

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: P961015

Luminaire Tested: **NAV-SB1D-827-U-T4W**

Issue Date: 1/21/2025

### Test Information

Test Method: LM-79-08  
Report Number: P961015  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2411-289-1)  
Test Lab: INNOVATION CENTER  
Issue Date: 1/21/2025  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: LUMARK  
Catalog Number: NAV-SB1D-827-U-T4W  
Description: NAVION ROADWAY AND AREA HIGH DENSITY LED LUMINAIRE  
(1) 80 CRI, 2700K, 900mA LIGHTSQUARE WITH 26 LEDS AND TYPE IV WIDE OPTICS  
Light Source: -  
Ballast/Driver: -

### Summary

Lumens per Lamp: N/A  
Luminaire Lumens: 9054.9 lumens  
Efficiency: N/A  
Efficacy: 113.8 lumens/watt  
Luminous Opening: Rectangular (W 0.5' x L: 0.5' x H: 0')  
IES Classification: Type IV - Short  
BUG Rating: B2 - U0 - G2

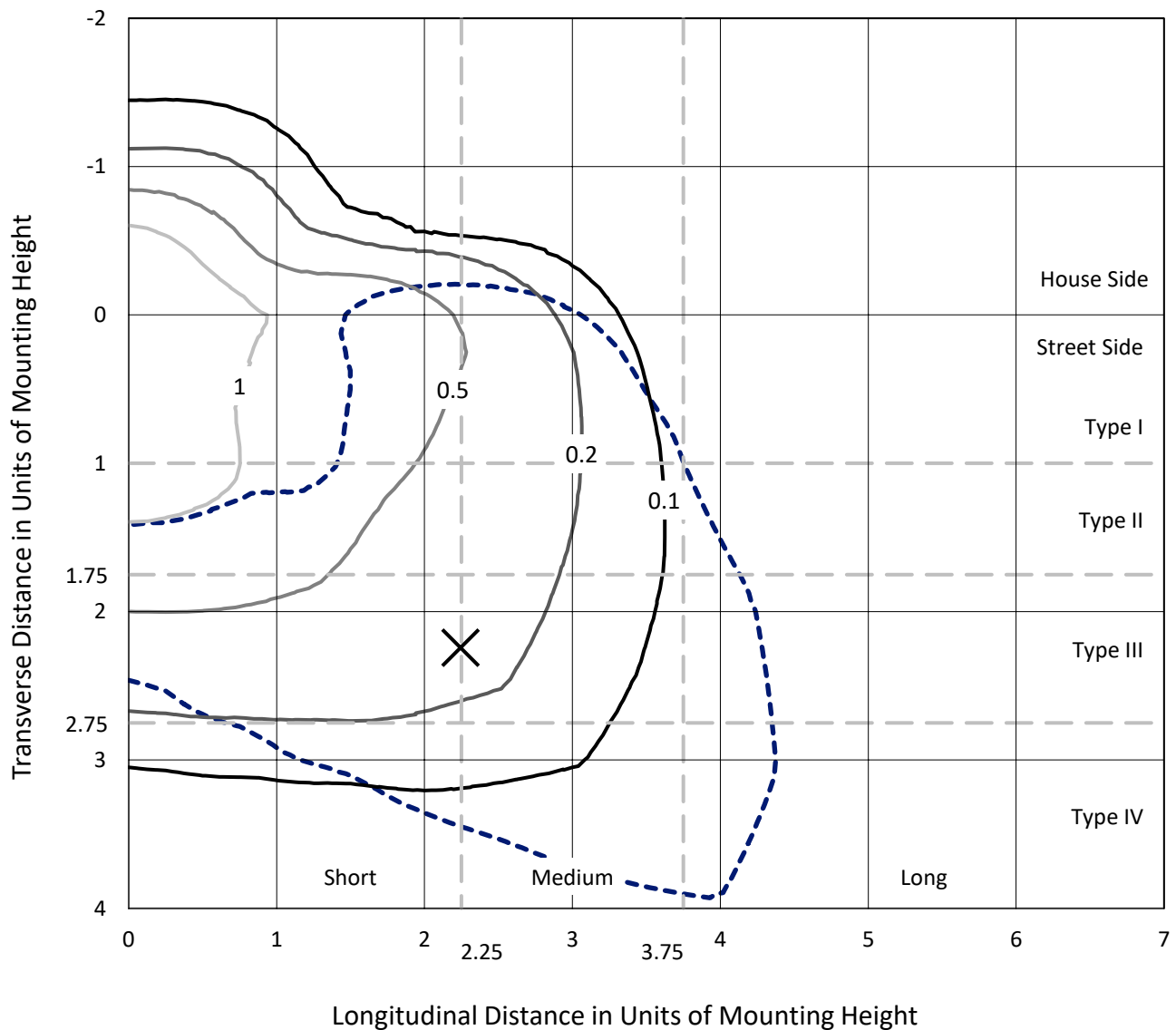
Input Watts (W): 79.6  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 24 FT



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## Iso-Footcandle Lines of Horizontal Illumination

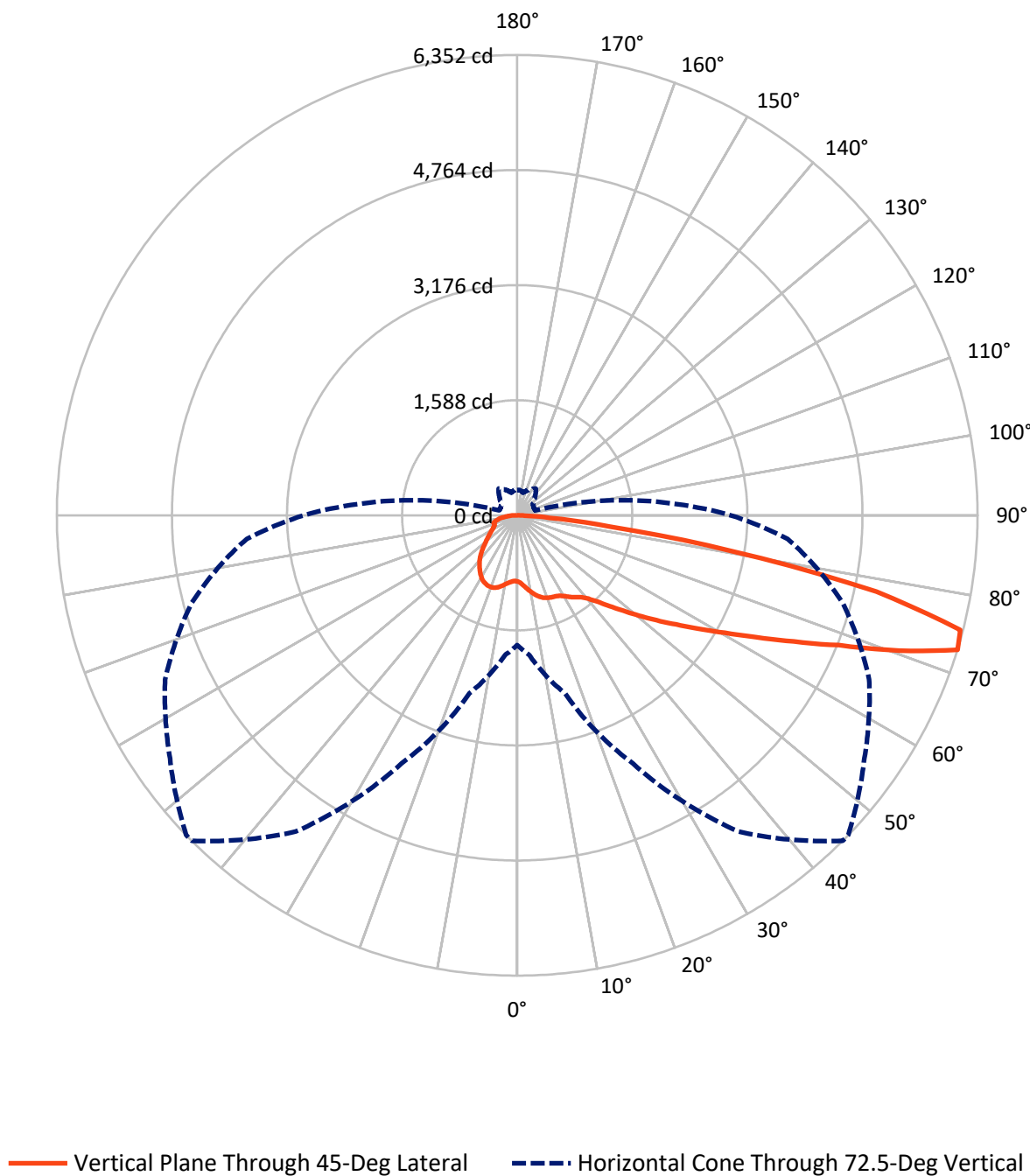
× Max cd  
- - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 1.8 fc  
Type IV - Short - N/A

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## Luminous Intensity Polar Plot



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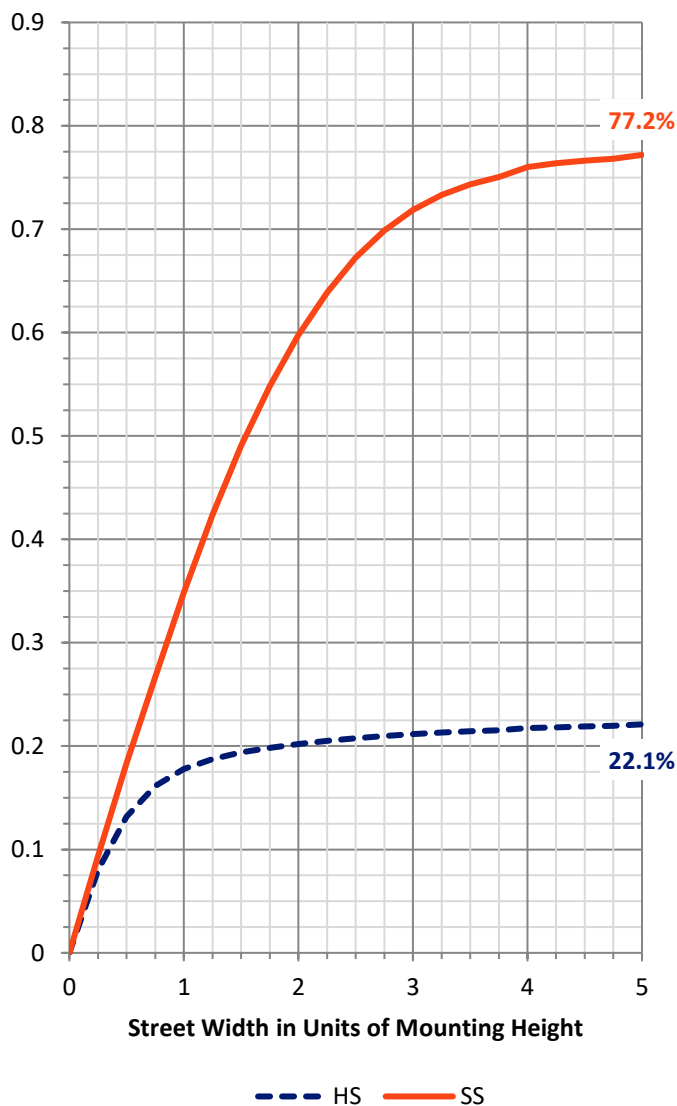
**FLUX DISTRIBUTION:**

|                    |           | Downward | Upward | Total  |
|--------------------|-----------|----------|--------|--------|
| <b>House Side</b>  | Lumens    | 2047.0   | 0.0    | 2047.0 |
|                    | % Fixture | 22.6     | 0.0    | 22.6   |
| <b>Street Side</b> | Lumens    | 7007.9   | 0.0    | 7007.9 |
|                    | % Fixture | 77.4     | 0.0    | 77.4   |
| <b>Total</b>       | Lumens    | 9054.9   | 0.0    | 9054.9 |
|                    | % Fixture | 100.0    | 0.0    | 100.0  |

**ZONAL LUMENS:**

| Zone      | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10°    | 93.0   | 1.0       |
| 10°-20°   | 310.0  | 3.4       |
| 20°-30°   | 539.2  | 6.0       |
| 30°-40°   | 773.0  | 8.5       |
| 40°-50°   | 1088.4 | 12.0      |
| 50°-60°   | 1667.2 | 18.4      |
| 60°-70°   | 2415.2 | 26.7      |
| 70°-80°   | 1928.6 | 21.3      |
| 80°-90°   | 240.2  | 2.7       |
| 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°    | 9054.9 | 100.0     |
| 0°-180°   | 9054.9 | 100.0     |

**Coefficient of Utilization**



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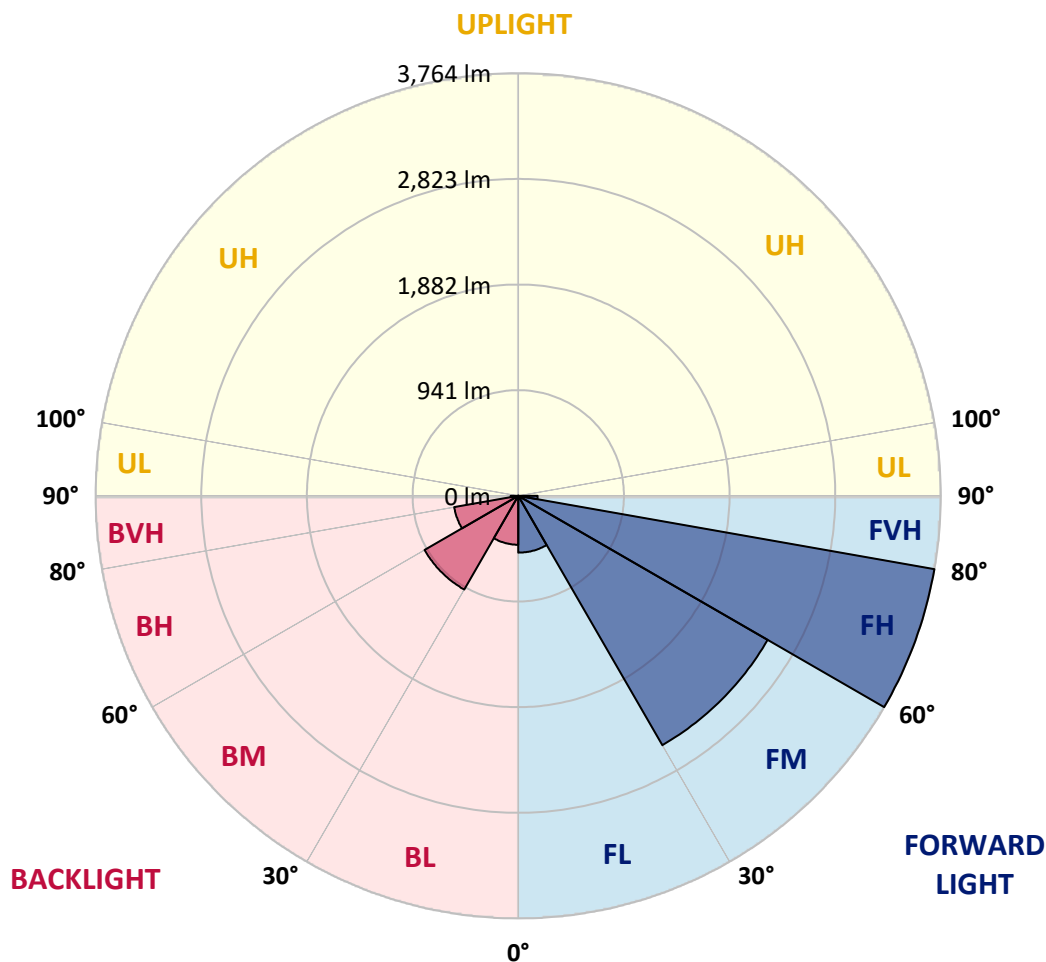
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**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

| Zone |             | Lumens | % Fixture | Zone Rating/Lumen Limit |      |         |
|------|-------------|--------|-----------|-------------------------|------|---------|
|      |             |        |           | B                       | U    | G       |
| FL   | (0°-30°)    | 506.4  | 5.6       |                         |      |         |
| FM   | (30°-60°)   | 2564.8 | 28.3      |                         |      |         |
| FH   | (60°-80°)   | 3764.4 | 41.6      |                         |      | G2/5000 |
| FVH  | (80°-90°)   | 172.3  | 1.9       |                         |      | G2/225  |
| BL   | (0°-30°)    | 435.8  | 4.8       | B1/500                  |      |         |
| BM   | (30°-60°)   | 963.8  | 10.6      | B1/1000                 |      |         |
| BH   | (60°-80°)   | 579.4  | 6.4       | B2/1000                 |      | G2/1000 |
| BVH  | (80°-90°)   | 67.9   | 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 IV Short



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**CANDELA DISTRIBUTION (FULL):**

|       | 0°     | 5°     | 15°    | 25°    | 35°    | 45°    | 46°    | 55°    | 65°    | 75°    | 85°    |
|-------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 0°    | 913.5  | 913.5  | 913.5  | 913.5  | 913.5  | 913.5  | 913.5  | 913.5  | 913.5  | 913.5  | 913.5  |
| 2.5°  | 949.3  | 955.4  | 949.7  | 944.4  | 942.1  | 935.9  | 935.4  | 931.6  | 929.2  | 922.5  | 920.7  |
| 5°    | 1015.6 | 1023.7 | 1014.1 | 1003.6 | 994.0  | 978.8  | 976.9  | 966.0  | 953.6  | 939.2  | 931.1  |
| 7.5°  | 1090.4 | 1097.6 | 1086.6 | 1070.8 | 1054.2 | 1028.9 | 1028.4 | 1008.4 | 988.8  | 964.5  | 950.7  |
| 10°   | 1155.8 | 1165.3 | 1150.6 | 1129.0 | 1108.0 | 1079.4 | 1076.1 | 1053.2 | 1028.4 | 996.9  | 975.9  |
| 12.5° | 1213.5 | 1220.2 | 1205.8 | 1179.7 | 1155.3 | 1126.7 | 1122.4 | 1097.1 | 1069.5 | 1033.7 | 1007.0 |
| 15°   | 1259.3 | 1267.8 | 1248.8 | 1220.7 | 1194.8 | 1166.8 | 1163.0 | 1140.0 | 1112.3 | 1074.7 | 1040.4 |
| 17.5° | 1289.3 | 1296.5 | 1276.9 | 1245.5 | 1220.7 | 1197.3 | 1194.4 | 1175.4 | 1151.0 | 1112.8 | 1076.1 |
| 20°   | 1300.8 | 1308.4 | 1287.9 | 1255.9 | 1233.1 | 1214.9 | 1213.5 | 1199.7 | 1183.0 | 1148.1 | 1110.9 |
| 22.5° | 1312.2 | 1319.4 | 1292.6 | 1259.3 | 1239.2 | 1227.8 | 1227.3 | 1218.2 | 1211.6 | 1183.0 | 1146.7 |
| 25°   | 1358.5 | 1360.4 | 1324.6 | 1276.4 | 1247.8 | 1237.8 | 1237.4 | 1236.9 | 1239.7 | 1217.3 | 1185.3 |
| 27.5° | 1398.6 | 1398.1 | 1367.6 | 1322.2 | 1277.9 | 1256.9 | 1256.4 | 1261.2 | 1270.3 | 1251.6 | 1225.4 |
| 30°   | 1457.2 | 1452.0 | 1415.7 | 1368.5 | 1328.0 | 1295.5 | 1292.6 | 1288.4 | 1295.5 | 1280.7 | 1265.5 |
| 32.5° | 1581.8 | 1565.1 | 1506.3 | 1422.4 | 1369.5 | 1344.7 | 1340.8 | 1314.2 | 1317.0 | 1307.9 | 1300.3 |
| 35°   | 1760.1 | 1738.2 | 1660.0 | 1524.5 | 1421.0 | 1385.7 | 1383.7 | 1349.9 | 1344.2 | 1336.1 | 1339.0 |
| 37.5° | 1972.4 | 1945.2 | 1854.1 | 1672.4 | 1509.7 | 1433.4 | 1430.5 | 1400.0 | 1376.7 | 1368.1 | 1384.3 |
| 40°   | 2185.6 | 2151.3 | 2075.9 | 1852.7 | 1640.4 | 1513.0 | 1504.0 | 1457.8 | 1431.0 | 1416.7 | 1451.0 |
| 42.5° | 2392.7 | 2364.1 | 2299.6 | 2054.9 | 1801.6 | 1629.4 | 1609.4 | 1530.2 | 1510.2 | 1496.8 | 1558.8 |
| 45°   | 2575.8 | 2550.1 | 2502.8 | 2271.0 | 1990.5 | 1787.8 | 1768.2 | 1639.0 | 1632.8 | 1632.8 | 1722.4 |
| 47.5° | 2724.7 | 2718.9 | 2668.8 | 2491.4 | 2213.3 | 1968.1 | 1934.3 | 1790.2 | 1806.9 | 1832.6 | 1954.8 |
| 50°   | 2889.7 | 2873.9 | 2820.5 | 2708.5 | 2475.2 | 2174.6 | 2147.0 | 1975.8 | 2038.2 | 2108.8 | 2290.6 |
| 52.5° | 3041.4 | 3050.0 | 2990.3 | 2934.5 | 2770.9 | 2405.1 | 2356.4 | 2194.7 | 2329.7 | 2446.6 | 2684.1 |
| 55°   | 3197.4 | 3197.8 | 3181.1 | 3173.5 | 3080.9 | 2659.8 | 2606.4 | 2458.0 | 2672.7 | 2817.6 | 3143.0 |
| 57.5° | 3343.8 | 3344.8 | 3369.6 | 3436.8 | 3440.6 | 2953.6 | 2893.1 | 2781.4 | 3053.8 | 3201.6 | 3616.2 |
| 60°   | 3474.4 | 3481.2 | 3548.9 | 3706.3 | 3756.8 | 3290.4 | 3233.2 | 3163.5 | 3447.8 | 3596.6 | 4113.6 |
| 62.5° | 3518.4 | 3542.7 | 3693.4 | 3917.1 | 4069.2 | 3703.4 | 3647.2 | 3605.6 | 3861.8 | 4000.2 | 4529.6 |
| 65°   | 3444.0 | 3499.8 | 3791.2 | 4091.3 | 4390.8 | 4194.3 | 4138.4 | 4093.1 | 4292.1 | 4422.3 | 4871.1 |
| 67.5° | 3261.2 | 3333.3 | 3785.5 | 4273.9 | 4781.0 | 4784.8 | 4732.8 | 4626.4 | 4753.3 | 4803.5 | 4982.3 |
| 70°   | 2780.0 | 2887.7 | 3452.1 | 4342.1 | 5228.9 | 5592.4 | 5542.3 | 5268.5 | 5213.7 | 4971.4 | 4669.4 |
| 72.5° | 1791.2 | 1936.1 | 2541.9 | 3780.7 | 5328.6 | 6352.2 | 6349.4 | 5848.0 | 5359.1 | 4645.0 | 3744.9 |
| 75°   | 653.5  | 742.2  | 1181.0 | 2373.1 | 4472.9 | 6313.6 | 6332.2 | 5748.8 | 4892.1 | 3588.0 | 2333.0 |
| 77.5° | 238.0  | 260.5  | 385.4  | 912.0  | 2750.9 | 5065.8 | 5104.4 | 4595.9 | 3482.1 | 1800.7 | 924.4  |
| 80°   | 124.9  | 137.4  | 197.5  | 353.9  | 1178.6 | 3008.5 | 3069.1 | 2731.3 | 1636.6 | 542.3  | 277.2  |
| 82.5° | 69.2   | 74.9   | 110.7  | 192.2  | 530.9  | 1286.5 | 1322.8 | 1079.0 | 575.7  | 229.9  | 114.5  |
| 85°   | 37.2   | 39.6   | 52.0   | 105.0  | 259.5  | 446.0  | 456.0  | 322.5  | 229.4  | 135.0  | 55.4   |
| 87.5° | 11.0   | 13.3   | 17.2   | 33.4   | 101.6  | 100.1  | 102.6  | 64.0   | 90.6   | 68.2   | 18.1   |
| 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°    | 913.5  | 913.5  | 913.5  | 913.5  | 913.5  | 913.5  | 913.5  | 913.5  | 913.5  | 913.5  | 913.5  |
| 2.5°  | 917.8  | 916.4  | 911.1  | 908.7  | 905.8  | 905.4  | 907.7  | 908.3  | 908.7  | 909.2  | 911.1  |
| 5°    | 926.3  | 921.6  | 916.8  | 913.9  | 914.9  | 915.3  | 920.1  | 923.5  | 925.9  | 927.7  | 928.8  |
| 7.5°  | 943.0  | 939.2  | 931.1  | 930.6  | 932.0  | 936.3  | 942.6  | 950.2  | 954.5  | 957.9  | 958.8  |
| 10°   | 967.8  | 960.7  | 951.1  | 952.5  | 955.4  | 961.7  | 974.5  | 980.7  | 987.9  | 994.0  | 992.6  |
| 12.5° | 993.1  | 986.9  | 975.9  | 976.9  | 981.6  | 992.6  | 1005.0 | 1012.7 | 1017.4 | 1022.2 | 1024.1 |
| 15°   | 1026.0 | 1015.1 | 1003.2 | 1003.2 | 1011.7 | 1023.7 | 1029.4 | 1035.6 | 1038.4 | 1043.7 | 1045.6 |
| 17.5° | 1059.8 | 1045.6 | 1029.8 | 1028.9 | 1039.4 | 1045.1 | 1048.5 | 1049.4 | 1050.3 | 1056.1 | 1058.0 |
| 20°   | 1093.8 | 1078.0 | 1055.6 | 1053.7 | 1056.1 | 1055.1 | 1054.6 | 1053.7 | 1055.1 | 1062.3 | 1065.2 |
| 22.5° | 1127.2 | 1109.0 | 1078.0 | 1069.5 | 1062.7 | 1053.7 | 1053.2 | 1052.8 | 1053.7 | 1060.9 | 1065.6 |
| 25°   | 1166.2 | 1144.3 | 1102.8 | 1077.1 | 1054.6 | 1042.2 | 1043.7 | 1044.2 | 1045.1 | 1050.8 | 1058.5 |
| 27.5° | 1208.7 | 1184.4 | 1125.8 | 1074.7 | 1034.1 | 1025.5 | 1023.2 | 1024.6 | 1028.0 | 1037.0 | 1046.1 |
| 30°   | 1251.2 | 1222.5 | 1146.7 | 1065.2 | 1008.4 | 996.5  | 988.8  | 992.2  | 1002.7 | 1011.7 | 1021.7 |
| 32.5° | 1289.9 | 1261.2 | 1163.4 | 1044.2 | 975.5  | 956.8  | 946.9  | 951.1  | 961.7  | 964.9  | 976.9  |
| 35°   | 1335.2 | 1302.7 | 1170.6 | 1010.8 | 939.7  | 911.1  | 897.7  | 891.5  | 896.8  | 893.4  | 903.9  |
| 37.5° | 1385.7 | 1351.9 | 1169.6 | 966.9  | 897.7  | 864.8  | 846.2  | 822.9  | 811.9  | 800.4  | 807.6  |
| 40°   | 1460.6 | 1411.9 | 1158.1 | 913.9  | 845.7  | 815.7  | 782.3  | 742.7  | 717.9  | 695.5  | 696.9  |
| 42.5° | 1562.6 | 1495.4 | 1137.1 | 855.8  | 787.1  | 758.9  | 713.6  | 667.3  | 628.2  | 591.0  | 587.6  |
| 45°   | 1714.8 | 1604.6 | 1110.9 | 793.8  | 723.6  | 696.0  | 646.8  | 594.8  | 550.4  | 502.8  | 497.0  |
| 47.5° | 1934.3 | 1751.5 | 1086.1 | 723.1  | 656.8  | 631.5  | 587.2  | 539.0  | 486.6  | 440.2  | 435.0  |
| 50°   | 2235.7 | 1962.4 | 1063.2 | 654.5  | 591.0  | 571.9  | 536.6  | 487.5  | 434.5  | 397.4  | 394.9  |
| 52.5° | 2619.2 | 2249.1 | 1053.7 | 588.1  | 529.5  | 522.3  | 494.2  | 448.3  | 398.3  | 366.8  | 364.4  |
| 55°   | 3059.5 | 2592.0 | 1053.7 | 524.7  | 475.6  | 478.0  | 458.4  | 415.9  | 372.6  | 344.4  | 341.5  |
| 57.5° | 3508.8 | 2939.3 | 1034.6 | 466.1  | 429.8  | 439.8  | 427.4  | 390.2  | 351.1  | 322.0  | 317.2  |
| 60°   | 3922.9 | 3230.3 | 957.4  | 412.6  | 389.2  | 405.0  | 396.9  | 364.9  | 317.2  | 292.8  | 289.0  |
| 62.5° | 4241.0 | 3394.4 | 808.5  | 370.1  | 355.9  | 373.9  | 369.7  | 331.5  | 311.0  | 300.9  | 297.7  |
| 65°   | 4400.3 | 3367.6 | 618.2  | 332.5  | 327.7  | 355.9  | 346.8  | 345.3  | 329.1  | 317.6  | 313.9  |
| 67.5° | 4302.5 | 3137.7 | 448.3  | 304.8  | 311.5  | 339.2  | 373.9  | 379.7  | 349.6  | 327.2  | 323.4  |
| 70°   | 3873.7 | 2721.8 | 333.9  | 278.6  | 291.0  | 339.6  | 426.4  | 397.4  | 343.0  | 316.7  | 312.4  |
| 72.5° | 2946.9 | 2029.6 | 259.0  | 250.9  | 264.2  | 342.0  | 449.8  | 389.2  | 323.9  | 350.1  | 347.3  |
| 75°   | 1685.2 | 1114.3 | 208.0  | 217.0  | 230.8  | 319.6  | 437.9  | 368.3  | 309.1  | 321.5  | 321.5  |
| 77.5° | 642.5  | 428.3  | 171.7  | 183.7  | 185.5  | 279.0  | 418.8  | 366.8  | 294.3  | 287.2  | 261.9  |
| 80°   | 222.7  | 167.4  | 142.2  | 146.0  | 143.6  | 248.0  | 401.6  | 319.1  | 240.9  | 215.6  | 208.5  |
| 82.5° | 91.1   | 83.4   | 112.5  | 107.8  | 102.1  | 192.7  | 324.3  | 261.0  | 197.0  | 174.1  | 172.2  |
| 85°   | 39.6   | 53.0   | 74.4   | 65.4   | 59.1   | 133.6  | 259.9  | 220.9  | 166.5  | 143.6  | 143.1  |
| 87.5° | 8.1    | 20.0   | 31.5   | 29.6   | 30.5   | 89.2   | 184.6  | 156.9  | 117.8  | 88.3   | 69.2   |
| 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)