

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: P197134

Luminaire Tested: **NVN-AF-04-LED-U-SL4-8030-1200-HSS**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P197134
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P24285)
Test Lab: INNOVATION CENTER P2
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: STREETWORKS
Catalog Number: NVN-AF-04-LED-U-SL4-8030-1200-HSS
Description: NAVION ROADWAY AND AREA LUMINAIRE
(4) 80 CRI, 3000K, 1200mA LIGHTSQUARES WITH 16 LEDS EACH AND TYPE IV
SPILL LIGHT ELIMINATOR OPTICS WITH HOUSE SIDE SHIELD
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 17791 lumens
Efficiency: N/A
Efficacy: 69.0 lumens/watt
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')
IES Classification: Type IV - Short - Non-Cutoff
BUG Rating: B1 - U0 - G4

Input Watts (W): 258
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

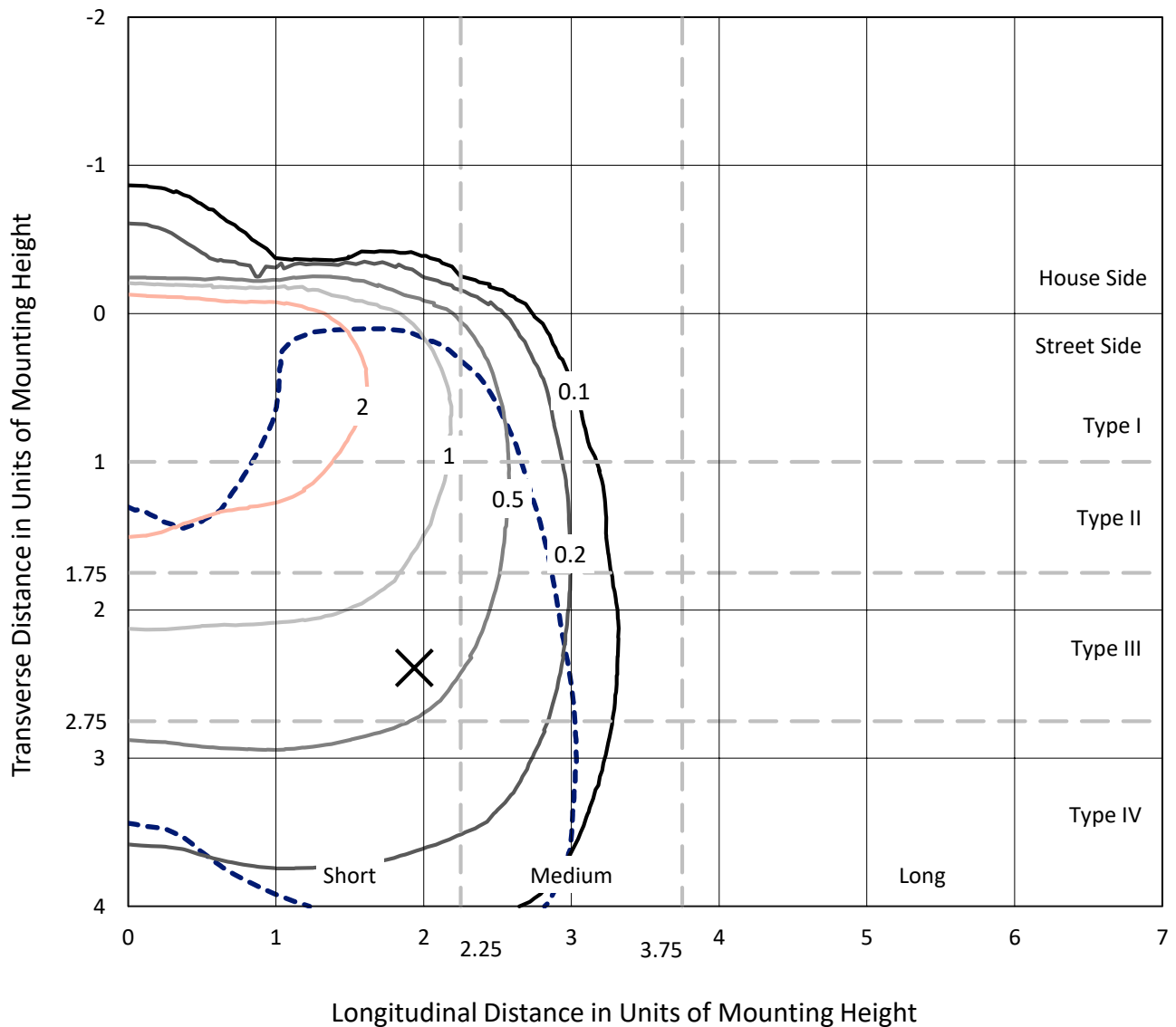


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Iso-Footcandle Lines of Horizontal Illumination

× Max cd
 - - - 1/2 Max cd

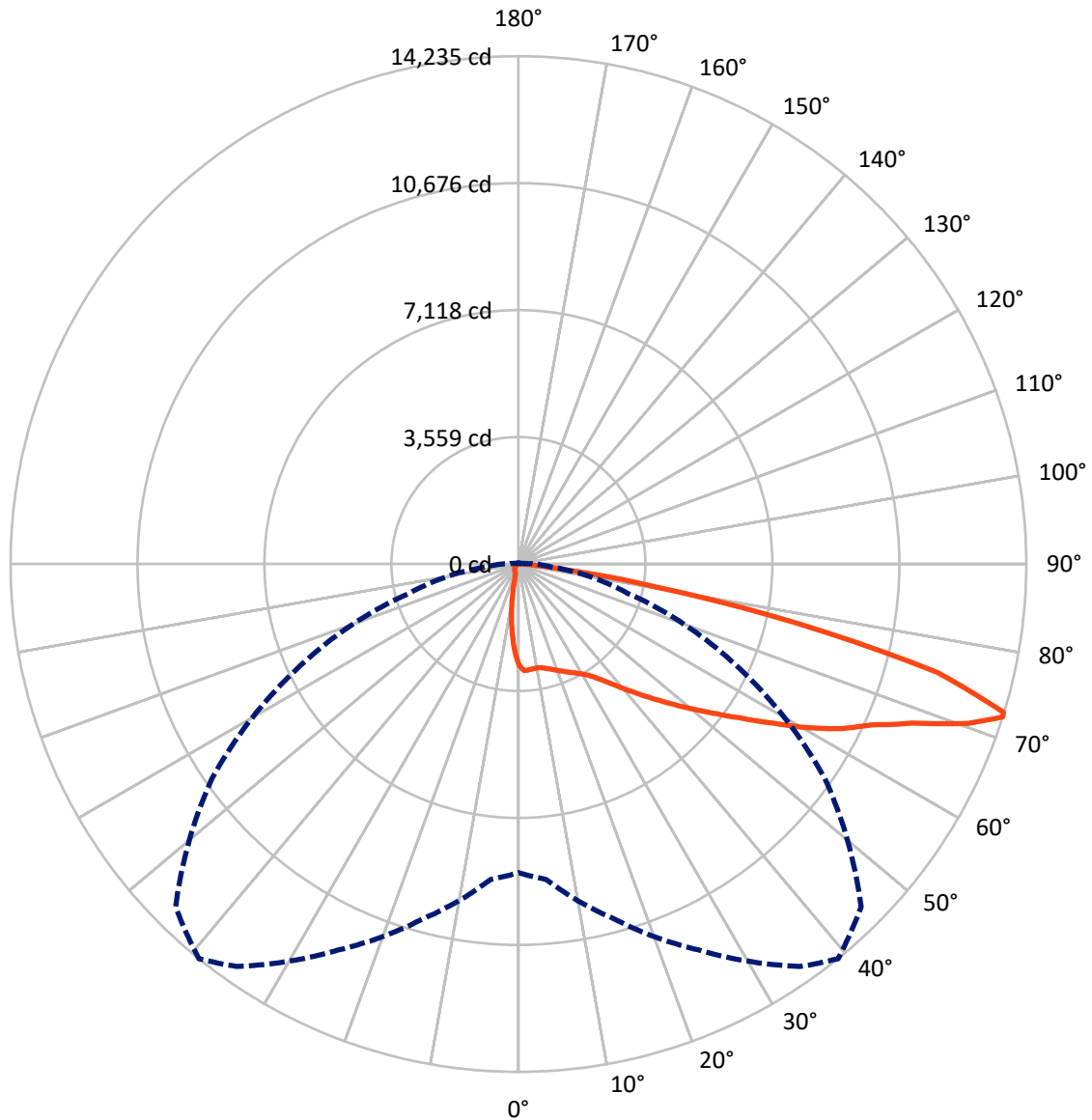


Based on 25 foot mounting height. Maximum calculated value = 4.8 fc
 Type IV - Short - Non-Cutoff

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Luminous Intensity Polar Plot



— Vertical Plane Through 39-Deg Lateral - - - Horizontal Cone Through 72-Deg Vertical

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FLUX DISTRIBUTION:

| | | Downward | Upward | Total |
|--------------------|-----------|----------|--------|---------|
| House Side | Lumens | 1166.0 | 0.0 | 1166.0 |
| | % Fixture | 6.6 | 0.0 | 6.6 |
| Street Side | Lumens | 16625.0 | 0.0 | 16625.0 |
| | % Fixture | 93.4 | 0.0 | 93.4 |
| Total | Lumens | 17791.0 | 0.0 | 17791.0 |
| | % Fixture | 100.0 | 0.0 | 100.0 |

ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|---------|-----------|
| 0°-10° | 231.6 | 1.3 |
| 10°-20° | 560.7 | 3.2 |
| 20°-30° | 931.3 | 5.2 |
| 30°-40° | 1484.3 | 8.3 |
| 40°-50° | 2450.0 | 13.8 |
| 50°-60° | 3699.9 | 20.8 |
| 60°-70° | 4819.8 | 27.1 |
| 70°-80° | 3256.8 | 18.3 |
| 80°-90° | 356.7 | 2.0 |
| 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° | 17791.0 | 100.0 |
| 0°-180° | 17791.0 | 100.0 |

Coefficient of Utilization



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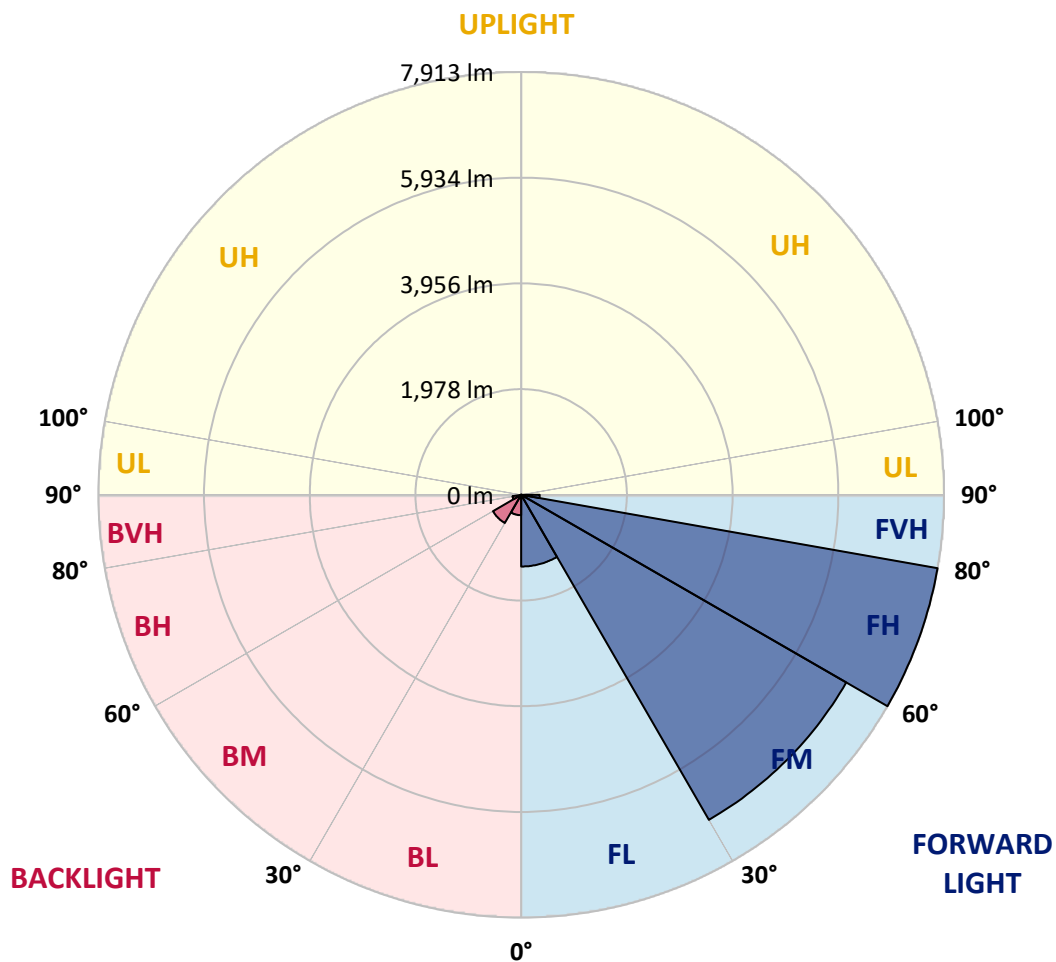
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

| Zone | | Lumens | % Fixture | Zone Rating/Lumen Limit | | |
|------|-------------|--------|-----------|-------------------------|------|----------|
| | | | | B | U | G |
| FL | (0°-30°) | 1341.9 | 7.5 | | | |
| FM | (30°-60°) | 7024.1 | 39.5 | | | |
| FH | (60°-80°) | 7912.6 | 44.5 | | | G4/12000 |
| FVH | (80°-90°) | 346.4 | 1.9 | | | G3/500 |
| BL | (0°-30°) | 381.8 | 2.1 | B1/500 | | |
| BM | (30°-60°) | 610.1 | 3.4 | B1/1000 | | |
| BH | (60°-80°) | 163.9 | 0.9 | B1/500 | | G1/500 |
| BVH | (80°-90°) | 10.3 | 0.1 | | | G1/100 |
| UL | (90°-100°) | 0.0 | 0.0 | | U0/0 | |
| UH | (100°-180°) | 0.0 | 0.0 | | U0/0 | |

BUG Rating: B1-U0-G4

Type IV Short





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CANDELA DISTRIBUTION (FULL):

| | 0° | 5° | 15° | 25° | 35° | 39° | 45° | 55° | 65° | 75° | 85° |
|-------|--------|--------|---------|---------|---------|---------|---------|---------|---------|---------|--------|
| 0° | 2847.6 | 2847.6 | 2847.6 | 2847.6 | 2847.6 | 2847.6 | 2847.6 | 2847.6 | 2847.6 | 2847.6 | 2847.6 |
| 2.5° | 3032.2 | 3037.8 | 3030.8 | 3018.2 | 3000.0 | 2988.8 | 2973.4 | 2939.9 | 2897.9 | 2861.6 | 2819.6 |
| 5° | 3056.0 | 3058.8 | 3050.4 | 3026.6 | 2998.6 | 2983.2 | 2963.6 | 2927.3 | 2883.9 | 2833.6 | 2758.1 |
| 7.5° | 3063.0 | 3061.6 | 3051.8 | 3022.4 | 2979.0 | 2959.5 | 2925.9 | 2881.1 | 2836.4 | 2790.2 | 2704.9 |
| 10° | 3060.2 | 3060.2 | 3053.2 | 3025.2 | 2976.2 | 2958.1 | 2920.3 | 2872.7 | 2816.8 | 2770.6 | 2679.7 |
| 12.5° | 3050.4 | 3056.0 | 3051.8 | 3036.4 | 3000.0 | 2986.0 | 2952.5 | 2904.9 | 2851.8 | 2804.2 | 2707.7 |
| 15° | 3063.0 | 3071.3 | 3079.7 | 3074.1 | 3053.2 | 3040.6 | 3009.8 | 2960.9 | 2917.5 | 2867.1 | 2763.6 |
| 17.5° | 3113.3 | 3131.5 | 3151.1 | 3152.5 | 3130.1 | 3107.7 | 3072.7 | 3022.4 | 2980.4 | 2934.3 | 2822.4 |
| 20° | 3208.4 | 3222.4 | 3258.8 | 3265.7 | 3221.0 | 3188.8 | 3139.9 | 3081.1 | 3039.2 | 3000.0 | 2876.9 |
| 22.5° | 3349.7 | 3365.0 | 3394.4 | 3384.6 | 3309.1 | 3271.3 | 3209.8 | 3142.7 | 3099.3 | 3076.9 | 2939.9 |
| 25° | 3563.7 | 3567.8 | 3574.8 | 3531.5 | 3407.0 | 3365.0 | 3289.5 | 3214.0 | 3179.0 | 3176.2 | 3029.4 |
| 27.5° | 3815.4 | 3821.0 | 3790.2 | 3693.7 | 3516.1 | 3461.6 | 3376.2 | 3307.7 | 3290.9 | 3311.9 | 3142.7 |
| 30° | 4103.5 | 4104.9 | 4019.6 | 3863.0 | 3642.0 | 3581.8 | 3493.7 | 3418.2 | 3433.6 | 3485.3 | 3288.1 |
| 32.5° | 4398.6 | 4384.6 | 4267.2 | 4063.0 | 3814.0 | 3741.3 | 3665.7 | 3590.2 | 3635.0 | 3739.9 | 3500.7 |
| 35° | 4668.6 | 4663.0 | 4524.5 | 4286.7 | 4037.8 | 3973.4 | 3918.9 | 3839.2 | 3911.9 | 4082.5 | 3790.2 |
| 37.5° | 4938.5 | 4934.3 | 4776.2 | 4528.7 | 4313.3 | 4267.2 | 4226.6 | 4165.1 | 4283.9 | 4534.3 | 4177.6 |
| 40° | 5236.4 | 5229.4 | 5035.0 | 4797.2 | 4633.6 | 4608.4 | 4584.6 | 4558.1 | 4760.9 | 5109.1 | 4660.2 |
| 42.5° | 5604.2 | 5573.5 | 5309.1 | 5089.5 | 4986.0 | 4993.0 | 4994.4 | 5021.0 | 5338.5 | 5793.0 | 5229.4 |
| 45° | 6026.6 | 5958.1 | 5584.6 | 5402.8 | 5373.4 | 5415.4 | 5457.4 | 5567.9 | 6011.2 | 6580.4 | 5858.8 |
| 47.5° | 6436.4 | 6325.9 | 5902.1 | 5739.9 | 5800.0 | 5886.7 | 5987.4 | 6202.8 | 6766.5 | 7404.2 | 6429.4 |
| 50° | 6788.8 | 6675.6 | 6216.8 | 6082.5 | 6274.2 | 6402.8 | 6581.8 | 6907.7 | 7563.7 | 8100.7 | 6788.8 |
| 52.5° | 7065.8 | 6976.3 | 6549.7 | 6460.2 | 6800.0 | 6976.3 | 7257.4 | 7685.3 | 8316.1 | 8559.5 | 7040.6 |
| 55° | 7270.0 | 7225.2 | 6868.6 | 6881.1 | 7384.6 | 7639.2 | 7988.8 | 8472.8 | 8951.1 | 8916.1 | 7229.4 |
| 57.5° | 7500.7 | 7465.8 | 7202.8 | 7377.7 | 8088.1 | 8416.8 | 8821.0 | 9209.8 | 9412.6 | 9202.8 | 7414.0 |
| 60° | 7737.1 | 7748.3 | 7608.4 | 7979.1 | 8958.1 | 9321.7 | 9674.2 | 9770.7 | 9808.4 | 9493.7 | 7608.4 |
| 62.5° | 7916.1 | 7963.7 | 7976.3 | 8628.0 | 9850.4 | 10160.9 | 10313.3 | 10244.8 | 10236.4 | 9884.0 | 7593.0 |
| 65° | 8121.7 | 8246.2 | 8453.2 | 9339.9 | 10661.6 | 10865.8 | 10974.9 | 11074.2 | 10864.4 | 10000.0 | 6846.2 |
| 67.5° | 8477.0 | 8672.8 | 9138.5 | 10212.6 | 11598.7 | 11900.8 | 12209.8 | 12104.9 | 10958.1 | 8821.0 | 5215.4 |
| 70° | 8955.3 | 9194.4 | 10016.8 | 11352.5 | 12870.0 | 13376.3 | 13635.0 | 12022.4 | 9303.5 | 6095.1 | 2751.1 |
| 72° | 8653.2 | 8870.0 | 10288.2 | 11934.3 | 13770.7 | 14235.0 | 13587.5 | 10486.8 | 6744.1 | 3159.5 | 921.7 |
| 72.5° | 8359.5 | 8583.3 | 10201.4 | 11927.3 | 13860.2 | 14215.4 | 13278.4 | 9881.2 | 5967.9 | 2458.8 | 635.0 |
| 75° | 5800.0 | 6082.5 | 8745.5 | 10721.7 | 12516.1 | 12125.9 | 10159.5 | 5983.2 | 2162.2 | 422.4 | 209.8 |
| 77.5° | 2998.6 | 3216.8 | 5304.9 | 7576.3 | 8723.1 | 7988.8 | 6004.2 | 2595.8 | 598.6 | 223.8 | 138.5 |
| 80° | 1858.7 | 1966.4 | 2481.1 | 3732.9 | 4531.5 | 3963.7 | 2649.0 | 1049.0 | 383.2 | 132.9 | 110.5 |
| 82.5° | 962.2 | 1044.8 | 1562.2 | 1506.3 | 1674.1 | 1391.6 | 977.6 | 878.3 | 236.4 | 82.5 | 113.3 |
| 85° | 316.1 | 335.7 | 959.4 | 1001.4 | 716.1 | 481.1 | 433.6 | 837.8 | 68.5 | 53.1 | 96.5 |
| 87.5° | 42.0 | 49.0 | 337.1 | 573.4 | 352.4 | 218.2 | 260.1 | 295.1 | 23.8 | 29.4 | 26.6 |
| 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° | 2847.6 | 2847.6 | 2847.6 | 2847.6 | 2847.6 | 2847.6 | 2847.6 | 2847.6 | 2847.6 | 2847.6 | 2847.6 |
| 2.5° | 2791.6 | 2773.4 | 2716.1 | 2658.8 | 2593.0 | 2532.9 | 2485.3 | 2454.6 | 2468.5 | 2422.4 | 2429.4 |
| 5° | 2711.9 | 2665.7 | 2539.9 | 2404.2 | 2257.4 | 2120.3 | 2011.2 | 1930.1 | 1914.7 | 1844.8 | 1847.6 |
| 7.5° | 2635.0 | 2559.5 | 2355.3 | 2131.5 | 1888.1 | 1690.9 | 1511.9 | 1355.3 | 1299.3 | 1242.0 | 1208.4 |
| 10° | 2593.0 | 2489.5 | 2200.0 | 1874.1 | 1531.5 | 1242.0 | 990.2 | 793.0 | 710.5 | 650.4 | 621.0 |
| 12.5° | 2605.6 | 2468.5 | 2083.9 | 1640.6 | 1190.2 | 822.4 | 559.4 | 415.4 | 365.0 | 337.1 | 327.3 |
| 15° | 2647.6 | 2472.7 | 1979.0 | 1412.6 | 865.7 | 497.9 | 328.7 | 281.1 | 276.9 | 275.5 | 274.1 |
| 17.5° | 2686.7 | 2476.9 | 1868.5 | 1174.8 | 579.0 | 317.5 | 264.3 | 260.1 | 260.1 | 260.1 | 260.1 |
| 20° | 2727.3 | 2478.3 | 1746.9 | 925.9 | 380.4 | 260.1 | 249.0 | 246.2 | 249.0 | 249.0 | 249.0 |
| 22.5° | 2774.8 | 2488.1 | 1629.4 | 683.9 | 281.1 | 244.8 | 237.8 | 236.4 | 237.8 | 237.8 | 236.4 |
| 25° | 2833.6 | 2509.1 | 1502.1 | 489.5 | 254.5 | 235.0 | 228.0 | 226.6 | 228.0 | 226.6 | 226.6 |
| 27.5° | 2911.9 | 2537.1 | 1353.9 | 351.1 | 243.4 | 225.2 | 218.2 | 218.2 | 218.2 | 216.8 | 216.8 |
| 30° | 3012.6 | 2570.6 | 1155.2 | 276.9 | 232.2 | 215.4 | 209.8 | 209.8 | 208.4 | 207.0 | 207.0 |
| 32.5° | 3156.7 | 2625.2 | 938.5 | 250.4 | 219.6 | 202.8 | 197.2 | 198.6 | 197.2 | 195.8 | 194.4 |
| 35° | 3360.9 | 2710.5 | 724.5 | 236.4 | 207.0 | 190.2 | 184.6 | 184.6 | 184.6 | 181.8 | 181.8 |
| 37.5° | 3650.4 | 2840.6 | 542.7 | 222.4 | 194.4 | 177.6 | 170.6 | 170.6 | 169.2 | 166.4 | 167.8 |
| 40° | 4008.4 | 3004.2 | 393.0 | 209.8 | 181.8 | 163.6 | 158.0 | 155.2 | 152.4 | 149.7 | 149.7 |
| 42.5° | 4439.2 | 3163.6 | 295.1 | 197.2 | 169.2 | 152.4 | 145.5 | 142.7 | 137.1 | 134.3 | 132.9 |
| 45° | 4921.7 | 3332.9 | 244.8 | 181.8 | 155.2 | 139.9 | 134.3 | 128.7 | 121.7 | 117.5 | 116.1 |
| 47.5° | 5328.7 | 3436.4 | 218.2 | 166.4 | 141.3 | 127.3 | 121.7 | 113.3 | 104.9 | 102.1 | 102.1 |
| 50° | 5573.5 | 3393.0 | 195.8 | 151.0 | 127.3 | 114.7 | 107.7 | 96.5 | 90.9 | 88.1 | 86.7 |
| 52.5° | 5710.5 | 3264.3 | 177.6 | 138.5 | 114.7 | 100.7 | 90.9 | 81.1 | 78.3 | 75.5 | 75.5 |
| 55° | 5804.2 | 3078.3 | 158.0 | 125.9 | 103.5 | 88.1 | 76.9 | 69.9 | 67.1 | 65.7 | 64.3 |
| 57.5° | 5893.7 | 2851.8 | 139.9 | 114.7 | 92.3 | 78.3 | 65.7 | 62.9 | 57.3 | 55.9 | 55.9 |
| 60° | 5920.3 | 2539.9 | 123.1 | 102.1 | 82.5 | 68.5 | 57.3 | 53.1 | 47.6 | 46.2 | 46.2 |
| 62.5° | 5581.8 | 2021.0 | 109.1 | 86.7 | 72.7 | 58.7 | 50.3 | 44.8 | 39.2 | 39.2 | 39.2 |
| 65° | 4664.4 | 1372.0 | 93.7 | 75.5 | 64.3 | 50.3 | 43.4 | 36.4 | 33.6 | 33.6 | 33.6 |
| 67.5° | 3249.0 | 765.0 | 79.7 | 64.3 | 54.5 | 42.0 | 36.4 | 30.8 | 29.4 | 30.8 | 30.8 |
| 70° | 1464.3 | 303.5 | 67.1 | 53.1 | 44.8 | 35.0 | 30.8 | 26.6 | 29.4 | 29.4 | 29.4 |
| 72° | 439.2 | 162.2 | 55.9 | 43.4 | 36.4 | 30.8 | 26.6 | 25.2 | 28.0 | 29.4 | 29.4 |
| 72.5° | 325.9 | 145.5 | 53.1 | 42.0 | 36.4 | 29.4 | 25.2 | 25.2 | 28.0 | 29.4 | 29.4 |
| 75° | 167.8 | 99.3 | 40.6 | 30.8 | 26.6 | 23.8 | 21.0 | 23.8 | 28.0 | 28.0 | 28.0 |
| 77.5° | 131.5 | 81.1 | 33.6 | 23.8 | 22.4 | 21.0 | 19.6 | 22.4 | 25.2 | 25.2 | 25.2 |
| 80° | 123.1 | 53.1 | 26.6 | 22.4 | 19.6 | 18.2 | 18.2 | 19.6 | 22.4 | 23.8 | 23.8 |
| 82.5° | 124.5 | 43.4 | 23.8 | 21.0 | 18.2 | 16.8 | 16.8 | 18.2 | 21.0 | 22.4 | 22.4 |
| 85° | 79.7 | 29.4 | 21.0 | 18.2 | 16.8 | 15.4 | 15.4 | 16.8 | 19.6 | 21.0 | 21.0 |
| 87.5° | 26.6 | 22.4 | 18.2 | 16.8 | 14.0 | 14.0 | 14.0 | 14.0 | 16.8 | 18.2 | 19.6 |
| 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)