

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: P196912

Luminaire Tested: **NVN-AF-04-LED-U-5NQ-8030**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P196912
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-04-LED-U-5NQ-8030
Description: NAVION ROADWAY AND AREA LUMINAIRE
(4) 80 CRI, 3000K, 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: 20465 lumens
Efficiency: N/A
Efficacy: 91.0 lumens/watt
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')
IES Classification: Type V - Short - Full Cutoff
BUG Rating: B4 - U0 - G2

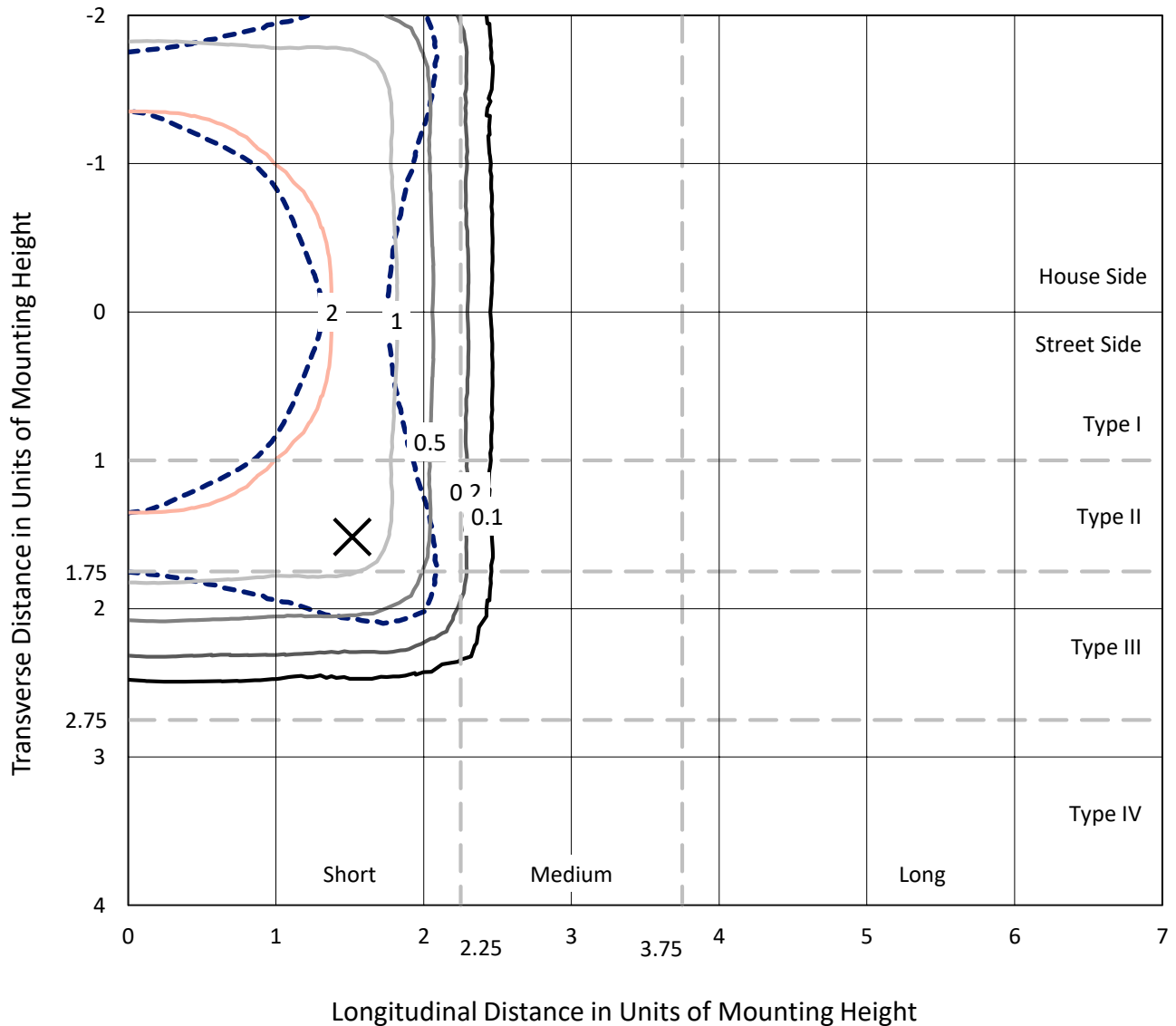
Input Watts (W): 225
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 28.75 FT



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Iso-Footcandle Lines of Horizontal Illumination

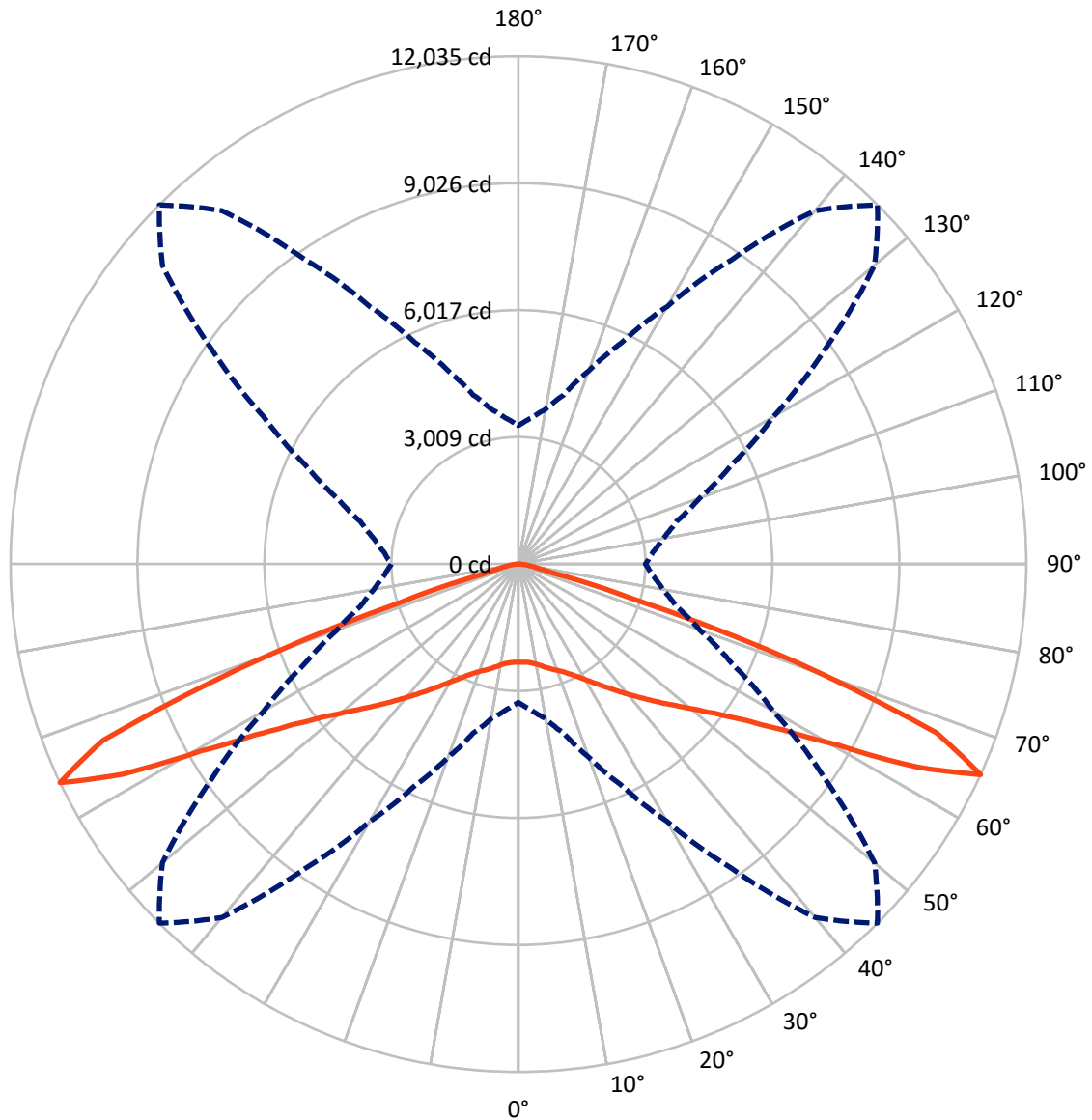
× Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 3.7 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 | 10232.5 | 0.0 | 10232.5 |
| | % Fixture | 50.0 | 0.0 | 50.0 |
| Street Side | Lumens | 10232.5 | 0.0 | 10232.5 |
| | % Fixture | 50.0 | 0.0 | 50.0 |
| Total | Lumens | 20465.0 | 0.0 | 20465.0 |
| | % Fixture | 100.0 | 0.0 | 100.0 |

ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|---------|-----------|
| 0°-10° | 226.7 | 1.1 |
| 10°-20° | 726.6 | 3.6 |
| 20°-30° | 1355.4 | 6.6 |
| 30°-40° | 2285.3 | 11.2 |
| 40°-50° | 3712.1 | 18.1 |
| 50°-60° | 5816.2 | 28.4 |
| 60°-70° | 5490.2 | 26.8 |
| 70°-80° | 739.9 | 3.6 |
| 80°-90° | 112.7 | 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° | 20465.0 | 100.0 |
| 0°-180° | 20465.0 | 100.0 |

Coefficient of Utilization



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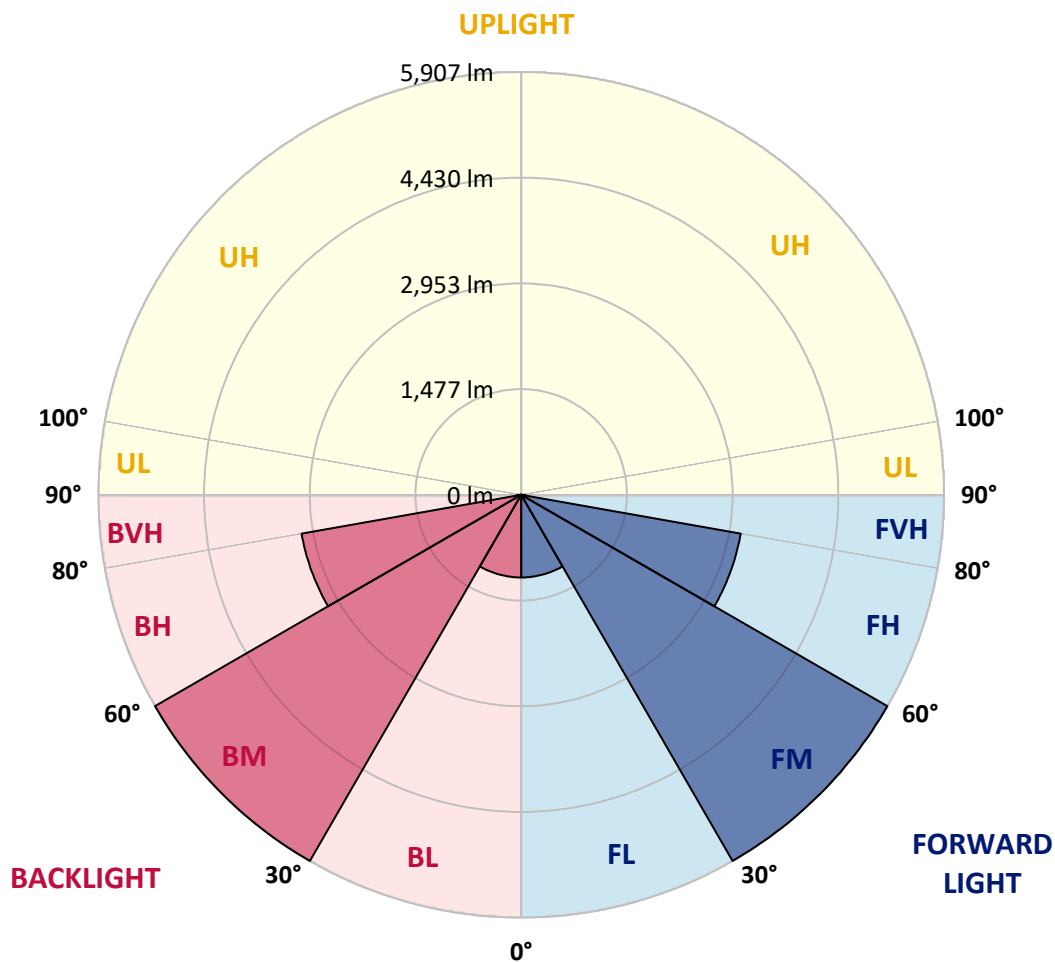
CATALOG NUMBER: NVN-AF-04-LED-U-5NQ-8030

LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

| Zone | | Lumens | % Fixture | Zone Rating/Lumen Limit | | |
|------|-------------|--------|-----------|-------------------------|------|---------|
| | | | | B | U | G |
| FL | (0°-30°) | 1154.3 | 5.6 | | | |
| FM | (30°-60°) | 5906.8 | 28.9 | | | |
| FH | (60°-80°) | 3115.0 | 15.2 | | | G2/5000 |
| FVH | (80°-90°) | 56.4 | 0.3 | | | G1/100 |
| BL | (0°-30°) | 1154.3 | 5.6 | B3/2500 | | |
| BM | (30°-60°) | 5906.8 | 28.9 | B4/8500 | | |
| BH | (60°-80°) | 3115.0 | 15.2 | B4/5000 | | G2/5000 |
| BVH | (80°-90°) | 56.4 | 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° | 2327.9 | 2327.9 | 2327.9 | 2327.9 | 2327.9 | 2327.9 | 2327.9 | 2327.9 | 2327.9 | 2327.9 | 2327.9 |
| 2.5° | 2347.0 | 2347.0 | 2350.8 | 2349.5 | 2344.4 | 2340.6 | 2336.8 | 2331.7 | 2329.1 | 2326.6 | 2325.3 |
| 5° | 2359.7 | 2359.7 | 2363.6 | 2362.3 | 2358.5 | 2353.4 | 2350.8 | 2347.0 | 2343.2 | 2340.6 | 2341.9 |
| 7.5° | 2391.6 | 2392.9 | 2394.2 | 2392.9 | 2389.1 | 2385.2 | 2380.1 | 2378.9 | 2373.8 | 2369.9 | 2372.5 |
| 10° | 2440.1 | 2440.1 | 2441.3 | 2442.6 | 2440.1 | 2431.1 | 2431.1 | 2428.6 | 2423.5 | 2418.4 | 2419.7 |
| 12.5° | 2493.6 | 2493.6 | 2494.9 | 2494.9 | 2494.9 | 2489.8 | 2491.0 | 2489.8 | 2483.4 | 2480.9 | 2483.4 |
| 15° | 2545.9 | 2547.1 | 2547.1 | 2549.7 | 2549.7 | 2551.0 | 2556.1 | 2556.1 | 2553.5 | 2552.2 | 2552.2 |
| 17.5° | 2607.1 | 2609.6 | 2610.9 | 2614.7 | 2616.0 | 2618.5 | 2623.6 | 2624.9 | 2626.2 | 2622.4 | 2623.6 |
| 20° | 2688.7 | 2689.9 | 2693.8 | 2695.0 | 2700.1 | 2700.1 | 2702.7 | 2701.4 | 2698.8 | 2693.8 | 2693.8 |
| 22.5° | 2780.4 | 2783.0 | 2790.6 | 2790.6 | 2797.0 | 2793.2 | 2794.5 | 2790.6 | 2784.3 | 2781.7 | 2779.2 |
| 25° | 2900.3 | 2904.1 | 2910.5 | 2907.9 | 2910.5 | 2904.1 | 2904.1 | 2904.1 | 2900.3 | 2896.5 | 2895.2 |
| 27.5° | 3052.0 | 3045.6 | 3052.0 | 3046.9 | 3045.6 | 3040.5 | 3041.8 | 3039.2 | 3035.4 | 3034.1 | 3029.0 |
| 30° | 3210.1 | 3202.4 | 3206.2 | 3207.5 | 3205.0 | 3203.7 | 3198.6 | 3194.8 | 3188.4 | 3189.7 | 3185.8 |
| 32.5° | 3391.1 | 3383.4 | 3387.3 | 3388.5 | 3386.0 | 3388.5 | 3387.3 | 3378.3 | 3370.7 | 3375.8 | 3375.8 |
| 35° | 3606.5 | 3601.4 | 3611.6 | 3615.5 | 3607.8 | 3604.0 | 3598.9 | 3588.7 | 3577.2 | 3584.9 | 3586.1 |
| 37.5° | 3865.3 | 3859.0 | 3866.6 | 3876.8 | 3862.8 | 3855.1 | 3834.7 | 3819.4 | 3811.8 | 3815.6 | 3820.7 |
| 40° | 4134.3 | 4135.6 | 4157.3 | 4159.8 | 4144.5 | 4135.6 | 4115.2 | 4092.3 | 4070.6 | 4070.6 | 4077.0 |
| 42.5° | 4417.3 | 4421.2 | 4446.7 | 4455.6 | 4450.5 | 4433.9 | 4405.9 | 4377.8 | 4349.8 | 4354.9 | 4362.5 |
| 45° | 4737.3 | 4732.2 | 4759.0 | 4780.7 | 4776.8 | 4771.7 | 4745.0 | 4694.0 | 4668.5 | 4667.2 | 4680.0 |
| 47.5° | 5073.9 | 5084.1 | 5112.1 | 5149.1 | 5147.8 | 5135.1 | 5100.7 | 5053.5 | 5006.3 | 5010.1 | 5025.4 |
| 50° | 5466.5 | 5480.6 | 5527.7 | 5564.7 | 5569.8 | 5566.0 | 5525.2 | 5470.4 | 5404.1 | 5407.9 | 5428.3 |
| 52.5° | 5818.4 | 5838.8 | 5893.6 | 5970.1 | 6017.3 | 6038.9 | 6012.2 | 5961.2 | 5893.6 | 5897.4 | 5919.1 |
| 55° | 6137.1 | 6169.0 | 6250.6 | 6355.1 | 6449.4 | 6537.4 | 6576.9 | 6575.7 | 6525.9 | 6537.4 | 6565.5 |
| 57.5° | 6337.3 | 6381.9 | 6505.5 | 6673.8 | 6861.2 | 7038.4 | 7191.4 | 7335.5 | 7367.3 | 7427.3 | 7427.3 |
| 60° | 6068.3 | 6172.8 | 6337.3 | 6625.4 | 6993.8 | 7391.6 | 7822.5 | 8241.9 | 8512.1 | 8725.0 | 8610.3 |
| 62.5° | 5067.5 | 5221.8 | 5452.5 | 5832.4 | 6406.1 | 7116.2 | 7981.8 | 8957.1 | 9974.4 | 10596.5 | 10140.1 |
| 65° | 3278.9 | 3472.7 | 3723.8 | 4150.9 | 4873.7 | 5787.8 | 7048.6 | 8801.5 | 10930.5 | 12034.5 | 11014.7 |
| 67.5° | 1299.1 | 1430.4 | 1583.4 | 1886.8 | 2514.0 | 3411.5 | 4826.6 | 6988.7 | 9651.9 | 10693.4 | 9549.9 |
| 70° | 620.9 | 642.5 | 671.8 | 736.9 | 893.7 | 1206.0 | 1939.0 | 3443.4 | 5919.1 | 7016.8 | 5777.6 |
| 72.5° | 448.7 | 452.6 | 466.6 | 488.3 | 534.2 | 597.9 | 726.7 | 1053.0 | 2041.0 | 2967.8 | 2043.6 |
| 75° | 340.4 | 345.5 | 353.1 | 364.6 | 388.8 | 419.4 | 467.9 | 560.9 | 698.6 | 805.7 | 697.3 |
| 77.5° | 258.8 | 263.9 | 270.3 | 281.7 | 294.5 | 316.2 | 334.0 | 371.0 | 429.6 | 452.6 | 450.0 |
| 80° | 188.7 | 197.6 | 207.8 | 218.0 | 226.9 | 237.1 | 238.4 | 256.2 | 289.4 | 311.1 | 304.7 |
| 82.5° | 119.8 | 127.5 | 154.3 | 165.7 | 167.0 | 169.6 | 168.3 | 169.6 | 187.4 | 202.7 | 197.6 |
| 85° | 76.5 | 81.6 | 95.6 | 108.4 | 105.8 | 110.9 | 110.9 | 108.4 | 100.7 | 86.7 | 103.3 |
| 87.5° | 38.2 | 39.5 | 45.9 | 57.4 | 54.8 | 48.4 | 47.2 | 47.2 | 34.4 | 29.3 | 31.9 |
| 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° | 2327.9 | 2327.9 | 2327.9 | 2327.9 | 2327.9 | 2327.9 | 2327.9 | 2327.9 |
| 2.5° | 2321.5 | 2324.0 | 2320.2 | 2320.2 | 2318.9 | 2321.5 | 2317.7 | 2317.7 |
| 5° | 2339.3 | 2343.2 | 2341.9 | 2341.9 | 2344.4 | 2347.0 | 2345.7 | 2344.4 |
| 7.5° | 2371.2 | 2373.8 | 2376.3 | 2377.6 | 2380.1 | 2378.9 | 2381.4 | 2380.1 |
| 10° | 2419.7 | 2417.1 | 2420.9 | 2417.1 | 2418.4 | 2415.8 | 2417.1 | 2417.1 |
| 12.5° | 2480.9 | 2477.0 | 2474.5 | 2471.9 | 2471.9 | 2466.8 | 2466.8 | 2468.1 |
| 15° | 2551.0 | 2544.6 | 2539.5 | 2536.9 | 2534.4 | 2534.4 | 2530.6 | 2533.1 |
| 17.5° | 2619.8 | 2613.4 | 2604.5 | 2604.5 | 2600.7 | 2598.1 | 2595.6 | 2602.0 |
| 20° | 2692.5 | 2686.1 | 2681.0 | 2679.7 | 2672.1 | 2669.5 | 2670.8 | 2678.5 |
| 22.5° | 2776.6 | 2772.8 | 2772.8 | 2770.2 | 2765.1 | 2761.3 | 2761.3 | 2770.2 |
| 25° | 2890.1 | 2882.4 | 2883.7 | 2885.0 | 2882.4 | 2882.4 | 2879.9 | 2886.3 |
| 27.5° | 3029.0 | 3022.7 | 3026.5 | 3029.0 | 3026.5 | 3030.3 | 3026.5 | 3031.6 |
| 30° | 3192.2 | 3188.4 | 3192.2 | 3196.0 | 3189.7 | 3189.7 | 3187.1 | 3190.9 |
| 32.5° | 3387.3 | 3382.2 | 3384.7 | 3384.7 | 3375.8 | 3368.1 | 3357.9 | 3365.6 |
| 35° | 3601.4 | 3595.1 | 3600.2 | 3604.0 | 3593.8 | 3586.1 | 3570.8 | 3577.2 |
| 37.5° | 3837.3 | 3839.8 | 3846.2 | 3862.8 | 3860.2 | 3847.5 | 3836.0 | 3841.1 |
| 40° | 4101.2 | 4113.9 | 4142.0 | 4153.4 | 4150.9 | 4138.2 | 4122.9 | 4125.4 |
| 42.5° | 4399.5 | 4416.1 | 4445.4 | 4464.5 | 4455.6 | 4437.7 | 4418.6 | 4426.3 |
| 45° | 4724.6 | 4750.1 | 4788.3 | 4807.4 | 4796.0 | 4776.8 | 4750.1 | 4764.1 |
| 47.5° | 5068.8 | 5119.8 | 5170.8 | 5196.3 | 5192.4 | 5165.7 | 5131.3 | 5135.1 |
| 50° | 5480.6 | 5548.1 | 5613.1 | 5638.6 | 5619.5 | 5578.7 | 5530.3 | 5529.0 |
| 52.5° | 5993.1 | 6065.7 | 6119.3 | 6112.9 | 6065.7 | 6002.0 | 5947.2 | 5944.6 |
| 55° | 6633.0 | 6657.2 | 6649.6 | 6594.8 | 6511.9 | 6412.5 | 6342.4 | 6330.9 |
| 57.5° | 7406.9 | 7325.3 | 7205.4 | 7039.7 | 6853.6 | 6664.9 | 6537.4 | 6490.2 |
| 60° | 8352.8 | 7984.4 | 7556.0 | 7104.7 | 6692.9 | 6384.4 | 6189.4 | 6070.8 |
| 62.5° | 9134.3 | 8067.2 | 7109.8 | 6325.8 | 5684.5 | 5303.4 | 5036.9 | 4872.5 |
| 65° | 8866.6 | 6969.6 | 5582.6 | 4571.6 | 3871.7 | 3477.8 | 3196.0 | 3008.6 |
| 67.5° | 6849.7 | 4657.0 | 3240.7 | 2246.3 | 1703.2 | 1441.9 | 1259.5 | 1141.0 |
| 70° | 3453.6 | 1786.1 | 1082.3 | 763.6 | 652.7 | 606.8 | 576.2 | 558.4 |
| 72.5° | 1013.5 | 676.9 | 562.2 | 497.2 | 457.7 | 429.6 | 411.8 | 402.9 |
| 75° | 560.9 | 457.7 | 404.1 | 367.2 | 341.7 | 322.5 | 311.1 | 303.4 |
| 77.5° | 386.3 | 332.7 | 306.0 | 281.7 | 261.3 | 247.3 | 238.4 | 230.7 |
| 80° | 270.3 | 243.5 | 232.0 | 219.3 | 204.0 | 192.5 | 179.8 | 174.7 |
| 82.5° | 179.8 | 168.3 | 165.7 | 155.5 | 146.6 | 133.9 | 110.9 | 103.3 |
| 85° | 105.8 | 104.5 | 104.5 | 100.7 | 94.3 | 82.9 | 66.3 | 66.3 |
| 87.5° | 37.0 | 38.2 | 39.5 | 42.1 | 40.8 | 34.4 | 28.0 | 26.8 |
| 90° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

(END OF REPORT)