

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: P367075

Luminaire Tested: **MSA-SA1D-750-U-T2-HSS**

Issue Date: 12/2/2019

**Test Information**

Test Method: LM-79-08  
Report Number: P367075  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-1910-543-9)  
Test Lab: INNOVATION CENTER  
Issue Date: 12/2/2019  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: INVUE  
Catalog Number: MSA-SA1D-750-U-T2-HSS  
Description: MESA POST TOP DECORATIVE LUMINAIRE. (1) LIGHTSQUARES WITH 16 LEDS  
EACH AND TYPE II OPTICS WITH HOUSE SIDE SHIELD  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 5172 lumens  
Efficiency: N/A  
Efficacy: 77.2 lumens/watt  
Luminous Opening: Rectangular (W 0.5' x L: 0.5' x H: 0')  
IES Classification: Type II - Medium  
BUG Rating: B1 - U0 - G2

Input Watts (W): 67  
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



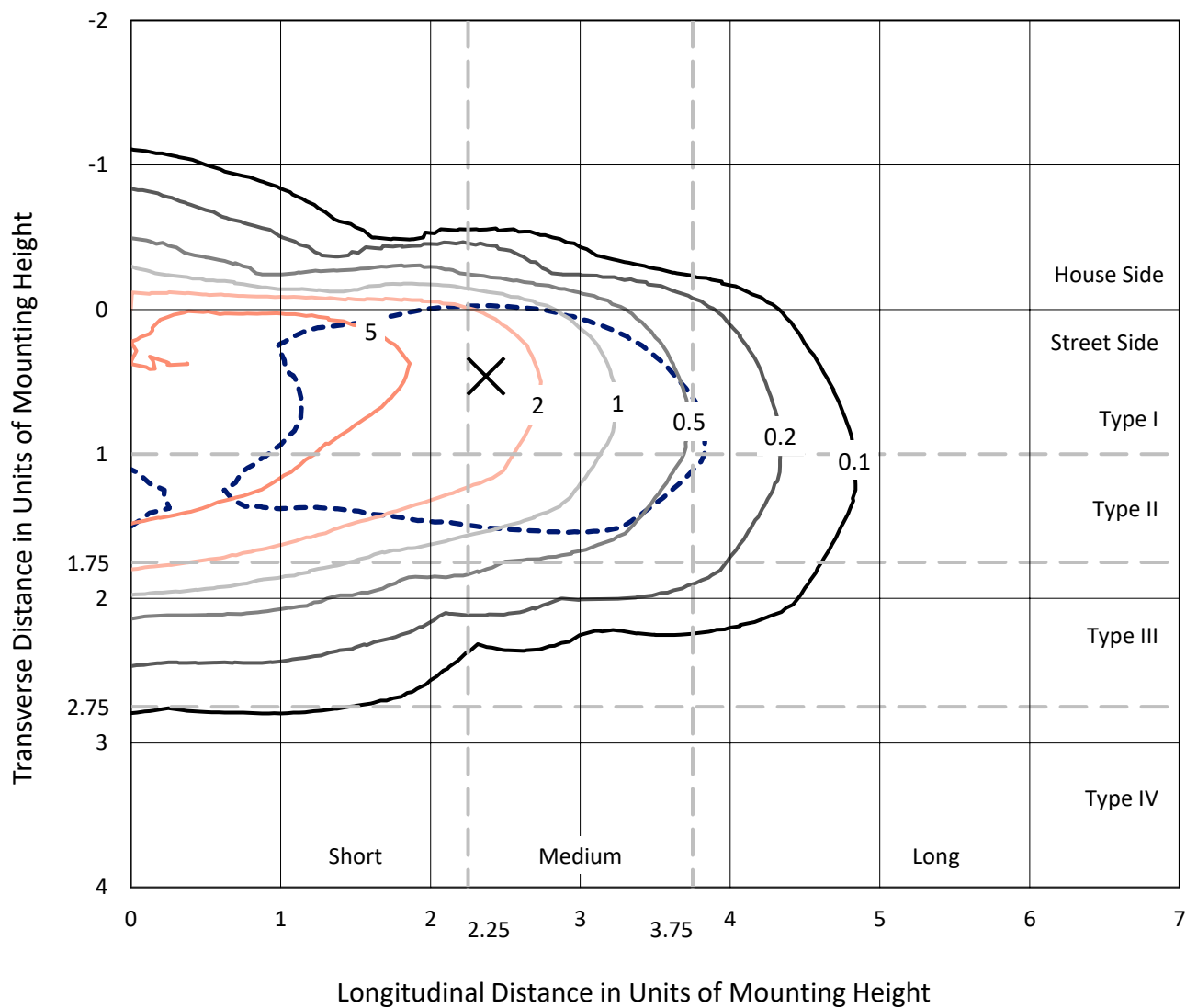
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## Iso-Footcandle Lines of Horizontal Illumination

✕ Max cd

--- 1/2 Max cd

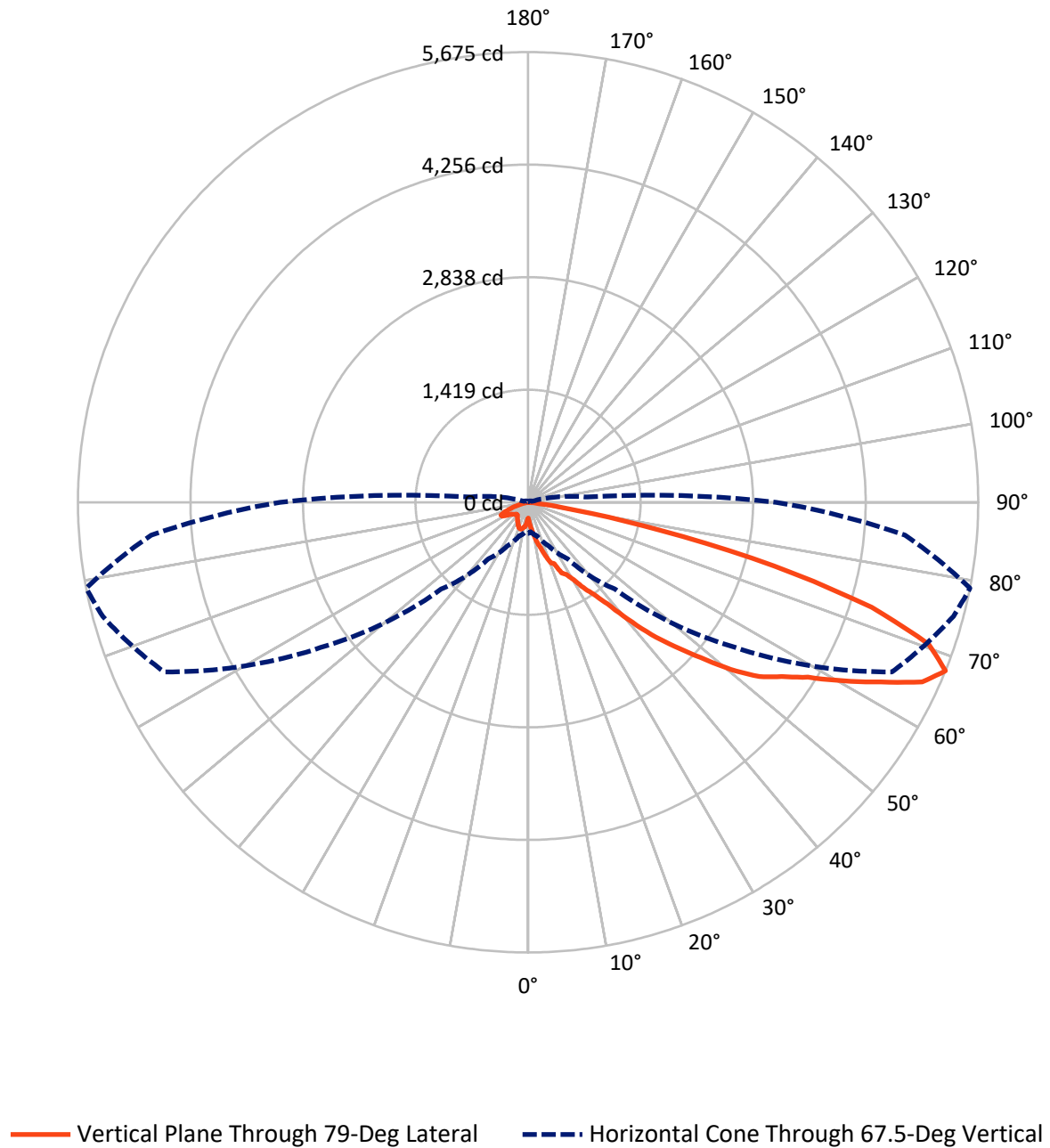


Based on 10 foot mounting height. Maximum calculated value = 9.7 fc  
 Type II - Medium - N/A

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## Luminous Intensity Polar Plot



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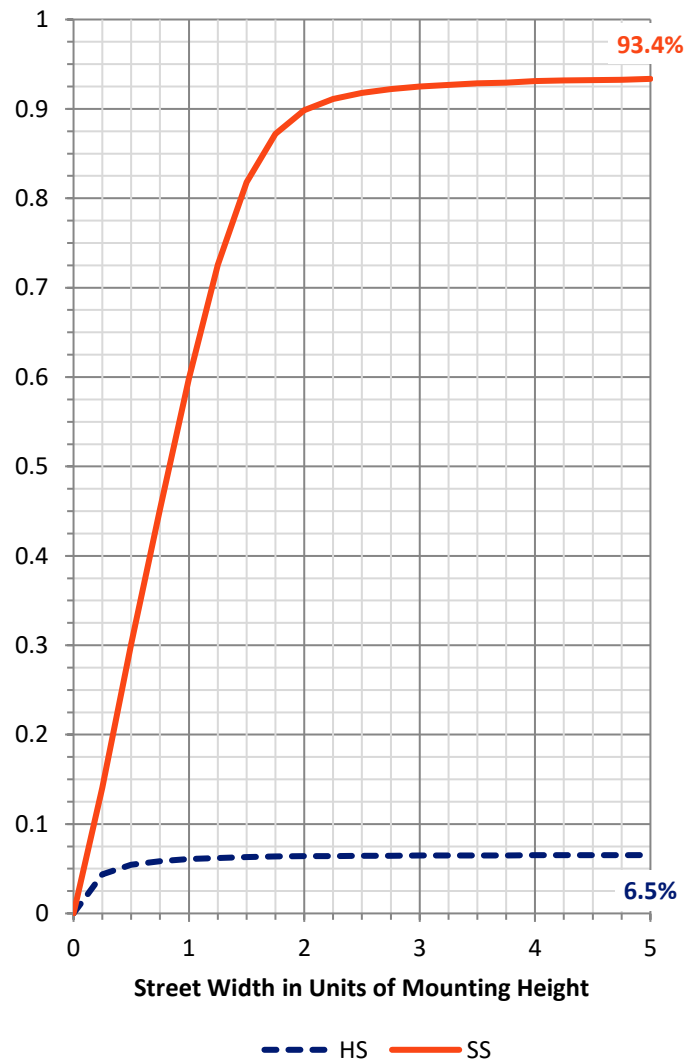
**FLUX DISTRIBUTION:**

|                    |           | Downward | Upward | Total  |
|--------------------|-----------|----------|--------|--------|
| <b>House Side</b>  | Lumens    | 339.8    | 0.0    | 339.8  |
|                    | % Fixture | 6.6      | 0.0    | 6.6    |
| <b>Street Side</b> | Lumens    | 4832.2   | 0.0    | 4832.2 |
|                    | % Fixture | 93.4     | 0.0    | 93.4   |
| <b>Total</b>       | Lumens    | 5172.0   | 0.0    | 5172.0 |
|                    | % Fixture | 100.0    | 0.0    | 100.0  |

**ZONAL LUMENS:**

| Zone      | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10°    | 29.0   | 0.6       |
| 10°-20°   | 115.6  | 2.2       |
| 20°-30°   | 223.0  | 4.3       |
| 30°-40°   | 438.0  | 8.5       |
| 40°-50°   | 877.3  | 17.0      |
| 50°-60°   | 1402.3 | 27.1      |
| 60°-70°   | 1411.0 | 27.3      |
| 70°-80°   | 636.5  | 12.3      |
| 80°-90°   | 39.4   | 0.8       |
| 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°    | 5172.0 | 100.0     |
| 0°-180°   | 5172.0 | 100.0     |

**Coefficient of Utilization**



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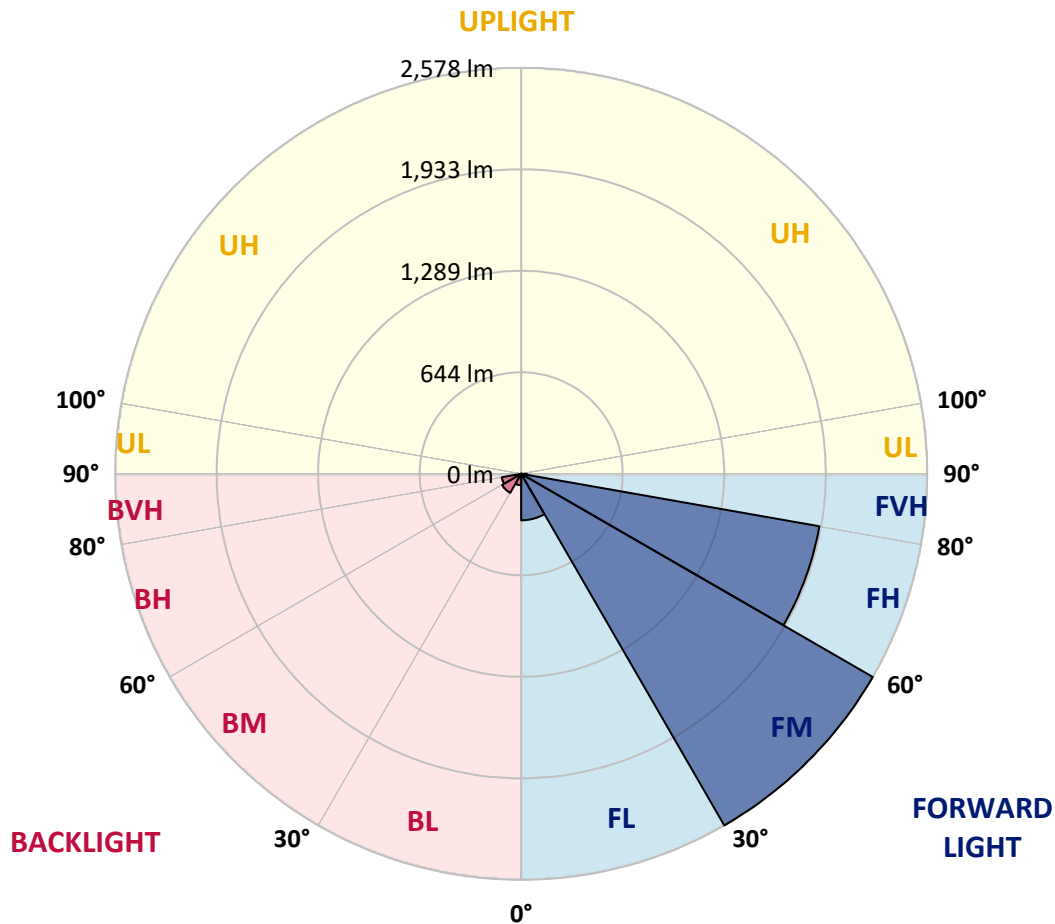
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**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

| Zone |             | Lumens | % Fixture | Zone Rating/Lumen Limit |      |         |
|------|-------------|--------|-----------|-------------------------|------|---------|
|      |             |        |           | B                       | U    | G       |
| FL   | (0°-30°)    | 295.3  | 5.7       |                         |      |         |
| FM   | (30°-60°)   | 2577.8 | 49.8      |                         |      |         |
| FH   | (60°-80°)   | 1922.2 | 37.2      |                         |      | G2/5000 |
| FVH  | (80°-90°)   | 36.9   | 0.7       |                         |      | G1/100  |
| BL   | (0°-30°)    | 72.2   | 1.4       | B0/110                  |      |         |
| BM   | (30°-60°)   | 139.8  | 2.7       | B0/220                  |      |         |
| BH   | (60°-80°)   | 125.3  | 2.4       | B1/500                  |      | G1/500  |
| BVH  | (80°-90°)   | 2.5    | 0.0       |                         |      | G0/10   |
| UL   | (90°-100°)  | 0.0    | 0.0       |                         | U0/0 |         |
| UH   | (100°-180°) | 0.0    | 0.0       |                         | U0/0 |         |

**BUG Rating: B1-U0-G2**

Type II Medium



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**CANDELA DISTRIBUTION (FULL):**

|       | 0°     | 5°     | 15°    | 25°    | 35°    | 45°    | 55°    | 65°    | 75°    | 79°    | 85°    |
|-------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 0°    | 199.3  | 199.3  | 199.3  | 199.3  | 199.3  | 199.3  | 199.3  | 199.3  | 199.3  | 199.3  | 199.3  |
| 2.5°  | 269.1  | 259.4  | 243.8  | 252.6  | 252.0  | 256.6  | 248.0  | 238.6  | 223.5  | 238.6  | 239.8  |
| 5°    | 387.5  | 369.5  | 358.1  | 355.8  | 343.3  | 331.6  | 329.0  | 319.3  | 311.9  | 298.5  | 310.5  |
| 7.5°  | 482.7  | 474.4  | 454.2  | 451.9  | 421.1  | 404.0  | 409.4  | 405.1  | 376.9  | 362.9  | 374.6  |
| 10°   | 523.2  | 508.9  | 511.8  | 508.9  | 495.8  | 500.6  | 489.5  | 476.7  | 454.2  | 431.1  | 402.0  |
| 12.5° | 538.9  | 536.6  | 560.2  | 557.4  | 588.2  | 625.2  | 600.4  | 579.1  | 526.9  | 521.2  | 481.5  |
| 15°   | 572.5  | 586.8  | 583.3  | 595.3  | 615.0  | 678.0  | 677.4  | 682.5  | 627.2  | 597.6  | 540.3  |
| 17.5° | 602.4  | 613.0  | 595.9  | 609.6  | 663.2  | 701.4  | 752.4  | 732.4  | 738.7  | 708.5  | 619.8  |
| 20°   | 589.6  | 601.6  | 584.5  | 576.2  | 670.6  | 743.0  | 811.1  | 796.6  | 834.2  | 815.4  | 693.1  |
| 22.5° | 669.7  | 647.2  | 604.1  | 577.3  | 647.8  | 742.1  | 831.9  | 892.7  | 886.1  | 839.9  | 761.2  |
| 25°   | 768.7  | 755.0  | 703.4  | 656.0  | 662.3  | 737.0  | 897.5  | 986.8  | 1006.1 | 986.5  | 826.0  |
| 27.5° | 902.1  | 898.9  | 793.5  | 772.9  | 711.9  | 714.5  | 907.8  | 1105.4 | 1061.2 | 1030.4 | 901.5  |
| 30°   | 1076.3 | 1051.5 | 926.3  | 899.5  | 809.4  | 765.2  | 970.5  | 1207.7 | 1175.2 | 1133.3 | 972.5  |
| 32.5° | 1263.6 | 1267.3 | 1107.6 | 1019.3 | 946.8  | 894.4  | 945.7  | 1255.6 | 1316.3 | 1282.4 | 1061.2 |
| 35°   | 1476.3 | 1492.8 | 1297.5 | 1193.7 | 1052.9 | 975.6  | 1052.3 | 1402.7 | 1511.6 | 1422.4 | 1180.1 |
| 37.5° | 1803.9 | 1803.3 | 1575.2 | 1368.5 | 1266.2 | 1182.3 | 1230.0 | 1536.4 | 1751.7 | 1626.3 | 1393.3 |
| 40°   | 2092.1 | 2029.4 | 1817.3 | 1579.8 | 1420.1 | 1397.3 | 1362.8 | 1719.5 | 2008.0 | 1932.5 | 1582.9 |
| 42.5° | 2307.4 | 2263.2 | 2006.9 | 1822.1 | 1624.3 | 1551.8 | 1539.6 | 1987.8 | 2386.4 | 2280.6 | 1853.5 |
| 45°   | 2564.8 | 2420.0 | 2231.3 | 2064.8 | 1863.2 | 1842.1 | 1813.3 | 2260.1 | 2826.6 | 2588.2 | 2088.7 |
| 47.5° | 2795.5 | 2659.2 | 2480.7 | 2266.9 | 2035.4 | 2209.3 | 2098.7 | 2499.3 | 3146.7 | 2922.9 | 2348.2 |
| 50°   | 2989.6 | 2844.8 | 2644.9 | 2482.2 | 2382.9 | 2501.0 | 2316.5 | 2696.3 | 3492.6 | 3311.2 | 2590.8 |
| 52.5° | 3088.6 | 2924.6 | 2770.1 | 2669.5 | 2730.2 | 2703.7 | 2611.9 | 2934.9 | 3787.4 | 3651.7 | 2805.7 |
| 55°   | 3007.3 | 2847.1 | 2782.4 | 2832.3 | 3016.7 | 2940.0 | 2947.4 | 3304.7 | 4065.6 | 3878.6 | 2992.8 |
| 57.5° | 2646.9 | 2500.7 | 2529.5 | 2666.0 | 3019.6 | 3220.3 | 3330.1 | 3663.9 | 4288.9 | 4161.4 | 3281.3 |
| 60°   | 2002.3 | 1884.6 | 1991.2 | 2233.5 | 2735.6 | 3164.4 | 3601.5 | 4023.2 | 4607.9 | 4568.0 | 3718.1 |
| 62.5° | 1222.8 | 1159.0 | 1310.1 | 1612.3 | 2179.9 | 2890.4 | 3759.7 | 4502.1 | 4949.2 | 4991.7 | 4181.4 |
| 65°   | 623.8  | 595.0  | 721.0  | 986.8  | 1472.9 | 2374.4 | 3645.4 | 4799.8 | 5301.9 | 5458.7 | 4623.0 |
| 67.5° | 392.9  | 374.3  | 441.6  | 601.9  | 869.0  | 1548.7 | 3191.8 | 5060.1 | 5551.1 | 5675.1 | 4770.4 |
| 70°   | 272.3  | 260.6  | 318.8  | 413.1  | 548.3  | 834.2  | 2369.8 | 4817.2 | 5353.5 | 5359.2 | 4413.8 |
| 72.5° | 172.8  | 163.7  | 220.4  | 305.9  | 404.6  | 430.8  | 1358.5 | 3780.0 | 4582.5 | 4529.8 | 3574.4 |
| 75°   | 112.0  | 107.5  | 140.0  | 224.1  | 310.8  | 265.7  | 671.4  | 2550.6 | 3285.9 | 3203.2 | 2374.1 |
| 77.5° | 80.4   | 77.5   | 93.8   | 149.7  | 221.2  | 185.9  | 301.1  | 1520.2 | 1884.0 | 1703.2 | 1152.4 |
| 80°   | 48.5   | 48.2   | 67.9   | 93.8   | 157.4  | 131.1  | 139.1  | 690.2  | 730.4  | 595.6  | 352.1  |
| 82.5° | 24.2   | 25.1   | 37.9   | 60.4   | 101.2  | 85.8   | 63.6   | 229.8  | 196.2  | 144.5  | 71.3   |
| 85°   | 5.7    | 7.1    | 20.0   | 41.6   | 50.7   | 34.2   | 30.2   | 60.2   | 53.9   | 40.8   | 20.8   |
| 87.5° | 0.0    | 0.0    | 6.3    | 10.0   | 13.7   | 5.7    | 10.3   | 11.4   | 14.5   | 11.4   | 4.3    |
| 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°    | 199.3  | 199.3 | 199.3 | 199.3 | 199.3 | 199.3 | 199.3 | 199.3 | 199.3 | 199.3 | 199.3 |
| 2.5°  | 240.1  | 236.6 | 215.8 | 210.4 | 209.8 | 203.9 | 205.3 | 199.6 | 199.9 | 212.7 | 212.7 |
| 5°    | 305.9  | 286.0 | 266.0 | 248.3 | 236.4 | 219.2 | 213.0 | 210.4 | 208.1 | 213.3 | 216.4 |
| 7.5°  | 359.2  | 329.9 | 293.9 | 255.5 | 219.8 | 195.3 | 191.9 | 185.6 | 183.3 | 188.5 | 192.4 |
| 10°   | 382.9  | 346.4 | 297.1 | 240.9 | 207.6 | 187.6 | 171.1 | 162.2 | 160.5 | 160.2 | 161.7 |
| 12.5° | 433.1  | 387.7 | 300.5 | 235.5 | 199.3 | 177.3 | 158.5 | 143.7 | 130.0 | 131.4 | 130.0 |
| 15°   | 473.3  | 419.7 | 300.5 | 222.4 | 179.3 | 157.4 | 124.3 | 116.9 | 114.9 | 118.0 | 115.5 |
| 17.5° | 534.0  | 451.3 | 285.4 | 199.0 | 162.2 | 122.3 | 109.8 | 109.2 | 113.2 | 117.7 | 114.9 |
| 20°   | 570.5  | 455.6 | 260.0 | 172.2 | 133.1 | 106.1 | 101.5 | 96.9  | 102.6 | 106.3 | 104.9 |
| 22.5° | 608.4  | 455.9 | 234.6 | 157.9 | 107.2 | 96.7  | 89.2  | 85.5  | 86.4  | 89.8  | 90.4  |
| 25°   | 624.7  | 444.8 | 211.0 | 139.1 | 97.2  | 86.4  | 78.7  | 74.7  | 73.3  | 75.0  | 74.4  |
| 27.5° | 668.9  | 423.4 | 185.3 | 118.6 | 92.4  | 76.7  | 69.6  | 64.7  | 60.4  | 63.3  | 63.9  |
| 30°   | 675.1  | 416.5 | 171.4 | 105.5 | 86.1  | 67.9  | 61.6  | 56.5  | 53.3  | 57.3  | 57.3  |
| 32.5° | 695.1  | 378.9 | 164.2 | 100.1 | 79.5  | 62.7  | 54.2  | 50.5  | 49.9  | 52.5  | 52.7  |
| 35°   | 725.9  | 362.4 | 153.7 | 95.8  | 73.6  | 56.7  | 48.8  | 47.0  | 46.5  | 48.5  | 48.5  |
| 37.5° | 830.2  | 341.8 | 142.0 | 92.1  | 68.4  | 53.6  | 47.3  | 44.5  | 44.8  | 46.5  | 47.6  |
| 40°   | 899.5  | 344.4 | 124.6 | 87.5  | 62.4  | 50.7  | 44.5  | 42.5  | 42.2  | 43.1  | 43.9  |
| 42.5° | 1028.1 | 346.4 | 116.9 | 82.7  | 57.9  | 47.3  | 41.6  | 40.2  | 39.1  | 39.9  | 40.8  |
| 45°   | 1171.8 | 357.0 | 112.9 | 78.7  | 55.3  | 45.3  | 39.1  | 38.2  | 35.6  | 36.2  | 37.3  |
| 47.5° | 1310.4 | 395.4 | 108.1 | 73.0  | 53.0  | 44.2  | 36.5  | 34.5  | 32.8  | 32.5  | 33.6  |
| 50°   | 1467.7 | 432.8 | 102.6 | 66.7  | 50.7  | 42.5  | 33.9  | 30.8  | 29.7  | 29.7  | 30.5  |
| 52.5° | 1608.6 | 468.4 | 97.5  | 62.4  | 49.0  | 39.3  | 31.6  | 28.5  | 27.7  | 27.7  | 28.8  |
| 55°   | 1756.8 | 505.8 | 92.9  | 58.4  | 46.8  | 36.2  | 29.7  | 26.8  | 26.5  | 25.9  | 26.8  |
| 57.5° | 2018.6 | 587.3 | 87.2  | 55.0  | 43.6  | 33.6  | 27.9  | 25.1  | 24.5  | 23.7  | 24.5  |
| 60°   | 2399.8 | 712.5 | 79.8  | 51.6  | 39.9  | 31.9  | 26.5  | 23.1  | 22.2  | 20.8  | 21.1  |
| 62.5° | 2772.4 | 813.7 | 71.3  | 47.3  | 36.5  | 30.2  | 24.2  | 20.8  | 19.4  | 17.7  | 18.0  |
| 65°   | 3091.7 | 853.6 | 62.2  | 42.2  | 33.1  | 26.2  | 21.1  | 18.2  | 16.3  | 14.0  | 13.7  |
| 67.5° | 3129.3 | 753.8 | 53.3  | 37.3  | 29.7  | 22.2  | 18.0  | 16.3  | 13.1  | 11.1  | 10.5  |
| 70°   | 2816.3 | 561.7 | 44.5  | 33.1  | 25.7  | 18.8  | 15.4  | 14.3  | 12.3  | 10.5  | 9.7   |
| 72.5° | 2242.7 | 414.5 | 37.3  | 29.4  | 22.5  | 16.0  | 13.1  | 13.4  | 12.3  | 10.3  | 9.1   |
| 75°   | 1483.1 | 237.2 | 30.5  | 24.5  | 18.8  | 12.8  | 12.0  | 12.0  | 11.7  | 9.7   | 8.6   |
| 77.5° | 713.6  | 102.4 | 23.4  | 19.4  | 15.1  | 9.7   | 10.8  | 10.8  | 11.1  | 8.8   | 7.1   |
| 80°   | 202.4  | 30.8  | 14.5  | 13.1  | 11.1  | 6.6   | 8.6   | 8.3   | 7.4   | 5.1   | 3.1   |
| 82.5° | 36.2   | 12.0  | 6.6   | 6.8   | 6.3   | 2.6   | 4.8   | 4.6   | 3.7   | 2.0   | 0.3   |
| 85°   | 10.0   | 4.6   | 3.7   | 4.0   | 3.1   | 0.9   | 2.0   | 2.6   | 2.0   | 1.1   | 0.0   |
| 87.5° | 2.6    | 2.0   | 2.6   | 2.9   | 2.3   | 0.3   | 0.9   | 0.3   | 0.9   | 0.3   | 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)