

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: P197338

Luminaire Tested: **NVN-AF-04-LED-U-T4W-8030-800**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P197338
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P24127)
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-T4W-8030-800
Description: NAVION ROADWAY AND AREA LUMINAIRE
(4) 80 CRI, 3000K, 800mA LIGHTSQUARES WITH 16 LEDS EACH AND TYPE IV WIDE OPTICS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 15895 lumens
Efficiency: N/A
Efficacy: 93.0 lumens/watt
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')
IES Classification: Type IV - Short - Semi-Cutoff
BUG Rating: B3 - U0 - G3

Input Watts (W): 171
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

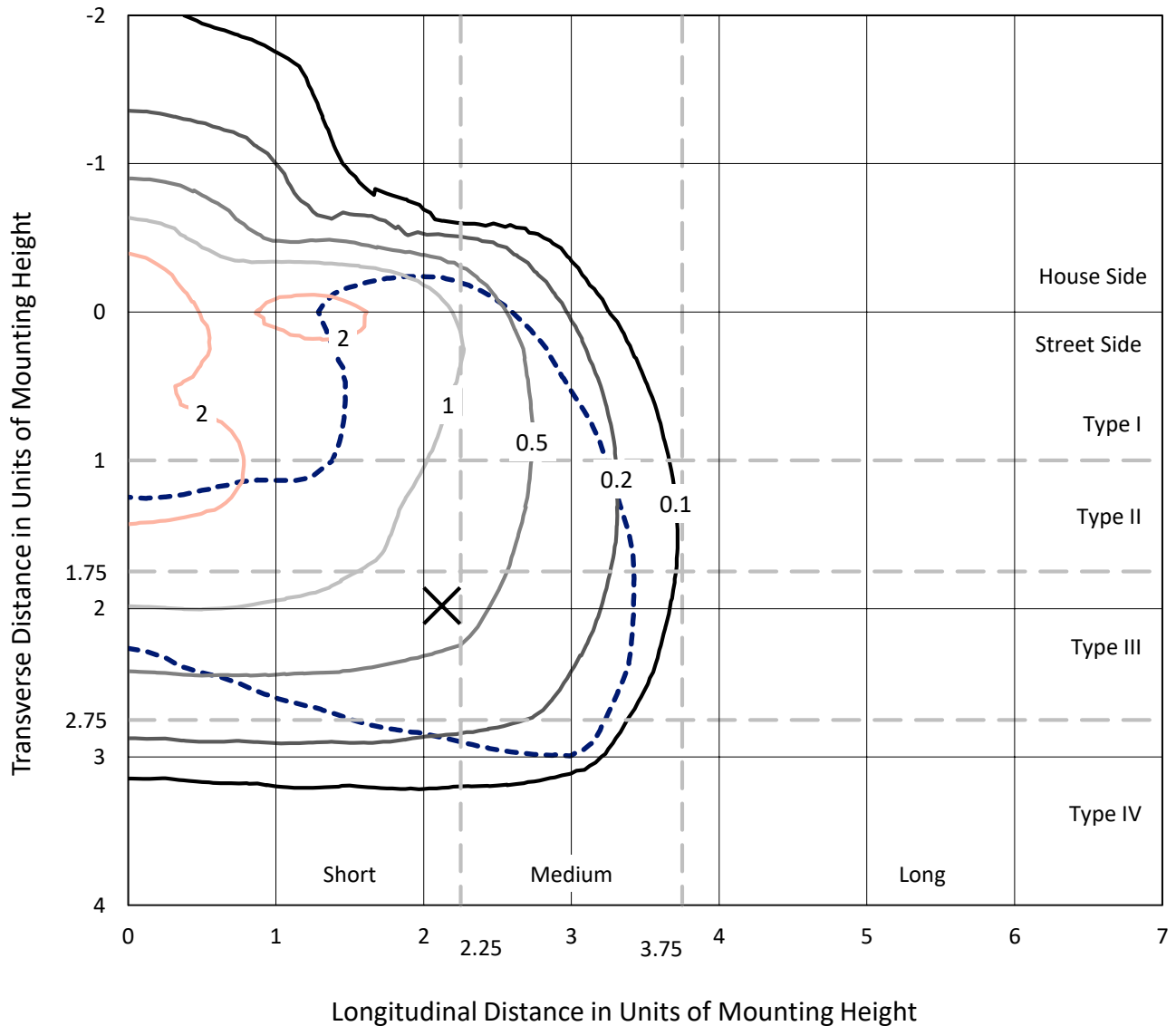


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Iso-Footcandle Lines of Horizontal Illumination

× Max cd
 - - - 1/2 Max cd

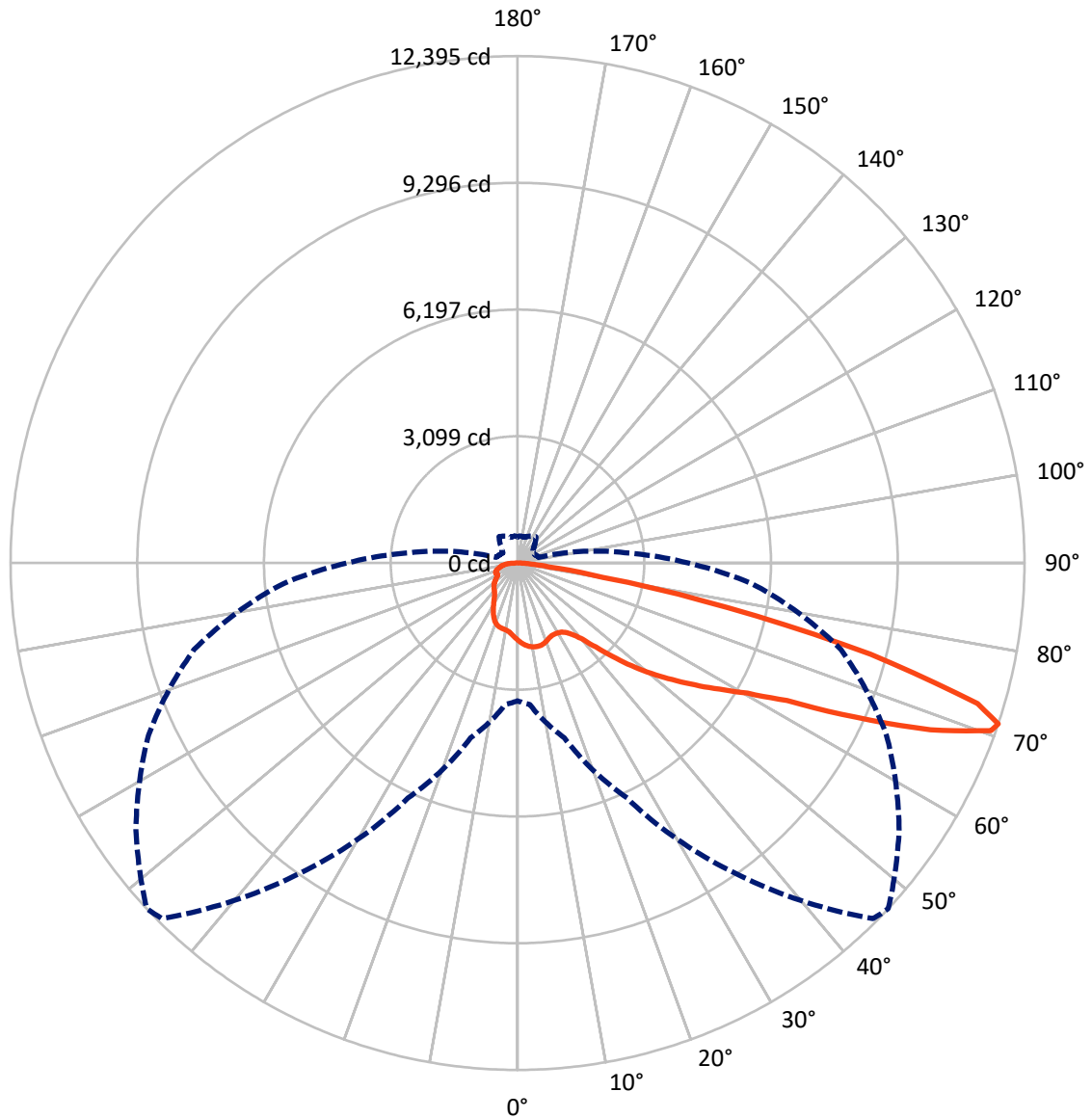


Based on 25 foot mounting height. Maximum calculated value = 3.5 fc
 Type IV - Short - Semi-Cutoff

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Luminous Intensity Polar Plot



— Vertical Plane Through 47-Deg Lateral - - - Horizontal Cone Through 71-Deg Vertical

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FLUX DISTRIBUTION:

| | | Downward | Upward | Total |
|--------------------|-----------|----------|--------|---------|
| House Side | Lumens | 3406.5 | 0.0 | 3406.5 |
| | % Fixture | 21.4 | 0.0 | 21.4 |
| Street Side | Lumens | 12488.5 | 0.0 | 12488.5 |
| | % Fixture | 78.6 | 0.0 | 78.6 |
| Total | Lumens | 15895.0 | 0.0 | 15895.0 |
| | % Fixture | 100.0 | 0.0 | 100.0 |

ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|---------|-----------|
| 0°-10° | 180.5 | 1.1 |
| 10°-20° | 528.0 | 3.3 |
| 20°-30° | 784.6 | 4.9 |
| 30°-40° | 1126.5 | 7.1 |
| 40°-50° | 1997.4 | 12.6 |
| 50°-60° | 3417.8 | 21.5 |
| 60°-70° | 4852.1 | 30.5 |
| 70°-80° | 2657.4 | 16.7 |
| 80°-90° | 350.8 | 2.2 |
| 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° | 15895.0 | 100.0 |
| 0°-180° | 15895.0 | 100.0 |

Coefficient of Utilization



REPORT NUMBER: P197338

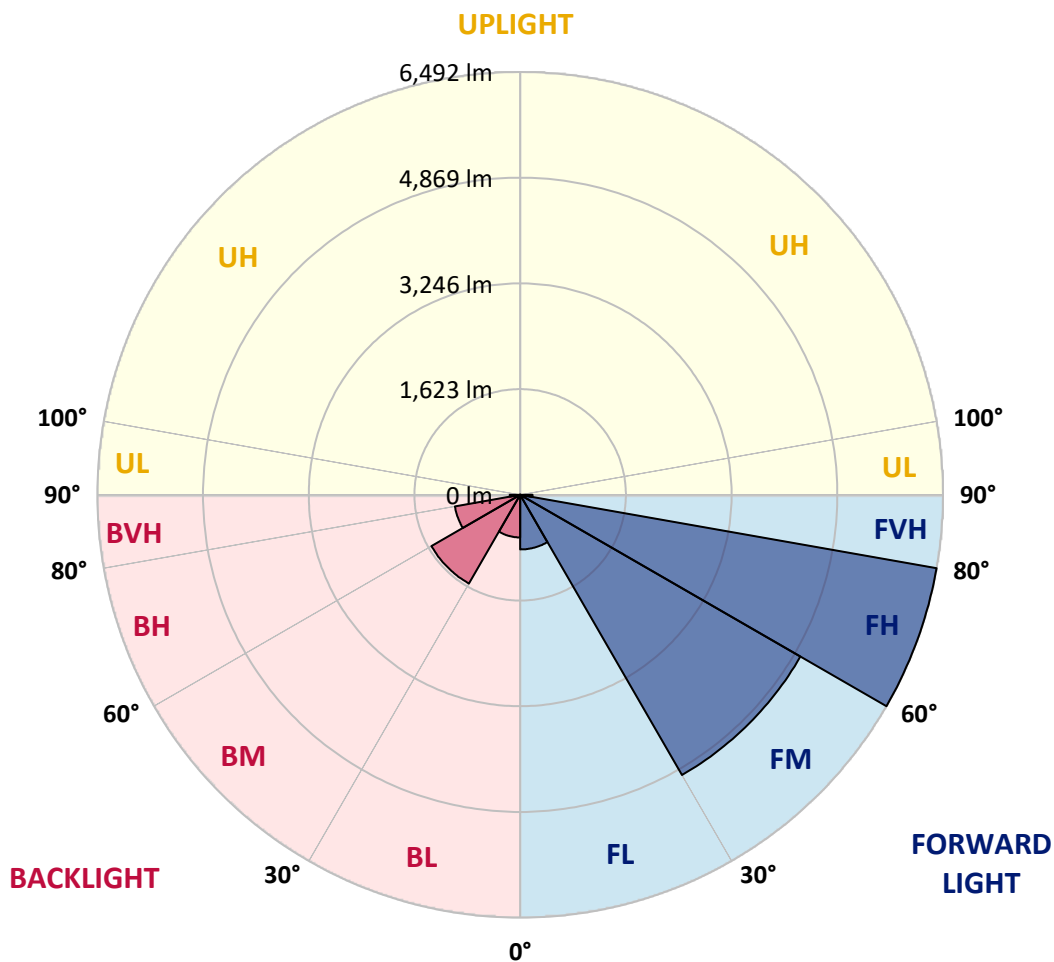
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

| Zone | Lumens | % Fixture | Zone Rating/Lumen Limit | | |
|----------------|--------|-----------|-------------------------|------|---------|
| | | | B | U | G |
| FL (0°-30°) | 838.9 | 5.3 | | | |
| FM (30°-60°) | 4967.7 | 31.3 | | | |
| FH (60°-80°) | 6491.7 | 40.8 | | | G3/7500 |
| FVH (80°-90°) | 190.3 | 1.2 | | | G2/225 |
| BL (0°-30°) | 654.2 | 4.1 | B2/1000 | | |
| BM (30°-60°) | 1574.0 | 9.9 | B2/2500 | | |
| BH (60°-80°) | 1017.8 | 6.4 | B3/2500 | | G3/2500 |
| BVH (80°-90°) | 160.5 | 1.0 | | | G2/225 |
| UL (90°-100°) | 0.0 | 0.0 | | U0/0 | |
| UH (100°-180°) | 0.0 | 0.0 | | U0/0 | |

BUG Rating: B3-U0-G3

Type IV Short





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CANDELA DISTRIBUTION (FULL):

| | 0° | 5° | 15° | 25° | 35° | 45° | 47° | 55° | 65° | 75° | 85° |
|-------|--------|--------|--------|--------|---------|---------|---------|---------|---------|--------|---------|
| 0° | 1890.2 | 1890.2 | 1890.2 | 1890.2 | 1890.2 | 1890.2 | 1890.2 | 1890.2 | 1890.2 | 1890.2 | 1890.2 |
| 2.5° | 2005.5 | 2001.4 | 2003.5 | 1996.3 | 1978.8 | 1960.2 | 1960.2 | 1940.7 | 1920.1 | 1899.5 | 1876.8 |
| 5° | 2130.2 | 2124.0 | 2118.9 | 2096.2 | 2062.2 | 2024.1 | 2017.9 | 1978.8 | 1936.5 | 1894.3 | 1853.1 |
| 7.5° | 2234.2 | 2228.0 | 2212.6 | 2171.4 | 2121.9 | 2065.3 | 2058.1 | 2006.6 | 1951.0 | 1892.2 | 1834.6 |
| 10° | 2308.4 | 2304.3 | 2274.4 | 2221.9 | 2164.2 | 2097.2 | 2084.9 | 2032.3 | 1966.4 | 1893.3 | 1820.1 |
| 12.5° | 2349.6 | 2343.4 | 2307.4 | 2245.6 | 2177.6 | 2109.6 | 2097.2 | 2046.8 | 1971.6 | 1891.2 | 1805.7 |
| 15° | 2333.1 | 2330.0 | 2296.0 | 2233.2 | 2165.2 | 2106.5 | 2096.2 | 2044.7 | 1968.5 | 1884.0 | 1792.3 |
| 17.5° | 2263.1 | 2270.3 | 2243.5 | 2181.7 | 2126.1 | 2084.9 | 2073.5 | 2025.1 | 1953.0 | 1866.5 | 1771.7 |
| 20° | 2166.2 | 2174.5 | 2161.1 | 2098.3 | 2066.3 | 2039.5 | 2033.4 | 1994.2 | 1927.3 | 1840.7 | 1747.0 |
| 22.5° | 2063.2 | 2070.4 | 2071.5 | 2012.8 | 2002.5 | 1992.2 | 1987.0 | 1959.2 | 1904.6 | 1825.3 | 1730.5 |
| 25° | 1992.2 | 2000.4 | 2002.5 | 1951.0 | 1957.1 | 1960.2 | 1959.2 | 1939.6 | 1900.5 | 1825.3 | 1732.6 |
| 27.5° | 1973.6 | 1977.7 | 1975.7 | 1928.3 | 1939.6 | 1957.1 | 1958.2 | 1954.0 | 1917.0 | 1845.9 | 1761.4 |
| 30° | 2037.5 | 2039.5 | 2013.8 | 1942.7 | 1954.0 | 1976.7 | 1977.7 | 1975.7 | 1952.0 | 1899.5 | 1826.3 |
| 32.5° | 2313.5 | 2311.5 | 2222.9 | 2039.5 | 2000.4 | 2008.6 | 2011.7 | 2030.3 | 2032.3 | 1988.0 | 1920.1 |
| 35° | 2733.8 | 2732.8 | 2629.8 | 2316.6 | 2132.2 | 2089.0 | 2093.1 | 2121.9 | 2147.7 | 2117.8 | 2078.7 |
| 37.5° | 3196.3 | 3199.4 | 3136.6 | 2712.2 | 2416.5 | 2236.3 | 2232.2 | 2253.8 | 2300.2 | 2310.5 | 2315.6 |
| 40° | 3709.3 | 3724.7 | 3721.6 | 3166.4 | 2815.2 | 2487.6 | 2446.4 | 2421.7 | 2511.3 | 2568.0 | 2641.1 |
| 42.5° | 4295.4 | 4291.3 | 4293.3 | 3665.0 | 3270.5 | 2883.2 | 2806.9 | 2691.6 | 2795.6 | 2893.5 | 3054.2 |
| 45° | 4799.1 | 4815.6 | 4827.9 | 4195.5 | 3780.4 | 3335.4 | 3258.1 | 3048.0 | 3141.7 | 3288.0 | 3533.1 |
| 47.5° | 5305.9 | 5277.1 | 5299.7 | 4785.7 | 4347.9 | 3851.4 | 3751.5 | 3468.3 | 3555.8 | 3761.8 | 4134.7 |
| 50° | 5896.1 | 5882.7 | 5779.7 | 5556.2 | 5034.0 | 4374.7 | 4243.9 | 3907.1 | 4034.8 | 4309.8 | 4877.4 |
| 52.5° | 6425.6 | 6353.5 | 6273.1 | 6161.9 | 5708.7 | 4904.2 | 4738.3 | 4363.4 | 4598.2 | 4939.2 | 5799.3 |
| 55° | 6619.2 | 6570.8 | 6667.7 | 6811.9 | 6422.5 | 5443.9 | 5258.5 | 4895.9 | 5233.8 | 5659.2 | 6884.0 |
| 57.5° | 6825.3 | 6841.7 | 7060.1 | 7351.6 | 7098.2 | 6019.7 | 5818.9 | 5526.3 | 5931.2 | 6464.7 | 8096.4 |
| 60° | 6928.3 | 6994.2 | 7429.9 | 7976.9 | 7741.0 | 6651.2 | 6458.6 | 6250.5 | 6704.7 | 7354.7 | 9305.7 |
| 62.5° | 6945.8 | 7034.4 | 7651.4 | 8196.3 | 8625.8 | 7618.4 | 7395.9 | 7170.3 | 7670.9 | 8338.4 | 10181.2 |
| 65° | 6624.4 | 6760.4 | 7631.8 | 8466.2 | 9432.4 | 9234.6 | 9093.5 | 8700.0 | 8964.7 | 9204.7 | 10330.6 |
| 67.5° | 5679.8 | 5828.1 | 6876.8 | 8354.9 | 10079.3 | 10911.6 | 10884.8 | 10303.8 | 9963.9 | 9539.5 | 9223.3 |
| 70° | 4168.7 | 4288.2 | 5295.6 | 7142.5 | 9797.0 | 12228.0 | 12275.4 | 11343.2 | 10243.0 | 8828.7 | 6858.2 |
| 71° | 3371.4 | 3474.4 | 4424.2 | 6341.1 | 9247.0 | 12296.0 | 12394.9 | 11389.5 | 9952.6 | 8187.0 | 5741.6 |
| 72.5° | 2098.3 | 2155.9 | 2937.8 | 4785.7 | 7962.5 | 11595.5 | 11762.4 | 10796.2 | 9037.8 | 6920.0 | 4058.5 |
| 75° | 792.1 | 814.8 | 1089.8 | 2110.6 | 4752.8 | 8711.3 | 8913.2 | 8159.2 | 6349.4 | 3950.3 | 1698.6 |
| 77.5° | 425.4 | 436.8 | 540.8 | 877.6 | 1904.6 | 4993.8 | 5253.4 | 4653.9 | 3045.9 | 1382.4 | 694.3 |
| 80° | 285.3 | 292.5 | 373.9 | 520.2 | 875.6 | 1901.5 | 2117.8 | 1868.6 | 1140.3 | 789.0 | 494.4 |
| 82.5° | 184.4 | 188.5 | 254.4 | 342.0 | 565.5 | 668.5 | 763.3 | 797.3 | 711.8 | 565.5 | 298.7 |
| 85° | 121.5 | 124.6 | 167.9 | 218.4 | 350.2 | 329.6 | 337.9 | 441.9 | 485.2 | 372.9 | 152.5 |
| 87.5° | 70.0 | 72.1 | 100.9 | 112.3 | 157.6 | 123.6 | 133.9 | 210.1 | 288.4 | 243.1 | 87.6 |
| 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° | 1890.2 | 1890.2 | 1890.2 | 1890.2 | 1890.2 | 1890.2 | 1890.2 | 1890.2 | 1890.2 | 1890.2 | 1890.2 |
| 2.5° | 1866.5 | 1858.2 | 1839.7 | 1828.4 | 1823.2 | 1821.2 | 1819.1 | 1823.2 | 1823.2 | 1821.2 | 1817.0 |
| 5° | 1832.5 | 1817.0 | 1786.1 | 1764.5 | 1753.2 | 1750.1 | 1754.2 | 1759.4 | 1762.5 | 1762.5 | 1759.4 |
| 7.5° | 1807.8 | 1785.1 | 1743.9 | 1714.0 | 1696.5 | 1691.4 | 1702.7 | 1721.2 | 1733.6 | 1739.8 | 1740.8 |
| 10° | 1787.2 | 1756.3 | 1710.9 | 1680.0 | 1665.6 | 1663.6 | 1678.0 | 1701.7 | 1727.4 | 1738.8 | 1740.8 |
| 12.5° | 1768.6 | 1733.6 | 1684.2 | 1655.3 | 1645.0 | 1650.2 | 1669.7 | 1691.4 | 1721.2 | 1737.7 | 1738.8 |
| 15° | 1751.1 | 1715.1 | 1662.5 | 1632.7 | 1630.6 | 1638.8 | 1657.4 | 1674.9 | 1697.6 | 1718.2 | 1718.2 |
| 17.5° | 1730.5 | 1691.4 | 1636.8 | 1609.0 | 1609.0 | 1616.2 | 1628.5 | 1637.8 | 1652.2 | 1671.8 | 1670.8 |
| 20° | 1705.8 | 1665.6 | 1610.0 | 1581.2 | 1575.0 | 1570.9 | 1570.9 | 1572.9 | 1585.3 | 1602.8 | 1605.9 |
| 22.5° | 1687.3 | 1646.1 | 1587.3 | 1552.3 | 1524.5 | 1497.7 | 1486.4 | 1482.3 | 1493.6 | 1510.1 | 1514.2 |
| 25° | 1687.3 | 1646.1 | 1580.1 | 1521.4 | 1453.4 | 1401.9 | 1380.3 | 1374.1 | 1385.4 | 1400.9 | 1407.1 |
| 27.5° | 1715.1 | 1673.9 | 1596.6 | 1493.6 | 1369.0 | 1286.6 | 1260.8 | 1255.7 | 1266.0 | 1278.3 | 1284.5 |
| 30° | 1780.0 | 1739.8 | 1644.0 | 1461.7 | 1275.2 | 1167.1 | 1138.2 | 1133.1 | 1138.2 | 1143.4 | 1150.6 |
| 32.5° | 1888.1 | 1854.1 | 1721.2 | 1432.8 | 1180.5 | 1058.9 | 1023.9 | 1015.7 | 1017.7 | 1018.7 | 1024.9 |
| 35° | 2064.3 | 2048.8 | 1824.3 | 1398.8 | 1090.8 | 970.3 | 934.3 | 917.8 | 916.8 | 921.9 | 929.1 |
| 37.5° | 2334.1 | 2343.4 | 1957.1 | 1349.4 | 1016.7 | 907.5 | 871.4 | 855.0 | 846.7 | 857.0 | 865.3 |
| 40° | 2715.3 | 2736.9 | 2110.6 | 1282.4 | 955.9 | 870.4 | 832.3 | 816.8 | 805.5 | 802.4 | 806.5 |
| 42.5° | 3210.7 | 3204.6 | 2267.2 | 1196.9 | 890.0 | 845.7 | 805.5 | 789.0 | 770.5 | 746.8 | 741.7 |
| 45° | 3797.9 | 3709.3 | 2398.0 | 1091.9 | 814.8 | 822.0 | 780.8 | 758.1 | 729.3 | 694.3 | 690.1 |
| 47.5° | 4491.1 | 4247.0 | 2478.4 | 979.6 | 744.7 | 791.1 | 753.0 | 718.0 | 675.7 | 653.1 | 650.0 |
| 50° | 5326.5 | 4876.4 | 2535.0 | 865.3 | 681.9 | 752.0 | 713.8 | 667.5 | 626.3 | 620.1 | 619.1 |
| 52.5° | 6315.4 | 5619.0 | 2605.1 | 762.3 | 632.5 | 701.5 | 674.7 | 627.3 | 594.4 | 597.4 | 597.4 |
| 55° | 7367.1 | 6387.5 | 2607.1 | 680.9 | 589.2 | 642.8 | 645.9 | 607.7 | 582.0 | 592.3 | 595.4 |
| 57.5° | 8326.1 | 7059.1 | 2402.1 | 623.2 | 548.0 | 596.4 | 636.6 | 615.0 | 595.4 | 631.4 | 634.5 |
| 60° | 9162.5 | 7576.2 | 1961.3 | 575.8 | 514.0 | 578.9 | 657.2 | 659.2 | 655.1 | 753.0 | 760.2 |
| 62.5° | 9468.4 | 7581.3 | 1392.7 | 535.6 | 495.5 | 589.2 | 700.4 | 703.5 | 703.5 | 794.2 | 807.6 |
| 65° | 9039.9 | 6949.9 | 927.1 | 511.9 | 483.1 | 611.9 | 735.5 | 722.1 | 690.1 | 753.0 | 738.6 |
| 67.5° | 7529.8 | 5409.9 | 677.8 | 496.5 | 465.6 | 612.9 | 766.4 | 732.4 | 677.8 | 731.4 | 706.6 |
| 70° | 5175.1 | 3442.5 | 567.6 | 482.1 | 445.0 | 586.1 | 782.9 | 729.3 | 659.2 | 681.9 | 648.9 |
| 71° | 4165.6 | 2747.2 | 538.7 | 476.9 | 436.8 | 570.7 | 784.9 | 725.2 | 650.0 | 664.4 | 634.5 |
| 72.5° | 2744.1 | 1692.4 | 503.7 | 465.6 | 424.4 | 543.9 | 779.8 | 715.9 | 637.6 | 638.6 | 619.1 |
| 75° | 1082.6 | 701.5 | 453.2 | 439.8 | 389.4 | 500.6 | 757.1 | 696.3 | 613.9 | 593.3 | 585.1 |
| 77.5° | 547.0 | 458.4 | 398.6 | 403.8 | 348.2 | 456.3 | 725.2 | 664.4 | 581.0 | 553.1 | 547.0 |
| 80° | 399.7 | 348.2 | 341.0 | 350.2 | 301.8 | 413.1 | 685.0 | 621.1 | 538.7 | 567.6 | 555.2 |
| 82.5° | 243.1 | 212.2 | 266.8 | 289.5 | 252.4 | 368.8 | 637.6 | 570.7 | 485.2 | 447.1 | 432.6 |
| 85° | 115.4 | 124.6 | 192.6 | 213.2 | 186.4 | 294.6 | 583.0 | 515.0 | 423.4 | 365.7 | 371.9 |
| 87.5° | 56.7 | 69.0 | 110.2 | 127.7 | 122.6 | 216.3 | 439.8 | 399.7 | 333.7 | 275.0 | 268.8 |
| 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)