

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: P195951

Luminaire Tested: **NVN-AF-03-LED-U-5NQ**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P195951
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P24130)
Test Lab: INNOVATION CENTER P2
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: STREETWORKS
Catalog Number: NVN-AF-03-LED-U-5NQ
Description: NAVION ROADWAY AND AREA LUMINAIRE
(3) 70 CRI, 4000K, 1050mA LIGHTSQUARES WITH 16 LEDS EACH AND TYPE V
NARROW OPTICS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 19048.4 lumens
Efficiency: N/A
Efficacy: 114.7 lumens/watt
Luminous Opening: Rectangular (W 0.5' x L: 1.5' x H: 0')
IES Classification: Type V - Short - Full Cutoff
BUG Rating: B4 - U0 - G2

Input Watts (W): 166
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

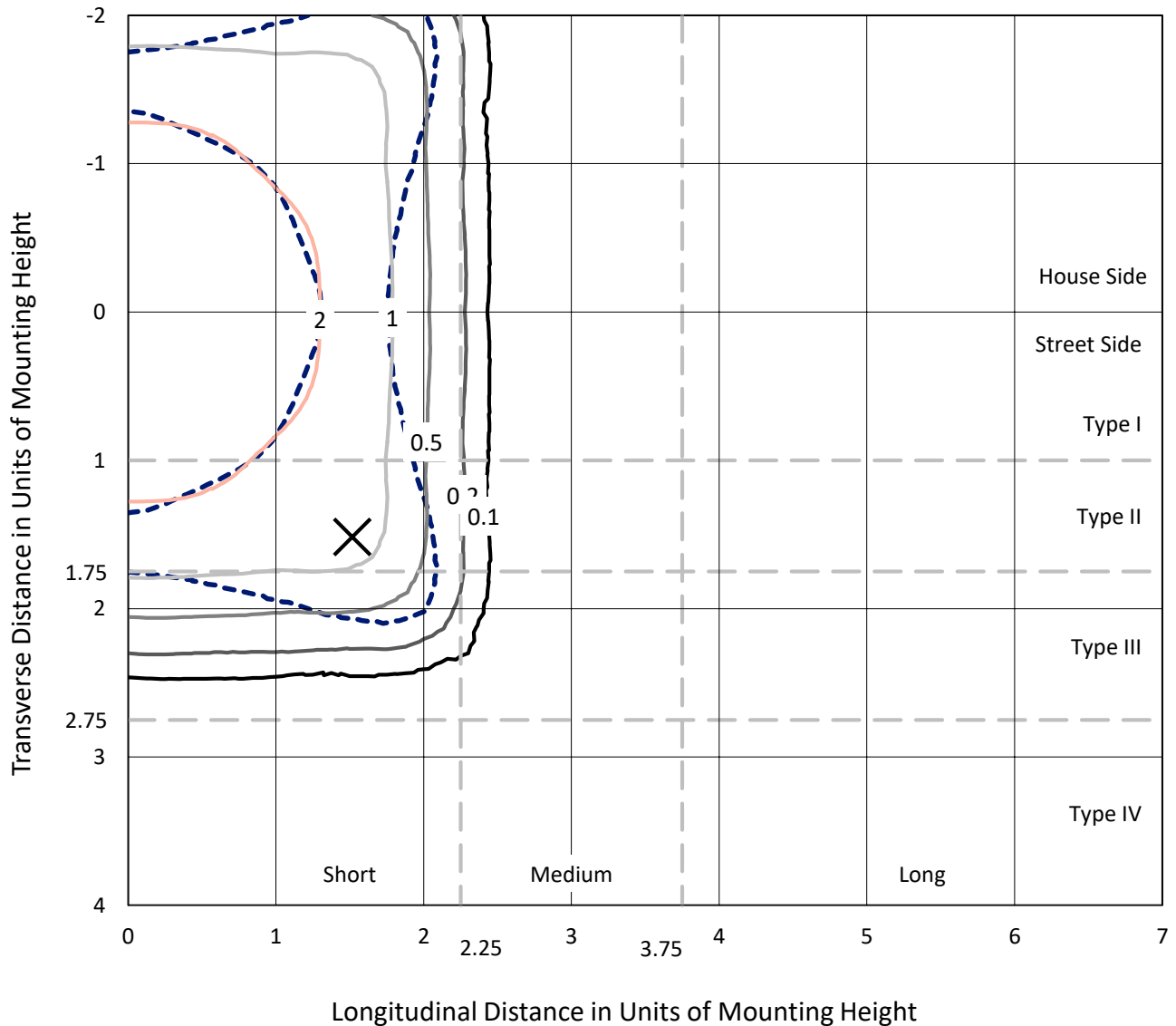


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Iso-Footcandle Lines of Horizontal Illumination

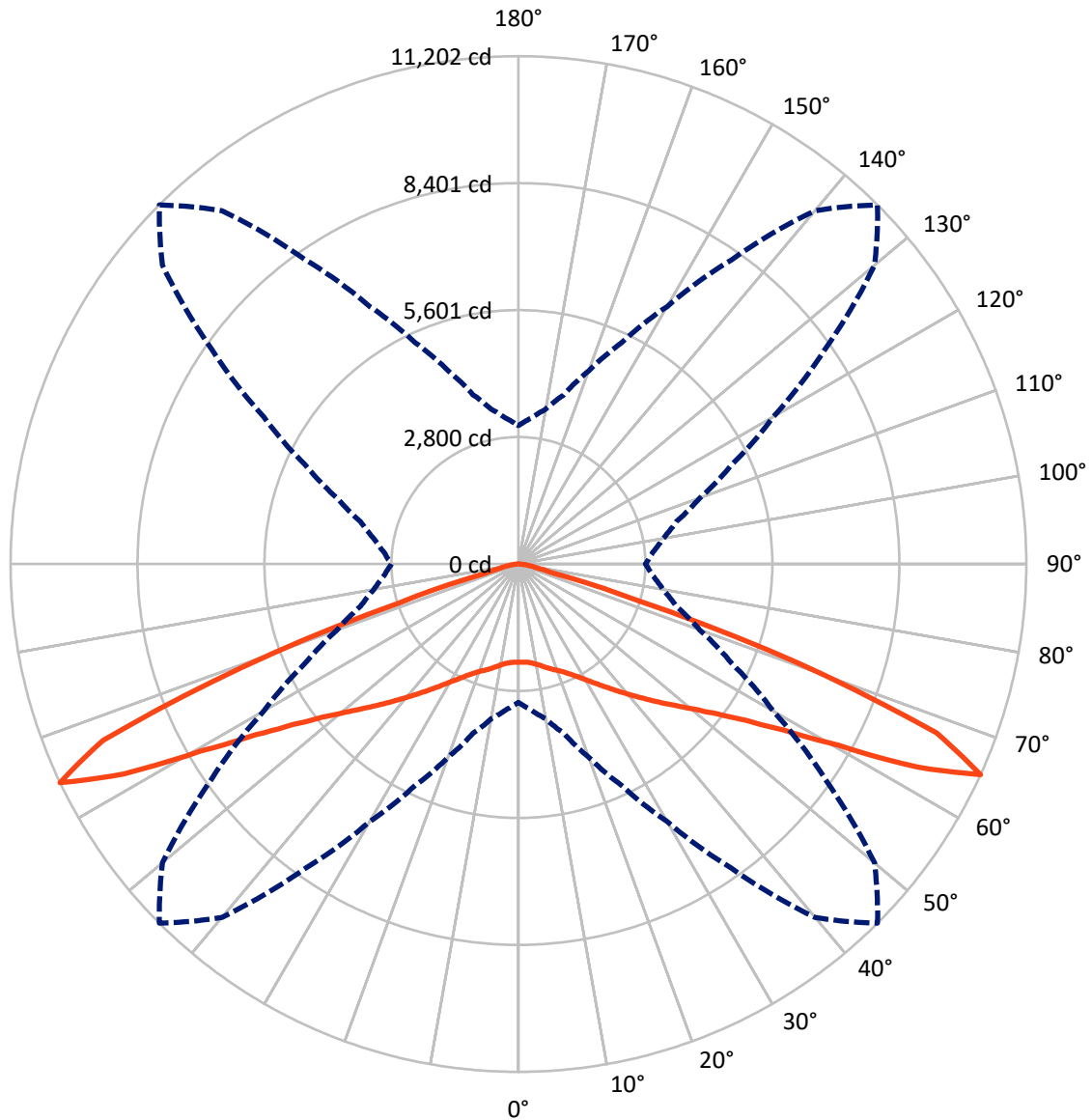
× Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 3.5 fc
 Type V - Short - Full Cutoff

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Luminous Intensity Polar Plot



— Vertical Plane Through 45-Deg Lateral - - - Horizontal Cone Through 65-Deg Vertical

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FLUX DISTRIBUTION:

| | | Downward | Upward | Total |
|--------------------|-----------|----------|--------|---------|
| House Side | Lumens | 9524.2 | 0.0 | 9524.2 |
| | % Fixture | 50.0 | 0.0 | 50.0 |
| Street Side | Lumens | 9524.2 | 0.0 | 9524.2 |
| | % Fixture | 50.0 | 0.0 | 50.0 |
| Total | Lumens | 19048.4 | 0.0 | 19048.4 |
| | % Fixture | 100.0 | 0.0 | 100.0 |

ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|---------|-----------|
| 0°-10° | 211.0 | 1.1 |
| 10°-20° | 676.3 | 3.6 |
| 20°-30° | 1261.5 | 6.6 |
| 30°-40° | 2127.1 | 11.2 |
| 40°-50° | 3455.1 | 18.1 |
| 50°-60° | 5413.6 | 28.4 |
| 60°-70° | 5110.2 | 26.8 |
| 70°-80° | 688.7 | 3.6 |
| 80°-90° | 104.9 | 0.6 |
| 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° | 19048.4 | 100.0 |
| 0°-180° | 19048.4 | 100.0 |

Coefficient of Utilization



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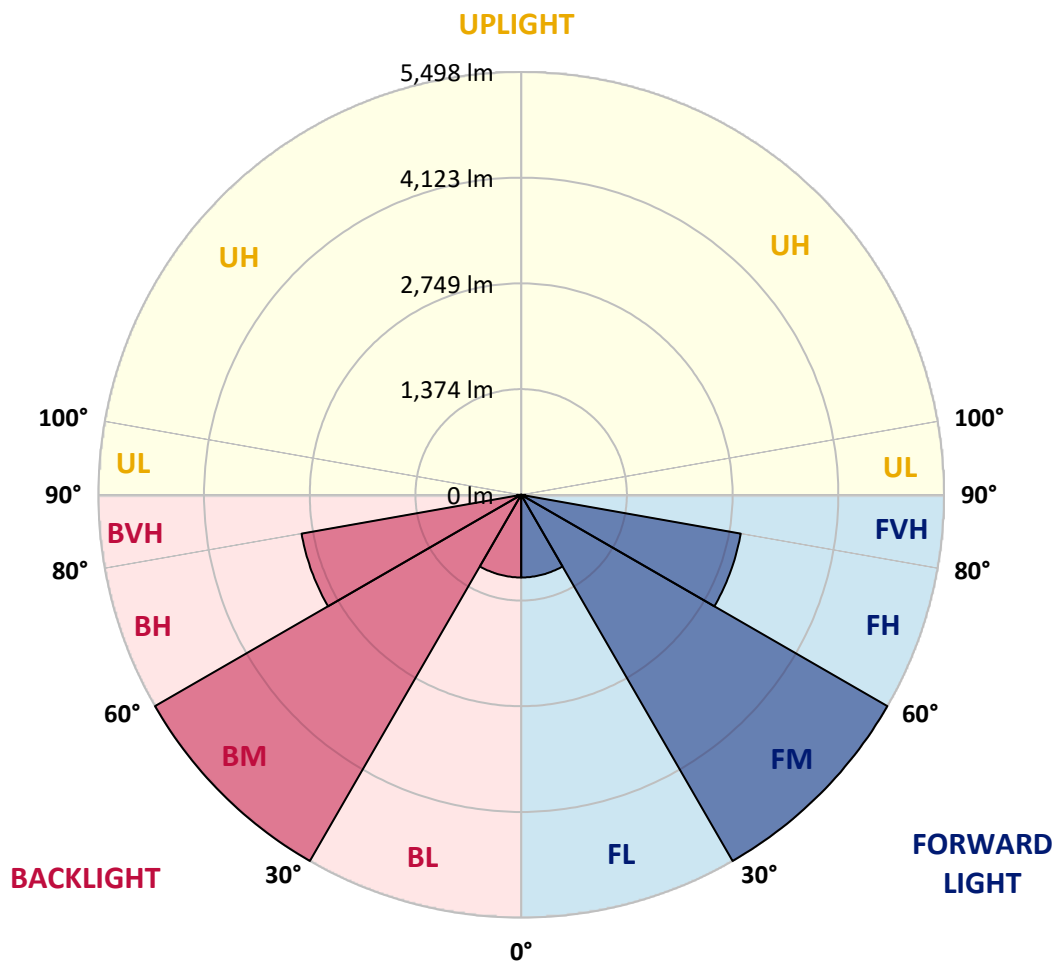
CATALOG NUMBER: NVN-AF-03-LED-U-5NQ

LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

| Zone | | Lumens | % Fixture | Zone Rating/Lumen Limit | | |
|------|-------------|--------|-----------|-------------------------|------|---------|
| | | | | B | U | G |
| FL | (0°-30°) | 1074.4 | 5.6 | | | |
| FM | (30°-60°) | 5497.9 | 28.9 | | | |
| FH | (60°-80°) | 2899.4 | 15.2 | | | G2/5000 |
| FVH | (80°-90°) | 52.5 | 0.3 | | | G1/100 |
| BL | (0°-30°) | 1074.4 | 5.6 | B3/2500 | | |
| BM | (30°-60°) | 5497.9 | 28.9 | B4/8500 | | |
| BH | (60°-80°) | 2899.4 | 15.2 | B4/5000 | | G2/5000 |
| BVH | (80°-90°) | 52.5 | 0.3 | | | G1/100 |
| UL | (90°-100°) | 0.0 | 0.0 | | U0/0 | |
| UH | (100°-180°) | 0.0 | 0.0 | | U0/0 | |

BUG Rating: B4-U0-G2

Type V Short





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CANDELA DISTRIBUTION (FULL):

| | 0° | 5° | 10° | 15° | 20° | 25° | 30° | 35° | 40° | 45° | 50° |
|-------|--------|--------|--------|--------|--------|--------|--------|--------|---------|---------|---------|
| 0° | 2166.7 | 2166.7 | 2166.7 | 2166.7 | 2166.7 | 2166.7 | 2166.7 | 2166.7 | 2166.7 | 2166.7 | 2166.7 |
| 2.5° | 2184.5 | 2184.5 | 2188.1 | 2186.9 | 2182.2 | 2178.6 | 2175.0 | 2170.3 | 2167.9 | 2165.6 | 2164.4 |
| 5° | 2196.4 | 2196.4 | 2200.0 | 2198.7 | 2195.3 | 2190.4 | 2188.1 | 2184.5 | 2180.9 | 2178.6 | 2179.8 |
| 7.5° | 2226.0 | 2227.3 | 2228.4 | 2227.3 | 2223.7 | 2220.1 | 2215.4 | 2214.2 | 2209.5 | 2205.9 | 2208.2 |
| 10° | 2271.2 | 2271.2 | 2272.4 | 2273.5 | 2271.2 | 2262.9 | 2262.9 | 2260.5 | 2255.7 | 2251.0 | 2252.1 |
| 12.5° | 2321.0 | 2321.0 | 2322.2 | 2322.2 | 2322.2 | 2317.4 | 2318.6 | 2317.4 | 2311.5 | 2309.1 | 2311.5 |
| 15° | 2369.7 | 2370.8 | 2370.8 | 2373.2 | 2373.2 | 2374.4 | 2379.2 | 2379.2 | 2376.7 | 2375.6 | 2375.6 |
| 17.5° | 2426.6 | 2429.0 | 2430.1 | 2433.7 | 2434.9 | 2437.3 | 2442.0 | 2443.2 | 2444.4 | 2440.9 | 2442.0 |
| 20° | 2502.5 | 2503.7 | 2507.3 | 2508.5 | 2513.2 | 2513.2 | 2515.5 | 2514.4 | 2512.1 | 2507.3 | 2507.3 |
| 22.5° | 2588.0 | 2590.3 | 2597.5 | 2597.5 | 2603.4 | 2599.8 | 2601.1 | 2597.5 | 2591.5 | 2589.2 | 2586.7 |
| 25° | 2699.5 | 2703.0 | 2709.0 | 2706.6 | 2709.0 | 2703.0 | 2703.0 | 2703.0 | 2699.5 | 2696.0 | 2694.8 |
| 27.5° | 2840.7 | 2834.8 | 2840.7 | 2835.9 | 2834.8 | 2830.0 | 2831.2 | 2828.9 | 2825.3 | 2824.1 | 2819.4 |
| 30° | 2987.8 | 2980.8 | 2984.3 | 2985.5 | 2983.1 | 2981.9 | 2977.2 | 2973.6 | 2967.7 | 2968.9 | 2965.3 |
| 32.5° | 3156.3 | 3149.3 | 3152.8 | 3154.0 | 3151.6 | 3154.0 | 3152.8 | 3144.4 | 3137.4 | 3142.1 | 3142.1 |
| 35° | 3356.9 | 3352.1 | 3361.6 | 3365.2 | 3358.0 | 3354.6 | 3349.8 | 3340.2 | 3329.6 | 3336.8 | 3337.9 |
| 37.5° | 3597.7 | 3591.8 | 3598.9 | 3608.5 | 3595.4 | 3588.3 | 3569.3 | 3555.1 | 3547.9 | 3551.5 | 3556.2 |
| 40° | 3848.1 | 3849.4 | 3869.5 | 3871.9 | 3857.6 | 3849.4 | 3830.3 | 3809.0 | 3788.8 | 3788.8 | 3794.7 |
| 42.5° | 4111.5 | 4115.1 | 4138.9 | 4147.1 | 4142.4 | 4127.0 | 4100.9 | 4074.8 | 4048.6 | 4053.4 | 4060.5 |
| 45° | 4409.4 | 4404.6 | 4429.6 | 4449.7 | 4446.2 | 4441.4 | 4416.5 | 4369.0 | 4345.3 | 4344.2 | 4356.0 |
| 47.5° | 4722.7 | 4732.2 | 4758.3 | 4792.6 | 4791.5 | 4779.6 | 4747.6 | 4703.6 | 4659.7 | 4663.3 | 4677.5 |
| 50° | 5088.2 | 5101.1 | 5145.1 | 5179.5 | 5184.2 | 5180.7 | 5142.7 | 5091.7 | 5030.0 | 5033.5 | 5052.6 |
| 52.5° | 5415.6 | 5434.6 | 5485.7 | 5556.9 | 5600.8 | 5620.9 | 5596.0 | 5548.5 | 5485.7 | 5489.2 | 5509.4 |
| 55° | 5712.3 | 5741.9 | 5817.9 | 5915.2 | 6003.0 | 6084.9 | 6121.6 | 6120.5 | 6074.2 | 6084.9 | 6111.0 |
| 57.5° | 5898.5 | 5940.1 | 6055.3 | 6211.9 | 6386.3 | 6551.2 | 6693.6 | 6827.7 | 6857.4 | 6913.1 | 6913.1 |
| 60° | 5648.2 | 5745.5 | 5898.5 | 6166.8 | 6509.6 | 6879.9 | 7281.0 | 7671.3 | 7923.0 | 8121.1 | 8014.3 |
| 62.5° | 4716.7 | 4860.3 | 5075.1 | 5428.7 | 5962.7 | 6623.6 | 7429.3 | 8337.0 | 9284.0 | 9863.0 | 9438.3 |
| 65° | 3052.0 | 3232.3 | 3466.1 | 3863.6 | 4536.4 | 5387.2 | 6560.7 | 8192.3 | 10173.9 | 11201.5 | 10252.2 |
| 67.5° | 1209.1 | 1331.4 | 1473.8 | 1756.2 | 2340.0 | 3175.3 | 4492.5 | 6504.9 | 8983.8 | 9953.2 | 8888.8 |
| 70° | 577.9 | 598.0 | 625.3 | 685.9 | 831.8 | 1122.5 | 1804.8 | 3205.0 | 5509.4 | 6531.0 | 5377.7 |
| 72.5° | 417.7 | 421.3 | 434.3 | 454.5 | 497.2 | 556.5 | 676.4 | 980.1 | 1899.7 | 2762.4 | 1902.1 |
| 75° | 316.8 | 321.6 | 328.7 | 339.4 | 361.9 | 390.4 | 435.5 | 522.1 | 650.3 | 749.9 | 649.1 |
| 77.5° | 240.9 | 245.6 | 251.5 | 262.3 | 274.2 | 294.3 | 310.9 | 345.3 | 399.9 | 421.3 | 418.9 |
| 80° | 175.6 | 183.9 | 193.4 | 203.0 | 211.2 | 220.8 | 221.9 | 238.6 | 269.3 | 289.5 | 283.6 |
| 82.5° | 111.5 | 118.7 | 143.6 | 154.3 | 155.5 | 157.8 | 156.6 | 157.8 | 174.4 | 188.6 | 183.9 |
| 85° | 71.2 | 75.9 | 89.0 | 100.9 | 98.5 | 103.2 | 103.2 | 100.9 | 93.7 | 80.7 | 96.2 |
| 87.5° | 35.6 | 36.8 | 42.8 | 53.4 | 51.0 | 45.1 | 43.9 | 43.9 | 32.0 | 27.3 | 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 |



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CANDELA DISTRIBUTION (continued):

| | 55° | 60° | 65° | 70° | 75° | 80° | 85° | 90° |
|-------|--------|--------|--------|--------|--------|--------|--------|--------|
| 0° | 2166.7 | 2166.7 | 2166.7 | 2166.7 | 2166.7 | 2166.7 | 2166.7 | 2166.7 |
| 2.5° | 2160.8 | 2163.1 | 2159.7 | 2159.7 | 2158.4 | 2160.8 | 2157.2 | 2157.2 |
| 5° | 2177.5 | 2180.9 | 2179.8 | 2179.8 | 2182.2 | 2184.5 | 2183.4 | 2182.2 |
| 7.5° | 2207.1 | 2209.5 | 2211.8 | 2213.1 | 2215.4 | 2214.2 | 2216.5 | 2215.4 |
| 10° | 2252.1 | 2249.8 | 2253.4 | 2249.8 | 2251.0 | 2248.7 | 2249.8 | 2249.8 |
| 12.5° | 2309.1 | 2305.5 | 2303.2 | 2300.8 | 2300.8 | 2296.1 | 2296.1 | 2297.2 |
| 15° | 2374.4 | 2368.4 | 2363.7 | 2361.4 | 2358.9 | 2358.9 | 2355.4 | 2357.8 |
| 17.5° | 2438.5 | 2432.6 | 2424.2 | 2424.2 | 2420.7 | 2418.3 | 2415.9 | 2421.8 |
| 20° | 2506.1 | 2500.2 | 2495.4 | 2494.3 | 2487.1 | 2484.7 | 2486.0 | 2493.0 |
| 22.5° | 2584.4 | 2580.8 | 2580.8 | 2578.4 | 2573.7 | 2570.2 | 2570.2 | 2578.4 |
| 25° | 2690.1 | 2682.9 | 2684.1 | 2685.2 | 2682.9 | 2682.9 | 2680.5 | 2686.5 |
| 27.5° | 2819.4 | 2813.4 | 2817.0 | 2819.4 | 2817.0 | 2820.6 | 2817.0 | 2821.7 |
| 30° | 2971.3 | 2967.7 | 2971.3 | 2974.8 | 2968.9 | 2968.9 | 2966.5 | 2970.0 |
| 32.5° | 3152.8 | 3148.0 | 3150.4 | 3150.4 | 3142.1 | 3135.0 | 3125.5 | 3132.6 |
| 35° | 3352.1 | 3346.2 | 3351.0 | 3354.6 | 3345.0 | 3337.9 | 3323.7 | 3329.6 |
| 37.5° | 3571.6 | 3574.0 | 3579.9 | 3595.4 | 3593.0 | 3581.1 | 3570.5 | 3575.2 |
| 40° | 3817.2 | 3829.1 | 3855.3 | 3865.9 | 3863.6 | 3851.7 | 3837.5 | 3839.9 |
| 42.5° | 4095.0 | 4110.4 | 4137.6 | 4155.4 | 4147.1 | 4130.6 | 4112.8 | 4119.8 |
| 45° | 4397.6 | 4421.3 | 4456.9 | 4474.7 | 4464.0 | 4446.2 | 4421.3 | 4434.3 |
| 47.5° | 4718.0 | 4765.4 | 4812.9 | 4836.6 | 4833.0 | 4808.1 | 4776.1 | 4779.6 |
| 50° | 5101.1 | 5164.1 | 5224.6 | 5248.4 | 5230.6 | 5192.6 | 5147.5 | 5146.3 |
| 52.5° | 5578.2 | 5645.9 | 5695.7 | 5689.8 | 5645.9 | 5586.5 | 5535.5 | 5533.1 |
| 55° | 6173.9 | 6196.4 | 6189.3 | 6138.3 | 6061.2 | 5968.6 | 5903.3 | 5892.6 |
| 57.5° | 6894.2 | 6818.2 | 6706.7 | 6552.4 | 6379.1 | 6203.6 | 6084.9 | 6040.9 |
| 60° | 7774.6 | 7431.6 | 7033.0 | 6612.9 | 6229.7 | 5942.5 | 5761.0 | 5650.6 |
| 62.5° | 8501.9 | 7508.8 | 6617.7 | 5887.9 | 5291.0 | 4936.2 | 4688.3 | 4535.2 |
| 65° | 8252.8 | 6487.1 | 5196.1 | 4255.2 | 3603.7 | 3237.0 | 2974.8 | 2800.3 |
| 67.5° | 6375.6 | 4334.7 | 3016.4 | 2090.8 | 1585.3 | 1342.0 | 1172.4 | 1062.0 |
| 70° | 3214.5 | 1662.4 | 1007.4 | 710.7 | 607.5 | 564.8 | 536.3 | 519.8 |
| 72.5° | 943.4 | 630.0 | 523.2 | 462.8 | 426.0 | 399.9 | 383.3 | 375.0 |
| 75° | 522.1 | 426.0 | 376.1 | 341.8 | 318.0 | 300.2 | 289.5 | 282.4 |
| 77.5° | 359.6 | 309.7 | 284.8 | 262.3 | 243.3 | 230.2 | 221.9 | 214.8 |
| 80° | 251.5 | 226.7 | 215.9 | 204.1 | 189.9 | 179.2 | 167.4 | 162.5 |
| 82.5° | 167.4 | 156.6 | 154.3 | 144.7 | 136.5 | 124.6 | 103.2 | 96.2 |
| 85° | 98.5 | 97.3 | 97.3 | 93.7 | 87.8 | 77.1 | 61.7 | 61.7 |
| 87.5° | 34.4 | 35.6 | 36.8 | 39.2 | 38.0 | 32.0 | 26.1 | 25.0 |
| 90° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

(END OF REPORT)