

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: P196299

Luminaire Tested: **NVN-AF-03-LED-U-T3-600**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P196299  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (p24135)  
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-T3-600  
Description: NAVION ROADWAY AND AREA LUMINAIRE  
(3) 70 CRI, 4000K, 615mA LIGHTSQUARES WITH 16 LEDS EACH AND TYPE III OPTICS  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 12212 lumens  
Efficiency: N/A  
Efficacy: 127.2 lumens/watt  
Luminous Opening: Rectangular (W 0.5' x L: 1.5' x H: 0')  
IES Classification: Type III - Short - Semi-Cutoff  
BUG Rating: B2 - U0 - G2

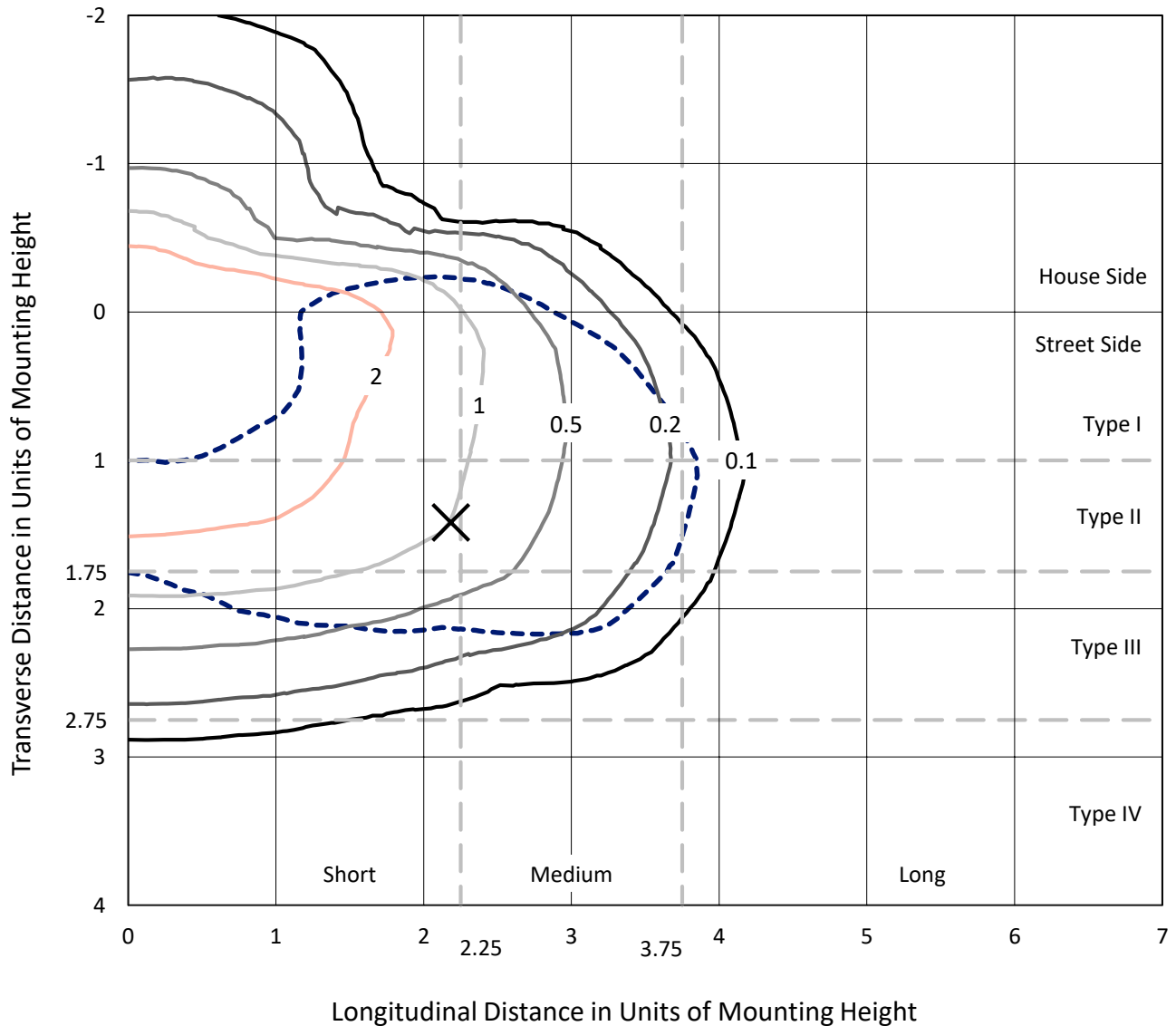
Input Watts (W): 96  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 28.75 FT



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### Iso-Footcandle Lines of Horizontal Illumination

✕ Max cd  
 - - - 1/2 Max cd

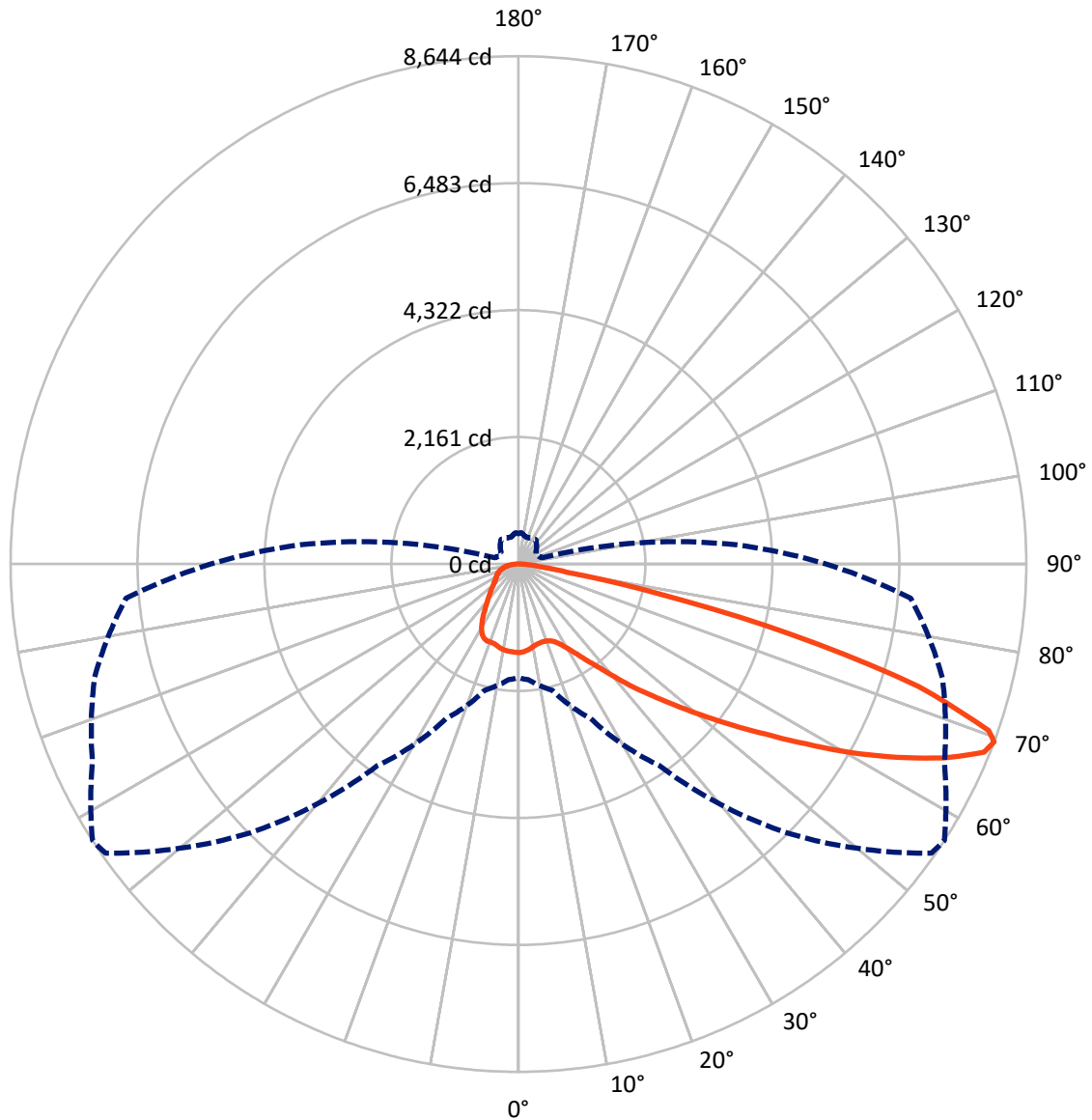


Based on 20 foot mounting height. Maximum calculated value = 3.9 fc  
 Type III - Short - Semi-Cutoff

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### Luminous Intensity Polar Plot



— Vertical Plane Through 57-Deg Lateral      - - - Horizontal Cone Through 69-Deg Vertical

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**FLUX DISTRIBUTION:**

|                    |           | Downward | Upward | Total   |
|--------------------|-----------|----------|--------|---------|
| <b>House Side</b>  | Lumens    | 2694.8   | 0.0    | 2694.8  |
|                    | % Fixture | 22.1     | 0.0    | 22.1    |
| <b>Street Side</b> | Lumens    | 9517.2   | 0.0    | 9517.2  |
|                    | % Fixture | 77.9     | 0.0    | 77.9    |
| <b>Total</b>       | Lumens    | 12212.0  | 0.0    | 12212.0 |
|                    | % Fixture | 100.0    | 0.0    | 100.0   |

**ZONAL LUMENS:**

| Zone      | Lumens  | % Fixture |
|-----------|---------|-----------|
| 0°-10°    | 141.3   | 1.2       |
| 10°-20°   | 401.7   | 3.3       |
| 20°-30°   | 668.1   | 5.5       |
| 30°-40°   | 1091.0  | 8.9       |
| 40°-50°   | 1841.4  | 15.1      |
| 50°-60°   | 2864.5  | 23.5      |
| 60°-70°   | 3412.2  | 27.9      |
| 70°-80°   | 1589.6  | 13.0      |
| 80°-90°   | 202.2   | 1.7       |
| 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°    | 12212.0 | 100.0     |
| 0°-180°   | 12212.0 | 100.0     |

**Coefficient of Utilization**



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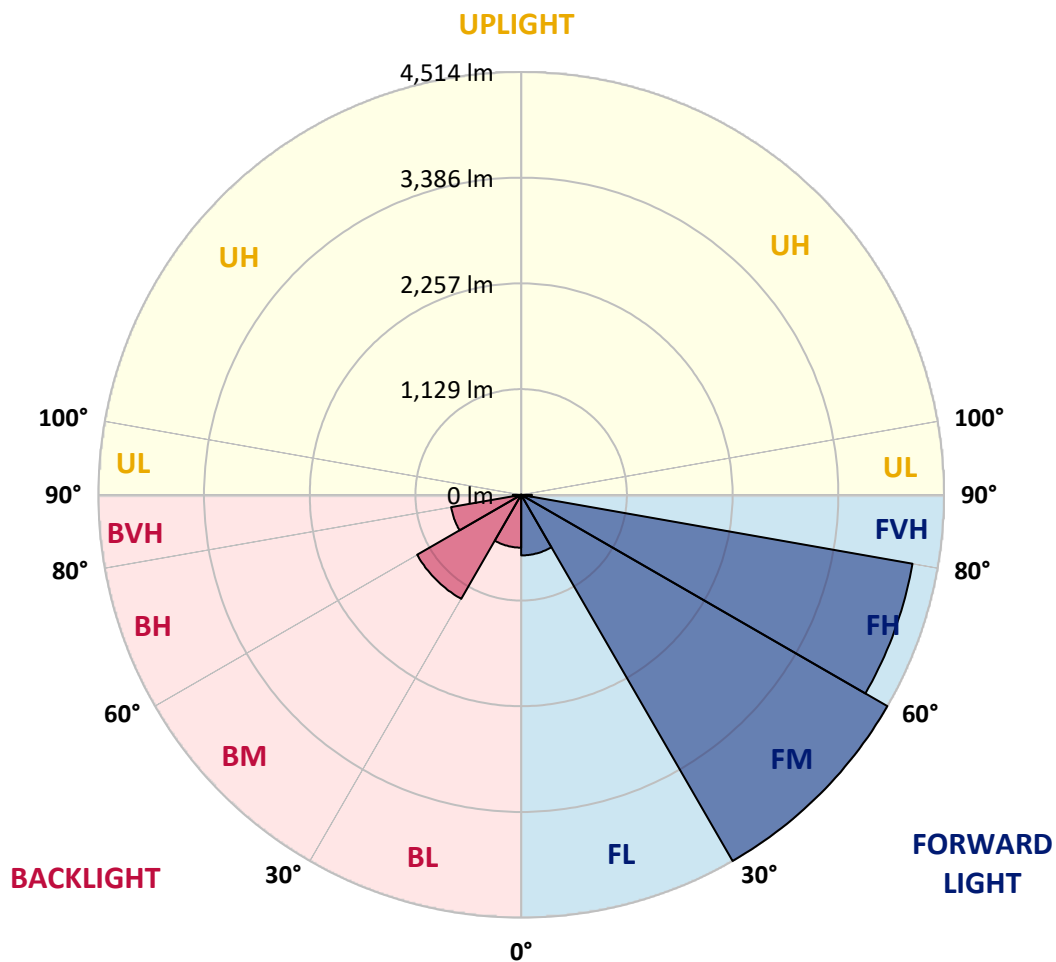
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**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

| Zone |             | Lumens | % Fixture | Zone Rating/Lumen Limit |      |         |
|------|-------------|--------|-----------|-------------------------|------|---------|
|      |             |        |           | B                       | U    | G       |
| FL   | (0°-30°)    | 646.7  | 5.3       |                         |      |         |
| FM   | (30°-60°)   | 4514.4 | 37.0      |                         |      |         |
| FH   | (60°-80°)   | 4242.5 | 34.7      |                         |      | G2/5000 |
| FVH  | (80°-90°)   | 113.6  | 0.9       |                         |      | G2/225  |
| BL   | (0°-30°)    | 564.3  | 4.6       | B2/1000                 |      |         |
| BM   | (30°-60°)   | 1282.5 | 10.5      | B2/2500                 |      |         |
| BH   | (60°-80°)   | 759.3  | 6.2       | B2/1000                 |      | G2/1000 |
| BVH  | (80°-90°)   | 88.5   | 0.7       |                         |      | G1/100  |
| UL   | (90°-100°)  | 0.0    | 0.0       |                         | U0/0 |         |
| UH   | (100°-180°) | 0.0    | 0.0       |                         | U0/0 |         |

**BUG Rating: B2-U0-G2**

Type III Short





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**CANDELA DISTRIBUTION (FULL):**

|       | 0°     | 5°     | 15°    | 25°    | 35°    | 45°    | 55°    | 57°    | 65°    | 75°    | 85°    |
|-------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 0°    | 1509.0 | 1509.0 | 1509.0 | 1509.0 | 1509.0 | 1509.0 | 1509.0 | 1509.0 | 1509.0 | 1509.0 | 1509.0 |
| 2.5°  | 1500.3 | 1500.3 | 1504.2 | 1504.2 | 1504.2 | 1502.6 | 1498.0 | 1499.5 | 1496.4 | 1494.0 | 1490.1 |
| 5°    | 1469.8 | 1471.4 | 1476.1 | 1477.7 | 1480.0 | 1480.7 | 1480.7 | 1480.0 | 1480.7 | 1480.7 | 1478.4 |
| 7.5°  | 1427.6 | 1429.2 | 1434.6 | 1437.8 | 1444.8 | 1451.1 | 1454.2 | 1454.2 | 1458.1 | 1461.2 | 1462.0 |
| 10°   | 1401.9 | 1401.9 | 1404.9 | 1404.9 | 1410.4 | 1413.5 | 1423.7 | 1422.9 | 1433.9 | 1444.0 | 1448.7 |
| 12.5° | 1398.7 | 1398.7 | 1397.1 | 1391.6 | 1388.6 | 1387.7 | 1397.9 | 1399.5 | 1415.9 | 1433.9 | 1442.5 |
| 15°   | 1408.8 | 1408.8 | 1404.1 | 1393.2 | 1381.5 | 1376.0 | 1386.2 | 1389.3 | 1407.3 | 1428.3 | 1441.6 |
| 17.5° | 1441.6 | 1440.9 | 1430.7 | 1408.8 | 1388.6 | 1380.0 | 1383.0 | 1386.2 | 1402.6 | 1426.8 | 1443.3 |
| 20°   | 1514.4 | 1514.4 | 1492.5 | 1452.6 | 1417.4 | 1397.1 | 1392.4 | 1394.8 | 1406.5 | 1429.2 | 1450.2 |
| 22.5° | 1641.8 | 1644.2 | 1605.1 | 1539.4 | 1479.2 | 1436.2 | 1417.4 | 1419.8 | 1425.3 | 1447.2 | 1470.6 |
| 25°   | 1829.4 | 1823.2 | 1767.7 | 1674.7 | 1580.9 | 1507.3 | 1469.1 | 1471.4 | 1471.4 | 1491.7 | 1515.9 |
| 27.5° | 2028.0 | 2029.6 | 1949.8 | 1849.8 | 1726.2 | 1616.8 | 1555.8 | 1555.0 | 1554.3 | 1573.8 | 1599.6 |
| 30°   | 2252.4 | 2253.2 | 2161.0 | 2045.3 | 1903.7 | 1763.8 | 1672.3 | 1671.5 | 1664.4 | 1688.7 | 1722.3 |
| 32.5° | 2497.9 | 2497.1 | 2390.0 | 2259.5 | 2102.3 | 1943.6 | 1824.7 | 1824.0 | 1818.5 | 1851.3 | 1892.0 |
| 35°   | 2769.9 | 2769.9 | 2663.7 | 2502.6 | 2332.9 | 2156.3 | 2018.7 | 2017.9 | 2021.0 | 2065.5 | 2103.9 |
| 37.5° | 3097.6 | 3104.6 | 2976.4 | 2780.9 | 2595.6 | 2407.2 | 2246.9 | 2242.2 | 2218.8 | 2293.9 | 2357.2 |
| 40°   | 3439.3 | 3458.8 | 3325.8 | 3097.6 | 2897.4 | 2702.7 | 2526.1 | 2522.9 | 2502.6 | 2582.3 | 2684.7 |
| 42.5° | 3809.1 | 3853.6 | 3705.8 | 3472.8 | 3254.7 | 3044.4 | 2866.9 | 2858.3 | 2780.2 | 2904.5 | 3064.8 |
| 45°   | 4293.7 | 4322.7 | 4108.5 | 3897.3 | 3691.7 | 3451.7 | 3240.6 | 3194.5 | 3116.3 | 3275.8 | 3483.8 |
| 47.5° | 4623.6 | 4609.6 | 4475.9 | 4334.4 | 4202.3 | 3972.4 | 3647.9 | 3589.3 | 3494.0 | 3705.0 | 3934.1 |
| 50°   | 4828.5 | 4838.7 | 4763.6 | 4756.6 | 4749.6 | 4589.3 | 4107.7 | 4037.3 | 3927.1 | 4177.2 | 4444.6 |
| 52.5° | 4963.8 | 4917.6 | 4930.9 | 5090.4 | 5283.5 | 5206.9 | 4627.6 | 4549.4 | 4436.0 | 4686.2 | 4988.0 |
| 55°   | 4907.5 | 4846.5 | 4969.3 | 5283.5 | 5737.7 | 5754.9 | 5198.3 | 5117.8 | 5020.8 | 5227.3 | 5641.6 |
| 57.5° | 4674.5 | 4705.0 | 4898.9 | 5335.9 | 6048.2 | 6245.9 | 5854.2 | 5772.2 | 5581.4 | 5790.9 | 6262.4 |
| 60°   | 4346.9 | 4408.7 | 4705.0 | 5253.1 | 6265.5 | 6628.2 | 6574.3 | 6519.6 | 6191.2 | 6339.7 | 6914.4 |
| 62.5° | 3995.1 | 4056.1 | 4420.4 | 5111.5 | 6167.8 | 6966.8 | 7281.1 | 7247.5 | 6864.4 | 6868.3 | 7328.0 |
| 65°   | 3475.2 | 3500.2 | 3872.4 | 4725.3 | 5896.5 | 7272.5 | 7988.6 | 7958.9 | 7507.8 | 7319.4 | 7443.7 |
| 67.5° | 2624.6 | 2655.9 | 2961.5 | 3730.1 | 5070.9 | 7106.7 | 8553.9 | 8549.2 | 7894.8 | 7486.7 | 7168.5 |
| 69°   | 1938.1 | 1976.4 | 2225.8 | 2895.9 | 4192.9 | 6475.0 | 8580.4 | 8643.8 | 7999.6 | 7469.5 | 6703.3 |
| 70°   | 1418.2 | 1462.0 | 1692.7 | 2298.6 | 3492.4 | 5777.6 | 8352.9 | 8489.0 | 7959.7 | 7360.8 | 6340.6 |
| 72.5° | 602.8  | 617.7  | 731.0  | 1037.5 | 1771.6 | 3483.8 | 6841.7 | 7127.8 | 7188.8 | 6595.4 | 4953.6 |
| 75°   | 377.6  | 382.3  | 426.9  | 532.4  | 788.1  | 1440.9 | 4430.6 | 4820.7 | 5367.2 | 5117.0 | 3316.5 |
| 77.5° | 284.6  | 288.5  | 314.3  | 366.6  | 489.4  | 537.9  | 2055.4 | 2451.0 | 3074.1 | 3010.0 | 1650.4 |
| 80°   | 218.1  | 220.4  | 237.6  | 266.6  | 344.7  | 337.0  | 666.9  | 838.1  | 1283.0 | 1132.1 | 584.0  |
| 82.5° | 171.2  | 172.0  | 186.9  | 192.3  | 240.8  | 226.7  | 334.6  | 373.0  | 518.3  | 430.8  | 285.4  |
| 85°   | 151.7  | 154.1  | 168.9  | 140.8  | 154.1  | 136.8  | 183.7  | 199.4  | 275.2  | 259.5  | 107.9  |
| 87.5° | 77.4   | 81.3   | 141.5  | 120.4  | 77.4   | 64.9   | 80.5   | 86.7   | 111.8  | 121.2  | 52.4   |
| 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°    | 1509.0 | 1509.0 | 1509.0 | 1509.0 | 1509.0 | 1509.0 | 1509.0 | 1509.0 | 1509.0 | 1509.0 | 1509.0 |
| 2.5°  | 1491.0 | 1491.7 | 1494.0 | 1498.0 | 1504.2 | 1512.0 | 1521.4 | 1530.8 | 1536.3 | 1540.2 | 1538.6 |
| 5°    | 1478.4 | 1479.2 | 1483.9 | 1491.0 | 1498.7 | 1510.5 | 1526.1 | 1537.8 | 1546.4 | 1551.9 | 1551.1 |
| 7.5°  | 1462.8 | 1465.2 | 1474.5 | 1482.4 | 1493.3 | 1502.6 | 1515.2 | 1526.1 | 1534.7 | 1540.2 | 1539.4 |
| 10°   | 1451.1 | 1453.4 | 1465.2 | 1475.3 | 1484.7 | 1486.2 | 1483.9 | 1480.7 | 1480.0 | 1483.9 | 1482.4 |
| 12.5° | 1445.5 | 1450.2 | 1461.2 | 1468.2 | 1464.4 | 1449.5 | 1432.3 | 1425.3 | 1422.9 | 1430.7 | 1431.5 |
| 15°   | 1447.2 | 1451.1 | 1460.5 | 1455.8 | 1434.6 | 1409.6 | 1400.2 | 1405.7 | 1410.4 | 1415.0 | 1415.9 |
| 17.5° | 1451.1 | 1453.4 | 1455.8 | 1438.6 | 1408.8 | 1392.4 | 1389.3 | 1383.8 | 1369.7 | 1362.0 | 1361.1 |
| 20°   | 1458.1 | 1461.2 | 1457.3 | 1430.0 | 1403.4 | 1381.5 | 1344.0 | 1310.3 | 1278.3 | 1261.1 | 1254.0 |
| 22.5° | 1482.4 | 1484.7 | 1472.9 | 1446.4 | 1405.7 | 1334.5 | 1258.7 | 1200.8 | 1151.6 | 1125.0 | 1114.9 |
| 25°   | 1530.0 | 1533.9 | 1517.5 | 1483.9 | 1377.6 | 1253.2 | 1146.1 | 1068.0 | 1006.2 | 974.2  | 965.6  |
| 27.5° | 1613.7 | 1617.6 | 1599.6 | 1512.0 | 1311.9 | 1144.6 | 1014.8 | 937.4  | 884.2  | 856.8  | 852.9  |
| 30°   | 1738.8 | 1744.2 | 1727.9 | 1511.2 | 1211.8 | 1006.2 | 886.6  | 841.3  | 810.8  | 792.0  | 791.2  |
| 32.5° | 1912.3 | 1932.7 | 1865.5 | 1484.7 | 1088.3 | 866.2  | 789.6  | 774.0  | 759.1  | 746.7  | 746.7  |
| 35°   | 2132.9 | 2180.5 | 2001.5 | 1429.2 | 952.3  | 770.9  | 735.7  | 720.9  | 702.1  | 688.8  | 687.2  |
| 37.5° | 2396.3 | 2470.5 | 2098.4 | 1330.7 | 834.9  | 724.8  | 702.9  | 678.6  | 649.0  | 623.1  | 616.8  |
| 40°   | 2758.3 | 2775.5 | 2146.0 | 1170.4 | 747.4  | 699.7  | 672.4  | 641.9  | 604.4  | 575.4  | 572.3  |
| 42.5° | 3121.8 | 3065.5 | 2136.7 | 998.4  | 697.3  | 677.1  | 641.1  | 607.4  | 573.9  | 549.6  | 549.6  |
| 45°   | 3535.4 | 3318.9 | 2065.5 | 825.6  | 652.0  | 651.2  | 612.1  | 580.1  | 554.3  | 536.3  | 532.4  |
| 47.5° | 3931.0 | 3546.4 | 1942.8 | 698.2  | 605.2  | 625.4  | 593.4  | 567.6  | 544.1  | 526.9  | 523.9  |
| 50°   | 4411.1 | 3809.8 | 1812.3 | 609.1  | 559.8  | 602.8  | 585.5  | 572.3  | 549.6  | 519.9  | 516.8  |
| 52.5° | 4888.0 | 4117.9 | 1711.4 | 541.8  | 519.9  | 584.8  | 590.2  | 591.9  | 570.7  | 512.9  | 508.9  |
| 55°   | 5400.1 | 4447.0 | 1605.1 | 489.4  | 487.0  | 576.2  | 601.2  | 599.7  | 589.5  | 514.4  | 508.2  |
| 57.5° | 5887.1 | 4777.7 | 1446.4 | 452.7  | 461.2  | 567.6  | 603.5  | 578.6  | 560.6  | 522.2  | 512.1  |
| 60°   | 6290.5 | 5051.3 | 1213.4 | 426.9  | 439.4  | 550.4  | 587.9  | 550.4  | 519.9  | 520.7  | 511.3  |
| 62.5° | 6486.7 | 5128.0 | 928.0  | 397.2  | 421.4  | 522.2  | 565.3  | 529.3  | 501.1  | 523.9  | 518.3  |
| 65°   | 6337.4 | 4909.9 | 661.4  | 369.8  | 399.5  | 489.4  | 552.0  | 511.3  | 491.7  | 539.5  | 533.2  |
| 67.5° | 5801.1 | 4315.6 | 480.1  | 345.6  | 378.4  | 455.8  | 526.9  | 494.9  | 482.4  | 551.2  | 537.2  |
| 69°   | 5231.2 | 3726.1 | 415.9  | 331.5  | 363.6  | 437.8  | 510.6  | 486.3  | 475.4  | 534.8  | 514.4  |
| 70°   | 4757.3 | 3271.9 | 383.9  | 322.8  | 351.1  | 427.7  | 498.0  | 480.8  | 468.3  | 515.3  | 491.0  |
| 72.5° | 3411.0 | 2114.8 | 322.8  | 297.1  | 318.2  | 405.0  | 470.7  | 460.5  | 441.7  | 465.1  | 449.6  |
| 75°   | 2060.8 | 1104.0 | 274.5  | 270.5  | 283.8  | 373.7  | 438.6  | 426.1  | 407.3  | 409.7  | 401.8  |
| 77.5° | 946.7  | 509.7  | 229.9  | 239.3  | 247.9  | 334.6  | 399.5  | 385.4  | 368.3  | 362.0  | 362.7  |
| 80°   | 415.1  | 297.9  | 192.3  | 204.1  | 208.8  | 301.0  | 357.3  | 341.7  | 322.8  | 356.5  | 330.7  |
| 82.5° | 224.3  | 172.8  | 150.1  | 157.9  | 171.2  | 261.9  | 310.4  | 290.0  | 272.1  | 316.6  | 255.6  |
| 85°   | 90.7   | 88.4   | 101.7  | 109.5  | 118.9  | 188.4  | 259.5  | 238.4  | 216.6  | 193.8  | 189.2  |
| 87.5° | 39.1   | 42.2   | 50.0   | 53.2   | 63.3   | 117.2  | 174.3  | 152.4  | 153.2  | 131.3  | 129.0  |
| 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)