

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: P196185

Luminaire Tested: **NVN-AF-03-LED-U-SL4-800**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P196185
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P24284)
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-SL4-800
Description: NAVION ROADWAY AND AREA LUMINAIRE
(3) 70 CRI, 4000K, 800mA LIGHTSQUARES WITH 16 LEDS EACH AND TYPE IV SPILL
LIGHT ELIMINATOR OPTICS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 14282.4 lumens
Efficiency: N/A
Efficacy: 115.2 lumens/watt
Luminous Opening: Rectangular (W 0.5' x L: 1.5' x H: 0')
IES Classification: Type IV - Short - Non-Cutoff
BUG Rating: B1 - U0 - G3

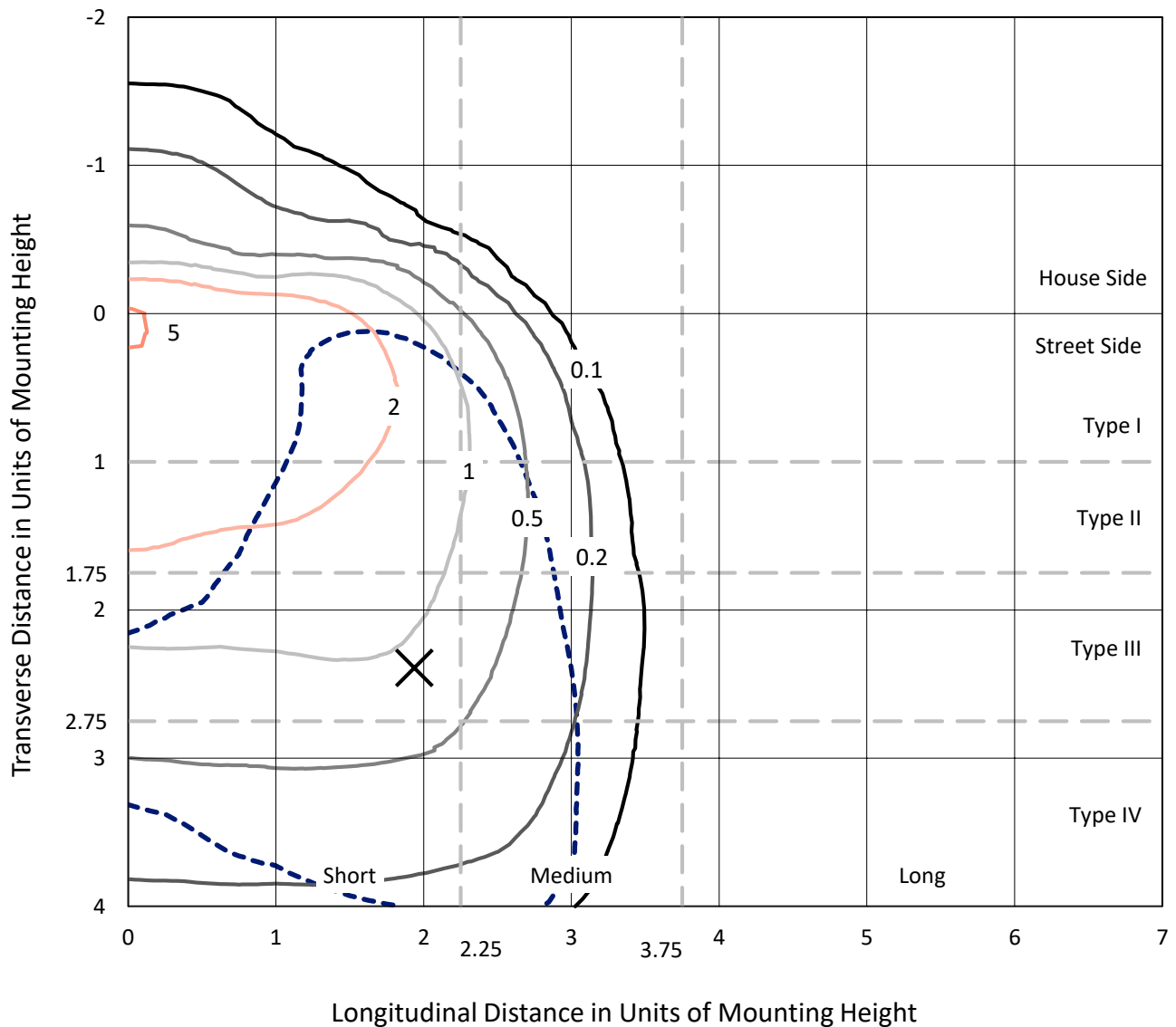
Input Watts (W): 124
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 28.75 FT



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Iso-Footcandle Lines of Horizontal Illumination

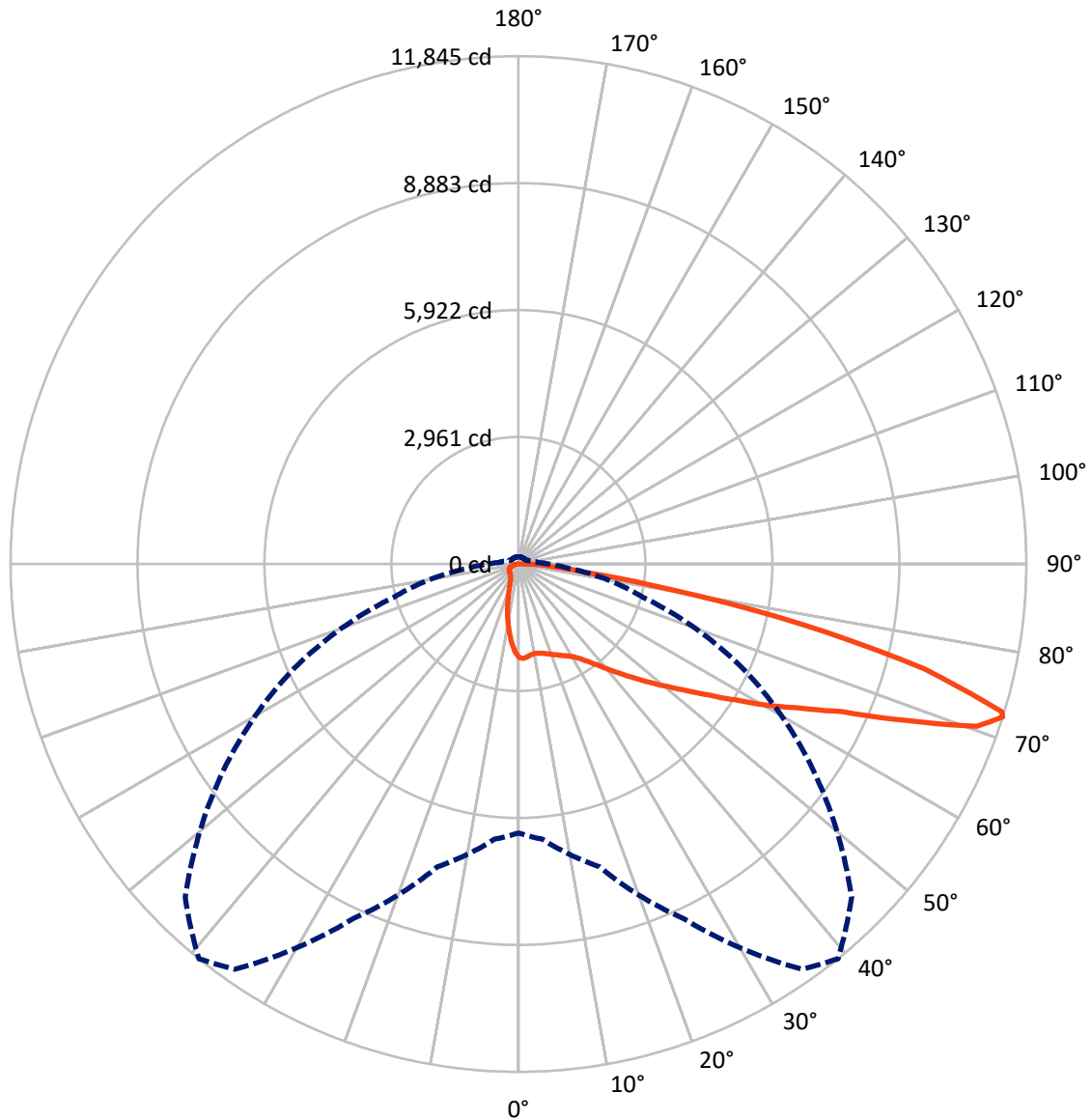
× Max cd
 - - - 1/2 Max cd



Based on 20 foot mounting height. Maximum calculated value = 5.5 fc
 Type IV - Short - Non-Cutoff

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Luminous Intensity Polar Plot



— Vertical Plane Through 39-Deg Lateral - - - Horizontal Cone Through 72-Deg Vertical

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FLUX DISTRIBUTION:

| | | Downward | Upward | Total |
|--------------------|-----------|----------|--------|---------|
| House Side | Lumens | 1637.7 | 0.0 | 1637.7 |
| | % Fixture | 11.5 | 0.0 | 11.5 |
| Street Side | Lumens | 12644.8 | 0.0 | 12644.8 |
| | % Fixture | 88.5 | 0.0 | 88.5 |
| Total | Lumens | 14282.4 | 0.0 | 14282.4 |
| | % Fixture | 100.0 | 0.0 | 100.0 |

ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|---------|-----------|
| 0°-10° | 187.4 | 1.3 |
| 10°-20° | 471.0 | 3.3 |
| 20°-30° | 734.0 | 5.1 |
| 30°-40° | 1130.1 | 7.9 |
| 40°-50° | 1842.4 | 12.9 |
| 50°-60° | 2862.9 | 20.0 |
| 60°-70° | 3831.8 | 26.8 |
| 70°-80° | 2755.6 | 19.3 |
| 80°-90° | 467.1 | 3.3 |
| 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° | 14282.4 | 100.0 |
| 0°-180° | 14282.4 | 100.0 |

Coefficient of Utilization



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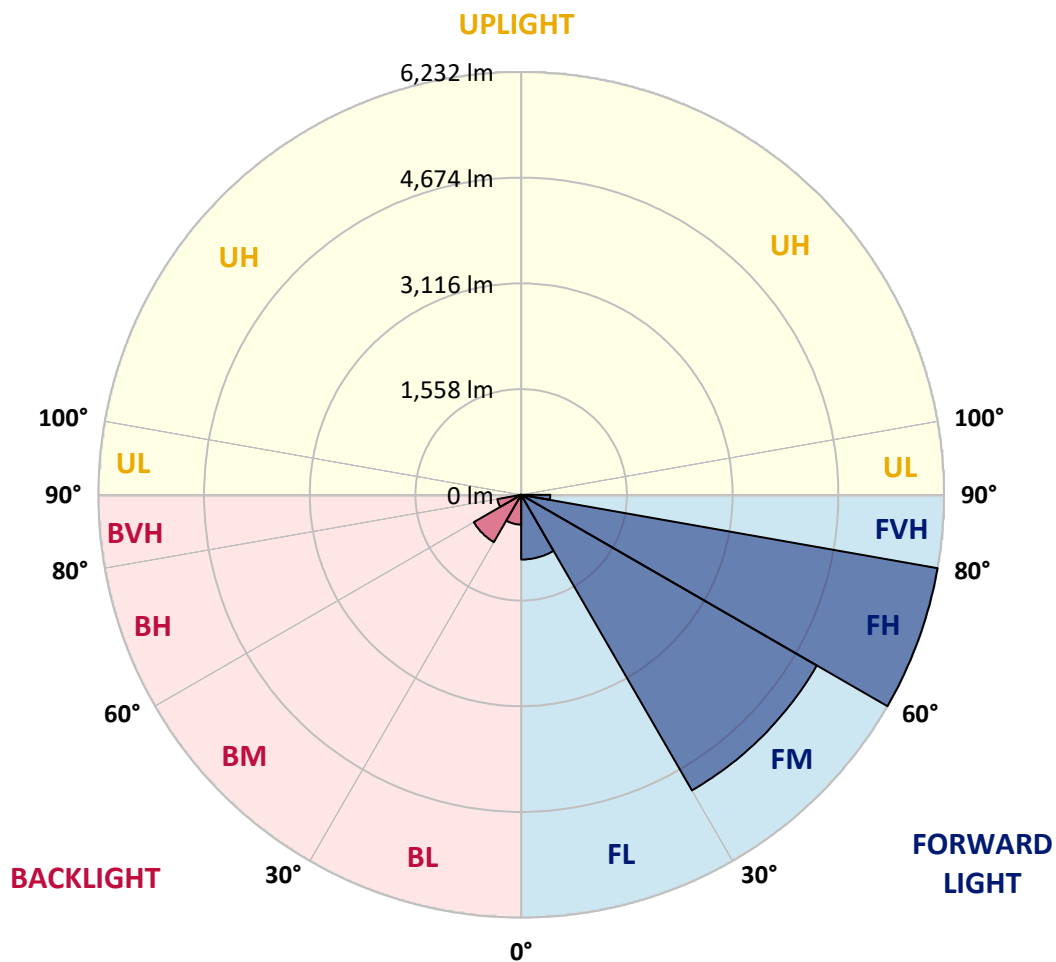
CATALOG NUMBER: NVN-AF-03-LED-U-SL4-800

LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

| Zone | | Lumens | % Fixture | Zone Rating/Lumen Limit | | |
|------|-------------|--------|-----------|-------------------------|------|---------|
| | | | | B | U | G |
| FL | (0°-30°) | 954.0 | 6.7 | | | |
| FM | (30°-60°) | 5030.6 | 35.2 | | | |
| FH | (60°-80°) | 6231.7 | 43.6 | | | G3/7500 |
| FVH | (80°-90°) | 428.5 | 3.0 | | | G3/500 |
| BL | (0°-30°) | 438.4 | 3.1 | B1/500 | | |
| BM | (30°-60°) | 804.8 | 5.6 | B1/1000 | | |
| BH | (60°-80°) | 355.8 | 2.5 | B1/500 | | G1/500 |
| BVH | (80°-90°) | 38.6 | 0.3 | | | G1/100 |
| UL | (90°-100°) | 0.0 | 0.0 | | U0/0 | |
| UH | (100°-180°) | 0.0 | 0.0 | | U0/0 | |

BUG Rating: B1-U0-G3

Type IV Short





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CANDELA DISTRIBUTION (FULL):

| | 0° | 5° | 15° | 25° | 35° | 39° | 45° | 55° | 65° | 75° | 85° |
|-------|--------|--------|--------|--------|---------|---------|---------|--------|--------|--------|--------|
| 0° | 2181.1 | 2181.1 | 2181.1 | 2181.1 | 2181.1 | 2181.1 | 2181.1 | 2181.1 | 2181.1 | 2181.1 | 2181.1 |
| 2.5° | 2228.2 | 2229.1 | 2226.2 | 2217.7 | 2210.0 | 2206.1 | 2199.4 | 2187.9 | 2172.5 | 2162.0 | 2153.4 |
| 5° | 2207.1 | 2210.0 | 2208.0 | 2193.6 | 2180.2 | 2172.5 | 2162.0 | 2145.7 | 2125.6 | 2117.0 | 2096.8 |
| 7.5° | 2190.8 | 2192.7 | 2187.0 | 2170.6 | 2144.7 | 2135.2 | 2116.0 | 2094.9 | 2076.7 | 2064.2 | 2040.3 |
| 10° | 2179.3 | 2181.1 | 2176.4 | 2160.1 | 2131.3 | 2119.9 | 2096.8 | 2073.8 | 2049.8 | 2034.4 | 2007.6 |
| 12.5° | 2162.9 | 2166.8 | 2166.8 | 2159.1 | 2139.9 | 2132.2 | 2109.3 | 2084.4 | 2062.3 | 2046.0 | 2012.5 |
| 15° | 2160.1 | 2164.9 | 2173.6 | 2172.5 | 2166.8 | 2161.1 | 2142.9 | 2117.9 | 2098.7 | 2079.6 | 2038.3 |
| 17.5° | 2184.1 | 2194.6 | 2211.8 | 2217.7 | 2213.8 | 2201.3 | 2180.2 | 2157.2 | 2136.1 | 2117.9 | 2067.1 |
| 20° | 2244.5 | 2250.2 | 2276.1 | 2287.6 | 2268.4 | 2250.2 | 2222.4 | 2192.7 | 2173.6 | 2159.1 | 2094.0 |
| 22.5° | 2335.5 | 2343.2 | 2364.3 | 2365.3 | 2325.0 | 2303.0 | 2267.5 | 2231.1 | 2212.8 | 2207.1 | 2130.4 |
| 25° | 2481.3 | 2479.3 | 2485.2 | 2461.1 | 2388.3 | 2362.4 | 2319.2 | 2277.1 | 2264.6 | 2276.1 | 2184.1 |
| 27.5° | 2655.8 | 2651.0 | 2632.8 | 2570.5 | 2460.2 | 2426.6 | 2374.9 | 2337.4 | 2337.4 | 2364.3 | 2256.9 |
| 30° | 2857.1 | 2852.3 | 2792.9 | 2688.4 | 2545.5 | 2507.2 | 2452.5 | 2413.2 | 2433.3 | 2485.2 | 2355.7 |
| 32.5° | 3070.0 | 3052.7 | 2969.3 | 2829.3 | 2667.2 | 2625.1 | 2572.3 | 2532.1 | 2570.5 | 2658.6 | 2497.5 |
| 35° | 3270.4 | 3260.8 | 3158.2 | 2992.3 | 2824.5 | 2789.1 | 2752.7 | 2702.7 | 2764.1 | 2901.2 | 2697.9 |
| 37.5° | 3477.4 | 3469.7 | 3344.1 | 3167.8 | 3016.3 | 2992.3 | 2961.6 | 2927.1 | 3025.9 | 3206.1 | 2969.3 |
| 40° | 3708.5 | 3693.2 | 3534.9 | 3358.6 | 3239.7 | 3228.1 | 3211.9 | 3202.2 | 3361.4 | 3629.8 | 3312.5 |
| 42.5° | 3970.3 | 3940.5 | 3736.3 | 3568.6 | 3483.1 | 3492.8 | 3484.2 | 3522.5 | 3766.0 | 4118.8 | 3721.0 |
| 45° | 4269.4 | 4210.0 | 3936.7 | 3791.9 | 3752.6 | 3791.0 | 3809.2 | 3907.0 | 4244.4 | 4683.6 | 4177.3 |
| 47.5° | 4549.4 | 4472.6 | 4156.2 | 4034.5 | 4056.5 | 4122.7 | 4174.5 | 4347.0 | 4768.9 | 5241.6 | 4643.3 |
| 50° | 4807.3 | 4720.9 | 4391.1 | 4285.7 | 4393.1 | 4487.0 | 4594.4 | 4837.9 | 5326.9 | 5815.9 | 5070.9 |
| 52.5° | 4998.0 | 4935.7 | 4626.0 | 4559.9 | 4779.4 | 4904.0 | 5075.7 | 5383.5 | 5890.7 | 6363.3 | 5452.5 |
| 55° | 5145.6 | 5112.1 | 4855.1 | 4874.4 | 5216.6 | 5394.9 | 5603.0 | 5956.7 | 6486.9 | 6854.2 | 5759.3 |
| 57.5° | 5316.4 | 5291.4 | 5116.9 | 5254.0 | 5759.3 | 5983.6 | 6229.1 | 6622.2 | 7054.6 | 7286.6 | 5999.9 |
| 60° | 5496.6 | 5496.6 | 5408.3 | 5711.3 | 6438.0 | 6695.0 | 6939.5 | 7245.4 | 7620.3 | 7675.8 | 6097.7 |
| 62.5° | 5632.8 | 5668.2 | 5699.9 | 6198.4 | 7082.4 | 7401.7 | 7670.1 | 7963.5 | 8206.0 | 7867.6 | 5867.6 |
| 65° | 5830.2 | 5906.0 | 6084.3 | 6761.2 | 7880.1 | 8298.1 | 8660.5 | 8906.9 | 8680.7 | 7715.2 | 5116.9 |
| 67.5° | 6169.6 | 6281.8 | 6661.5 | 7599.2 | 9101.5 | 9727.6 | 10079.4 | 9653.8 | 8587.7 | 6755.5 | 3919.4 |
| 70° | 6475.5 | 6633.6 | 7282.8 | 8662.4 | 10689.2 | 11339.3 | 11177.3 | 9480.2 | 7479.3 | 4952.0 | 2411.3 |
| 72° | 6272.2 | 6444.8 | 7311.5 | 9125.5 | 11537.8 | 11844.5 | 10990.3 | 8401.6 | 5779.5 | 3022.0 | 1188.9 |
| 72.5° | 6138.9 | 6318.3 | 7218.6 | 9114.0 | 11560.8 | 11780.3 | 10730.4 | 7973.1 | 5246.3 | 2644.2 | 961.7 |
| 75° | 5128.5 | 5281.8 | 6207.1 | 8077.5 | 10187.8 | 9785.1 | 8373.9 | 5160.1 | 2411.3 | 854.3 | 494.7 |
| 77.5° | 3348.9 | 3466.0 | 4279.9 | 5596.3 | 7136.1 | 6748.7 | 5096.8 | 2416.1 | 904.1 | 518.7 | 372.0 |
| 80° | 1682.7 | 1766.0 | 2290.5 | 2942.4 | 3851.3 | 3543.6 | 2352.8 | 1168.7 | 605.0 | 374.9 | 292.5 |
| 82.5° | 1170.7 | 1247.4 | 1577.2 | 1502.4 | 1609.7 | 1558.0 | 1106.4 | 975.1 | 452.6 | 236.8 | 153.4 |
| 85° | 981.7 | 1061.3 | 1304.9 | 1070.9 | 876.3 | 798.6 | 792.9 | 921.4 | 299.1 | 116.9 | 129.4 |
| 87.5° | 856.2 | 977.0 | 1076.7 | 782.4 | 601.2 | 530.2 | 583.9 | 844.7 | 94.9 | 64.2 | 39.3 |
| 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° | 2181.1 | 2181.1 | 2181.1 | 2181.1 | 2181.1 | 2181.1 | 2181.1 | 2181.1 | 2181.1 | 2181.1 | 2181.1 |
| 2.5° | 2139.0 | 2136.1 | 2121.7 | 2099.7 | 2083.3 | 2072.8 | 2052.8 | 2051.7 | 2053.7 | 2036.4 | 2043.1 |
| 5° | 2078.6 | 2067.1 | 2029.7 | 1978.9 | 1937.7 | 1898.4 | 1855.2 | 1840.8 | 1828.3 | 1802.4 | 1805.3 |
| 7.5° | 2015.3 | 1995.2 | 1930.0 | 1846.5 | 1767.0 | 1694.1 | 1622.2 | 1586.8 | 1559.9 | 1526.3 | 1526.3 |
| 10° | 1978.0 | 1946.3 | 1846.5 | 1724.8 | 1598.3 | 1491.9 | 1384.5 | 1320.2 | 1273.3 | 1230.1 | 1227.2 |
| 12.5° | 1976.0 | 1928.1 | 1789.0 | 1621.3 | 1447.8 | 1298.1 | 1151.4 | 1052.7 | 982.7 | 931.9 | 927.1 |
| 15° | 1991.4 | 1924.3 | 1741.1 | 1524.4 | 1305.8 | 1111.2 | 930.0 | 804.4 | 715.2 | 658.7 | 652.9 |
| 17.5° | 2004.8 | 1919.5 | 1689.3 | 1422.8 | 1167.8 | 931.0 | 729.6 | 599.2 | 514.9 | 468.8 | 464.0 |
| 20° | 2017.3 | 1908.9 | 1623.2 | 1315.4 | 1015.3 | 762.2 | 570.5 | 465.0 | 409.4 | 383.5 | 380.6 |
| 22.5° | 2035.5 | 1899.3 | 1554.2 | 1194.6 | 865.7 | 620.3 | 470.8 | 395.0 | 365.3 | 352.8 | 350.9 |
| 25° | 2065.1 | 1900.2 | 1487.1 | 1070.9 | 728.6 | 516.8 | 407.4 | 360.5 | 344.2 | 335.5 | 335.5 |
| 27.5° | 2108.3 | 1911.8 | 1420.9 | 945.3 | 612.6 | 445.8 | 370.1 | 342.3 | 331.7 | 325.0 | 323.2 |
| 30° | 2171.6 | 1932.9 | 1350.9 | 826.4 | 520.6 | 396.9 | 348.0 | 330.8 | 322.1 | 316.4 | 315.5 |
| 32.5° | 2263.7 | 1970.3 | 1277.1 | 718.1 | 450.6 | 362.4 | 331.7 | 321.2 | 314.5 | 309.6 | 308.7 |
| 35° | 2400.8 | 2036.4 | 1205.1 | 626.0 | 400.8 | 337.5 | 318.3 | 309.6 | 305.9 | 303.9 | 303.0 |
| 37.5° | 2602.1 | 2142.9 | 1137.1 | 554.1 | 368.2 | 321.2 | 304.8 | 300.1 | 298.2 | 298.2 | 298.2 |
| 40° | 2855.2 | 2282.8 | 1075.7 | 503.4 | 350.0 | 308.7 | 295.3 | 291.4 | 291.4 | 292.5 | 292.5 |
| 42.5° | 3163.0 | 2458.3 | 1023.0 | 468.8 | 339.4 | 300.1 | 288.6 | 286.6 | 285.7 | 285.7 | 286.6 |
| 45° | 3520.6 | 2665.4 | 990.4 | 442.0 | 331.7 | 295.3 | 283.8 | 282.8 | 279.0 | 277.1 | 277.1 |
| 47.5° | 3880.2 | 2886.9 | 988.5 | 426.7 | 322.1 | 289.6 | 279.0 | 279.0 | 271.3 | 267.5 | 268.4 |
| 50° | 4215.7 | 3085.3 | 1009.6 | 422.8 | 316.4 | 280.9 | 274.3 | 275.2 | 264.6 | 259.8 | 258.9 |
| 52.5° | 4486.0 | 3236.8 | 1035.4 | 427.6 | 316.4 | 273.2 | 265.6 | 270.4 | 258.9 | 253.1 | 252.2 |
| 55° | 4695.0 | 3342.3 | 1045.0 | 438.1 | 320.2 | 266.6 | 257.9 | 265.6 | 257.0 | 249.3 | 249.3 |
| 57.5° | 4844.6 | 3375.8 | 1003.8 | 442.9 | 326.0 | 265.6 | 250.2 | 264.6 | 259.8 | 250.2 | 250.2 |
| 60° | 4790.0 | 3181.2 | 850.4 | 424.7 | 325.0 | 263.6 | 244.5 | 266.6 | 269.4 | 258.9 | 258.9 |
| 62.5° | 4363.3 | 2661.5 | 682.6 | 383.5 | 308.7 | 257.0 | 237.7 | 264.6 | 276.1 | 272.3 | 270.4 |
| 65° | 3552.2 | 1952.0 | 529.3 | 334.6 | 280.9 | 242.5 | 223.4 | 247.3 | 260.8 | 264.6 | 265.6 |
| 67.5° | 2503.4 | 1235.8 | 411.3 | 284.8 | 246.4 | 221.5 | 207.0 | 218.6 | 223.4 | 225.4 | 229.1 |
| 70° | 1369.1 | 669.2 | 326.9 | 239.7 | 210.9 | 200.4 | 189.9 | 190.8 | 188.8 | 187.0 | 188.8 |
| 72° | 687.4 | 437.2 | 276.1 | 208.1 | 187.0 | 180.2 | 175.4 | 172.6 | 172.6 | 169.7 | 170.6 |
| 72.5° | 591.6 | 406.5 | 266.6 | 200.4 | 181.2 | 175.4 | 171.7 | 168.8 | 167.8 | 165.8 | 166.8 |
| 75° | 394.0 | 322.1 | 222.4 | 167.8 | 154.4 | 150.5 | 152.4 | 149.6 | 150.5 | 148.6 | 149.6 |
| 77.5° | 318.3 | 277.1 | 188.8 | 141.9 | 132.3 | 126.5 | 130.4 | 131.3 | 133.3 | 131.3 | 130.4 |
| 80° | 266.6 | 235.9 | 158.1 | 116.9 | 110.3 | 105.5 | 107.4 | 114.1 | 115.1 | 109.3 | 108.3 |
| 82.5° | 172.6 | 189.9 | 124.6 | 91.0 | 84.4 | 82.4 | 87.3 | 94.0 | 95.9 | 88.2 | 86.3 |
| 85° | 144.7 | 152.4 | 90.1 | 62.3 | 55.6 | 53.7 | 63.3 | 70.0 | 74.8 | 67.1 | 65.2 |
| 87.5° | 40.3 | 74.8 | 44.1 | 29.8 | 25.0 | 25.0 | 30.7 | 36.4 | 43.2 | 44.1 | 44.1 |
| 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)