

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: P596866

Luminaire Tested: **MSA-SA1B-835-U-T3**

Issue Date: 5/27/2021

**Test Information**

Test Method: LM-79-08  
Report Number: P596866  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-1910-543-10)  
Test Lab: INNOVATIONS CENTER  
Issue Date: 5/27/2021  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: INVUE  
Catalog Number: MSA-SA1B-835-U-T3  
Description: MESA POST TOP DECORATIVE LUMINAIRE. (1) LIGHTSQUARES WITH 16 LEDS EACH AND TYPE III OPTICS.  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 4169 lumens  
Efficiency: N/A  
Efficacy: 94.8 lumens/watt  
Luminous Opening: Rectangular (W 0.5' x L: 0.5' x H: 0')  
IES Classification: Type III - Short  
BUG Rating: B1 - U0 - G1

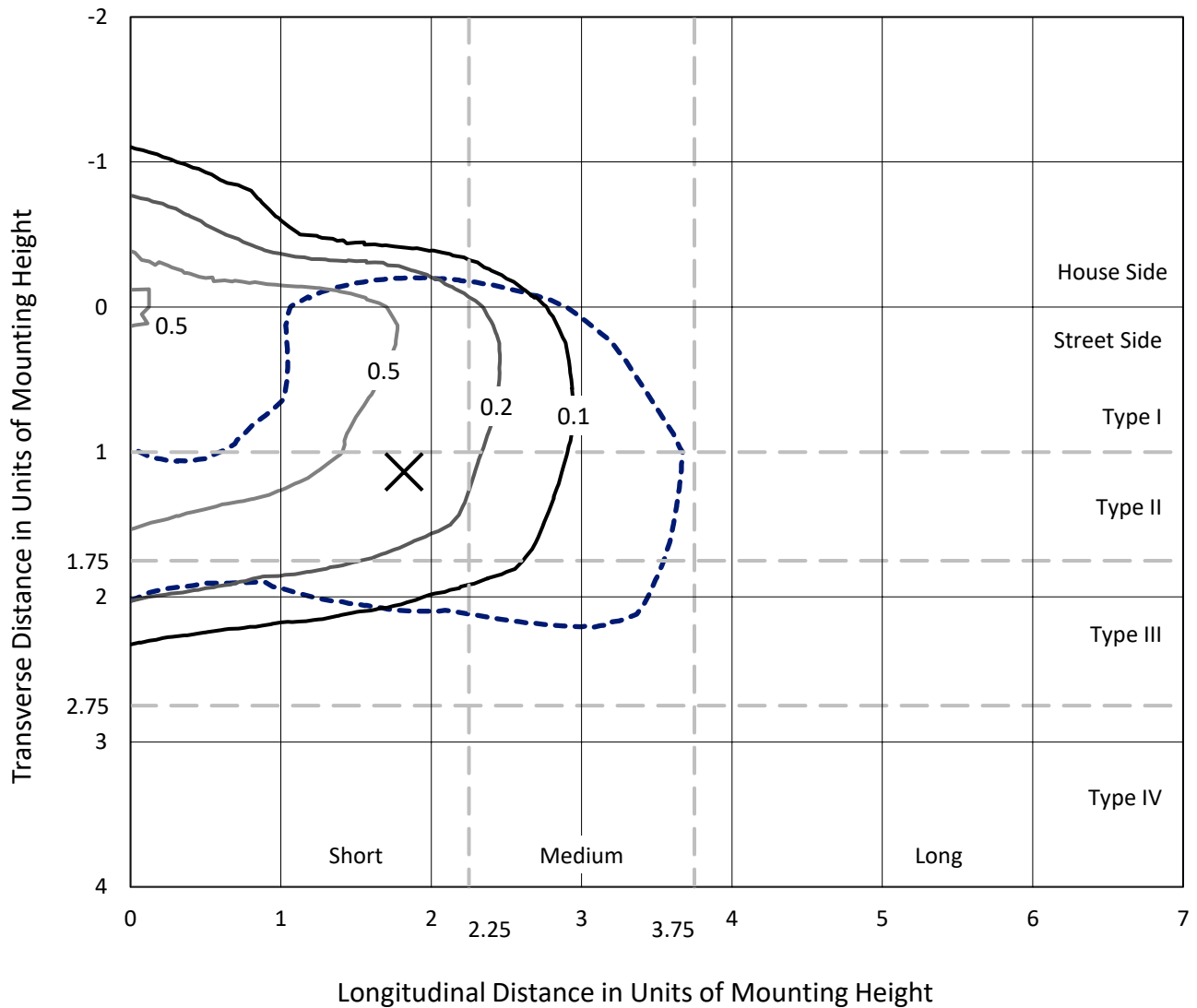
Input Watts (W): 44  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 28.75 FT



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### Iso-Footcandle Lines of Horizontal Illumination

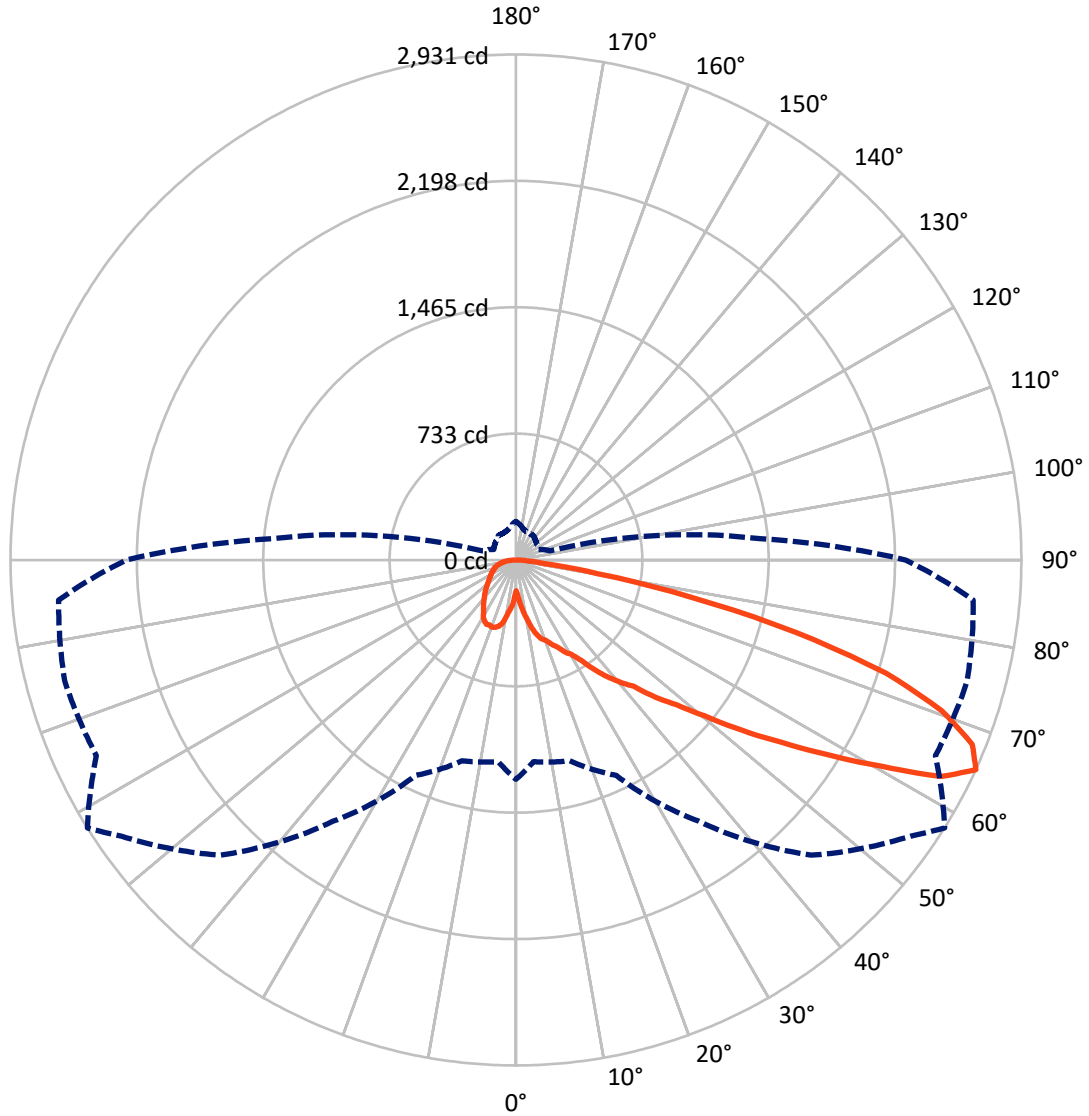
× Max cd  
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 0.9 fc  
 Type III - Short - N/A

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### Luminous Intensity Polar Plot



— Vertical Plane Through 58-Deg Lateral    - - - Horizontal Cone Through 65-Deg Vertical

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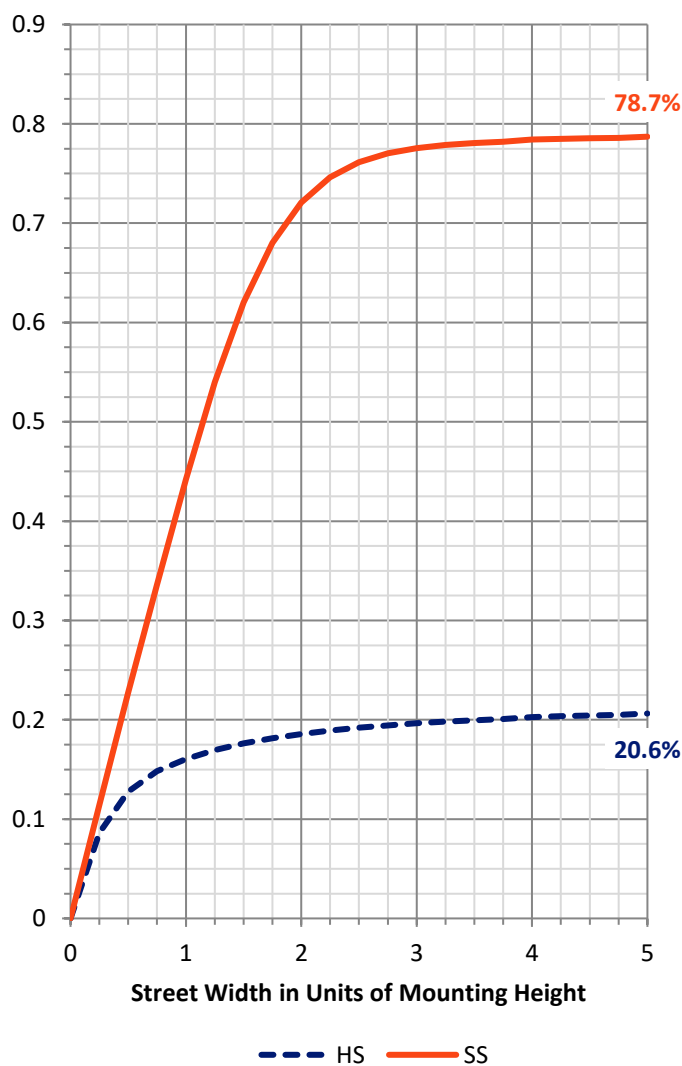
**FLUX DISTRIBUTION:**

|                    |           | Downward | Upward | Total  |
|--------------------|-----------|----------|--------|--------|
| <b>House Side</b>  | Lumens    | 878.1    | 0.0    | 878.1  |
|                    | % Fixture | 21.1     | 0.0    | 21.1   |
| <b>Street Side</b> | Lumens    | 3290.9   | 0.0    | 3290.9 |
|                    | % Fixture | 78.9     | 0.0    | 78.9   |
| <b>Total</b>       | Lumens    | 4169.0   | 0.0    | 4169.0 |
|                    | % Fixture | 100.0    | 0.0    | 100.0  |

**ZONAL LUMENS:**

| Zone      | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10°    | 27.3   | 0.7       |
| 10°-20°   | 119.0  | 2.9       |
| 20°-30°   | 228.3  | 5.5       |
| 30°-40°   | 376.9  | 9.0       |
| 40°-50°   | 626.5  | 15.0      |
| 50°-60°   | 1034.6 | 24.8      |
| 60°-70°   | 1160.7 | 27.8      |
| 70°-80°   | 527.7  | 12.7      |
| 80°-90°   | 68.1   | 1.6       |
| 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°    | 4169.0 | 100.0     |
| 0°-180°   | 4169.0 | 100.0     |

**Coefficient of Utilization**

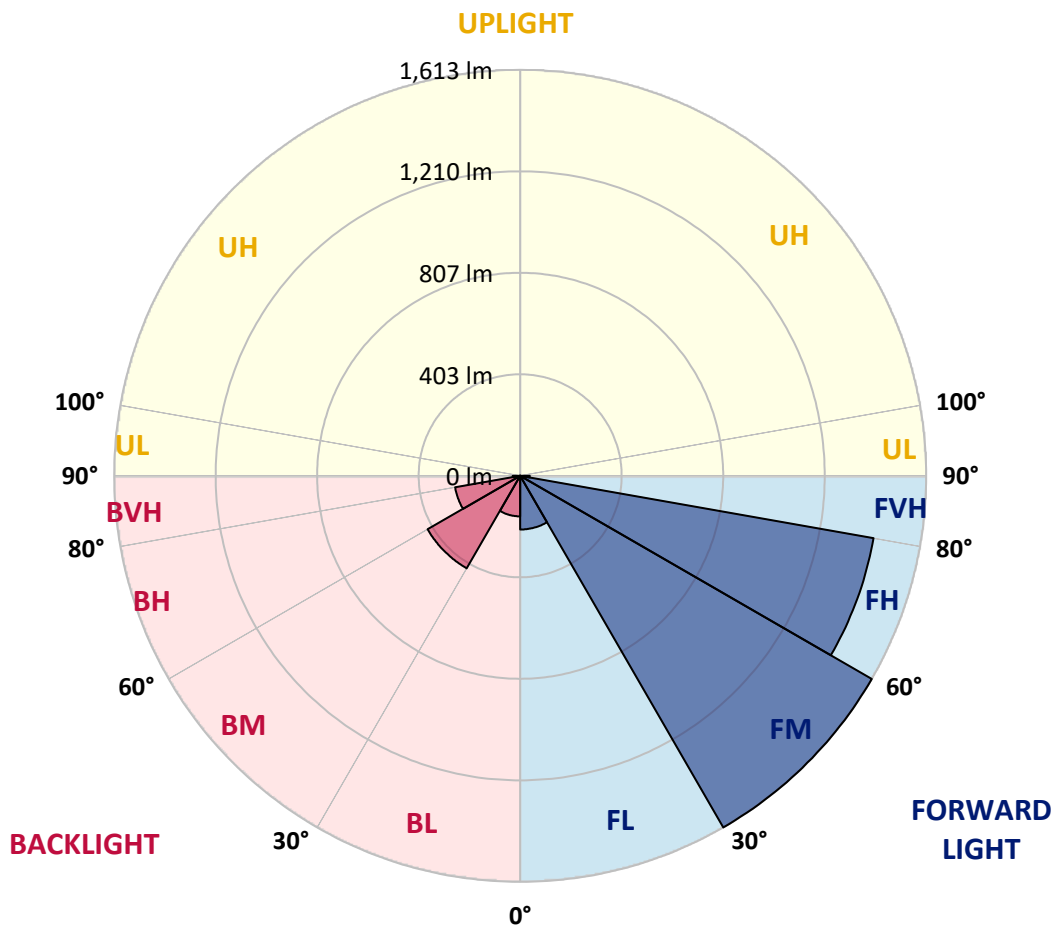


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**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

| Zone           | Lumens | % Fixture | Zone Rating/Lumen Limit |      |         |
|----------------|--------|-----------|-------------------------|------|---------|
|                |        |           | B                       | U    | G       |
| FL (0°-30°)    | 213.3  | 5.1       |                         |      |         |
| FM (30°-60°)   | 1613.3 | 38.7      |                         |      |         |
| FH (60°-80°)   | 1425.9 | 34.2      |                         |      | G1/1800 |
| FVH (80°-90°)  | 38.3   | 0.9       |                         |      | G1/100  |
| BL (0°-30°)    | 161.2  | 3.9       | B1/500                  |      |         |
| BM (30°-60°)   | 424.7  | 10.2      | B1/1000                 |      |         |
| BH (60°-80°)   | 262.5  | 6.3       | B1/500                  |      | G1/500  |
| BVH (80°-90°)  | 29.7   | 0.7       |                         |      | G1/100  |
| UL (90°-100°)  | 0.0    | 0.0       |                         | U0/0 |         |
| UH (100°-180°) | 0.0    | 0.0       |                         | U0/0 |         |

**BUG Rating: B1-U0-G1**  
 Type III Short





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**CANDELA DISTRIBUTION (FULL):**

|       | 0°     | 5°     | 15°    | 25°    | 35°    | 45°    | 55°    | 58°    | 65°    | 75°    | 85°    |
|-------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 0°    | 179.0  | 179.0  | 179.0  | 179.0  | 179.0  | 179.0  | 179.0  | 179.0  | 179.0  | 179.0  | 179.0  |
| 2.5°  | 213.7  | 207.3  | 196.5  | 199.1  | 205.4  | 208.9  | 206.8  | 204.0  | 200.4  | 199.7  | 215.6  |
| 5°    | 276.7  | 264.4  | 259.4  | 257.3  | 249.7  | 245.1  | 253.0  | 251.9  | 256.1  | 263.7  | 279.3  |
| 7.5°  | 322.8  | 314.1  | 305.7  | 304.9  | 290.1  | 284.9  | 295.3  | 300.9  | 308.3  | 308.5  | 329.7  |
| 10°   | 347.4  | 339.9  | 339.8  | 332.0  | 330.7  | 340.6  | 340.8  | 345.0  | 345.8  | 354.7  | 350.5  |
| 12.5° | 374.1  | 373.6  | 383.2  | 383.0  | 394.1  | 410.4  | 402.3  | 402.3  | 404.7  | 393.9  | 407.1  |
| 15°   | 437.9  | 443.4  | 425.5  | 428.5  | 428.5  | 444.5  | 443.9  | 447.1  | 454.5  | 451.7  | 445.8  |
| 17.5° | 504.2  | 507.7  | 487.9  | 469.5  | 470.8  | 467.4  | 479.9  | 481.1  | 474.0  | 506.3  | 499.1  |
| 20°   | 546.9  | 560.4  | 518.8  | 495.7  | 500.2  | 504.2  | 504.7  | 497.2  | 493.6  | 543.2  | 533.5  |
| 22.5° | 599.7  | 588.2  | 550.0  | 524.5  | 531.3  | 525.9  | 524.8  | 530.6  | 535.6  | 554.4  | 570.2  |
| 25°   | 634.9  | 634.0  | 588.2  | 560.3  | 552.8  | 551.2  | 561.8  | 559.6  | 571.5  | 605.6  | 595.7  |
| 27.5° | 686.1  | 702.1  | 620.8  | 627.8  | 595.0  | 560.4  | 594.5  | 604.7  | 626.2  | 620.7  | 642.7  |
| 30°   | 785.4  | 773.5  | 688.6  | 686.7  | 649.5  | 620.5  | 644.1  | 635.4  | 674.1  | 672.9  | 689.3  |
| 32.5° | 866.5  | 874.8  | 768.1  | 748.1  | 720.5  | 685.6  | 670.0  | 694.1  | 714.9  | 749.2  | 758.4  |
| 35°   | 952.3  | 950.4  | 849.5  | 809.2  | 763.6  | 749.2  | 768.4  | 778.5  | 822.8  | 854.2  | 832.3  |
| 37.5° | 1085.6 | 1070.5 | 955.1  | 878.8  | 844.6  | 839.4  | 872.4  | 857.8  | 905.8  | 913.2  | 925.5  |
| 40°   | 1209.6 | 1164.1 | 1051.6 | 964.3  | 909.9  | 929.4  | 930.4  | 932.3  | 958.0  | 978.3  | 1039.3 |
| 42.5° | 1327.5 | 1295.5 | 1149.7 | 1084.1 | 1004.0 | 985.1  | 996.9  | 1000.9 | 1065.8 | 1107.3 | 1191.7 |
| 45°   | 1488.6 | 1403.0 | 1290.7 | 1223.3 | 1133.7 | 1109.6 | 1101.2 | 1135.6 | 1198.3 | 1292.7 | 1365.1 |
| 47.5° | 1624.9 | 1547.6 | 1440.5 | 1351.8 | 1251.6 | 1320.5 | 1273.3 | 1254.0 | 1338.2 | 1455.2 | 1570.5 |
| 50°   | 1737.9 | 1652.8 | 1547.8 | 1496.6 | 1480.6 | 1542.1 | 1419.5 | 1421.7 | 1498.8 | 1663.9 | 1796.1 |
| 52.5° | 1825.4 | 1734.6 | 1641.5 | 1615.5 | 1704.7 | 1740.2 | 1651.6 | 1638.2 | 1694.5 | 1889.6 | 2048.3 |
| 55°   | 1907.2 | 1810.8 | 1738.9 | 1792.1 | 1942.4 | 1946.4 | 1940.2 | 1866.0 | 1933.7 | 2131.5 | 2309.4 |
| 57.5° | 1928.2 | 1824.4 | 1776.6 | 1852.8 | 2056.1 | 2214.3 | 2276.4 | 2131.0 | 2199.9 | 2351.5 | 2533.1 |
| 60°   | 1820.0 | 1731.1 | 1712.0 | 1815.5 | 2117.6 | 2348.8 | 2511.2 | 2424.2 | 2398.3 | 2528.0 | 2689.7 |
| 62.5° | 1598.5 | 1495.4 | 1510.8 | 1654.6 | 2052.8 | 2402.1 | 2696.6 | 2764.5 | 2607.9 | 2668.5 | 2758.1 |
| 65°   | 1272.3 | 1173.8 | 1205.1 | 1378.0 | 1849.5 | 2419.9 | 2791.4 | 2930.6 | 2683.6 | 2708.2 | 2661.2 |
| 67.5° | 897.2  | 807.8  | 847.2  | 1070.9 | 1538.6 | 2193.1 | 2807.7 | 2853.2 | 2603.0 | 2594.9 | 2396.6 |
| 70°   | 508.3  | 452.3  | 495.0  | 681.4  | 1086.0 | 1747.1 | 2679.8 | 2619.9 | 2458.6 | 2342.9 | 2005.3 |
| 72.5° | 233.2  | 213.9  | 234.4  | 346.9  | 625.2  | 1162.5 | 2187.7 | 2242.1 | 2118.5 | 1973.8 | 1525.6 |
| 75°   | 124.0  | 117.2  | 125.9  | 173.3  | 292.5  | 632.5  | 1554.4 | 1676.6 | 1610.8 | 1497.1 | 995.2  |
| 77.5° | 92.2   | 87.0   | 91.1   | 112.3  | 156.3  | 247.4  | 883.2  | 1037.4 | 1062.4 | 957.7  | 552.6  |
| 80°   | 70.7   | 66.5   | 70.7   | 84.9   | 108.2  | 117.5  | 377.6  | 483.5  | 550.7  | 445.0  | 219.6  |
| 82.5° | 52.4   | 49.7   | 56.1   | 63.7   | 76.0   | 73.4   | 134.0  | 166.8  | 215.1  | 147.1  | 85.6   |
| 85°   | 41.7   | 38.2   | 40.6   | 43.2   | 48.6   | 40.3   | 61.3   | 68.6   | 72.6   | 60.8   | 31.6   |
| 87.5° | 16.3   | 15.1   | 29.5   | 23.3   | 19.8   | 12.2   | 18.4   | 20.8   | 21.4   | 20.5   | 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°    | 179.0  | 179.0  | 179.0 | 179.0 | 179.0 | 179.0 | 179.0 | 179.0 | 179.0 | 179.0 | 179.0 |
| 2.5°  | 217.4  | 215.6  | 205.4 | 208.7 | 214.1 | 215.1 | 217.4 | 211.1 | 208.0 | 219.5 | 220.0 |
| 5°    | 280.7  | 271.4  | 266.5 | 267.0 | 263.5 | 258.2 | 266.3 | 271.7 | 273.8 | 282.3 | 285.4 |
| 7.5°  | 329.9  | 318.6  | 310.4 | 301.0 | 287.9 | 279.3 | 293.6 | 304.0 | 309.6 | 327.3 | 334.2 |
| 10°   | 351.7  | 342.7  | 341.0 | 329.2 | 328.8 | 328.7 | 328.0 | 324.3 | 336.3 | 334.6 | 339.4 |
| 12.5° | 396.9  | 395.0  | 378.5 | 373.8 | 374.3 | 373.8 | 359.2 | 358.5 | 358.7 | 374.7 | 368.9 |
| 15°   | 438.9  | 439.2  | 424.1 | 407.1 | 391.9 | 387.2 | 381.4 | 378.8 | 382.6 | 391.7 | 386.1 |
| 17.5° | 490.8  | 492.5  | 449.3 | 422.4 | 402.3 | 401.7 | 388.0 | 371.9 | 395.1 | 400.7 | 394.6 |
| 20°   | 524.3  | 517.0  | 463.9 | 418.8 | 413.0 | 397.4 | 380.4 | 358.2 | 378.3 | 391.9 | 395.7 |
| 22.5° | 556.1  | 543.4  | 477.4 | 425.2 | 397.8 | 379.2 | 362.7 | 348.3 | 354.7 | 369.8 | 367.4 |
| 25°   | 577.6  | 574.1  | 496.2 | 440.6 | 397.2 | 355.9 | 333.7 | 324.5 | 327.8 | 351.2 | 349.0 |
| 27.5° | 629.0  | 591.5  | 492.9 | 444.6 | 380.6 | 324.1 | 313.0 | 303.1 | 299.8 | 325.2 | 332.1 |
| 30°   | 663.4  | 647.9  | 514.9 | 438.4 | 359.6 | 298.1 | 281.8 | 279.7 | 280.7 | 309.6 | 311.5 |
| 32.5° | 721.7  | 681.6  | 551.1 | 414.4 | 329.0 | 278.8 | 260.1 | 260.9 | 265.6 | 286.6 | 291.0 |
| 35°   | 782.5  | 758.5  | 555.9 | 397.2 | 304.2 | 258.3 | 250.7 | 244.6 | 247.2 | 265.6 | 266.5 |
| 37.5° | 895.3  | 812.5  | 585.8 | 370.7 | 285.9 | 250.5 | 235.9 | 230.6 | 232.0 | 242.4 | 249.8 |
| 40°   | 994.6  | 921.0  | 571.9 | 345.0 | 263.4 | 240.1 | 221.9 | 217.9 | 213.7 | 224.0 | 228.7 |
| 42.5° | 1153.9 | 998.5  | 567.2 | 316.7 | 252.8 | 226.0 | 213.5 | 203.0 | 199.0 | 207.6 | 216.2 |
| 45°   | 1313.1 | 1080.6 | 541.7 | 288.0 | 237.9 | 225.0 | 201.4 | 191.3 | 192.4 | 200.2 | 208.9 |
| 47.5° | 1490.5 | 1190.8 | 498.5 | 260.3 | 221.5 | 220.0 | 189.2 | 184.9 | 188.0 | 196.7 | 205.4 |
| 50°   | 1700.2 | 1307.8 | 462.7 | 235.2 | 209.9 | 204.9 | 187.7 | 182.5 | 185.4 | 195.7 | 204.2 |
| 52.5° | 1929.6 | 1436.1 | 436.6 | 212.2 | 196.7 | 192.9 | 189.8 | 184.7 | 188.2 | 197.1 | 205.9 |
| 55°   | 2157.5 | 1553.3 | 418.9 | 196.4 | 185.4 | 187.9 | 194.1 | 190.5 | 192.2 | 198.8 | 207.6 |
| 57.5° | 2326.6 | 1615.1 | 383.3 | 179.5 | 176.2 | 184.9 | 194.6 | 188.5 | 189.6 | 198.8 | 208.3 |
| 60°   | 2424.9 | 1627.0 | 324.8 | 165.8 | 168.9 | 179.0 | 189.2 | 181.4 | 180.7 | 195.8 | 207.8 |
| 62.5° | 2414.1 | 1558.4 | 257.6 | 153.3 | 160.6 | 170.1 | 181.1 | 173.6 | 175.5 | 196.2 | 208.9 |
| 65°   | 2260.0 | 1418.3 | 204.9 | 142.7 | 150.5 | 160.4 | 174.3 | 171.4 | 180.6 | 210.1 | 223.8 |
| 67.5° | 1989.1 | 1213.6 | 164.6 | 132.8 | 141.1 | 153.8 | 179.0 | 186.8 | 190.8 | 224.3 | 238.4 |
| 70°   | 1612.0 | 942.9  | 137.2 | 124.1 | 133.7 | 156.9 | 192.5 | 191.0 | 187.7 | 217.5 | 228.7 |
| 72.5° | 1164.6 | 646.4  | 120.7 | 115.6 | 124.5 | 147.6 | 192.9 | 184.6 | 180.4 | 198.6 | 206.6 |
| 75°   | 728.7  | 385.6  | 105.4 | 104.9 | 110.4 | 132.3 | 184.2 | 176.7 | 165.5 | 174.5 | 184.9 |
| 77.5° | 416.2  | 197.4  | 88.7  | 93.4  | 96.7  | 114.8 | 164.9 | 158.2 | 148.1 | 151.9 | 162.2 |
| 80°   | 158.9  | 95.5   | 74.8  | 83.0  | 82.1  | 97.2  | 139.8 | 138.2 | 126.7 | 128.0 | 134.2 |
| 82.5° | 74.8   | 53.5   | 62.2  | 71.4  | 66.7  | 77.4  | 113.5 | 113.0 | 103.0 | 93.2  | 98.3  |
| 85°   | 27.8   | 28.5   | 45.5  | 54.3  | 46.4  | 50.0  | 82.1  | 79.9  | 70.1  | 59.2  | 65.5  |
| 87.5° | 6.3    | 10.2   | 22.4  | 28.3  | 16.1  | 15.5  | 33.2  | 28.8  | 27.8  | 16.5  | 17.4  |
| 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)