

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: P596324

Luminaire Tested: **MSA-SA3B-722-U-RW**

Issue Date: 5/27/2021

**Test Information**

Test Method: LM-79-08  
Report Number: P596324  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-1910-543-7)  
Test Lab: INNOVATIONS CENTER  
Issue Date: 5/27/2021  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: INVUE  
Catalog Number: MSA-SA3B-722-U-RW  
Description: MESA POST TOP DECORATIVE LUMINAIRE. (3) LIGHTSQUARES WITH 16 LEDS EACH AND RECTANGULAR WIDE OPTICS.  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 11098 lumens  
Efficiency: N/A  
Efficacy: 88.1 lumens/watt  
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')  
IES Classification: Type III - Short  
BUG Rating: B3 - U0 - G3

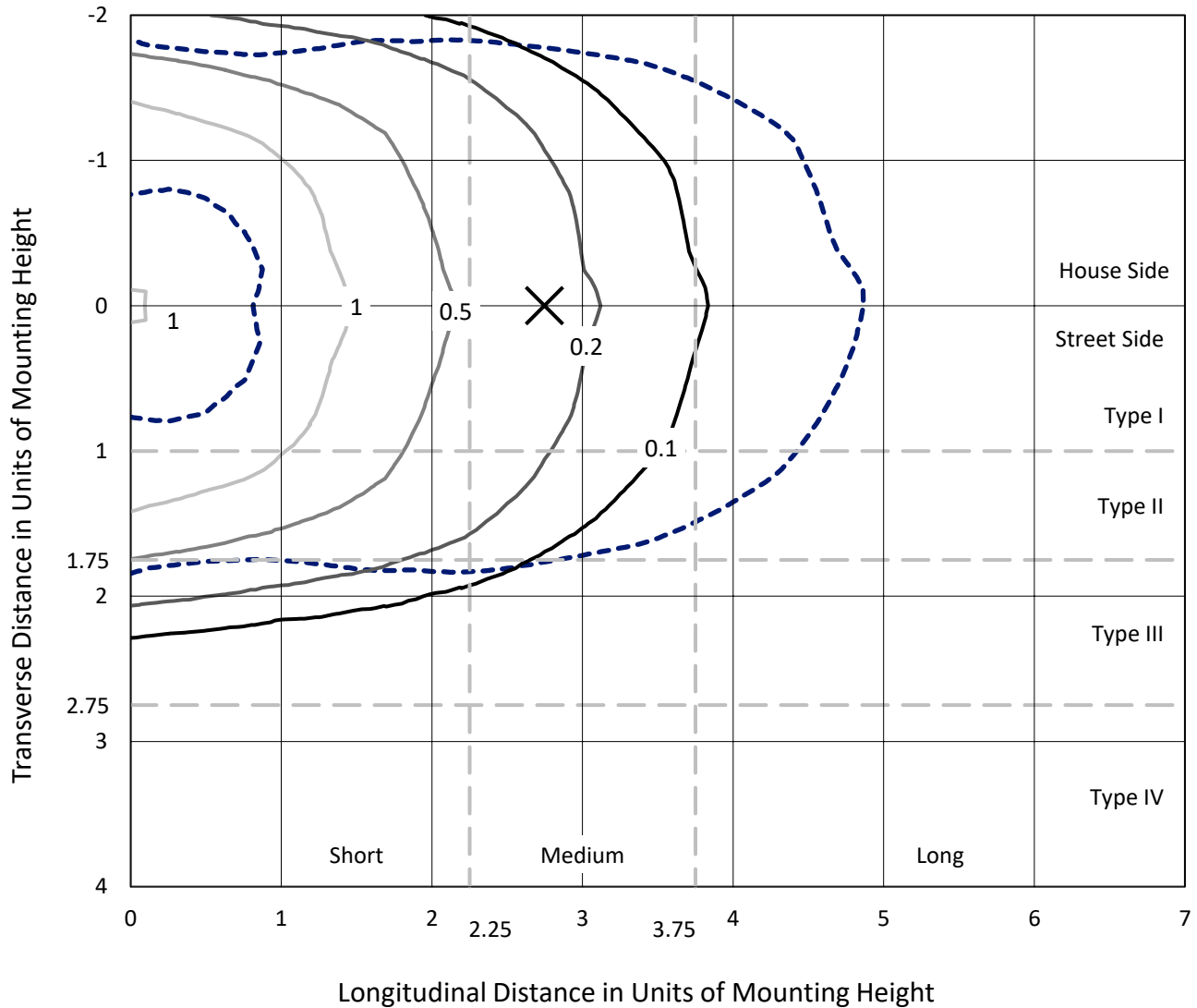
Input Watts (W): 126  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 28.75 FT



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### Iso-Footcandle Lines of Horizontal Illumination

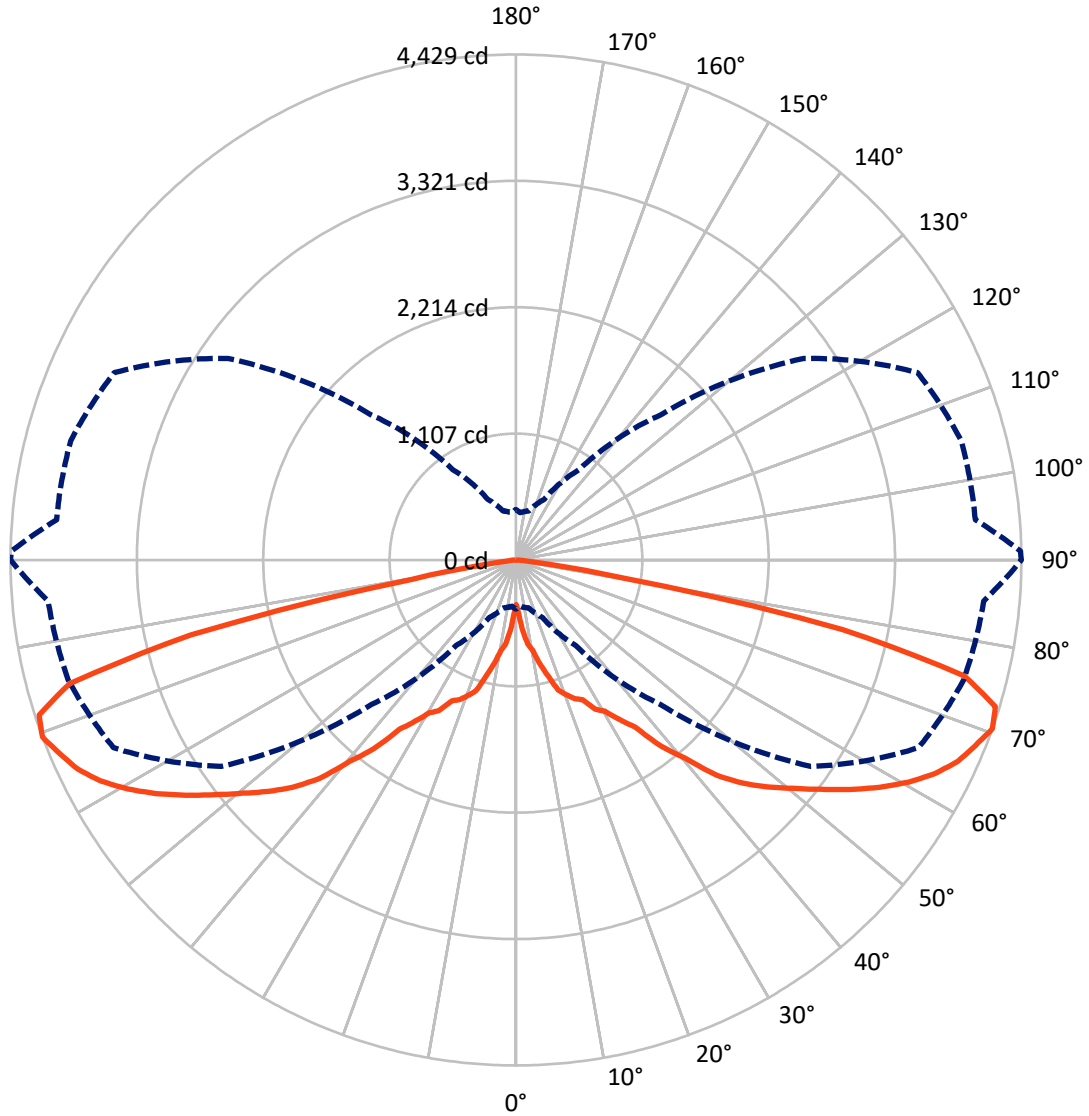
✕ Max cd  
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 1.8 fc  
 Type III - Short - N/A

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### Luminous Intensity Polar Plot



— Vertical Plane Through 90-Deg Lateral      - - - Horizontal Cone Through 70-Deg Vertical

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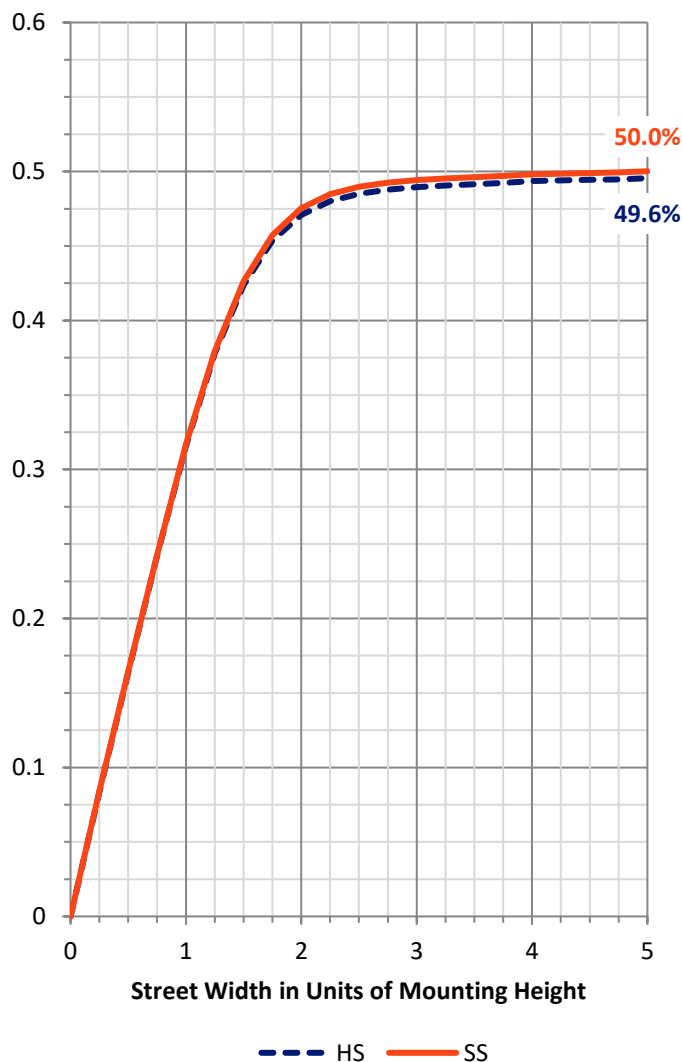
**FLUX DISTRIBUTION:**

|                    |           | Downward | Upward | Total   |
|--------------------|-----------|----------|--------|---------|
| <b>House Side</b>  | Lumens    | 5528.4   | 0.0    | 5528.4  |
|                    | % Fixture | 49.8     | 0.0    | 49.8    |
| <b>Street Side</b> | Lumens    | 5569.6   | 0.0    | 5569.6  |
|                    | % Fixture | 50.2     | 0.0    | 50.2    |
| <b>Total</b>       | Lumens    | 11098.0  | 0.0    | 11098.0 |
|                    | % Fixture | 100.0    | 0.0    | 100.0   |

**ZONAL LUMENS:**

| Zone      | Lumens  | % Fixture |
|-----------|---------|-----------|
| 0°-10°    | 58.7    | 0.5       |
| 10°-20°   | 269.3   | 2.4       |
| 20°-30°   | 582.3   | 5.2       |
| 30°-40°   | 1110.9  | 10.0      |
| 40°-50°   | 2018.2  | 18.2      |
| 50°-60°   | 2835.1  | 25.5      |
| 60°-70°   | 2706.9  | 24.4      |
| 70°-80°   | 1389.2  | 12.5      |
| 80°-90°   | 127.4   | 1.1       |
| 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°    | 11098.0 | 100.0     |
| 0°-180°   | 11098.0 | 100.0     |

**Coefficient of Utilization**



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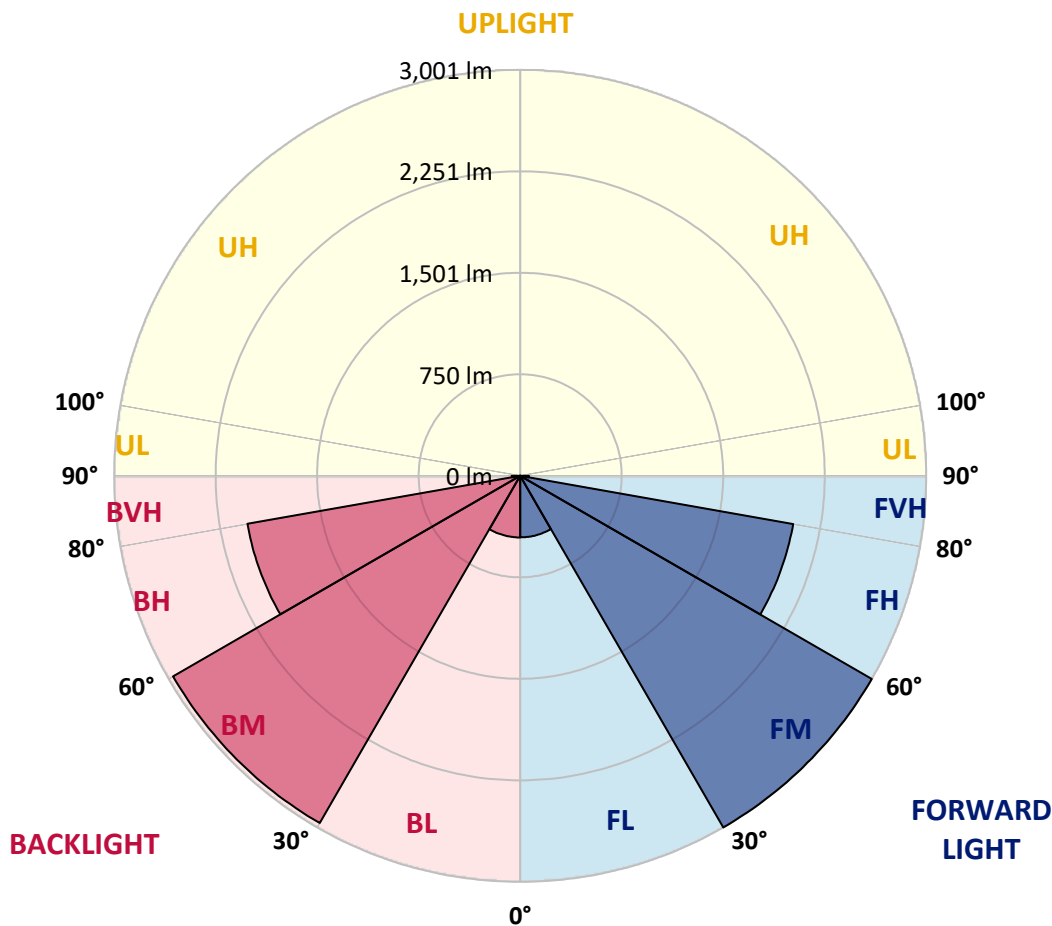
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**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

| Zone           | Lumens | % Fixture | Zone Rating/Lumen Limit |      |         |
|----------------|--------|-----------|-------------------------|------|---------|
|                |        |           | B                       | U    | G       |
| FL (0°-30°)    | 454.7  | 4.1       |                         |      |         |
| FM (30°-60°)   | 3001.0 | 27.0      |                         |      |         |
| FH (60°-80°)   | 2049.2 | 18.5      |                         |      | G2/5000 |
| FVH (80°-90°)  | 64.6   | 0.6       |                         |      | G1/100  |
| BL (0°-30°)    | 455.6  | 4.1       | B1/500                  |      |         |
| BM (30°-60°)   | 2963.2 | 26.7      | B3/5000                 |      |         |
| BH (60°-80°)   | 2046.9 | 18.4      | B3/2500                 |      | G3/2500 |
| BVH (80°-90°)  | 62.7   | 0.6       |                         |      | G1/100  |
| UL (90°-100°)  | 0.0    | 0.0       |                         | U0/0 |         |
| UH (100°-180°) | 0.0    | 0.0       |                         | U0/0 |         |

**BUG Rating: B3-U0-G3**

Type III Short





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**CANDELA DISTRIBUTION (FULL):**

|       | 0°     | 5°     | 15°    | 25°    | 35°    | 45°    | 55°    | 65°    | 75°    | 85°    | 90°    |
|-------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 0°    | 389.5  | 389.5  | 389.5  | 389.5  | 389.5  | 389.5  | 389.5  | 389.5  | 389.5  | 389.5  | 389.5  |
| 2.5°  | 471.8  | 454.3  | 432.2  | 445.3  | 450.7  | 460.1  | 458.8  | 454.3  | 434.9  | 467.3  | 470.9  |
| 5°    | 590.6  | 562.7  | 552.3  | 550.5  | 553.2  | 544.2  | 573.5  | 564.9  | 580.7  | 609.9  | 616.7  |
| 7.5°  | 672.4  | 651.7  | 629.7  | 636.4  | 608.6  | 604.5  | 642.3  | 676.0  | 684.6  | 738.1  | 741.7  |
| 10°   | 711.1  | 690.9  | 696.7  | 692.7  | 689.5  | 715.6  | 733.2  | 757.9  | 793.4  | 798.4  | 806.0  |
| 12.5° | 743.9  | 752.0  | 777.7  | 776.8  | 819.1  | 865.4  | 858.6  | 884.3  | 890.1  | 952.2  | 933.3  |
| 15°   | 827.2  | 843.8  | 842.0  | 857.7  | 876.2  | 952.2  | 952.6  | 996.3  | 1036.3 | 1060.6 | 1054.3 |
| 17.5° | 949.0  | 954.9  | 930.6  | 931.5  | 985.0  | 1016.1 | 1050.7 | 1043.1 | 1147.4 | 1195.1 | 1198.2 |
| 20°   | 1021.9 | 1036.8 | 1008.9 | 972.0  | 1066.9 | 1109.6 | 1129.0 | 1084.4 | 1196.0 | 1260.3 | 1260.3 |
| 22.5° | 1149.2 | 1111.0 | 1068.7 | 1044.0 | 1127.6 | 1173.0 | 1170.8 | 1158.2 | 1217.6 | 1331.4 | 1320.6 |
| 25°   | 1219.4 | 1197.8 | 1176.6 | 1182.9 | 1225.2 | 1248.6 | 1279.6 | 1250.4 | 1306.2 | 1390.7 | 1355.2 |
| 27.5° | 1352.5 | 1312.5 | 1208.6 | 1291.3 | 1291.3 | 1273.8 | 1339.5 | 1353.4 | 1317.0 | 1454.6 | 1481.1 |
| 30°   | 1503.2 | 1489.2 | 1342.2 | 1429.9 | 1402.9 | 1353.4 | 1479.3 | 1470.4 | 1409.2 | 1549.5 | 1537.4 |
| 32.5° | 1645.8 | 1691.6 | 1552.2 | 1504.1 | 1544.6 | 1563.5 | 1497.3 | 1524.3 | 1536.0 | 1671.4 | 1665.6 |
| 35°   | 1864.4 | 1903.0 | 1718.2 | 1706.0 | 1638.6 | 1621.0 | 1671.4 | 1680.4 | 1681.3 | 1823.9 | 1797.8 |
| 37.5° | 2242.6 | 2186.9 | 2004.2 | 1918.3 | 1926.0 | 1904.8 | 1914.7 | 1843.7 | 1853.6 | 2060.5 | 2073.5 |
| 40°   | 2519.3 | 2456.3 | 2253.0 | 2191.4 | 2040.2 | 2130.6 | 2050.6 | 2043.4 | 2023.6 | 2291.7 | 2284.5 |
| 42.5° | 2824.7 | 2738.3 | 2513.4 | 2431.1 | 2270.5 | 2233.6 | 2196.8 | 2280.0 | 2274.6 | 2522.8 | 2577.7 |
| 45°   | 3055.4 | 2880.9 | 2763.5 | 2712.2 | 2616.0 | 2525.5 | 2490.5 | 2527.8 | 2510.7 | 2695.1 | 2790.9 |
| 47.5° | 3201.1 | 3049.5 | 2914.6 | 2806.7 | 2714.5 | 2936.2 | 2758.5 | 2708.6 | 2674.0 | 2880.4 | 2972.6 |
| 50°   | 3317.2 | 3142.2 | 2983.0 | 2947.0 | 3019.9 | 3216.0 | 2935.8 | 2825.6 | 2867.8 | 3019.9 | 3145.4 |
| 52.5° | 3348.7 | 3163.3 | 3020.3 | 2997.4 | 3194.4 | 3229.9 | 3184.5 | 2999.2 | 2987.9 | 3187.2 | 3338.8 |
| 55°   | 3252.4 | 3074.7 | 3006.8 | 3132.3 | 3350.0 | 3320.3 | 3389.6 | 3271.3 | 3191.7 | 3358.1 | 3548.8 |
| 57.5° | 3004.6 | 2828.3 | 2812.1 | 2992.9 | 3267.2 | 3520.0 | 3554.2 | 3460.7 | 3356.3 | 3532.6 | 3757.5 |
| 60°   | 2597.5 | 2436.5 | 2477.4 | 2677.1 | 3090.9 | 3450.8 | 3632.5 | 3547.0 | 3514.6 | 3690.0 | 3950.9 |
| 62.5° | 1963.8 | 1838.3 | 1947.6 | 2226.0 | 2768.9 | 3361.3 | 3740.4 | 3726.9 | 3680.1 | 3857.4 | 4121.8 |
| 65°   | 1252.2 | 1186.1 | 1297.6 | 1580.5 | 2269.2 | 3198.4 | 3792.1 | 3810.1 | 3853.3 | 3986.5 | 4254.1 |
| 67.5° | 727.8  | 692.7  | 760.6  | 992.2  | 1616.1 | 2626.3 | 3695.9 | 3954.1 | 3976.6 | 4053.0 | 4340.9 |
| 70°   | 430.4  | 407.5  | 435.4  | 557.3  | 914.9  | 1789.2 | 3152.6 | 3891.1 | 4061.1 | 4114.2 | 4428.6 |
| 72.5° | 328.3  | 306.8  | 294.6  | 329.7  | 477.7  | 924.3  | 2131.5 | 3298.3 | 3993.2 | 4073.7 | 4391.7 |
| 75°   | 283.8  | 263.1  | 248.7  | 251.9  | 284.3  | 439.0  | 1155.5 | 2359.1 | 3402.6 | 3709.4 | 4056.6 |
| 77.5° | 243.8  | 225.3  | 215.0  | 214.1  | 218.1  | 241.1  | 483.1  | 1279.2 | 2131.1 | 2666.3 | 2924.5 |
| 80°   | 195.2  | 180.8  | 178.6  | 178.6  | 172.7  | 170.9  | 240.2  | 486.7  | 811.0  | 961.6  | 922.1  |
| 82.5° | 142.6  | 128.2  | 142.6  | 140.8  | 131.8  | 124.6  | 152.9  | 210.5  | 250.1  | 197.5  | 156.1  |
| 85°   | 96.3   | 83.2   | 94.0   | 95.8   | 87.3   | 64.8   | 91.8   | 105.2  | 107.9  | 67.5   | 55.8   |
| 87.5° | 33.7   | 32.8   | 53.1   | 46.3   | 37.8   | 22.0   | 33.7   | 36.4   | 38.2   | 23.8   | 16.2   |
| 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):**

|       | 91°    | 95°    | 105°   | 115°   | 125°   | 135°   | 145°   | 155°   | 165°   | 175°   | 180°   |
|-------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 0°    | 389.5  | 389.5  | 389.5  | 389.5  | 389.5  | 389.5  | 389.5  | 389.5  | 389.5  | 389.5  | 389.5  |
| 2.5°  | 472.3  | 466.9  | 439.9  | 443.9  | 454.3  | 459.2  | 464.2  | 443.9  | 434.0  | 465.5  | 462.4  |
| 5°    | 618.5  | 598.7  | 576.6  | 573.5  | 574.8  | 555.5  | 566.7  | 561.8  | 564.0  | 584.3  | 588.3  |
| 7.5°  | 740.8  | 717.0  | 687.7  | 664.8  | 625.2  | 593.7  | 620.3  | 633.7  | 637.8  | 673.8  | 687.3  |
| 10°   | 806.9  | 786.7  | 778.1  | 735.0  | 721.9  | 717.9  | 711.6  | 690.0  | 713.8  | 705.3  | 712.0  |
| 12.5° | 936.5  | 932.4  | 887.9  | 859.5  | 862.2  | 869.9  | 830.3  | 808.7  | 777.7  | 826.3  | 808.7  |
| 15°   | 1046.7 | 1064.2 | 1019.7 | 967.9  | 942.3  | 955.3  | 925.2  | 893.7  | 865.8  | 880.7  | 861.8  |
| 17.5° | 1187.4 | 1187.0 | 1100.2 | 1044.9 | 1042.6 | 1041.7 | 997.2  | 927.9  | 961.2  | 950.8  | 951.7  |
| 20°   | 1262.1 | 1250.0 | 1142.0 | 1078.1 | 1132.6 | 1113.2 | 1073.2 | 984.1  | 1022.8 | 1035.4 | 1043.5 |
| 22.5° | 1324.6 | 1317.9 | 1187.0 | 1140.2 | 1175.3 | 1175.7 | 1135.7 | 1088.9 | 1084.0 | 1123.1 | 1102.0 |
| 25°   | 1368.2 | 1395.2 | 1272.0 | 1260.8 | 1276.0 | 1260.8 | 1221.6 | 1191.0 | 1171.2 | 1229.7 | 1171.2 |
| 27.5° | 1471.7 | 1433.5 | 1285.0 | 1348.9 | 1358.4 | 1281.4 | 1330.5 | 1294.5 | 1239.6 | 1312.0 | 1335.9 |
| 30°   | 1545.5 | 1568.0 | 1376.8 | 1473.0 | 1461.8 | 1390.7 | 1411.0 | 1409.6 | 1344.0 | 1485.2 | 1468.6 |
| 32.5° | 1672.3 | 1645.3 | 1526.6 | 1518.9 | 1545.9 | 1542.8 | 1508.6 | 1525.2 | 1541.4 | 1644.0 | 1668.7 |
| 35°   | 1802.3 | 1831.1 | 1622.4 | 1674.1 | 1666.5 | 1617.9 | 1707.4 | 1697.0 | 1745.2 | 1955.7 | 1886.0 |
| 37.5° | 2095.6 | 1958.4 | 1837.4 | 1830.6 | 1881.9 | 1889.6 | 1860.8 | 1906.2 | 2010.1 | 2172.0 | 2246.7 |
| 40°   | 2287.6 | 2225.1 | 2019.5 | 2027.6 | 1956.6 | 2078.9 | 1997.9 | 2144.1 | 2223.3 | 2496.3 | 2469.8 |
| 42.5° | 2578.2 | 2425.7 | 2228.2 | 2255.2 | 2240.8 | 2181.9 | 2288.5 | 2363.6 | 2477.0 | 2685.2 | 2819.7 |
| 45°   | 2794.5 | 2585.4 | 2491.8 | 2475.2 | 2473.4 | 2575.9 | 2562.4 | 2682.5 | 2723.0 | 2879.5 | 2991.1 |
| 47.5° | 2958.7 | 2781.0 | 2642.5 | 2661.4 | 2606.5 | 2899.3 | 2743.2 | 2780.6 | 2862.4 | 3010.0 | 3140.0 |
| 50°   | 3153.4 | 2955.5 | 2798.1 | 2844.9 | 2978.5 | 3090.9 | 2949.7 | 2885.8 | 2925.9 | 3099.9 | 3244.8 |
| 52.5° | 3333.8 | 3125.6 | 2952.4 | 2991.5 | 3209.7 | 3158.4 | 3143.1 | 2981.6 | 2976.7 | 3116.6 | 3281.2 |
| 55°   | 3544.8 | 3310.0 | 3157.0 | 3281.2 | 3358.6 | 3295.1 | 3270.8 | 3074.3 | 2952.8 | 3030.7 | 3185.8 |
| 57.5° | 3751.7 | 3492.6 | 3340.6 | 3366.2 | 3464.3 | 3401.3 | 3219.1 | 2916.4 | 2764.8 | 2780.1 | 2937.1 |
| 60°   | 3945.5 | 3660.4 | 3534.9 | 3510.1 | 3588.4 | 3341.5 | 3022.6 | 2627.2 | 2426.1 | 2389.3 | 2525.1 |
| 62.5° | 4111.5 | 3800.7 | 3681.9 | 3614.5 | 3689.1 | 3343.7 | 2716.3 | 2163.0 | 1942.2 | 1817.1 | 1922.8 |
| 65°   | 4243.3 | 3917.2 | 3832.6 | 3797.5 | 3824.5 | 3140.4 | 2239.0 | 1588.2 | 1317.4 | 1178.9 | 1240.5 |
| 67.5° | 4331.0 | 3982.4 | 3943.7 | 3989.6 | 3629.8 | 2615.5 | 1658.8 | 1016.5 | 766.0  | 690.4  | 729.1  |
| 70°   | 4421.8 | 4040.0 | 4038.6 | 3882.6 | 3077.9 | 1803.2 | 968.8  | 586.1  | 445.7  | 416.5  | 440.8  |
| 72.5° | 4391.3 | 3971.6 | 3991.9 | 3395.4 | 2132.9 | 963.9  | 511.4  | 331.5  | 301.8  | 312.2  | 333.7  |
| 75°   | 4066.5 | 3610.9 | 3513.3 | 2441.0 | 1209.9 | 448.0  | 294.6  | 251.0  | 249.2  | 264.9  | 286.1  |
| 77.5° | 2949.7 | 2514.8 | 2256.6 | 1383.5 | 518.6  | 242.4  | 216.8  | 209.6  | 209.6  | 222.2  | 241.1  |
| 80°   | 972.4  | 841.5  | 877.1  | 535.2  | 245.1  | 167.3  | 169.1  | 172.3  | 171.4  | 174.5  | 190.3  |
| 82.5° | 159.7  | 165.5  | 255.9  | 218.6  | 148.0  | 114.2  | 127.7  | 134.0  | 135.8  | 121.4  | 138.1  |
| 85°   | 56.7   | 63.9   | 108.8  | 101.2  | 85.5   | 57.6   | 84.1   | 94.0   | 92.7   | 81.0   | 89.5   |
| 87.5° | 17.5   | 22.5   | 39.6   | 30.6   | 25.6   | 15.7   | 31.5   | 36.9   | 46.3   | 18.9   | 17.1   |
| 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)