

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: P596293

Luminaire Tested: **MSA-SA2D-722-U-T3-HSS**

Issue Date: 5/27/2021

**Test Information**

Test Method: LM-79-08  
Report Number: P596293  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-1910-543-11)  
Test Lab: INNOVATIONS CENTER  
Issue Date: 5/27/2021  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: INVUE  
Catalog Number: MSA-SA2D-722-U-T3-HSS  
Description: MESA POST TOP DECORATIVE LUMINAIRE. (2) LIGHTSQUARES WITH 16 LEDS  
EACH AND TYPE III OPTICS WITH HOUSE SIDE SHIELD  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

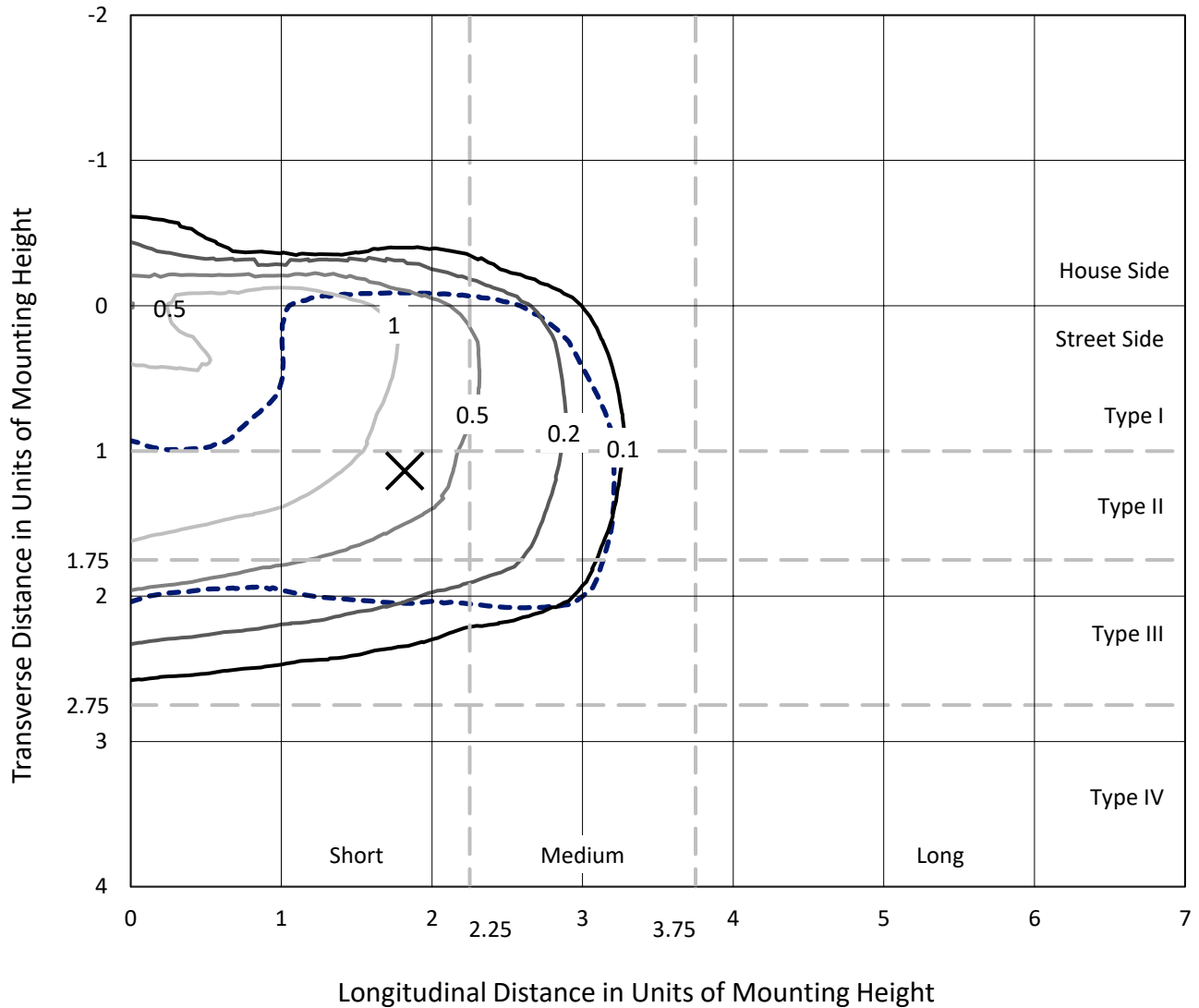
Lumens per Lamp: N/A  
Luminaire Lumens: 7322 lumens  
Efficiency: N/A  
Efficacy: 56.8 lumens/watt  
Luminous Opening: Rectangular (W 0.5' x L: 1' x H: 0')  
IES Classification: Type III - Short  
BUG Rating: B1 - U0 - G2  
  
Input Watts (W): 129  
Input Voltage (V): NR  
Input Current (Ain): NR  
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: 28.75 FT



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### Iso-Footcandle Lines of Horizontal Illumination

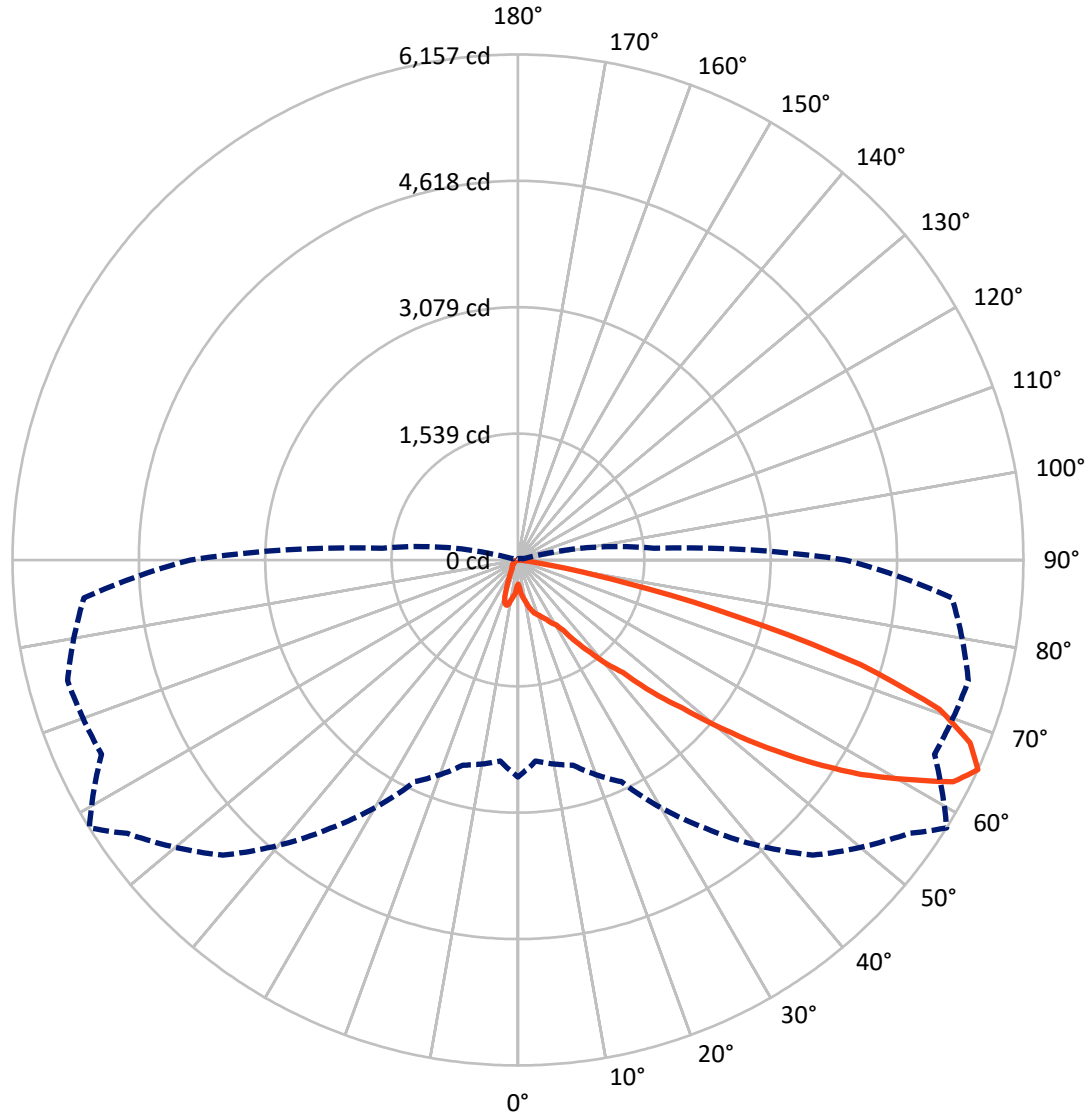
✕ Max cd  
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 1.9 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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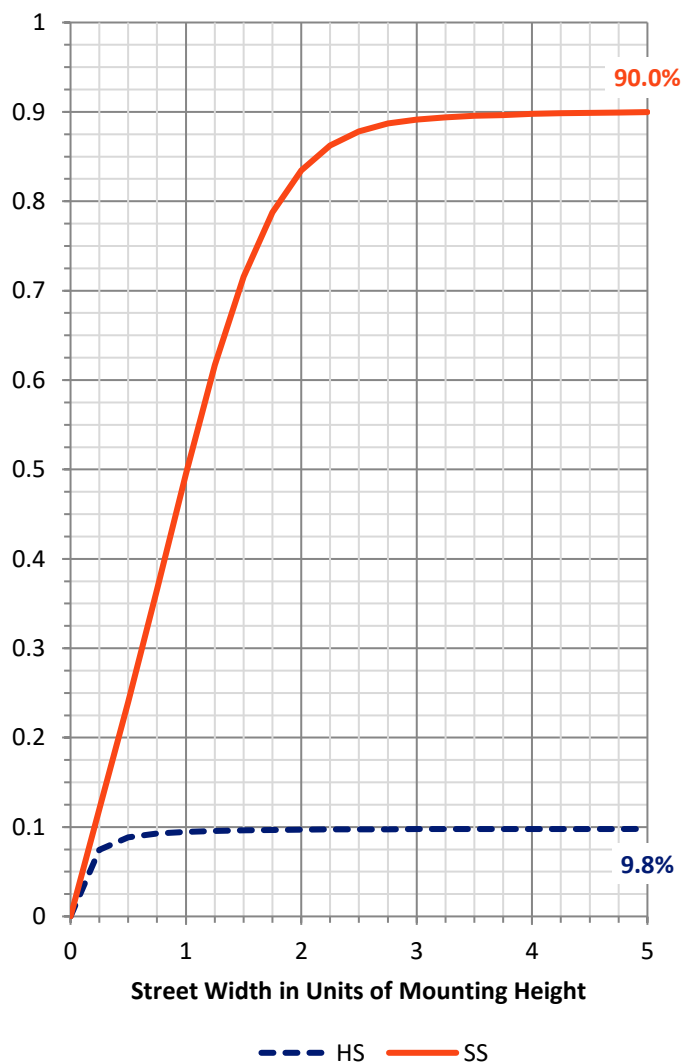
**FLUX DISTRIBUTION:**

|                    |           | Downward | Upward | Total  |
|--------------------|-----------|----------|--------|--------|
| <b>House Side</b>  | Lumens    | 722.5    | 0.0    | 722.5  |
|                    | % Fixture | 9.9      | 0.0    | 9.9    |
| <b>Street Side</b> | Lumens    | 6599.5   | 0.0    | 6599.5 |
|                    | % Fixture | 90.1     | 0.0    | 90.1   |
| <b>Total</b>       | Lumens    | 7322.0   | 0.0    | 7322.0 |
|                    | % Fixture | 100.0    | 0.0    | 100.0  |

**ZONAL LUMENS:**

| Zone      | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10°    | 41.2   | 0.6       |
| 10°-20°   | 150.3  | 2.1       |
| 20°-30°   | 290.9  | 4.0       |
| 30°-40°   | 580.4  | 7.9       |
| 40°-50°   | 1186.6 | 16.2      |
| 50°-60°   | 2104.7 | 28.7      |
| 60°-70°   | 2219.0 | 30.3      |
| 70°-80°   | 719.4  | 9.8       |
| 80°-90°   | 29.4   | 0.4       |
| 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°    | 7322.0 | 100.0     |
| 0°-180°   | 7322.0 | 100.0     |

**Coefficient of Utilization**



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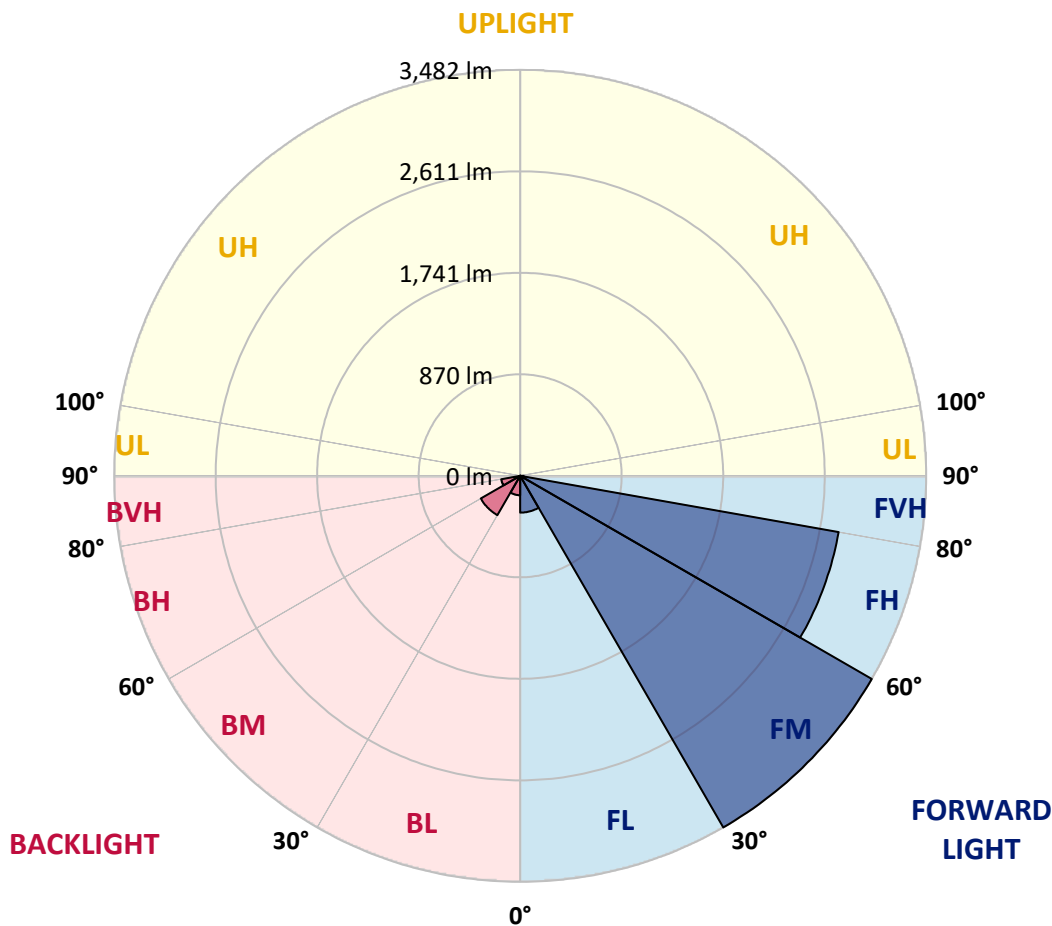
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**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

| Zone           | Lumens | % Fixture | Zone Rating/Lumen Limit |      |         |
|----------------|--------|-----------|-------------------------|------|---------|
|                |        |           | B                       | U    | G       |
| FL (0°-30°)    | 315.9  | 4.3       |                         |      |         |
| FM (30°-60°)   | 3482.0 | 47.6      |                         |      |         |
| FH (60°-80°)   | 2773.5 | 37.9      |                         |      | G2/5000 |
| FVH (80°-90°)  | 28.2   | 0.4       |                         |      | G1/100  |
| BL (0°-30°)    | 166.5  | 2.3       | B1/500                  |      |         |
| BM (30°-60°)   | 389.8  | 5.3       | B1/1000                 |      |         |
| BH (60°-80°)   | 164.9  | 2.3       | B1/500                  |      | G1/500  |
| BVH (80°-90°)  | 1.2    | 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 III Short





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**CANDELA DISTRIBUTION (FULL):**

|       | 0°     | 5°     | 15°    | 25°    | 35°    | 45°    | 55°    | 58°    | 65°    | 75°    | 85°    |
|-------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 0°    | 293.1  | 293.1  | 293.1  | 293.1  | 293.1  | 293.1  | 293.1  | 293.1  | 293.1  | 293.1  | 293.1  |
| 2.5°  | 357.8  | 347.1  | 330.2  | 333.1  | 336.4  | 343.0  | 337.6  | 332.7  | 327.3  | 320.3  | 347.1  |
| 5°    | 432.0  | 414.3  | 412.7  | 409.0  | 406.1  | 405.7  | 412.3  | 410.2  | 413.1  | 426.3  | 439.9  |
| 7.5°  | 459.2  | 451.8  | 437.8  | 443.6  | 434.5  | 427.5  | 456.8  | 466.3  | 484.4  | 490.6  | 526.0  |
| 10°   | 456.4  | 445.6  | 451.4  | 454.3  | 460.5  | 486.0  | 504.6  | 514.9  | 530.6  | 564.4  | 557.4  |
| 12.5° | 469.6  | 479.0  | 485.2  | 485.6  | 517.4  | 564.4  | 577.6  | 586.2  | 614.3  | 627.4  | 662.1  |
| 15°   | 513.7  | 529.3  | 519.4  | 523.6  | 533.9  | 591.2  | 622.1  | 641.1  | 680.6  | 723.5  | 732.2  |
| 17.5° | 576.7  | 586.6  | 566.0  | 551.2  | 579.6  | 611.0  | 667.0  | 686.8  | 712.0  | 812.1  | 830.7  |
| 20°   | 656.3  | 673.2  | 628.7  | 569.7  | 607.2  | 644.3  | 705.4  | 714.8  | 741.6  | 872.3  | 901.6  |
| 22.5° | 842.2  | 817.1  | 749.1  | 657.1  | 646.0  | 662.5  | 720.6  | 757.7  | 803.1  | 906.1  | 974.2  |
| 25°   | 1025.7 | 1017.0 | 916.8  | 814.2  | 740.0  | 702.9  | 780.0  | 800.6  | 874.8  | 986.5  | 1024.0 |
| 27.5° | 1229.7 | 1247.1 | 1079.7 | 1017.4 | 871.9  | 750.7  | 817.1  | 868.6  | 956.4  | 1015.8 | 1106.1 |
| 30°   | 1498.9 | 1471.3 | 1275.1 | 1212.8 | 1046.7 | 882.2  | 913.1  | 916.4  | 1045.5 | 1112.3 | 1198.0 |
| 32.5° | 1710.0 | 1727.7 | 1481.2 | 1385.6 | 1252.8 | 1084.6 | 985.3  | 1028.2 | 1120.5 | 1269.3 | 1350.5 |
| 35°   | 1938.4 | 1936.8 | 1696.4 | 1567.8 | 1394.2 | 1249.9 | 1199.2 | 1230.6 | 1346.4 | 1515.0 | 1536.5 |
| 37.5° | 2279.8 | 2250.5 | 1966.9 | 1778.5 | 1630.9 | 1507.6 | 1468.9 | 1427.2 | 1546.8 | 1707.5 | 1787.9 |
| 40°   | 2601.7 | 2500.7 | 2238.5 | 2015.1 | 1826.3 | 1776.0 | 1635.8 | 1661.4 | 1696.8 | 1909.1 | 2131.3 |
| 42.5° | 2927.0 | 2864.3 | 2513.9 | 2326.7 | 2094.7 | 1975.1 | 1883.6 | 1871.6 | 2040.2 | 2291.7 | 2521.3 |
| 45°   | 3356.1 | 3164.4 | 2884.1 | 2719.6 | 2450.8 | 2330.9 | 2257.1 | 2301.2 | 2452.9 | 2820.2 | 2973.2 |
| 47.5° | 3716.4 | 3540.0 | 3299.3 | 3049.4 | 2767.4 | 2902.3 | 2763.7 | 2694.1 | 2902.3 | 3281.9 | 3485.2 |
| 50°   | 4026.1 | 3829.4 | 3585.8 | 3400.7 | 3354.9 | 3484.4 | 3204.0 | 3229.6 | 3364.8 | 3810.9 | 3925.5 |
| 52.5° | 4251.1 | 4044.2 | 3831.5 | 3742.0 | 3929.6 | 3994.7 | 3854.1 | 3797.7 | 3920.5 | 4261.9 | 4317.5 |
| 55°   | 4420.6 | 4208.7 | 4042.5 | 4165.8 | 4528.6 | 4507.1 | 4556.6 | 4363.7 | 4481.2 | 4732.2 | 4705.9 |
| 57.5° | 4430.9 | 4179.8 | 4082.5 | 4280.8 | 4778.8 | 5110.7 | 5255.4 | 4927.2 | 4994.0 | 5100.0 | 5040.6 |
| 60°   | 4106.9 | 3857.0 | 3849.2 | 4130.8 | 4851.4 | 5266.9 | 5583.5 | 5423.6 | 5334.1 | 5412.9 | 5300.3 |
| 62.5° | 3461.3 | 3286.5 | 3368.1 | 3679.3 | 4581.4 | 5180.8 | 5758.3 | 5950.9 | 5602.5 | 5620.2 | 5460.3 |
| 65°   | 2642.9 | 2459.5 | 2587.3 | 2979.3 | 3991.0 | 5084.3 | 5807.8 | 6157.0 | 5597.6 | 5679.2 | 5306.9 |
| 67.5° | 1750.4 | 1644.1 | 1788.8 | 2220.8 | 3173.1 | 4488.2 | 5782.2 | 5940.5 | 5419.9 | 5448.7 | 4737.6 |
| 70°   | 903.7  | 877.7  | 994.8  | 1335.7 | 2133.4 | 3448.1 | 5531.2 | 5444.6 | 5059.2 | 4693.9 | 3654.2 |
| 72.5° | 289.4  | 290.6  | 403.2  | 610.1  | 1150.2 | 2099.2 | 4251.6 | 4370.3 | 4048.3 | 3433.6 | 2231.1 |
| 75°   | 128.2  | 126.1  | 168.6  | 256.0  | 479.4  | 941.2  | 2641.3 | 2769.5 | 2520.5 | 1888.9 | 937.9  |
| 77.5° | 92.3   | 89.5   | 108.0  | 149.6  | 237.5  | 319.1  | 1238.4 | 1336.5 | 1142.8 | 654.7  | 214.8  |
| 80°   | 65.1   | 64.7   | 78.3   | 105.1  | 148.4  | 141.8  | 391.2  | 438.6  | 351.2  | 158.7  | 63.1   |
| 82.5° | 36.7   | 37.9   | 54.4   | 74.2   | 90.3   | 70.9   | 110.1  | 121.2  | 118.3  | 84.5   | 27.6   |
| 85°   | 17.7   | 19.8   | 35.5   | 53.6   | 47.4   | 27.6   | 39.2   | 42.5   | 49.5   | 49.1   | 14.0   |
| 87.5° | 0.0    | 0.0    | 14.4   | 24.3   | 12.8   | 4.1    | 12.0   | 13.6   | 13.2   | 15.7   | 3.3    |
| 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°    | 293.1  | 293.1  | 293.1 | 293.1 | 293.1 | 293.1 | 293.1 | 293.1 | 293.1 | 293.1 | 293.1 |
| 2.5°  | 352.5  | 350.0  | 318.7 | 321.1 | 328.2 | 325.3 | 327.7 | 322.0 | 315.4 | 342.2 | 341.8 |
| 5°    | 445.6  | 427.1  | 417.2 | 408.1 | 409.8 | 391.2 | 401.9 | 406.9 | 406.1 | 421.3 | 425.4 |
| 7.5°  | 527.3  | 502.5  | 482.7 | 463.8 | 434.9 | 409.0 | 425.0 | 435.3 | 442.3 | 468.7 | 479.0 |
| 10°   | 565.6  | 545.4  | 537.6 | 500.5 | 479.9 | 463.8 | 444.4 | 430.4 | 436.2 | 429.2 | 436.2 |
| 12.5° | 649.7  | 636.1  | 606.0 | 568.5 | 543.8 | 510.8 | 438.6 | 378.4 | 341.3 | 341.8 | 339.3 |
| 15°   | 726.4  | 725.6  | 680.6 | 618.4 | 546.6 | 452.7 | 340.1 | 264.3 | 229.2 | 219.3 | 216.0 |
| 17.5° | 826.6  | 814.2  | 732.2 | 640.2 | 511.2 | 350.4 | 231.7 | 181.0 | 177.7 | 183.5 | 181.0 |
| 20°   | 890.5  | 872.3  | 757.7 | 608.5 | 421.3 | 237.0 | 174.8 | 160.4 | 170.3 | 178.5 | 176.4 |
| 22.5° | 954.4  | 927.2  | 777.1 | 569.7 | 299.7 | 173.6 | 157.9 | 155.4 | 161.6 | 171.9 | 173.6 |
| 25°   | 989.4  | 984.0  | 815.0 | 497.2 | 205.3 | 152.1 | 152.1 | 151.3 | 153.4 | 160.8 | 159.5 |
| 27.5° | 1091.2 | 1018.7 | 786.6 | 387.9 | 158.7 | 139.8 | 141.8 | 141.0 | 133.6 | 141.0 | 141.4 |
| 30°   | 1154.7 | 1121.3 | 788.6 | 276.2 | 139.8 | 123.7 | 129.0 | 122.4 | 111.3 | 117.5 | 116.3 |
| 32.5° | 1282.5 | 1199.2 | 782.5 | 186.3 | 127.4 | 117.9 | 109.7 | 100.2 | 91.9  | 94.4  | 92.3  |
| 35°   | 1431.3 | 1367.9 | 698.8 | 149.6 | 118.7 | 104.3 | 91.1  | 81.6  | 73.0  | 75.0  | 74.6  |
| 37.5° | 1727.3 | 1525.7 | 629.5 | 134.8 | 113.0 | 95.6  | 80.4  | 67.2  | 62.7  | 63.9  | 65.1  |
| 40°   | 2001.5 | 1789.2 | 500.5 | 128.2 | 103.1 | 85.3  | 66.4  | 56.9  | 54.0  | 54.8  | 56.1  |
| 42.5° | 2411.3 | 1998.6 | 378.0 | 121.6 | 93.2  | 72.1  | 55.2  | 49.1  | 46.2  | 47.8  | 48.6  |
| 45°   | 2807.8 | 2176.7 | 282.4 | 115.8 | 84.9  | 62.3  | 46.6  | 42.5  | 39.2  | 40.4  | 42.0  |
| 47.5° | 3204.0 | 2374.6 | 210.7 | 106.8 | 75.9  | 53.6  | 40.0  | 37.1  | 35.0  | 35.5  | 37.5  |
| 50°   | 3558.6 | 2466.9 | 165.7 | 95.6  | 68.4  | 46.6  | 36.3  | 33.4  | 32.6  | 33.0  | 34.6  |
| 52.5° | 3819.1 | 2467.7 | 139.8 | 85.7  | 61.4  | 41.2  | 34.2  | 30.9  | 30.5  | 31.3  | 33.0  |
| 55°   | 4054.5 | 2401.8 | 121.2 | 77.1  | 55.2  | 37.5  | 32.6  | 29.7  | 29.7  | 30.5  | 32.2  |
| 57.5° | 4210.7 | 2280.6 | 105.1 | 68.0  | 49.9  | 35.5  | 31.3  | 28.4  | 28.0  | 27.6  | 28.9  |
| 60°   | 4287.0 | 2115.3 | 89.0  | 59.8  | 44.9  | 34.2  | 30.5  | 25.1  | 24.7  | 23.9  | 24.7  |
| 62.5° | 4238.8 | 1908.3 | 74.6  | 51.5  | 40.0  | 32.6  | 26.8  | 21.8  | 21.0  | 19.4  | 20.6  |
| 65°   | 3992.2 | 1656.8 | 63.1  | 44.1  | 34.6  | 27.6  | 22.7  | 18.6  | 16.5  | 14.4  | 14.0  |
| 67.5° | 3488.1 | 1346.0 | 52.8  | 37.9  | 29.7  | 22.7  | 18.6  | 16.5  | 12.8  | 11.1  | 10.7  |
| 70°   | 2614.1 | 918.9  | 43.7  | 32.6  | 24.7  | 19.4  | 15.7  | 14.8  | 12.0  | 10.7  | 9.9   |
| 72.5° | 1533.6 | 495.9  | 36.7  | 28.4  | 21.0  | 16.1  | 12.8  | 13.6  | 12.0  | 9.9   | 9.1   |
| 75°   | 612.6  | 164.9  | 29.3  | 22.7  | 16.9  | 11.5  | 10.7  | 11.1  | 10.7  | 9.1   | 7.4   |
| 77.5° | 139.8  | 51.9   | 22.7  | 17.7  | 13.2  | 7.4   | 8.7   | 9.5   | 9.5   | 7.4   | 5.4   |
| 80°   | 43.7   | 20.6   | 13.2  | 11.1  | 9.5   | 4.1   | 6.2   | 6.6   | 4.5   | 2.1   | 0.0   |
| 82.5° | 14.0   | 5.8    | 4.5   | 4.5   | 4.1   | 0.8   | 1.2   | 0.8   | 0.0   | 0.0   | 0.0   |
| 85°   | 5.4    | 3.7    | 2.9   | 2.9   | 1.6   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |
| 87.5° | 2.1    | 1.6    | 1.2   | 1.6   | 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)