4824.3 | 4362.8 | 3832.9 | 3538.3 | 3589.2 | 3693.0  | 4583.9  | 5033.8  | 4907.5  | 4104.9  |
| 42.5° | 5498.6 | 5316.1 | 4737.9 | 4365.3 | 3965.0 | 3901.9 | 4015.3  | 5115.7  | 5788.0  | 5664.2  | 4643.8  |
| 45°   | 5947.9 | 5576.6 | 5159.5 | 4824.3 | 4439.5 | 4516.2 | 4499.4  | 5658.4  | 6713.0  | 6332.1  | 5120.2  |
| 47.5° | 6391.4 | 6042.6 | 5606.2 | 5155.6 | 4768.2 | 5245.9 | 5067.3  | 6062.0  | 7337.0  | 7054.7  | 5621.7  |
| 50°   | 6961.2 | 6577.7 | 6080.7 | 5627.5 | 5395.4 | 5744.8 | 5445.1  | 6403.6  | 8035.8  | 7704.4  | 6094.8  |
| 52.5° | 7339.6 | 6966.4 | 6530.6 | 6207.0 | 6185.7 | 6051.0 | 5974.3  | 6836.1  | 8648.2  | 8447.0  | 6596.3  |
| 55°   | 7295.1 | 6935.4 | 6738.2 | 6773.6 | 7036.6 | 6582.2 | 6519.6  | 7476.2  | 9287.0  | 9054.3  | 7137.8  |
| 57.5° | 6737.5 | 6344.9 | 6386.8 | 6597.0 | 7303.5 | 7514.9 | 7408.6  | 8160.2  | 9856.8  | 9751.1  | 7807.6  |
| 60°   | 5248.5 | 5046.7 | 5387.7 | 5771.9 | 6946.4 | 7788.2 | 8536.0  | 8994.3  | 10558.2 | 10727.0 | 8859.6  |
| 62.5° | 3409.4 | 3139.9 | 3678.8 | 4331.2 | 5880.8 | 7607.7 | 9684.1  | 10576.2 | 11706.9 | 12090.4 | 10458.2 |
| 65°   | 1766.2 | 1723.1 | 2100.2 | 2699.6 | 4094.0 | 6486.8 | 10088.9 | 12235.4 | 13103.1 | 13549.8 | 11985.3 |
| 67.5° | 1284.1 | 1204.1 | 1378.8 | 1731.4 | 2499.2 | 4423.3 | 9321.8  | 13504.7 | 14224.1 | 14633.4 | 12873.0 |
| 70°   | 977.9  | 918.6  | 1052.0 | 1270.5 | 1632.2 | 2498.5 | 6881.3  | 13158.5 | 14656.6 | 14855.2 | 12755.0 |
| 72.5° | 732.3  | 681.4  | 798.0  | 1001.7 | 1257.6 | 1406.6 | 4067.5  | 10819.2 | 13918.5 | 13986.2 | 11447.7 |
| 75°   | 584.7  | 545.3  | 595.6  | 790.9  | 1024.9 | 957.3  | 2160.7  | 7838.5  | 11308.5 | 11366.5 | 8744.2  |
| 77.5° | 479.6  | 446.1  | 466.7  | 593.0  | 797.4  | 720.0  | 1072.0  | 4986.1  | 7179.7  | 7090.8  | 4919.7  |
| 80°   | 391.3  | 362.3  | 371.9  | 428.7  | 607.2  | 537.6  | 602.1   | 2601.0  | 3424.8  | 3286.9  | 2046.0  |
| 82.5° | 301.0  | 276.5  | 295.9  | 315.2  | 439.6  | 386.1  | 351.3   | 1183.5  | 1402.7  | 1306.6  | 750.3   |
| 85°   | 201.8  | 179.2  | 257.2  | 236.6  | 287.5  | 237.2  | 192.1   | 471.2   | 522.8   | 487.3   | 263.6   |
| 87.5° | 55.4   | 52.2   | 86.4   | 118.0  | 118.0  | 89.6   | 70.3    | 114.1   | 145.7   | 127.6   | 61.9    |
| 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°    | 630.4  | 630.4  | 630.4  | 630.4  | 630.4  | 630.4  | 630.4  | 630.4  | 630.4  | 630.4  | 630.4  |
| 2.5°  | 763.9  | 749.7  | 712.3  | 709.1  | 718.1  | 719.4  | 713.6  | 700.1  | 693.0  | 731.6  | 725.8  |
| 5°    | 983.7  | 933.4  | 903.1  | 875.4  | 836.7  | 809.0  | 816.1  | 835.4  | 841.9  | 870.9  | 874.1  |
| 7.5°  | 1154.5 | 1088.1 | 1021.7 | 932.8  | 874.1  | 836.7  | 865.1  | 885.7  | 901.8  | 943.1  | 959.8  |
| 10°   | 1228.6 | 1156.4 | 1062.3 | 968.9  | 952.7  | 959.2  | 943.1  | 948.2  | 973.4  | 975.3  | 983.7  |
| 12.5° | 1366.6 | 1284.7 | 1115.2 | 1030.7 | 1026.2 | 1039.8 | 1034.0 | 1057.8 | 1075.2 | 1122.3 | 1102.3 |
| 15°   | 1498.7 | 1394.3 | 1155.2 | 1068.8 | 1050.1 | 1077.2 | 1108.7 | 1148.7 | 1186.1 | 1230.6 | 1208.0 |
| 17.5° | 1659.2 | 1502.0 | 1157.1 | 1051.4 | 1054.6 | 1112.6 | 1145.5 | 1167.4 | 1278.9 | 1340.2 | 1309.2 |
| 20°   | 1760.4 | 1512.9 | 1113.9 | 1008.2 | 1054.6 | 1106.8 | 1152.6 | 1176.4 | 1301.5 | 1393.7 | 1414.9 |
| 22.5° | 1852.0 | 1516.8 | 1080.4 | 985.0  | 1014.6 | 1083.6 | 1152.6 | 1205.4 | 1285.4 | 1373.7 | 1376.9 |
| 25°   | 1902.3 | 1513.6 | 1037.2 | 986.9  | 1014.0 | 1048.1 | 1109.4 | 1157.7 | 1217.0 | 1340.2 | 1343.4 |
| 27.5° | 2031.2 | 1471.7 | 994.6  | 994.6  | 1008.8 | 1010.1 | 1088.1 | 1116.5 | 1124.9 | 1237.0 | 1257.0 |
| 30°   | 2068.6 | 1480.7 | 989.5  | 993.4  | 1000.4 | 987.6  | 1021.7 | 1040.4 | 1052.7 | 1149.3 | 1152.6 |
| 32.5° | 2128.5 | 1408.5 | 1005.0 | 981.7  | 972.7  | 970.8  | 979.2  | 995.9  | 1001.1 | 1060.4 | 1071.4 |
| 35°   | 2201.4 | 1379.5 | 1010.1 | 978.5  | 960.5  | 950.8  | 975.9  | 955.3  | 971.4  | 1041.1 | 1048.8 |
| 37.5° | 2438.6 | 1339.5 | 1036.5 | 978.5  | 955.3  | 944.4  | 932.1  | 941.8  | 999.2  | 1066.2 | 1107.4 |
| 40°   | 2590.1 | 1351.8 | 1030.1 | 988.2  | 937.9  | 927.6  | 907.0  | 942.4  | 1031.4 | 1150.0 | 1180.9 |
| 42.5° | 2855.6 | 1358.8 | 1037.8 | 983.7  | 943.7  | 903.8  | 917.3  | 956.0  | 1049.4 | 1117.1 | 1164.8 |
| 45°   | 3130.3 | 1380.8 | 1032.7 | 970.1  | 930.8  | 949.5  | 930.8  | 965.6  | 1010.1 | 1012.0 | 1048.1 |
| 47.5° | 3399.7 | 1469.1 | 1021.7 | 942.4  | 927.6  | 976.6  | 928.9  | 934.7  | 937.9  | 949.5  | 992.1  |
| 50°   | 3716.2 | 1563.2 | 1006.2 | 903.8  | 932.1  | 977.9  | 936.0  | 907.6  | 904.4  | 942.4  | 990.1  |
| 52.5° | 4075.9 | 1669.6 | 986.3  | 866.4  | 905.7  | 965.6  | 960.5  | 909.6  | 881.8  | 918.6  | 966.3  |
| 55°   | 4499.4 | 1790.7 | 963.1  | 829.0  | 876.7  | 966.9  | 974.0  | 896.0  | 882.5  | 922.4  | 973.4  |
| 57.5° | 5062.2 | 1966.1 | 917.9  | 774.8  | 841.2  | 946.9  | 939.2  | 880.5  | 867.7  | 910.2  | 963.1  |
| 60°   | 6022.6 | 2303.2 | 853.5  | 721.3  | 803.2  | 897.9  | 910.8  | 852.8  | 839.9  | 887.0  | 942.4  |
| 62.5° | 7308.6 | 2708.7 | 775.5  | 669.1  | 756.8  | 845.1  | 875.4  | 812.9  | 811.6  | 871.5  | 929.5  |
| 65°   | 8505.7 | 2938.8 | 694.9  | 621.4  | 709.1  | 796.1  | 835.4  | 775.5  | 778.1  | 853.5  | 911.5  |
| 67.5° | 9003.3 | 2668.1 | 622.7  | 578.9  | 654.3  | 740.0  | 802.5  | 746.5  | 738.1  | 829.0  | 882.5  |
| 70°   | 8536.0 | 2119.5 | 560.2  | 533.7  | 592.4  | 679.4  | 756.8  | 707.8  | 688.4  | 771.0  | 812.9  |
| 72.5° | 7553.0 | 1766.9 | 501.5  | 480.9  | 538.3  | 615.6  | 694.9  | 655.6  | 630.4  | 693.6  | 731.0  |
| 75°   | 5904.0 | 1449.7 | 434.5  | 428.7  | 476.4  | 557.6  | 630.4  | 603.4  | 571.1  | 611.1  | 648.5  |
| 77.5° | 3361.7 | 917.3  | 364.9  | 368.7  | 402.9  | 488.6  | 553.1  | 531.8  | 498.9  | 515.7  | 558.9  |
| 80°   | 1345.3 | 462.8  | 293.3  | 295.9  | 324.9  | 401.6  | 458.3  | 450.6  | 416.4  | 430.0  | 459.6  |
| 82.5° | 502.8  | 254.0  | 216.6  | 217.9  | 246.9  | 317.8  | 391.3  | 387.4  | 355.2  | 345.5  | 362.3  |
| 85°   | 199.8  | 125.7  | 132.8  | 138.6  | 166.3  | 228.8  | 313.9  | 278.5  | 240.4  | 210.8  | 221.1  |
| 87.5° | 47.7   | 40.0   | 46.4   | 49.0   | 54.1   | 71.6   | 114.7  | 92.2   | 94.8   | 76.1   | 56.7   |
| 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)