

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: P597020

Luminaire Tested: **MSA-SA3A-835-U-T3**

Issue Date: 5/27/2021

**Test Information**

Test Method: LM-79-08  
Report Number: P597020  
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-SA3A-835-U-T3  
Description: MESA POST TOP DECORATIVE LUMINAIRE. (3) LIGHTSQUARES WITH 16 LEDS EACH AND TYPE III OPTICS.  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 9656 lumens  
Efficiency: N/A  
Efficacy: 100.6 lumens/watt  
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')  
IES Classification: Type III - Short  
BUG Rating: B2 - U0 - G2

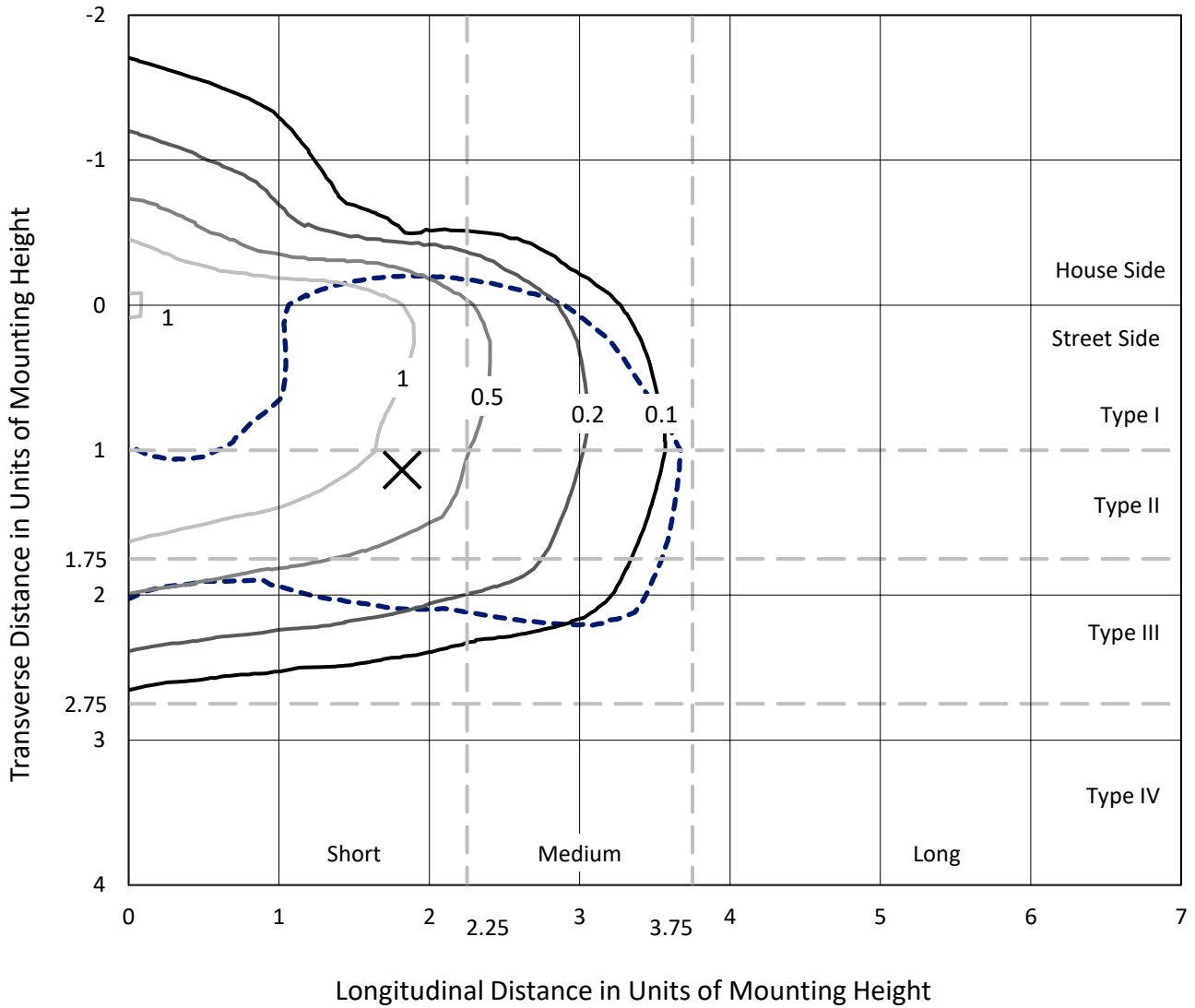
Input Watts (W): 96  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 28.75 FT



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### Iso-Footcandle Lines of Horizontal Illumination

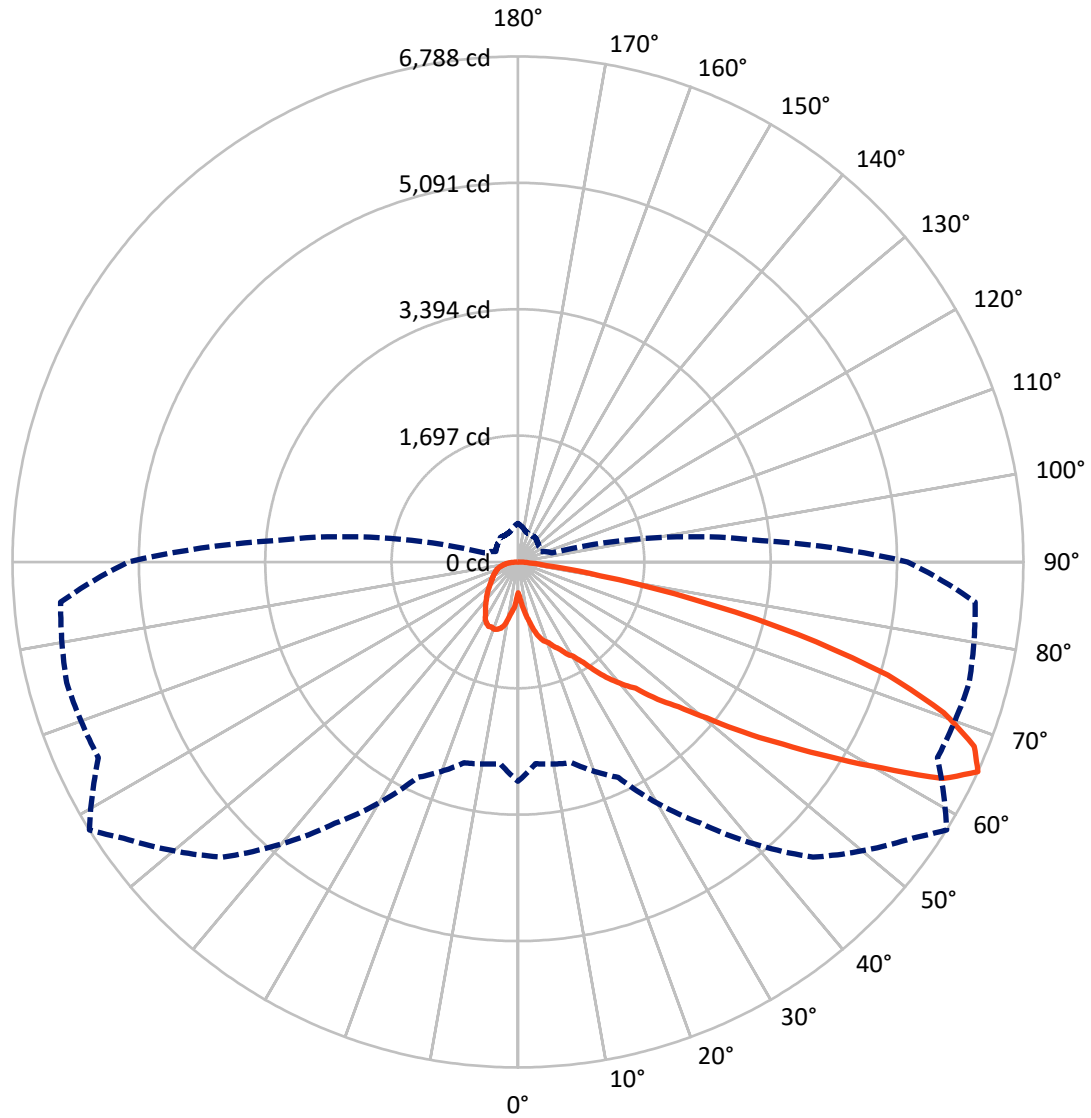
× Max cd  
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 2 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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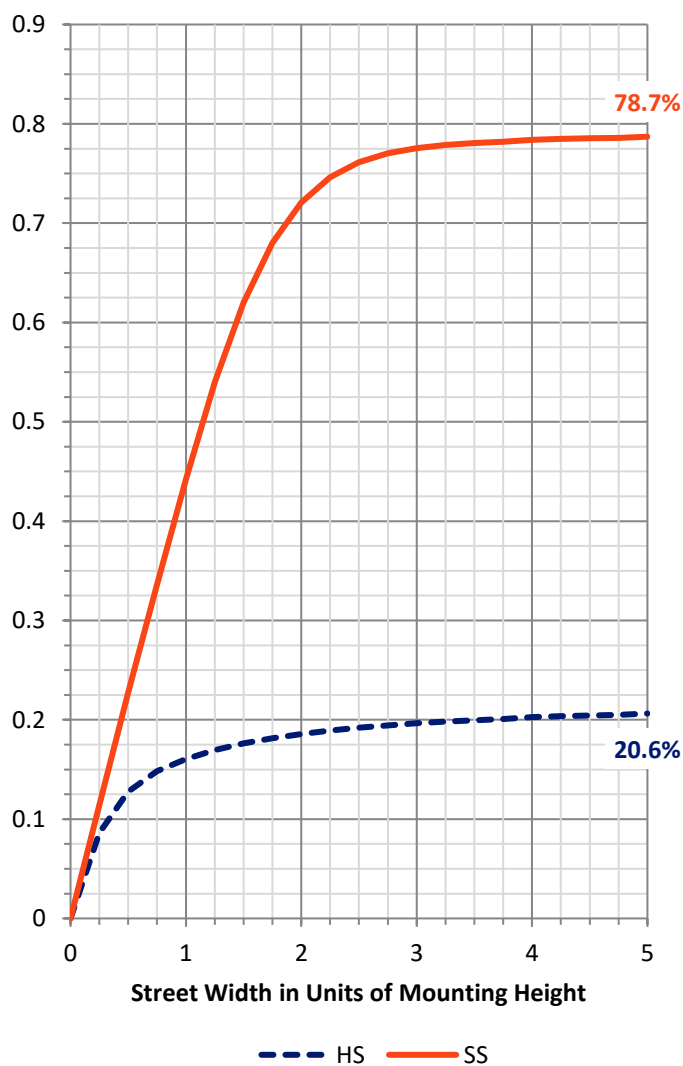
**FLUX DISTRIBUTION:**

|                    |           | Downward | Upward | Total  |
|--------------------|-----------|----------|--------|--------|
| <b>House Side</b>  | Lumens    | 2033.8   | 0.0    | 2033.8 |
|                    | % Fixture | 21.1     | 0.0    | 21.1   |
| <b>Street Side</b> | Lumens    | 7622.2   | 0.0    | 7622.2 |
|                    | % Fixture | 78.9     | 0.0    | 78.9   |
| <b>Total</b>       | Lumens    | 9656.0   | 0.0    | 9656.0 |
|                    | % Fixture | 100.0    | 0.0    | 100.0  |

**ZONAL LUMENS:**

| Zone      | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10°    | 63.2   | 0.7       |
| 10°-20°   | 275.6  | 2.9       |
| 20°-30°   | 528.8  | 5.5       |
| 30°-40°   | 873.0  | 9.0       |
| 40°-50°   | 1451.0 | 15.0      |
| 50°-60°   | 2396.3 | 24.8      |
| 60°-70°   | 2688.2 | 27.8      |
| 70°-80°   | 1222.3 | 12.7      |
| 80°-90°   | 157.6  | 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°    | 9656.0 | 100.0     |
| 0°-180°   | 9656.0 | 100.0     |

**Coefficient of Utilization**

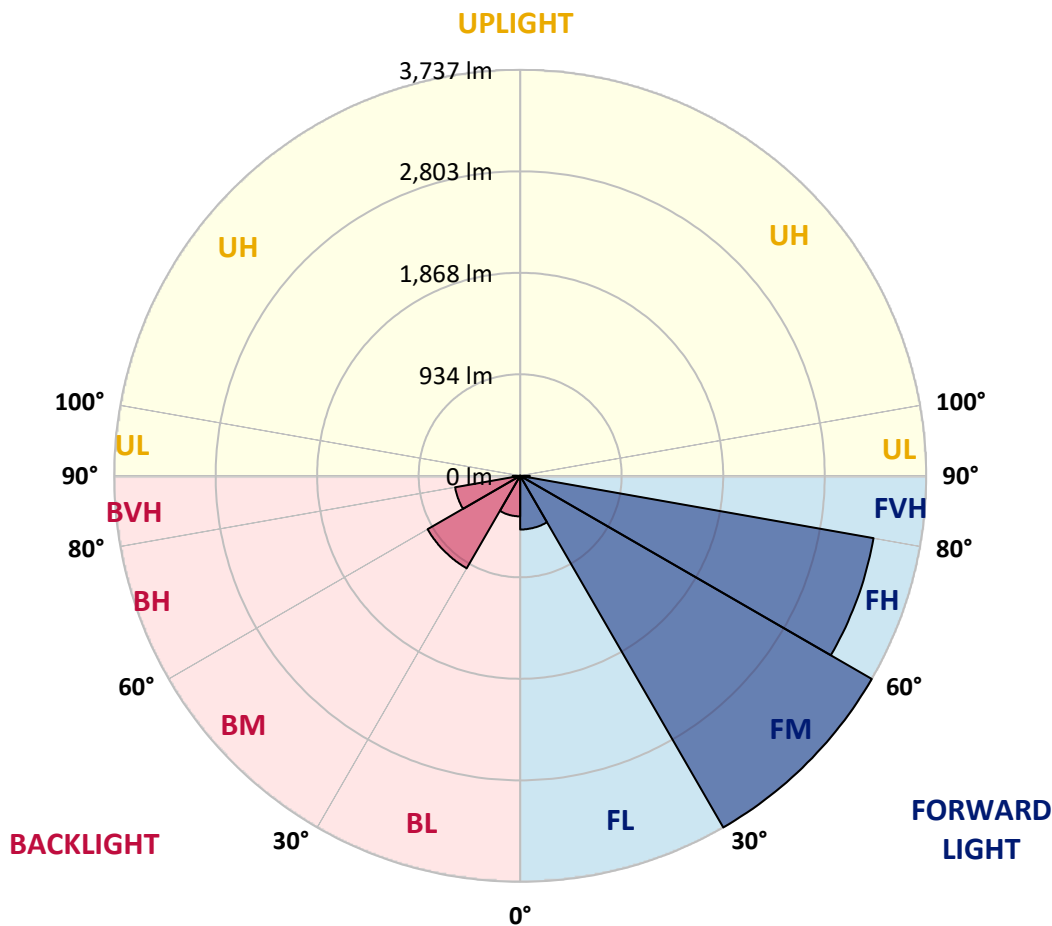


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**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

| Zone           | Lumens | % Fixture | Zone Rating/Lumen Limit |      |         |
|----------------|--------|-----------|-------------------------|------|---------|
|                |        |           | B                       | U    | G       |
| FL (0°-30°)    | 494.1  | 5.1       |                         |      |         |
| FM (30°-60°)   | 3736.7 | 38.7      |                         |      |         |
| FH (60°-80°)   | 3302.6 | 34.2      |                         |      | G2/5000 |
| FVH (80°-90°)  | 88.8   | 0.9       |                         |      | G1/100  |
| BL (0°-30°)    | 373.4  | 3.9       | B1/500                  |      |         |
| BM (30°-60°)   | 983.6  | 10.2      | B1/1000                 |      |         |
| BH (60°-80°)   | 608.0  | 6.3       | B2/1000                 |      | G2/1000 |
| BVH (80°-90°)  | 68.9   | 0.7       |                         |      | G1/100  |
| UL (90°-100°)  | 0.0    | 0.0       |                         | U0/0 |         |
| UH (100°-180°) | 0.0    | 0.0       |                         | U0/0 |         |

**BUG Rating: B2-U0-G2**  
 Type III Short





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**CANDELA DISTRIBUTION (FULL):**

|       | 0°     | 5°     | 15°    | 25°    | 35°    | 45°    | 55°    | 58°    | 65°    | 75°    | 85°    |
|-------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 0°    | 414.6  | 414.6  | 414.6  | 414.6  | 414.6  | 414.6  | 414.6  | 414.6  | 414.6  | 414.6  | 414.6  |
| 2.5°  | 495.0  | 480.1  | 455.2  | 461.2  | 475.7  | 483.7  | 478.9  | 472.5  | 464.0  | 462.4  | 499.4  |
| 5°    | 641.0  | 612.4  | 600.8  | 595.9  | 578.2  | 567.8  | 585.9  | 583.5  | 593.1  | 610.8  | 647.0  |
| 7.5°  | 747.5  | 727.4  | 708.1  | 706.1  | 671.9  | 659.9  | 684.0  | 696.9  | 714.2  | 714.6  | 763.6  |
| 10°   | 804.6  | 787.3  | 786.9  | 768.9  | 766.0  | 789.0  | 789.4  | 799.0  | 801.0  | 821.5  | 811.9  |
| 12.5° | 866.6  | 865.4  | 887.5  | 887.1  | 912.8  | 950.6  | 931.7  | 931.7  | 937.3  | 912.4  | 943.0  |
| 15°   | 1014.1 | 1027.0 | 985.6  | 992.4  | 992.4  | 1029.4 | 1028.2 | 1035.5 | 1052.7 | 1046.3 | 1032.6 |
| 17.5° | 1167.8 | 1175.8 | 1130.0 | 1087.3 | 1090.5 | 1082.5 | 1111.5 | 1114.3 | 1097.8 | 1172.6 | 1156.1 |
| 20°   | 1266.7 | 1298.0 | 1201.5 | 1148.0 | 1158.5 | 1167.8 | 1169.0 | 1151.7 | 1143.2 | 1258.2 | 1235.7 |
| 22.5° | 1388.9 | 1362.4 | 1273.9 | 1214.8 | 1230.5 | 1218.0 | 1215.6 | 1228.9 | 1240.5 | 1284.0 | 1320.6 |
| 25°   | 1470.5 | 1468.5 | 1362.4 | 1297.6 | 1280.3 | 1276.7 | 1301.3 | 1296.0 | 1323.8 | 1402.6 | 1379.7 |
| 27.5° | 1589.2 | 1626.2 | 1438.0 | 1454.1 | 1378.1 | 1298.0 | 1376.9 | 1400.6 | 1450.4 | 1437.6 | 1488.6 |
| 30°   | 1819.2 | 1791.4 | 1594.8 | 1590.4 | 1504.3 | 1437.2 | 1491.9 | 1471.8 | 1561.4 | 1558.6 | 1596.4 |
| 32.5° | 2007.0 | 2026.3 | 1779.0 | 1732.7 | 1668.8 | 1588.0 | 1551.8 | 1607.7 | 1655.9 | 1735.1 | 1756.5 |
| 35°   | 2205.6 | 2201.2 | 1967.6 | 1874.3 | 1768.5 | 1735.1 | 1779.8 | 1803.1 | 1905.6 | 1978.4 | 1927.8 |
| 37.5° | 2514.4 | 2479.5 | 2212.1 | 2035.5 | 1956.3 | 1944.2 | 2020.6 | 1986.9 | 2097.9 | 2115.1 | 2143.7 |
| 40°   | 2801.6 | 2696.2 | 2435.6 | 2233.4 | 2107.5 | 2152.5 | 2155.0 | 2159.4 | 2218.9 | 2265.9 | 2407.1 |
| 42.5° | 3074.6 | 3000.6 | 2662.8 | 2510.8 | 2325.5 | 2281.6 | 2309.0 | 2318.2 | 2468.6 | 2564.7 | 2760.1 |
| 45°   | 3447.8 | 3249.5 | 2989.4 | 2833.3 | 2625.8 | 2569.9 | 2550.6 | 2630.3 | 2775.4 | 2994.2 | 3161.9 |
| 47.5° | 3763.4 | 3584.5 | 3336.4 | 3130.9 | 2898.9 | 3058.5 | 2949.1 | 2904.5 | 3099.5 | 3370.6 | 3637.6 |
| 50°   | 4025.2 | 3828.2 | 3584.9 | 3466.3 | 3429.3 | 3571.6 | 3287.7 | 3293.0 | 3471.5 | 3853.9 | 4159.9 |
| 52.5° | 4227.9 | 4017.6 | 3802.0 | 3741.7 | 3948.4 | 4030.4 | 3825.4 | 3794.4 | 3924.7 | 4376.7 | 4744.2 |
| 55°   | 4417.3 | 4194.1 | 4027.6 | 4150.7 | 4498.9 | 4508.2 | 4493.7 | 4322.0 | 4478.8 | 4936.8 | 5349.0 |
| 57.5° | 4465.9 | 4225.5 | 4114.9 | 4291.4 | 4762.3 | 5128.6 | 5272.6 | 4935.6 | 5095.2 | 5446.3 | 5866.9 |
| 60°   | 4215.4 | 4009.5 | 3965.3 | 4205.0 | 4904.6 | 5440.3 | 5816.2 | 5614.8 | 5554.9 | 5855.3 | 6229.6 |
| 62.5° | 3702.3 | 3463.5 | 3499.2 | 3832.2 | 4754.7 | 5563.7 | 6245.7 | 6402.9 | 6040.2 | 6180.6 | 6388.1 |
| 65°   | 2946.7 | 2718.7 | 2791.1 | 3191.6 | 4283.8 | 5604.7 | 6465.3 | 6787.8 | 6215.6 | 6272.7 | 6163.7 |
| 67.5° | 2078.2 | 1871.1 | 1962.3 | 2480.3 | 3563.6 | 5079.6 | 6503.1 | 6608.4 | 6029.0 | 6010.1 | 5550.8 |
| 70°   | 1177.4 | 1047.5 | 1146.4 | 1578.3 | 2515.3 | 4046.5 | 6206.7 | 6068.0 | 5694.4 | 5426.6 | 4644.5 |
| 72.5° | 540.0  | 495.4  | 542.9  | 803.4  | 1448.0 | 2692.6 | 5067.1 | 5193.0 | 4906.7 | 4571.7 | 3533.4 |
| 75°   | 287.1  | 271.4  | 291.5  | 401.3  | 677.6  | 1464.9 | 3600.2 | 3883.3 | 3730.9 | 3467.5 | 2304.9 |
| 77.5° | 213.5  | 201.5  | 211.1  | 260.2  | 361.9  | 573.0  | 2045.6 | 2402.7 | 2460.6 | 2218.1 | 1279.9 |
| 80°   | 163.7  | 154.0  | 163.7  | 196.6  | 250.5  | 272.2  | 874.6  | 1119.9 | 1275.5 | 1030.6 | 508.7  |
| 82.5° | 121.4  | 115.0  | 129.9  | 147.6  | 176.1  | 170.1  | 310.4  | 386.4  | 498.2  | 340.6  | 198.2  |
| 85°   | 96.5   | 88.5   | 94.1   | 100.1  | 112.6  | 93.3   | 141.9  | 158.8  | 168.1  | 140.7  | 73.2   |
| 87.5° | 37.8   | 35.0   | 68.4   | 53.9   | 45.8   | 28.1   | 42.6   | 48.3   | 49.5   | 47.5   | 21.3   |
| 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°    | 414.6  | 414.6  | 414.6  | 414.6  | 414.6 | 414.6 | 414.6 | 414.6 | 414.6 | 414.6 | 414.6 |
| 2.5°  | 503.5  | 499.4  | 475.7  | 483.3  | 495.8 | 498.2 | 503.5 | 489.0 | 481.7 | 508.3 | 509.5 |
| 5°    | 650.2  | 628.5  | 617.3  | 618.5  | 610.4 | 598.0 | 616.9 | 629.3 | 634.1 | 653.8 | 661.1 |
| 7.5°  | 764.0  | 737.9  | 719.0  | 697.3  | 666.7 | 647.0 | 680.0 | 704.1 | 717.0 | 758.0 | 774.1 |
| 10°   | 814.7  | 793.8  | 789.8  | 762.4  | 761.6 | 761.2 | 759.6 | 751.2 | 778.9 | 774.9 | 786.1 |
| 12.5° | 919.2  | 914.8  | 876.6  | 865.8  | 867.0 | 865.8 | 832.0 | 830.4 | 830.8 | 867.8 | 854.5 |
| 15°   | 1016.6 | 1017.4 | 982.4  | 943.0  | 907.6 | 896.7 | 883.5 | 877.4 | 886.3 | 907.2 | 894.3 |
| 17.5° | 1136.8 | 1140.8 | 1040.7 | 978.4  | 931.7 | 930.5 | 898.7 | 861.3 | 915.2 | 928.1 | 914.0 |
| 20°   | 1214.4 | 1197.5 | 1074.5 | 969.9  | 956.6 | 920.5 | 881.0 | 829.6 | 876.2 | 907.6 | 916.4 |
| 22.5° | 1288.0 | 1258.6 | 1105.8 | 984.8  | 921.3 | 878.2 | 840.0 | 806.7 | 821.5 | 856.5 | 850.9 |
| 25°   | 1337.8 | 1329.8 | 1149.3 | 1020.6 | 920.0 | 824.3 | 772.9 | 751.6 | 759.2 | 813.5 | 808.3 |
| 27.5° | 1456.9 | 1370.0 | 1141.6 | 1029.8 | 881.4 | 750.8 | 725.0 | 702.1 | 694.5 | 753.2 | 769.3 |
| 30°   | 1536.5 | 1500.7 | 1192.7 | 1015.4 | 832.8 | 690.4 | 652.6 | 647.8 | 650.2 | 717.0 | 721.4 |
| 32.5° | 1671.6 | 1578.7 | 1276.3 | 959.9  | 762.0 | 645.8 | 602.4 | 604.4 | 615.2 | 663.9 | 674.0 |
| 35°   | 1812.3 | 1756.9 | 1287.6 | 920.0  | 704.5 | 598.4 | 580.7 | 566.6 | 572.6 | 615.2 | 617.3 |
| 37.5° | 2073.7 | 1881.9 | 1356.7 | 858.5  | 662.3 | 580.3 | 546.5 | 534.0 | 537.2 | 561.4 | 578.6 |
| 40°   | 2303.7 | 2133.2 | 1324.6 | 799.0  | 610.0 | 556.1 | 513.9 | 504.7 | 495.0 | 518.7 | 529.6 |
| 42.5° | 2672.5 | 2312.6 | 1313.7 | 733.5  | 585.5 | 523.6 | 494.6 | 470.1 | 460.8 | 480.9 | 500.6 |
| 45°   | 3041.2 | 2502.8 | 1254.6 | 667.1  | 550.9 | 521.1 | 466.5 | 443.1 | 445.5 | 463.6 | 483.7 |
| 47.5° | 3452.2 | 2758.1 | 1154.5 | 602.8  | 513.1 | 509.5 | 438.3 | 428.3 | 435.5 | 455.6 | 475.7 |
| 50°   | 3938.0 | 3029.2 | 1071.6 | 544.9  | 486.2 | 474.5 | 434.7 | 422.6 | 429.5 | 453.2 | 472.9 |
| 52.5° | 4469.1 | 3326.3 | 1011.3 | 491.4  | 455.6 | 446.8 | 439.5 | 427.9 | 435.9 | 456.4 | 476.9 |
| 55°   | 4997.1 | 3597.8 | 970.3  | 454.8  | 429.5 | 435.1 | 449.6 | 441.1 | 445.1 | 460.4 | 480.9 |
| 57.5° | 5388.8 | 3740.9 | 887.9  | 415.8  | 408.2 | 428.3 | 450.8 | 436.7 | 439.1 | 460.4 | 482.5 |
| 60°   | 5616.4 | 3768.3 | 752.4  | 384.0  | 391.3 | 414.6 | 438.3 | 420.2 | 418.6 | 453.6 | 481.3 |
| 62.5° | 5591.5 | 3609.4 | 596.7  | 355.1  | 372.0 | 394.1 | 419.4 | 402.1 | 406.5 | 454.4 | 483.7 |
| 65°   | 5234.4 | 3284.9 | 474.5  | 330.5  | 348.6 | 371.6 | 403.7 | 396.9 | 418.2 | 486.6 | 518.3 |
| 67.5° | 4607.1 | 2810.8 | 381.2  | 307.6  | 326.9 | 356.3 | 414.6 | 432.7 | 441.9 | 519.5 | 552.1 |
| 70°   | 3733.7 | 2183.9 | 317.7  | 287.5  | 309.6 | 363.5 | 445.9 | 442.3 | 434.7 | 503.9 | 529.6 |
| 72.5° | 2697.4 | 1497.1 | 279.5  | 267.8  | 288.3 | 341.8 | 446.8 | 427.5 | 417.8 | 460.0 | 478.5 |
| 75°   | 1687.7 | 893.1  | 244.1  | 242.9  | 255.7 | 306.4 | 426.6 | 409.4 | 383.2 | 404.1 | 428.3 |
| 77.5° | 963.9  | 457.2  | 205.5  | 216.3  | 224.0 | 265.8 | 382.0 | 366.3 | 343.0 | 351.9 | 375.6 |
| 80°   | 367.9  | 221.2  | 173.3  | 192.2  | 190.2 | 225.2 | 323.7 | 320.1 | 293.5 | 296.4 | 310.8 |
| 82.5° | 173.3  | 123.9  | 144.0  | 165.3  | 154.4 | 179.3 | 263.0 | 261.8 | 238.5 | 215.9 | 227.6 |
| 85°   | 64.3   | 65.9   | 105.4  | 125.9  | 107.4 | 115.8 | 190.2 | 185.0 | 162.5 | 137.1 | 151.6 |
| 87.5° | 14.5   | 23.7   | 51.9   | 65.5   | 37.4  | 35.8  | 76.8  | 66.8  | 64.3  | 38.2  | 40.2  |
| 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)