

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: P195359

Luminaire Tested: **NAV-AF-05-D-UNV-T3-7060-1200**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P195359  
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: LUMARK  
Catalog Number: NAV-AF-05-D-UNV-T3-7060-1200  
Description: NAVION ROADWAY AND AREA LUMINAIRE  
(5) 70 CRI, 5700K, 1200mA LIGHTSQUARES WITH 16 LEDS EACH AND TYPE III OPTICS  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 32995 lumens  
Efficiency: N/A  
Efficacy: 103.1 lumens/watt  
Luminous Opening: Rectangular (W 1' x L: 1.5' x H: 0')  
IES Classification: Type III - Short - Semi-Cutoff  
BUG Rating: B3 - U0 - G4

Input Watts (W): 320  
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

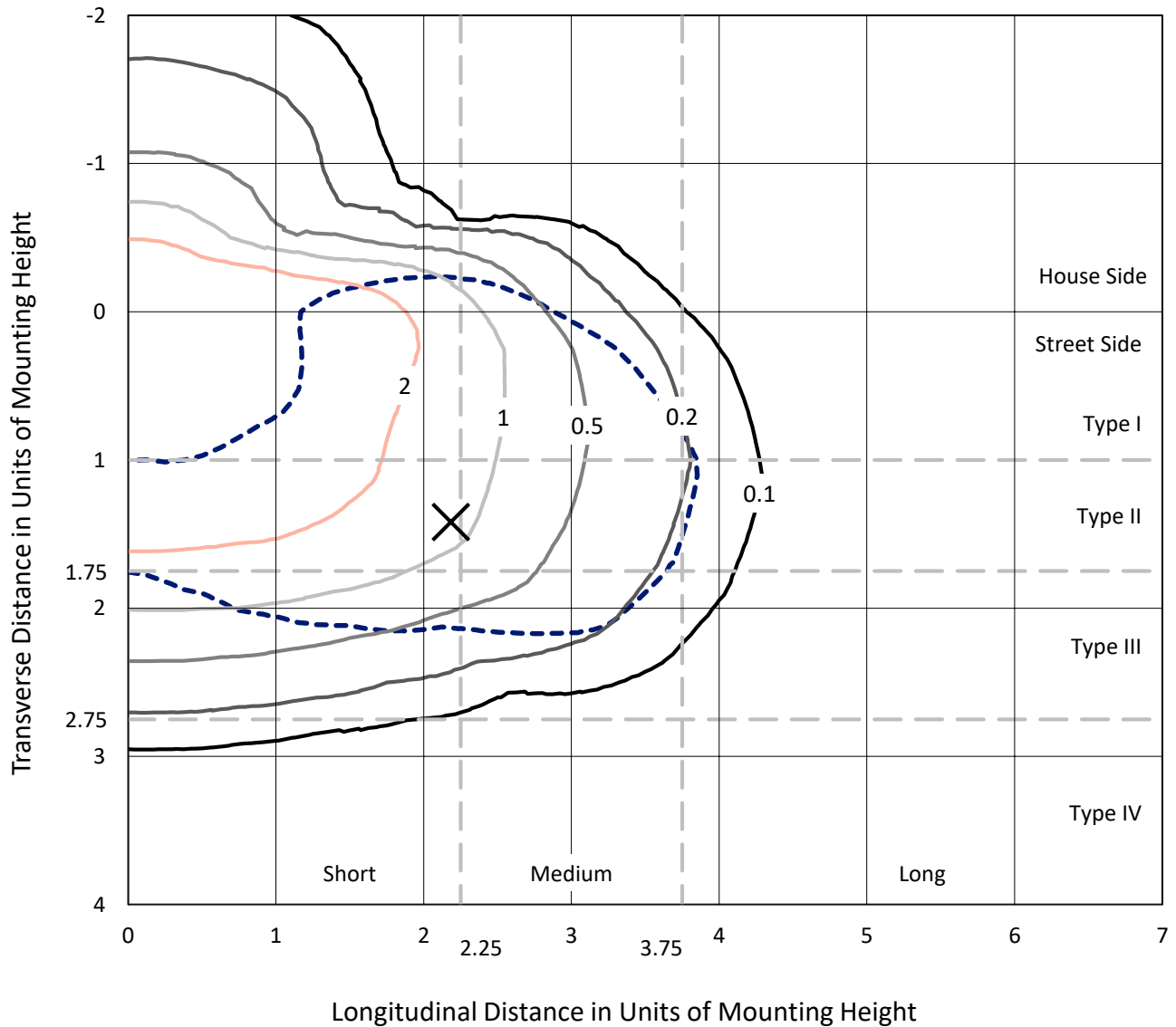


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### Iso-Footcandle Lines of Horizontal Illumination

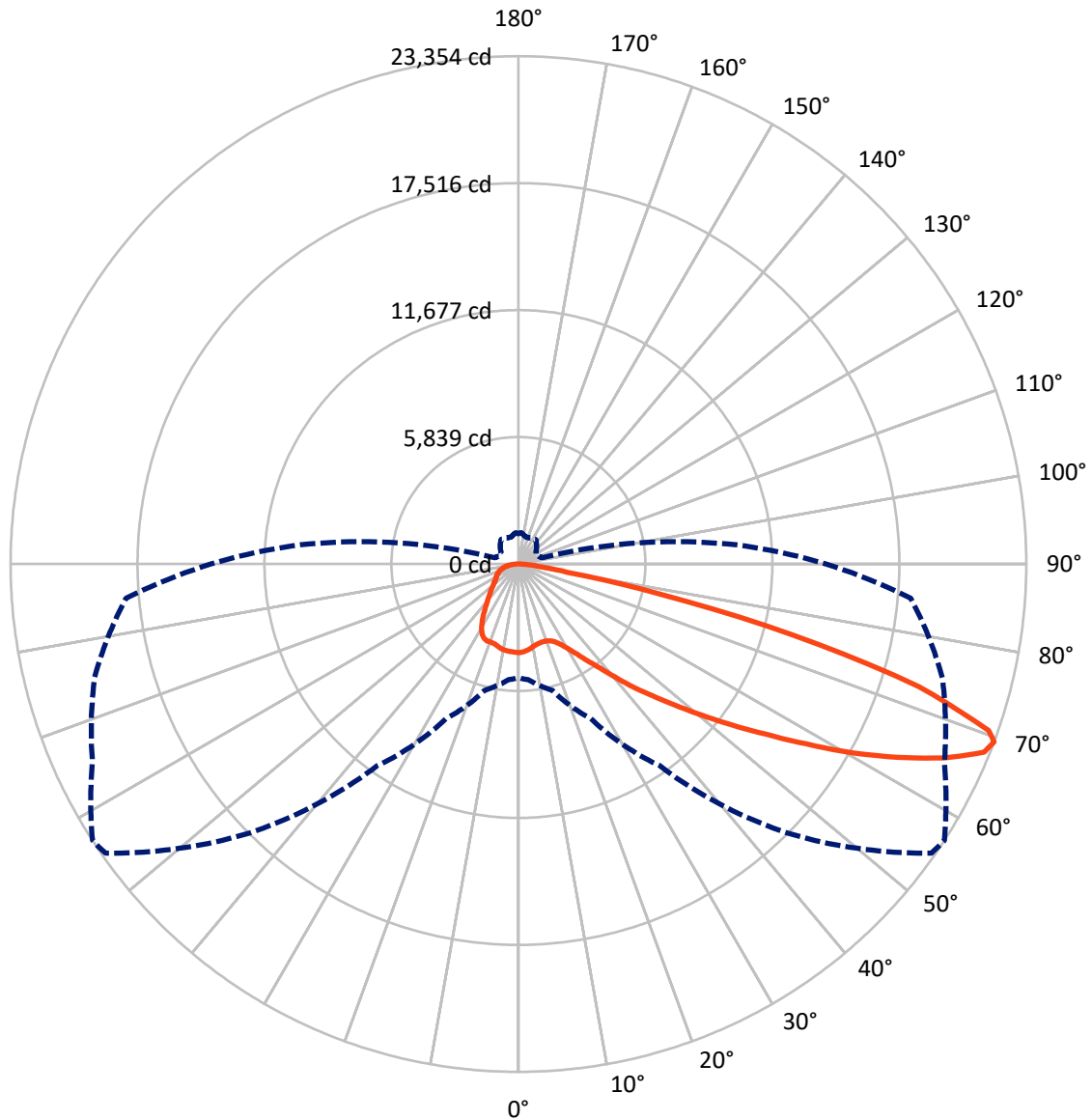
✕ Max cd  
 - - - 1/2 Max cd



Based on 30 foot mounting height. Maximum calculated value = 4.6 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    | 7280.8   | 0.0    | 7280.8  |
|                    | % Fixture | 22.1     | 0.0    | 22.1    |
| <b>Street Side</b> | Lumens    | 25714.2  | 0.0    | 25714.2 |
|                    | % Fixture | 77.9     | 0.0    | 77.9    |
| <b>Total</b>       | Lumens    | 32995.0  | 0.0    | 32995.0 |
|                    | % Fixture | 100.0    | 0.0    | 100.0   |

**Coefficient of Utilization**

**ZONAL LUMENS:**

| Zone      | Lumens  | % Fixture |
|-----------|---------|-----------|
| 0°-10°    | 381.7   | 1.2       |
| 10°-20°   | 1085.2  | 3.3       |
| 20°-30°   | 1805.2  | 5.5       |
| 30°-40°   | 2947.9  | 8.9       |
| 40°-50°   | 4975.3  | 15.1      |
| 50°-60°   | 7739.3  | 23.5      |
| 60°-70°   | 9219.2  | 27.9      |
| 70°-80°   | 4294.9  | 13.0      |
| 80°-90°   | 546.3   | 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°    | 32995.0 | 100.0     |
| 0°-180°   | 32995.0 | 100.0     |



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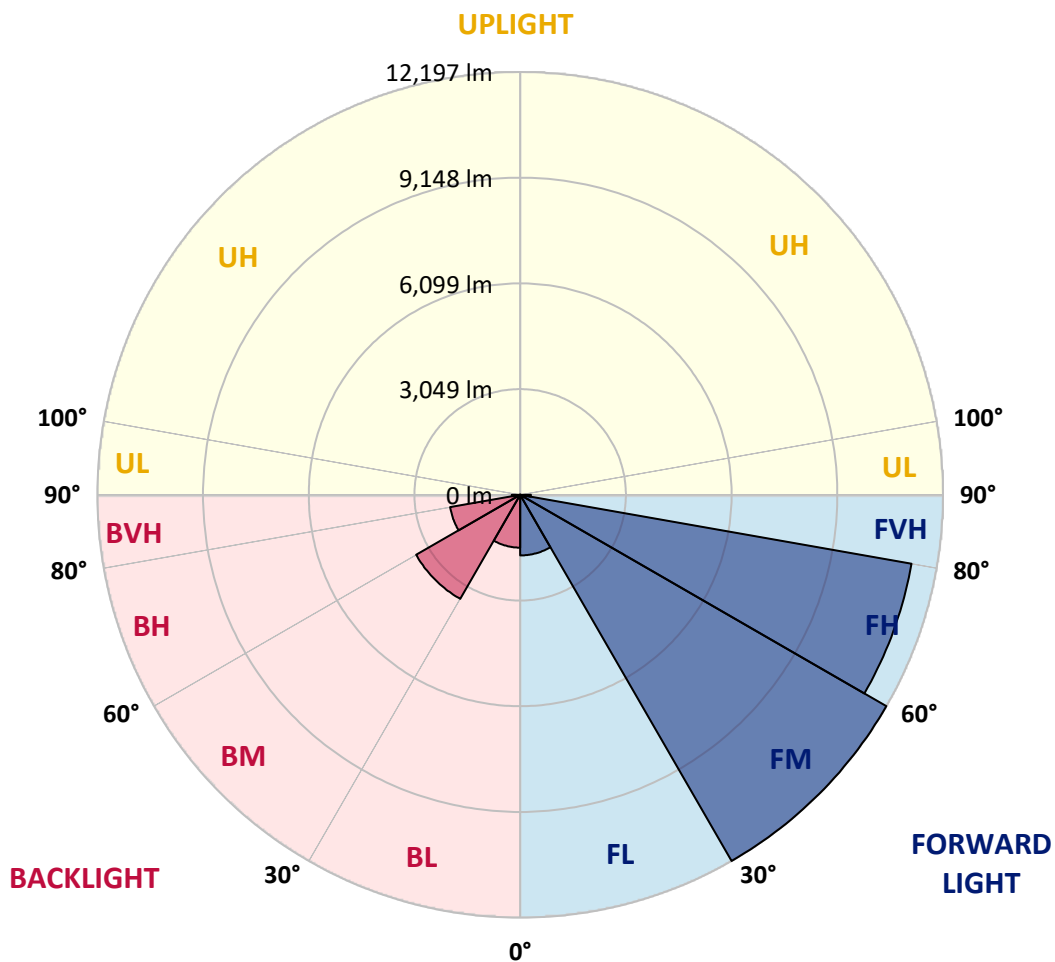
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**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

| Zone |             | Lumens  | % Fixture | Zone Rating/Lumen Limit |      |          |
|------|-------------|---------|-----------|-------------------------|------|----------|
|      |             |         |           | B                       | U    | G        |
| FL   | (0°-30°)    | 1747.4  | 5.3       |                         |      |          |
| FM   | (30°-60°)   | 12197.2 | 37.0      |                         |      |          |
| FH   | (60°-80°)   | 11462.5 | 34.7      |                         |      | G4/12000 |
| FVH  | (80°-90°)   | 307.1   | 0.9       |                         |      | G3/500   |
| BL   | (0°-30°)    | 1524.7  | 4.6       | B3/2500                 |      |          |
| BM   | (30°-60°)   | 3465.3  | 10.5      | B3/5000                 |      |          |
| BH   | (60°-80°)   | 2051.6  | 6.2       | B3/2500                 |      | G3/2500  |
| BVH  | (80°-90°)   | 239.2   | 0.7       |                         |      | G3/500   |
| UL   | (90°-100°)  | 0.0     | 0.0       |                         | U0/0 |          |
| UH   | (100°-180°) | 0.0     | 0.0       |                         | U0/0 |          |

**BUG Rating: B3-U0-G4**

Type III Short





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**CANDELA DISTRIBUTION (FULL):**

|       | 0°      | 5°      | 15°     | 25°     | 35°     | 45°     | 55°     | 57°     | 65°     | 75°     | 85°     |
|-------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| 0°    | 4076.9  | 4076.9  | 4076.9  | 4076.9  | 4076.9  | 4076.9  | 4076.9  | 4076.9  | 4076.9  | 4076.9  | 4076.9  |
| 2.5°  | 4053.6  | 4053.6  | 4064.2  | 4064.2  | 4064.2  | 4060.0  | 4047.3  | 4051.5  | 4043.1  | 4036.7  | 4026.2  |
| 5°    | 3971.2  | 3975.5  | 3988.1  | 3992.4  | 3998.7  | 4000.8  | 4000.8  | 3998.7  | 4000.8  | 4000.8  | 3994.5  |
| 7.5°  | 3857.2  | 3861.4  | 3876.2  | 3884.6  | 3903.6  | 3920.5  | 3929.0  | 3929.0  | 3939.6  | 3948.0  | 3950.1  |
| 10°   | 3787.5  | 3787.5  | 3795.9  | 3795.9  | 3810.7  | 3819.1  | 3846.6  | 3844.5  | 3874.1  | 3901.5  | 3914.2  |
| 12.5° | 3779.0  | 3779.0  | 3774.8  | 3760.0  | 3751.6  | 3749.4  | 3776.9  | 3781.1  | 3825.5  | 3874.1  | 3897.3  |
| 15°   | 3806.5  | 3806.5  | 3793.8  | 3764.2  | 3732.5  | 3717.8  | 3745.2  | 3753.7  | 3802.2  | 3859.3  | 3895.2  |
| 17.5° | 3895.2  | 3893.1  | 3865.6  | 3806.5  | 3751.6  | 3728.3  | 3736.8  | 3745.2  | 3789.6  | 3855.1  | 3899.4  |
| 20°   | 4091.6  | 4091.6  | 4032.5  | 3924.8  | 3829.7  | 3774.8  | 3762.1  | 3768.4  | 3800.1  | 3861.4  | 3918.4  |
| 22.5° | 4436.0  | 4442.3  | 4336.7  | 4159.2  | 3996.6  | 3880.4  | 3829.7  | 3836.0  | 3850.8  | 3910.0  | 3973.3  |
| 25°   | 4942.9  | 4926.0  | 4776.0  | 4524.7  | 4271.2  | 4072.6  | 3969.1  | 3975.5  | 3975.5  | 4030.4  | 4095.9  |
| 27.5° | 5479.5  | 5483.7  | 5268.2  | 4997.8  | 4664.1  | 4368.4  | 4203.6  | 4201.5  | 4199.4  | 4252.2  | 4321.9  |
| 30°   | 6085.7  | 6087.8  | 5838.6  | 5525.9  | 5143.6  | 4765.5  | 4518.3  | 4516.2  | 4497.2  | 4562.7  | 4653.5  |
| 32.5° | 6749.0  | 6746.9  | 6457.5  | 6104.7  | 5680.1  | 5251.3  | 4930.2  | 4928.1  | 4913.3  | 5002.1  | 5111.9  |
| 35°   | 7484.1  | 7484.1  | 7196.8  | 6761.7  | 6303.3  | 5825.9  | 5454.1  | 5452.0  | 5460.4  | 5580.9  | 5684.4  |
| 37.5° | 8369.2  | 8388.2  | 8041.8  | 7513.7  | 7013.0  | 6504.0  | 6070.9  | 6058.2  | 5994.9  | 6197.7  | 6368.8  |
| 40°   | 9292.3  | 9345.1  | 8986.0  | 8369.2  | 7828.4  | 7302.4  | 6825.0  | 6816.6  | 6761.7  | 6977.1  | 7253.8  |
| 42.5° | 10291.4 | 10411.8 | 10012.6 | 9383.1  | 8793.8  | 8225.5  | 7746.0  | 7722.8  | 7511.6  | 7847.4  | 8280.4  |
| 45°   | 11601.1 | 11679.2 | 11100.4 | 10530.1 | 9974.6  | 9326.1  | 8755.7  | 8631.1  | 8419.9  | 8850.8  | 9412.7  |
| 47.5° | 12492.5 | 12454.5 | 12093.3 | 11710.9 | 11353.9 | 10732.9 | 9856.3  | 9697.8  | 9440.1  | 10010.5 | 10629.4 |
| 50°   | 13045.9 | 13073.4 | 12870.6 | 12851.6 | 12832.6 | 12399.6 | 11098.3 | 10908.2 | 10610.4 | 11286.3 | 12008.8 |
| 52.5° | 13411.4 | 13286.7 | 13322.7 | 13753.6 | 14275.3 | 14068.3 | 12503.1 | 12291.8 | 11985.5 | 12661.5 | 13476.9 |
| 55°   | 13259.3 | 13094.5 | 13426.2 | 14275.3 | 15502.6 | 15549.1 | 14045.1 | 13827.5 | 13565.6 | 14123.2 | 15242.8 |
| 57.5° | 12629.8 | 12712.2 | 13236.0 | 14416.9 | 16341.2 | 16875.6 | 15817.3 | 15595.6 | 15080.1 | 15646.2 | 16920.0 |
| 60°   | 11744.7 | 11911.6 | 12712.2 | 14192.9 | 16928.4 | 17908.6 | 17762.8 | 17615.0 | 16727.8 | 17129.1 | 18681.7 |
| 62.5° | 10794.2 | 10958.9 | 11943.3 | 13810.6 | 16664.4 | 18823.2 | 19672.4 | 19581.6 | 18546.5 | 18557.1 | 19799.1 |
| 65°   | 9389.4  | 9457.0  | 10462.5 | 12767.1 | 15931.4 | 19649.2 | 21584.1 | 21503.8 | 20285.0 | 19775.9 | 20111.8 |
| 67.5° | 7091.2  | 7175.7  | 8001.6  | 10078.1 | 13700.8 | 19201.3 | 23111.3 | 23098.7 | 21330.6 | 20228.0 | 19368.2 |
| 69°   | 5236.5  | 5340.0  | 6013.9  | 7824.2  | 11328.6 | 17494.6 | 23183.1 | 23354.2 | 21613.7 | 20181.5 | 18111.4 |
| 70°   | 3831.8  | 3950.1  | 4573.3  | 6210.3  | 9435.9  | 15610.3 | 22568.4 | 22936.0 | 21505.9 | 19887.9 | 17131.2 |
| 72.5° | 1628.6  | 1668.8  | 1975.1  | 2803.1  | 4786.6  | 9412.7  | 18485.3 | 19258.4 | 19423.1 | 17819.9 | 13383.9 |
| 75°   | 1020.3  | 1032.9  | 1153.3  | 1438.5  | 2129.3  | 3893.1  | 11970.7 | 13024.8 | 14501.3 | 13825.4 | 8960.6  |
| 77.5° | 768.9   | 779.5   | 849.2   | 990.7   | 1322.3  | 1453.3  | 5553.4  | 6622.2  | 8305.8  | 8132.6  | 4459.2  |
| 80°   | 589.3   | 595.7   | 642.2   | 720.3   | 931.6   | 910.4   | 1801.8  | 2264.4  | 3466.4  | 3058.7  | 1577.9  |
| 82.5° | 462.6   | 464.7   | 504.9   | 519.6   | 650.6   | 612.6   | 904.1   | 1007.6  | 1400.5  | 1163.9  | 771.0   |
| 85°   | 409.8   | 416.1   | 456.3   | 380.2   | 416.1   | 369.7   | 496.4   | 538.7   | 743.6   | 701.3   | 291.5   |
| 87.5° | 209.1   | 219.7   | 382.3   | 325.3   | 209.1   | 175.3   | 217.6   | 234.5   | 302.1   | 327.4   | 141.5   |
| 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°    | 4076.9  | 4076.9  | 4076.9 | 4076.9 | 4076.9 | 4076.9 | 4076.9 | 4076.9 | 4076.9 | 4076.9 | 4076.9 |
| 2.5°  | 4028.3  | 4030.4  | 4036.7 | 4047.3 | 4064.2 | 4085.3 | 4110.7 | 4136.0 | 4150.8 | 4161.3 | 4157.1 |
| 5°    | 3994.5  | 3996.6  | 4009.3 | 4028.3 | 4049.4 | 4081.1 | 4123.3 | 4155.0 | 4178.2 | 4193.0 | 4190.9 |
| 7.5°  | 3952.2  | 3958.6  | 3983.9 | 4005.0 | 4034.6 | 4060.0 | 4093.8 | 4123.3 | 4146.6 | 4161.3 | 4159.2 |
| 10°   | 3920.5  | 3926.9  | 3958.6 | 3986.0 | 4011.4 | 4015.6 | 4009.3 | 4000.8 | 3998.7 | 4009.3 | 4005.0 |
| 12.5° | 3905.8  | 3918.4  | 3948.0 | 3967.0 | 3956.4 | 3916.3 | 3869.8 | 3850.8 | 3844.5 | 3865.6 | 3867.7 |
| 15°   | 3910.0  | 3920.5  | 3945.9 | 3933.2 | 3876.2 | 3808.6 | 3783.2 | 3798.0 | 3810.7 | 3823.4 | 3825.5 |
| 17.5° | 3920.5  | 3926.9  | 3933.2 | 3886.7 | 3806.5 | 3762.1 | 3753.7 | 3738.9 | 3700.9 | 3679.7 | 3677.6 |
| 20°   | 3939.6  | 3948.0  | 3937.4 | 3863.5 | 3791.7 | 3732.5 | 3631.1 | 3540.3 | 3453.7 | 3407.2 | 3388.2 |
| 22.5° | 4005.0  | 4011.4  | 3979.7 | 3907.9 | 3798.0 | 3605.8 | 3400.9 | 3244.6 | 3111.5 | 3039.7 | 3012.2 |
| 25°   | 4133.9  | 4144.4  | 4100.1 | 4009.3 | 3722.0 | 3386.1 | 3096.7 | 2885.5 | 2718.6 | 2632.0 | 2608.8 |
| 27.5° | 4359.9  | 4370.5  | 4321.9 | 4085.3 | 3544.5 | 3092.5 | 2741.8 | 2532.7 | 2389.1 | 2315.1 | 2304.6 |
| 30°   | 4697.9  | 4712.7  | 4668.3 | 4083.2 | 3274.2 | 2718.6 | 2395.4 | 2272.9 | 2190.5 | 2139.8 | 2137.7 |
| 32.5° | 5166.8  | 5221.8  | 5040.1 | 4011.4 | 2940.4 | 2340.5 | 2133.5 | 2091.2 | 2051.1 | 2017.3 | 2017.3 |
| 35°   | 5762.5  | 5891.4  | 5407.6 | 3861.4 | 2572.9 | 2082.8 | 1987.7 | 1947.6 | 1896.9 | 1861.0 | 1856.8 |
| 37.5° | 6474.4  | 6675.1  | 5669.6 | 3595.2 | 2256.0 | 1958.2 | 1899.0 | 1833.5 | 1753.3 | 1683.6 | 1666.7 |
| 40°   | 7452.4  | 7498.9  | 5798.4 | 3162.2 | 2019.4 | 1890.6 | 1816.6 | 1734.2 | 1632.9 | 1554.7 | 1546.2 |
| 42.5° | 8434.7  | 8282.6  | 5773.1 | 2697.5 | 1884.2 | 1829.3 | 1732.1 | 1641.3 | 1550.5 | 1485.0 | 1485.0 |
| 45°   | 9552.1  | 8967.0  | 5580.9 | 2230.7 | 1761.7 | 1759.6 | 1654.0 | 1567.4 | 1497.7 | 1449.1 | 1438.5 |
| 47.5° | 10620.9 | 9581.7  | 5249.2 | 1886.3 | 1635.0 | 1689.9 | 1603.3 | 1533.6 | 1470.2 | 1423.7 | 1415.3 |
| 50°   | 11917.9 | 10293.5 | 4896.4 | 1645.5 | 1512.4 | 1628.6 | 1582.2 | 1546.2 | 1485.0 | 1404.7 | 1396.3 |
| 52.5° | 13206.5 | 11125.8 | 4624.0 | 1463.9 | 1404.7 | 1580.0 | 1594.8 | 1599.1 | 1542.0 | 1385.7 | 1375.1 |
| 55°   | 14590.1 | 12015.1 | 4336.7 | 1322.3 | 1316.0 | 1556.8 | 1624.4 | 1620.2 | 1592.7 | 1389.9 | 1373.0 |
| 57.5° | 15906.1 | 12908.6 | 3907.9 | 1223.1 | 1246.3 | 1533.6 | 1630.7 | 1563.1 | 1514.6 | 1411.1 | 1383.6 |
| 60°   | 16996.0 | 13648.0 | 3278.4 | 1153.3 | 1187.1 | 1487.1 | 1588.5 | 1487.1 | 1404.7 | 1406.8 | 1381.5 |
| 62.5° | 17526.2 | 13855.0 | 2507.4 | 1073.1 | 1138.6 | 1411.1 | 1527.2 | 1430.1 | 1354.0 | 1415.3 | 1400.5 |
| 65°   | 17122.8 | 13265.6 | 1787.1 | 999.1  | 1079.4 | 1322.3 | 1491.3 | 1381.5 | 1328.7 | 1457.5 | 1440.6 |
| 67.5° | 15673.7 | 11660.2 | 1297.0 | 933.7  | 1022.4 | 1231.5 | 1423.7 | 1337.1 | 1303.3 | 1489.2 | 1451.2 |
| 69°   | 14133.8 | 10067.5 | 1123.8 | 895.6  | 982.2  | 1182.9 | 1379.4 | 1313.9 | 1284.3 | 1444.9 | 1389.9 |
| 70°   | 12853.7 | 8840.2  | 1037.2 | 872.4  | 948.4  | 1155.5 | 1345.6 | 1299.1 | 1265.3 | 1392.0 | 1326.6 |
| 72.5° | 9216.2  | 5713.9  | 872.4  | 802.7  | 859.7  | 1094.2 | 1271.6 | 1244.2 | 1193.5 | 1256.9 | 1214.6 |
| 75°   | 5568.2  | 2982.7  | 741.4  | 730.9  | 766.8  | 1009.7 | 1185.0 | 1151.2 | 1100.5 | 1106.9 | 1085.8 |
| 77.5° | 2558.1  | 1377.3  | 621.0  | 646.4  | 669.6  | 904.1  | 1079.4 | 1041.4 | 994.9  | 978.0  | 980.1  |
| 80°   | 1121.7  | 804.8   | 519.6  | 551.3  | 564.0  | 813.3  | 965.3  | 923.1  | 872.4  | 963.2  | 893.5  |
| 82.5° | 606.2   | 466.8   | 405.6  | 426.7  | 462.6  | 707.6  | 838.6  | 783.7  | 735.1  | 855.5  | 690.7  |
| 85°   | 245.0   | 238.7   | 274.6  | 295.7  | 321.1  | 509.1  | 701.3  | 644.3  | 585.1  | 523.9  | 511.2  |
| 87.5° | 105.6   | 114.1   | 135.2  | 143.6  | 171.1  | 316.9  | 471.1  | 411.9  | 414.0  | 354.9  | 348.5  |
| 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)