

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: P195581

Luminaire Tested: **NVN-AF-05-LED-U-SL2-7050-600-HSS**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P195581
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-05-LED-U-SL2-7050-600-HSS
Description: NAVION ROADWAY AND AREA LUMINAIRE
(5) 70 CRI, 5000K, 615mA 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: 16161 lumens
Efficiency: N/A
Efficacy: 99.8 lumens/watt
Luminous Opening: Rectangular (W 1' x L: 1.5' x H: 0')
IES Classification: Type II - Medium - Semi-Cutoff
BUG Rating: B2 - U0 - G3

Input Watts (W): 162
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

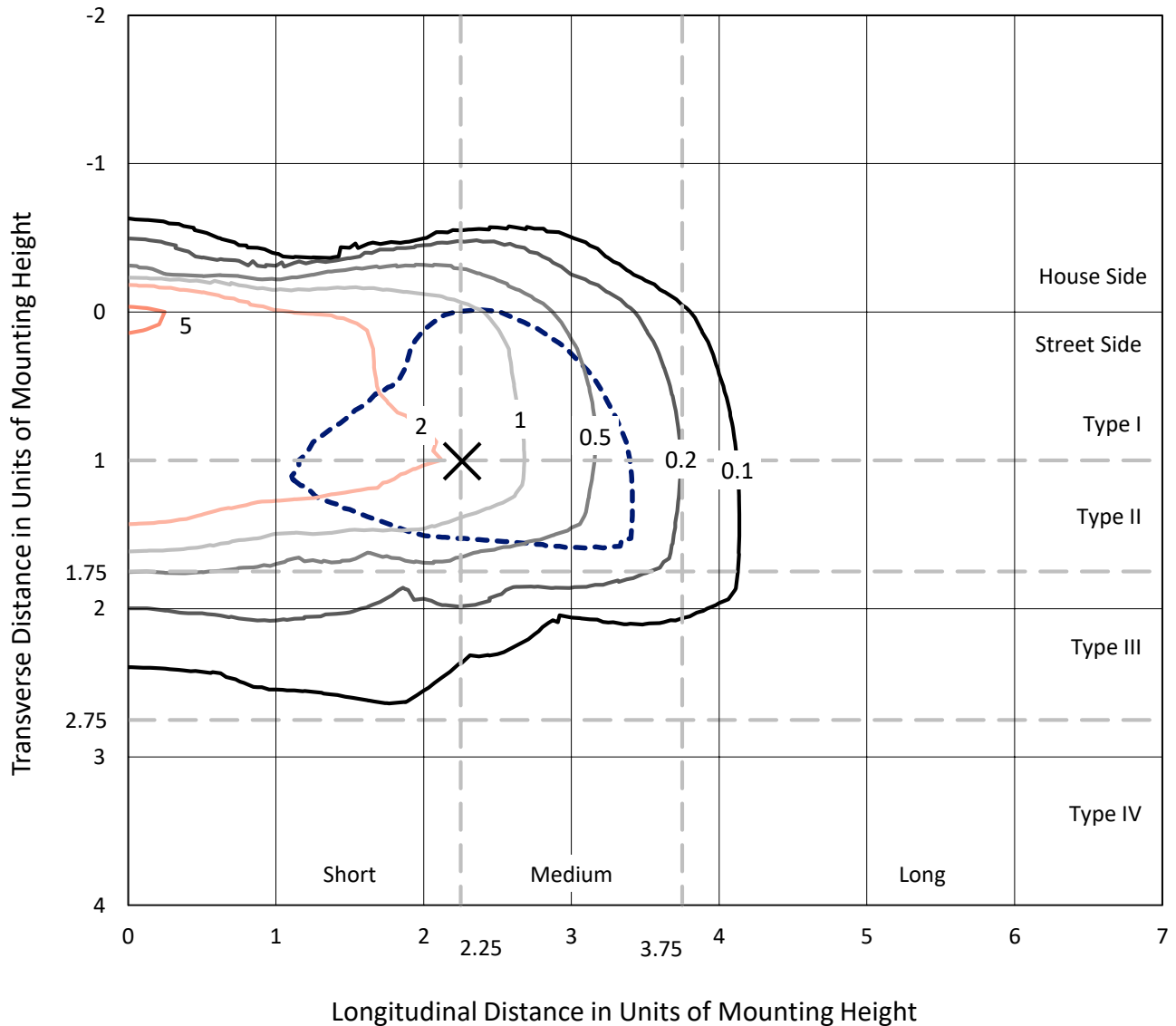


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Iso-Footcandle Lines of Horizontal Illumination

× Max cd
 - - - 1/2 Max cd

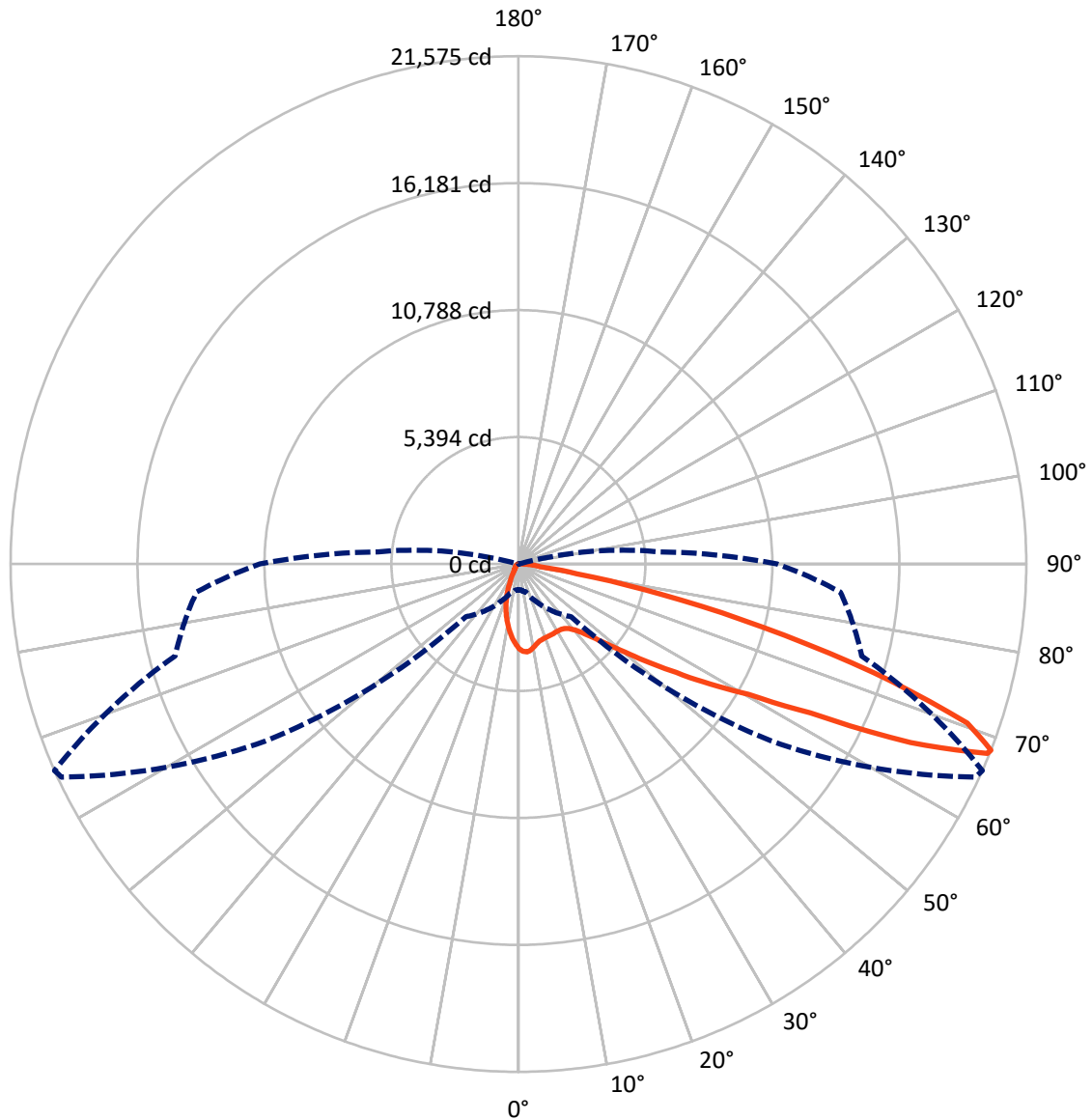


Based on 25 foot mounting height. Maximum calculated value = 5.8 fc
 Type II - Medium - Semi-Cutoff

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Luminous Intensity Polar Plot



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



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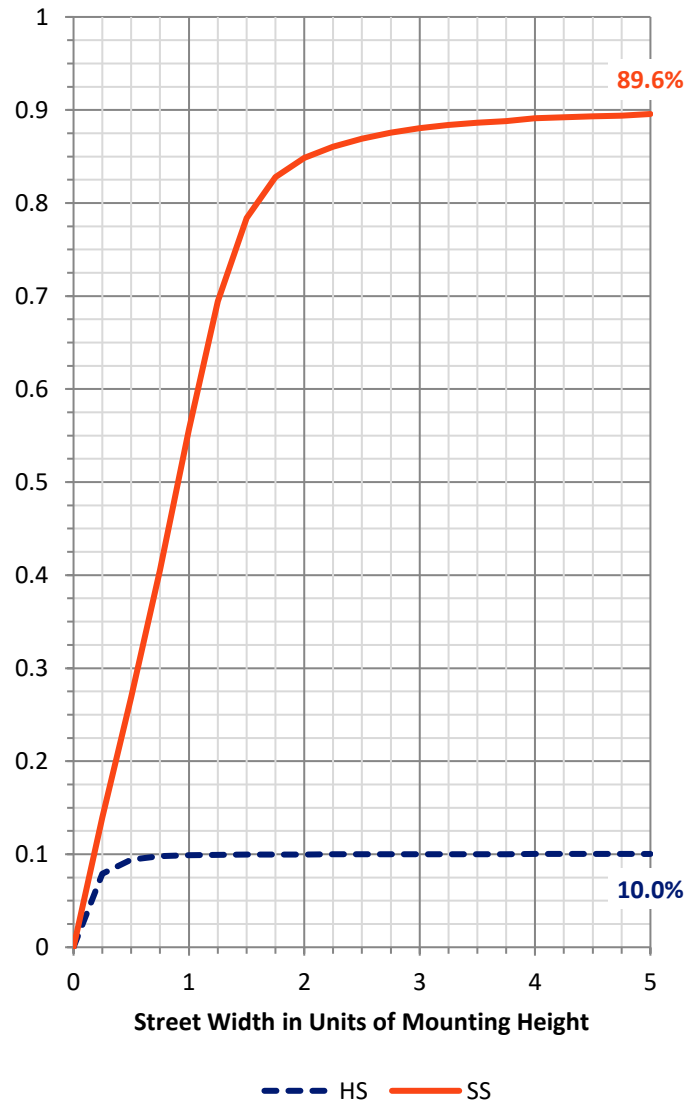
FLUX DISTRIBUTION:

| | | Downward | Upward | Total |
|--------------------|-----------|----------|--------|---------|
| House Side | Lumens | 1636.9 | 0.0 | 1636.9 |
| | % Fixture | 10.1 | 0.0 | 10.1 |
| Street Side | Lumens | 14524.1 | 0.0 | 14524.1 |
| | % Fixture | 89.9 | 0.0 | 89.9 |
| Total | Lumens | 16161.0 | 0.0 | 16161.0 |
| | % Fixture | 100.0 | 0.0 | 100.0 |

ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|---------|-----------|
| 0°-10° | 295.2 | 1.8 |
| 10°-20° | 635.1 | 3.9 |
| 20°-30° | 920.3 | 5.7 |
| 30°-40° | 1408.8 | 8.7 |
| 40°-50° | 2409.6 | 14.9 |
| 50°-60° | 3769.4 | 23.3 |
| 60°-70° | 4340.3 | 26.9 |
| 70°-80° | 2172.0 | 13.4 |
| 80°-90° | 210.3 | 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° | 16161.0 | 100.0 |
| 0°-180° | 16161.0 | 100.0 |

Coefficient of Utilization



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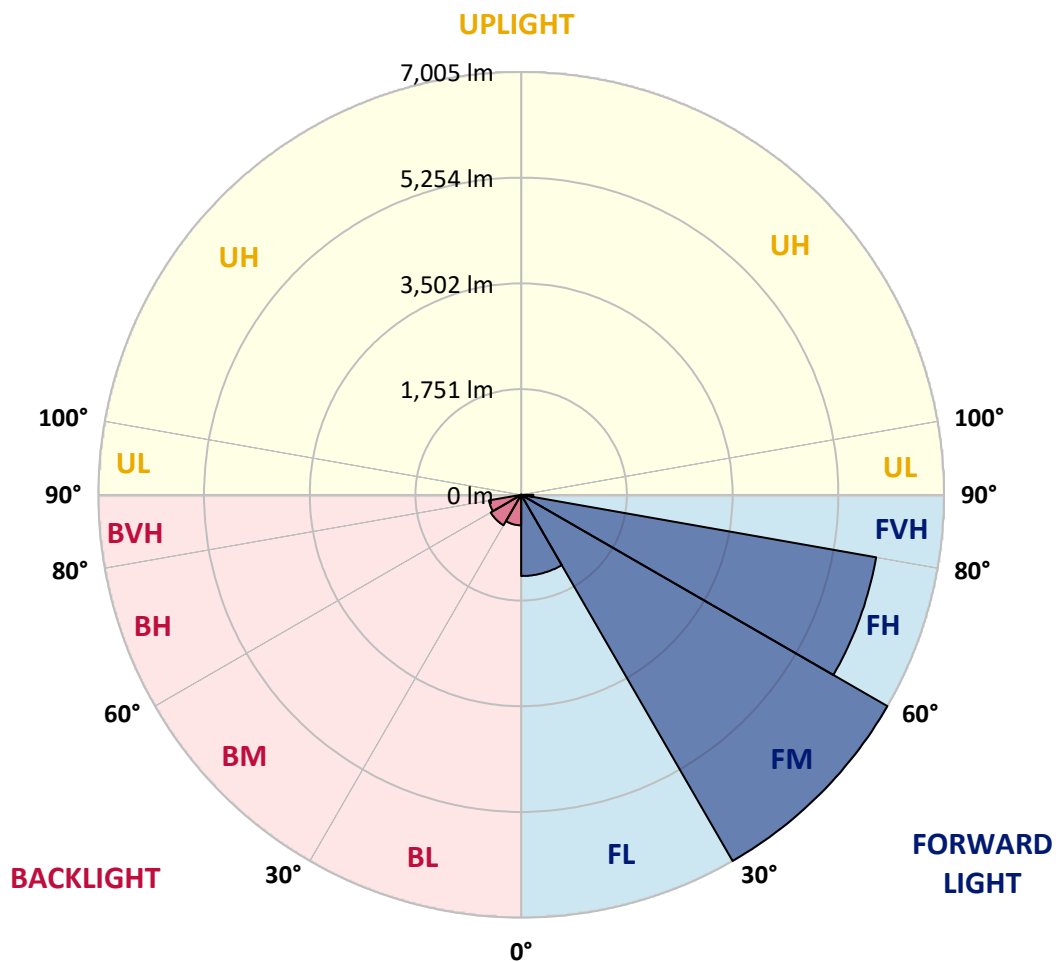
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

| Zone | Lumens | % Fixture | Zone Rating/Lumen Limit | | |
|----------------|--------|-----------|-------------------------|------|---------|
| | | | B | U | G |
| FL (0°-30°) | 1345.3 | 8.3 | | | |
| FM (30°-60°) | 7004.9 | 43.3 | | | |
| FH (60°-80°) | 5971.4 | 36.9 | | | G3/7500 |
| FVH (80°-90°) | 202.4 | 1.3 | | | G2/225 |
| BL (0°-30°) | 505.2 | 3.1 | B2/1000 | | |
| BM (30°-60°) | 582.9 | 3.6 | B1/1000 | | |
| BH (60°-80°) | 540.8 | 3.3 | B2/1000 | | G2/1000 |
| BVH (80°-90°) | 8.0 | 0.0 | | | G0/10 |
| UL (90°-100°) | 0.0 | 0.0 | | U0/0 | |
| UH (100°-180°) | 0.0 | 0.0 | | U0/0 | |

BUG Rating: B2-U0-G3

Type II Medium





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CANDELA DISTRIBUTION (FULL):

| | 0° | 5° | 15° | 25° | 35° | 45° | 55° | 65° | 66° | 75° | 85° |
|-------|--------|--------|--------|--------|--------|---------|---------|---------|---------|---------|---------|
| 0° | 3600.5 | 3600.5 | 3600.5 | 3600.5 | 3600.5 | 3600.5 | 3600.5 | 3600.5 | 3600.5 | 3600.5 | 3600.5 |
| 2.5° | 3787.0 | 3789.6 | 3788.3 | 3792.1 | 3789.6 | 3770.5 | 3750.2 | 3707.1 | 3710.9 | 3655.1 | 3592.9 |
| 5° | 3520.6 | 3542.2 | 3563.7 | 3585.3 | 3637.3 | 3683.0 | 3737.5 | 3750.2 | 3750.2 | 3702.0 | 3610.7 |
| 7.5° | 3249.1 | 3250.4 | 3274.5 | 3303.6 | 3373.4 | 3457.2 | 3584.0 | 3698.2 | 3700.7 | 3713.4 | 3613.2 |
| 10° | 3044.8 | 3051.2 | 3067.7 | 3099.4 | 3169.2 | 3251.6 | 3393.7 | 3572.6 | 3586.6 | 3680.4 | 3587.8 |
| 12.5° | 2886.3 | 2893.9 | 2911.6 | 2948.4 | 3011.8 | 3096.9 | 3246.6 | 3450.8 | 3469.8 | 3648.7 | 3580.2 |
| 15° | 2764.5 | 2774.6 | 2788.6 | 2825.4 | 2893.9 | 2983.9 | 3147.6 | 3369.6 | 3392.5 | 3636.0 | 3604.3 |
| 17.5° | 2713.7 | 2713.7 | 2712.4 | 2737.8 | 2806.3 | 2897.7 | 3068.9 | 3326.5 | 3355.7 | 3646.2 | 3644.9 |
| 20° | 2735.3 | 2731.5 | 2704.8 | 2698.5 | 2740.4 | 2831.7 | 3006.8 | 3298.6 | 3331.6 | 3665.2 | 3694.4 |
| 22.5° | 2849.5 | 2841.8 | 2782.2 | 2732.7 | 2720.1 | 2780.9 | 2964.9 | 3279.5 | 3318.9 | 3704.5 | 3760.4 |
| 25° | 3091.8 | 3068.9 | 2986.5 | 2874.8 | 2774.6 | 2768.3 | 2935.7 | 3269.4 | 3311.3 | 3750.2 | 3832.7 |
| 27.5° | 3406.4 | 3400.1 | 3268.1 | 3118.4 | 2925.6 | 2810.1 | 2926.8 | 3261.8 | 3303.6 | 3783.2 | 3891.0 |
| 30° | 3797.2 | 3799.7 | 3647.5 | 3452.1 | 3160.3 | 2928.1 | 2954.8 | 3258.0 | 3301.1 | 3785.7 | 3916.4 |
| 32.5° | 4200.6 | 4203.1 | 4076.3 | 3866.9 | 3481.3 | 3131.1 | 3033.4 | 3275.7 | 3315.1 | 3775.6 | 3915.2 |
| 35° | 4588.8 | 4592.6 | 4516.5 | 4347.8 | 3910.1 | 3412.8 | 3181.9 | 3336.6 | 3364.5 | 3781.9 | 3912.6 |
| 37.5° | 5079.8 | 5095.0 | 5001.1 | 4843.8 | 4448.0 | 3826.3 | 3424.2 | 3459.7 | 3482.5 | 3834.0 | 3931.6 |
| 40° | 5917.1 | 5896.8 | 5627.9 | 5361.4 | 5031.6 | 4330.0 | 3774.3 | 3671.6 | 3679.2 | 3968.4 | 4004.0 |
| 42.5° | 6892.7 | 6867.4 | 6406.8 | 5947.6 | 5631.7 | 4937.7 | 4222.2 | 3996.3 | 3995.1 | 4194.3 | 4161.3 |
| 45° | 7732.6 | 7717.4 | 7232.8 | 6620.0 | 6296.5 | 5608.8 | 4774.0 | 4464.5 | 4449.3 | 4585.0 | 4448.0 |
| 47.5° | 8328.9 | 8316.2 | 7949.6 | 7335.5 | 7065.3 | 6347.2 | 5462.9 | 5102.6 | 5070.9 | 5096.3 | 4913.6 |
| 50° | 8387.3 | 8373.3 | 8245.2 | 7850.6 | 7963.5 | 7430.7 | 6314.2 | 5938.7 | 5898.1 | 5858.8 | 5617.7 |
| 52.5° | 7841.7 | 7840.5 | 7907.7 | 7882.3 | 8592.8 | 8824.9 | 7358.4 | 6972.7 | 6924.5 | 6824.2 | 6584.5 |
| 55° | 6726.5 | 6720.2 | 6975.2 | 7345.7 | 8578.8 | 10263.6 | 8950.5 | 8203.3 | 8139.9 | 7939.4 | 7624.8 |
| 57.5° | 4914.9 | 4881.9 | 5414.7 | 6200.0 | 7976.2 | 10892.9 | 11479.0 | 9732.1 | 9626.8 | 8991.1 | 8506.5 |
| 60° | 2713.7 | 2726.4 | 3411.5 | 4341.4 | 6548.9 | 10768.6 | 13805.8 | 11514.6 | 11238.0 | 9898.3 | 9409.8 |
| 62.5° | 1521.1 | 1552.9 | 2062.9 | 2821.5 | 4175.2 | 9760.0 | 15054.2 | 14582.2 | 13916.2 | 10956.3 | 10551.6 |
| 65° | 1150.7 | 1169.7 | 1426.0 | 2177.1 | 2632.5 | 6820.4 | 15253.4 | 18871.6 | 18296.9 | 12559.9 | 12369.6 |
| 67.5° | 1083.5 | 1098.7 | 1224.3 | 1805.3 | 2397.8 | 3537.1 | 13753.8 | 21409.0 | 21481.3 | 14747.2 | 13777.9 |
| 68° | 1091.1 | 1110.1 | 1235.7 | 1736.8 | 2394.0 | 3164.1 | 13114.4 | 21421.7 | 21575.2 | 15099.8 | 13729.7 |
| 70° | 1002.3 | 1007.3 | 1306.7 | 1703.8 | 2320.4 | 2493.0 | 9487.2 | 19953.8 | 20229.1 | 15519.8 | 12463.5 |
| 72.5° | 383.1 | 384.4 | 586.1 | 1475.5 | 2430.8 | 2506.9 | 4779.1 | 15771.0 | 15784.9 | 13506.4 | 9716.8 |
| 75° | 199.2 | 167.5 | 184.0 | 461.8 | 2321.7 | 2443.5 | 2397.8 | 10768.6 | 10701.3 | 9134.5 | 5953.9 |
| 77.5° | 137.0 | 116.7 | 123.1 | 159.9 | 965.5 | 2442.2 | 1731.8 | 6192.4 | 6178.5 | 3886.0 | 1698.8 |
| 80° | 77.4 | 67.2 | 73.6 | 134.5 | 338.7 | 2292.5 | 1613.8 | 2661.7 | 2508.2 | 682.6 | 275.3 |
| 82.5° | 39.3 | 33.0 | 39.3 | 112.9 | 210.6 | 1442.5 | 1569.4 | 1044.1 | 929.9 | 162.4 | 178.9 |
| 85° | 10.1 | 10.1 | 19.0 | 78.7 | 130.7 | 473.2 | 1407.0 | 753.6 | 677.5 | 71.0 | 126.9 |
| 87.5° | 2.5 | 1.3 | 7.6 | 29.2 | 46.9 | 102.8 | 780.2 | 419.9 | 361.6 | 36.8 | 73.6 |
| 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° | 3600.5 | 3600.5 | 3600.5 | 3600.5 | 3600.5 | 3600.5 | 3600.5 | 3600.5 | 3600.5 | 3600.5 | 3600.5 |
| 2.5° | 3567.5 | 3532.0 | 3462.2 | 3383.6 | 3327.8 | 3266.9 | 3231.3 | 3188.2 | 3155.2 | 3126.0 | 3147.6 |
| 5° | 3554.8 | 3486.3 | 3331.6 | 3157.7 | 3011.8 | 2872.3 | 2768.3 | 2669.3 | 2594.5 | 2547.5 | 2566.5 |
| 7.5° | 3521.9 | 3420.4 | 3169.2 | 2897.7 | 2659.2 | 2434.6 | 2251.9 | 2088.2 | 1961.4 | 1892.9 | 1914.4 |
| 10° | 3466.0 | 3322.7 | 2985.2 | 2608.4 | 2274.7 | 1957.6 | 1686.1 | 1442.5 | 1258.5 | 1172.3 | 1192.6 |
| 12.5° | 3425.4 | 3236.4 | 2794.9 | 2329.3 | 1890.3 | 1440.0 | 1079.6 | 800.5 | 657.2 | 570.9 | 578.5 |
| 15° | 3407.7 | 3169.2 | 2617.3 | 2035.0 | 1470.4 | 924.9 | 583.6 | 422.5 | 373.0 | 355.2 | 356.5 |
| 17.5° | 3410.2 | 3115.9 | 2448.6 | 1729.2 | 1046.7 | 531.6 | 357.8 | 322.2 | 314.6 | 310.8 | 310.8 |
| 20° | 3416.6 | 3062.6 | 2273.5 | 1410.8 | 669.9 | 342.5 | 298.1 | 286.7 | 282.9 | 277.8 | 279.1 |
| 22.5° | 3435.6 | 3022.0 | 2097.1 | 1091.1 | 412.3 | 279.1 | 263.9 | 253.7 | 247.4 | 239.8 | 241.0 |
| 25° | 3464.8 | 2991.6 | 1923.3 | 785.3 | 290.5 | 243.6 | 229.6 | 215.7 | 204.3 | 195.4 | 196.6 |
| 27.5° | 3482.5 | 2948.4 | 1738.1 | 535.4 | 241.0 | 213.1 | 194.1 | 175.1 | 162.4 | 154.8 | 153.5 |
| 30° | 3469.8 | 2878.6 | 1527.5 | 351.4 | 213.1 | 184.0 | 161.1 | 139.6 | 126.9 | 120.5 | 120.5 |
| 32.5° | 3435.6 | 2788.6 | 1295.3 | 256.3 | 189.0 | 158.6 | 130.7 | 111.6 | 102.8 | 99.0 | 100.2 |
| 35° | 3396.3 | 2694.7 | 1047.9 | 216.9 | 170.0 | 134.5 | 106.6 | 91.3 | 87.5 | 86.3 | 86.3 |
| 37.5° | 3374.7 | 2613.5 | 810.7 | 196.6 | 152.2 | 111.6 | 87.5 | 78.7 | 74.9 | 74.9 | 74.9 |
| 40° | 3398.8 | 2551.3 | 600.1 | 181.4 | 134.5 | 92.6 | 73.6 | 67.2 | 66.0 | 66.0 | 66.0 |
| 42.5° | 3501.6 | 2529.8 | 439.0 | 168.7 | 116.7 | 77.4 | 63.4 | 58.4 | 57.1 | 58.4 | 58.4 |
| 45° | 3702.0 | 2576.7 | 332.4 | 156.0 | 100.2 | 63.4 | 54.6 | 50.7 | 50.7 | 52.0 | 52.0 |
| 47.5° | 4042.0 | 2697.2 | 272.8 | 143.4 | 83.7 | 53.3 | 46.9 | 44.4 | 44.4 | 45.7 | 45.7 |
| 50° | 4569.8 | 2920.5 | 244.9 | 129.4 | 69.8 | 45.7 | 39.3 | 38.1 | 38.1 | 39.3 | 40.6 |
| 52.5° | 5371.6 | 3345.5 | 230.9 | 115.5 | 57.1 | 38.1 | 33.0 | 31.7 | 33.0 | 34.3 | 34.3 |
| 55° | 6263.5 | 3889.8 | 214.4 | 101.5 | 48.2 | 31.7 | 26.6 | 26.6 | 27.9 | 30.4 | 30.4 |
| 57.5° | 7094.5 | 4415.0 | 199.2 | 83.7 | 41.9 | 25.4 | 21.6 | 21.6 | 24.1 | 26.6 | 26.6 |
| 60° | 7972.4 | 4930.1 | 178.9 | 67.2 | 35.5 | 20.3 | 17.8 | 17.8 | 21.6 | 24.1 | 25.4 |
| 62.5° | 9057.1 | 5528.9 | 152.2 | 53.3 | 27.9 | 15.2 | 12.7 | 16.5 | 20.3 | 24.1 | 24.1 |
| 65° | 10625.2 | 6273.6 | 119.3 | 41.9 | 21.6 | 11.4 | 10.1 | 15.2 | 19.0 | 22.8 | 24.1 |
| 67.5° | 11194.8 | 6178.5 | 90.1 | 34.3 | 16.5 | 8.9 | 8.9 | 14.0 | 19.0 | 22.8 | 22.8 |
| 68° | 10986.8 | 5970.4 | 86.3 | 33.0 | 15.2 | 8.9 | 8.9 | 14.0 | 19.0 | 22.8 | 22.8 |
| 70° | 9573.5 | 4880.6 | 71.0 | 25.4 | 12.7 | 7.6 | 7.6 | 12.7 | 19.0 | 21.6 | 22.8 |
| 72.5° | 7168.1 | 3242.7 | 60.9 | 16.5 | 11.4 | 7.6 | 6.3 | 12.7 | 17.8 | 21.6 | 21.6 |
| 75° | 4111.8 | 1346.1 | 52.0 | 12.7 | 10.1 | 6.3 | 6.3 | 11.4 | 17.8 | 21.6 | 21.6 |
| 77.5° | 1162.1 | 314.6 | 41.9 | 10.1 | 8.9 | 6.3 | 5.1 | 11.4 | 16.5 | 20.3 | 20.3 |
| 80° | 213.1 | 93.9 | 33.0 | 8.9 | 7.6 | 6.3 | 5.1 | 11.4 | 16.5 | 20.3 | 20.3 |
| 82.5° | 140.8 | 44.4 | 24.1 | 8.9 | 7.6 | 6.3 | 5.1 | 10.1 | 15.2 | 19.0 | 19.0 |
| 85° | 105.3 | 31.7 | 15.2 | 8.9 | 7.6 | 6.3 | 5.1 | 10.1 | 15.2 | 19.0 | 19.0 |
| 87.5° | 58.4 | 14.0 | 11.4 | 10.1 | 8.9 | 6.3 | 5.1 | 8.9 | 14.0 | 17.8 | 17.8 |
| 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)