

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: STREETWORKS

Report Number: P231209

Luminaire Tested: **ARCH-M-AF48-80-D-U-T3-7030-HSS**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P231209  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P29624)  
Test Lab: INNOVATION CENTER-P2  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: STREETWORKS  
Catalog Number: ARCH-M-AF48-80-D-U-T3-7030-HSS  
Description: ARCHEON-M ROADWAY AND AREA LUMINAIRE  
(2) 70 CRI, 3000K, 535mA LIGHT ENGINES WITH 24 LEDS AND TYPE III OPTICS  
WITH HOUSE SIDE SHIELD  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 7400 lumens  
Efficiency: N/A  
Efficacy: 89.2 lumens/watt  
Luminous Opening: Rectangular (W 0.75' x L: 1' x H: 0')  
IES Classification: Type III - Medium - Semi-Cutoff  
BUG Rating: B1 - U0 - G2

Input Watts (W): 83  
Input Voltage (V): NR  
Input Current (A<sub>in</sub>): 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

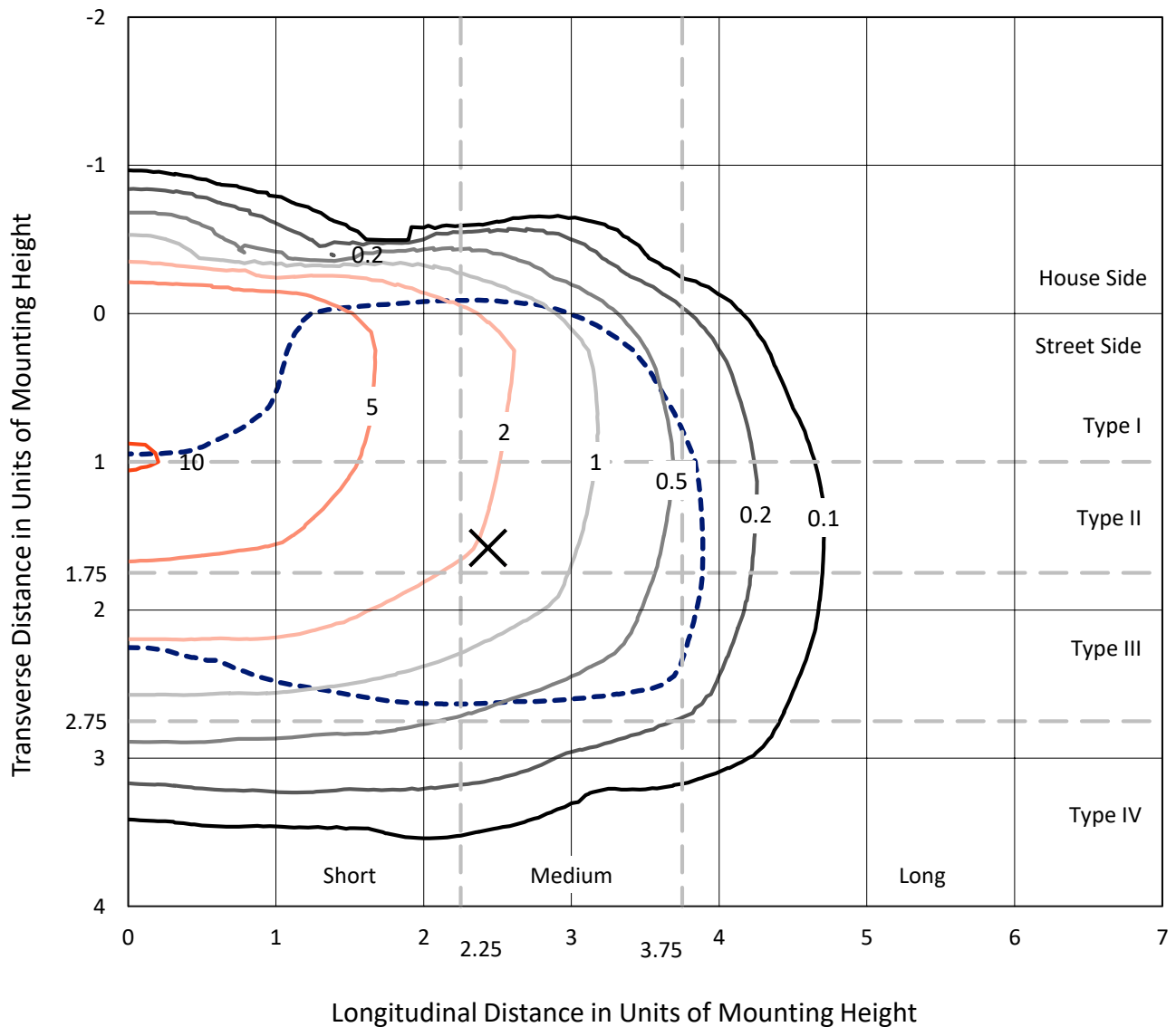


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### Iso-Footcandle Lines of Horizontal Illumination

✕ Max cd  
 - - - 1/2 Max cd

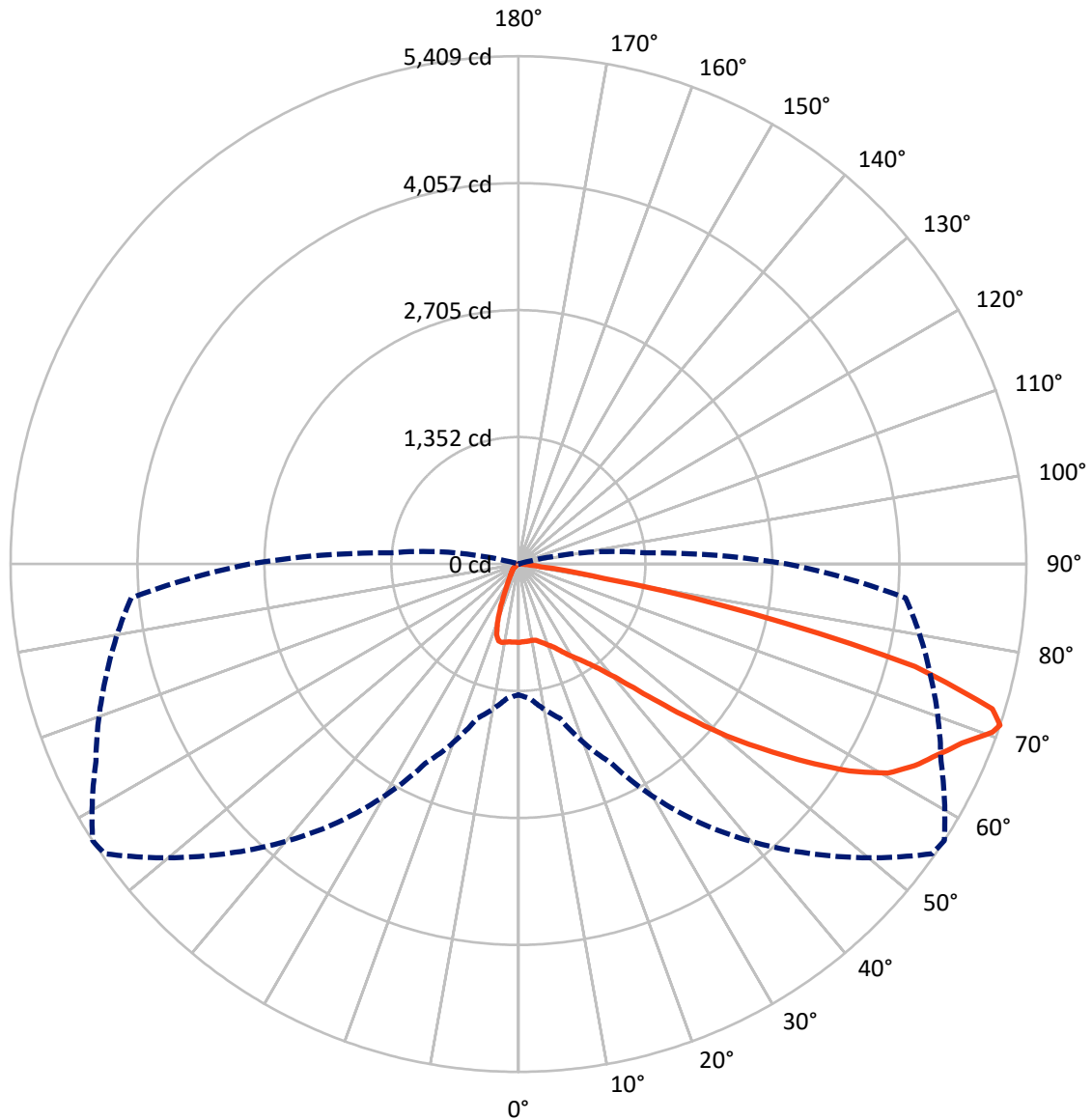


Based on 10 foot mounting height. Maximum calculated value = 10.4 fc  
 Type III - Medium - Semi-Cutoff

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### Luminous Intensity Polar Plot



— Vertical Plane Through 57-Deg Lateral      - - - Horizontal Cone Through 71-Deg Vertical



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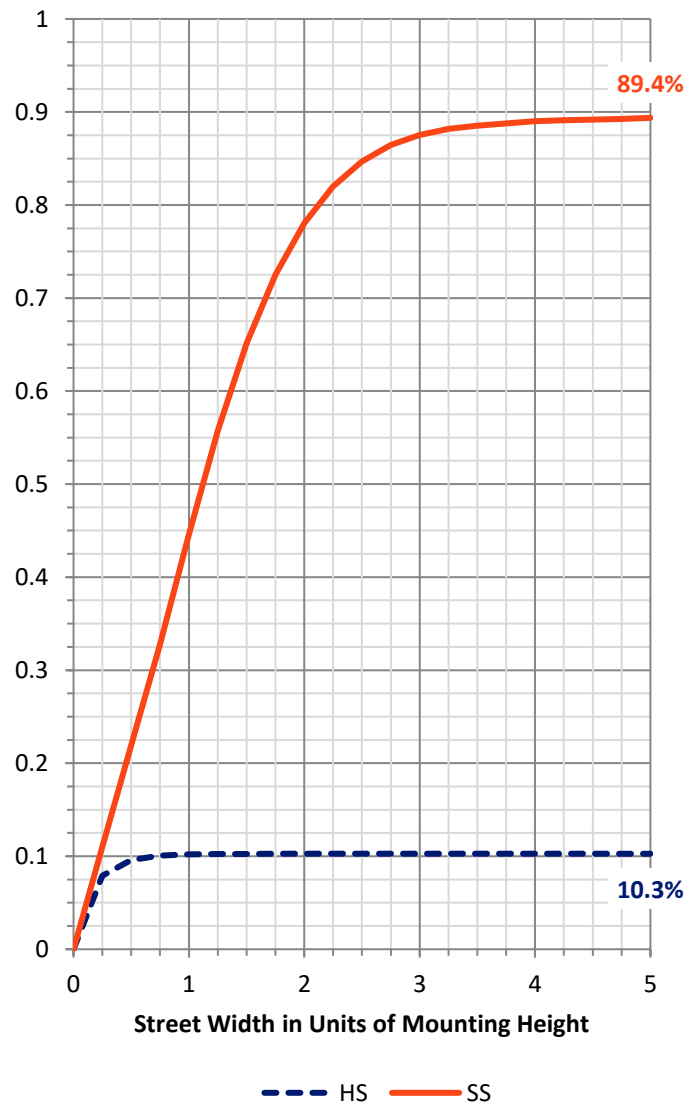
**FLUX DISTRIBUTION:**

|                    |           | Downward | Upward | Total  |
|--------------------|-----------|----------|--------|--------|
| <b>House Side</b>  | Lumens    | 766.9    | 0.0    | 766.9  |
|                    | % Fixture | 10.4     | 0.0    | 10.4   |
| <b>Street Side</b> | Lumens    | 6633.1   | 0.0    | 6633.1 |
|                    | % Fixture | 89.6     | 0.0    | 89.6   |
| <b>Total</b>       | Lumens    | 7400.0   | 0.0    | 7400.0 |
|                    | % Fixture | 100.0    | 0.0    | 100.0  |

**ZONAL LUMENS:**

| Zone      | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10°    | 78.5   | 1.1       |
| 10°-20°   | 210.0  | 2.8       |
| 20°-30°   | 327.6  | 4.4       |
| 30°-40°   | 553.7  | 7.5       |
| 40°-50°   | 1075.4 | 14.5      |
| 50°-60°   | 1806.0 | 24.4      |
| 60°-70°   | 2155.2 | 29.1      |
| 70°-80°   | 1135.8 | 15.3      |
| 80°-90°   | 57.7   | 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°    | 7400.0 | 100.0     |
| 0°-180°   | 7400.0 | 100.0     |

**Coefficient of Utilization**



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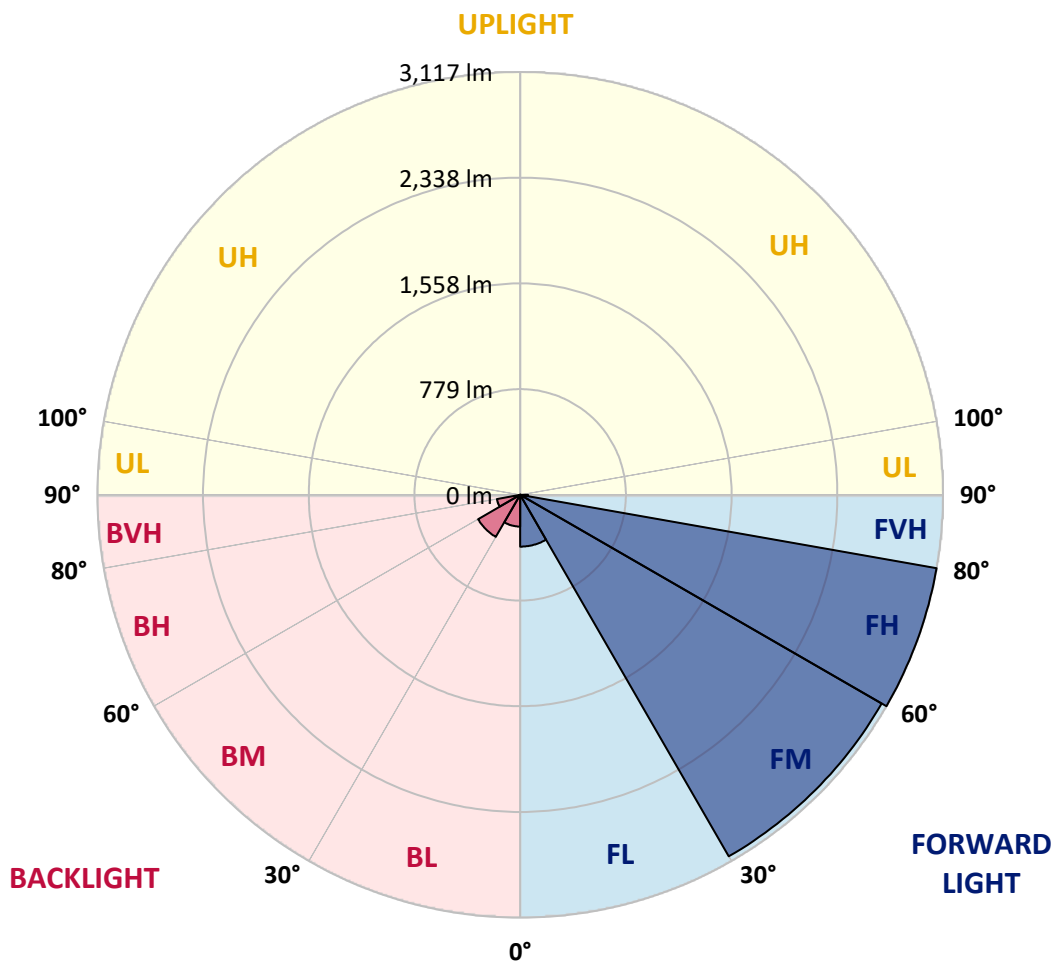
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**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

| Zone |             | Lumens | % Fixture | Zone Rating/Lumen Limit |      |         |
|------|-------------|--------|-----------|-------------------------|------|---------|
|      |             |        |           | B                       | U    | G       |
| FL   | (0°-30°)    | 382.0  | 5.2       |                         |      |         |
| FM   | (30°-60°)   | 3077.0 | 41.6      |                         |      |         |
| FH   | (60°-80°)   | 3116.9 | 42.1      |                         |      | G2/5000 |
| FVH  | (80°-90°)   | 57.2   | 0.8       |                         |      | G1/100  |
| BL   | (0°-30°)    | 234.1  | 3.2       | B1/500                  |      |         |
| BM   | (30°-60°)   | 358.1  | 4.8       | B1/1000                 |      |         |
| BH   | (60°-80°)   | 174.1  | 2.4       | B1/500                  |      | G1/500  |
| BVH  | (80°-90°)   | 0.5    | 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 III Medium





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**CANDELA DISTRIBUTION (FULL):**

|       | 0°     | 5°     | 15°    | 25°    | 35°    | 45°    | 55°    | 57°    | 65°    | 75°    | 85°    |
|-------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 0°    | 836.3  | 836.3  | 836.3  | 836.3  | 836.3  | 836.3  | 836.3  | 836.3  | 836.3  | 836.3  | 836.3  |
| 2.5°  | 824.2  | 824.2  | 824.2  | 826.0  | 827.7  | 827.7  | 831.1  | 829.4  | 829.4  | 829.4  | 832.9  |
| 5°    | 801.8  | 803.5  | 805.3  | 808.7  | 815.6  | 820.8  | 829.4  | 829.4  | 831.1  | 834.6  | 836.3  |
| 7.5°  | 770.8  | 772.5  | 777.7  | 784.6  | 798.4  | 810.4  | 824.2  | 827.7  | 832.9  | 841.5  | 844.9  |
| 10°   | 751.8  | 755.3  | 762.2  | 770.8  | 786.3  | 801.8  | 819.1  | 824.2  | 839.8  | 855.3  | 863.9  |
| 12.5° | 746.6  | 748.4  | 755.3  | 769.1  | 788.0  | 807.0  | 829.4  | 834.6  | 857.0  | 881.1  | 894.9  |
| 15°   | 755.3  | 757.0  | 760.4  | 776.0  | 798.4  | 822.5  | 851.8  | 858.7  | 886.3  | 913.9  | 931.2  |
| 17.5° | 770.8  | 770.8  | 774.2  | 788.0  | 812.2  | 839.8  | 877.7  | 888.0  | 919.1  | 950.1  | 969.1  |
| 20°   | 781.1  | 781.1  | 786.3  | 800.1  | 827.7  | 863.9  | 908.7  | 922.5  | 957.0  | 991.5  | 1008.7 |
| 22.5° | 791.5  | 793.2  | 798.4  | 813.9  | 844.9  | 894.9  | 946.7  | 960.5  | 1000.1 | 1036.3 | 1053.6 |
| 25°   | 820.8  | 819.1  | 820.8  | 834.6  | 870.8  | 932.9  | 998.4  | 1015.6 | 1057.0 | 1096.7 | 1105.3 |
| 27.5° | 901.8  | 898.4  | 876.0  | 867.4  | 894.9  | 972.5  | 1063.9 | 1081.2 | 1129.5 | 1169.1 | 1169.1 |
| 30°   | 1088.1 | 1081.2 | 1026.0 | 955.3  | 932.9  | 1008.7 | 1126.0 | 1150.1 | 1212.2 | 1246.7 | 1236.4 |
| 32.5° | 1324.3 | 1308.8 | 1238.1 | 1117.4 | 1027.7 | 1057.0 | 1191.5 | 1219.1 | 1298.4 | 1327.8 | 1305.3 |
| 35°   | 1583.0 | 1581.2 | 1493.3 | 1338.1 | 1210.5 | 1157.0 | 1276.0 | 1308.8 | 1408.8 | 1434.7 | 1398.5 |
| 37.5° | 1857.1 | 1864.0 | 1805.4 | 1591.6 | 1441.6 | 1320.9 | 1388.1 | 1426.0 | 1548.5 | 1579.5 | 1545.0 |
| 40°   | 2162.3 | 2160.6 | 2138.2 | 1884.7 | 1719.2 | 1553.6 | 1550.2 | 1584.7 | 1733.0 | 1781.3 | 1733.0 |
| 42.5° | 2548.6 | 2545.1 | 2464.1 | 2236.5 | 2055.4 | 1857.1 | 1786.4 | 1798.5 | 1964.0 | 2043.4 | 1972.7 |
| 45°   | 2941.7 | 2917.6 | 2824.5 | 2627.9 | 2467.6 | 2233.0 | 2098.5 | 2098.5 | 2239.9 | 2348.6 | 2238.2 |
| 47.5° | 3160.7 | 3136.6 | 3098.7 | 2990.0 | 2941.7 | 2679.6 | 2481.3 | 2457.2 | 2567.6 | 2677.9 | 2522.7 |
| 50°   | 3448.7 | 3448.7 | 3353.9 | 3312.5 | 3395.3 | 3210.7 | 2903.8 | 2879.7 | 2933.1 | 3021.1 | 2817.6 |
| 52.5° | 3676.3 | 3634.9 | 3567.7 | 3603.9 | 3840.1 | 3755.6 | 3326.3 | 3279.7 | 3321.1 | 3343.5 | 3074.5 |
| 55°   | 3771.2 | 3731.5 | 3726.3 | 3859.1 | 4224.7 | 4107.4 | 3759.1 | 3717.7 | 3714.3 | 3603.9 | 3298.7 |
| 57.5° | 3790.1 | 3755.6 | 3821.2 | 4054.0 | 4598.9 | 4395.4 | 4190.2 | 4159.1 | 4062.6 | 3786.7 | 3528.0 |
| 60°   | 3629.8 | 3647.0 | 3805.7 | 4160.9 | 4819.6 | 4645.4 | 4554.0 | 4521.3 | 4298.8 | 3941.9 | 3783.2 |
| 62.5° | 3300.4 | 3341.8 | 3638.4 | 4171.2 | 4738.5 | 4747.1 | 4755.8 | 4733.4 | 4481.6 | 4083.3 | 4040.2 |
| 65°   | 2910.7 | 2922.8 | 3279.7 | 4028.1 | 4597.1 | 4716.1 | 4904.1 | 4902.3 | 4621.3 | 4241.9 | 4329.9 |
| 67.5° | 2398.6 | 2419.3 | 2727.9 | 3545.3 | 4314.3 | 4702.3 | 5098.9 | 5093.7 | 4779.9 | 4423.0 | 4502.3 |
| 70°   | 1784.7 | 1810.6 | 2060.6 | 2757.2 | 3683.2 | 4529.9 | 5354.1 | 5357.6 | 4947.2 | 4560.9 | 4383.3 |
| 71°   | 1391.6 | 1438.1 | 1700.2 | 2341.7 | 3360.8 | 4355.7 | 5378.3 | 5409.3 | 4966.1 | 4542.0 | 4138.5 |
| 72.5° | 682.8  | 738.0  | 1067.4 | 1648.5 | 2765.9 | 3966.0 | 5219.6 | 5280.0 | 4847.2 | 4305.7 | 3538.4 |
| 75°   | 177.6  | 188.0  | 319.0  | 674.2  | 1482.9 | 2627.9 | 4209.2 | 4362.6 | 3962.6 | 3278.0 | 2162.3 |
| 77.5° | 112.1  | 115.5  | 150.0  | 262.1  | 555.2  | 998.4  | 2472.7 | 2548.6 | 2264.1 | 1660.6 | 762.2  |
| 80°   | 79.3   | 81.0   | 94.8   | 169.0  | 324.2  | 291.4  | 889.8  | 922.5  | 819.1  | 439.7  | 136.2  |
| 82.5° | 48.3   | 48.3   | 69.0   | 108.6  | 200.0  | 158.6  | 234.5  | 250.0  | 220.7  | 122.4  | 44.8   |
| 85°   | 27.6   | 29.3   | 43.1   | 74.1   | 94.8   | 77.6   | 87.9   | 93.1   | 94.8   | 81.0   | 19.0   |
| 87.5° | 22.4   | 24.1   | 37.9   | 62.1   | 51.7   | 37.9   | 37.9   | 39.7   | 41.4   | 48.3   | 8.6    |
| 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°    | 836.3  | 836.3  | 836.3  | 836.3 | 836.3 | 836.3 | 836.3 | 836.3 | 836.3 | 836.3 | 836.3 |
| 2.5°  | 832.9  | 832.9  | 834.6  | 832.9 | 832.9 | 832.9 | 834.6 | 834.6 | 834.6 | 838.0 | 839.8 |
| 5°    | 836.3  | 836.3  | 836.3  | 834.6 | 832.9 | 832.9 | 836.3 | 838.0 | 838.0 | 843.2 | 843.2 |
| 7.5°  | 844.9  | 844.9  | 841.5  | 838.0 | 834.6 | 829.4 | 831.1 | 832.9 | 831.1 | 832.9 | 832.9 |
| 10°   | 863.9  | 863.9  | 858.7  | 851.8 | 841.5 | 826.0 | 805.3 | 779.4 | 755.3 | 746.6 | 743.2 |
| 12.5° | 894.9  | 893.2  | 882.9  | 870.8 | 848.4 | 794.9 | 717.3 | 625.9 | 550.1 | 529.4 | 522.5 |
| 15°   | 929.4  | 926.0  | 913.9  | 893.2 | 832.9 | 691.5 | 529.4 | 412.1 | 339.7 | 322.5 | 319.0 |
| 17.5° | 965.6  | 960.5  | 943.2  | 901.8 | 762.2 | 513.9 | 341.4 | 258.7 | 219.0 | 215.5 | 217.3 |
| 20°   | 1003.6 | 996.7  | 972.5  | 884.6 | 615.6 | 343.1 | 220.7 | 200.0 | 196.6 | 196.6 | 198.3 |
| 22.5° | 1046.7 | 1038.1 | 1005.3 | 822.5 | 448.3 | 227.6 | 189.7 | 188.0 | 186.2 | 184.5 | 184.5 |
| 25°   | 1096.7 | 1086.3 | 1036.3 | 710.4 | 308.7 | 186.2 | 181.1 | 175.9 | 172.4 | 169.0 | 167.3 |
| 27.5° | 1157.0 | 1143.2 | 1060.5 | 572.5 | 212.1 | 174.2 | 170.7 | 162.1 | 155.2 | 148.3 | 148.3 |
| 30°   | 1217.4 | 1200.2 | 1053.6 | 431.1 | 172.4 | 162.1 | 155.2 | 144.8 | 134.5 | 127.6 | 125.9 |
| 32.5° | 1281.2 | 1264.0 | 1008.7 | 289.7 | 156.9 | 148.3 | 139.7 | 124.2 | 112.1 | 103.5 | 101.7 |
| 35°   | 1376.0 | 1362.2 | 920.8  | 191.4 | 141.4 | 131.1 | 119.0 | 103.5 | 87.9  | 79.3  | 77.6  |
| 37.5° | 1517.4 | 1500.2 | 812.2  | 146.6 | 124.2 | 108.6 | 98.3  | 81.0  | 65.5  | 56.9  | 55.2  |
| 40°   | 1707.1 | 1655.4 | 682.8  | 129.3 | 108.6 | 89.7  | 75.9  | 58.6  | 46.6  | 41.4  | 41.4  |
| 42.5° | 1927.8 | 1805.4 | 543.2  | 117.3 | 96.6  | 74.1  | 55.2  | 39.7  | 32.8  | 31.0  | 31.0  |
| 45°   | 2162.3 | 1945.1 | 403.5  | 108.6 | 84.5  | 58.6  | 39.7  | 27.6  | 24.1  | 22.4  | 22.4  |
| 47.5° | 2403.8 | 2058.9 | 281.1  | 98.3  | 70.7  | 44.8  | 27.6  | 20.7  | 17.2  | 15.5  | 15.5  |
| 50°   | 2629.6 | 2133.0 | 198.3  | 87.9  | 60.4  | 32.8  | 20.7  | 15.5  | 12.1  | 12.1  | 12.1  |
| 52.5° | 2786.6 | 2126.1 | 143.1  | 75.9  | 46.6  | 22.4  | 13.8  | 10.3  | 10.3  | 10.3  | 10.3  |
| 55°   | 2924.5 | 2100.3 | 112.1  | 65.5  | 36.2  | 15.5  | 10.3  | 8.6   | 8.6   | 6.9   | 6.9   |
| 57.5° | 3041.8 | 2058.9 | 94.8   | 53.5  | 25.9  | 12.1  | 6.9   | 6.9   | 5.2   | 5.2   | 5.2   |
| 60°   | 3141.8 | 2007.1 | 79.3   | 44.8  | 17.2  | 8.6   | 5.2   | 3.4   | 3.4   | 1.7   | 3.4   |
| 62.5° | 3278.0 | 1974.4 | 69.0   | 34.5  | 12.1  | 5.2   | 3.4   | 1.7   | 1.7   | 0.0   | 0.0   |
| 65°   | 3378.0 | 1912.3 | 58.6   | 24.1  | 6.9   | 3.4   | 1.7   | 1.7   | 0.0   | 0.0   | 0.0   |
| 67.5° | 3381.5 | 1800.2 | 43.1   | 13.8  | 5.2   | 3.4   | 1.7   | 0.0   | 0.0   | 0.0   | 0.0   |
| 70°   | 3109.0 | 1534.7 | 27.6   | 6.9   | 3.4   | 1.7   | 1.7   | 0.0   | 0.0   | 0.0   | 0.0   |
| 71°   | 2859.0 | 1358.8 | 22.4   | 5.2   | 3.4   | 1.7   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |
| 72.5° | 2355.5 | 998.4  | 17.2   | 5.2   | 1.7   | 1.7   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |
| 75°   | 1298.4 | 362.1  | 8.6    | 3.4   | 1.7   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |
| 77.5° | 415.6  | 110.4  | 5.2    | 1.7   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |
| 80°   | 70.7   | 17.2   | 3.4    | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |
| 82.5° | 24.1   | 6.9    | 1.7    | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |
| 85°   | 6.9    | 3.4    | 0.0    | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |
| 87.5° | 3.4    | 1.7    | 0.0    | 0.0   | 0.0   | 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)