

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: P323056

Luminaire Tested: **GAN-SA2D-830-U-T4W-HSS**

Issue Date: 3/3/2020

### Test Information

Test Method: LM-79-08  
Report Number: P323056  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-1903-205-19)  
Test Lab: INNOVATION CENTER  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: STREETWORKS  
Catalog Number: GAN-SA2D-830-U-T4W-HSS  
Description: GALLEON AREA AND ROADWAY LUMINAIRE  
(2) 80 CRI, 3000K, 1200mA 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: 9143 lumens  
Efficiency: N/A  
Efficacy: 70.9 lumens/watt  
Luminous Opening: Rectangular (W 0.5' x L: 1' x H: 0')  
IES Classification: Type IV - Short  
BUG Rating: B1 - U0 - G2

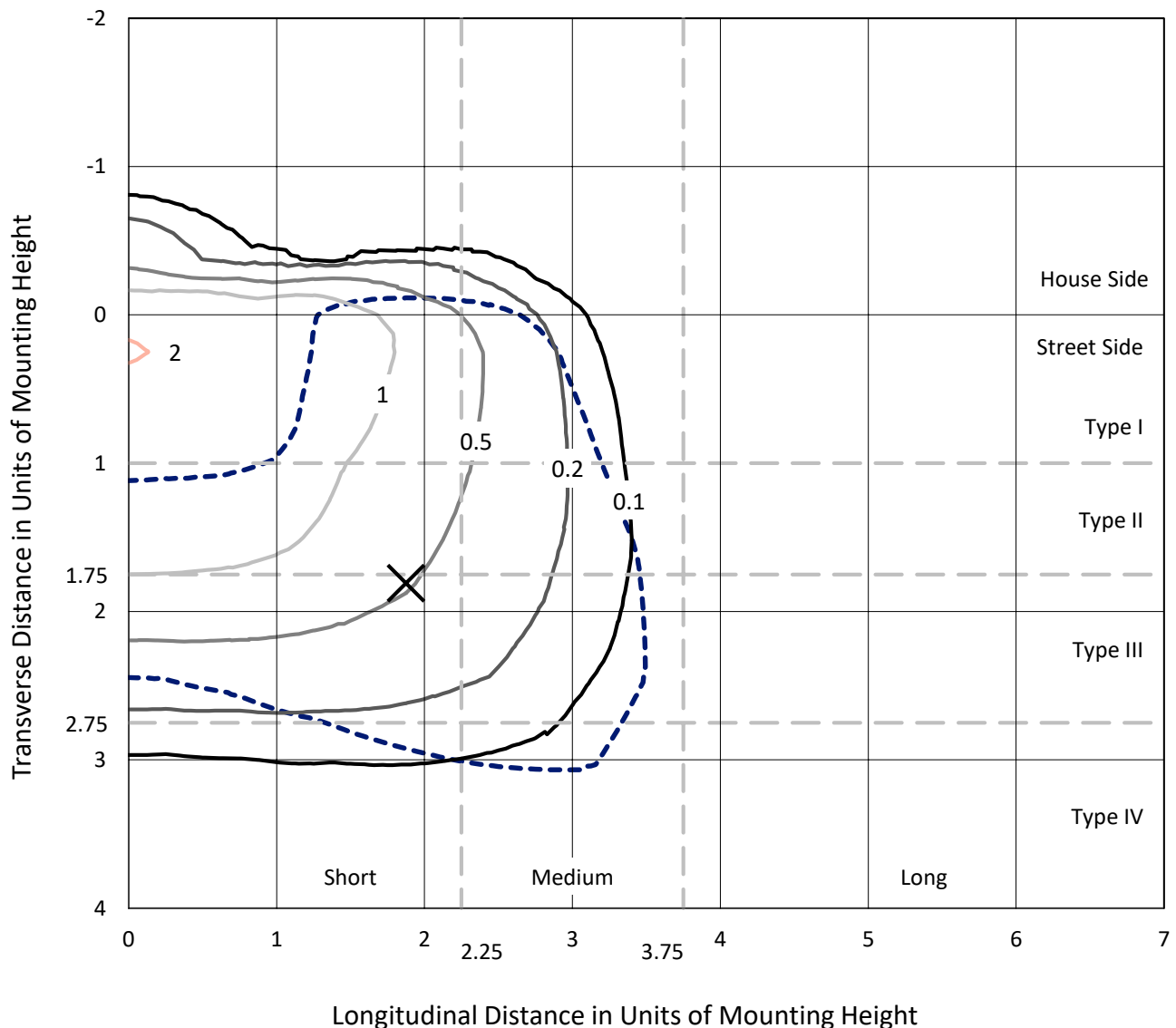
Input Watts (W): 129  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 24 FT



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## Iso-Footcandle Lines of Horizontal Illumination

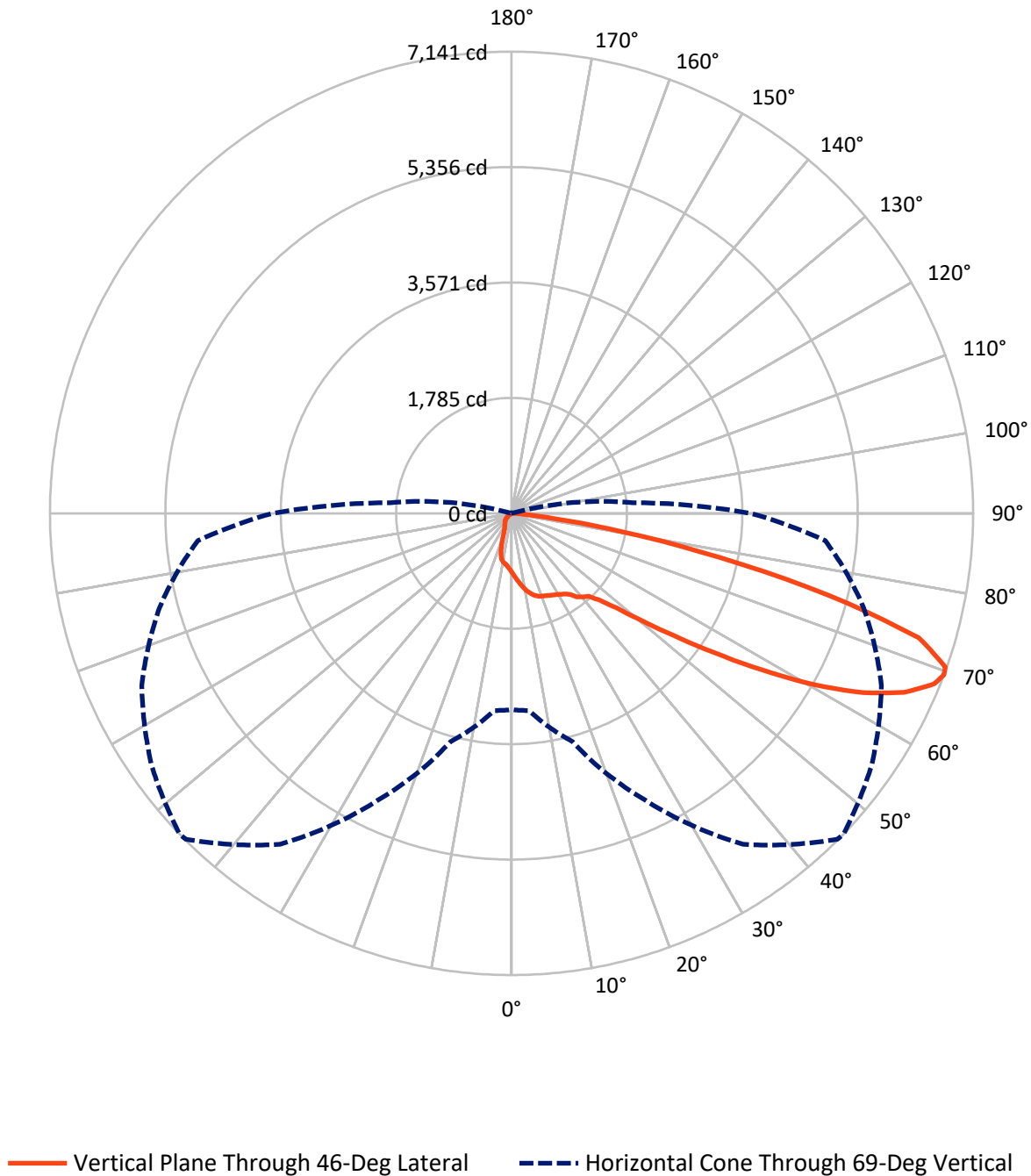
✕ Max cd  
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 2.1 fc  
 Type IV - Short - N/A

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## Luminous Intensity Polar Plot



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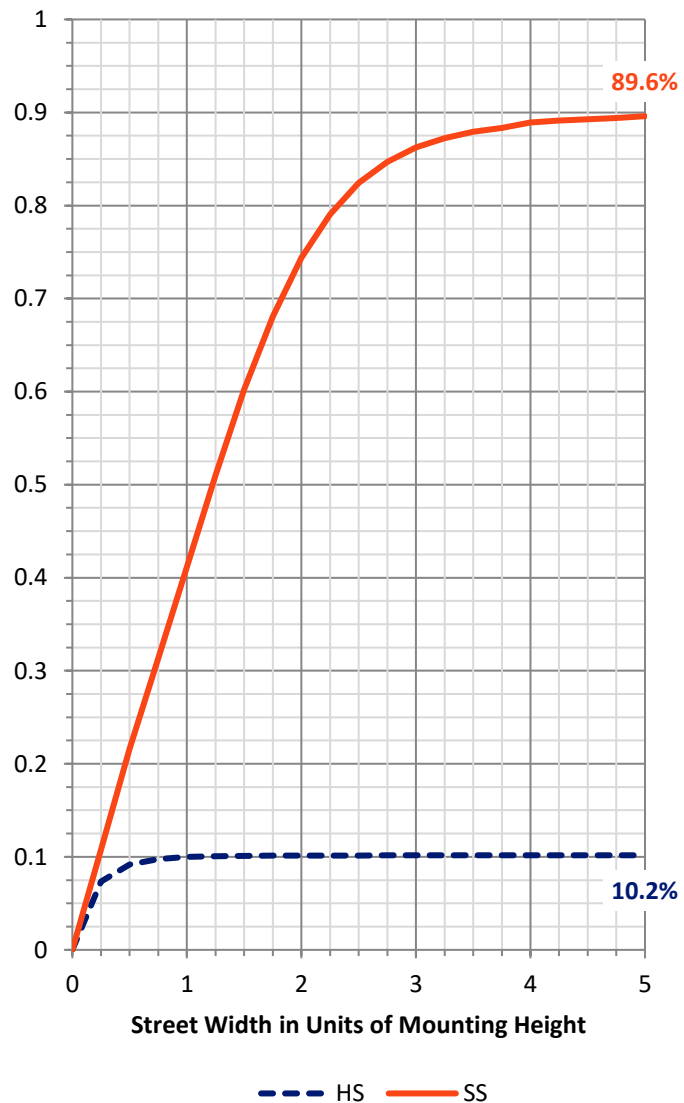
**FLUX DISTRIBUTION:**

|                    |           | Downward | Upward | Total  |
|--------------------|-----------|----------|--------|--------|
| <b>House Side</b>  | Lumens    | 938.3    | 0.0    | 938.3  |
|                    | % Fixture | 10.3     | 0.0    | 10.3   |
| <b>Street Side</b> | Lumens    | 8204.7   | 0.0    | 8204.7 |
|                    | % Fixture | 89.7     | 0.0    | 89.7   |
| <b>Total</b>       | Lumens    | 9143.0   | 0.0    | 9143.0 |
|                    | % Fixture | 100.0    | 0.0    | 100.0  |

**ZONAL LUMENS:**

| Zone      | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10°    | 91.2   | 1.0       |
| 10°-20°   | 276.6  | 3.0       |
| 20°-30°   | 435.0  | 4.8       |
| 30°-40°   | 623.9  | 6.8       |
| 40°-50°   | 1078.3 | 11.8      |
| 50°-60°   | 2130.2 | 23.3      |
| 60°-70°   | 2977.1 | 32.6      |
| 70°-80°   | 1438.3 | 15.7      |
| 80°-90°   | 92.4   | 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°    | 9143.0 | 100.0     |
| 0°-180°   | 9143.0 | 100.0     |

**Coefficient of Utilization**



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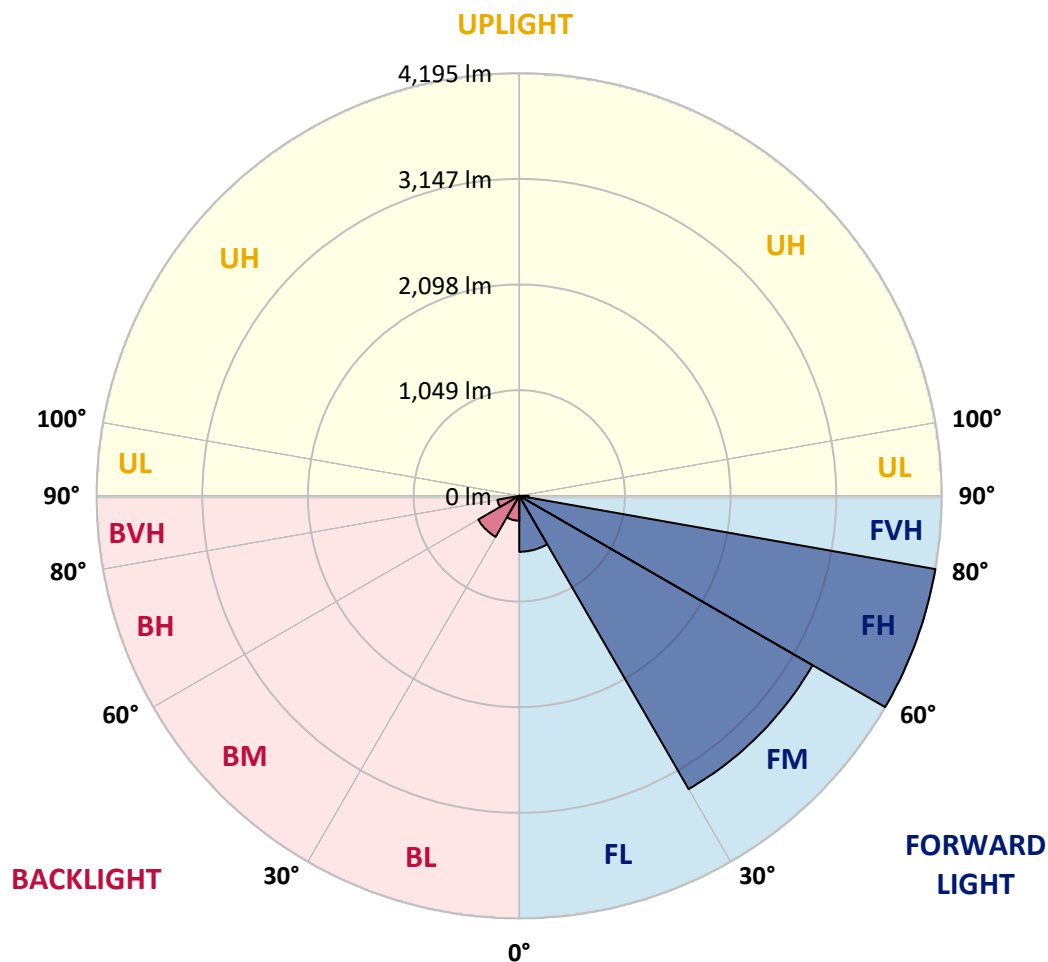
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**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

| Zone |             | Lumens | % Fixture | Zone Rating/Lumen Limit |      |         |
|------|-------------|--------|-----------|-------------------------|------|---------|
|      |             |        |           | B                       | U    | G       |
| FL   | (0°-30°)    | 555.5  | 6.1       |                         |      |         |
| FM   | (30°-60°)   | 3362.1 | 36.8      |                         |      |         |
| FH   | (60°-80°)   | 4195.4 | 45.9      |                         |      | G2/5000 |
| FVH  | (80°-90°)   | 91.7   | 1.0       |                         |      | G1/100  |
| BL   | (0°-30°)    | 247.3  | 2.7       | B1/500                  |      |         |
| BM   | (30°-60°)   | 470.2  | 5.1       | B1/1000                 |      |         |
| BH   | (60°-80°)   | 220.0  | 2.4       | B1/500                  |      | G1/500  |
| BVH  | (80°-90°)   | 0.8    | 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°    | 45°    | 46°    | 55°    | 65°    | 75°    | 85°    |
|-------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 0°    | 916.1  | 916.1  | 916.1  | 916.1  | 916.1  | 916.1  | 916.1  | 916.1  | 916.1  | 916.1  | 916.1  |
| 2.5°  | 1017.7 | 1016.4 | 1010.4 | 1007.8 | 993.3  | 984.7  | 981.3  | 970.5  | 955.1  | 939.7  | 922.5  |
| 5°    | 1133.4 | 1133.0 | 1121.9 | 1111.1 | 1083.7 | 1058.0 | 1053.3 | 1028.4 | 993.7  | 961.1  | 928.5  |
| 7.5°  | 1251.8 | 1246.2 | 1235.0 | 1214.5 | 1174.6 | 1133.4 | 1129.6 | 1094.4 | 1045.1 | 998.0  | 951.2  |
| 10°   | 1352.1 | 1348.6 | 1334.1 | 1302.8 | 1256.0 | 1209.3 | 1204.6 | 1161.3 | 1105.6 | 1047.7 | 988.1  |
| 12.5° | 1430.1 | 1427.5 | 1408.2 | 1369.2 | 1319.5 | 1271.0 | 1264.6 | 1226.0 | 1166.4 | 1101.7 | 1031.4 |
| 15°   | 1477.7 | 1476.4 | 1452.8 | 1411.2 | 1362.4 | 1320.3 | 1314.8 | 1280.9 | 1225.6 | 1157.9 | 1078.6 |
| 17.5° | 1488.8 | 1489.2 | 1464.8 | 1422.8 | 1382.5 | 1352.5 | 1348.2 | 1322.5 | 1276.2 | 1208.9 | 1125.7 |
| 20°   | 1464.0 | 1469.1 | 1447.2 | 1410.8 | 1385.9 | 1370.1 | 1366.6 | 1351.2 | 1312.2 | 1248.8 | 1163.4 |
| 22.5° | 1428.8 | 1431.4 | 1416.4 | 1391.9 | 1381.6 | 1384.6 | 1382.9 | 1374.4 | 1341.3 | 1283.0 | 1200.7 |
| 25°   | 1407.4 | 1407.4 | 1398.4 | 1377.8 | 1384.6 | 1403.1 | 1403.5 | 1401.8 | 1375.6 | 1325.1 | 1246.2 |
| 27.5° | 1406.5 | 1403.9 | 1393.6 | 1378.2 | 1397.1 | 1425.4 | 1427.1 | 1438.7 | 1422.4 | 1376.1 | 1302.8 |
| 30°   | 1440.8 | 1437.8 | 1415.9 | 1395.8 | 1419.8 | 1450.2 | 1454.5 | 1479.8 | 1471.7 | 1431.4 | 1365.8 |
| 32.5° | 1521.0 | 1510.2 | 1461.8 | 1428.8 | 1446.8 | 1483.2 | 1488.8 | 1529.1 | 1542.0 | 1499.5 | 1426.7 |
| 35°   | 1630.7 | 1596.8 | 1527.0 | 1491.4 | 1493.1 | 1531.3 | 1536.4 | 1595.6 | 1633.7 | 1562.1 | 1473.8 |
| 37.5° | 1782.0 | 1765.3 | 1651.7 | 1556.5 | 1564.3 | 1622.1 | 1637.1 | 1701.4 | 1690.7 | 1596.4 | 1527.4 |
| 40°   | 2113.8 | 2087.7 | 1966.8 | 1739.2 | 1632.4 | 1695.9 | 1700.6 | 1734.9 | 1735.7 | 1674.0 | 1638.9 |
| 42.5° | 2565.7 | 2554.9 | 2427.6 | 2070.5 | 1766.6 | 1745.2 | 1753.7 | 1811.6 | 1876.3 | 1837.8 | 1836.0 |
| 45°   | 3065.9 | 3060.4 | 2925.3 | 2510.4 | 2038.0 | 1906.8 | 1917.5 | 1995.1 | 2119.0 | 2127.6 | 2182.0 |
| 47.5° | 3468.5 | 3465.9 | 3388.3 | 3001.2 | 2453.3 | 2180.7 | 2184.1 | 2266.4 | 2484.2 | 2591.8 | 2678.8 |
| 50°   | 3835.4 | 3847.9 | 3786.6 | 3532.3 | 3019.2 | 2609.8 | 2601.7 | 2656.5 | 3006.4 | 3182.5 | 3290.6 |
| 52.5° | 4345.6 | 4363.1 | 4191.2 | 4027.9 | 3612.9 | 3142.2 | 3135.8 | 3193.3 | 3633.9 | 3766.0 | 3785.3 |
| 55°   | 4796.1 | 4766.1 | 4630.2 | 4583.0 | 4337.0 | 3799.8 | 3798.1 | 3848.7 | 4241.0 | 4297.1 | 4332.7 |
| 57.5° | 4995.0 | 4983.4 | 5049.0 | 5157.1 | 5095.3 | 4577.0 | 4573.2 | 4534.6 | 4784.1 | 4790.1 | 4899.4 |
| 60°   | 5120.6 | 5134.8 | 5335.8 | 5668.9 | 5822.8 | 5413.4 | 5388.5 | 5153.2 | 5302.8 | 5289.5 | 5406.5 |
| 62.5° | 5026.3 | 5054.2 | 5416.0 | 5971.1 | 6367.2 | 6143.4 | 6108.3 | 5719.9 | 5746.1 | 5700.2 | 5809.1 |
| 65°   | 4525.6 | 4568.9 | 5161.8 | 5914.1 | 6637.3 | 6714.0 | 6678.4 | 6220.2 | 6098.0 | 6022.6 | 5962.1 |
| 67.5° | 3674.7 | 3700.4 | 4319.4 | 5418.1 | 6515.5 | 7054.4 | 7047.1 | 6658.7 | 6363.8 | 5968.1 | 5499.1 |
| 69°   | 3036.8 | 3062.1 | 3657.9 | 4896.0 | 6247.6 | 7127.3 | 7141.4 | 6799.3 | 6313.2 | 5637.2 | 4872.4 |
| 70°   | 2572.1 | 2599.1 | 3154.2 | 4448.4 | 5936.8 | 7093.4 | 7118.7 | 6786.0 | 6168.3 | 5253.9 | 4322.4 |
| 72.5° | 1349.1 | 1372.2 | 1941.9 | 3064.7 | 4839.8 | 6513.4 | 6590.1 | 6212.5 | 5228.6 | 3815.7 | 2555.8 |
| 75°   | 424.0  | 437.3  | 758.3  | 1602.0 | 3313.7 | 5064.5 | 5082.0 | 4873.3 | 3712.8 | 2098.8 | 1064.4 |
| 77.5° | 161.6  | 157.8  | 252.5  | 590.3  | 1675.3 | 3189.0 | 3296.6 | 3045.4 | 1948.4 | 742.0  | 245.6  |
| 80°   | 87.0   | 87.5   | 131.2  | 244.3  | 716.8  | 1638.9 | 1729.7 | 1476.0 | 692.3  | 231.5  | 56.6   |
| 82.5° | 37.7   | 39.4   | 73.7   | 129.5  | 329.2  | 604.4  | 649.9  | 541.0  | 264.5  | 155.6  | 21.0   |
| 85°   | 8.1    | 9.0    | 35.6   | 70.3   | 134.2  | 169.8  | 177.9  | 175.3  | 168.5  | 120.9  | 8.1    |
| 87.5° | 0.0    | 0.0    | 15.9   | 25.3   | 33.9   | 38.6   | 33.9   | 44.2   | 93.0   | 81.4   | 4.3    |
| 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°    | 916.1  | 916.1  | 916.1  | 916.1 | 916.1 | 916.1 | 916.1 | 916.1 | 916.1 | 916.1 | 916.1 |
| 2.5°  | 917.0  | 909.2  | 895.9  | 881.4 | 871.1 | 860.4 | 851.8 | 847.9 | 843.6 | 840.6 | 844.5 |
| 5°    | 915.2  | 900.2  | 874.5  | 849.6 | 831.6 | 817.1 | 805.1 | 800.4 | 795.6 | 792.2 | 791.8 |
| 7.5°  | 930.2  | 909.2  | 869.8  | 833.4 | 805.5 | 785.8 | 769.5 | 762.6 | 757.1 | 754.5 | 752.3 |
| 10°   | 959.0  | 932.0  | 879.2  | 831.6 | 795.6 | 762.2 | 727.0 | 700.0 | 682.5 | 674.3 | 671.3 |
| 12.5° | 996.3  | 962.4  | 897.2  | 840.6 | 788.3 | 724.0 | 649.5 | 585.2 | 543.6 | 529.9 | 521.7 |
| 15°   | 1040.0 | 998.0  | 920.8  | 852.2 | 761.8 | 644.3 | 517.8 | 433.8 | 395.2 | 387.5 | 379.0 |
| 17.5° | 1082.0 | 1035.7 | 949.1  | 854.4 | 703.5 | 514.8 | 379.4 | 322.4 | 307.4 | 312.5 | 313.8 |
| 20°   | 1118.9 | 1073.0 | 977.0  | 835.5 | 597.6 | 386.2 | 293.6 | 279.5 | 285.1 | 294.9 | 296.6 |
| 22.5° | 1156.2 | 1109.0 | 1002.7 | 785.8 | 462.1 | 293.2 | 264.5 | 267.9 | 273.5 | 283.4 | 285.1 |
| 25°   | 1201.6 | 1152.7 | 1026.7 | 694.5 | 346.8 | 249.5 | 251.2 | 256.4 | 261.9 | 270.9 | 271.8 |
| 27.5° | 1253.9 | 1208.0 | 1042.6 | 575.7 | 257.2 | 229.3 | 234.9 | 242.6 | 248.2 | 256.8 | 258.5 |
| 30°   | 1323.3 | 1280.9 | 1047.7 | 452.7 | 215.6 | 211.3 | 213.9 | 223.3 | 231.5 | 239.2 | 240.5 |
| 32.5° | 1388.5 | 1352.9 | 1030.6 | 341.7 | 199.8 | 194.6 | 194.6 | 200.2 | 209.6 | 216.9 | 218.6 |
| 35°   | 1448.5 | 1425.4 | 975.7  | 249.9 | 187.8 | 179.2 | 174.9 | 174.9 | 180.9 | 186.9 | 188.6 |
| 37.5° | 1527.8 | 1527.0 | 886.9  | 199.3 | 176.2 | 166.3 | 157.3 | 150.5 | 148.3 | 149.6 | 150.5 |
| 40°   | 1663.7 | 1665.0 | 771.2  | 178.8 | 166.3 | 153.0 | 139.3 | 126.9 | 115.3 | 111.5 | 111.0 |
| 42.5° | 1875.9 | 1856.6 | 649.9  | 168.9 | 157.8 | 139.3 | 118.7 | 102.0 | 84.0  | 78.4  | 78.0  |
| 45°   | 2212.9 | 2098.4 | 521.3  | 159.9 | 148.8 | 123.9 | 98.2  | 75.4  | 60.9  | 56.6  | 56.6  |
| 47.5° | 2703.7 | 2416.1 | 403.8  | 150.0 | 136.7 | 106.3 | 74.2  | 54.4  | 44.6  | 42.4  | 42.9  |
| 50°   | 3211.3 | 2727.3 | 309.5  | 137.6 | 122.2 | 87.9  | 54.9  | 39.4  | 33.9  | 33.9  | 34.3  |
| 52.5° | 3661.4 | 2955.3 | 241.3  | 124.3 | 104.2 | 69.0  | 41.6  | 30.9  | 28.3  | 27.9  | 28.3  |
| 55°   | 4082.8 | 3102.4 | 184.8  | 108.9 | 82.7  | 51.4  | 31.7  | 25.3  | 23.6  | 22.7  | 22.3  |
| 57.5° | 4489.2 | 3175.3 | 138.5  | 87.9  | 60.0  | 37.3  | 25.3  | 21.4  | 19.7  | 18.4  | 18.0  |
| 60°   | 4759.7 | 3116.1 | 95.2   | 64.7  | 41.6  | 27.0  | 21.0  | 18.4  | 16.3  | 15.0  | 14.6  |
| 62.5° | 4912.3 | 2954.5 | 61.3   | 46.7  | 29.6  | 20.1  | 16.7  | 15.4  | 12.4  | 11.1  | 11.1  |
| 65°   | 4850.5 | 2687.8 | 42.9   | 33.4  | 21.4  | 15.0  | 12.4  | 12.4  | 9.0   | 7.3   | 6.9   |
| 67.5° | 4298.4 | 2270.7 | 32.6   | 24.9  | 15.4  | 11.1  | 9.4   | 10.7  | 5.6   | 3.4   | 3.4   |
| 69°   | 3698.2 | 1881.9 | 27.9   | 20.6  | 12.9  | 9.0   | 8.1   | 9.9   | 3.9   | 2.6   | 2.1   |
| 70°   | 3214.3 | 1623.4 | 25.3   | 18.0  | 10.7  | 7.7   | 7.3   | 9.4   | 3.9   | 2.1   | 1.7   |
| 72.5° | 1923.1 | 905.4  | 19.3   | 12.9  | 6.9   | 6.0   | 6.0   | 10.7  | 3.9   | 2.1   | 1.7   |
| 75°   | 777.2  | 318.9  | 14.1   | 9.0   | 5.1   | 5.1   | 7.3   | 13.7  | 3.4   | 1.7   | 1.3   |
| 77.5° | 176.2  | 69.9   | 8.1    | 5.6   | 3.4   | 5.1   | 8.6   | 10.7  | 2.1   | 0.9   | 0.0   |
| 80°   | 42.9   | 17.1   | 5.1    | 3.4   | 2.1   | 3.9   | 6.4   | 6.0   | 0.4   | 0.0   | 0.0   |
| 82.5° | 14.1   | 6.0    | 2.1    | 1.7   | 0.4   | 1.3   | 3.0   | 1.7   | 0.0   | 0.0   | 0.0   |
| 85°   | 6.0    | 3.4    | 0.9    | 0.4   | 0.0   | 0.0   | 0.4   | 0.0   | 0.0   | 0.0   | 0.0   |
| 87.5° | 3.9    | 1.3    | 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)