

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: P270957

Luminaire Tested: **NVN-AF-03-LED-U-T4W-7027**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P270957  
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-03-LED-U-T4W-7027  
Description: NAVION ROADWAY AND AREA LUMINAIRE  
(3) 70 CRI, 2700K, 1050mA LIGHTSQUARES WITH 16 LEDS EACH AND TYPE IV WIDE OPTICS  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 15551.6 lumens  
Efficiency: N/A  
Efficacy: 93.7 lumens/watt  
Luminous Opening: Rectangular (W 0.5' x L: 1.5' x H: 0')  
IES Classification: Type IV - Short - Semi-Cutoff  
BUG Rating: B2 - U0 - G3

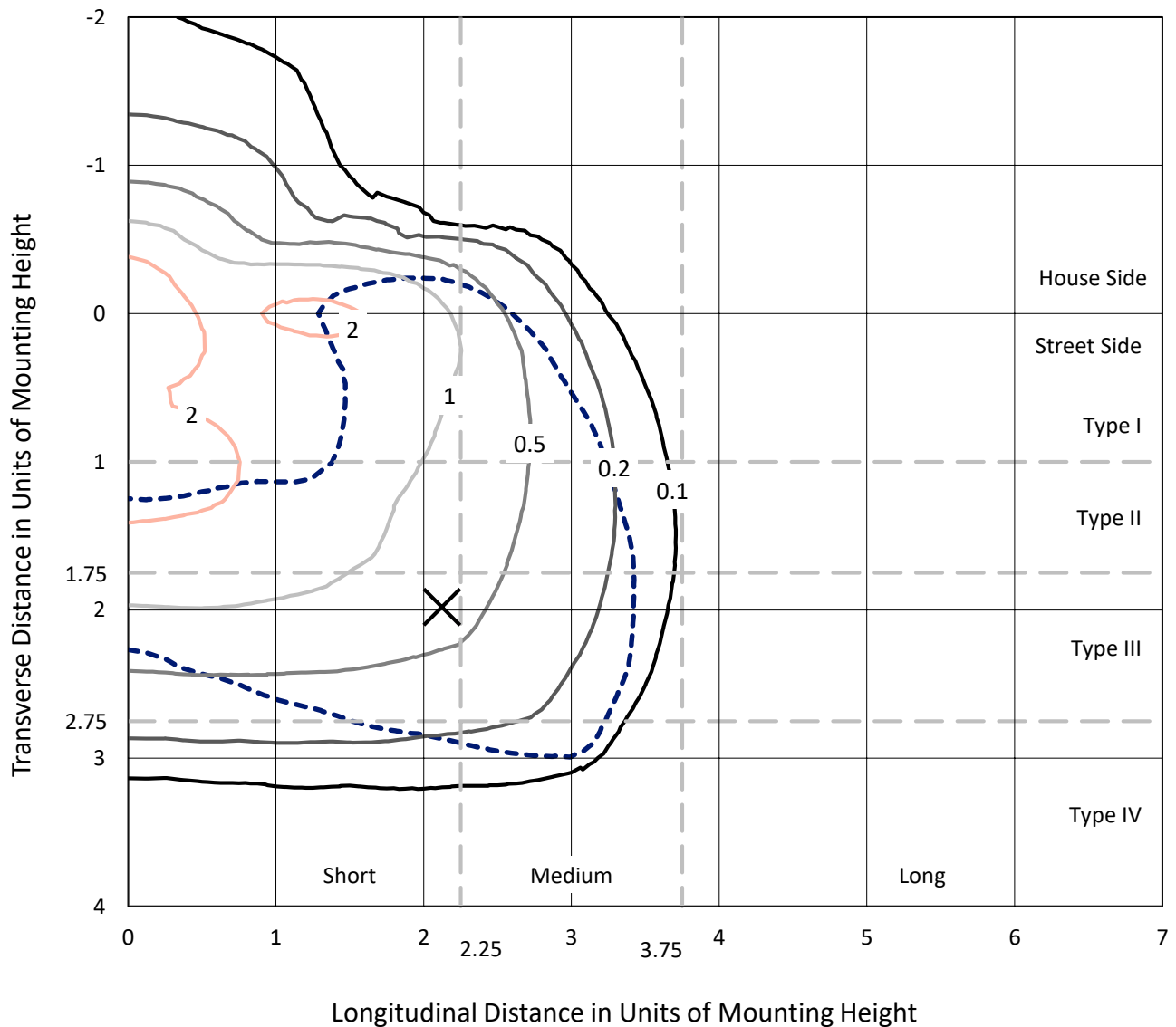
Input Watts (W): 166  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 28.75 FT



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### Iso-Footcandle Lines of Horizontal Illumination

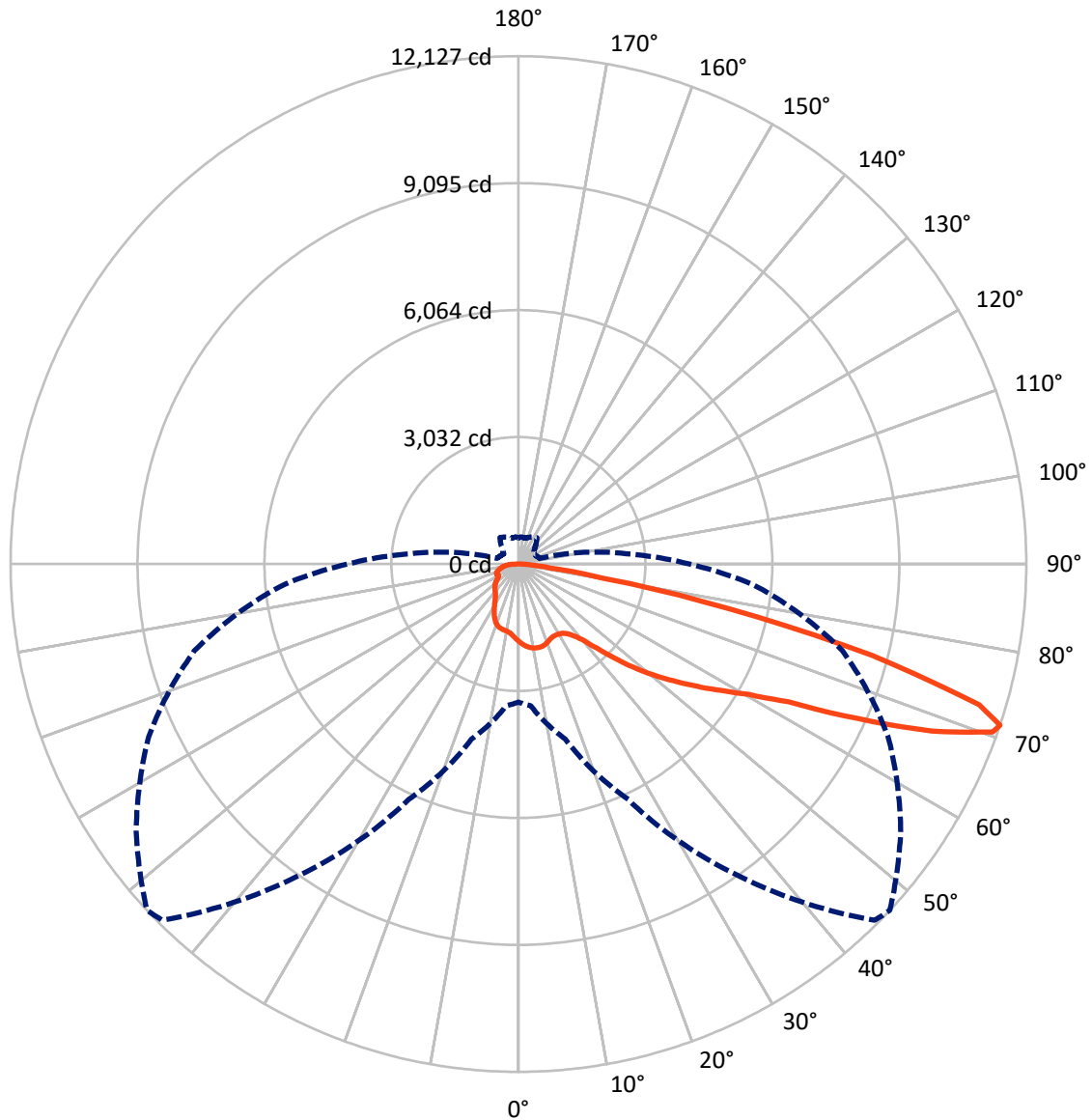
× Max cd  
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 3.4 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   |
|--------------------|-----------|----------|--------|---------|
| <b>House Side</b>  | Lumens    | 3332.9   | 0.0    | 3332.9  |
|                    | % Fixture | 21.4     | 0.0    | 21.4    |
| <b>Street Side</b> | Lumens    | 12218.6  | 0.0    | 12218.6 |
|                    | % Fixture | 78.6     | 0.0    | 78.6    |
| <b>Total</b>       | Lumens    | 15551.6  | 0.0    | 15551.6 |
|                    | % Fixture | 100.0    | 0.0    | 100.0   |

**Coefficient of Utilization**

**ZONAL LUMENS:**

| Zone      | Lumens  | % Fixture |
|-----------|---------|-----------|
| 0°-10°    | 176.6   | 1.1       |
| 10°-20°   | 516.6   | 3.3       |
| 20°-30°   | 767.6   | 4.9       |
| 30°-40°   | 1102.2  | 7.1       |
| 40°-50°   | 1954.2  | 12.6      |
| 50°-60°   | 3343.9  | 21.5      |
| 60°-70°   | 4747.2  | 30.5      |
| 70°-80°   | 2600.0  | 16.7      |
| 80°-90°   | 343.2   | 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°    | 15551.6 | 100.0     |
| 0°-180°   | 15551.6 | 100.0     |



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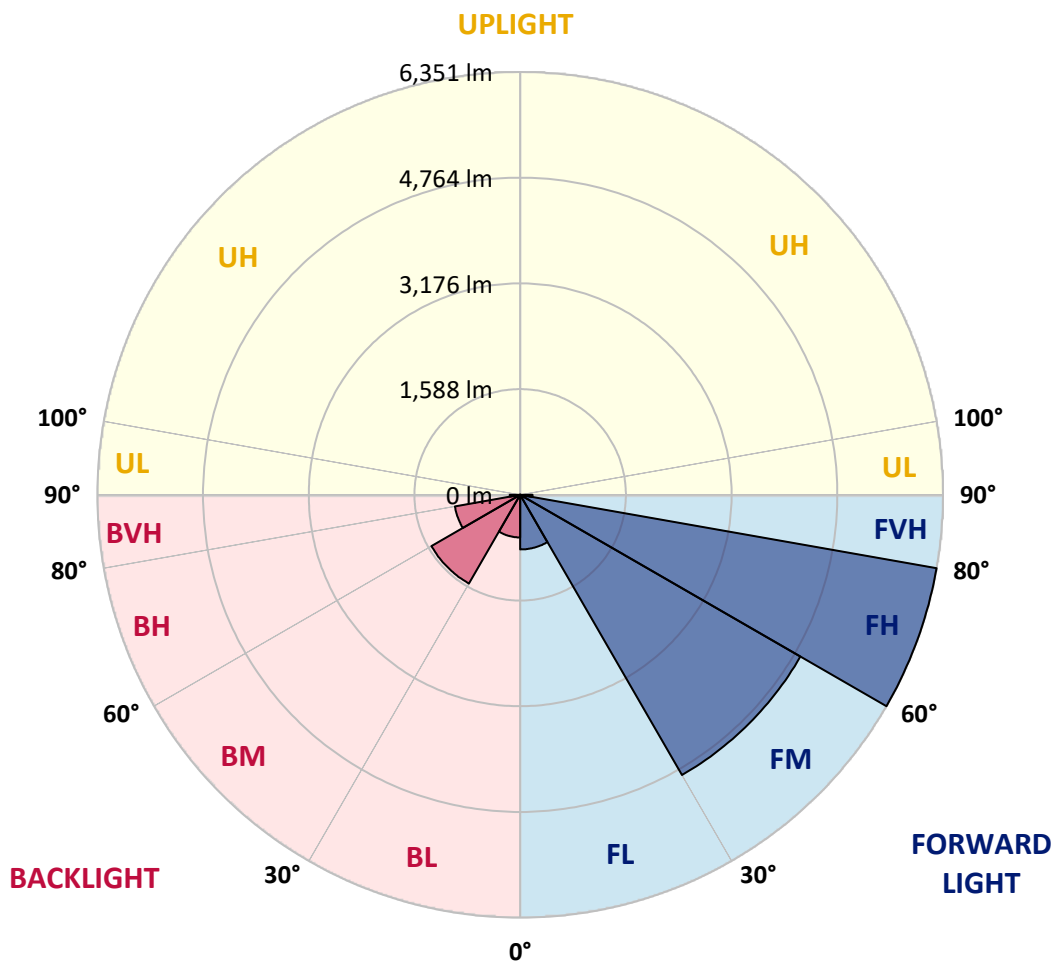
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**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

| Zone |             | Lumens | % Fixture | Zone Rating/Lumen Limit |      |         |
|------|-------------|--------|-----------|-------------------------|------|---------|
|      |             |        |           | B                       | U    | G       |
| FL   | (0°-30°)    | 820.7  | 5.3       |                         |      |         |
| FM   | (30°-60°)   | 4860.3 | 31.3      |                         |      |         |
| FH   | (60°-80°)   | 6351.4 | 40.8      |                         |      | G3/7500 |
| FVH  | (80°-90°)   | 186.2  | 1.2       |                         |      | G2/225  |
| BL   | (0°-30°)    | 640.0  | 4.1       | B2/1000                 |      |         |
| BM   | (30°-60°)   | 1540.0 | 9.9       | B2/2500                 |      |         |
| BH   | (60°-80°)   | 995.8  | 6.4       | B2/1000                 |      | G2/1000 |
| BVH  | (80°-90°)   | 157.1  | 1.0       |                         |      | G2/225  |
| UL   | (90°-100°)  | 0.0    | 0.0       |                         | U0/0 |         |
| UH   | (100°-180°) | 0.0    | 0.0       |                         | U0/0 |         |

**BUG Rating: B2-U0-G3**

Type IV Short





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**CANDELA DISTRIBUTION (FULL):**

|       | 0°     | 5°     | 15°    | 25°    | 35°    | 45°     | 47°     | 55°     | 65°     | 75°    | 85°     |
|-------|--------|--------|--------|--------|--------|---------|---------|---------|---------|--------|---------|
| 0°    | 1849.3 | 1849.3 | 1849.3 | 1849.3 | 1849.3 | 1849.3  | 1849.3  | 1849.3  | 1849.3  | 1849.3 | 1849.3  |
| 2.5°  | 1962.2 | 1958.1 | 1960.2 | 1953.2 | 1935.9 | 1917.9  | 1917.9  | 1898.7  | 1878.5  | 1858.5 | 1836.2  |
| 5°    | 2084.2 | 2078.0 | 2073.1 | 2050.9 | 2017.7 | 1980.4  | 1974.4  | 1935.9  | 1894.6  | 1853.4 | 1813.0  |
| 7.5°  | 2185.9 | 2179.8 | 2164.7 | 2124.5 | 2076.2 | 2020.6  | 2013.6  | 1963.2  | 1908.8  | 1851.3 | 1795.0  |
| 10°   | 2258.5 | 2254.4 | 2225.2 | 2173.9 | 2117.5 | 2051.9  | 2039.8  | 1988.4  | 1923.9  | 1852.3 | 1780.8  |
| 12.5° | 2298.9 | 2292.7 | 2257.5 | 2197.1 | 2130.5 | 2064.0  | 2051.9  | 2002.5  | 1929.0  | 1850.4 | 1766.6  |
| 15°   | 2282.8 | 2279.7 | 2246.4 | 2184.9 | 2118.5 | 2061.0  | 2050.9  | 2000.5  | 1926.0  | 1843.3 | 1753.6  |
| 17.5° | 2214.1 | 2221.1 | 2195.0 | 2134.6 | 2080.1 | 2039.8  | 2028.7  | 1981.4  | 1910.9  | 1826.2 | 1733.5  |
| 20°   | 2119.5 | 2127.5 | 2114.4 | 2052.9 | 2021.6 | 1995.4  | 1989.4  | 1951.1  | 1885.6  | 1800.9 | 1709.2  |
| 22.5° | 2018.6 | 2025.7 | 2026.8 | 1969.3 | 1959.3 | 1949.1  | 1944.1  | 1916.9  | 1863.4  | 1785.8 | 1693.1  |
| 25°   | 1949.1 | 1957.1 | 1959.3 | 1908.8 | 1914.8 | 1917.9  | 1916.9  | 1897.7  | 1859.4  | 1785.8 | 1695.1  |
| 27.5° | 1930.9 | 1934.9 | 1933.1 | 1886.6 | 1897.7 | 1914.8  | 1915.8  | 1911.9  | 1875.5  | 1806.0 | 1723.4  |
| 30°   | 1993.5 | 1995.4 | 1970.3 | 1900.8 | 1911.9 | 1934.1  | 1934.9  | 1933.1  | 1909.7  | 1858.5 | 1786.9  |
| 32.5° | 2263.5 | 2261.6 | 2174.8 | 1995.4 | 1957.1 | 1965.2  | 1968.2  | 1986.4  | 1988.4  | 1945.1 | 1878.5  |
| 35°   | 2674.8 | 2673.7 | 2572.9 | 2266.6 | 2086.1 | 2043.9  | 2047.9  | 2076.2  | 2101.2  | 2072.1 | 2033.8  |
| 37.5° | 3127.3 | 3130.2 | 3068.8 | 2653.6 | 2364.2 | 2188.0  | 2183.9  | 2205.1  | 2250.4  | 2260.6 | 2265.5  |
| 40°   | 3629.2 | 3644.2 | 3641.2 | 3098.1 | 2754.4 | 2433.9  | 2393.5  | 2369.4  | 2457.0  | 2512.5 | 2584.1  |
| 42.5° | 4202.6 | 4198.6 | 4200.6 | 3585.9 | 3199.9 | 2820.9  | 2746.3  | 2633.4  | 2735.2  | 2831.0 | 2988.2  |
| 45°   | 4695.4 | 4711.5 | 4723.6 | 4104.9 | 3698.7 | 3263.4  | 3187.7  | 2982.2  | 3073.8  | 3216.9 | 3456.8  |
| 47.5° | 5191.2 | 5163.1 | 5185.1 | 4682.3 | 4254.1 | 3768.2  | 3670.5  | 3393.3  | 3479.0  | 3680.5 | 4045.3  |
| 50°   | 5768.7 | 5755.6 | 5654.9 | 5436.2 | 4925.1 | 4280.2  | 4152.1  | 3822.6  | 3947.6  | 4216.7 | 4771.9  |
| 52.5° | 6286.8 | 6216.2 | 6137.6 | 6028.7 | 5585.3 | 4798.1  | 4636.0  | 4269.1  | 4498.9  | 4832.5 | 5674.1  |
| 55°   | 6476.2 | 6428.9 | 6523.6 | 6664.6 | 6283.7 | 5326.3  | 5145.0  | 4790.1  | 5120.7  | 5537.0 | 6735.2  |
| 57.5° | 6677.8 | 6693.9 | 6907.5 | 7192.8 | 6944.8 | 5889.6  | 5693.2  | 5407.0  | 5803.1  | 6325.1 | 7921.4  |
| 60°   | 6778.6 | 6843.1 | 7269.4 | 7804.6 | 7573.7 | 6507.5  | 6318.9  | 6115.4  | 6559.9  | 7195.9 | 9104.6  |
| 62.5° | 6795.7 | 6882.4 | 7486.0 | 8019.2 | 8439.4 | 7453.7  | 7236.1  | 7015.5  | 7505.2  | 8158.2 | 9961.2  |
| 65°   | 6481.4 | 6614.3 | 7466.9 | 8283.2 | 9228.6 | 9035.1  | 8897.1  | 8512.0  | 8771.1  | 9005.9 | 10107.4 |
| 67.5° | 5557.1 | 5702.3 | 6728.1 | 8174.3 | 9861.5 | 10675.7 | 10649.5 | 10081.1 | 9748.5  | 9333.4 | 9024.0  |
| 70°   | 4078.7 | 4195.5 | 5181.2 | 6988.3 | 9585.4 | 11963.7 | 12010.2 | 11098.1 | 10021.8 | 8638.0 | 6710.0  |
| 71°   | 3298.5 | 3399.4 | 4328.6 | 6204.1 | 9047.2 | 12030.3 | 12127.1 | 11143.5 | 9737.4  | 8010.1 | 5617.6  |
| 72.5° | 2052.9 | 2109.4 | 2874.2 | 4682.3 | 7790.5 | 11345.0 | 11508.2 | 10562.9 | 8842.6  | 6770.5 | 3970.8  |
| 75°   | 775.0  | 797.2  | 1066.3 | 2065.1 | 4650.0 | 8523.1  | 8720.7  | 7982.9  | 6212.1  | 3865.0 | 1661.9  |
| 77.5° | 416.3  | 427.4  | 529.1  | 858.7  | 1863.4 | 4885.9  | 5139.8  | 4553.2  | 2980.0  | 1352.5 | 679.3   |
| 80°   | 279.2  | 286.2  | 365.8  | 508.9  | 856.7  | 1860.4  | 2072.1  | 1828.2  | 1115.7  | 772.1  | 483.7   |
| 82.5° | 180.4  | 184.4  | 248.9  | 334.6  | 553.3  | 654.1   | 746.9   | 780.1   | 696.4   | 553.3  | 292.3   |
| 85°   | 118.9  | 121.9  | 164.3  | 213.6  | 342.7  | 322.5   | 330.5   | 432.4   | 474.7   | 364.8  | 149.2   |
| 87.5° | 68.5   | 70.5   | 98.8   | 109.9  | 154.1  | 120.9   | 131.1   | 205.6   | 282.2   | 237.8  | 85.7    |
| 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):**

|       | 90°    | 95°    | 105°   | 115°   | 125°   | 135°   | 145°   | 155°   | 165°   | 175°   | 180°   |
|-------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 0°    | 1849.3 | 1849.3 | 1849.3 | 1849.3 | 1849.3 | 1849.3 | 1849.3 | 1849.3 | 1849.3 | 1849.3 | 1849.3 |
| 2.5°  | 1826.2 | 1818.1 | 1799.9 | 1788.9 | 1783.9 | 1781.8 | 1779.8 | 1783.9 | 1783.9 | 1781.8 | 1777.7 |
| 5°    | 1792.8 | 1777.7 | 1747.6 | 1726.5 | 1715.4 | 1712.3 | 1716.3 | 1721.3 | 1724.3 | 1724.3 | 1721.3 |
| 7.5°  | 1768.8 | 1746.6 | 1706.2 | 1677.0 | 1659.9 | 1654.9 | 1665.9 | 1684.1 | 1696.2 | 1702.2 | 1703.1 |
| 10°   | 1748.6 | 1718.3 | 1674.0 | 1643.8 | 1629.6 | 1627.5 | 1641.7 | 1664.9 | 1690.2 | 1701.2 | 1703.1 |
| 12.5° | 1730.5 | 1696.2 | 1647.9 | 1619.6 | 1609.5 | 1614.6 | 1633.7 | 1654.9 | 1684.1 | 1700.2 | 1701.2 |
| 15°   | 1713.2 | 1678.0 | 1626.7 | 1597.4 | 1595.4 | 1603.5 | 1621.6 | 1638.7 | 1660.8 | 1681.1 | 1681.1 |
| 17.5° | 1693.1 | 1654.9 | 1601.4 | 1574.2 | 1574.2 | 1581.2 | 1593.4 | 1602.4 | 1616.5 | 1635.6 | 1634.6 |
| 20°   | 1669.0 | 1629.6 | 1575.2 | 1547.1 | 1541.0 | 1536.9 | 1536.9 | 1538.9 | 1551.1 | 1568.1 | 1571.1 |
| 22.5° | 1650.8 | 1610.5 | 1553.0 | 1518.8 | 1491.5 | 1465.3 | 1454.3 | 1450.3 | 1461.4 | 1477.4 | 1481.5 |
| 25°   | 1650.8 | 1610.5 | 1546.1 | 1488.5 | 1422.0 | 1371.6 | 1350.5 | 1344.5 | 1355.5 | 1370.6 | 1376.7 |
| 27.5° | 1678.0 | 1637.7 | 1562.2 | 1461.4 | 1339.5 | 1258.7 | 1233.6 | 1228.5 | 1238.7 | 1250.7 | 1256.8 |
| 30°   | 1741.5 | 1702.2 | 1608.4 | 1430.1 | 1247.7 | 1141.8 | 1113.5 | 1108.6 | 1113.5 | 1118.7 | 1125.8 |
| 32.5° | 1847.4 | 1814.0 | 1684.1 | 1401.8 | 1155.0 | 1036.0 | 1001.8 | 993.7  | 995.7  | 996.7  | 1002.8 |
| 35°   | 2019.7 | 2004.6 | 1784.8 | 1368.6 | 1067.2 | 949.4  | 914.0  | 897.9  | 897.0  | 902.0  | 909.1  |
| 37.5° | 2283.8 | 2292.7 | 1914.8 | 1320.1 | 994.8  | 887.9  | 852.6  | 836.5  | 828.4  | 838.5  | 846.6  |
| 40°   | 2656.6 | 2677.8 | 2065.1 | 1254.8 | 935.2  | 851.7  | 814.4  | 799.2  | 788.2  | 785.1  | 789.2  |
| 42.5° | 3141.4 | 3135.4 | 2218.3 | 1171.1 | 870.7  | 827.3  | 788.2  | 772.1  | 753.9  | 730.7  | 725.7  |
| 45°   | 3715.7 | 3629.2 | 2346.3 | 1068.3 | 797.2  | 804.3  | 763.9  | 741.7  | 713.6  | 679.3  | 675.3  |
| 47.5° | 4394.1 | 4155.2 | 2424.9 | 958.4  | 728.6  | 774.0  | 736.7  | 702.5  | 661.2  | 639.0  | 635.9  |
| 50°   | 5211.3 | 4771.0 | 2480.2 | 846.6  | 667.3  | 735.7  | 698.4  | 653.1  | 612.7  | 606.7  | 605.6  |
| 52.5° | 6178.9 | 5497.6 | 2548.9 | 745.9  | 618.8  | 686.3  | 660.2  | 613.7  | 581.6  | 584.5  | 584.5  |
| 55°   | 7207.9 | 6249.5 | 2550.7 | 666.2  | 576.4  | 628.9  | 631.9  | 594.6  | 569.4  | 579.4  | 582.6  |
| 57.5° | 8146.2 | 6906.6 | 2350.2 | 609.7  | 536.2  | 583.4  | 622.9  | 601.7  | 582.6  | 617.8  | 620.8  |
| 60°   | 8964.5 | 7412.5 | 1918.9 | 563.3  | 503.0  | 566.4  | 642.9  | 645.1  | 641.0  | 736.7  | 743.7  |
| 62.5° | 9263.9 | 7417.6 | 1362.5 | 524.2  | 484.7  | 576.4  | 685.2  | 688.3  | 688.3  | 777.0  | 790.1  |
| 65°   | 8844.6 | 6799.7 | 907.0  | 500.9  | 472.7  | 598.6  | 719.6  | 706.4  | 675.3  | 736.7  | 722.5  |
| 67.5° | 7367.1 | 5293.1 | 663.2  | 485.8  | 455.5  | 599.7  | 749.8  | 716.6  | 663.2  | 715.6  | 691.3  |
| 70°   | 5063.2 | 3368.1 | 555.3  | 471.7  | 435.4  | 573.5  | 766.0  | 713.6  | 645.1  | 667.3  | 634.9  |
| 71°   | 4075.6 | 2687.9 | 527.0  | 466.6  | 427.4  | 558.3  | 768.0  | 709.5  | 635.9  | 650.1  | 620.8  |
| 72.5° | 2684.9 | 1655.8 | 492.8  | 455.5  | 415.2  | 532.2  | 762.9  | 700.4  | 623.9  | 624.9  | 605.6  |
| 75°   | 1059.2 | 686.3  | 443.5  | 430.4  | 380.9  | 489.8  | 740.7  | 681.3  | 600.6  | 580.6  | 572.4  |
| 77.5° | 535.1  | 448.4  | 390.0  | 395.1  | 340.6  | 446.5  | 709.5  | 650.1  | 568.4  | 541.1  | 535.1  |
| 80°   | 391.0  | 340.6  | 333.6  | 342.7  | 295.4  | 404.1  | 670.1  | 607.8  | 527.0  | 555.3  | 543.3  |
| 82.5° | 237.8  | 207.6  | 261.0  | 283.1  | 246.9  | 360.8  | 623.9  | 558.3  | 474.7  | 437.4  | 423.3  |
| 85°   | 112.8  | 121.9  | 188.5  | 208.6  | 182.4  | 288.3  | 570.5  | 503.9  | 414.2  | 357.7  | 363.9  |
| 87.5° | 55.4   | 67.6   | 107.8  | 125.0  | 120.0  | 211.6  | 430.4  | 391.0  | 326.5  | 269.1  | 263.1  |
| 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)