

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: P367345

Luminaire Tested: **MSA-SA2B-750-U-T4W-HSS**

Issue Date: 12/2/2019

**Test Information**

Test Method: LM-79-08  
Report Number: P367345  
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-SA2B-750-U-T4W-HSS  
Description: MESA POST TOP DECORATIVE LUMINAIRE. (2) 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: 7509 lumens  
Efficiency: N/A  
Efficacy: 88.3 lumens/watt  
Luminous Opening: Rectangular (W 0.5' x L: 1' x H: 0')  
IES Classification: Type IV - Short  
BUG Rating: B1 - U0 - G2

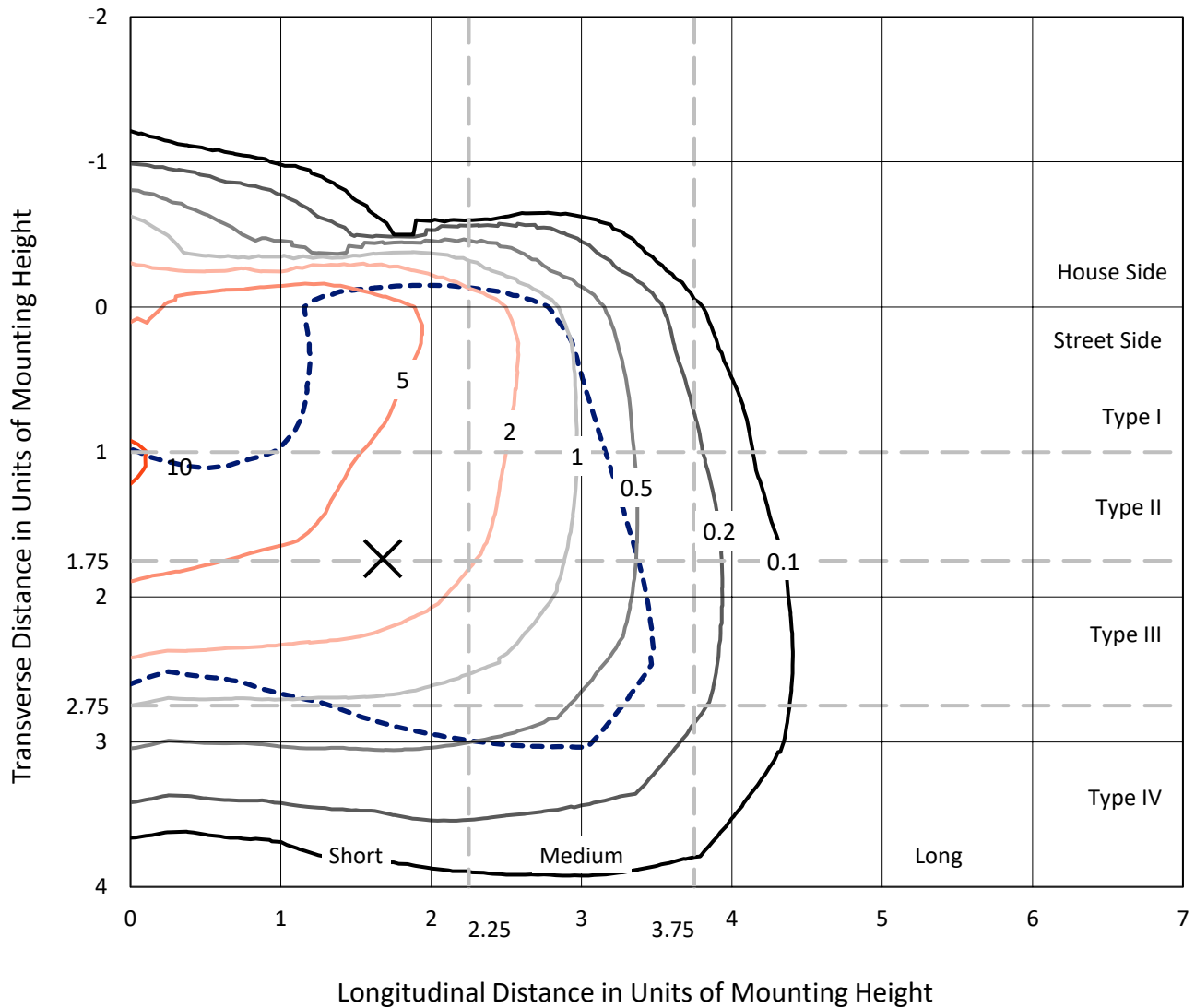
Input Watts (W): 85  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 24 FT



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## Iso-Footcandle Lines of Horizontal Illumination

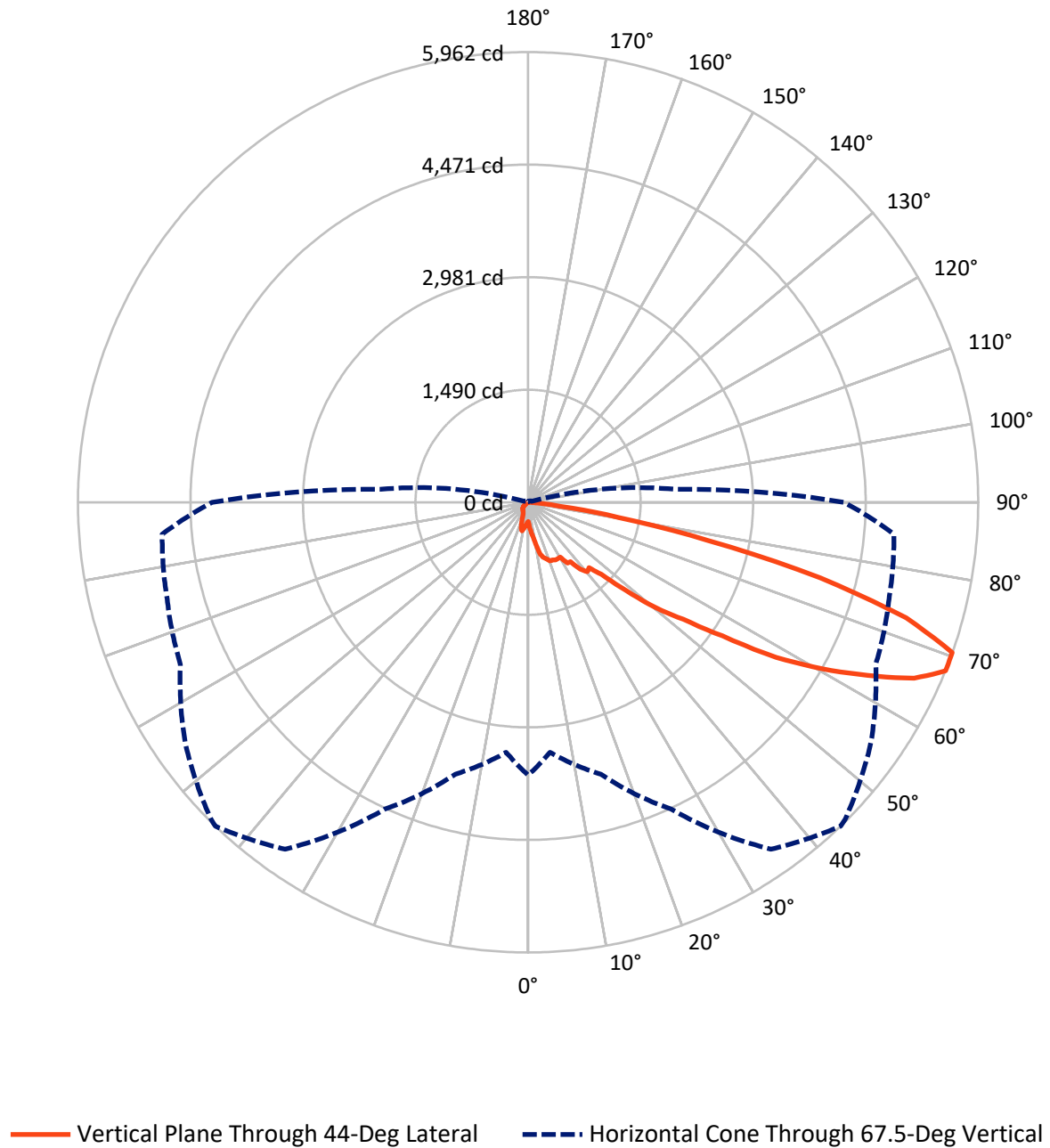
✕ Max cd  
 - - - 1/2 Max cd



Based on 10 foot mounting height. Maximum calculated value = 10.9 fc  
 Type IV - Short - N/A

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## Luminous Intensity Polar Plot



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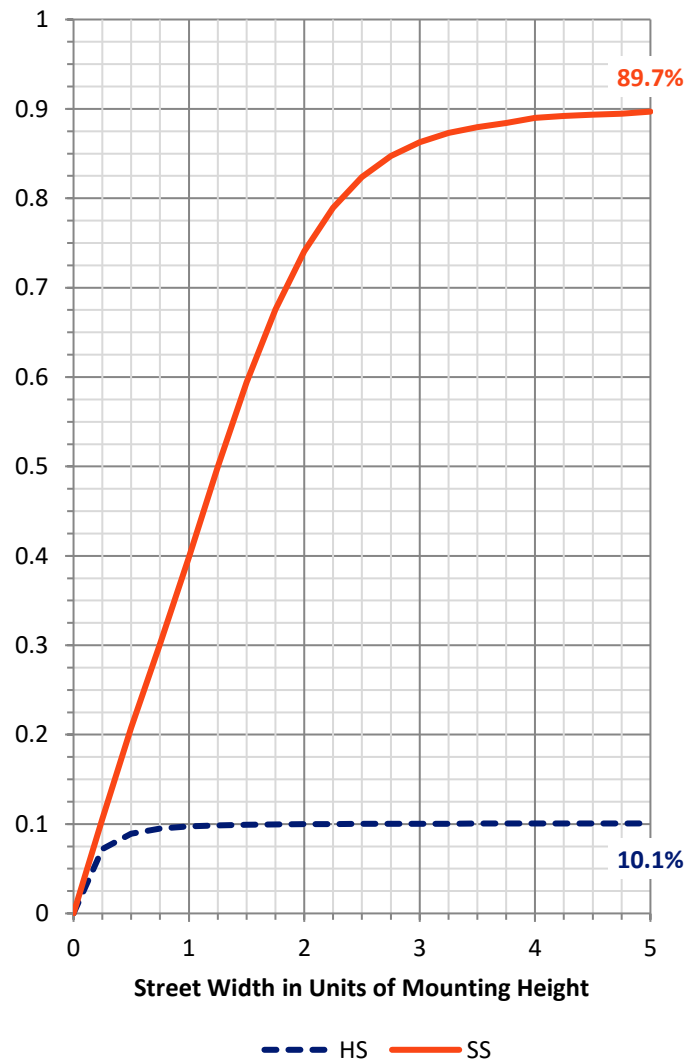
**FLUX DISTRIBUTION:**

|                    |           | Downward | Upward | Total  |
|--------------------|-----------|----------|--------|--------|
| <b>House Side</b>  | Lumens    | 762.8    | 0.0    | 762.8  |
|                    | % Fixture | 10.2     | 0.0    | 10.2   |
| <b>Street Side</b> | Lumens    | 6746.2   | 0.0    | 6746.2 |
|                    | % Fixture | 89.8     | 0.0    | 89.8   |
| <b>Total</b>       | Lumens    | 7509.0   | 0.0    | 7509.0 |
|                    | % Fixture | 100.0    | 0.0    | 100.0  |

**ZONAL LUMENS:**

| Zone      | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10°    | 37.5   | 0.5       |
| 10°-20°   | 157.0  | 2.1       |
| 20°-30°   | 278.1  | 3.7       |
| 30°-40°   | 452.0  | 6.0       |
| 40°-50°   | 904.6  | 12.0      |
| 50°-60°   | 1855.7 | 24.7      |
| 60°-70°   | 2549.2 | 33.9      |
| 70°-80°   | 1198.2 | 16.0      |
| 80°-90°   | 76.7   | 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°    | 7509.0 | 100.0     |
| 0°-180°   | 7509.0 | 100.0     |

**Coefficient of Utilization**



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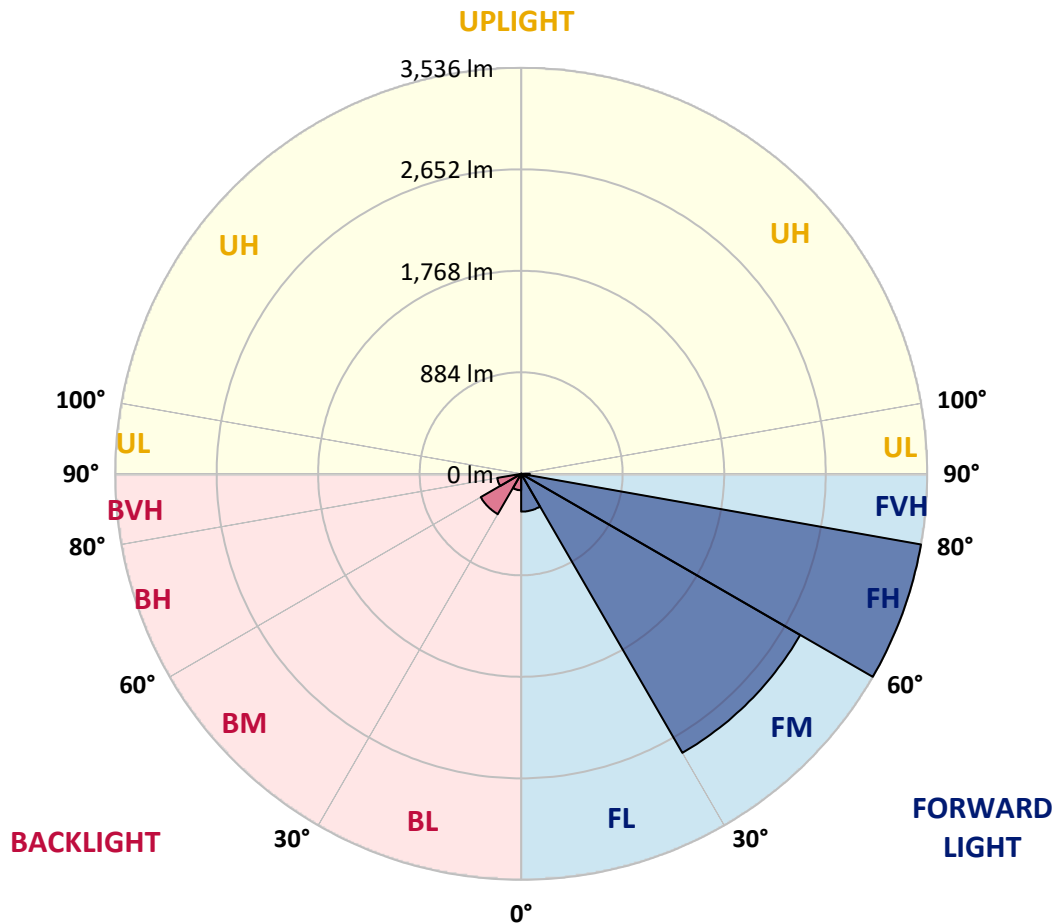
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**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

| Zone |             | Lumens | % Fixture | Zone Rating/Lumen Limit |      |         |
|------|-------------|--------|-----------|-------------------------|------|---------|
|      |             |        |           | B                       | U    | G       |
| FL   | (0°-30°)    | 329.4  | 4.4       |                         |      |         |
| FM   | (30°-60°)   | 2806.0 | 37.4      |                         |      |         |
| FH   | (60°-80°)   | 3535.7 | 47.1      |                         |      | G2/5000 |
| FVH  | (80°-90°)   | 75.2   | 1.0       |                         |      | G1/100  |
| BL   | (0°-30°)    | 143.2  | 1.9       | B1/500                  |      |         |
| BM   | (30°-60°)   | 406.3  | 5.4       | B1/1000                 |      |         |
| BH   | (60°-80°)   | 211.7  | 2.8       | B1/500                  |      | G1/500  |
| BVH  | (80°-90°)   | 1.6    | 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 IV Short



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**CANDELA DISTRIBUTION (FULL):**

|       | 0°     | 5°     | 15°    | 25°    | 35°    | 44°    | 45°    | 55°    | 65°    | 75°    | 85°    |
|-------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 0°    | 253.0  | 253.0  | 253.0  | 253.0  | 253.0  | 253.0  | 253.0  | 253.0  | 253.0  | 253.0  | 253.0  |
| 2.5°  | 321.7  | 311.4  | 296.5  | 299.8  | 301.4  | 306.0  | 306.4  | 300.6  | 284.0  | 279.5  | 299.8  |
| 5°    | 450.9  | 425.7  | 421.1  | 411.6  | 392.5  | 382.2  | 379.7  | 390.0  | 376.8  | 372.7  | 378.0  |
| 7.5°  | 576.0  | 554.4  | 530.8  | 518.0  | 478.2  | 453.8  | 452.6  | 456.7  | 459.2  | 444.7  | 452.2  |
| 10°   | 659.2  | 635.6  | 630.6  | 600.4  | 566.0  | 560.2  | 557.7  | 542.0  | 529.2  | 518.4  | 482.4  |
| 12.5° | 734.5  | 734.1  | 743.2  | 699.8  | 694.4  | 700.2  | 698.1  | 641.8  | 629.0  | 583.8  | 573.5  |
| 15°   | 834.8  | 859.6  | 820.3  | 783.8  | 737.4  | 757.3  | 751.9  | 715.9  | 707.2  | 676.6  | 632.3  |
| 17.5° | 938.7  | 945.3  | 879.5  | 823.6  | 811.6  | 785.5  | 790.9  | 778.0  | 734.1  | 758.6  | 714.7  |
| 20°   | 941.2  | 955.7  | 885.3  | 792.9  | 829.8  | 828.5  | 829.0  | 816.5  | 758.6  | 815.7  | 775.5  |
| 22.5° | 975.9  | 940.3  | 874.9  | 816.1  | 822.7  | 829.0  | 835.6  | 820.3  | 807.8  | 821.9  | 829.4  |
| 25°   | 961.9  | 947.8  | 884.9  | 845.9  | 839.7  | 844.7  | 846.3  | 865.8  | 857.9  | 891.9  | 873.3  |
| 27.5° | 998.3  | 978.0  | 865.4  | 872.4  | 850.5  | 844.7  | 834.8  | 899.8  | 922.9  | 896.0  | 945.7  |
| 30°   | 1060.8 | 1057.9 | 898.9  | 909.3  | 892.3  | 841.4  | 867.9  | 952.8  | 981.7  | 965.2  | 1025.6 |
| 32.5° | 1158.6 | 1168.5 | 997.1  | 930.0  | 938.7  | 961.5  | 951.5  | 952.8  | 1026.1 | 1062.9 | 1110.9 |
| 35°   | 1297.3 | 1291.9 | 1092.7 | 1008.7 | 963.1  | 966.8  | 980.9  | 1048.4 | 1143.2 | 1140.7 | 1191.7 |
| 37.5° | 1569.7 | 1510.9 | 1262.1 | 1089.0 | 1102.7 | 1121.3 | 1110.9 | 1201.6 | 1210.7 | 1214.0 | 1335.8 |
| 40°   | 1971.4 | 1893.1 | 1529.1 | 1258.3 | 1126.7 | 1209.1 | 1204.1 | 1226.5 | 1287.3 | 1310.1 | 1487.7 |
| 42.5° | 2500.5 | 2395.4 | 1999.1 | 1569.7 | 1242.6 | 1185.9 | 1216.5 | 1258.8 | 1463.3 | 1528.3 | 1722.9 |
| 45°   | 3085.2 | 2872.4 | 2467.8 | 2013.6 | 1533.3 | 1357.3 | 1380.5 | 1459.2 | 1742.8 | 1850.5 | 2065.4 |
| 47.5° | 3464.1 | 3276.9 | 2932.0 | 2407.0 | 1836.4 | 1744.0 | 1746.1 | 1763.1 | 2071.1 | 2270.7 | 2558.9 |
| 50°   | 3793.2 | 3594.1 | 3274.0 | 2818.1 | 2372.6 | 2197.9 | 2158.1 | 2079.8 | 2489.4 | 2762.2 | 3081.9 |
| 52.5° | 4257.8 | 4025.1 | 3616.0 | 3300.5 | 2984.2 | 2572.6 | 2558.5 | 2585.0 | 2982.5 | 3269.4 | 3618.1 |
| 55°   | 4676.9 | 4394.0 | 4003.6 | 3804.8 | 3681.4 | 3123.3 | 3135.3 | 3179.6 | 3615.6 | 3767.6 | 4095.1 |
| 57.5° | 4861.9 | 4555.5 | 4354.7 | 4265.3 | 4199.4 | 3875.6 | 3835.1 | 3808.6 | 4115.0 | 4172.9 | 4594.9 |
| 60°   | 4983.3 | 4691.8 | 4600.7 | 4621.4 | 4820.9 | 4477.3 | 4440.4 | 4286.4 | 4528.2 | 4575.8 | 5042.9 |
| 62.5° | 4906.7 | 4640.8 | 4660.3 | 4833.0 | 5276.0 | 5049.9 | 4943.5 | 4686.0 | 4866.1 | 4904.6 | 5364.6 |
| 65°   | 4424.3 | 4147.3 | 4397.4 | 4815.1 | 5623.0 | 5617.6 | 5568.3 | 5054.9 | 5053.2 | 5102.5 | 5389.5 |
| 67.5° | 3613.9 | 3323.3 | 3727.8 | 4481.4 | 5608.5 | 5961.7 | 5938.5 | 5544.3 | 5080.1 | 4948.5 | 4863.6 |
| 70°   | 2512.5 | 2260.4 | 2719.2 | 3700.9 | 5108.7 | 5959.2 | 5921.9 | 5873.1 | 4867.3 | 4259.5 | 3770.9 |
| 72.5° | 1305.5 | 1166.8 | 1594.1 | 2550.2 | 4072.3 | 5235.8 | 5358.8 | 5278.5 | 4156.0 | 3094.7 | 2220.6 |
| 75°   | 443.5  | 397.9  | 657.5  | 1353.6 | 2707.1 | 3998.2 | 4142.3 | 4060.7 | 2822.7 | 1660.4 | 878.2  |
| 77.5° | 171.8  | 159.8  | 235.6  | 549.5  | 1358.1 | 2436.4 | 2592.9 | 2509.6 | 1513.8 | 608.3  | 206.6  |
| 80°   | 97.7   | 94.4   | 130.0  | 247.6  | 598.7  | 1212.0 | 1322.1 | 1199.1 | 545.7  | 205.0  | 53.8   |
| 82.5° | 41.4   | 42.6   | 72.5   | 133.7  | 301.0  | 427.7  | 477.0  | 435.2  | 228.6  | 140.4  | 19.9   |
| 85°   | 9.1    | 11.2   | 34.4   | 74.5   | 126.3  | 122.1  | 127.9  | 142.0  | 140.4  | 103.1  | 8.7    |
| 87.5° | 0.0    | 0.0    | 10.8   | 20.3   | 30.2   | 19.9   | 15.7   | 27.7   | 43.1   | 41.4   | 3.7    |
| 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°    | 253.0  | 253.0  | 253.0 | 253.0 | 253.0 | 253.0 | 253.0 | 253.0 | 253.0 | 253.0 | 253.0 |
| 2.5°  | 303.5  | 299.4  | 273.3 | 271.6 | 273.3 | 268.7 | 268.3 | 258.8 | 259.6 | 281.1 | 282.8 |
| 5°    | 378.0  | 357.3  | 335.0 | 327.9 | 321.3 | 306.4 | 314.7 | 314.7 | 314.7 | 328.4 | 332.5 |
| 7.5°  | 445.5  | 417.8  | 386.3 | 359.8 | 334.1 | 315.5 | 328.4 | 337.5 | 342.8 | 360.6 | 368.9 |
| 10°   | 476.2  | 448.8  | 420.7 | 383.0 | 363.1 | 356.1 | 341.2 | 333.3 | 342.8 | 339.1 | 343.7 |
| 12.5° | 541.6  | 516.8  | 468.3 | 429.4 | 414.5 | 390.5 | 346.6 | 315.9 | 295.6 | 292.3 | 291.5 |
| 15°   | 605.4  | 590.0  | 525.0 | 472.9 | 421.1 | 365.6 | 290.7 | 250.1 | 228.6 | 224.8 | 225.3 |
| 17.5° | 686.1  | 664.2  | 568.5 | 493.6 | 405.8 | 306.0 | 224.4 | 189.6 | 188.0 | 197.1 | 197.9 |
| 20°   | 739.9  | 703.9  | 590.5 | 476.6 | 355.3 | 231.5 | 175.6 | 167.3 | 180.5 | 197.1 | 195.4 |
| 22.5° | 791.3  | 752.4  | 619.4 | 461.7 | 275.4 | 175.6 | 161.5 | 162.3 | 173.5 | 191.3 | 195.9 |
| 25°   | 825.2  | 811.2  | 655.0 | 426.9 | 209.9 | 152.0 | 154.4 | 160.7 | 170.2 | 187.2 | 187.2 |
| 27.5° | 927.5  | 861.7  | 650.9 | 359.4 | 161.5 | 141.6 | 147.4 | 155.3 | 160.2 | 180.5 | 182.6 |
| 30°   | 989.6  | 968.1  | 672.4 | 290.7 | 141.6 | 128.4 | 139.5 | 146.6 | 149.9 | 173.1 | 173.9 |
| 32.5° | 1065.8 | 1018.2 | 698.5 | 214.5 | 131.7 | 127.5 | 125.0 | 130.4 | 140.0 | 160.2 | 161.5 |
| 35°   | 1158.6 | 1144.5 | 661.3 | 168.5 | 128.4 | 119.3 | 114.3 | 117.2 | 123.4 | 137.1 | 140.0 |
| 37.5° | 1347.8 | 1264.1 | 638.9 | 144.5 | 128.4 | 116.4 | 111.0 | 103.5 | 104.3 | 113.9 | 119.3 |
| 40°   | 1507.2 | 1481.5 | 576.4 | 140.4 | 122.6 | 112.2 | 99.0  | 89.9  | 83.6  | 86.5  | 88.6  |
| 42.5° | 1799.9 | 1681.1 | 495.6 | 138.3 | 117.2 | 101.4 | 84.1  | 74.5  | 65.0  | 65.8  | 69.1  |
| 45°   | 2155.2 | 1898.9 | 423.6 | 136.2 | 113.5 | 90.7  | 70.8  | 59.6  | 49.7  | 50.1  | 53.4  |
| 47.5° | 2629.7 | 2216.5 | 336.2 | 130.0 | 106.8 | 80.7  | 57.1  | 45.5  | 39.8  | 41.0  | 43.9  |
| 50°   | 3168.8 | 2495.1 | 265.8 | 120.5 | 99.0  | 71.2  | 46.4  | 36.9  | 34.8  | 36.0  | 39.3  |
| 52.5° | 3650.4 | 2700.5 | 219.5 | 111.8 | 87.8  | 58.0  | 38.9  | 32.7  | 31.9  | 32.7  | 35.2  |
| 55°   | 4078.5 | 2819.8 | 183.4 | 101.9 | 75.4  | 46.8  | 35.2  | 30.2  | 29.8  | 29.4  | 31.1  |
| 57.5° | 4480.2 | 2854.1 | 143.3 | 86.1  | 61.3  | 40.6  | 32.7  | 28.2  | 27.3  | 26.1  | 27.3  |
| 60°   | 4772.9 | 2795.3 | 105.2 | 69.1  | 50.1  | 36.9  | 30.6  | 25.3  | 24.0  | 21.9  | 22.8  |
| 62.5° | 4914.1 | 2634.3 | 79.5  | 55.5  | 42.6  | 33.5  | 27.3  | 21.9  | 20.3  | 17.8  | 18.2  |
| 65°   | 4780.0 | 2368.9 | 62.5  | 46.8  | 36.4  | 28.2  | 23.2  | 18.6  | 16.6  | 14.1  | 14.1  |
| 67.5° | 4185.8 | 1965.1 | 53.0  | 40.6  | 30.6  | 24.0  | 19.0  | 17.0  | 13.7  | 11.6  | 11.2  |
| 70°   | 3072.4 | 1413.6 | 45.5  | 35.6  | 26.5  | 20.7  | 16.1  | 15.3  | 13.3  | 11.2  | 10.4  |
| 72.5° | 1734.1 | 800.0  | 38.9  | 31.5  | 22.4  | 17.4  | 13.7  | 14.1  | 12.8  | 10.4  | 9.5   |
| 75°   | 661.7  | 269.6  | 32.3  | 26.1  | 18.2  | 13.3  | 11.6  | 11.6  | 11.6  | 8.7   | 7.5   |
| 77.5° | 164.0  | 68.7   | 25.7  | 21.1  | 14.5  | 8.7   | 9.5   | 9.9   | 9.9   | 7.5   | 5.4   |
| 80°   | 45.1   | 23.2   | 15.3  | 15.3  | 10.4  | 5.0   | 6.6   | 6.6   | 5.4   | 2.5   | 0.0   |
| 82.5° | 16.6   | 8.7    | 5.4   | 6.6   | 4.6   | 1.7   | 2.5   | 1.7   | 1.2   | 0.0   | 0.0   |
| 85°   | 7.0    | 4.6    | 3.3   | 3.7   | 2.1   | 0.0   | 0.4   | 0.8   | 0.0   | 0.0   | 0.0   |
| 87.5° | 2.9    | 2.1    | 1.7   | 1.7   | 0.8   | 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)