

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: LUMARK

Report Number: P882117

Luminaire Tested: **NAV-SB1D-830-U-T2**

Issue Date: 10/7/2024

**Test Information**

Test Method: LM-79-08  
Report Number: P882117  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2405-108-3)  
Test Lab: INNOVATION CENTER  
Issue Date: 10/7/2024  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: LUMARK  
Catalog Number: NAV-SB1D-830-U-T2  
Description: NAVION ROADWAY AND AREA HIGH DENSITY LED LUMINAIRE  
(1) 80 CRI, 3000K, 900mA LIGHTSQUARE WITH 26 LEDS AND TYPE II OPTICS  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 8830 lumens  
Efficiency: N/A  
Efficacy: 110.9 lumens/watt  
Luminous Opening: Rectangular (W 0.5' x L: 0.5' x H: 0')  
IES Classification: Type II - Medium  
BUG Rating: B2 - U0 - G2

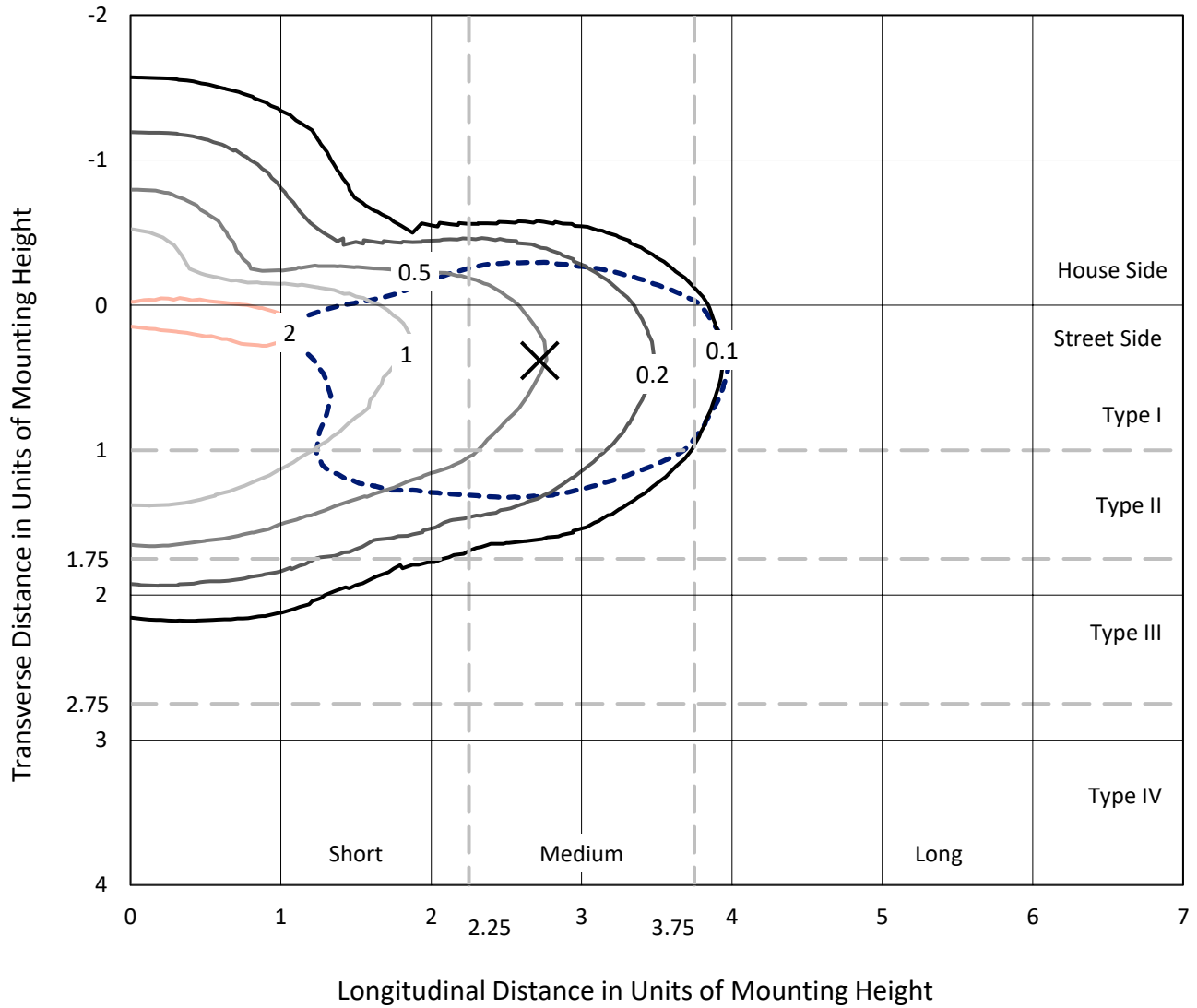
Input Watts (W): 79.6  
Input Voltage (V): 120.0  
Input Current (Ain): 0.638  
Voltage Rise (V): NR  
Power Factor: 0.997  
Total Harmonic Distortion (THDi): 6.673  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 24 FT



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### Iso-Footcandle Lines of Horizontal Illumination

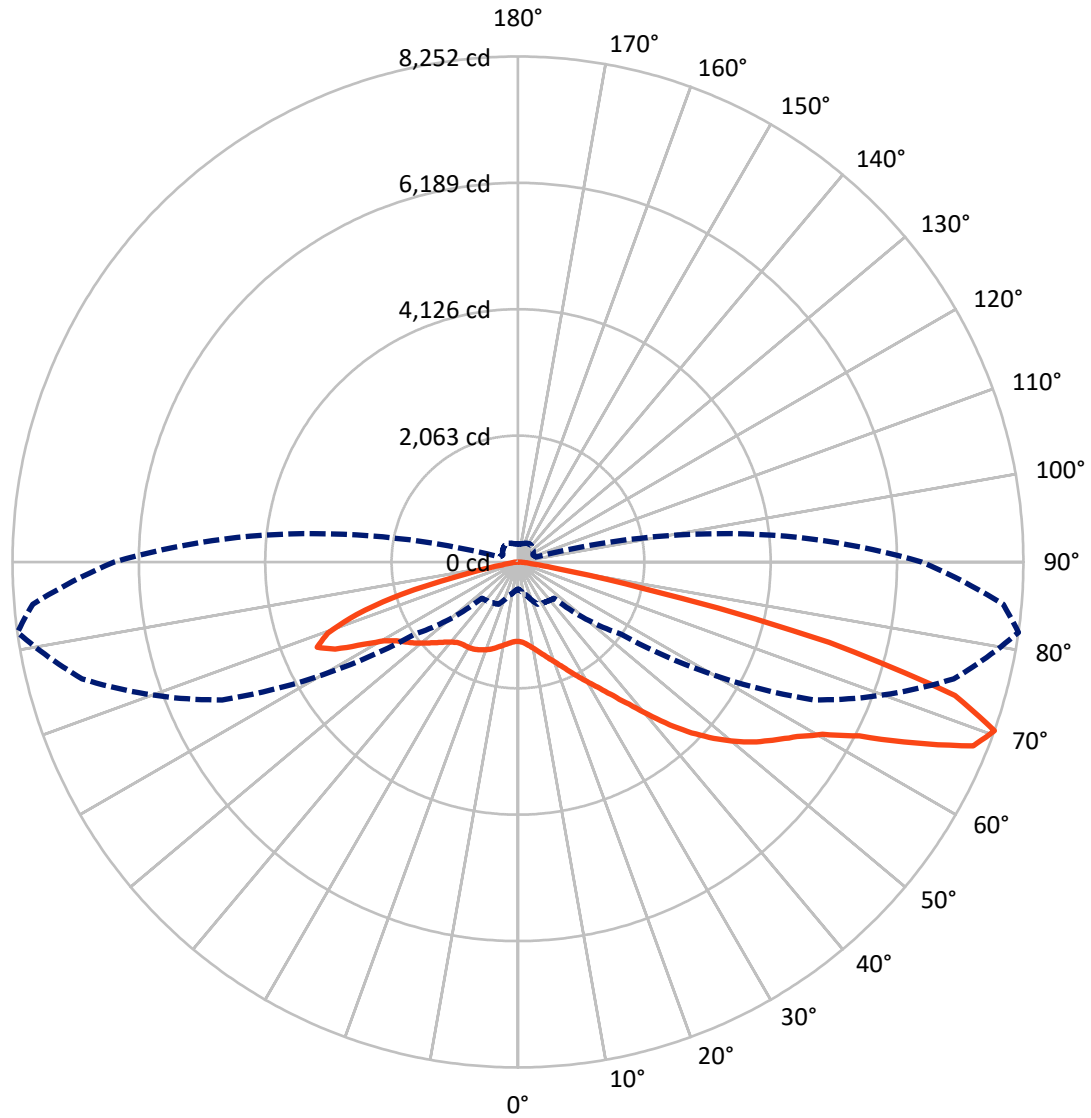
✕ Max cd  
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 2.4 fc  
 Type II - Medium - N/A

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### Luminous Intensity Polar Plot



— Vertical Plane Through 82-Deg Lateral    - - - Horizontal Cone Through 70-Deg Vertical

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**FLUX DISTRIBUTION:**

|                    |           | Downward | Upward | Total  |
|--------------------|-----------|----------|--------|--------|
| <b>House Side</b>  | Lumens    | 2176.8   | 0.0    | 2176.8 |
|                    | % Fixture | 24.7     | 0.0    | 24.7   |
| <b>Street Side</b> | Lumens    | 6653.2   | 0.0    | 6653.2 |
|                    | % Fixture | 75.3     | 0.0    | 75.3   |
| <b>Total</b>       | Lumens    | 8830.0   | 0.0    | 8830.0 |
|                    | % Fixture | 100.0    | 0.0    | 100.0  |

**ZONAL LUMENS:**

| Zone      | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10°    | 122.2  | 1.4       |
| 10°-20°   | 351.2  | 4.0       |
| 20°-30°   | 587.5  | 6.7       |
| 30°-40°   | 917.8  | 10.4      |
| 40°-50°   | 1461.7 | 16.6      |
| 50°-60°   | 2034.2 | 23.0      |
| 60°-70°   | 2127.8 | 24.1      |
| 70°-80°   | 1112.1 | 12.6      |
| 80°-90°   | 115.5  | 1.3       |
| 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°    | 8830.0 | 100.0     |
| 0°-180°   | 8830.0 | 100.0     |

**Coefficient of Utilization**



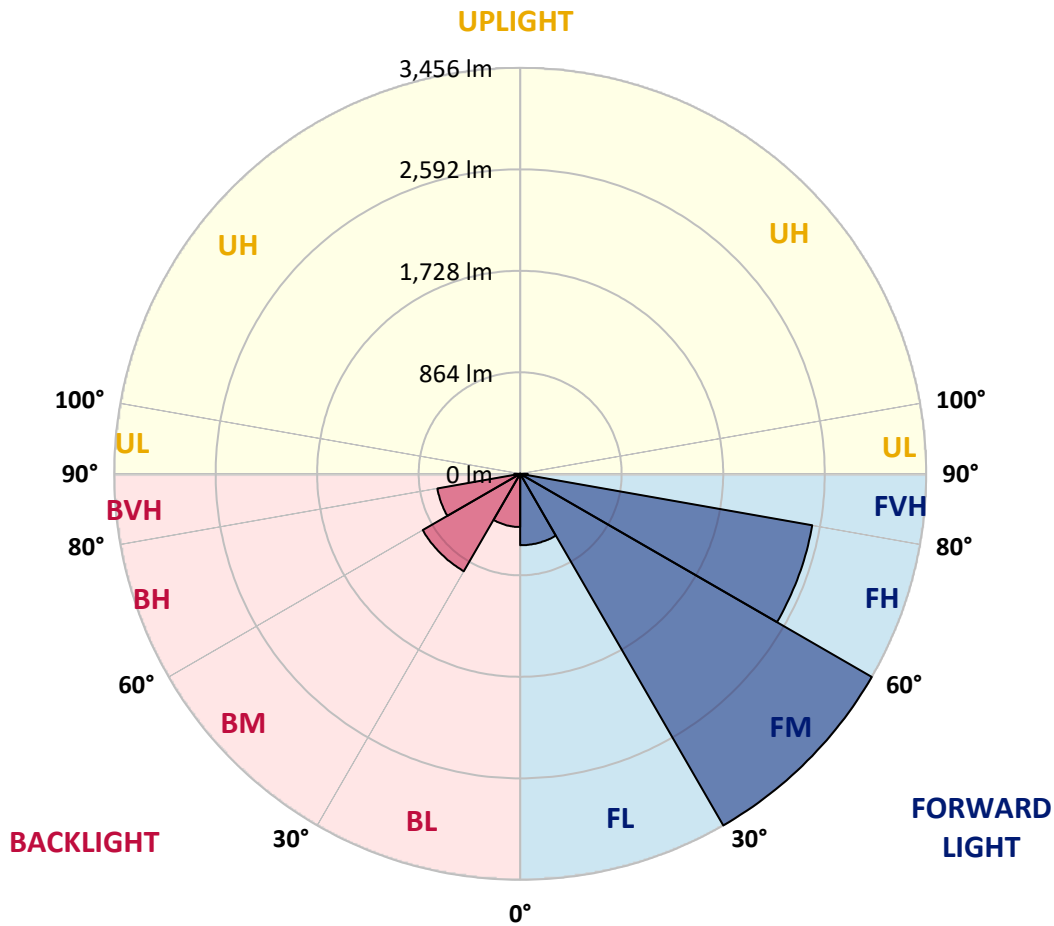
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**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

| Zone           | Lumens | % Fixture | Zone Rating/Lumen Limit |      |         |
|----------------|--------|-----------|-------------------------|------|---------|
|                |        |           | B                       | U    | G       |
| FL (0°-30°)    | 608.0  | 6.9       |                         |      |         |
| FM (30°-60°)   | 3456.0 | 39.1      |                         |      |         |
| FH (60°-80°)   | 2524.5 | 28.6      |                         |      | G2/5000 |
| FVH (80°-90°)  | 64.6   | 0.7       |                         |      | G1/100  |
| BL (0°-30°)    | 452.9  | 5.1       | B1/500                  |      |         |
| BM (30°-60°)   | 957.7  | 10.8      | B1/1000                 |      |         |
| BH (60°-80°)   | 715.4  | 8.1       | B2/1000                 |      | G2/1000 |
| BVH (80°-90°)  | 50.8   | 0.6       |                         |      | 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 II Medium



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**CANDELA DISTRIBUTION (FULL):**

|       | 0°     | 5°     | 15°    | 25°    | 35°    | 45°    | 55°    | 65°    | 75°    | 82°    | 85°    |
|-------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 0°    | 1294.6 | 1294.6 | 1294.6 | 1294.6 | 1294.6 | 1294.6 | 1294.6 | 1294.6 | 1294.6 | 1294.6 | 1294.6 |
| 2.5°  | 1325.5 | 1333.0 | 1330.7 | 1328.3 | 1328.3 | 1325.0 | 1324.6 | 1319.9 | 1316.1 | 1310.1 | 1308.6 |
| 5°    | 1342.4 | 1350.3 | 1349.4 | 1351.3 | 1357.4 | 1358.8 | 1360.2 | 1357.4 | 1349.9 | 1342.4 | 1339.1 |
| 7.5°  | 1327.4 | 1336.3 | 1339.1 | 1350.3 | 1369.1 | 1386.0 | 1398.6 | 1403.8 | 1396.7 | 1386.0 | 1380.8 |
| 10°   | 1276.8 | 1286.6 | 1296.5 | 1323.2 | 1356.4 | 1396.3 | 1430.0 | 1450.1 | 1448.7 | 1438.4 | 1429.5 |
| 12.5° | 1174.2 | 1184.5 | 1205.6 | 1257.6 | 1318.5 | 1388.8 | 1451.6 | 1493.7 | 1508.2 | 1500.7 | 1485.3 |
| 15°   | 1092.2 | 1101.1 | 1117.0 | 1170.4 | 1249.6 | 1356.4 | 1459.5 | 1541.5 | 1578.5 | 1574.3 | 1555.6 |
| 17.5° | 1089.8 | 1093.6 | 1103.4 | 1128.7 | 1189.6 | 1305.8 | 1451.1 | 1588.4 | 1659.1 | 1658.6 | 1635.2 |
| 20°   | 1131.1 | 1132.5 | 1138.1 | 1143.2 | 1177.9 | 1267.4 | 1429.5 | 1627.3 | 1749.5 | 1749.5 | 1724.2 |
| 22.5° | 1188.2 | 1187.3 | 1192.9 | 1188.2 | 1205.1 | 1264.1 | 1415.9 | 1661.5 | 1850.3 | 1857.8 | 1825.9 |
| 25°   | 1274.0 | 1269.3 | 1267.9 | 1257.1 | 1260.4 | 1294.6 | 1430.9 | 1700.3 | 1969.8 | 1985.2 | 1945.4 |
| 27.5° | 1388.3 | 1380.8 | 1375.6 | 1350.8 | 1342.4 | 1357.4 | 1476.9 | 1747.2 | 2102.8 | 2129.5 | 2078.9 |
| 30°   | 1537.3 | 1523.7 | 1516.2 | 1473.1 | 1442.6 | 1445.0 | 1546.2 | 1809.5 | 2242.0 | 2285.1 | 2220.9 |
| 32.5° | 1740.6 | 1719.6 | 1699.4 | 1628.7 | 1572.9 | 1554.6 | 1635.7 | 1895.7 | 2392.9 | 2461.7 | 2379.3 |
| 35°   | 1968.4 | 1951.5 | 1929.9 | 1820.8 | 1735.0 | 1692.9 | 1756.6 | 2016.1 | 2569.5 | 2678.7 | 2571.4 |
| 37.5° | 2187.6 | 2173.1 | 2183.4 | 2036.3 | 1925.7 | 1864.3 | 1914.9 | 2177.8 | 2787.4 | 2948.6 | 2812.2 |
| 40°   | 2414.4 | 2403.2 | 2404.6 | 2264.0 | 2135.2 | 2066.3 | 2107.0 | 2380.7 | 3037.1 | 3269.5 | 3101.8 |
| 42.5° | 2660.9 | 2652.4 | 2624.3 | 2499.7 | 2354.9 | 2290.7 | 2328.2 | 2614.9 | 3305.1 | 3635.0 | 3419.4 |
| 45°   | 2936.8 | 2931.7 | 2905.4 | 2762.5 | 2596.7 | 2524.5 | 2575.1 | 2873.6 | 3574.5 | 3978.9 | 3738.5 |
| 47.5° | 3175.3 | 3179.5 | 3176.3 | 3055.8 | 2883.9 | 2778.0 | 2838.4 | 3143.5 | 3825.2 | 4302.2 | 4044.5 |
| 50°   | 3290.1 | 3312.1 | 3344.5 | 3307.0 | 3200.2 | 3092.4 | 3104.1 | 3404.0 | 4064.2 | 4605.3 | 4337.8 |
| 52.5° | 3230.1 | 3271.8 | 3359.9 | 3419.9 | 3461.1 | 3438.6 | 3407.3 | 3662.6 | 4289.1 | 4879.0 | 4615.2 |
| 55°   | 3006.6 | 3065.2 | 3211.4 | 3356.2 | 3566.6 | 3730.1 | 3771.3 | 3949.4 | 4508.3 | 5119.8 | 4877.5 |
| 57.5° | 2599.5 | 2694.6 | 2825.8 | 3118.6 | 3472.9 | 3871.1 | 4195.8 | 4347.2 | 4740.7 | 5377.0 | 5152.1 |
| 60°   | 1901.4 | 2028.8 | 2191.9 | 2627.6 | 3144.9 | 3795.7 | 4557.1 | 4958.1 | 5071.1 | 5710.2 | 5509.6 |
| 62.5° | 1216.8 | 1295.5 | 1445.5 | 1855.9 | 2450.5 | 3409.1 | 4667.6 | 5721.9 | 5631.0 | 6256.5 | 6045.6 |
| 65°   | 833.1  | 883.7  | 1021.0 | 1251.5 | 1584.1 | 2537.6 | 4371.5 | 6294.4 | 6520.3 | 7122.3 | 6962.1 |
| 67.5° | 605.4  | 643.8  | 760.9  | 962.9  | 1032.2 | 1501.7 | 3392.3 | 6268.2 | 7384.7 | 8014.5 | 7765.2 |
| 70°   | 441.4  | 468.5  | 566.9  | 760.9  | 794.2  | 835.4  | 2055.0 | 5328.3 | 7366.0 | 8251.5 | 7953.1 |
| 72.5° | 327.0  | 345.8  | 411.9  | 590.4  | 642.8  | 564.1  | 1017.2 | 3872.5 | 6329.6 | 7463.4 | 7224.0 |
| 75°   | 236.6  | 250.7  | 299.4  | 451.7  | 514.5  | 429.7  | 507.4  | 2263.1 | 4415.1 | 5250.0 | 5292.2 |
| 77.5° | 180.9  | 191.6  | 223.5  | 330.8  | 411.9  | 322.4  | 314.9  | 1041.1 | 2093.5 | 2103.8 | 2221.8 |
| 80°   | 145.2  | 152.3  | 169.6  | 232.9  | 315.8  | 241.3  | 205.2  | 420.3  | 661.6  | 559.9  | 587.6  |
| 82.5° | 106.8  | 118.5  | 143.4  | 163.5  | 225.8  | 166.3  | 125.1  | 212.3  | 251.6  | 216.5  | 218.3  |
| 85°   | 60.9   | 68.9   | 86.7   | 117.1  | 144.3  | 101.7  | 71.7   | 94.2   | 117.1  | 96.1   | 85.7   |
| 87.5° | 21.6   | 28.1   | 30.5   | 45.9   | 62.8   | 42.2   | 27.6   | 27.2   | 38.4   | 28.6   | 23.9   |
| 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):**

|       | 90°    | 95°    | 105°   | 115°   | 125°   | 135°   | 145°   | 155°   | 165°   | 175°   | 180°   |
|-------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 0°    | 1294.6 | 1294.6 | 1294.6 | 1294.6 | 1294.6 | 1294.6 | 1294.6 | 1294.6 | 1294.6 | 1294.6 | 1294.6 |
| 2.5°  | 1304.0 | 1301.6 | 1292.2 | 1279.6 | 1266.5 | 1253.8 | 1249.6 | 1240.7 | 1234.6 | 1231.3 | 1235.1 |
| 5°    | 1330.2 | 1322.7 | 1300.7 | 1272.6 | 1243.0 | 1211.2 | 1188.7 | 1168.1 | 1153.1 | 1139.0 | 1144.7 |
| 7.5°  | 1367.7 | 1354.6 | 1316.6 | 1267.4 | 1214.9 | 1162.0 | 1122.6 | 1092.6 | 1072.5 | 1059.4 | 1062.2 |
| 10°   | 1411.3 | 1391.1 | 1333.0 | 1259.4 | 1178.4 | 1102.5 | 1056.1 | 1030.3 | 1017.7 | 1010.7 | 1012.5 |
| 12.5° | 1461.4 | 1432.8 | 1349.9 | 1241.2 | 1122.6 | 1036.0 | 1004.1 | 996.6  | 997.1  | 997.5  | 998.5  |
| 15°   | 1523.2 | 1483.4 | 1363.5 | 1201.3 | 1050.0 | 984.9  | 979.3  | 991.4  | 1004.1 | 1010.2 | 1009.7 |
| 17.5° | 1593.1 | 1536.8 | 1365.8 | 1135.8 | 978.8  | 952.1  | 969.9  | 996.1  | 1015.3 | 1023.8 | 1025.6 |
| 20°   | 1668.0 | 1591.2 | 1348.9 | 1043.0 | 920.2  | 925.4  | 957.2  | 991.0  | 1012.1 | 1022.8 | 1025.6 |
| 22.5° | 1753.8 | 1649.3 | 1308.6 | 945.5  | 872.4  | 896.3  | 933.8  | 966.6  | 988.6  | 999.4  | 1002.2 |
| 25°   | 1851.7 | 1714.4 | 1245.4 | 863.5  | 831.2  | 863.5  | 901.0  | 928.2  | 946.0  | 955.8  | 958.6  |
| 27.5° | 1960.4 | 1782.3 | 1161.1 | 798.4  | 795.1  | 829.8  | 860.7  | 881.8  | 891.2  | 898.7  | 901.5  |
| 30°   | 2069.6 | 1844.2 | 1058.9 | 749.2  | 763.7  | 796.5  | 818.5  | 827.9  | 830.7  | 832.1  | 835.4  |
| 32.5° | 2187.6 | 1897.6 | 951.6  | 708.4  | 733.7  | 764.2  | 777.3  | 781.5  | 768.4  | 759.5  | 762.3  |
| 35°   | 2330.5 | 1954.8 | 846.7  | 676.1  | 704.2  | 730.5  | 734.7  | 730.9  | 715.5  | 697.2  | 698.1  |
| 37.5° | 2507.2 | 2026.0 | 762.8  | 653.2  | 676.6  | 693.9  | 688.8  | 687.8  | 689.2  | 667.7  | 669.1  |
| 40°   | 2723.6 | 2118.8 | 701.4  | 635.3  | 654.1  | 657.8  | 643.3  | 651.3  | 658.3  | 625.5  | 626.4  |
| 42.5° | 2964.0 | 2230.7 | 662.5  | 623.2  | 635.3  | 626.4  | 604.0  | 612.9  | 611.9  | 568.8  | 568.3  |
| 45°   | 3209.1 | 2352.6 | 648.9  | 614.3  | 618.0  | 600.2  | 575.4  | 577.7  | 558.0  | 519.1  | 520.6  |
| 47.5° | 3452.7 | 2483.3 | 657.4  | 606.8  | 596.5  | 576.3  | 557.1  | 546.8  | 517.7  | 488.7  | 488.7  |
| 50°   | 3691.7 | 2620.6 | 688.3  | 591.8  | 566.9  | 555.2  | 541.2  | 522.9  | 492.0  | 467.1  | 465.3  |
| 52.5° | 3913.3 | 2758.8 | 723.0  | 566.9  | 529.9  | 537.0  | 528.0  | 507.0  | 476.5  | 451.2  | 451.7  |
| 55°   | 4123.2 | 2897.0 | 736.6  | 532.7  | 495.3  | 521.0  | 515.9  | 477.0  | 440.4  | 419.8  | 417.9  |
| 57.5° | 4351.8 | 3063.3 | 721.6  | 489.2  | 467.1  | 502.7  | 483.1  | 440.0  | 418.9  | 403.4  | 402.0  |
| 60°   | 4668.6 | 3324.3 | 689.2  | 435.3  | 440.4  | 475.6  | 441.8  | 424.0  | 401.1  | 383.7  | 382.8  |
| 62.5° | 5194.8 | 3811.1 | 637.2  | 381.9  | 409.0  | 435.3  | 422.2  | 404.4  | 380.9  | 364.1  | 364.1  |
| 65°   | 5972.5 | 4487.7 | 539.3  | 340.2  | 373.9  | 395.9  | 401.1  | 383.3  | 358.9  | 341.1  | 342.0  |
| 67.5° | 6628.5 | 4912.2 | 408.1  | 305.5  | 337.8  | 364.1  | 378.6  | 361.2  | 335.5  | 318.1  | 318.6  |
| 70°   | 6592.4 | 4603.9 | 311.6  | 271.3  | 306.0  | 332.7  | 351.4  | 337.8  | 310.2  | 293.8  | 295.2  |
| 72.5° | 5855.4 | 3851.4 | 252.1  | 236.6  | 273.6  | 299.9  | 322.4  | 312.1  | 283.9  | 268.0  | 268.0  |
| 75°   | 4301.7 | 2734.0 | 201.5  | 201.5  | 233.3  | 265.7  | 290.5  | 283.9  | 258.2  | 246.9  | 243.6  |
| 77.5° | 1813.3 | 1147.0 | 157.9  | 167.3  | 194.0  | 228.2  | 259.1  | 261.4  | 239.0  | 253.0  | 229.6  |
| 80°   | 482.1  | 316.3  | 120.4  | 131.7  | 152.3  | 188.4  | 225.4  | 224.4  | 200.1  | 186.9  | 173.8  |
| 82.5° | 183.7  | 124.6  | 85.7   | 92.8   | 110.1  | 144.3  | 178.5  | 184.1  | 159.8  | 138.2  | 138.2  |
| 85°   | 70.8   | 53.4   | 52.9   | 55.8   | 64.2   | 95.6   | 134.9  | 139.6  | 120.4  | 102.1  | 105.4  |
| 87.5° | 18.3   | 15.9   | 19.7   | 18.7   | 29.5   | 51.1   | 77.3   | 80.1   | 73.6   | 42.6   | 60.9   |
| 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)