

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: P195539

Luminaire Tested: **NAV-AF-05-D-UNV-AFL-7050-800**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P195539  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P24160)  
Test Lab: INNOVATION CENTER P2  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: LUMARK  
Catalog Number: NAV-AF-05-D-UNV-AFL-7050-800  
Description: NAVION ROADWAY AND AREA LUMINAIRE  
(5) 70 CRI, 5000K, 800mA LIGHTSQUARES WITH 16 LEDS EACH AND AUTOMOTIVE FRONTLINE OPTICS  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 24892 lumens  
Efficiency: N/A  
Efficacy: 118.5 lumens/watt  
Luminous Opening: Rectangular (W 1' x L: 1.5' x H: 0')  
IES Classification: Type II - Short - Full Cutoff  
BUG Rating: B3 - U0 - G2

Input Watts (W): 210  
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: 25 FT

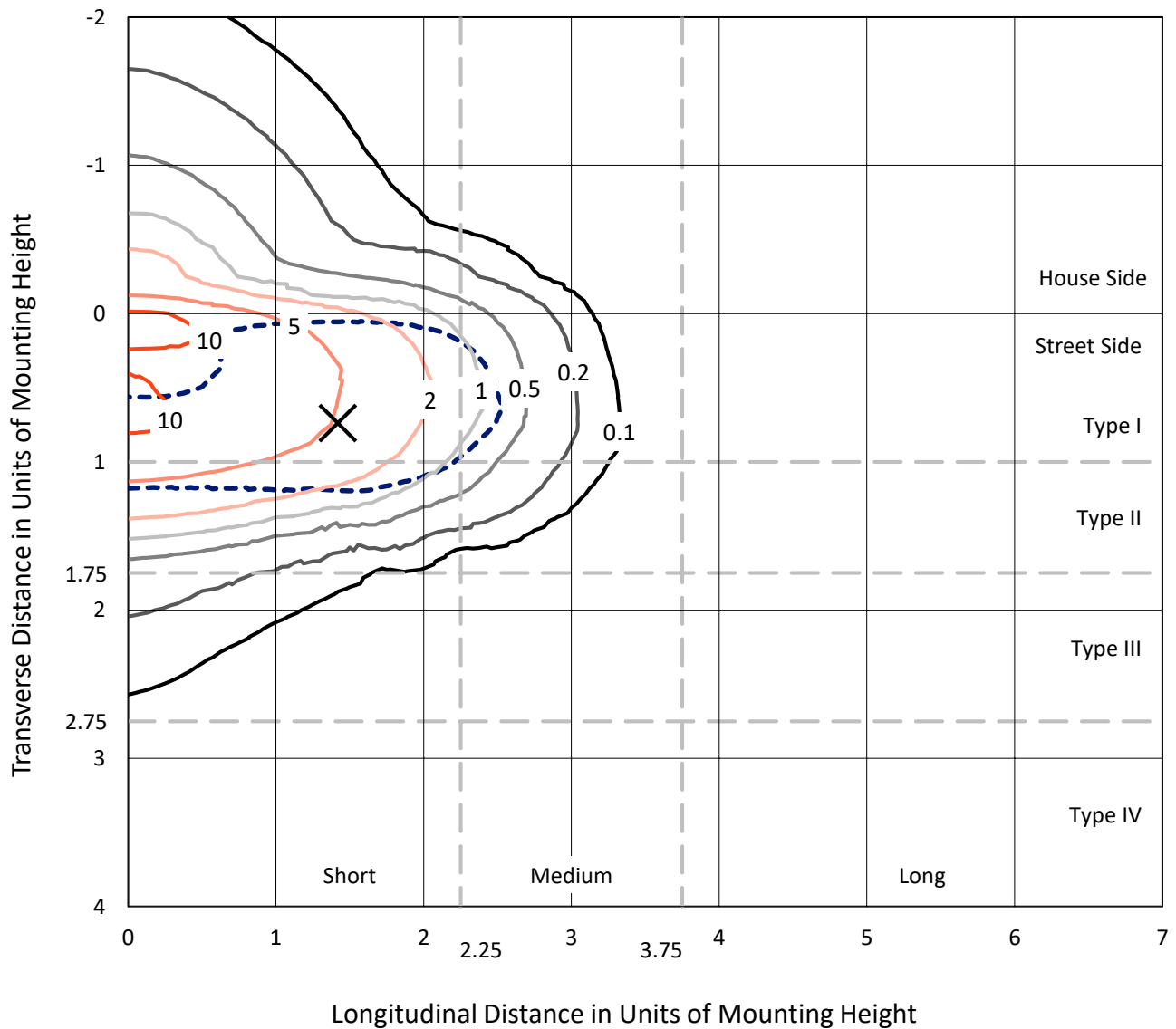


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### Iso-Footcandle Lines of Horizontal Illumination

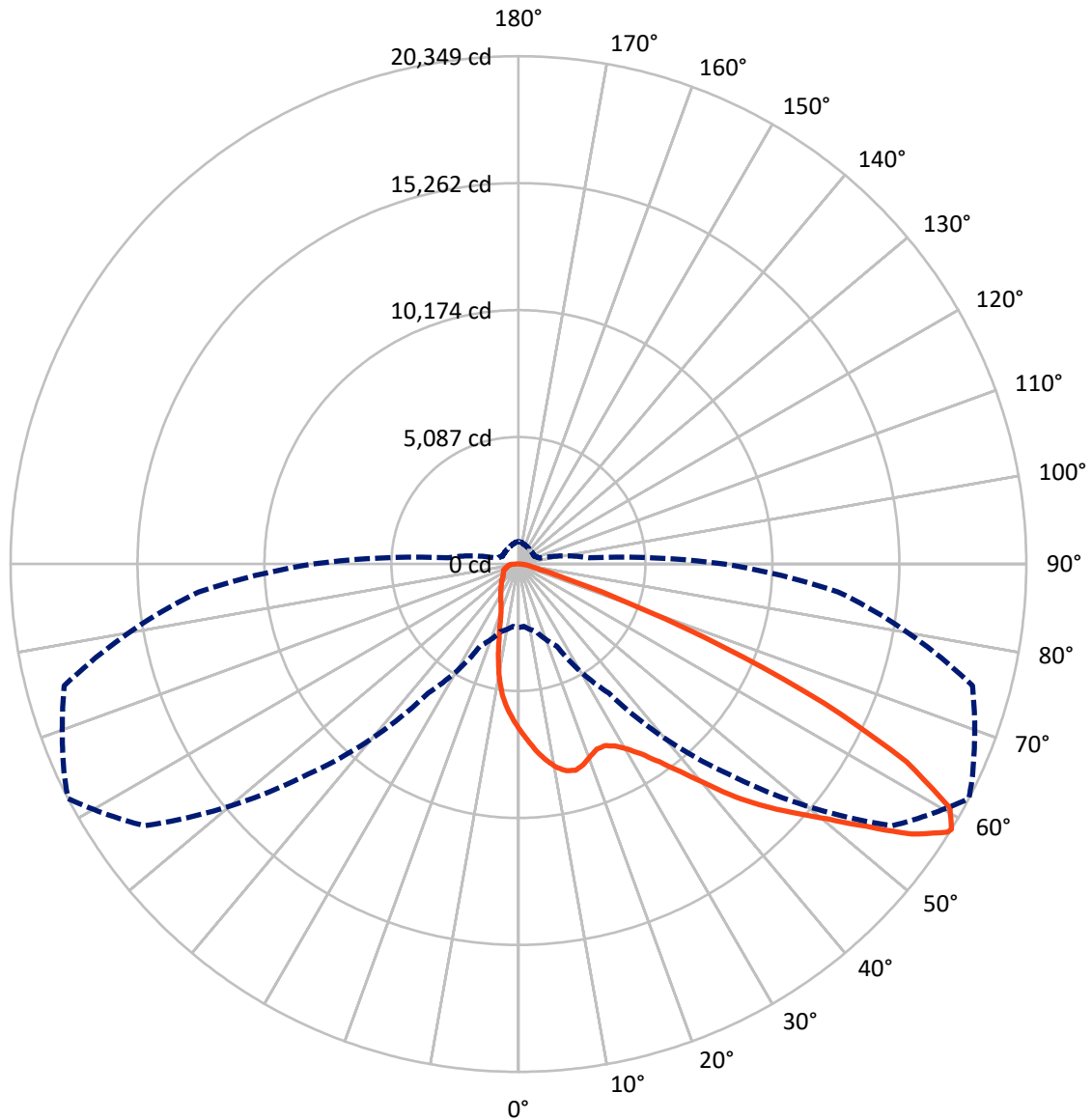
✕ Max cd  
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 12.4 fc  
 Type II - Short - Full Cutoff

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### Luminous Intensity Polar Plot



— Vertical Plane Through 62.5-Deg Lateral    - - - Horizontal Cone Through 58-Deg Vertical

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**FLUX DISTRIBUTION:**

|                    |           | Downward | Upward | Total   |
|--------------------|-----------|----------|--------|---------|
| <b>House Side</b>  | Lumens    | 3821.9   | 0.0    | 3821.9  |
|                    | % Fixture | 15.4     | 0.0    | 15.4    |
| <b>Street Side</b> | Lumens    | 21070.1  | 0.0    | 21070.1 |
|                    | % Fixture | 84.6     | 0.0    | 84.6    |
| <b>Total</b>       | Lumens    | 24892.0  | 0.0    | 24892.0 |
|                    | % Fixture | 100.0    | 0.0    | 100.0   |

**ZONAL LUMENS:**

| Zone      | Lumens  | % Fixture |
|-----------|---------|-----------|
| 0°-10°    | 594.0   | 2.4       |
| 10°-20°   | 1499.2  | 6.0       |
| 20°-30°   | 2429.7  | 9.8       |
| 30°-40°   | 3879.1  | 15.6      |
| 40°-50°   | 5642.3  | 22.7      |
| 50°-60°   | 5904.2  | 23.7      |
| 60°-70°   | 3599.4  | 14.5      |
| 70°-80°   | 1006.6  | 4.0       |
| 80°-90°   | 337.4   | 1.4       |
| 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°    | 24892.0 | 100.0     |
| 0°-180°   | 24892.0 | 100.0     |

**Coefficient of Utilization**



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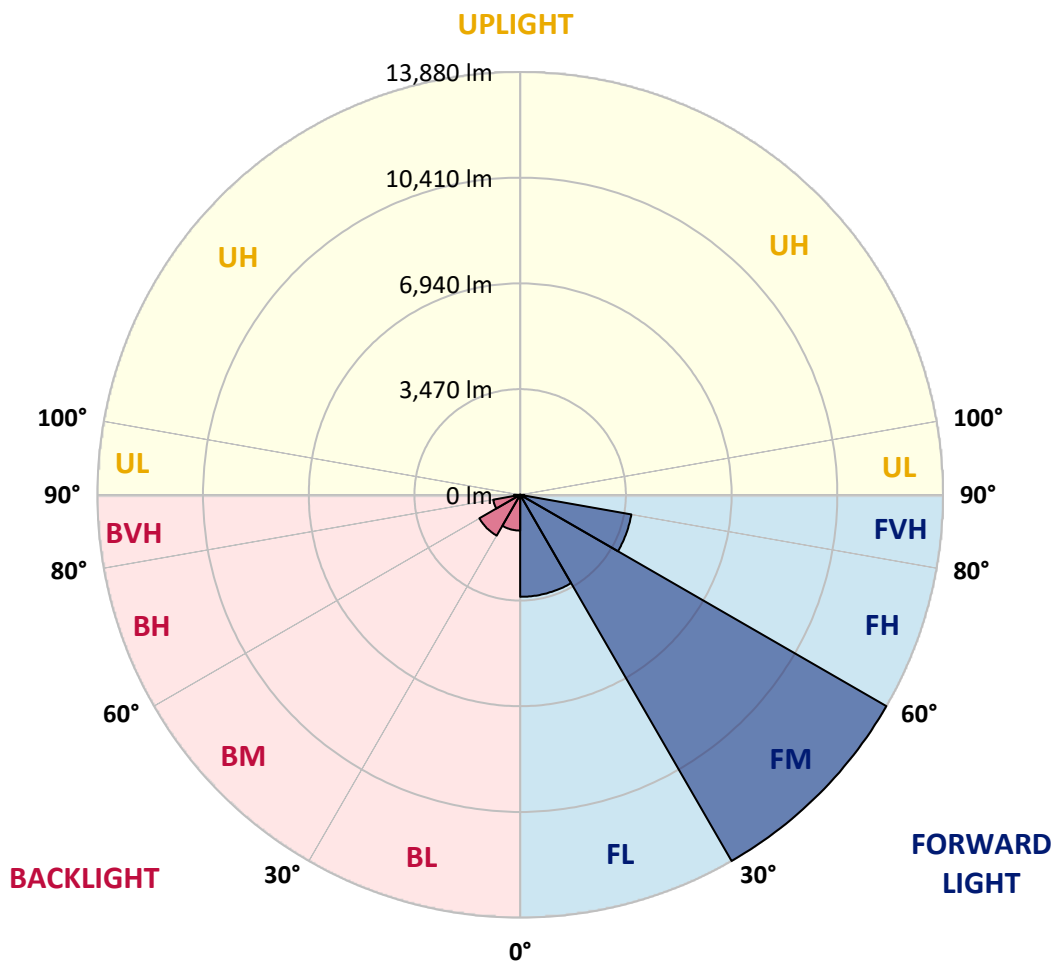
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**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

| Zone |             | Lumens  | % Fixture | Zone Rating/Lumen Limit |      |         |
|------|-------------|---------|-----------|-------------------------|------|---------|
|      |             |         |           | B                       | U    | G       |
| FL   | (0°-30°)    | 3348.1  | 13.5      |                         |      |         |
| FM   | (30°-60°)   | 13880.1 | 55.8      |                         |      |         |
| FH   | (60°-80°)   | 3706.3  | 14.9      |                         |      | G2/5000 |
| FVH  | (80°-90°)   | 135.7   | 0.5       |                         |      | G2/225  |
| BL   | (0°-30°)    | 1174.9  | 4.7       | B3/2500                 |      |         |
| BM   | (30°-60°)   | 1545.6  | 6.2       | B2/2500                 |      |         |
| BH   | (60°-80°)   | 899.7   | 3.6       | B2/1000                 |      | G2/1000 |
| BVH  | (80°-90°)   | 201.7   | 0.8       |                         |      | G2/225  |
| UL   | (90°-100°)  | 0.0     | 0.0       |                         | U0/0 |         |
| UH   | (100°-180°) | 0.0     | 0.0       |                         | U0/0 |         |

**BUG Rating: B3-U0-G2**

Type II Short





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**CANDELA DISTRIBUTION (FULL):**

|       | 0°      | 5°      | 15°     | 25°     | 35°     | 45°     | 55°     | 62.5°   | 65°     | 75°     | 85°     |
|-------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| 0°    | 6646.0  | 6646.0  | 6646.0  | 6646.0  | 6646.0  | 6646.0  | 6646.0  | 6646.0  | 6646.0  | 6646.0  | 6646.0  |
| 2.5°  | 7543.6  | 7539.0  | 7475.2  | 7433.2  | 7383.4  | 7268.3  | 7153.2  | 7067.6  | 7024.0  | 6857.6  | 6695.8  |
| 5°    | 8167.5  | 8148.8  | 8113.0  | 8067.9  | 8002.6  | 7857.9  | 7675.9  | 7518.8  | 7456.5  | 7160.9  | 6863.8  |
| 7.5°  | 7837.7  | 7867.2  | 7977.7  | 8102.1  | 8232.8  | 8242.2  | 8113.0  | 7926.4  | 7857.9  | 7462.7  | 7027.2  |
| 10°   | 6924.5  | 6912.0  | 7050.5  | 7293.2  | 7724.1  | 8150.4  | 8363.5  | 8271.7  | 8200.2  | 7749.0  | 7190.5  |
| 12.5° | 6647.6  | 6644.4  | 6667.8  | 6730.0  | 7000.7  | 7585.7  | 8299.7  | 8498.9  | 8474.0  | 8052.4  | 7364.7  |
| 15°   | 6731.6  | 6734.7  | 6733.1  | 6740.9  | 6815.6  | 7094.0  | 7943.5  | 8575.1  | 8652.9  | 8352.6  | 7542.1  |
| 17.5° | 7000.7  | 6989.8  | 6955.6  | 6918.3  | 6929.1  | 7028.7  | 7559.2  | 8444.4  | 8677.8  | 8620.2  | 7691.4  |
| 20°   | 7416.1  | 7416.1  | 7324.3  | 7220.1  | 7151.6  | 7173.4  | 7399.0  | 8220.4  | 8562.6  | 8847.3  | 7803.5  |
| 22.5° | 7937.2  | 7945.0  | 7809.7  | 7619.9  | 7464.3  | 7405.2  | 7490.8  | 8053.9  | 8422.6  | 9057.4  | 7903.0  |
| 25°   | 8584.4  | 8582.9  | 8385.3  | 8113.0  | 7867.2  | 7725.7  | 7724.1  | 8061.7  | 8379.1  | 9303.2  | 8007.2  |
| 27.5° | 9385.6  | 9312.5  | 9082.2  | 8694.9  | 8347.9  | 8131.7  | 8033.7  | 8257.7  | 8470.9  | 9605.0  | 8147.3  |
| 30°   | 10289.5 | 10214.8 | 9913.0  | 9415.2  | 8945.3  | 8629.5  | 8467.7  | 8596.9  | 8750.9  | 9989.2  | 8358.8  |
| 32.5° | 11184.0 | 11201.1 | 10846.4 | 10284.8 | 9681.2  | 9236.3  | 8996.7  | 9076.0  | 9183.4  | 10459.1 | 8645.1  |
| 35°   | 12493.9 | 12492.4 | 12028.8 | 11327.1 | 10610.0 | 9993.9  | 9690.5  | 9732.5  | 9830.5  | 11121.8 | 9046.5  |
| 37.5° | 13470.9 | 13455.4 | 13156.7 | 12535.9 | 11728.5 | 10989.5 | 10550.8 | 10557.1 | 10641.1 | 11954.1 | 9575.4  |
| 40°   | 13570.5 | 13567.4 | 13565.8 | 13477.1 | 12924.9 | 12227.9 | 11678.7 | 11565.2 | 11599.4 | 12837.7 | 10137.0 |
| 42.5° | 12809.7 | 12923.3 | 13250.0 | 13750.9 | 13905.0 | 13539.4 | 13019.8 | 12766.2 | 12691.5 | 13852.1 | 10731.3 |
| 45°   | 11725.4 | 11783.0 | 12355.5 | 13481.8 | 14398.1 | 14771.5 | 14381.0 | 13845.8 | 13718.3 | 14838.4 | 11215.1 |
| 47.5° | 11221.3 | 11196.5 | 11527.8 | 12755.3 | 14349.9 | 15751.6 | 15779.6 | 14902.2 | 14685.9 | 15689.4 | 11627.4 |
| 50°   | 10140.1 | 10107.5 | 10525.9 | 11686.5 | 13824.1 | 16238.5 | 17215.5 | 16053.4 | 15653.6 | 16498.3 | 12000.8 |
| 52.5° | 7985.5  | 7954.4  | 8516.0  | 10011.0 | 12647.9 | 16056.5 | 18425.9 | 17466.0 | 16784.6 | 17277.7 | 12349.2 |
| 55°   | 5196.1  | 5199.2  | 5734.4  | 7276.1  | 10235.0 | 14995.5 | 18993.7 | 19097.9 | 18334.1 | 18057.1 | 12630.8 |
| 57.5° | 2861.0  | 2834.5  | 3215.7  | 4163.1  | 7041.2  | 12585.7 | 18520.7 | 20274.0 | 19875.8 | 18726.1 | 12834.6 |
| 58°   | 2543.6  | 2512.5  | 2806.5  | 3623.3  | 6313.1  | 11905.9 | 18282.7 | 20348.7 | 20073.3 | 18836.6 | 12864.2 |
| 60°   | 1812.4  | 1759.5  | 1714.4  | 2042.6  | 3637.3  | 8584.4  | 16695.9 | 19864.9 | 20130.9 | 19057.5 | 12836.2 |
| 62.5° | 1527.7  | 1467.0  | 1305.2  | 1292.8  | 1712.8  | 4198.9  | 13203.3 | 17445.8 | 18190.9 | 18548.8 | 12385.0 |
| 65°   | 1418.8  | 1358.1  | 1145.0  | 1068.8  | 1162.1  | 1812.4  | 8164.4  | 13470.9 | 14466.6 | 16779.9 | 11249.4 |
| 67.5° | 1341.0  | 1269.5  | 1040.8  | 941.2   | 959.9   | 1084.3  | 3464.6  | 8810.0  | 9964.3  | 13085.1 | 9024.7  |
| 70°   | 1271.0  | 1191.7  | 958.3   | 843.2   | 827.6   | 824.5   | 1353.5  | 4600.2  | 5712.6  | 8562.6  | 6045.5  |
| 72.5° | 1191.7  | 1113.9  | 885.2   | 762.3   | 728.1   | 669.0   | 813.6   | 1901.1  | 2605.8  | 4197.3  | 2770.7  |
| 75°   | 1076.6  | 1012.8  | 804.3   | 695.4   | 636.3   | 542.9   | 600.5   | 911.6   | 1123.2  | 1607.1  | 1286.6  |
| 77.5° | 947.4   | 896.1   | 721.9   | 639.4   | 560.1   | 443.4   | 458.9   | 617.6   | 693.8   | 905.4   | 745.2   |
| 80°   | 670.5   | 689.2   | 630.1   | 563.2   | 493.2   | 357.8   | 353.1   | 452.7   | 497.8   | 608.3   | 500.9   |
| 82.5° | 462.0   | 476.0   | 513.4   | 444.9   | 398.3   | 278.5   | 259.8   | 314.3   | 337.6   | 367.1   | 242.7   |
| 85°   | 329.8   | 320.5   | 356.3   | 318.9   | 292.5   | 177.4   | 166.5   | 199.1   | 213.1   | 224.0   | 116.7   |
| 87.5° | 200.7   | 199.1   | 205.4   | 164.9   | 152.5   | 90.2    | 82.5    | 94.9    | 101.1   | 98.0    | 56.0    |
| 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°    | 6646.0 | 6646.0 | 6646.0 | 6646.0 | 6646.0 | 6646.0 | 6646.0 | 6646.0 | 6646.0 | 6646.0 | 6646.0 |
| 2.5°  | 6635.1 | 6558.9 | 6392.4 | 6258.6 | 6113.9 | 6003.5 | 5893.0 | 5830.8 | 5762.4 | 5723.5 | 5718.8 |
| 5°    | 6708.2 | 6552.7 | 6198.0 | 5868.1 | 5529.0 | 5224.1 | 4925.4 | 4704.5 | 4524.0 | 4421.3 | 4415.1 |
| 7.5°  | 6789.1 | 6544.9 | 5997.3 | 5426.3 | 4822.7 | 4222.2 | 3691.7 | 3316.8 | 3075.6 | 2963.6 | 2955.9 |
| 10°   | 6851.4 | 6512.2 | 5753.0 | 4864.7 | 3907.9 | 3114.5 | 2632.3 | 2411.4 | 2338.2 | 2319.6 | 2316.5 |
| 12.5° | 6926.0 | 6488.9 | 5445.0 | 4144.4 | 2987.0 | 2370.9 | 2224.7 | 2210.7 | 2226.2 | 2235.6 | 2237.1 |
| 15°   | 6996.0 | 6443.8 | 5029.6 | 3346.3 | 2338.2 | 2118.9 | 2122.0 | 2151.5 | 2182.7 | 2196.7 | 2198.2 |
| 17.5° | 7028.7 | 6333.3 | 4483.6 | 2636.9 | 2045.8 | 2005.3 | 2041.1 | 2080.0 | 2108.0 | 2118.9 | 2118.9 |
| 20°   | 7028.7 | 6156.0 | 3850.4 | 2136.0 | 1893.3 | 1901.1 | 1944.6 | 1974.2 | 1980.4 | 1971.1 | 1966.4 |
| 22.5° | 6999.1 | 5936.6 | 3234.3 | 1863.7 | 1768.8 | 1798.4 | 1832.6 | 1812.4 | 1739.3 | 1683.3 | 1672.4 |
| 25°   | 6972.7 | 5676.8 | 2641.6 | 1697.3 | 1659.9 | 1698.8 | 1684.8 | 1546.4 | 1434.4 | 1376.8 | 1367.5 |
| 27.5° | 6929.1 | 5362.5 | 2146.9 | 1560.4 | 1554.2 | 1585.3 | 1446.8 | 1313.0 | 1257.0 | 1225.9 | 1219.7 |
| 30°   | 6918.3 | 5021.8 | 1796.8 | 1439.0 | 1449.9 | 1406.4 | 1247.7 | 1204.1 | 1191.7 | 1174.6 | 1166.8 |
| 32.5° | 6954.0 | 4681.1 | 1577.5 | 1339.5 | 1350.4 | 1207.2 | 1146.6 | 1152.8 | 1151.2 | 1129.4 | 1121.7 |
| 35°   | 7052.0 | 4349.8 | 1437.5 | 1249.2 | 1218.1 | 1081.2 | 1089.0 | 1107.7 | 1107.7 | 1081.2 | 1071.9 |
| 37.5° | 7223.2 | 4041.7 | 1348.8 | 1173.0 | 1065.7 | 1015.9 | 1036.1 | 1061.0 | 1061.0 | 1042.3 | 1034.5 |
| 40°   | 7405.2 | 3741.5 | 1281.9 | 1112.3 | 969.2  | 970.8  | 991.0  | 1009.7 | 1017.4 | 1020.5 | 1014.3 |
| 42.5° | 7570.1 | 3430.3 | 1210.3 | 1047.0 | 925.6  | 936.5  | 945.9  | 959.9  | 992.5  | 1014.3 | 1011.2 |
| 45°   | 7666.5 | 3117.6 | 1132.6 | 966.1  | 896.1  | 900.8  | 897.6  | 922.5  | 961.4  | 994.1  | 994.1  |
| 47.5° | 7755.2 | 2861.0 | 1068.8 | 885.2  | 866.5  | 866.5  | 857.2  | 882.1  | 917.9  | 956.8  | 959.9  |
| 50°   | 7839.2 | 2694.5 | 1023.7 | 823.0  | 829.2  | 824.5  | 821.4  | 844.8  | 893.0  | 939.6  | 947.4  |
| 52.5° | 7924.8 | 2638.5 | 983.2  | 777.9  | 790.3  | 784.1  | 787.2  | 819.9  | 874.3  | 922.5  | 930.3  |
| 55°   | 8044.6 | 2674.3 | 941.2  | 746.7  | 753.0  | 751.4  | 763.9  | 801.2  | 849.4  | 897.6  | 900.8  |
| 57.5° | 8192.4 | 2804.9 | 905.4  | 723.4  | 717.2  | 726.5  | 746.7  | 782.5  | 829.2  | 886.8  | 891.4  |
| 58°   | 8221.9 | 2836.1 | 899.2  | 717.2  | 709.4  | 723.4  | 743.6  | 777.9  | 826.1  | 886.8  | 891.4  |
| 60°   | 8267.1 | 2946.5 | 883.6  | 704.7  | 683.0  | 707.8  | 732.7  | 767.0  | 819.9  | 894.5  | 903.9  |
| 62.5° | 8049.3 | 2968.3 | 879.0  | 690.7  | 655.0  | 686.1  | 715.6  | 754.5  | 813.6  | 921.0  | 941.2  |
| 65°   | 7294.7 | 2744.3 | 846.3  | 667.4  | 631.6  | 669.0  | 700.1  | 745.2  | 832.3  | 1000.3 | 1009.7 |
| 67.5° | 5855.7 | 2279.1 | 767.0  | 631.6  | 605.2  | 648.7  | 687.6  | 745.2  | 840.1  | 1012.8 | 1019.0 |
| 70°   | 4026.2 | 1712.8 | 667.4  | 592.7  | 574.1  | 623.8  | 683.0  | 762.3  | 813.6  | 958.3  | 939.6  |
| 72.5° | 2103.3 | 1191.7 | 584.9  | 547.6  | 536.7  | 602.1  | 728.1  | 745.2  | 782.5  | 894.5  | 875.9  |
| 75°   | 1059.4 | 810.5  | 514.9  | 496.3  | 494.7  | 594.3  | 815.2  | 717.2  | 749.9  | 841.6  | 882.1  |
| 77.5° | 625.4  | 634.7  | 458.9  | 448.0  | 455.8  | 580.3  | 816.7  | 689.2  | 712.5  | 774.7  | 818.3  |
| 80°   | 427.8  | 524.3  | 415.4  | 412.3  | 418.5  | 533.6  | 753.0  | 655.0  | 669.0  | 732.7  | 779.4  |
| 82.5° | 241.1  | 289.4  | 364.0  | 384.3  | 381.1  | 437.2  | 650.3  | 595.8  | 613.0  | 866.5  | 916.3  |
| 85°   | 116.7  | 174.2  | 304.9  | 359.4  | 325.1  | 290.9  | 528.9  | 528.9  | 533.6  | 620.7  | 628.5  |
| 87.5° | 43.6   | 77.8   | 205.4  | 284.7  | 227.1  | 174.2  | 359.4  | 374.9  | 416.9  | 429.4  | 438.7  |
| 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)