

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: P195598

Luminaire Tested: **NVN-AF-04-LED-U-SL2-7050-1200-HSS**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P195598
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-04-LED-U-SL2-7050-1200-HSS
Description: NAVION ROADWAY AND AREA LUMINAIRE
(4) 70 CRI, 5000K, 1200mA 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: 21831 lumens
Efficiency: N/A
Efficacy: 84.6 lumens/watt
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')
IES Classification: Type II - Medium - Semi-Cutoff
BUG Rating: B2 - 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

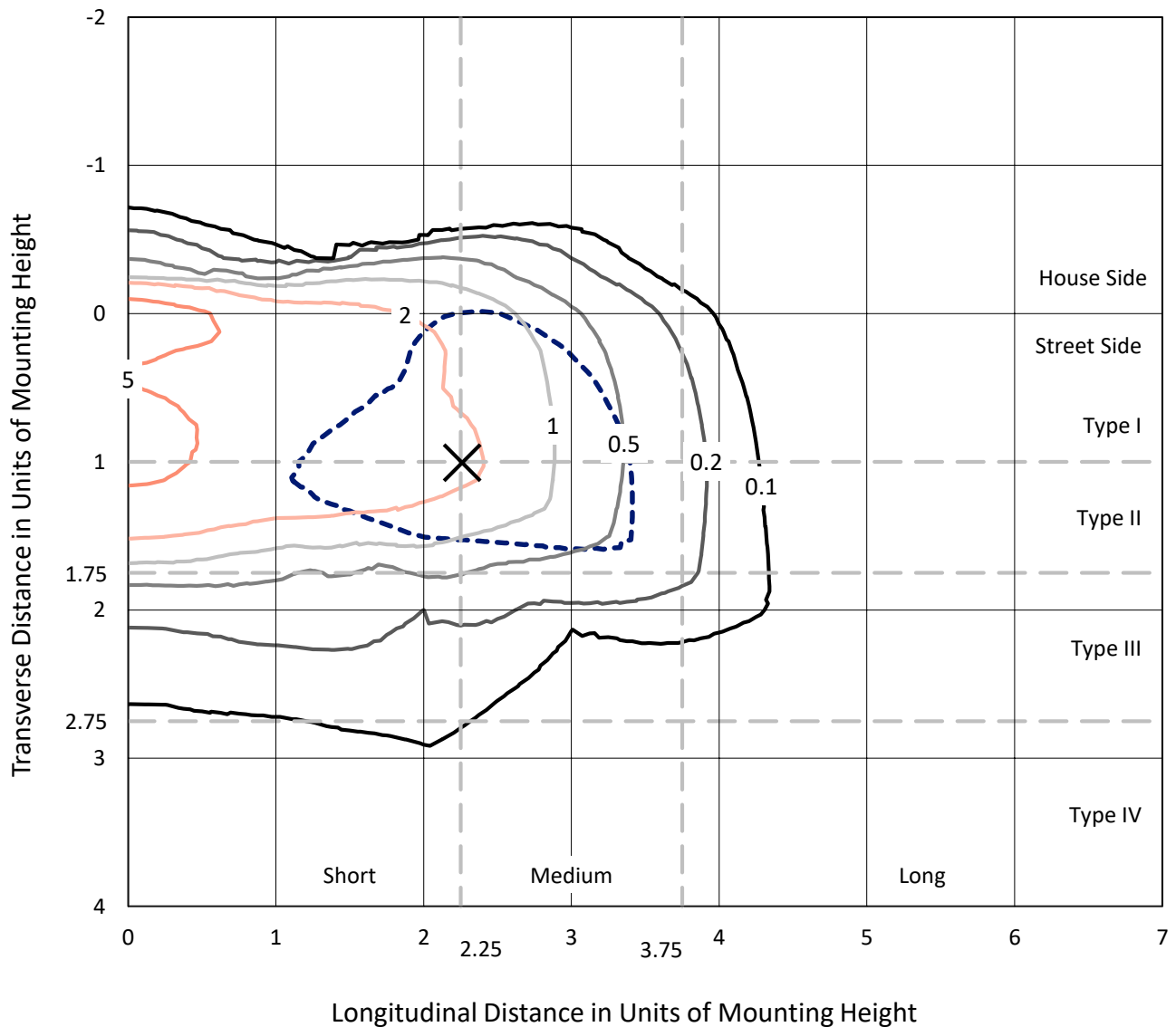


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Iso-Footcandle Lines of Horizontal Illumination

× Max cd
 - - - 1/2 Max cd

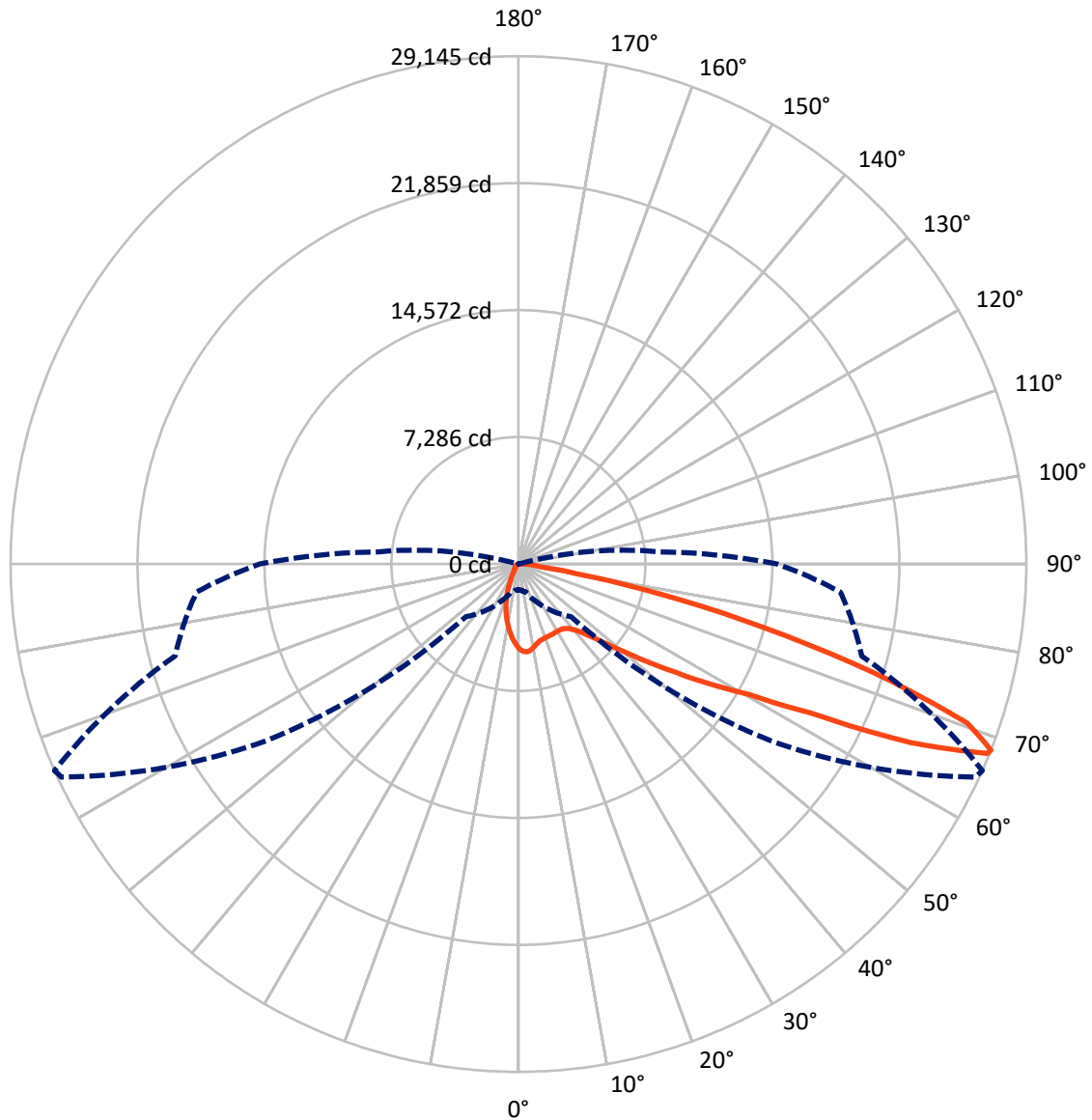


Based on 25 foot mounting height. Maximum calculated value = 7.8 fc
 Type II - Medium - Semi-Cutoff

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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 | 2211.3 | 0.0 | 2211.3 |
| | % Fixture | 10.1 | 0.0 | 10.1 |
| Street Side | Lumens | 19619.8 | 0.0 | 19619.8 |
| | % Fixture | 89.9 | 0.0 | 89.9 |
| Total | Lumens | 21831.0 | 0.0 | 21831.0 |
| | % Fixture | 100.0 | 0.0 | 100.0 |

ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|---------|-----------|
| 0°-10° | 398.7 | 1.8 |
| 10°-20° | 857.9 | 3.9 |
| 20°-30° | 1243.2 | 5.7 |
| 30°-40° | 1903.1 | 8.7 |
| 40°-50° | 3255.1 | 14.9 |
| 50°-60° | 5091.9 | 23.3 |
| 60°-70° | 5863.1 | 26.9 |
| 70°-80° | 2934.0 | 13.4 |
| 80°-90° | 284.2 | 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° | 21831.0 | 100.0 |
| 0°-180° | 21831.0 | 100.0 |

Coefficient of Utilization



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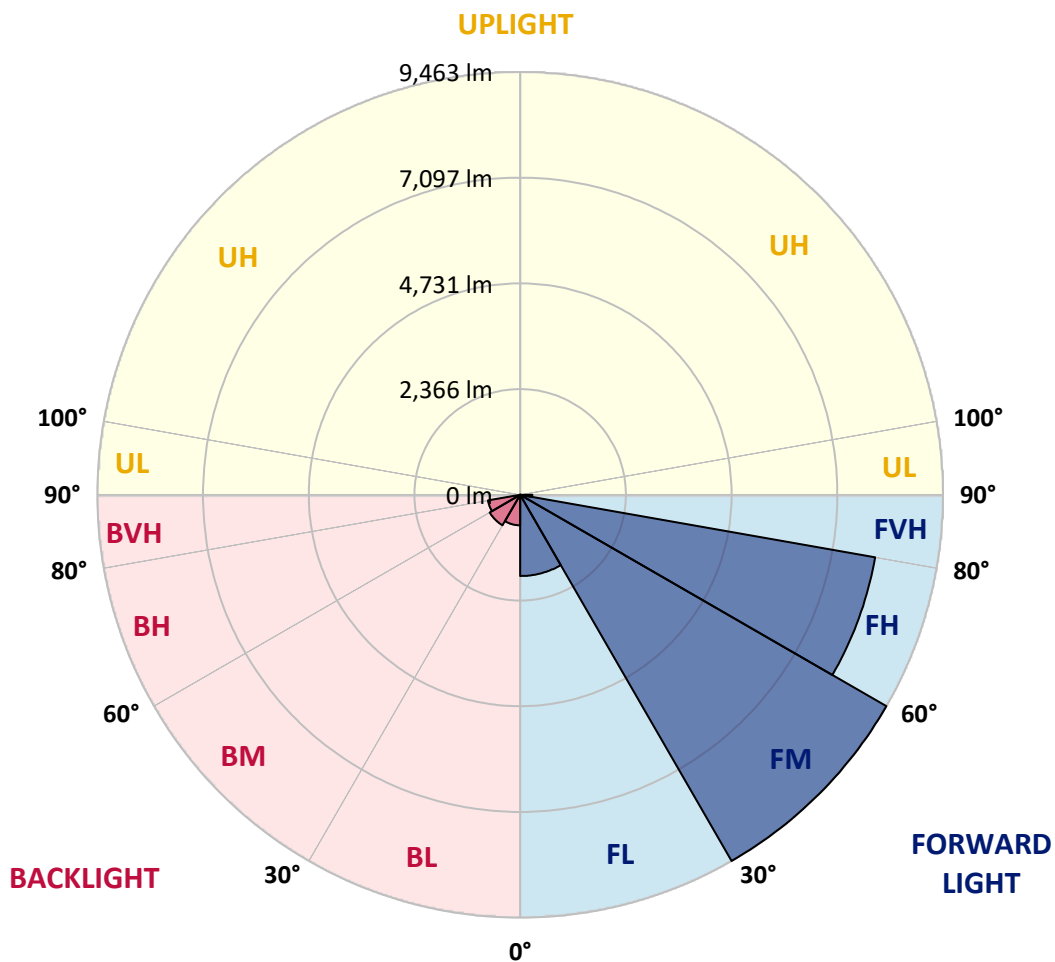
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

| Zone | Lumens | % Fixture | Zone Rating/Lumen Limit | | |
|----------------|--------|-----------|-------------------------|------|----------|
| | | | B | U | G |
| FL (0°-30°) | 1817.3 | 8.3 | | | |
| FM (30°-60°) | 9462.6 | 43.3 | | | |
| FH (60°-80°) | 8066.5 | 36.9 | | | G4/12000 |
| FVH (80°-90°) | 273.4 | 1.3 | | | G3/500 |
| BL (0°-30°) | 682.5 | 3.1 | B2/1000 | | |
| BM (30°-60°) | 787.4 | 3.6 | B1/1000 | | |
| BH (60°-80°) | 730.6 | 3.3 | B2/1000 | | G2/1000 |
| BVH (80°-90°) | 10.8 | 0.0 | | | 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 II Medium





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CANDELA DISTRIBUTION (FULL):

| | 0° | 5° | 15° | 25° | 35° | 45° | 55° | 65° | 66° | 75° | 85° |
|-------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| 0° | 4863.7 | 4863.7 | 4863.7 | 4863.7 | 4863.7 | 4863.7 | 4863.7 | 4863.7 | 4863.7 | 4863.7 | 4863.7 |
| 2.5° | 5115.7 | 5119.1 | 5117.4 | 5122.5 | 5119.1 | 5093.4 | 5066.0 | 5007.7 | 5012.8 | 4937.4 | 4853.5 |
| 5° | 4755.8 | 4784.9 | 4814.0 | 4843.2 | 4913.4 | 4975.1 | 5048.8 | 5066.0 | 5066.0 | 5000.8 | 4877.5 |
| 7.5° | 4389.0 | 4390.7 | 4423.3 | 4462.7 | 4557.0 | 4670.1 | 4841.5 | 4995.7 | 4999.1 | 5016.3 | 4880.9 |
| 10° | 4113.1 | 4121.7 | 4143.9 | 4186.8 | 4281.1 | 4392.4 | 4584.4 | 4826.0 | 4844.9 | 4971.7 | 4846.6 |
| 12.5° | 3898.9 | 3909.2 | 3933.2 | 3982.9 | 4068.5 | 4183.4 | 4385.6 | 4661.5 | 4687.2 | 4928.9 | 4836.3 |
| 15° | 3734.4 | 3748.1 | 3766.9 | 3816.6 | 3909.2 | 4030.8 | 4251.9 | 4551.8 | 4582.7 | 4911.7 | 4868.9 |
| 17.5° | 3665.8 | 3665.8 | 3664.1 | 3698.4 | 3790.9 | 3914.3 | 4145.7 | 4493.6 | 4533.0 | 4925.4 | 4923.7 |
| 20° | 3694.9 | 3689.8 | 3653.8 | 3645.2 | 3701.8 | 3825.2 | 4061.7 | 4455.9 | 4500.4 | 4951.1 | 4990.6 |
| 22.5° | 3849.2 | 3838.9 | 3758.3 | 3691.5 | 3674.4 | 3756.6 | 4005.1 | 4430.2 | 4483.3 | 5004.3 | 5079.7 |
| 25° | 4176.5 | 4145.7 | 4034.3 | 3883.5 | 3748.1 | 3739.5 | 3965.7 | 4416.4 | 4473.0 | 5066.0 | 5177.4 |
| 27.5° | 4601.5 | 4593.0 | 4414.7 | 4212.5 | 3952.0 | 3796.0 | 3953.7 | 4406.2 | 4462.7 | 5110.5 | 5256.2 |
| 30° | 5129.4 | 5132.8 | 4927.2 | 4663.2 | 4269.1 | 3955.4 | 3991.4 | 4401.0 | 4459.3 | 5114.0 | 5290.5 |
| 32.5° | 5674.4 | 5677.8 | 5506.4 | 5223.6 | 4702.6 | 4229.6 | 4097.7 | 4425.0 | 4478.1 | 5100.2 | 5288.8 |
| 35° | 6198.8 | 6203.9 | 6101.1 | 5873.2 | 5281.9 | 4610.1 | 4298.2 | 4507.3 | 4545.0 | 5108.8 | 5285.3 |
| 37.5° | 6862.0 | 6882.6 | 6755.8 | 6543.3 | 6008.6 | 5168.8 | 4625.5 | 4673.5 | 4704.4 | 5179.1 | 5311.0 |
| 40° | 7993.1 | 7965.7 | 7602.4 | 7242.5 | 6796.9 | 5849.2 | 5098.5 | 4959.7 | 4970.0 | 5360.7 | 5408.7 |
| 42.5° | 9311.0 | 9276.8 | 8654.6 | 8034.3 | 7607.5 | 6670.1 | 5703.5 | 5398.4 | 5396.7 | 5665.8 | 5621.2 |
| 45° | 10445.6 | 10425.0 | 9770.3 | 8942.6 | 8505.5 | 7576.7 | 6449.0 | 6030.8 | 6010.3 | 6193.6 | 6008.6 |
| 47.5° | 11251.0 | 11233.9 | 10738.6 | 9909.1 | 9544.1 | 8574.1 | 7379.6 | 6892.9 | 6850.0 | 6884.3 | 6637.5 |
| 50° | 11329.9 | 11311.0 | 11137.9 | 10604.9 | 10757.5 | 10037.7 | 8529.5 | 8022.3 | 7967.4 | 7914.3 | 7588.7 |
| 52.5° | 10592.9 | 10591.2 | 10682.1 | 10647.8 | 11607.5 | 11921.1 | 9940.0 | 9419.0 | 9353.9 | 9218.5 | 8894.6 |
| 55° | 9086.5 | 9078.0 | 9422.4 | 9922.9 | 11588.7 | 13864.6 | 12090.8 | 11081.4 | 10995.7 | 10724.9 | 10299.9 |
| 57.5° | 6639.2 | 6594.7 | 7314.5 | 8375.3 | 10774.6 | 14714.6 | 15506.4 | 13146.5 | 13004.3 | 12145.6 | 11491.0 |
| 60° | 3665.8 | 3682.9 | 4608.4 | 5864.6 | 8846.6 | 14546.7 | 18649.5 | 15554.4 | 15180.8 | 13371.0 | 12711.2 |
| 62.5° | 2054.8 | 2097.7 | 2786.6 | 3811.5 | 5640.1 | 13184.2 | 20335.9 | 19698.3 | 18798.6 | 14800.3 | 14253.6 |
| 65° | 1554.4 | 1580.1 | 1926.3 | 2940.9 | 3556.1 | 9213.3 | 20604.9 | 25492.6 | 24716.3 | 16966.5 | 16709.5 |
| 67.5° | 1463.6 | 1484.1 | 1653.8 | 2438.7 | 3239.1 | 4778.1 | 18579.2 | 28920.2 | 29017.9 | 19921.1 | 18611.8 |
| 68° | 1473.9 | 1499.6 | 1669.2 | 2346.2 | 3233.9 | 4274.2 | 17715.5 | 28937.4 | 29144.7 | 20397.5 | 18546.7 |
| 70° | 1353.9 | 1360.8 | 1765.2 | 2301.6 | 3134.5 | 3367.6 | 12815.7 | 26954.5 | 27326.4 | 20964.8 | 16836.3 |
| 72.5° | 517.6 | 519.3 | 791.8 | 1993.1 | 3283.6 | 3386.5 | 6455.9 | 21304.1 | 21323.0 | 18245.0 | 13125.9 |
| 75° | 269.1 | 226.2 | 248.5 | 623.8 | 3136.2 | 3300.8 | 3239.1 | 14546.7 | 14455.8 | 12339.3 | 8042.8 |
| 77.5° | 185.1 | 157.7 | 166.2 | 215.9 | 1304.2 | 3299.0 | 2339.3 | 8365.0 | 8346.2 | 5249.3 | 2294.8 |
| 80° | 104.5 | 90.8 | 99.4 | 181.7 | 457.6 | 3096.8 | 2179.9 | 3595.5 | 3388.2 | 922.0 | 371.9 |
| 82.5° | 53.1 | 44.6 | 53.1 | 152.5 | 284.5 | 1948.6 | 2120.0 | 1410.5 | 1256.2 | 219.4 | 241.6 |
| 85° | 13.7 | 13.7 | 25.7 | 106.3 | 176.5 | 639.2 | 1900.6 | 1018.0 | 915.2 | 96.0 | 171.4 |
| 87.5° | 3.4 | 1.7 | 10.3 | 39.4 | 63.4 | 138.8 | 1054.0 | 567.3 | 488.4 | 49.7 | 99.4 |
| 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° | 4863.7 | 4863.7 | 4863.7 | 4863.7 | 4863.7 | 4863.7 | 4863.7 | 4863.7 | 4863.7 | 4863.7 | 4863.7 |
| 2.5° | 4819.2 | 4771.2 | 4676.9 | 4570.7 | 4495.3 | 4413.0 | 4365.0 | 4306.8 | 4262.2 | 4222.8 | 4251.9 |
| 5° | 4802.0 | 4709.5 | 4500.4 | 4265.6 | 4068.5 | 3880.0 | 3739.5 | 3605.8 | 3504.7 | 3441.3 | 3467.0 |
| 7.5° | 4757.5 | 4620.4 | 4281.1 | 3914.3 | 3592.1 | 3288.8 | 3042.0 | 2820.9 | 2649.5 | 2557.0 | 2586.1 |
| 10° | 4682.1 | 4488.4 | 4032.6 | 3523.6 | 3072.8 | 2644.4 | 2277.6 | 1948.6 | 1700.1 | 1583.5 | 1611.0 |
| 12.5° | 4627.2 | 4371.9 | 3775.5 | 3146.5 | 2553.5 | 1945.2 | 1458.4 | 1081.4 | 887.7 | 771.2 | 781.5 |
| 15° | 4603.2 | 4281.1 | 3535.6 | 2748.9 | 1986.3 | 1249.4 | 788.3 | 570.7 | 503.9 | 479.9 | 481.6 |
| 17.5° | 4606.7 | 4209.1 | 3307.6 | 2335.9 | 1413.9 | 718.1 | 483.3 | 435.3 | 425.0 | 419.9 | 419.9 |
| 20° | 4615.2 | 4137.1 | 3071.1 | 1905.7 | 904.9 | 462.7 | 402.7 | 387.3 | 382.2 | 375.3 | 377.0 |
| 22.5° | 4640.9 | 4082.3 | 2832.9 | 1473.9 | 557.0 | 377.0 | 356.5 | 342.8 | 334.2 | 323.9 | 325.6 |
| 25° | 4680.4 | 4041.1 | 2598.1 | 1060.8 | 392.5 | 329.0 | 310.2 | 291.3 | 275.9 | 263.9 | 265.6 |
| 27.5° | 4704.4 | 3982.9 | 2347.9 | 723.2 | 325.6 | 287.9 | 262.2 | 236.5 | 219.4 | 209.1 | 207.4 |
| 30° | 4687.2 | 3888.6 | 2063.4 | 474.7 | 287.9 | 248.5 | 217.7 | 188.5 | 171.4 | 162.8 | 162.8 |
| 32.5° | 4640.9 | 3766.9 | 1749.8 | 346.2 | 255.4 | 214.2 | 176.5 | 150.8 | 138.8 | 133.7 | 135.4 |
| 35° | 4587.8 | 3640.1 | 1415.6 | 293.1 | 229.6 | 181.7 | 144.0 | 123.4 | 118.3 | 116.5 | 116.5 |
| 37.5° | 4558.7 | 3530.4 | 1095.1 | 265.6 | 205.7 | 150.8 | 118.3 | 106.3 | 101.1 | 101.1 | 101.1 |
| 40° | 4591.2 | 3446.4 | 810.6 | 245.1 | 181.7 | 125.1 | 99.4 | 90.8 | 89.1 | 89.1 | 89.1 |
| 42.5° | 4730.1 | 3417.3 | 593.0 | 227.9 | 157.7 | 104.5 | 85.7 | 78.8 | 77.1 | 78.8 | 78.8 |
| 45° | 5000.8 | 3480.7 | 449.0 | 210.8 | 135.4 | 85.7 | 73.7 | 68.6 | 68.6 | 70.3 | 70.3 |
| 47.5° | 5460.1 | 3643.5 | 368.5 | 193.7 | 113.1 | 72.0 | 63.4 | 60.0 | 60.0 | 61.7 | 61.7 |
| 50° | 6173.1 | 3945.1 | 330.8 | 174.8 | 94.3 | 61.7 | 53.1 | 51.4 | 51.4 | 53.1 | 54.8 |
| 52.5° | 7256.2 | 4519.3 | 311.9 | 156.0 | 77.1 | 51.4 | 44.6 | 42.8 | 44.6 | 46.3 | 46.3 |
| 55° | 8461.0 | 5254.5 | 289.6 | 137.1 | 65.1 | 42.8 | 36.0 | 36.0 | 37.7 | 41.1 | 41.1 |
| 57.5° | 9583.5 | 5964.0 | 269.1 | 113.1 | 56.6 | 34.3 | 29.1 | 29.1 | 32.6 | 36.0 | 36.0 |
| 60° | 10769.5 | 6659.8 | 241.6 | 90.8 | 48.0 | 27.4 | 24.0 | 24.0 | 29.1 | 32.6 | 34.3 |
| 62.5° | 12234.8 | 7468.7 | 205.7 | 72.0 | 37.7 | 20.6 | 17.1 | 22.3 | 27.4 | 32.6 | 32.6 |
| 65° | 14353.0 | 8474.7 | 161.1 | 56.6 | 29.1 | 15.4 | 13.7 | 20.6 | 25.7 | 30.8 | 32.6 |
| 67.5° | 15122.5 | 8346.2 | 121.7 | 46.3 | 22.3 | 12.0 | 12.0 | 18.9 | 25.7 | 30.8 | 30.8 |
| 68° | 14841.4 | 8065.1 | 116.5 | 44.6 | 20.6 | 12.0 | 12.0 | 18.9 | 25.7 | 30.8 | 30.8 |
| 70° | 12932.3 | 6593.0 | 96.0 | 34.3 | 17.1 | 10.3 | 10.3 | 17.1 | 25.7 | 29.1 | 30.8 |
| 72.5° | 9682.9 | 4380.5 | 82.3 | 22.3 | 15.4 | 10.3 | 8.6 | 17.1 | 24.0 | 29.1 | 29.1 |
| 75° | 5554.4 | 1818.3 | 70.3 | 17.1 | 13.7 | 8.6 | 8.6 | 15.4 | 24.0 | 29.1 | 29.1 |
| 77.5° | 1569.8 | 425.0 | 56.6 | 13.7 | 12.0 | 8.6 | 6.9 | 15.4 | 22.3 | 27.4 | 27.4 |
| 80° | 287.9 | 126.8 | 44.6 | 12.0 | 10.3 | 8.6 | 6.9 | 15.4 | 22.3 | 27.4 | 27.4 |
| 82.5° | 190.2 | 60.0 | 32.6 | 12.0 | 10.3 | 8.6 | 6.9 | 13.7 | 20.6 | 25.7 | 25.7 |
| 85° | 142.2 | 42.8 | 20.6 | 12.0 | 10.3 | 8.6 | 6.9 | 13.7 | 20.6 | 25.7 | 25.7 |
| 87.5° | 78.8 | 18.9 | 15.4 | 13.7 | 12.0 | 8.6 | 6.9 | 12.0 | 18.9 | 24.0 | 24.0 |
| 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)