

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: P196903

Luminaire Tested: **NAV-AF-01-D-UNV-5NQ-8030-800**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P196903  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P24130)  
Test Lab: INNOVATION CENTER P2  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: LUMARK  
Catalog Number: NAV-AF-01-D-UNV-5NQ-8030-800  
Description: NAVION ROADWAY AND AREA LUMINAIRE  
(1) 80 CRI, 3000K, 800mA LIGHTSQUARE WITH 16 LEDS EACH AND TYPE V NARROW OPTICS  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 4140 lumens  
Efficiency: N/A  
Efficacy: 94.1 lumens/watt  
Luminous Opening: Rectangular (W 0.5' x L: 0.5' x H: 0')  
IES Classification: Type V - Short - Full Cutoff  
BUG Rating: B2 - U0 - G1

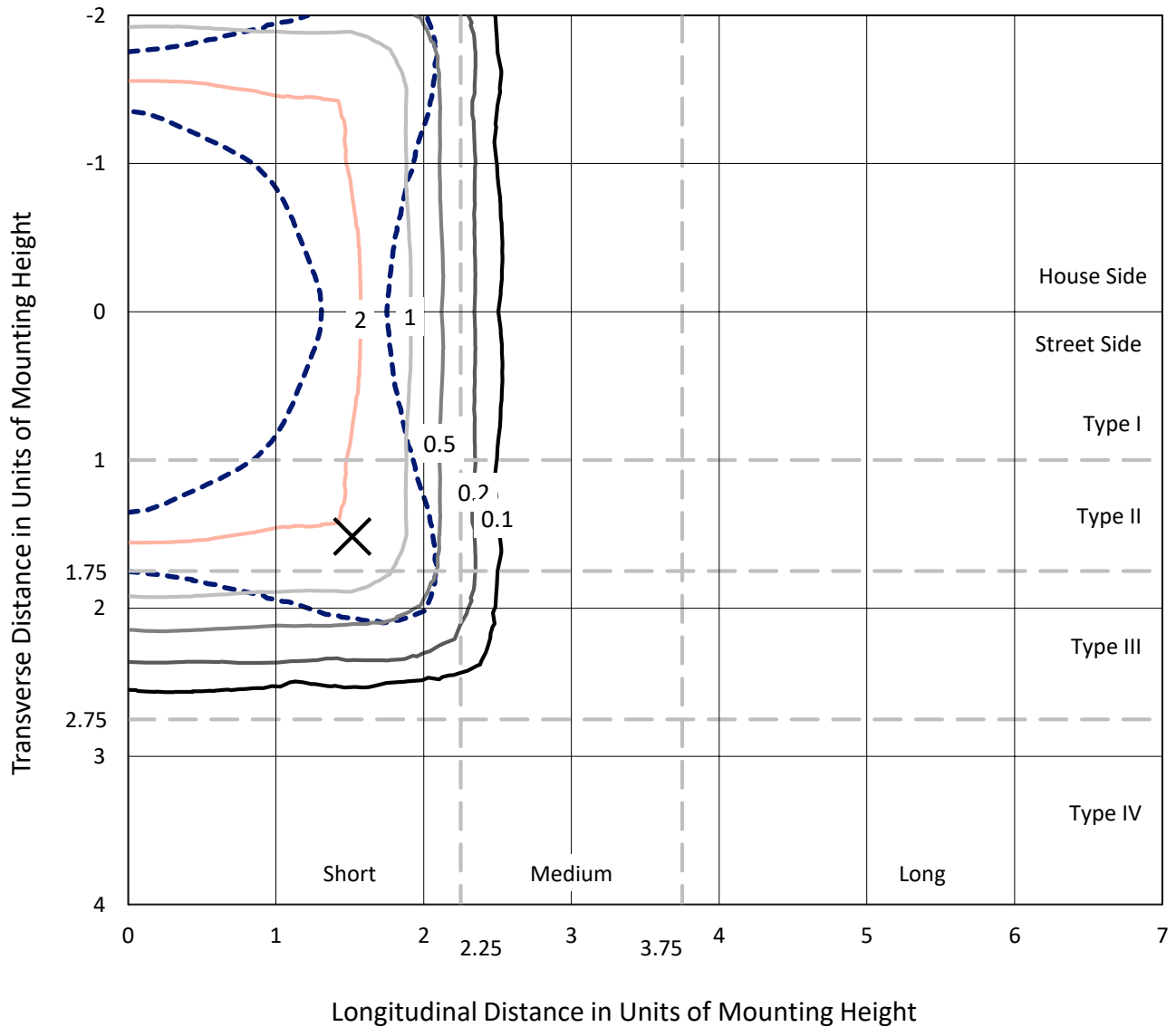
Input Watts (W): 44  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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### Iso-Footcandle Lines of Horizontal Illumination

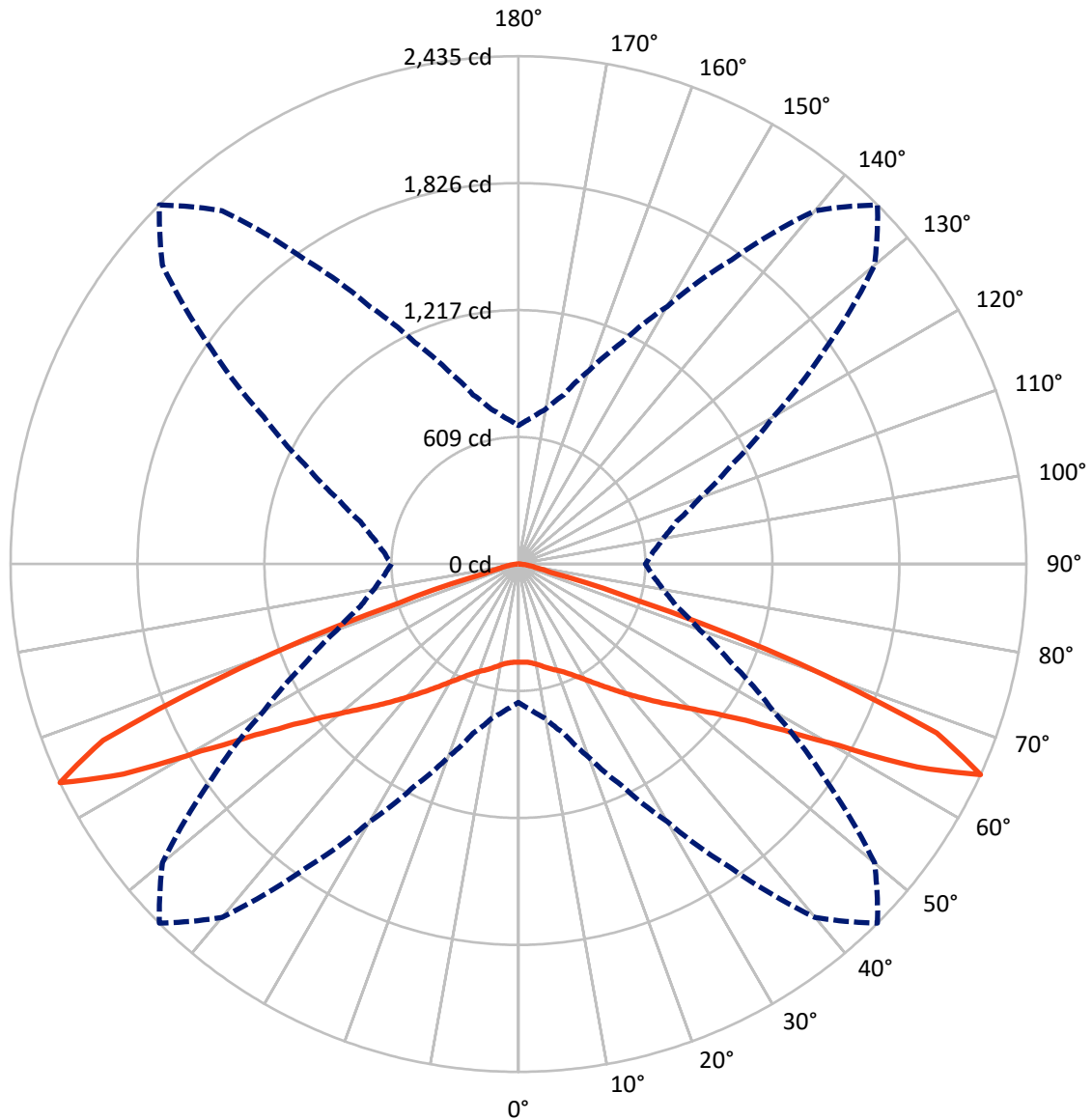
✕ Max cd  
 - - - 1/2 Max cd



Based on 10 foot mounting height. Maximum calculated value = 4.7 fc  
 Type V - Short - Full Cutoff

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### Luminous Intensity Polar Plot



— Vertical Plane Through 45-Deg Lateral      - - - Horizontal Cone Through 65-Deg Vertical

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**FLUX DISTRIBUTION:**

|                    |           | Downward | Upward | Total  |
|--------------------|-----------|----------|--------|--------|
| <b>House Side</b>  | Lumens    | 2070.0   | 0.0    | 2070.0 |
|                    | % Fixture | 50.0     | 0.0    | 50.0   |
| <b>Street Side</b> | Lumens    | 2070.0   | 0.0    | 2070.0 |
|                    | % Fixture | 50.0     | 0.0    | 50.0   |
| <b>Total</b>       | Lumens    | 4140.0   | 0.0    | 4140.0 |
|                    | % Fixture | 100.0    | 0.0    | 100.0  |

**Coefficient of Utilization**

**ZONAL LUMENS:**

| Zone      | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10°    | 45.9   | 1.1       |
| 10°-20°   | 147.0  | 3.6       |
| 20°-30°   | 274.2  | 6.6       |
| 30°-40°   | 462.3  | 11.2      |
| 40°-50°   | 750.9  | 18.1      |
| 50°-60°   | 1176.6 | 28.4      |
| 60°-70°   | 1110.6 | 26.8      |
| 70°-80°   | 149.7  | 3.6       |
| 80°-90°   | 22.8   | 0.6       |
| 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°    | 4140.0 | 100.0     |
| 0°-180°   | 4140.0 | 100.0     |



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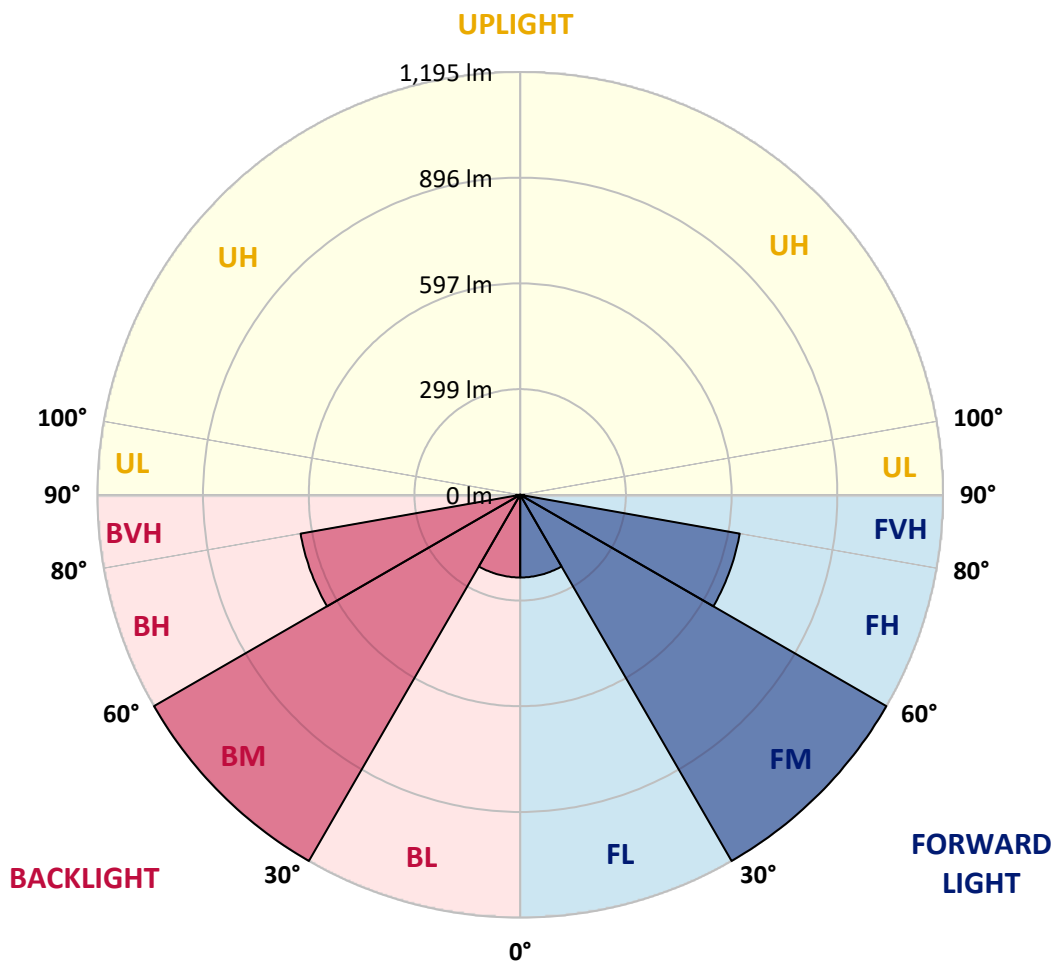
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**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

| Zone |             | Lumens | % Fixture | Zone Rating/Lumen Limit |      |        |
|------|-------------|--------|-----------|-------------------------|------|--------|
|      |             |        |           | B                       | U    | G      |
| FL   | (0°-30°)    | 233.5  | 5.6       |                         |      |        |
| FM   | (30°-60°)   | 1194.9 | 28.9      |                         |      |        |
| FH   | (60°-80°)   | 630.2  | 15.2      |                         |      | G0/660 |
| FVH  | (80°-90°)   | 11.4   | 0.3       |                         |      | G1/100 |
| BL   | (0°-30°)    | 233.5  | 5.6       | B1/500                  |      |        |
| BM   | (30°-60°)   | 1194.9 | 28.9      | B2/2500                 |      |        |
| BH   | (60°-80°)   | 630.2  | 15.2      | B2/1000                 |      | G0/660 |
| BVH  | (80°-90°)   | 11.4   | 0.3       |                         |      | G1/100 |
| UL   | (90°-100°)  | 0.0    | 0.0       |                         | U0/0 |        |
| UH   | (100°-180°) | 0.0    | 0.0       |                         | U0/0 |        |

**BUG Rating: B2-U0-G1**

Type V Short





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**CANDELA DISTRIBUTION (FULL):**

|       | 0°     | 5°     | 10°    | 15°    | 20°    | 25°    | 30°    | 35°    | 40°    | 45°    | 50°    |
|-------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 0°    | 470.9  | 470.9  | 470.9  | 470.9  | 470.9  | 470.9  | 470.9  | 470.9  | 470.9  | 470.9  | 470.9  |
| 2.5°  | 474.8  | 474.8  | 475.6  | 475.3  | 474.3  | 473.5  | 472.7  | 471.7  | 471.2  | 470.7  | 470.4  |
| 5°    | 477.4  | 477.4  | 478.1  | 477.9  | 477.1  | 476.1  | 475.6  | 474.8  | 474.0  | 473.5  | 473.8  |
| 7.5°  | 483.8  | 484.1  | 484.3  | 484.1  | 483.3  | 482.5  | 481.5  | 481.2  | 480.2  | 479.4  | 479.9  |
| 10°   | 493.6  | 493.6  | 493.9  | 494.1  | 493.6  | 491.8  | 491.8  | 491.3  | 490.3  | 489.2  | 489.5  |
| 12.5° | 504.4  | 504.4  | 504.7  | 504.7  | 504.7  | 503.7  | 503.9  | 503.7  | 502.4  | 501.9  | 502.4  |
| 15°   | 515.0  | 515.3  | 515.3  | 515.8  | 515.8  | 516.1  | 517.1  | 517.1  | 516.6  | 516.3  | 516.3  |
| 17.5° | 527.4  | 527.9  | 528.2  | 528.9  | 529.2  | 529.7  | 530.8  | 531.0  | 531.3  | 530.5  | 530.8  |
| 20°   | 543.9  | 544.2  | 544.9  | 545.2  | 546.2  | 546.2  | 546.7  | 546.5  | 546.0  | 544.9  | 544.9  |
| 22.5° | 562.5  | 563.0  | 564.5  | 564.5  | 565.8  | 565.1  | 565.3  | 564.5  | 563.2  | 562.7  | 562.2  |
| 25°   | 586.7  | 587.5  | 588.8  | 588.3  | 588.8  | 587.5  | 587.5  | 587.5  | 586.7  | 585.9  | 585.7  |
| 27.5° | 617.4  | 616.1  | 617.4  | 616.4  | 616.1  | 615.1  | 615.3  | 614.8  | 614.1  | 613.8  | 612.8  |
| 30°   | 649.4  | 647.8  | 648.6  | 648.9  | 648.4  | 648.1  | 647.1  | 646.3  | 645.0  | 645.3  | 644.5  |
| 32.5° | 686.0  | 684.5  | 685.2  | 685.5  | 685.0  | 685.5  | 685.2  | 683.4  | 681.9  | 682.9  | 682.9  |
| 35°   | 729.6  | 728.6  | 730.6  | 731.4  | 729.8  | 729.1  | 728.0  | 726.0  | 723.7  | 725.2  | 725.5  |
| 37.5° | 781.9  | 780.7  | 782.2  | 784.3  | 781.4  | 779.9  | 775.8  | 772.7  | 771.1  | 771.9  | 772.9  |
| 40°   | 836.4  | 836.6  | 841.0  | 841.5  | 838.4  | 836.6  | 832.5  | 827.8  | 823.5  | 823.5  | 824.8  |
| 42.5° | 893.6  | 894.4  | 899.5  | 901.4  | 900.3  | 897.0  | 891.3  | 885.6  | 879.9  | 881.0  | 882.5  |
| 45°   | 958.3  | 957.3  | 962.7  | 967.1  | 966.3  | 965.3  | 959.9  | 949.6  | 944.4  | 944.2  | 946.7  |
| 47.5° | 1026.4 | 1028.5 | 1034.2 | 1041.6 | 1041.4 | 1038.8 | 1031.8 | 1022.3 | 1012.8 | 1013.5 | 1016.6 |
| 50°   | 1105.9 | 1108.7 | 1118.2 | 1125.7 | 1126.8 | 1126.0 | 1117.7 | 1106.6 | 1093.2 | 1094.0 | 1098.1 |
| 52.5° | 1177.0 | 1181.2 | 1192.3 | 1207.7 | 1217.3 | 1221.7 | 1216.2 | 1205.9 | 1192.3 | 1193.0 | 1197.4 |
| 55°   | 1241.5 | 1248.0 | 1264.5 | 1285.6 | 1304.7 | 1322.5 | 1330.5 | 1330.2 | 1320.2 | 1322.5 | 1328.2 |
| 57.5° | 1282.0 | 1291.0 | 1316.0 | 1350.1 | 1388.0 | 1423.8 | 1454.8 | 1483.9 | 1490.4 | 1502.5 | 1502.5 |
| 60°   | 1227.6 | 1248.7 | 1282.0 | 1340.3 | 1414.8 | 1495.3 | 1582.5 | 1667.3 | 1722.0 | 1765.0 | 1741.8 |
| 62.5° | 1025.1 | 1056.3 | 1103.0 | 1179.9 | 1295.9 | 1439.6 | 1614.7 | 1812.0 | 2017.8 | 2143.6 | 2051.3 |
| 65°   | 663.3  | 702.5  | 753.3  | 839.7  | 985.9  | 1170.9 | 1425.9 | 1780.5 | 2211.2 | 2434.5 | 2228.2 |
| 67.5° | 262.8  | 289.4  | 320.3  | 381.7  | 508.6  | 690.1  | 976.4  | 1413.8 | 1952.5 | 2163.2 | 1931.9 |
| 70°   | 125.6  | 130.0  | 135.9  | 149.1  | 180.8  | 244.0  | 392.3  | 696.6  | 1197.4 | 1419.5 | 1168.8 |
| 72.5° | 90.8   | 91.6   | 94.4   | 98.8   | 108.1  | 121.0  | 147.0  | 213.0  | 412.9  | 600.4  | 413.4  |
| 75°   | 68.9   | 69.9   | 71.4   | 73.8   | 78.7   | 84.8   | 94.6   | 113.5  | 141.3  | 163.0  | 141.1  |
| 77.5° | 52.4   | 53.4   | 54.7   | 57.0   | 59.6   | 64.0   | 67.6   | 75.0   | 86.9   | 91.6   | 91.0   |
| 80°   | 38.2   | 40.0   | 42.0   | 44.1   | 45.9   | 48.0   | 48.2   | 51.8   | 58.5   | 62.9   | 61.6   |
| 82.5° | 24.2   | 25.8   | 31.2   | 33.5   | 33.8   | 34.3   | 34.0   | 34.3   | 37.9   | 41.0   | 40.0   |
| 85°   | 15.5   | 16.5   | 19.3   | 21.9   | 21.4   | 22.4   | 22.4   | 21.9   | 20.4   | 17.5   | 20.9   |
| 87.5° | 7.7    | 8.0    | 9.3    | 11.6   | 11.1   | 9.8    | 9.5    | 9.5    | 7.0    | 5.9    | 6.4    |
| 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):**

|       | 55°    | 60°    | 65°    | 70°    | 75°    | 80°    | 85°    | 90°    |
|-------|--------|--------|--------|--------|--------|--------|--------|--------|
| 0°    | 470.9  | 470.9  | 470.9  | 470.9  | 470.9  | 470.9  | 470.9  | 470.9  |
| 2.5°  | 469.6  | 470.1  | 469.4  | 469.4  | 469.1  | 469.6  | 468.9  | 468.9  |
| 5°    | 473.2  | 474.0  | 473.8  | 473.8  | 474.3  | 474.8  | 474.5  | 474.3  |
| 7.5°  | 479.7  | 480.2  | 480.7  | 481.0  | 481.5  | 481.2  | 481.8  | 481.5  |
| 10°   | 489.5  | 489.0  | 489.7  | 489.0  | 489.2  | 488.7  | 489.0  | 489.0  |
| 12.5° | 501.9  | 501.1  | 500.6  | 500.1  | 500.1  | 499.0  | 499.0  | 499.3  |
| 15°   | 516.1  | 514.8  | 513.7  | 513.2  | 512.7  | 512.7  | 511.9  | 512.4  |
| 17.5° | 530.0  | 528.7  | 526.9  | 526.9  | 526.1  | 525.6  | 525.1  | 526.4  |
| 20°   | 544.7  | 543.4  | 542.4  | 542.1  | 540.6  | 540.0  | 540.3  | 541.8  |
| 22.5° | 561.7  | 560.9  | 560.9  | 560.4  | 559.4  | 558.6  | 558.6  | 560.4  |
| 25°   | 584.7  | 583.1  | 583.4  | 583.6  | 583.1  | 583.1  | 582.6  | 583.9  |
| 27.5° | 612.8  | 611.5  | 612.2  | 612.8  | 612.2  | 613.0  | 612.2  | 613.3  |
| 30°   | 645.8  | 645.0  | 645.8  | 646.5  | 645.3  | 645.3  | 644.7  | 645.5  |
| 32.5° | 685.2  | 684.2  | 684.7  | 684.7  | 682.9  | 681.4  | 679.3  | 680.8  |
| 35°   | 728.6  | 727.3  | 728.3  | 729.1  | 727.0  | 725.5  | 722.4  | 723.7  |
| 37.5° | 776.3  | 776.8  | 778.1  | 781.4  | 780.9  | 778.3  | 776.0  | 777.0  |
| 40°   | 829.7  | 832.2  | 837.9  | 840.2  | 839.7  | 837.1  | 834.0  | 834.6  |
| 42.5° | 890.0  | 893.4  | 899.3  | 903.2  | 901.4  | 897.7  | 893.9  | 895.4  |
| 45°   | 955.8  | 960.9  | 968.7  | 972.5  | 970.2  | 966.3  | 960.9  | 963.8  |
| 47.5° | 1025.4 | 1035.7 | 1046.0 | 1051.2 | 1050.4 | 1045.0 | 1038.0 | 1038.8 |
| 50°   | 1108.7 | 1122.4 | 1135.5 | 1140.7 | 1136.8 | 1128.6 | 1118.8 | 1118.5 |
| 52.5° | 1212.4 | 1227.1 | 1237.9 | 1236.6 | 1227.1 | 1214.2 | 1203.1 | 1202.6 |
| 55°   | 1341.8 | 1346.7 | 1345.2 | 1334.1 | 1317.3 | 1297.2 | 1283.0 | 1280.7 |
| 57.5° | 1498.4 | 1481.9 | 1457.6 | 1424.1 | 1386.5 | 1348.3 | 1322.5 | 1313.0 |
| 60°   | 1689.7 | 1615.2 | 1528.6 | 1437.3 | 1354.0 | 1291.5 | 1252.1 | 1228.1 |
| 62.5° | 1847.8 | 1632.0 | 1438.3 | 1279.7 | 1150.0 | 1072.9 | 1019.0 | 985.7  |
| 65°   | 1793.7 | 1409.9 | 1129.3 | 924.8  | 783.2  | 703.5  | 646.5  | 608.6  |
| 67.5° | 1385.7 | 942.1  | 655.6  | 454.4  | 344.6  | 291.7  | 254.8  | 230.8  |
| 70°   | 698.6  | 361.3  | 219.0  | 154.5  | 132.0  | 122.8  | 116.6  | 113.0  |
| 72.5° | 205.0  | 136.9  | 113.7  | 100.6  | 92.6   | 86.9   | 83.3   | 81.5   |
| 75°   | 113.5  | 92.6   | 81.8   | 74.3   | 69.1   | 65.2   | 62.9   | 61.4   |
| 77.5° | 78.1   | 67.3   | 61.9   | 57.0   | 52.9   | 50.0   | 48.2   | 46.7   |
| 80°   | 54.7   | 49.3   | 46.9   | 44.4   | 41.3   | 38.9   | 36.4   | 35.3   |
| 82.5° | 36.4   | 34.0   | 33.5   | 31.5   | 29.7   | 27.1   | 22.4   | 20.9   |
| 85°   | 21.4   | 21.1   | 21.1   | 20.4   | 19.1   | 16.8   | 13.4   | 13.4   |
| 87.5° | 7.5    | 7.7    | 8.0    | 8.5    | 8.3    | 7.0    | 5.7    | 5.4    |
| 90°   | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    |

(END OF REPORT)