

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: P367200

Luminaire Tested: **MSA-SA2A-750-U-SL3**

Issue Date: 12/2/2019

**Test Information**

Test Method: LM-79-08  
Report Number: P367200  
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-SA2A-750-U-SL3  
Description: MESA POST TOP DECORATIVE LUMINAIRE. (2) 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: 7799 lumens  
Efficiency: N/A  
Efficacy: 118.2 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): 66  
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

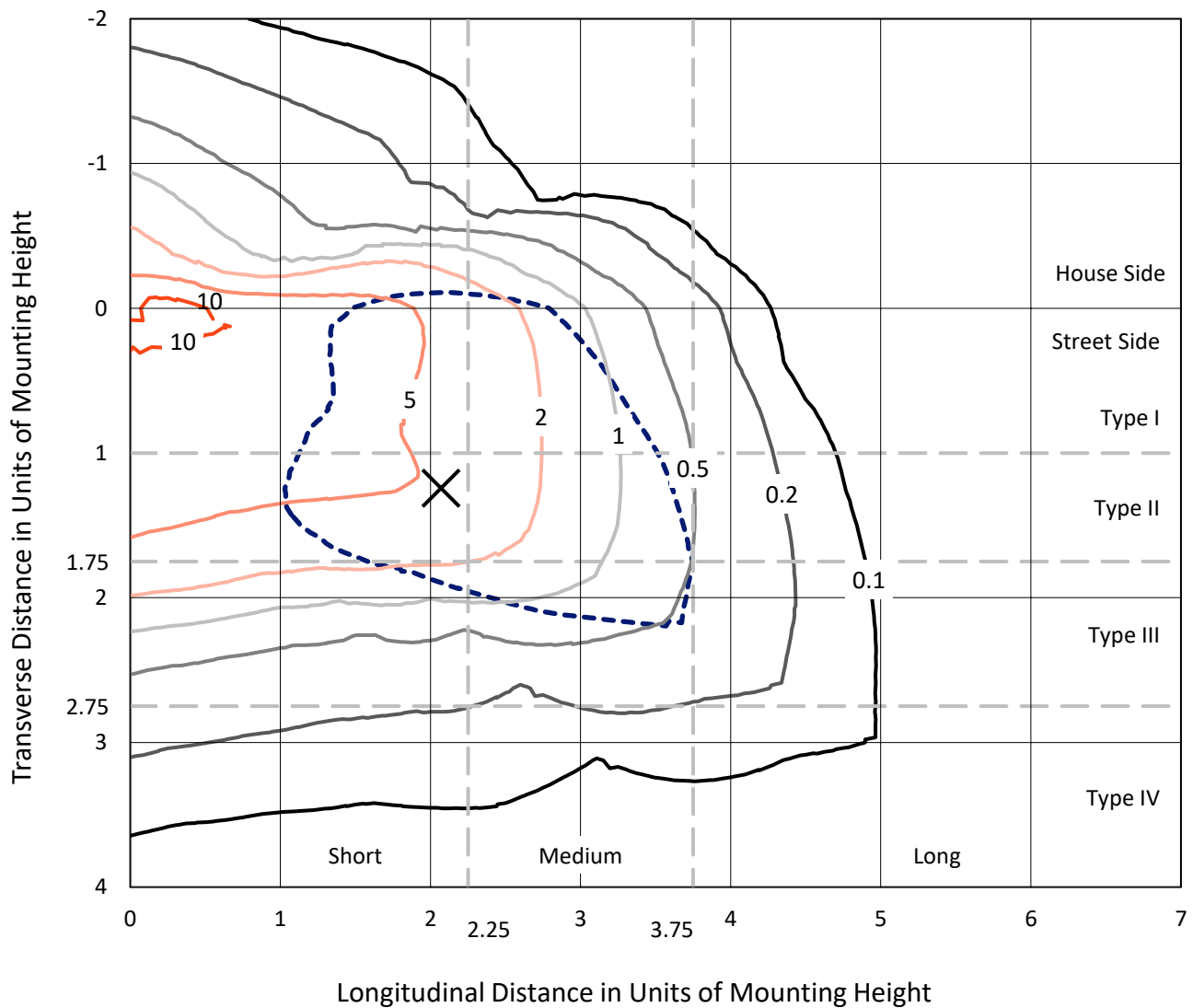


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## Iso-Footcandle Lines of Horizontal Illumination

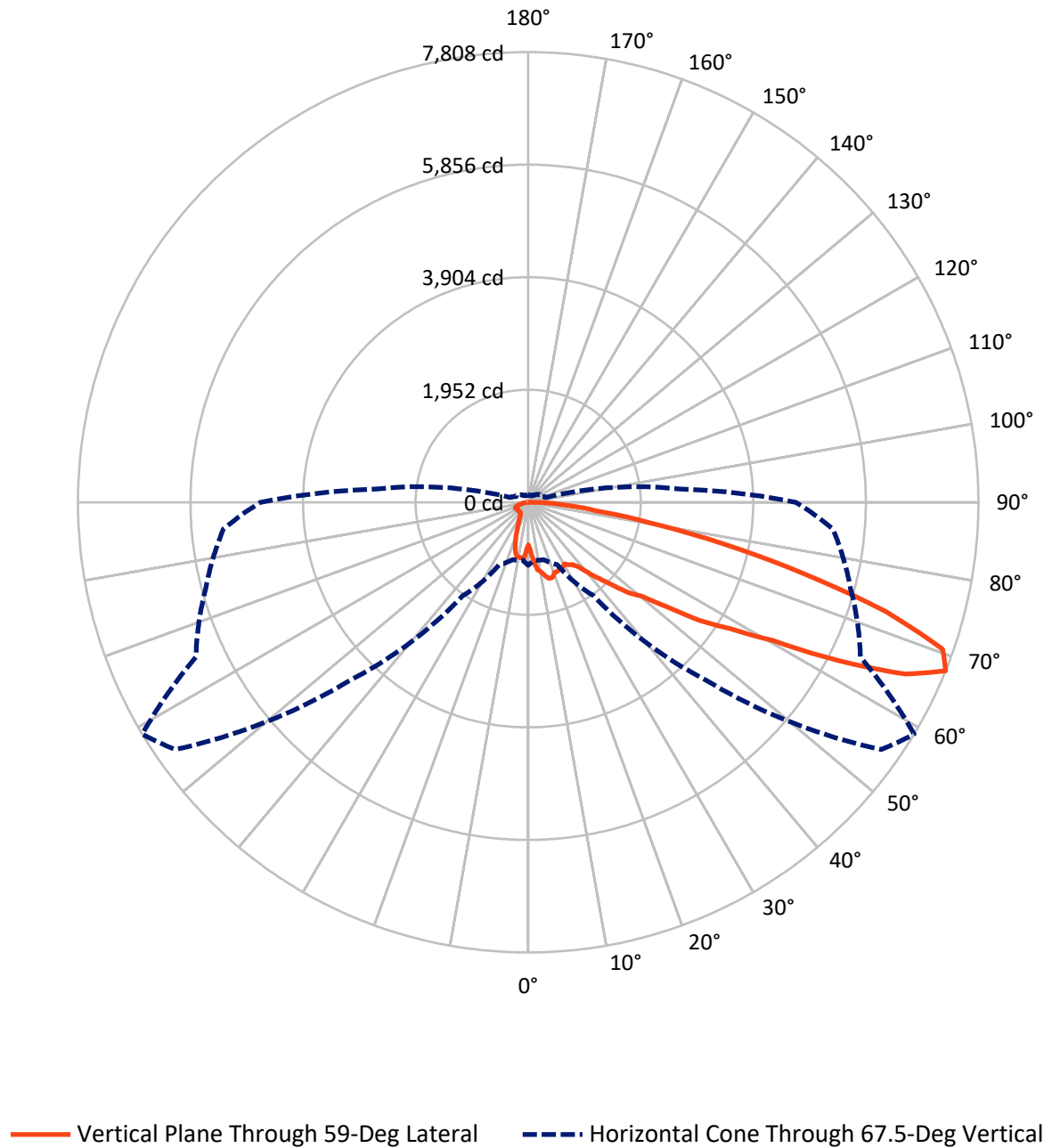
✕ Max cd  
 - - - 1/2 Max cd



Based on 10 foot mounting height. Maximum calculated value = 12.6 fc  
 Type III - Short - N/A

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## Luminous Intensity Polar Plot



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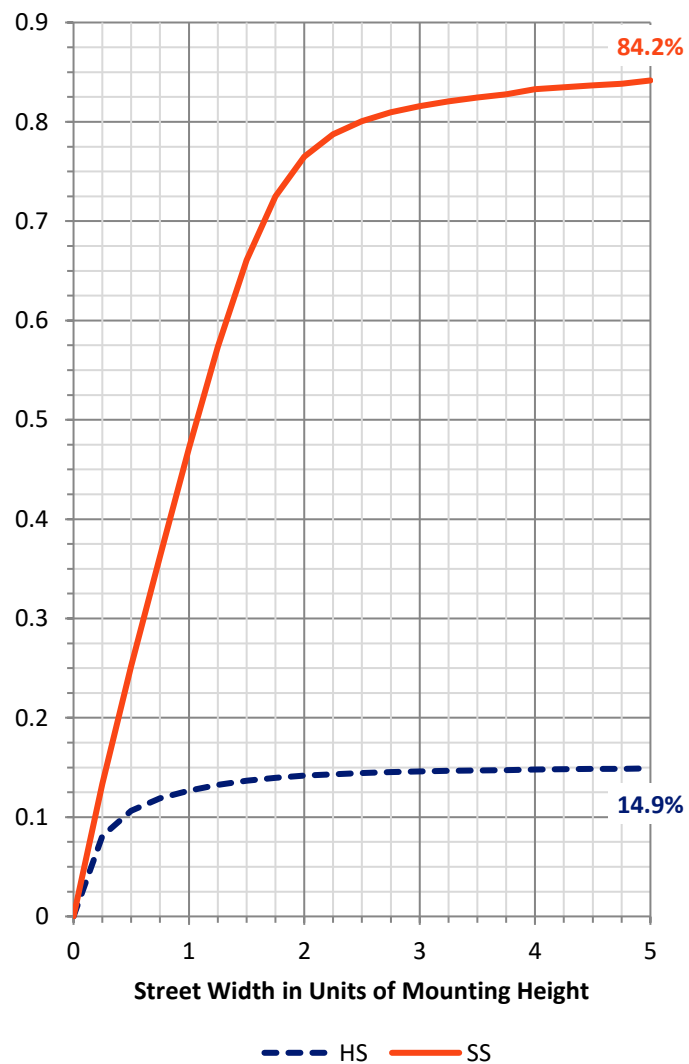
**FLUX DISTRIBUTION:**

|                    |           | Downward | Upward | Total  |
|--------------------|-----------|----------|--------|--------|
| <b>House Side</b>  | Lumens    | 1173.9   | 0.0    | 1173.9 |
|                    | % Fixture | 15.1     | 0.0    | 15.1   |
| <b>Street Side</b> | Lumens    | 6625.1   | 0.0    | 6625.1 |
|                    | % Fixture | 84.9     | 0.0    | 84.9   |
| <b>Total</b>       | Lumens    | 7799.0   | 0.0    | 7799.0 |
|                    | % Fixture | 100.0    | 0.0    | 100.0  |

**ZONAL LUMENS:**

| Zone      | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10°    | 96.4   | 1.2       |
| 10°-20°   | 285.2  | 3.7       |
| 20°-30°   | 407.3  | 5.2       |
| 30°-40°   | 600.2  | 7.7       |
| 40°-50°   | 1014.1 | 13.0      |
| 50°-60°   | 1764.7 | 22.6      |
| 60°-70°   | 2248.8 | 28.8      |
| 70°-80°   | 1190.7 | 15.3      |
| 80°-90°   | 191.6  | 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°    | 7799.0 | 100.0     |
| 0°-180°   | 7799.0 | 100.0     |

**Coefficient of Utilization**



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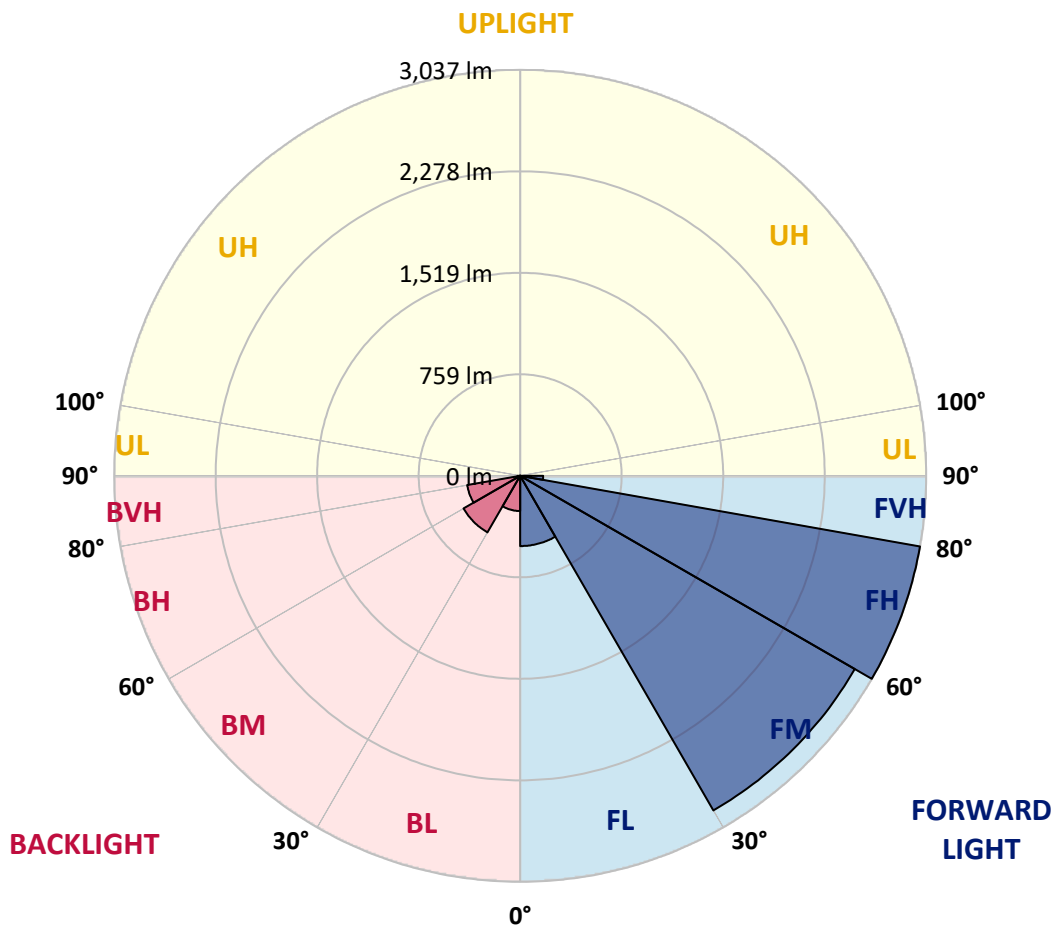
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**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

| Zone |             | Lumens | % Fixture | Zone Rating/Lumen Limit |      |         |
|------|-------------|--------|-----------|-------------------------|------|---------|
|      |             |        |           | B                       | U    | G       |
| FL   | (0°-30°)    | 525.7  | 6.7       |                         |      |         |
| FM   | (30°-60°)   | 2890.2 | 37.1      |                         |      |         |
| FH   | (60°-80°)   | 3037.2 | 38.9      |                         |      | G2/5000 |
| FVH  | (80°-90°)   | 172.1  | 2.2       |                         |      | G2/225  |
| BL   | (0°-30°)    | 263.3  | 3.4       | B1/500                  |      |         |
| BM   | (30°-60°)   | 488.8  | 6.3       | B1/1000                 |      |         |
| BH   | (60°-80°)   | 402.3  | 5.2       | B1/500                  |      | G1/500  |
| BVH  | (80°-90°)   | 19.5   | 0.3       |                         |      | G1/100  |
| 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°    | 738.0  | 738.0  | 738.0  | 738.0  | 738.0  | 738.0  | 738.0  | 738.0  | 738.0  | 738.0  | 738.0  |
| 2.5°  | 921.4  | 878.5  | 832.8  | 845.7  | 871.8  | 883.7  | 870.8  | 858.3  | 842.1  | 822.9  | 888.4  |
| 5°    | 1117.4 | 1053.6 | 1044.4 | 1044.0 | 1034.8 | 997.8  | 1045.3 | 1042.0 | 1061.2 | 1081.0 | 1131.9 |
| 7.5°  | 1173.3 | 1149.5 | 1123.7 | 1135.9 | 1089.3 | 1087.3 | 1161.4 | 1182.5 | 1219.5 | 1207.3 | 1275.7 |
| 10°   | 1144.5 | 1117.7 | 1131.3 | 1126.3 | 1130.6 | 1179.5 | 1224.8 | 1226.1 | 1265.8 | 1304.8 | 1260.8 |
| 12.5° | 1093.9 | 1095.9 | 1149.8 | 1147.8 | 1217.2 | 1308.1 | 1321.6 | 1311.1 | 1375.8 | 1349.4 | 1387.1 |
| 15°   | 1130.0 | 1154.1 | 1140.5 | 1152.1 | 1179.5 | 1295.2 | 1332.9 | 1371.2 | 1432.7 | 1456.5 | 1418.8 |
| 17.5° | 1187.5 | 1200.4 | 1139.5 | 1133.3 | 1189.8 | 1244.6 | 1338.2 | 1370.9 | 1380.5 | 1550.0 | 1496.8 |
| 20°   | 1163.0 | 1189.1 | 1129.6 | 1053.3 | 1147.1 | 1219.8 | 1312.1 | 1302.1 | 1348.7 | 1557.3 | 1513.0 |
| 22.5° | 1232.4 | 1189.1 | 1113.4 | 1059.2 | 1092.3 | 1159.0 | 1237.4 | 1302.5 | 1357.7 | 1514.6 | 1536.5 |
| 25°   | 1245.6 | 1225.1 | 1154.4 | 1100.5 | 1089.3 | 1113.1 | 1224.8 | 1267.4 | 1360.6 | 1572.8 | 1523.9 |
| 27.5° | 1326.3 | 1295.5 | 1151.4 | 1153.1 | 1097.2 | 1055.3 | 1185.1 | 1274.7 | 1394.4 | 1536.8 | 1554.6 |
| 30°   | 1426.4 | 1402.9 | 1222.2 | 1228.8 | 1151.4 | 1074.1 | 1212.2 | 1239.3 | 1413.8 | 1593.0 | 1593.3 |
| 32.5° | 1501.4 | 1542.7 | 1361.3 | 1271.4 | 1244.0 | 1186.1 | 1170.6 | 1292.6 | 1391.0 | 1694.8 | 1659.4 |
| 35°   | 1636.6 | 1668.7 | 1468.4 | 1396.3 | 1303.5 | 1238.4 | 1283.6 | 1327.6 | 1485.9 | 1828.6 | 1757.6 |
| 37.5° | 1886.8 | 1849.8 | 1667.3 | 1554.0 | 1519.3 | 1425.4 | 1450.5 | 1419.8 | 1589.0 | 1979.0 | 1949.9 |
| 40°   | 2031.5 | 1999.5 | 1807.5 | 1744.7 | 1607.2 | 1619.1 | 1587.7 | 1610.2 | 1726.8 | 2139.0 | 2129.7 |
| 42.5° | 2174.3 | 2131.3 | 1969.1 | 1925.5 | 1788.3 | 1730.1 | 1735.7 | 1808.5 | 1939.3 | 2397.4 | 2366.7 |
| 45°   | 2315.4 | 2205.4 | 2134.3 | 2145.9 | 2079.8 | 1960.5 | 1968.7 | 2037.2 | 2171.3 | 2692.9 | 2622.1 |
| 47.5° | 2423.5 | 2332.6 | 2277.1 | 2262.9 | 2230.2 | 2389.8 | 2318.4 | 2346.2 | 2405.3 | 2955.9 | 2929.2 |
| 50°   | 2628.1 | 2522.0 | 2449.6 | 2429.1 | 2540.2 | 2762.3 | 2616.8 | 2557.0 | 2682.9 | 3296.0 | 3282.1 |
| 52.5° | 2955.6 | 2823.4 | 2702.8 | 2701.5 | 2862.1 | 3006.2 | 3108.6 | 3005.5 | 3051.8 | 3644.3 | 3684.0 |
| 55°   | 3241.5 | 3088.5 | 2980.1 | 3039.9 | 3268.6 | 3356.8 | 3704.8 | 3624.2 | 3585.2 | 3996.0 | 4109.4 |
| 57.5° | 3348.2 | 3169.4 | 3098.7 | 3186.9 | 3524.0 | 3977.5 | 4345.3 | 4133.1 | 4095.1 | 4393.9 | 4631.5 |
| 60°   | 3113.9 | 2924.9 | 2929.2 | 3095.4 | 3679.4 | 4433.2 | 5045.6 | 4865.5 | 4642.8 | 4889.3 | 5121.3 |
| 62.5° | 2446.3 | 2275.4 | 2386.8 | 2639.6 | 3549.2 | 4876.1 | 5984.2 | 6060.3 | 5268.4 | 5300.1 | 5393.0 |
| 65°   | 1662.7 | 1544.4 | 1644.9 | 1892.4 | 2878.6 | 5117.7 | 6878.2 | 7182.9 | 5838.2 | 5569.1 | 5510.3 |
| 67.5° | 1094.3 | 1010.6 | 1030.1 | 1194.7 | 1981.6 | 4362.8 | 7476.1 | 7808.2 | 6359.0 | 5789.9 | 5303.4 |
| 70°   | 847.4  | 780.0  | 771.4  | 857.6  | 1175.2 | 3031.0 | 7121.8 | 7626.8 | 6676.3 | 5583.0 | 4622.6 |
| 72.5° | 665.0  | 613.7  | 618.4  | 701.3  | 910.2  | 1681.5 | 5511.0 | 6485.6 | 6198.4 | 4815.0 | 3551.5 |
| 75°   | 518.5  | 476.6  | 500.0  | 594.9  | 841.8  | 1045.0 | 3802.3 | 4922.4 | 4792.1 | 3565.4 | 2025.6 |
| 77.5° | 376.4  | 349.3  | 382.7  | 506.6  | 791.2  | 896.6  | 2367.0 | 3434.2 | 3070.0 | 1830.6 | 695.0  |
| 80°   | 246.9  | 231.7  | 259.1  | 413.1  | 717.5  | 862.9  | 1462.8 | 2104.2 | 1517.0 | 514.2  | 263.1  |
| 82.5° | 145.4  | 138.8  | 161.6  | 279.6  | 576.7  | 808.7  | 975.6  | 1169.3 | 620.7  | 217.5  | 139.8  |
| 85°   | 76.3   | 71.4   | 95.8   | 160.6  | 397.6  | 738.3  | 768.1  | 700.0  | 299.8  | 94.5   | 66.8   |
| 87.5° | 25.4   | 24.8   | 40.7   | 62.1   | 150.4  | 392.0  | 409.8  | 332.5  | 123.6  | 27.4   | 14.5   |
| 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°    | 738.0  | 738.0  | 738.0  | 738.0  | 738.0 | 738.0 | 738.0 | 738.0 | 738.0 | 738.0 | 738.0 |
| 2.5°  | 897.3  | 884.1  | 808.1  | 818.6  | 828.5 | 823.6 | 820.6 | 786.2 | 782.9 | 831.9 | 827.9 |
| 5°    | 1130.6 | 1075.8 | 1011.0 | 1008.0 | 965.4 | 921.7 | 930.3 | 916.5 | 920.4 | 940.6 | 942.6 |
| 7.5°  | 1253.9 | 1185.5 | 1123.7 | 1023.2 | 937.9 | 868.9 | 879.8 | 876.5 | 867.5 | 913.2 | 925.4 |
| 10°   | 1251.6 | 1190.8 | 1121.0 | 999.4  | 941.9 | 885.7 | 818.3 | 754.5 | 735.7 | 713.2 | 715.2 |
| 12.5° | 1334.2 | 1280.3 | 1128.3 | 1004.4 | 926.4 | 829.5 | 703.3 | 633.6 | 566.8 | 565.5 | 548.6 |
| 15°   | 1360.0 | 1320.3 | 1143.8 | 975.9  | 817.6 | 678.8 | 548.3 | 472.6 | 424.4 | 414.8 | 400.6 |
| 17.5° | 1425.1 | 1363.0 | 1096.6 | 884.1  | 691.4 | 530.8 | 412.1 | 359.2 | 355.3 | 361.9 | 354.6 |
| 20°   | 1429.4 | 1328.6 | 1011.3 | 748.2  | 555.6 | 402.2 | 336.1 | 309.7 | 323.9 | 340.1 | 339.4 |
| 22.5° | 1425.7 | 1285.3 | 937.6  | 632.6  | 417.4 | 323.2 | 294.5 | 288.5 | 301.7 | 325.9 | 328.8 |
| 25°   | 1388.7 | 1271.1 | 845.4  | 519.5  | 338.8 | 277.0 | 269.0 | 272.7 | 289.2 | 317.6 | 317.6 |
| 27.5° | 1427.4 | 1213.2 | 729.7  | 422.7  | 284.9 | 246.5 | 252.2 | 261.4 | 273.6 | 306.0 | 312.0 |
| 30°   | 1414.8 | 1232.4 | 636.5  | 340.4  | 251.2 | 225.4 | 238.0 | 247.2 | 261.1 | 294.8 | 297.8 |
| 32.5° | 1448.6 | 1181.2 | 558.2  | 286.2  | 229.0 | 217.1 | 220.1 | 232.7 | 250.8 | 277.3 | 282.6 |
| 35°   | 1500.1 | 1200.0 | 468.3  | 257.5  | 218.1 | 207.5 | 213.2 | 223.1 | 241.3 | 267.0 | 271.3 |
| 37.5° | 1664.7 | 1199.0 | 406.2  | 241.6  | 216.1 | 205.6 | 208.2 | 215.2 | 236.3 | 259.8 | 269.7 |
| 40°   | 1770.5 | 1267.8 | 349.7  | 238.0  | 213.8 | 204.6 | 202.3 | 209.9 | 226.7 | 254.5 | 261.4 |
| 42.5° | 1969.1 | 1309.7 | 325.2  | 236.6  | 213.5 | 199.0 | 196.6 | 205.6 | 222.1 | 247.9 | 258.4 |
| 45°   | 2178.9 | 1369.6 | 305.7  | 236.0  | 212.5 | 198.0 | 191.0 | 202.3 | 216.1 | 240.9 | 253.2 |
| 47.5° | 2425.8 | 1496.1 | 294.8  | 233.7  | 210.5 | 199.3 | 189.0 | 194.7 | 210.2 | 235.0 | 247.2 |
| 50°   | 2749.0 | 1663.7 | 297.1  | 230.4  | 213.5 | 199.6 | 186.1 | 188.7 | 202.9 | 227.0 | 239.6 |
| 52.5° | 3142.0 | 1923.1 | 312.0  | 231.7  | 215.5 | 198.0 | 184.7 | 183.4 | 195.7 | 216.8 | 229.4 |
| 55°   | 3615.6 | 2291.3 | 356.6  | 238.0  | 215.5 | 197.6 | 182.8 | 176.8 | 186.1 | 203.3 | 215.5 |
| 57.5° | 4187.0 | 2717.6 | 443.9  | 240.9  | 213.8 | 195.7 | 178.5 | 167.9 | 173.5 | 187.7 | 199.3 |
| 60°   | 4677.8 | 3061.7 | 533.7  | 242.9  | 217.1 | 191.0 | 169.9 | 156.7 | 160.3 | 171.2 | 181.4 |
| 62.5° | 4928.0 | 3158.2 | 560.8  | 241.3  | 226.1 | 188.1 | 159.6 | 144.8 | 145.1 | 154.3 | 163.6 |
| 65°   | 4974.9 | 3029.6 | 452.1  | 239.6  | 237.6 | 187.7 | 152.4 | 134.5 | 132.2 | 138.8 | 146.7 |
| 67.5° | 4640.5 | 2629.7 | 326.2  | 236.0  | 238.9 | 185.7 | 147.4 | 126.2 | 120.3 | 124.9 | 131.5 |
| 70°   | 3940.1 | 2117.8 | 274.0  | 228.7  | 223.1 | 175.8 | 138.8 | 117.7 | 109.7 | 113.0 | 118.0 |
| 72.5° | 2937.4 | 1566.9 | 238.9  | 213.2  | 194.3 | 150.4 | 125.6 | 108.1 | 99.8  | 102.1 | 105.8 |
| 75°   | 1632.0 | 835.8  | 199.9  | 185.4  | 158.6 | 121.6 | 107.1 | 95.8  | 88.6  | 89.6  | 93.5  |
| 77.5° | 542.0  | 308.4  | 146.7  | 147.1  | 120.0 | 93.9  | 88.2  | 82.0  | 76.3  | 76.7  | 80.0  |
| 80°   | 245.6  | 170.5  | 105.1  | 105.8  | 83.6  | 68.1  | 67.8  | 65.8  | 62.1  | 61.1  | 63.5  |
| 82.5° | 142.4  | 103.4  | 72.0   | 68.7   | 53.9  | 44.3  | 49.2  | 48.3  | 47.3  | 43.6  | 44.3  |
| 85°   | 70.1   | 55.5   | 37.7   | 35.7   | 29.7  | 22.1  | 26.4  | 27.4  | 26.4  | 22.5  | 22.1  |
| 87.5° | 17.2   | 18.2   | 9.3    | 8.6    | 5.0   | 2.3   | 4.0   | 4.0   | 5.0   | 3.3   | 1.7   |
| 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)