

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: P197158

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

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P197158
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P24284)
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
Description: NAVION ROADWAY AND AREA LUMINAIRE
(4) 80 CRI, 3000K, 1200mA LIGHTSQUARES WITH 16 LEDS EACH AND TYPE IV
SPILL LIGHT ELIMINATOR OPTICS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 20834 lumens
Efficiency: N/A
Efficacy: 80.8 lumens/watt
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')
IES Classification: Type IV - Short - Non-Cutoff
BUG Rating: B2 - U0 - G4

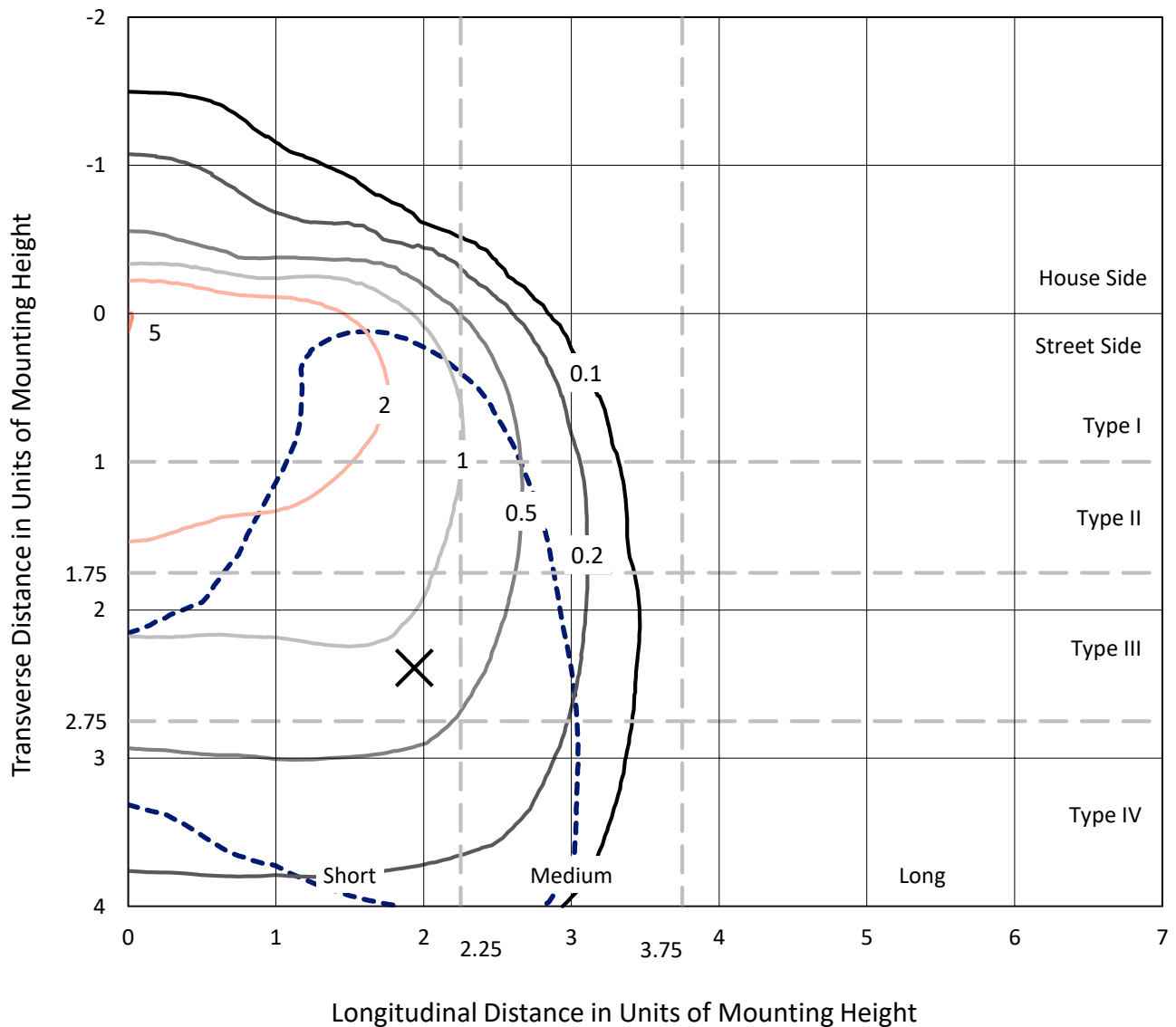
Input Watts (W): 258
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 28.75 FT



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Iso-Footcandle Lines of Horizontal Illumination

✕ Max cd
 - - - 1/2 Max cd

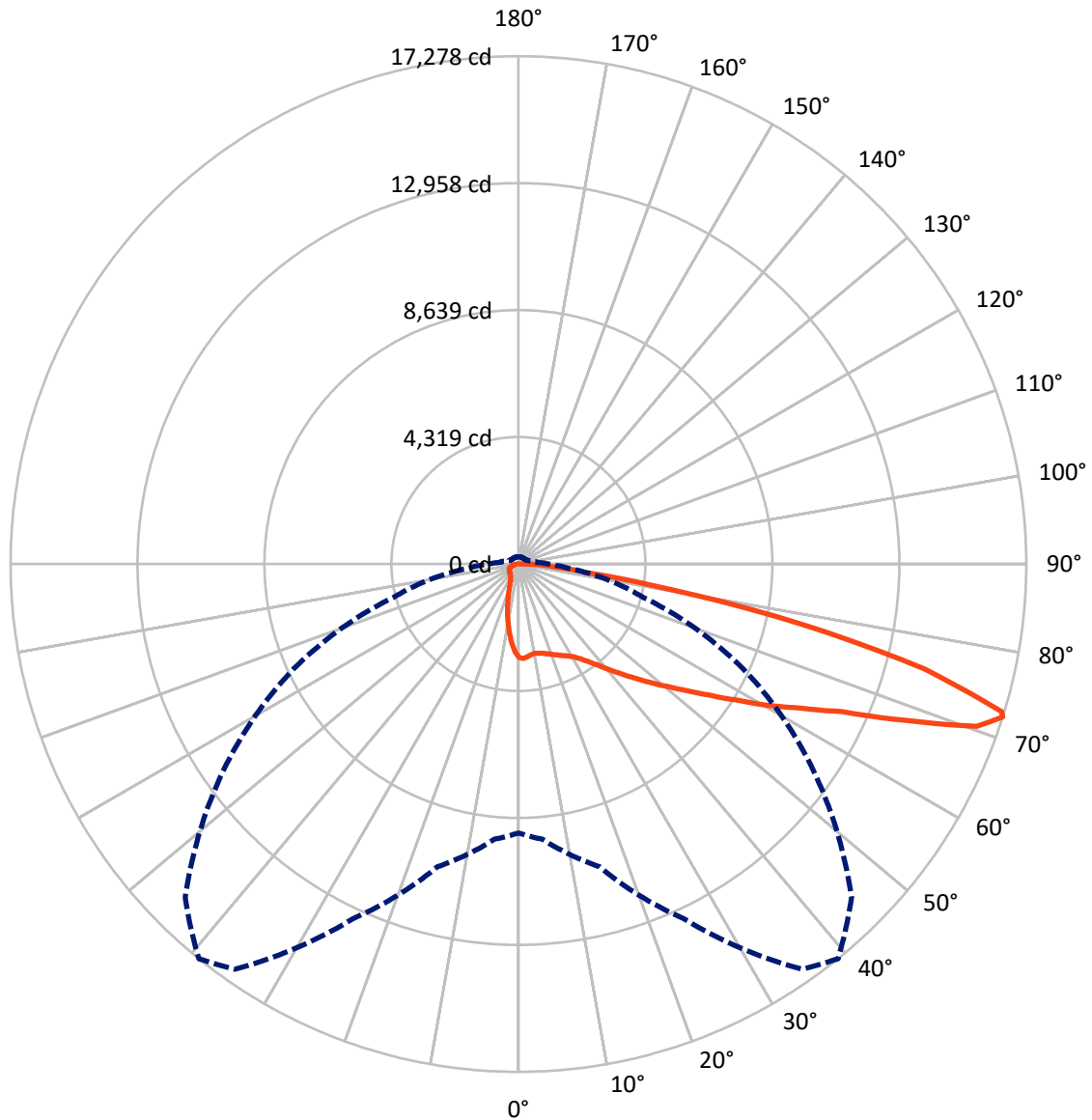


Based on 25 foot mounting height. Maximum calculated value = 5.1 fc
 Type IV - Short - Non-Cutoff

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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 | 2388.9 | 0.0 | 2388.9 |
| | % Fixture | 11.5 | 0.0 | 11.5 |
| Street Side | Lumens | 18445.1 | 0.0 | 18445.1 |
| | % Fixture | 88.5 | 0.0 | 88.5 |
| Total | Lumens | 20834.0 | 0.0 | 20834.0 |
| | % Fixture | 100.0 | 0.0 | 100.0 |

ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|---------|-----------|
| 0°-10° | 273.4 | 1.3 |
| 10°-20° | 687.1 | 3.3 |
| 20°-30° | 1070.7 | 5.1 |
| 30°-40° | 1648.6 | 7.9 |
| 40°-50° | 2687.5 | 12.9 |
| 50°-60° | 4176.1 | 20.0 |
| 60°-70° | 5589.5 | 26.8 |
| 70°-80° | 4019.7 | 19.3 |
| 80°-90° | 681.4 | 3.3 |
| 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° | 20834.0 | 100.0 |
| 0°-180° | 20834.0 | 100.0 |

Coefficient of Utilization



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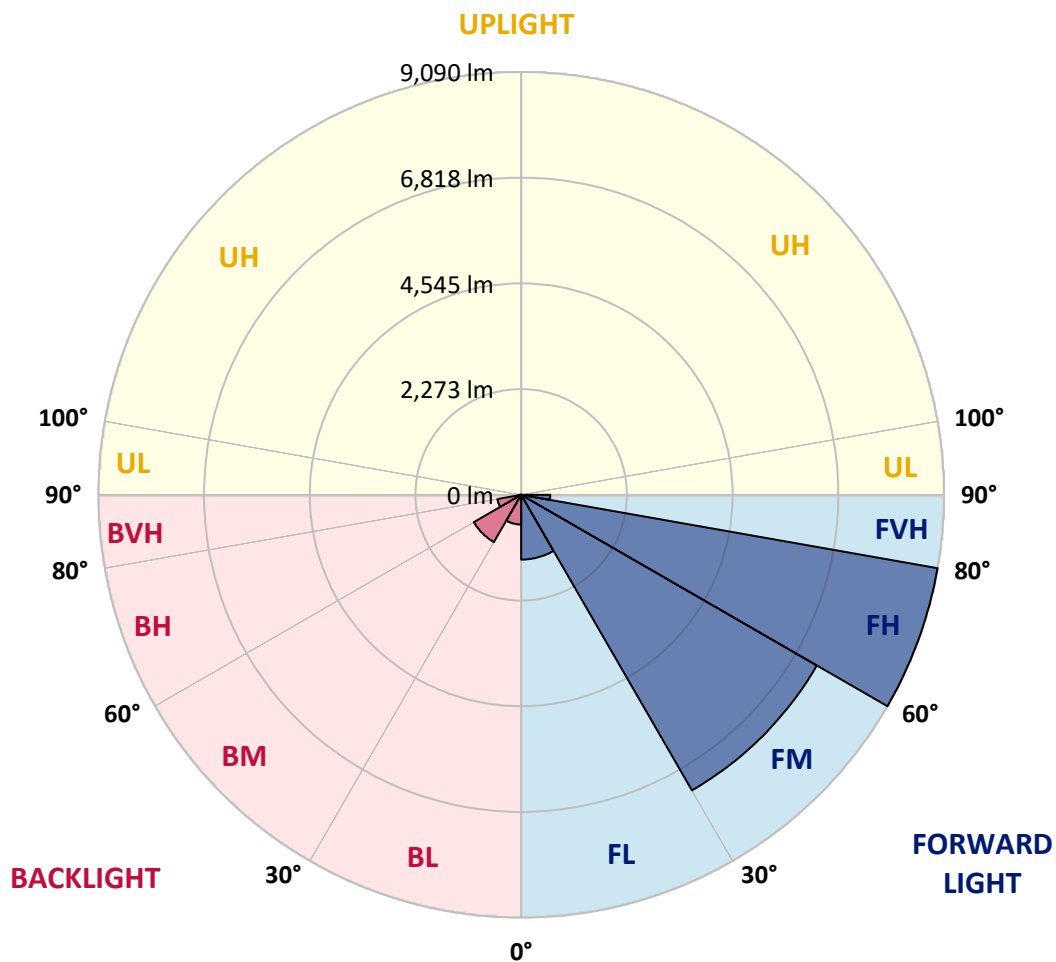
CATALOG NUMBER: NVN-AF-04-LED-U-SL4-8030-1200

LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

| Zone | | Lumens | % Fixture | Zone Rating/Lumen Limit | | |
|------|-------------|--------|-----------|-------------------------|------|----------|
| | | | | B | U | G |
| FL | (0°-30°) | 1391.7 | 6.7 | | | |
| FM | (30°-60°) | 7338.1 | 35.2 | | | |
| FH | (60°-80°) | 9090.2 | 43.6 | | | G4/12000 |
| FVH | (80°-90°) | 625.1 | 3.0 | | | G4/750 |
| BL | (0°-30°) | 639.5 | 3.1 | B2/1000 | | |
| BM | (30°-60°) | 1174.0 | 5.6 | B2/2500 | | |
| BH | (60°-80°) | 519.0 | 2.5 | B2/1000 | | G2/1000 |
| BVH | (80°-90°) | 56.3 | 0.3 | | | G1/100 |
| UL | (90°-100°) | 0.0 | 0.0 | | U0/0 | |
| UH | (100°-180°) | 0.0 | 0.0 | | U0/0 | |

BUG Rating: B2-U0-G4

Type IV Short





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CANDELA DISTRIBUTION (FULL):

| | 0° | 5° | 15° | 25° | 35° | 39° | 45° | 55° | 65° | 75° | 85° |
|-------|--------|--------|---------|---------|---------|---------|---------|---------|---------|---------|--------|
| 0° | 3181.7 | 3181.7 | 3181.7 | 3181.7 | 3181.7 | 3181.7 | 3181.7 | 3181.7 | 3181.7 | 3181.7 | 3181.7 |
| 2.5° | 3250.3 | 3251.7 | 3247.5 | 3234.9 | 3223.7 | 3218.1 | 3208.3 | 3191.5 | 3169.1 | 3153.8 | 3141.2 |
| 5° | 3219.5 | 3223.7 | 3220.9 | 3199.9 | 3180.3 | 3169.1 | 3153.8 | 3130.0 | 3100.6 | 3088.0 | 3058.7 |
| 7.5° | 3195.7 | 3198.5 | 3190.1 | 3166.3 | 3128.6 | 3114.6 | 3086.6 | 3055.9 | 3029.3 | 3011.1 | 2976.1 |
| 10° | 3178.9 | 3181.7 | 3174.7 | 3151.0 | 3109.0 | 3092.2 | 3058.7 | 3025.1 | 2990.1 | 2967.7 | 2928.6 |
| 12.5° | 3155.2 | 3160.7 | 3160.7 | 3149.6 | 3121.6 | 3110.4 | 3076.8 | 3040.5 | 3008.3 | 2984.5 | 2935.6 |
| 15° | 3151.0 | 3158.0 | 3170.5 | 3169.1 | 3160.7 | 3152.4 | 3125.8 | 3089.4 | 3061.4 | 3033.5 | 2973.3 |
| 17.5° | 3185.9 | 3201.3 | 3226.5 | 3234.9 | 3229.3 | 3211.1 | 3180.3 | 3146.8 | 3116.0 | 3089.4 | 3015.3 |
| 20° | 3274.0 | 3282.4 | 3320.2 | 3337.0 | 3309.0 | 3282.4 | 3241.9 | 3198.5 | 3170.5 | 3149.6 | 3054.5 |
| 22.5° | 3406.9 | 3418.1 | 3448.9 | 3450.2 | 3391.5 | 3359.3 | 3307.6 | 3254.5 | 3227.9 | 3219.5 | 3107.6 |
| 25° | 3619.5 | 3616.7 | 3625.1 | 3590.1 | 3483.8 | 3446.1 | 3383.1 | 3321.6 | 3303.4 | 3320.2 | 3185.9 |
| 27.5° | 3874.0 | 3867.0 | 3840.4 | 3749.5 | 3588.7 | 3539.8 | 3464.2 | 3409.7 | 3409.7 | 3448.9 | 3292.2 |
| 30° | 4167.7 | 4160.7 | 4074.0 | 3921.6 | 3713.2 | 3657.2 | 3577.5 | 3520.2 | 3549.5 | 3625.1 | 3436.3 |
| 32.5° | 4478.2 | 4453.0 | 4331.3 | 4127.2 | 3890.8 | 3829.3 | 3752.3 | 3693.6 | 3749.5 | 3878.2 | 3643.3 |
| 35° | 4770.5 | 4756.5 | 4606.9 | 4364.9 | 4120.2 | 4068.4 | 4015.3 | 3942.5 | 4032.1 | 4232.0 | 3935.6 |
| 37.5° | 5072.6 | 5061.4 | 4878.2 | 4620.8 | 4399.9 | 4364.9 | 4320.2 | 4269.8 | 4413.9 | 4676.8 | 4331.3 |
| 40° | 5409.6 | 5387.3 | 5156.5 | 4899.2 | 4725.7 | 4709.0 | 4685.2 | 4671.2 | 4903.4 | 5295.0 | 4832.0 |
| 42.5° | 5791.4 | 5748.1 | 5450.2 | 5205.4 | 5081.0 | 5095.0 | 5082.4 | 5138.3 | 5493.5 | 6008.2 | 5427.8 |
| 45° | 6227.8 | 6141.1 | 5742.5 | 5531.3 | 5474.0 | 5529.9 | 5556.5 | 5699.1 | 6191.4 | 6832.0 | 6093.5 |
| 47.5° | 6636.2 | 6524.3 | 6062.8 | 5885.1 | 5917.3 | 6013.8 | 6089.3 | 6341.1 | 6956.4 | 7645.9 | 6773.2 |
| 50° | 7012.4 | 6886.5 | 6405.4 | 6251.6 | 6408.2 | 6545.3 | 6701.9 | 7057.1 | 7770.4 | 8483.7 | 7397.0 |
| 52.5° | 7290.7 | 7199.8 | 6748.1 | 6651.6 | 6971.8 | 7153.6 | 7404.0 | 7852.9 | 8592.8 | 9282.2 | 7953.6 |
| 55° | 7506.1 | 7457.1 | 7082.3 | 7110.3 | 7609.6 | 7869.7 | 8173.2 | 8689.3 | 9462.7 | 9998.3 | 8401.2 |
| 57.5° | 7755.0 | 7718.7 | 7464.1 | 7664.1 | 8401.2 | 8728.4 | 9086.4 | 9659.9 | 10290.6 | 10629.1 | 8752.2 |
| 60° | 8017.9 | 8017.9 | 7889.3 | 8331.2 | 9391.3 | 9766.2 | 10122.8 | 10568.9 | 11115.8 | 11196.9 | 8894.8 |
| 62.5° | 8216.5 | 8268.3 | 8314.4 | 9041.7 | 10331.2 | 10796.9 | 11188.5 | 11616.4 | 11970.3 | 11476.6 | 8559.2 |
| 65° | 8504.6 | 8615.1 | 8875.3 | 9862.7 | 11494.8 | 12104.5 | 12633.2 | 12992.6 | 12662.6 | 11254.2 | 7464.1 |
| 67.5° | 8999.7 | 9163.4 | 9717.2 | 11085.0 | 13276.5 | 14189.8 | 14703.1 | 14082.1 | 12526.9 | 9854.3 | 5717.3 |
| 70° | 9445.9 | 9676.6 | 10623.5 | 12636.0 | 15592.6 | 16540.8 | 16304.4 | 13829.0 | 10910.2 | 7223.6 | 3517.4 |
| 72° | 9149.4 | 9401.1 | 10665.4 | 13311.5 | 16830.3 | 17277.8 | 16031.7 | 12255.6 | 8430.5 | 4408.3 | 1734.2 |
| 72.5° | 8955.0 | 9216.5 | 10529.8 | 13294.7 | 16863.8 | 17184.1 | 15652.7 | 11630.4 | 7652.9 | 3857.2 | 1402.8 |
| 75° | 7480.9 | 7704.7 | 9054.3 | 11782.9 | 14861.1 | 14273.7 | 12215.0 | 7527.1 | 3517.4 | 1246.1 | 721.7 |
| 77.5° | 4885.2 | 5055.8 | 6243.2 | 8163.4 | 10409.5 | 9844.5 | 7434.7 | 3524.4 | 1318.8 | 756.6 | 542.6 |
| 80° | 2454.5 | 2576.1 | 3341.2 | 4292.2 | 5618.0 | 5169.1 | 3432.1 | 1704.8 | 882.5 | 546.8 | 426.6 |
| 82.5° | 1707.6 | 1819.5 | 2300.6 | 2191.5 | 2348.2 | 2272.7 | 1613.9 | 1422.3 | 660.1 | 345.4 | 223.8 |
| 85° | 1432.1 | 1548.2 | 1903.4 | 1562.2 | 1278.3 | 1165.0 | 1156.6 | 1344.0 | 436.4 | 170.6 | 188.8 |
| 87.5° | 1248.9 | 1425.1 | 1570.6 | 1141.2 | 876.9 | 773.4 | 851.7 | 1232.1 | 138.5 | 93.7 | 57.3 |
| 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° | 3181.7 | 3181.7 | 3181.7 | 3181.7 | 3181.7 | 3181.7 | 3181.7 | 3181.7 | 3181.7 | 3181.7 | 3181.7 |
| 2.5° | 3120.2 | 3116.0 | 3095.0 | 3062.8 | 3039.1 | 3023.7 | 2994.3 | 2992.9 | 2995.7 | 2970.5 | 2980.3 |
| 5° | 3032.1 | 3015.3 | 2960.8 | 2886.6 | 2826.5 | 2769.2 | 2706.2 | 2685.2 | 2667.1 | 2629.3 | 2633.5 |
| 7.5° | 2939.8 | 2910.4 | 2815.3 | 2693.6 | 2577.5 | 2471.3 | 2366.4 | 2314.6 | 2275.5 | 2226.5 | 2226.5 |
| 10° | 2885.2 | 2839.1 | 2693.6 | 2516.0 | 2331.4 | 2176.2 | 2019.5 | 1925.8 | 1857.3 | 1794.4 | 1790.2 |
| 12.5° | 2882.4 | 2812.5 | 2609.7 | 2365.0 | 2111.8 | 1893.7 | 1679.7 | 1535.6 | 1433.5 | 1359.4 | 1352.4 |
| 15° | 2904.8 | 2806.9 | 2539.8 | 2223.7 | 1904.8 | 1620.9 | 1356.6 | 1173.4 | 1043.3 | 960.8 | 952.4 |
| 17.5° | 2924.4 | 2799.9 | 2464.3 | 2075.5 | 1703.4 | 1358.0 | 1064.3 | 874.1 | 751.0 | 683.9 | 676.9 |
| 20° | 2942.6 | 2784.5 | 2367.8 | 1918.8 | 1481.1 | 1111.9 | 832.1 | 678.3 | 597.2 | 559.4 | 555.2 |
| 22.5° | 2969.1 | 2770.5 | 2267.1 | 1742.6 | 1262.9 | 904.9 | 686.7 | 576.2 | 532.9 | 514.7 | 511.9 |
| 25° | 3012.5 | 2771.9 | 2169.2 | 1562.2 | 1062.9 | 753.8 | 594.4 | 525.9 | 502.1 | 489.5 | 489.5 |
| 27.5° | 3075.4 | 2788.7 | 2072.7 | 1379.0 | 893.7 | 650.3 | 539.8 | 499.3 | 483.9 | 474.1 | 471.3 |
| 30° | 3167.7 | 2819.5 | 1970.6 | 1205.6 | 759.4 | 579.0 | 507.7 | 482.5 | 469.9 | 461.5 | 460.1 |
| 32.5° | 3302.0 | 2874.0 | 1862.9 | 1047.5 | 657.3 | 528.7 | 483.9 | 468.5 | 458.7 | 451.7 | 450.3 |
| 35° | 3502.0 | 2970.5 | 1758.0 | 913.3 | 584.6 | 492.3 | 464.3 | 451.7 | 446.1 | 443.3 | 441.9 |
| 37.5° | 3795.7 | 3125.8 | 1658.7 | 808.4 | 537.0 | 468.5 | 444.7 | 437.7 | 435.0 | 435.0 | 435.0 |
| 40° | 4164.9 | 3330.0 | 1569.2 | 734.2 | 510.5 | 450.3 | 430.8 | 425.2 | 425.2 | 426.6 | 426.6 |
| 42.5° | 4613.9 | 3585.9 | 1492.3 | 683.9 | 495.1 | 437.7 | 421.0 | 418.2 | 416.8 | 416.8 | 418.2 |
| 45° | 5135.5 | 3888.0 | 1444.7 | 644.7 | 483.9 | 430.8 | 414.0 | 412.6 | 407.0 | 404.2 | 404.2 |
| 47.5° | 5660.0 | 4211.1 | 1441.9 | 622.4 | 469.9 | 422.4 | 407.0 | 407.0 | 395.8 | 390.2 | 391.6 |
| 50° | 6149.5 | 4500.6 | 1472.7 | 616.8 | 461.5 | 409.8 | 400.0 | 401.4 | 386.0 | 379.0 | 377.6 |
| 52.5° | 6543.9 | 4721.5 | 1510.4 | 623.8 | 461.5 | 398.6 | 387.4 | 394.4 | 377.6 | 369.2 | 367.8 |
| 55° | 6848.8 | 4875.4 | 1524.4 | 639.1 | 467.1 | 388.8 | 376.2 | 387.4 | 374.8 | 363.6 | 363.6 |
| 57.5° | 7066.9 | 4924.3 | 1464.3 | 646.1 | 475.5 | 387.4 | 365.0 | 386.0 | 379.0 | 365.0 | 365.0 |
| 60° | 6987.2 | 4640.4 | 1240.5 | 619.6 | 474.1 | 384.6 | 356.6 | 388.8 | 393.0 | 377.6 | 377.6 |
| 62.5° | 6364.9 | 3882.4 | 995.8 | 559.4 | 450.3 | 374.8 | 346.8 | 386.0 | 402.8 | 397.2 | 394.4 |
| 65° | 5181.7 | 2847.5 | 772.0 | 488.1 | 409.8 | 353.8 | 325.9 | 360.8 | 380.4 | 386.0 | 387.4 |
| 67.5° | 3651.6 | 1802.7 | 600.0 | 415.4 | 359.4 | 323.1 | 302.1 | 318.9 | 325.9 | 328.7 | 334.3 |
| 70° | 1997.1 | 976.2 | 476.9 | 349.6 | 307.7 | 292.3 | 276.9 | 278.3 | 275.5 | 272.7 | 275.5 |
| 72° | 1002.8 | 637.7 | 402.8 | 303.5 | 272.7 | 262.9 | 255.9 | 251.7 | 251.7 | 247.5 | 248.9 |
| 72.5° | 862.9 | 593.0 | 388.8 | 292.3 | 264.3 | 255.9 | 250.3 | 246.1 | 244.7 | 242.0 | 243.3 |
| 75° | 574.8 | 469.9 | 324.5 | 244.7 | 225.2 | 219.6 | 222.4 | 218.2 | 219.6 | 216.8 | 218.2 |
| 77.5° | 464.3 | 404.2 | 275.5 | 207.0 | 193.0 | 184.6 | 190.2 | 191.6 | 194.4 | 191.6 | 190.2 |
| 80° | 388.8 | 344.0 | 230.8 | 170.6 | 160.8 | 153.8 | 156.6 | 166.4 | 167.8 | 159.4 | 158.0 |
| 82.5° | 251.7 | 276.9 | 181.8 | 132.9 | 123.1 | 120.3 | 127.3 | 137.1 | 139.9 | 128.7 | 125.9 |
| 85° | 211.2 | 222.4 | 131.5 | 90.9 | 81.1 | 78.3 | 92.3 | 102.1 | 109.1 | 97.9 | 95.1 |
| 87.5° | 58.7 | 109.1 | 64.3 | 43.4 | 36.4 | 36.4 | 44.8 | 53.1 | 62.9 | 64.3 | 64.3 |
| 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)