

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: P270912

Luminaire Tested: **NVN-AF-03-LED-U-SL2-7027-HSS**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P270912
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P24258)
Test Lab: INNOVATION CENTER P2
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: STREETWORKS
Catalog Number: NVN-AF-03-LED-U-SL2-7027-HSS
Description: NAVION ROADWAY AND AREA LUMINAIRE
(3) 70 CRI, 2700K, 1050mA LIGHTSQUARES WITH 16 LEDS EACH AND TYPE II
SPILL LIGHT ELIMINATOR OPTICS WITH HOUSE SIDE SHIELD
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 12837.8 lumens
Efficiency: N/A
Efficacy: 77.3 lumens/watt
Luminous Opening: Rectangular (W 0.5' x L: 1.5' x H: 0')
IES Classification: Type II - Medium - Semi-Cutoff
BUG Rating: B1 - U0 - G2

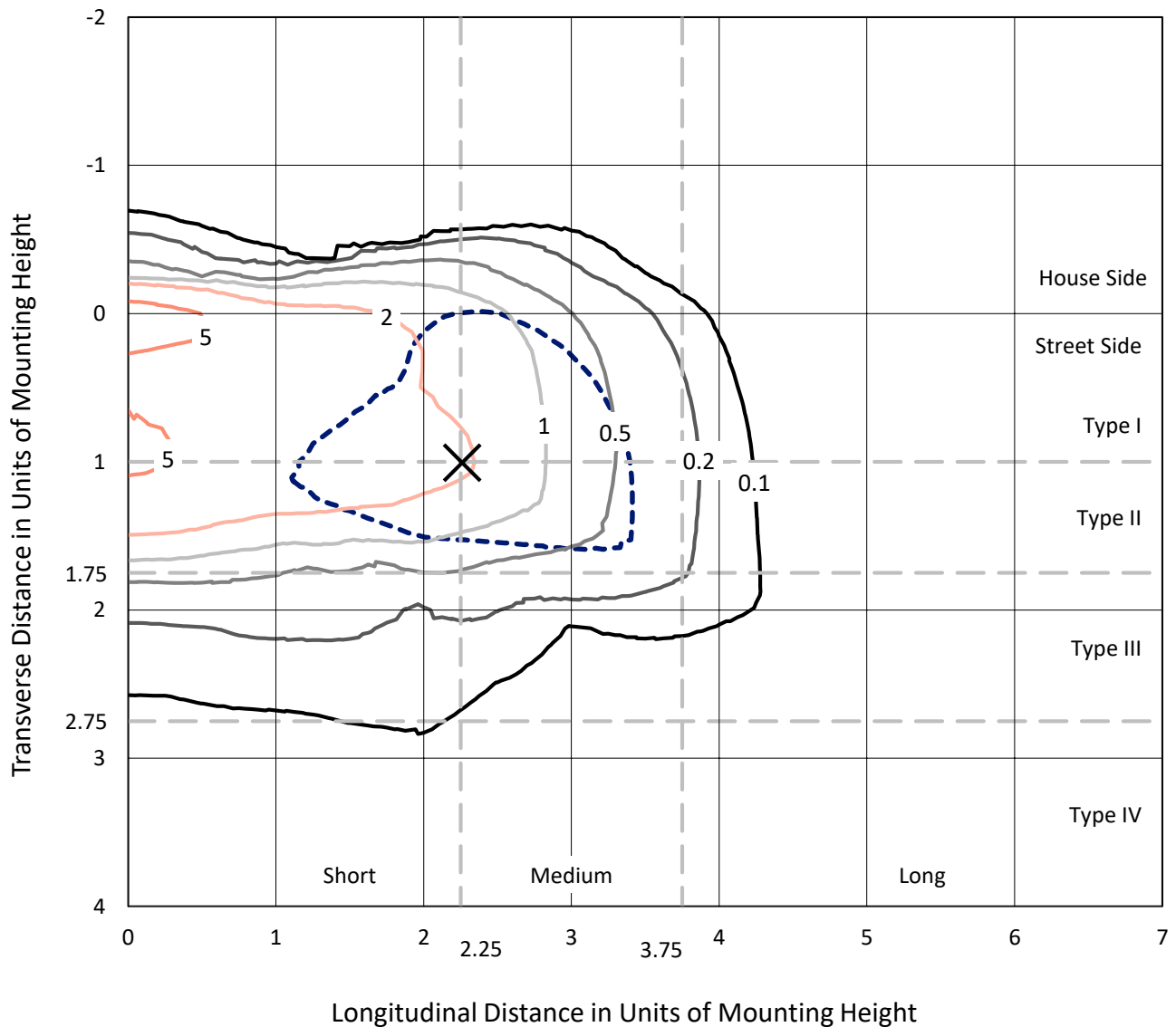
Input Watts (W): 166
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 28.75 FT



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Iso-Footcandle Lines of Horizontal Illumination

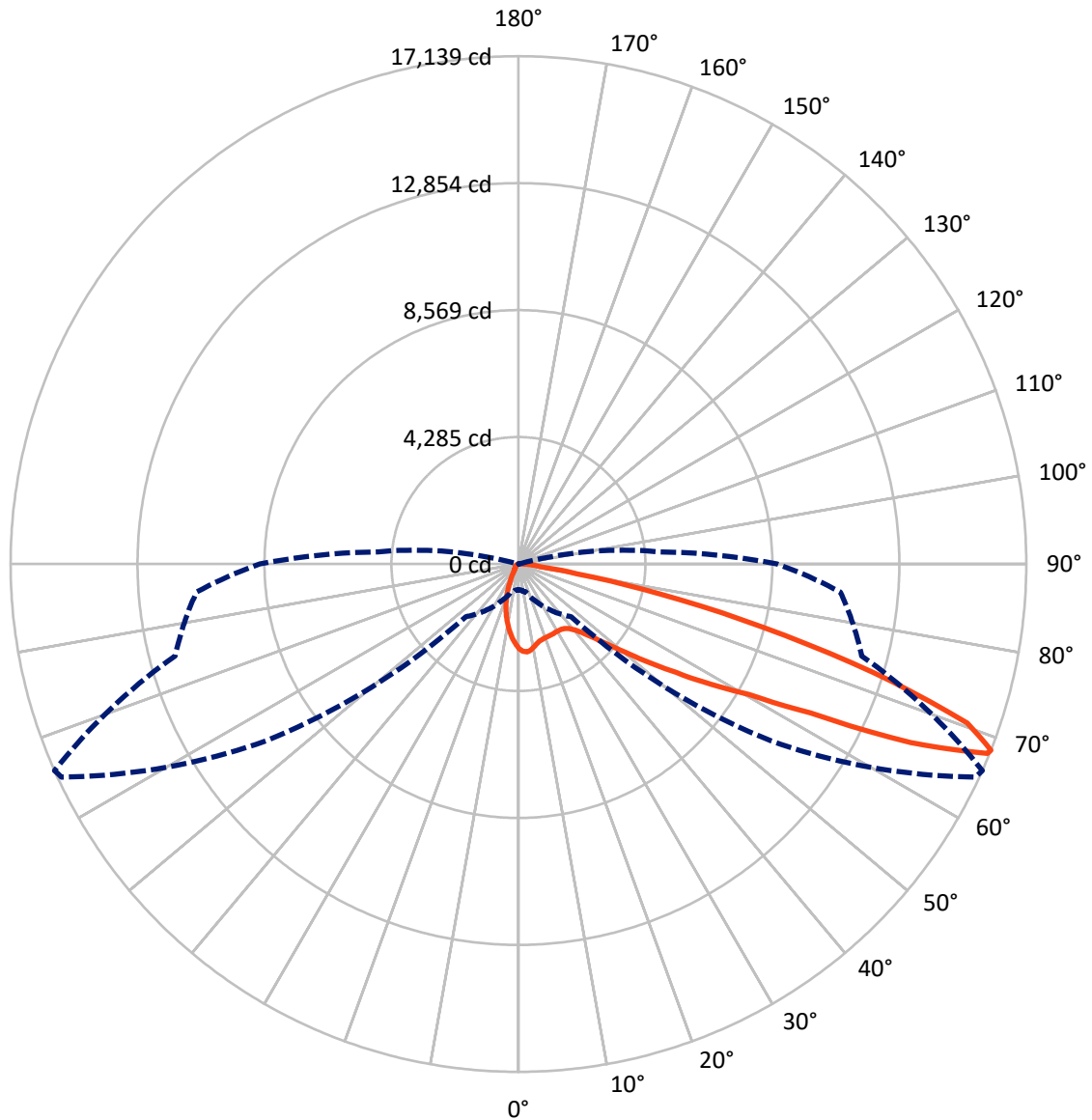
✕ Max cd
 - - - 1/2 Max cd



Based on 20 foot mounting height. Maximum calculated value = 7.2 fc
 Type II - Medium - Semi-Cutoff

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Luminous Intensity Polar Plot



— Vertical Plane Through 66-Deg Lateral - - - Horizontal Cone Through 68-Deg Vertical

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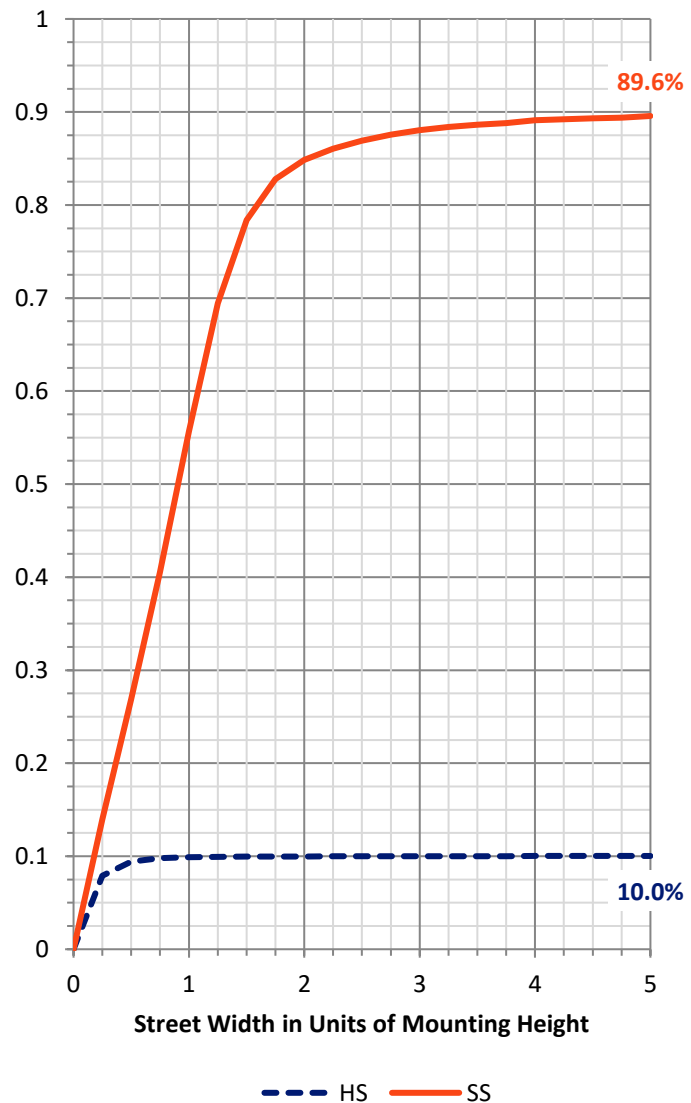
FLUX DISTRIBUTION:

| | | Downward | Upward | Total |
|--------------------|-----------|----------|--------|---------|
| House Side | Lumens | 1300.3 | 0.0 | 1300.3 |
| | % Fixture | 10.1 | 0.0 | 10.1 |
| Street Side | Lumens | 11537.4 | 0.0 | 11537.4 |
| | % Fixture | 89.9 | 0.0 | 89.9 |
| Total | Lumens | 12837.8 | 0.0 | 12837.8 |
| | % Fixture | 100.0 | 0.0 | 100.0 |

Coefficient of Utilization

ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|---------|-----------|
| 0°-10° | 234.5 | 1.8 |
| 10°-20° | 504.5 | 3.9 |
| 20°-30° | 731.1 | 5.7 |
| 30°-40° | 1119.1 | 8.7 |
| 40°-50° | 1914.1 | 14.9 |
| 50°-60° | 2994.3 | 23.3 |
| 60°-70° | 3447.8 | 26.9 |
| 70°-80° | 1725.3 | 13.4 |
| 80°-90° | 167.1 | 1.3 |
| 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° | 12837.8 | 100.0 |
| 0°-180° | 12837.8 | 100.0 |



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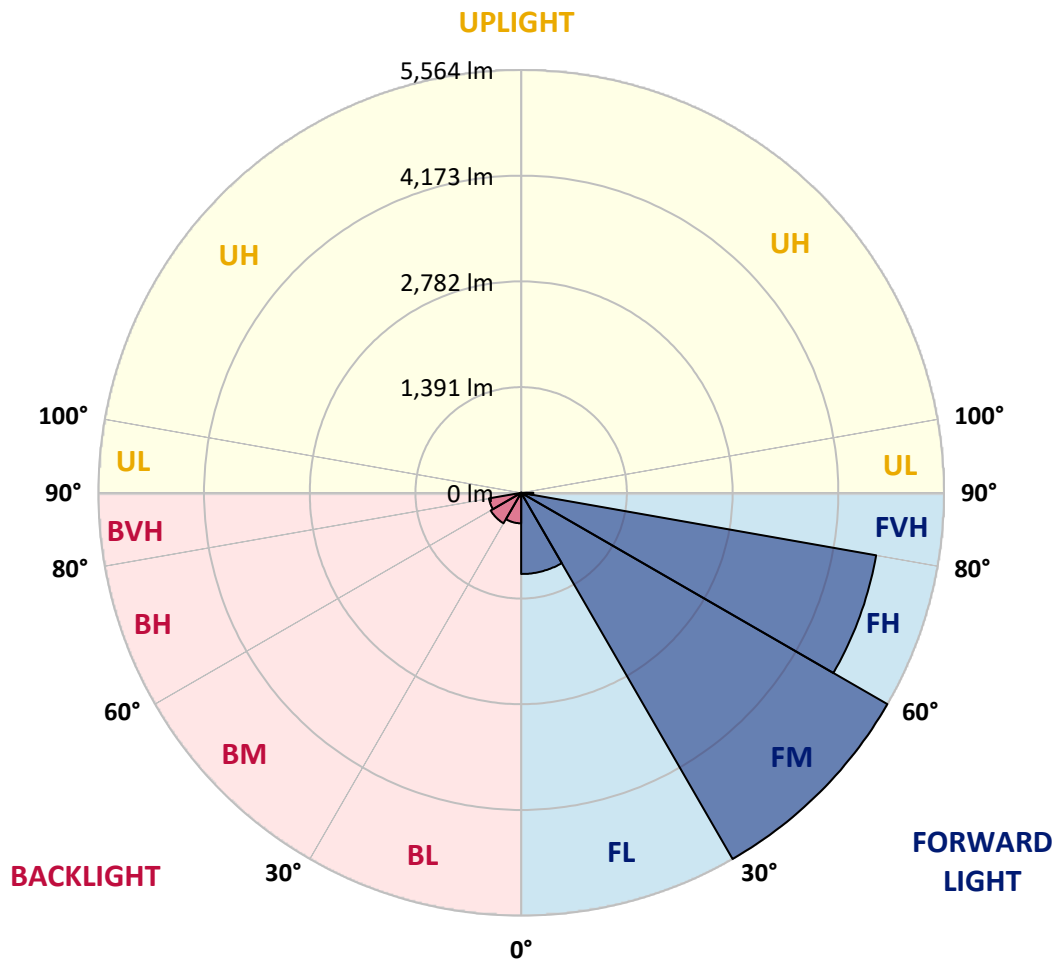
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

| Zone | Lumens | % Fixture | Zone Rating/Lumen Limit | | |
|----------------|--------|-----------|-------------------------|------|---------|
| | | | B | U | G |
| FL (0°-30°) | 1068.7 | 8.3 | | | |
| FM (30°-60°) | 5564.5 | 43.3 | | | |
| FH (60°-80°) | 4743.5 | 36.9 | | | G2/5000 |
| FVH (80°-90°) | 160.8 | 1.3 | | | G2/225 |
| BL (0°-30°) | 401.3 | 3.1 | B1/500 | | |
| BM (30°-60°) | 463.1 | 3.6 | B1/1000 | | |
| BH (60°-80°) | 429.6 | 3.3 | B1/500 | | G1/500 |
| BVH (80°-90°) | 6.3 | 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 II Medium





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CANDELA DISTRIBUTION (FULL):

| | 0° | 5° | 15° | 25° | 35° | 45° | 55° | 65° | 66° | 75° | 85° |
|-------|--------|--------|--------|--------|--------|--------|---------|---------|---------|---------|---------|
| 0° | 2860.2 | 2860.2 | 2860.2 | 2860.2 | 2860.2 | 2860.2 | 2860.2 | 2860.2 | 2860.2 | 2860.2 | 2860.2 |
| 2.5° | 3008.2 | 3010.3 | 3009.3 | 3012.2 | 3010.3 | 2995.2 | 2979.0 | 2944.9 | 2947.8 | 2903.5 | 2854.1 |
| 5° | 2796.7 | 2813.9 | 2830.9 | 2848.0 | 2889.4 | 2925.6 | 2969.0 | 2979.0 | 2979.0 | 2940.7 | 2868.2 |
| 7.5° | 2581.0 | 2582.0 | 2601.1 | 2624.3 | 2679.7 | 2746.3 | 2847.1 | 2937.7 | 2939.8 | 2949.9 | 2870.3 |
| 10° | 2418.7 | 2423.7 | 2436.8 | 2462.1 | 2517.5 | 2582.9 | 2695.9 | 2837.9 | 2849.1 | 2923.7 | 2850.1 |
| 12.5° | 2292.7 | 2298.9 | 2312.9 | 2342.2 | 2392.5 | 2460.1 | 2578.9 | 2741.2 | 2756.3 | 2898.4 | 2844.0 |
| 15° | 2195.9 | 2204.0 | 2215.1 | 2244.3 | 2298.9 | 2370.4 | 2500.3 | 2676.7 | 2694.8 | 2888.4 | 2863.2 |
| 17.5° | 2155.8 | 2155.8 | 2154.7 | 2174.8 | 2229.2 | 2301.7 | 2437.9 | 2642.5 | 2665.6 | 2896.4 | 2895.3 |
| 20° | 2172.8 | 2169.8 | 2148.7 | 2143.5 | 2176.9 | 2249.4 | 2388.6 | 2620.3 | 2646.4 | 2911.5 | 2934.8 |
| 22.5° | 2263.5 | 2257.5 | 2210.1 | 2170.8 | 2160.8 | 2209.1 | 2355.3 | 2605.2 | 2636.3 | 2942.8 | 2987.1 |
| 25° | 2456.0 | 2437.9 | 2372.3 | 2283.8 | 2204.0 | 2199.1 | 2332.0 | 2597.1 | 2630.3 | 2979.0 | 3044.5 |
| 27.5° | 2706.0 | 2700.9 | 2596.1 | 2477.2 | 2323.9 | 2232.3 | 2325.1 | 2591.0 | 2624.3 | 3005.3 | 3090.9 |
| 30° | 3016.4 | 3018.3 | 2897.5 | 2742.3 | 2510.5 | 2326.0 | 2347.2 | 2588.0 | 2622.3 | 3007.3 | 3111.1 |
| 32.5° | 3336.8 | 3338.8 | 3238.1 | 3071.8 | 2765.4 | 2487.2 | 2409.7 | 2602.1 | 2633.4 | 2999.3 | 3110.1 |
| 35° | 3645.2 | 3648.2 | 3587.8 | 3453.8 | 3106.0 | 2710.9 | 2527.7 | 2650.4 | 2672.6 | 3004.2 | 3108.0 |
| 37.5° | 4035.2 | 4047.4 | 3972.8 | 3847.8 | 3533.4 | 3039.5 | 2720.1 | 2748.3 | 2766.4 | 3045.6 | 3123.1 |
| 40° | 4700.4 | 4684.2 | 4470.7 | 4259.0 | 3996.9 | 3439.6 | 2998.3 | 2916.5 | 2922.6 | 3152.4 | 3180.5 |
| 42.5° | 5475.3 | 5455.1 | 5089.3 | 4724.5 | 4473.6 | 3922.4 | 3353.9 | 3174.6 | 3173.5 | 3331.8 | 3305.7 |
| 45° | 6142.5 | 6130.5 | 5745.5 | 5258.7 | 5001.8 | 4455.5 | 3792.4 | 3546.5 | 3534.3 | 3642.2 | 3533.4 |
| 47.5° | 6616.1 | 6606.1 | 6314.8 | 5827.0 | 5612.4 | 5042.0 | 4339.6 | 4053.3 | 4028.2 | 4048.3 | 3903.2 |
| 50° | 6662.5 | 6651.5 | 6549.7 | 6236.3 | 6326.0 | 5902.8 | 5015.9 | 4717.4 | 4685.3 | 4653.9 | 4462.5 |
| 52.5° | 6229.1 | 6228.2 | 6281.6 | 6261.5 | 6825.9 | 7010.3 | 5845.2 | 5538.9 | 5500.6 | 5420.9 | 5230.6 |
| 55° | 5343.4 | 5338.3 | 5540.8 | 5835.2 | 6814.7 | 8153.0 | 7110.1 | 6516.5 | 6466.0 | 6306.8 | 6056.9 |
| 57.5° | 3904.3 | 3878.1 | 4301.3 | 4925.0 | 6336.0 | 8653.0 | 9118.5 | 7730.9 | 7647.2 | 7142.2 | 6757.3 |
| 60° | 2155.8 | 2165.8 | 2709.9 | 3448.8 | 5202.3 | 8554.2 | 10966.9 | 9146.8 | 8927.0 | 7862.9 | 7474.8 |
| 62.5° | 1208.4 | 1233.6 | 1638.7 | 2241.4 | 3316.6 | 7753.0 | 11958.5 | 11583.6 | 11054.5 | 8703.4 | 8381.8 |
| 65° | 914.0 | 929.1 | 1132.8 | 1729.3 | 2091.2 | 5417.9 | 12116.8 | 14991.0 | 14534.4 | 9977.3 | 9826.0 |
| 67.5° | 860.7 | 872.8 | 972.5 | 1434.1 | 1904.8 | 2809.8 | 10925.5 | 17006.6 | 17064.1 | 11714.6 | 10944.7 |
| 68° | 866.8 | 881.9 | 981.6 | 1379.6 | 1901.7 | 2513.5 | 10417.6 | 17016.8 | 17138.7 | 11994.8 | 10906.4 |
| 70° | 796.2 | 800.2 | 1038.0 | 1353.4 | 1843.2 | 1980.4 | 7536.3 | 15850.7 | 16069.4 | 12328.3 | 9900.6 |
| 72.5° | 304.3 | 305.3 | 465.6 | 1172.1 | 1930.9 | 1991.5 | 3796.3 | 12527.9 | 12539.0 | 10729.0 | 7718.7 |
| 75° | 158.2 | 132.9 | 146.2 | 366.9 | 1844.3 | 1941.0 | 1904.8 | 8554.2 | 8500.8 | 7256.1 | 4729.5 |
| 77.5° | 108.9 | 92.7 | 97.7 | 127.0 | 767.0 | 1940.0 | 1375.7 | 4919.1 | 4908.0 | 3086.8 | 1349.4 |
| 80° | 61.4 | 53.4 | 58.5 | 106.8 | 269.1 | 1821.1 | 1281.9 | 2114.4 | 1992.4 | 542.1 | 218.6 |
| 82.5° | 31.3 | 26.2 | 31.3 | 89.7 | 167.4 | 1145.9 | 1246.7 | 829.5 | 738.8 | 128.9 | 142.1 |
| 85° | 8.1 | 8.1 | 15.1 | 62.5 | 103.8 | 375.9 | 1117.6 | 598.6 | 538.2 | 56.5 | 100.8 |
| 87.5° | 2.1 | 1.0 | 6.1 | 23.1 | 37.3 | 81.7 | 619.8 | 333.6 | 287.2 | 29.3 | 58.5 |
| 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° | 2860.2 | 2860.2 | 2860.2 | 2860.2 | 2860.2 | 2860.2 | 2860.2 | 2860.2 | 2860.2 | 2860.2 | 2860.2 |
| 2.5° | 2834.0 | 2805.8 | 2750.3 | 2687.8 | 2643.4 | 2595.1 | 2566.8 | 2532.6 | 2506.5 | 2483.3 | 2500.3 |
| 5° | 2823.8 | 2769.5 | 2646.4 | 2508.3 | 2392.5 | 2281.7 | 2199.1 | 2120.4 | 2060.9 | 2023.6 | 2038.8 |
| 7.5° | 2797.6 | 2717.1 | 2517.5 | 2301.7 | 2112.4 | 1934.1 | 1788.9 | 1658.8 | 1558.1 | 1503.7 | 1520.8 |
| 10° | 2753.3 | 2639.4 | 2371.3 | 2072.0 | 1807.0 | 1555.1 | 1339.4 | 1145.9 | 999.8 | 931.3 | 947.4 |
| 12.5° | 2721.1 | 2570.9 | 2220.3 | 1850.2 | 1501.6 | 1143.8 | 857.6 | 635.9 | 522.0 | 453.6 | 459.6 |
| 15° | 2707.0 | 2517.5 | 2079.0 | 1616.5 | 1168.1 | 734.6 | 463.5 | 335.5 | 296.4 | 282.2 | 283.1 |
| 17.5° | 2709.0 | 2475.2 | 1945.1 | 1373.6 | 831.4 | 422.3 | 284.3 | 255.9 | 250.0 | 246.9 | 246.9 |
| 20° | 2714.0 | 2432.8 | 1806.0 | 1120.6 | 532.2 | 272.0 | 236.9 | 227.8 | 224.8 | 220.8 | 221.7 |
| 22.5° | 2729.1 | 2400.6 | 1665.8 | 866.8 | 327.5 | 221.7 | 209.7 | 201.6 | 196.5 | 190.5 | 191.5 |
| 25° | 2752.2 | 2376.3 | 1527.8 | 623.9 | 230.8 | 193.4 | 182.4 | 171.3 | 162.2 | 155.1 | 156.2 |
| 27.5° | 2766.4 | 2342.2 | 1380.7 | 425.3 | 191.5 | 169.3 | 154.1 | 139.1 | 128.9 | 123.0 | 121.9 |
| 30° | 2756.3 | 2286.6 | 1213.4 | 279.2 | 169.3 | 146.2 | 128.0 | 110.9 | 100.8 | 95.7 | 95.7 |
| 32.5° | 2729.1 | 2215.1 | 1029.0 | 203.6 | 150.1 | 126.0 | 103.8 | 88.8 | 81.7 | 78.6 | 79.6 |
| 35° | 2697.9 | 2140.7 | 832.4 | 172.4 | 135.0 | 106.8 | 84.7 | 72.6 | 69.6 | 68.5 | 68.5 |
| 37.5° | 2680.7 | 2076.1 | 643.9 | 156.2 | 120.9 | 88.8 | 69.6 | 62.5 | 59.5 | 59.5 | 59.5 |
| 40° | 2699.9 | 2026.7 | 476.7 | 144.1 | 106.8 | 73.7 | 58.5 | 53.4 | 52.5 | 52.5 | 52.5 |
| 42.5° | 2781.5 | 2009.6 | 348.7 | 134.0 | 92.7 | 61.4 | 50.3 | 46.4 | 45.4 | 46.4 | 46.4 |
| 45° | 2940.7 | 2046.9 | 264.0 | 124.0 | 79.6 | 50.3 | 43.4 | 40.3 | 40.3 | 41.3 | 41.3 |
| 47.5° | 3210.8 | 2142.5 | 216.8 | 113.8 | 66.6 | 42.3 | 37.3 | 35.3 | 35.3 | 36.3 | 36.3 |
| 50° | 3630.1 | 2320.0 | 194.6 | 102.8 | 55.4 | 36.3 | 31.3 | 30.3 | 30.3 | 31.3 | 32.2 |
| 52.5° | 4266.9 | 2657.5 | 183.4 | 91.6 | 45.4 | 30.3 | 26.2 | 25.2 | 26.2 | 27.2 | 27.2 |
| 55° | 4975.5 | 3089.9 | 170.3 | 80.6 | 38.3 | 25.2 | 21.2 | 21.2 | 22.2 | 24.2 | 24.2 |
| 57.5° | 5635.5 | 3507.2 | 158.2 | 66.6 | 33.2 | 20.1 | 17.2 | 17.2 | 19.1 | 21.2 | 21.2 |
| 60° | 6333.1 | 3916.3 | 142.1 | 53.4 | 28.2 | 16.1 | 14.2 | 14.2 | 17.2 | 19.1 | 20.1 |
| 62.5° | 7194.6 | 4392.1 | 120.9 | 42.3 | 22.2 | 12.0 | 10.2 | 13.0 | 16.1 | 19.1 | 19.1 |
| 65° | 8440.4 | 4983.5 | 94.7 | 33.2 | 17.2 | 9.1 | 8.1 | 12.0 | 15.1 | 18.1 | 19.1 |
| 67.5° | 8892.9 | 4908.0 | 71.5 | 27.2 | 13.0 | 7.0 | 7.0 | 11.0 | 15.1 | 18.1 | 18.1 |
| 68° | 8727.6 | 4742.7 | 68.5 | 26.2 | 12.0 | 7.0 | 7.0 | 11.0 | 15.1 | 18.1 | 18.1 |
| 70° | 7604.8 | 3877.1 | 56.5 | 20.1 | 10.2 | 6.1 | 6.1 | 10.2 | 15.1 | 17.2 | 18.1 |
| 72.5° | 5694.0 | 2575.9 | 48.4 | 13.0 | 9.1 | 6.1 | 5.0 | 10.2 | 14.2 | 17.2 | 17.2 |
| 75° | 3266.2 | 1069.3 | 41.3 | 10.2 | 8.1 | 5.0 | 5.0 | 9.1 | 14.2 | 17.2 | 17.2 |
| 77.5° | 923.2 | 250.0 | 33.2 | 8.1 | 7.0 | 5.0 | 4.0 | 9.1 | 13.0 | 16.1 | 16.1 |
| 80° | 169.3 | 74.6 | 26.2 | 7.0 | 6.1 | 5.0 | 4.0 | 9.1 | 13.0 | 16.1 | 16.1 |
| 82.5° | 111.8 | 35.3 | 19.1 | 7.0 | 6.1 | 5.0 | 4.0 | 8.1 | 12.0 | 15.1 | 15.1 |
| 85° | 83.6 | 25.2 | 12.0 | 7.0 | 6.1 | 5.0 | 4.0 | 8.1 | 12.0 | 15.1 | 15.1 |
| 87.5° | 46.4 | 11.0 | 9.1 | 8.1 | 7.0 | 5.0 | 4.0 | 7.0 | 11.0 | 14.2 | 14.2 |
| 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)