

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: P270999

Luminaire Tested: **NVN-AF-04-LED-U-SL3-7027-1200-HSS**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P270999
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P24263)
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-SL3-7027-1200-HSS
Description: NAVION ROADWAY AND AREA LUMINAIRE
(4) 70 CRI, 2700K, 1200mA LIGHTSQUARES WITH 16 LEDS EACH AND TYPE III
SPILL LIGHT ELIMINATOR OPTICS WITH HOUSE SIDE SHIELD
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 19738.6 lumens
Efficiency: N/A
Efficacy: 76.5 lumens/watt
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')
IES Classification: Type III - Medium - Non-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

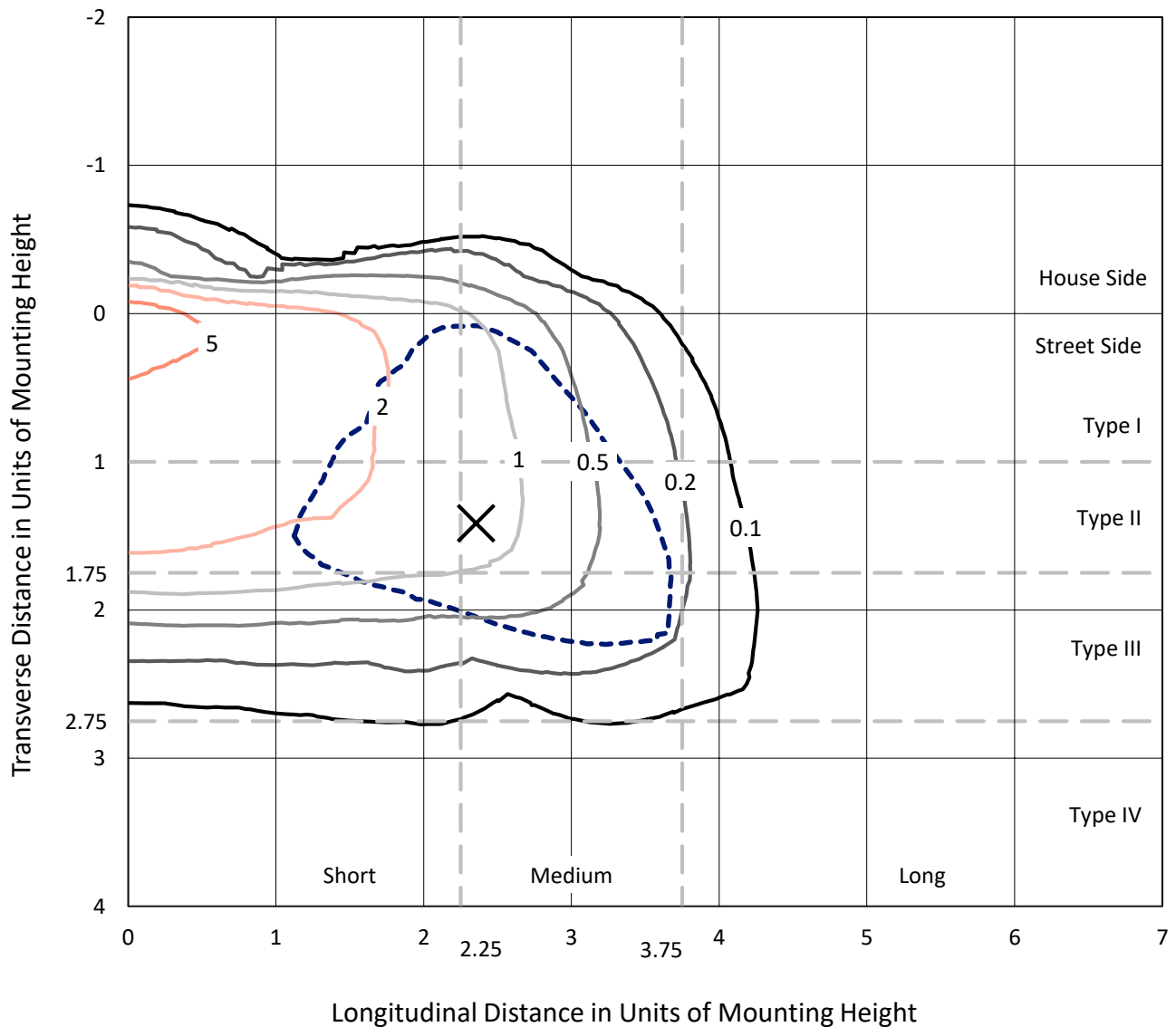


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Iso-Footcandle Lines of Horizontal Illumination

× Max cd
 - - - 1/2 Max cd

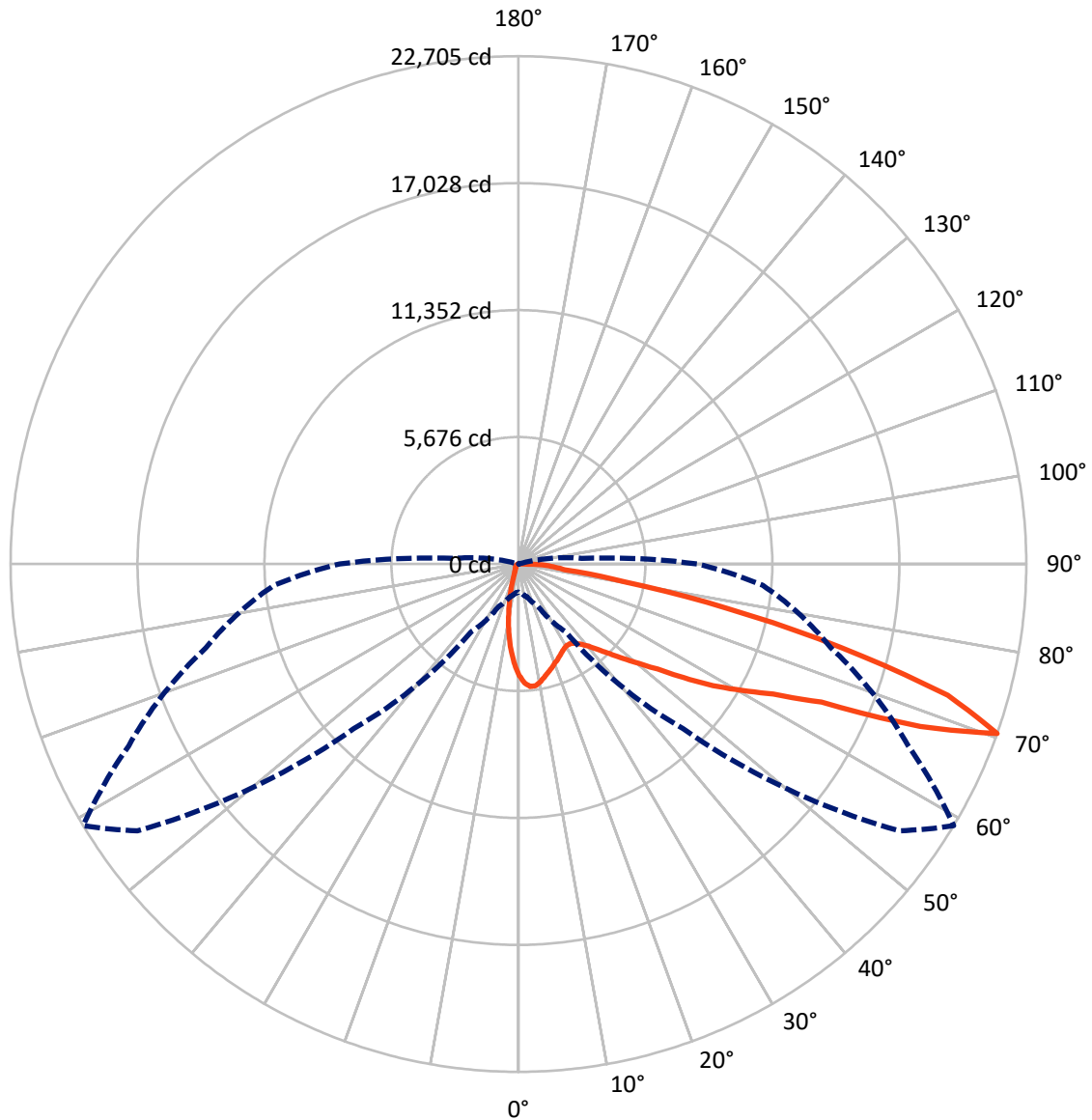


Based on 25 foot mounting height. Maximum calculated value = 8.5 fc
 Type III - Medium - Non-Cutoff

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Luminous Intensity Polar Plot



— Vertical Plane Through 59-Deg Lateral - - - Horizontal Cone Through 70-Deg Vertical



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FLUX DISTRIBUTION:

| | | Downward | Upward | Total |
|--------------------|-----------|----------|--------|---------|
| House Side | Lumens | 1517.4 | 0.0 | 1517.4 |
| | % Fixture | 7.7 | 0.0 | 7.7 |
| Street Side | Lumens | 18221.2 | 0.0 | 18221.2 |
| | % Fixture | 92.3 | 0.0 | 92.3 |
| Total | Lumens | 19738.6 | 0.0 | 19738.6 |
| | % Fixture | 100.0 | 0.0 | 100.0 |

ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|---------|-----------|
| 0°-10° | 410.4 | 2.1 |
| 10°-20° | 860.8 | 4.4 |
| 20°-30° | 1165.3 | 5.9 |
| 30°-40° | 1681.7 | 8.5 |
| 40°-50° | 2792.9 | 14.1 |
| 50°-60° | 4272.1 | 21.6 |
| 60°-70° | 5313.5 | 26.9 |
| 70°-80° | 2937.3 | 14.9 |
| 80°-90° | 304.6 | 1.5 |
| 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° | 19738.6 | 100.0 |
| 0°-180° | 19738.6 | 100.0 |

Coefficient of Utilization



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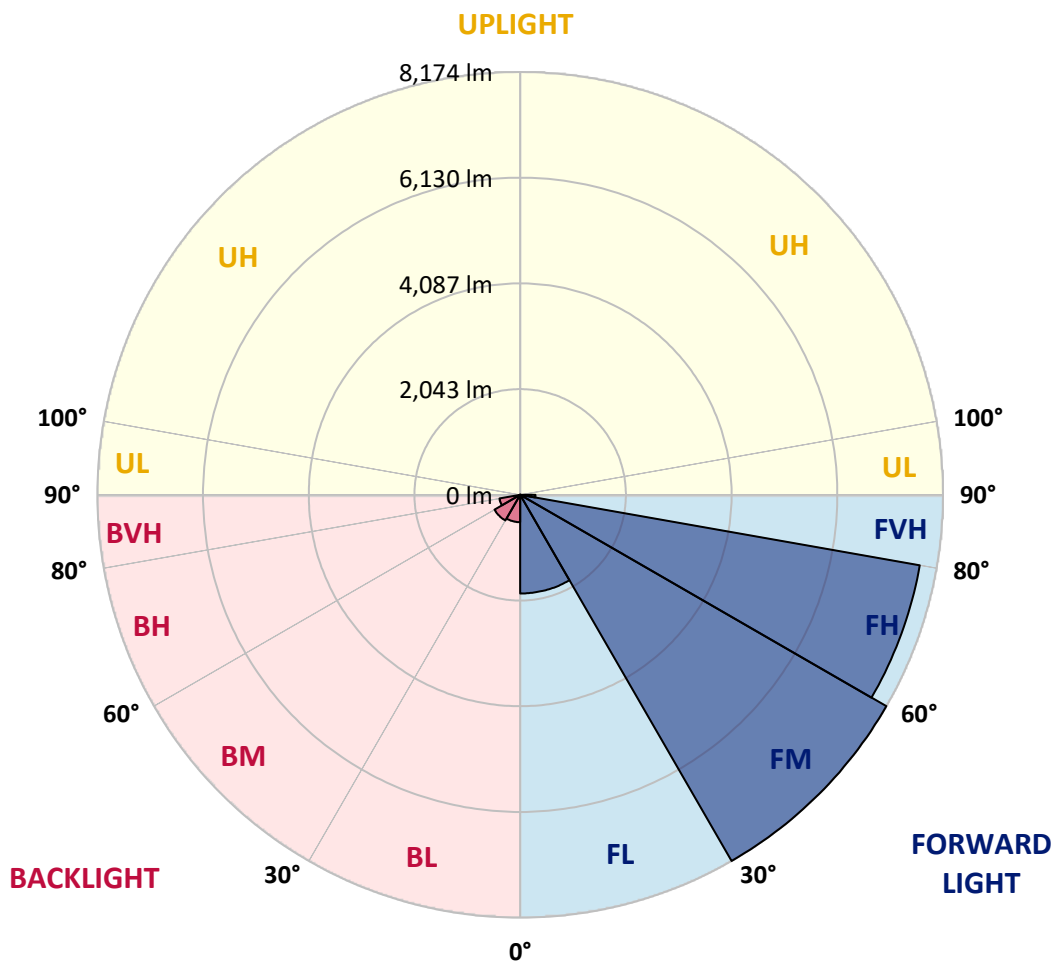
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

| Zone | | Lumens | % Fixture | Zone Rating/Lumen Limit | | |
|------|-------------|--------|-----------|-------------------------|------|----------|
| | | | | B | U | G |
| FL | (0°-30°) | 1907.8 | 9.7 | | | |
| FM | (30°-60°) | 8174.0 | 41.4 | | | |
| FH | (60°-80°) | 7843.7 | 39.7 | | | G4/12000 |
| FVH | (80°-90°) | 295.8 | 1.5 | | | G3/500 |
| BL | (0°-30°) | 528.8 | 2.7 | B2/1000 | | |
| BM | (30°-60°) | 572.8 | 2.9 | B1/1000 | | |
| BH | (60°-80°) | 407.0 | 2.1 | B1/500 | | G1/500 |
| BVH | (80°-90°) | 8.8 | 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-G4

Type III Medium





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CANDELA DISTRIBUTION (FULL):

| | 0° | 5° | 15° | 25° | 35° | 45° | 55° | 59° | 65° | 75° | 85° |
|-------|---------|--------|--------|--------|---------|---------|---------|---------|---------|---------|---------|
| 0° | 4991.2 | 4991.2 | 4991.2 | 4991.2 | 4991.2 | 4991.2 | 4991.2 | 4991.2 | 4991.2 | 4991.2 | 4991.2 |
| 2.5° | 5641.9 | 5632.9 | 5595.7 | 5588.3 | 5546.6 | 5463.2 | 5366.5 | 5327.7 | 5248.7 | 5123.8 | 4985.2 |
| 5° | 5735.7 | 5740.2 | 5743.1 | 5726.8 | 5720.8 | 5652.2 | 5545.1 | 5499.0 | 5393.2 | 5187.7 | 4934.6 |
| 7.5° | 5384.4 | 5396.2 | 5433.4 | 5449.7 | 5521.3 | 5548.0 | 5525.7 | 5495.9 | 5412.6 | 5169.8 | 4813.9 |
| 10° | 5013.5 | 5035.9 | 5076.1 | 5102.8 | 5190.6 | 5262.2 | 5353.0 | 5360.5 | 5342.6 | 5110.3 | 4678.6 |
| 12.5° | 4694.8 | 4715.7 | 4760.4 | 4813.9 | 4903.3 | 4995.7 | 5131.2 | 5178.8 | 5238.3 | 5071.7 | 4581.6 |
| 15° | 4420.9 | 4426.8 | 4470.1 | 4537.0 | 4654.7 | 4781.1 | 4942.0 | 5012.1 | 5128.2 | 5056.6 | 4507.2 |
| 17.5° | 4181.2 | 4182.7 | 4211.0 | 4272.0 | 4414.9 | 4581.6 | 4769.3 | 4861.6 | 5009.0 | 5035.9 | 4441.7 |
| 20° | 4023.2 | 4021.8 | 4023.2 | 4056.0 | 4182.7 | 4380.7 | 4608.6 | 4705.3 | 4894.3 | 5010.6 | 4374.7 |
| 22.5° | 3969.7 | 3962.2 | 3928.0 | 3916.2 | 3996.5 | 4170.7 | 4443.2 | 4569.8 | 4791.6 | 5003.1 | 4325.6 |
| 25° | 4035.2 | 4030.8 | 3957.8 | 3889.3 | 3896.8 | 4005.5 | 4274.9 | 4429.8 | 4711.3 | 5029.9 | 4313.8 |
| 27.5° | 4246.6 | 4237.8 | 4126.1 | 3992.1 | 3907.2 | 3926.5 | 4149.9 | 4312.1 | 4647.2 | 5095.4 | 4330.1 |
| 30° | 4523.7 | 4525.1 | 4405.9 | 4243.8 | 4044.2 | 3933.9 | 4082.8 | 4236.2 | 4604.1 | 5193.7 | 4365.9 |
| 32.5° | 4831.9 | 4830.4 | 4745.4 | 4557.9 | 4303.2 | 4070.9 | 4112.7 | 4242.2 | 4610.0 | 5338.1 | 4434.3 |
| 35° | 5150.5 | 5134.2 | 5105.8 | 4940.6 | 4642.7 | 4310.6 | 4248.2 | 4343.5 | 4672.5 | 5528.7 | 4550.5 |
| 37.5° | 5518.3 | 5512.3 | 5540.7 | 5366.5 | 5062.7 | 4663.6 | 4486.3 | 4550.5 | 4830.4 | 5810.1 | 4738.0 |
| 40° | 6103.4 | 6070.7 | 6084.1 | 5847.3 | 5536.2 | 5138.6 | 4819.9 | 4836.4 | 5082.0 | 6182.3 | 5034.3 |
| 42.5° | 7218.7 | 7086.2 | 6837.5 | 6393.9 | 6057.4 | 5665.7 | 5256.3 | 5228.0 | 5437.9 | 6633.5 | 5424.4 |
| 45° | 8551.4 | 8399.5 | 7772.7 | 6996.9 | 6578.5 | 6231.5 | 5795.2 | 5719.2 | 5875.6 | 7171.1 | 5927.7 |
| 47.5° | 9663.6 | 9499.9 | 8669.1 | 7626.7 | 7108.6 | 6815.3 | 6392.2 | 6303.0 | 6399.7 | 7795.0 | 6532.4 |
| 50° | 10043.4 | 9952.6 | 9223.0 | 8151.0 | 7643.0 | 7470.3 | 7141.3 | 6992.3 | 7016.2 | 8468.1 | 7238.2 |
| 52.5° | 9869.1 | 9837.9 | 9349.5 | 8509.7 | 8137.4 | 8194.0 | 7961.8 | 7805.5 | 7778.7 | 9203.6 | 8018.4 |
| 55° | 9501.5 | 9486.6 | 9248.3 | 8709.2 | 8573.8 | 8856.7 | 9112.8 | 8977.2 | 8724.1 | 9985.3 | 8663.1 |
| 57.5° | 8975.8 | 9032.4 | 9203.6 | 9093.5 | 9109.8 | 9556.4 | 10181.8 | 10251.8 | 9873.6 | 10607.7 | 9141.1 |
| 60° | 7571.6 | 7723.4 | 8508.2 | 9505.9 | 10269.8 | 10720.9 | 11326.9 | 11458.1 | 10847.5 | 11033.6 | 9693.5 |
| 62.5° | 5597.2 | 5814.5 | 6932.8 | 8765.8 | 10908.5 | 12935.1 | 12850.2 | 12792.1 | 11776.6 | 11603.9 | 10698.5 |
| 65° | 3287.7 | 3542.3 | 4487.9 | 6849.4 | 9945.1 | 14358.6 | 15694.2 | 14890.1 | 13192.7 | 12789.1 | 12299.2 |
| 67.5° | 1637.9 | 1639.3 | 2066.7 | 3615.3 | 7349.8 | 13365.4 | 19845.5 | 19381.0 | 16203.4 | 14535.7 | 12930.7 |
| 70° | 1259.8 | 1294.0 | 1529.3 | 2101.0 | 3716.6 | 10409.6 | 20797.1 | 22704.5 | 19229.1 | 14458.3 | 10971.1 |
| 72.5° | 1067.6 | 1090.0 | 1360.9 | 1828.5 | 2778.5 | 5714.8 | 18003.7 | 20068.9 | 18349.0 | 12216.0 | 8086.8 |
| 75° | 768.3 | 786.1 | 1204.5 | 1658.8 | 2558.2 | 2835.1 | 12349.9 | 14884.1 | 13767.5 | 8593.0 | 4450.7 |
| 77.5° | 190.6 | 189.2 | 419.9 | 1346.1 | 2288.6 | 2361.6 | 7086.2 | 9544.6 | 7899.2 | 3518.5 | 1143.5 |
| 80° | 84.9 | 81.8 | 95.3 | 283.0 | 2129.3 | 2229.1 | 3116.5 | 4819.9 | 3030.2 | 570.3 | 349.9 |
| 82.5° | 59.6 | 56.7 | 59.6 | 104.3 | 711.7 | 2068.3 | 1883.6 | 2089.1 | 1109.2 | 195.0 | 148.8 |
| 85° | 19.4 | 17.8 | 32.8 | 87.9 | 199.6 | 1192.7 | 1837.5 | 1560.4 | 825.0 | 83.5 | 99.7 |
| 87.5° | 3.0 | 3.0 | 11.9 | 47.6 | 58.1 | 397.6 | 1078.1 | 1081.0 | 370.8 | 49.1 | 44.6 |
| 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° | 4991.2 | 4991.2 | 4991.2 | 4991.2 | 4991.2 | 4991.2 | 4991.2 | 4991.2 | 4991.2 | 4991.2 | 4991.2 |
| 2.5° | 4915.3 | 4827.4 | 4703.7 | 4580.2 | 4468.4 | 4353.8 | 4261.6 | 4218.4 | 4198.9 | 4172.2 | 4114.1 |
| 5° | 4802.1 | 4642.7 | 4371.7 | 4105.3 | 3856.6 | 3618.4 | 3414.3 | 3298.1 | 3173.2 | 3167.2 | 3106.1 |
| 7.5° | 4620.4 | 4394.1 | 3966.7 | 3552.7 | 3173.2 | 2809.8 | 2497.1 | 2294.6 | 2156.1 | 2069.8 | 2010.1 |
| 10° | 4418.0 | 4127.5 | 3561.7 | 2979.5 | 2462.9 | 1977.3 | 1575.4 | 1313.3 | 1154.1 | 1073.6 | 1027.4 |
| 12.5° | 4257.1 | 3892.3 | 3162.7 | 2430.1 | 1782.3 | 1225.5 | 851.8 | 661.2 | 576.3 | 543.5 | 528.7 |
| 15° | 4118.5 | 3676.4 | 2788.9 | 1938.7 | 1189.7 | 704.4 | 492.9 | 430.3 | 417.0 | 417.0 | 415.5 |
| 17.5° | 3978.7 | 3467.8 | 2425.7 | 1456.2 | 748.9 | 461.5 | 388.6 | 379.8 | 381.2 | 385.6 | 385.6 |
| 20° | 3846.2 | 3269.9 | 2075.7 | 1037.8 | 491.4 | 369.3 | 352.9 | 349.9 | 354.4 | 360.3 | 358.9 |
| 22.5° | 3738.9 | 3095.6 | 1748.1 | 713.3 | 378.1 | 335.0 | 324.6 | 320.2 | 323.1 | 327.6 | 326.1 |
| 25° | 3663.0 | 2946.8 | 1447.3 | 497.3 | 329.0 | 305.2 | 293.3 | 287.4 | 284.5 | 287.4 | 285.9 |
| 27.5° | 3616.8 | 2821.7 | 1164.5 | 373.8 | 294.9 | 275.5 | 260.6 | 248.7 | 241.3 | 241.3 | 238.2 |
| 30° | 3587.0 | 2704.1 | 912.8 | 309.7 | 266.5 | 245.6 | 224.8 | 208.4 | 196.5 | 193.6 | 192.1 |
| 32.5° | 3585.6 | 2602.7 | 682.0 | 274.0 | 239.8 | 216.0 | 190.6 | 169.8 | 156.3 | 153.4 | 151.9 |
| 35° | 3622.8 | 2521.0 | 501.9 | 247.2 | 216.0 | 187.7 | 159.3 | 137.0 | 125.0 | 125.0 | 123.5 |
| 37.5° | 3719.5 | 2473.3 | 379.8 | 226.4 | 196.5 | 163.9 | 133.9 | 113.1 | 102.8 | 105.7 | 105.7 |
| 40° | 3899.7 | 2464.3 | 309.7 | 209.9 | 180.2 | 142.9 | 108.7 | 92.3 | 87.9 | 92.3 | 92.3 |
| 42.5° | 4175.2 | 2512.0 | 275.5 | 198.0 | 165.3 | 122.1 | 90.8 | 79.0 | 77.4 | 81.8 | 81.8 |
| 45° | 4534.0 | 2605.8 | 256.0 | 187.7 | 148.8 | 101.2 | 75.9 | 68.5 | 67.1 | 72.9 | 72.9 |
| 47.5° | 4968.9 | 2732.4 | 238.2 | 175.7 | 132.5 | 83.5 | 64.0 | 58.1 | 58.1 | 64.0 | 65.5 |
| 50° | 5484.1 | 2903.6 | 220.4 | 163.9 | 119.1 | 70.0 | 53.5 | 49.1 | 50.7 | 56.7 | 58.1 |
| 52.5° | 6076.7 | 3113.5 | 203.9 | 153.4 | 104.3 | 56.7 | 44.6 | 41.7 | 43.2 | 49.1 | 50.7 |
| 55° | 6587.5 | 3296.7 | 184.6 | 142.9 | 84.9 | 46.2 | 37.2 | 35.8 | 37.2 | 44.6 | 44.6 |
| 57.5° | 7032.7 | 3472.4 | 166.7 | 126.7 | 67.1 | 37.2 | 29.7 | 29.7 | 32.8 | 40.2 | 41.7 |
| 60° | 7623.7 | 3749.3 | 151.9 | 107.2 | 50.7 | 28.2 | 23.9 | 25.3 | 29.7 | 35.8 | 37.2 |
| 62.5° | 8670.5 | 4219.9 | 132.5 | 89.3 | 37.2 | 22.4 | 19.4 | 20.8 | 26.8 | 34.2 | 35.8 |
| 65° | 9980.9 | 4665.1 | 110.2 | 74.5 | 28.2 | 16.3 | 14.9 | 19.4 | 26.8 | 34.2 | 35.8 |
| 67.5° | 9846.9 | 4057.6 | 86.3 | 59.6 | 20.8 | 13.5 | 11.9 | 17.8 | 25.3 | 34.2 | 35.8 |
| 70° | 7985.7 | 2844.0 | 64.0 | 40.2 | 16.3 | 11.9 | 11.9 | 17.8 | 25.3 | 32.8 | 34.2 |
| 72.5° | 5539.0 | 1582.9 | 49.1 | 26.8 | 14.9 | 11.9 | 10.4 | 16.3 | 23.9 | 32.8 | 34.2 |
| 75° | 2635.5 | 485.4 | 38.6 | 19.4 | 13.5 | 10.4 | 9.0 | 16.3 | 23.9 | 32.8 | 34.2 |
| 77.5° | 506.3 | 123.5 | 31.4 | 16.3 | 11.9 | 10.4 | 9.0 | 14.9 | 23.9 | 31.4 | 32.8 |
| 80° | 171.2 | 55.1 | 25.3 | 14.9 | 11.9 | 10.4 | 9.0 | 14.9 | 22.4 | 29.7 | 31.4 |
| 82.5° | 93.9 | 31.4 | 22.4 | 13.5 | 11.9 | 9.0 | 7.5 | 13.5 | 20.8 | 29.7 | 31.4 |
| 85° | 72.9 | 22.4 | 17.8 | 13.5 | 11.9 | 9.0 | 7.5 | 13.5 | 20.8 | 28.2 | 29.7 |
| 87.5° | 37.2 | 16.3 | 14.9 | 13.5 | 11.9 | 9.0 | 7.5 | 11.9 | 19.4 | 26.8 | 29.7 |
| 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)