

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: P967330

Luminaire Tested: **NAV-SB4D-827-U-T2U**

Issue Date: 1/21/2025

**Test Information**

Test Method: LM-79-08  
Report Number: P967330  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2411-289-16)  
Test Lab: INNOVATION CENTER  
Issue Date: 1/21/2025  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: LUMARK  
Catalog Number: NAV-SB4D-827-U-T2U  
Description: NAVION ROADWAY AND AREA HIGH DENSITY LED LUMINAIRE  
(4) 80 CRI, 2700K, 900mA LIGHTSQUARES WITH 26 LEDS EACH AND TYPE II U OPTICS  
Light Source: -  
Ballast/Driver: -

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 36837.5 lumens  
Efficiency: N/A  
Efficacy: 125.5 lumens/watt  
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')  
IES Classification: Type II - Short  
BUG Rating: B4 - U0 - G4

Input Watts (W): 293.6  
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

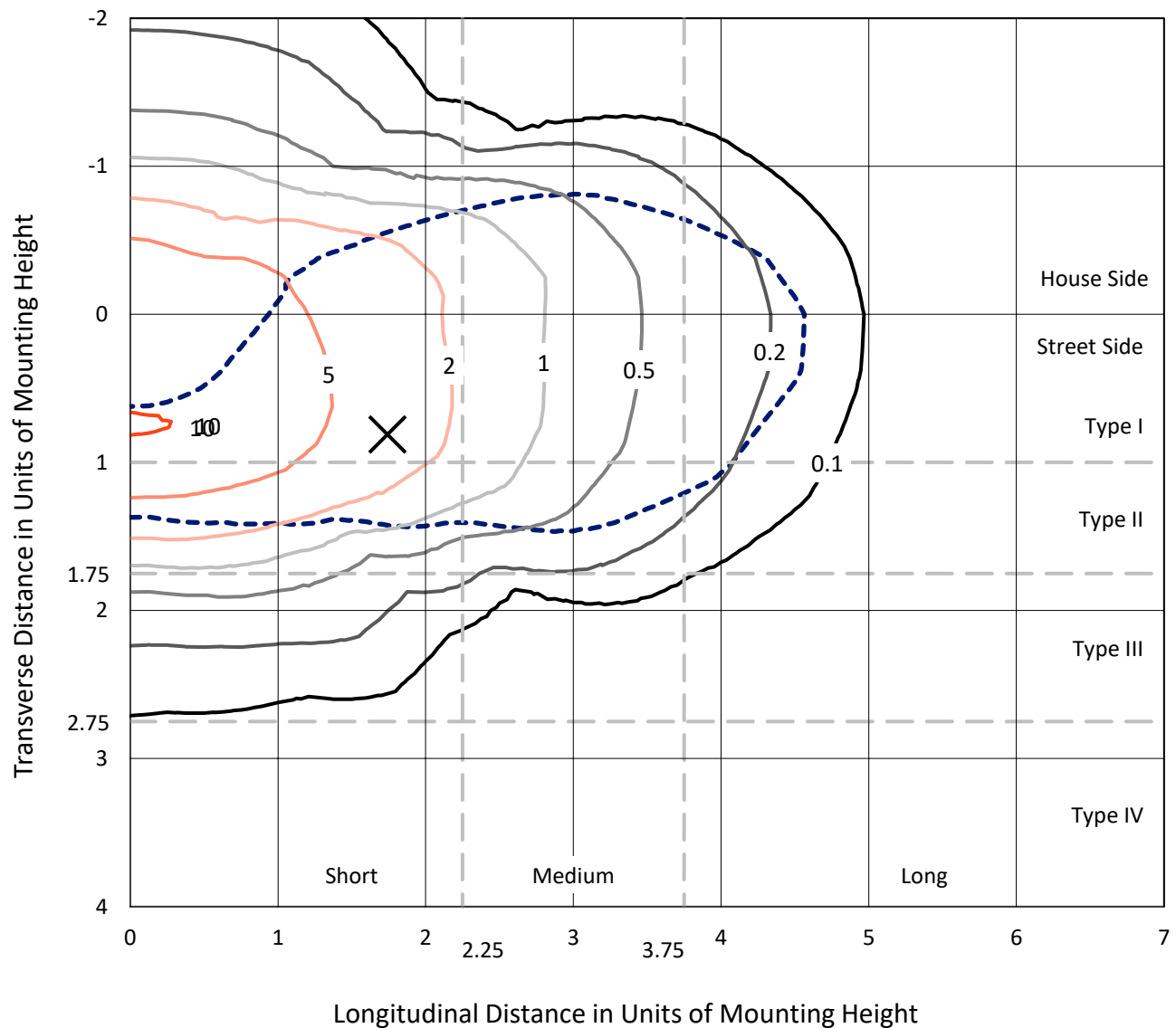


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## Iso-Footcandle Lines of Horizontal Illumination

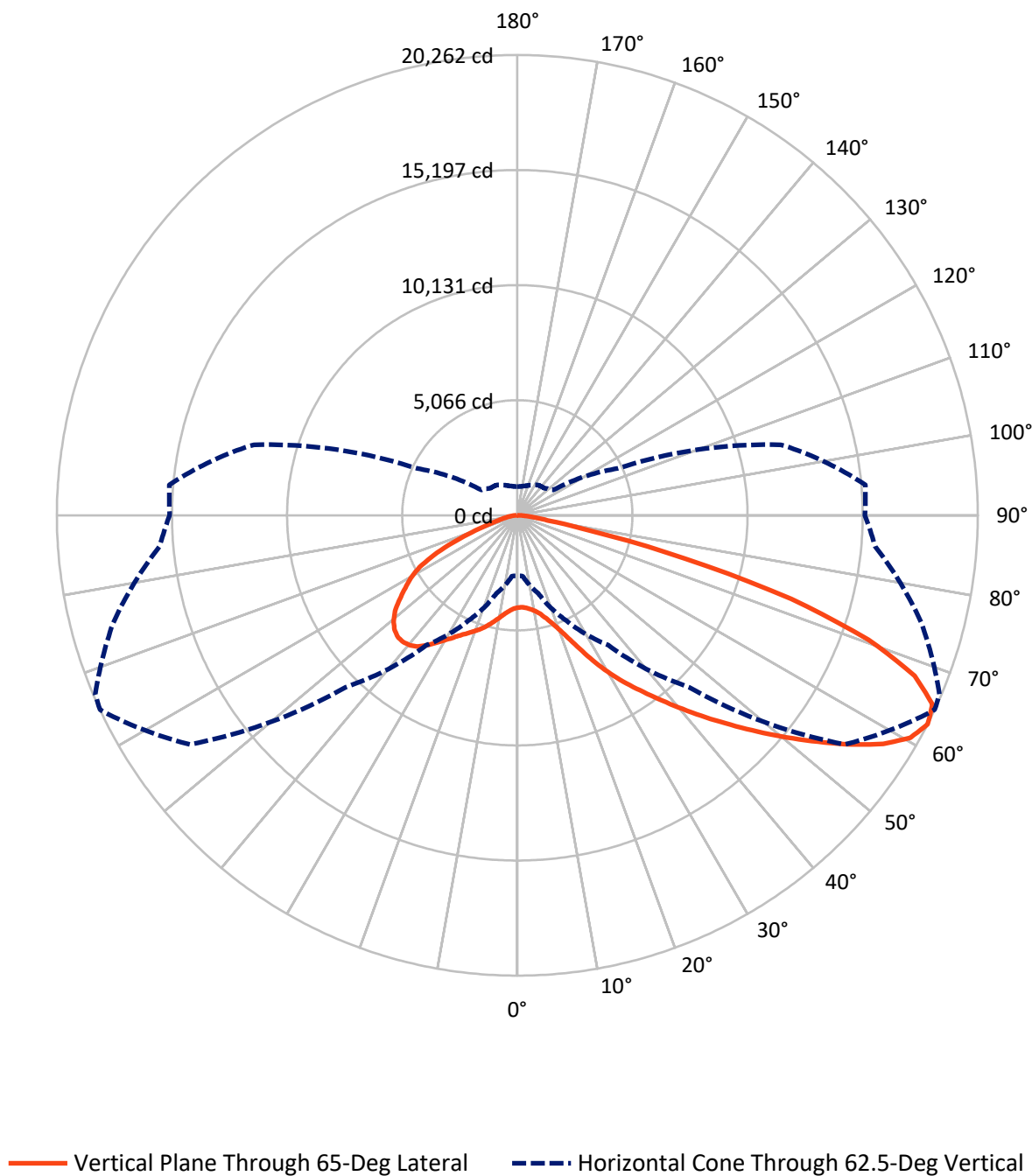
× Max cd  
- - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 10.3 fc  
Type II - 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    | 11624.3  | 0.0    | 11624.3 |
|                    | % Fixture | 31.6     | 0.0    | 31.6    |
| <b>Street Side</b> | Lumens    | 25213.2  | 0.0    | 25213.2 |
|                    | % Fixture | 68.4     | 0.0    | 68.4    |
| <b>Total</b>       | Lumens    | 36837.5  | 0.0    | 36837.5 |
|                    | % Fixture | 100.0    | 0.0    | 100.0   |

**ZONAL LUMENS:**

| Zone      | Lumens  | % Fixture |
|-----------|---------|-----------|
| 0°-10°    | 404.7   | 1.1       |
| 10°-20°   | 1372.4  | 3.7       |
| 20°-30°   | 2782.7  | 7.6       |
| 30°-40°   | 4815.4  | 13.1      |
| 40°-50°   | 7287.2  | 19.8      |
| 50°-60°   | 8543.8  | 23.2      |
| 60°-70°   | 7163.0  | 19.4      |
| 70°-80°   | 3954.5  | 10.7      |
| 80°-90°   | 513.7   | 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°    | 36837.5 | 100.0     |
| 0°-180°   | 36837.5 | 100.0     |

**Coefficient of Utilization**



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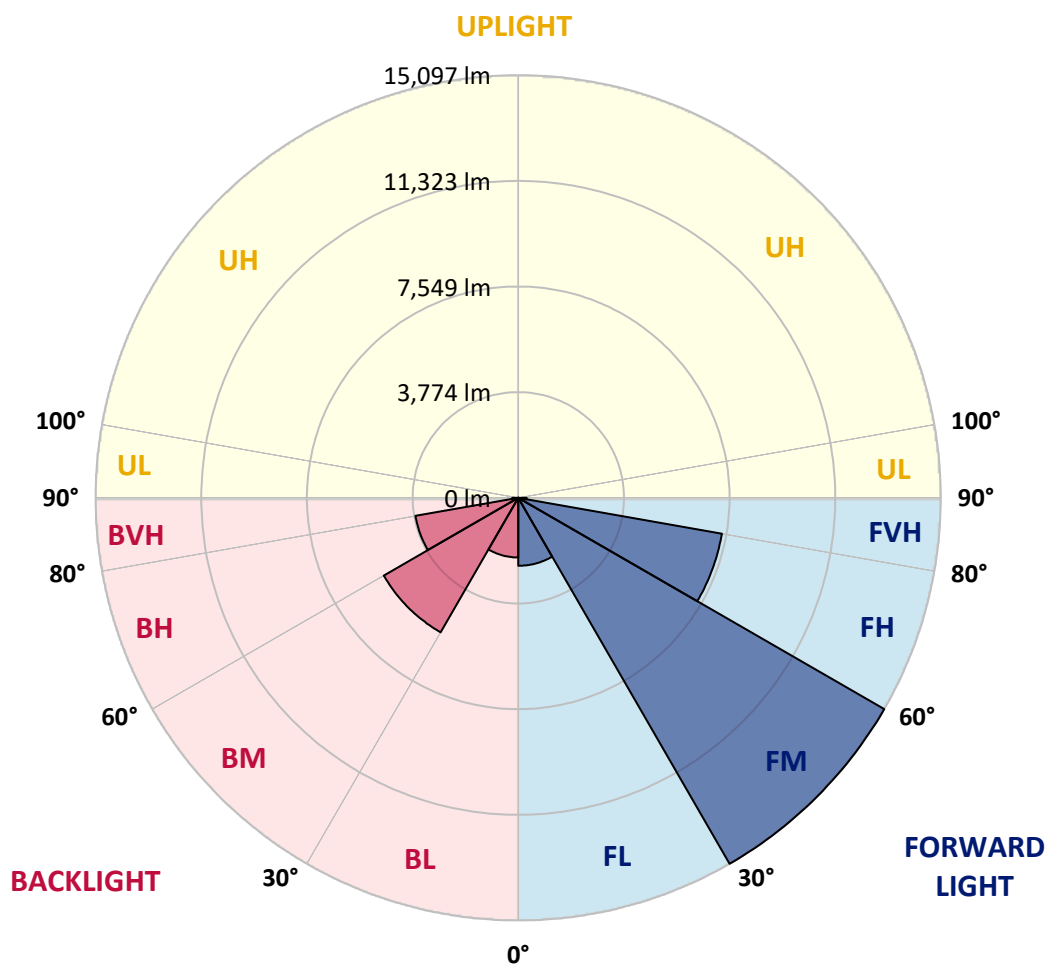
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**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

| Zone |             | Lumens  | % Fixture | Zone Rating/Lumen Limit |      |         |
|------|-------------|---------|-----------|-------------------------|------|---------|
|      |             |         |           | B                       | U    | G       |
| FL   | (0°-30°)    | 2428.1  | 6.6       |                         |      |         |
| FM   | (30°-60°)   | 15097.2 | 41.0      |                         |      |         |
| FH   | (60°-80°)   | 7388.5  | 20.1      |                         |      | G3/7500 |
| FVH  | (80°-90°)   | 299.4   | 0.8       |                         |      | G3/500  |
| BL   | (0°-30°)    | 2131.8  | 5.8       | B3/2500                 |      |         |
| BM   | (30°-60°)   | 5549.3  | 15.1      | B4/8500                 |      |         |
| BH   | (60°-80°)   | 3729.0  | 10.1      | B4/5000                 |      | G4/5000 |
| BVH  | (80°-90°)   | 214.3   | 0.6       |                         |      | G2/225  |
| UL   | (90°-100°)  | 0.0     | 0.0       |                         | U0/0 |         |
| UH   | (100°-180°) | 0.0     | 0.0       |                         | U0/0 |         |

**BUG Rating: B4-U0-G4**

Type II Short



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**CANDELA DISTRIBUTION (FULL):**

|       | 0°      | 5°      | 15°     | 25°     | 35°     | 45°     | 55°     | 65°     | 67°     | 75°     | 85°     |
|-------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| 0°    | 4059.3  | 4059.3  | 4059.3  | 4059.3  | 4059.3  | 4059.3  | 4059.3  | 4059.3  | 4059.3  | 4059.3  | 4059.3  |
| 2.5°  | 4032.6  | 4021.1  | 4030.7  | 4030.7  | 4034.5  | 4032.6  | 4046.0  | 4049.8  | 4055.5  | 4067.0  | 4067.0  |
| 5°    | 3992.5  | 3990.5  | 4007.7  | 4023.0  | 4038.3  | 4051.7  | 4068.8  | 4093.7  | 4097.5  | 4111.0  | 4128.1  |
| 7.5°  | 3979.0  | 3967.6  | 3994.3  | 4013.5  | 4049.8  | 4082.3  | 4128.1  | 4170.2  | 4187.3  | 4193.1  | 4225.6  |
| 10°   | 4082.3  | 4063.2  | 4088.0  | 4099.5  | 4130.0  | 4162.5  | 4216.0  | 4283.0  | 4302.0  | 4325.0  | 4361.3  |
| 12.5° | 4258.1  | 4237.0  | 4273.4  | 4290.5  | 4319.2  | 4347.9  | 4384.2  | 4449.2  | 4458.8  | 4500.8  | 4535.2  |
| 15°   | 4498.9  | 4474.0  | 4497.0  | 4518.0  | 4565.8  | 4592.5  | 4628.9  | 4691.9  | 4691.9  | 4724.4  | 4749.2  |
| 17.5° | 4825.7  | 4793.2  | 4810.4  | 4818.1  | 4848.7  | 4888.7  | 4949.9  | 5005.4  | 5034.0  | 5022.6  | 4988.2  |
| 20°   | 5313.1  | 5272.9  | 5272.9  | 5234.7  | 5223.2  | 5255.7  | 5335.9  | 5412.4  | 5443.1  | 5383.8  | 5299.7  |
| 22.5° | 6045.0  | 5987.7  | 5955.2  | 5825.3  | 5773.6  | 5777.5  | 5857.8  | 5951.4  | 5976.3  | 5871.1  | 5681.9  |
| 25°   | 6975.7  | 6886.0  | 6842.0  | 6650.9  | 6534.3  | 6433.0  | 6496.0  | 6616.5  | 6650.9  | 6520.9  | 6215.1  |
| 27.5° | 7906.5  | 7912.3  | 7870.3  | 7640.9  | 7447.9  | 7262.4  | 7229.9  | 7356.1  | 7392.4  | 7245.2  | 6866.9  |
| 30°   | 9211.9  | 9076.2  | 8995.9  | 8720.7  | 8445.5  | 8185.5  | 8051.8  | 8103.3  | 8113.0  | 7937.1  | 7497.6  |
| 32.5° | 10337.5 | 10303.1 | 10131.1 | 9890.3  | 9536.7  | 9129.7  | 8906.0  | 8823.9  | 8808.5  | 8558.2  | 8036.5  |
| 35°   | 11619.9 | 11600.8 | 11419.2 | 11132.6 | 10750.3 | 10184.6 | 9781.4  | 9546.3  | 9527.2  | 9175.5  | 8569.7  |
| 37.5° | 12923.3 | 12923.3 | 12745.6 | 12432.2 | 12036.6 | 11329.4 | 10716.0 | 10343.3 | 10282.1 | 9823.4  | 9112.5  |
| 40°   | 13963.1 | 13899.9 | 13932.4 | 13800.6 | 13347.7 | 12596.5 | 11753.7 | 11212.9 | 11130.7 | 10580.3 | 9689.6  |
| 42.5° | 14553.6 | 14532.6 | 14727.5 | 14874.7 | 14689.3 | 14089.1 | 12896.6 | 12155.1 | 12040.4 | 11413.5 | 10354.8 |
| 45°   | 14685.5 | 14662.5 | 15010.3 | 15549.2 | 15809.2 | 15562.7 | 14138.8 | 13147.0 | 13007.5 | 12285.0 | 11067.6 |
| 47.5° | 14381.6 | 14335.8 | 14846.0 | 15696.4 | 16529.8 | 16963.5 | 15484.4 | 14222.9 | 14020.4 | 13133.5 | 11799.6 |
| 50°   | 13468.0 | 13424.1 | 14196.1 | 15325.7 | 16772.5 | 17915.4 | 16944.5 | 15363.9 | 15054.3 | 14043.3 | 12539.2 |
| 52.5° | 11482.4 | 11503.4 | 12713.1 | 14265.0 | 16453.3 | 18507.8 | 18202.1 | 16566.0 | 16193.4 | 14974.0 | 13233.0 |
| 55°   | 8944.3  | 8990.2  | 10477.0 | 12185.6 | 15176.7 | 18417.9 | 19060.1 | 17804.5 | 17433.7 | 15849.4 | 13949.6 |
| 57.5° | 6404.3  | 6606.9  | 8000.1  | 9691.6  | 12724.6 | 16994.2 | 19247.4 | 18981.8 | 18622.5 | 16805.0 | 14651.0 |
| 60°   | 4151.0  | 4187.3  | 5620.8  | 7325.6  | 9689.6  | 14463.8 | 18867.1 | 19874.2 | 19593.4 | 17779.6 | 15237.8 |
| 62.5° | 2660.4  | 2685.2  | 3558.6  | 5123.9  | 6973.9  | 10700.7 | 17586.6 | 20262.2 | 20176.2 | 18423.7 | 15801.6 |
| 65°   | 1955.1  | 1936.0  | 2390.9  | 3386.6  | 4697.7  | 6599.3  | 15100.2 | 20074.9 | 20245.1 | 18827.0 | 16267.9 |
| 67.5° | 1632.1  | 1605.4  | 1829.0  | 2345.0  | 3461.1  | 3747.8  | 11172.7 | 18857.5 | 19480.5 | 18781.1 | 16610.0 |
| 70°   | 1486.9  | 1464.0  | 1599.6  | 1741.1  | 2700.5  | 2509.4  | 5632.3  | 16394.1 | 17353.5 | 18259.4 | 16554.6 |
| 72.5° | 1259.4  | 1219.3  | 1404.8  | 1546.1  | 2100.3  | 1924.5  | 2327.8  | 12592.7 | 13762.4 | 16587.1 | 15774.9 |
| 75°   | 976.6   | 949.9   | 1108.4  | 1360.8  | 1578.6  | 1502.1  | 1471.6  | 7646.6  | 8923.2  | 12827.8 | 13800.6 |
| 77.5° | 774.0   | 737.7   | 882.9   | 1060.7  | 1420.0  | 1133.3  | 1072.1  | 3292.9  | 4558.2  | 8189.3  | 10326.1 |
| 80°   | 582.9   | 550.4   | 670.9   | 839.0   | 1091.3  | 854.3   | 693.7   | 1343.6  | 1718.1  | 4149.2  | 5192.6  |
| 82.5° | 414.7   | 386.0   | 468.2   | 615.4   | 733.9   | 766.4   | 426.2   | 753.0   | 846.6   | 1599.6  | 1160.1  |
| 85°   | 265.7   | 248.5   | 313.4   | 386.0   | 466.4   | 493.1   | 259.9   | 393.7   | 431.9   | 659.4   | 483.5   |
| 87.5° | 145.2   | 118.5   | 168.2   | 179.7   | 216.0   | 196.8   | 124.2   | 143.3   | 154.8   | 238.9   | 204.5   |
| 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°    | 4059.3  | 4059.3  | 4059.3  | 4059.3 | 4059.3 | 4059.3 | 4059.3 | 4059.3 | 4059.3 | 4059.3 | 4059.3 |
| 2.5°  | 4074.6  | 4080.3  | 4099.5  | 4105.2 | 4118.6 | 4135.8 | 4147.3 | 4158.7 | 4158.7 | 4170.2 | 4170.2 |
| 5°    | 4130.0  | 4143.5  | 4183.5  | 4204.5 | 4239.0 | 4273.4 | 4294.4 | 4319.2 | 4334.5 | 4342.2 | 4346.0 |
| 7.5°  | 4237.0  | 4258.1  | 4315.5  | 4351.7 | 4411.0 | 4458.8 | 4491.2 | 4525.7 | 4533.3 | 4554.3 | 4546.7 |
| 10°   | 4382.3  | 4407.2  | 4472.2  | 4541.0 | 4611.7 | 4670.9 | 4701.5 | 4726.4 | 4735.9 | 4739.7 | 4730.2 |
| 12.5° | 4548.5  | 4584.9  | 4669.0  | 4753.1 | 4827.6 | 4879.2 | 4886.9 | 4881.2 | 4854.4 | 4831.4 | 4831.4 |
| 15°   | 4753.1  | 4785.6  | 4879.2  | 4970.9 | 5043.6 | 5053.1 | 5005.4 | 4974.7 | 4942.2 | 4936.6 | 4936.6 |
| 17.5° | 4997.7  | 5014.9  | 5100.9  | 5190.7 | 5196.4 | 5164.0 | 5093.2 | 5064.6 | 5034.0 | 5013.0 | 5014.9 |
| 20°   | 5282.4  | 5276.7  | 5337.9  | 5376.1 | 5335.9 | 5236.6 | 5129.6 | 5081.8 | 5051.2 | 5026.4 | 5028.3 |
| 22.5° | 5622.6  | 5578.7  | 5571.1  | 5561.5 | 5454.4 | 5246.2 | 5100.9 | 5039.7 | 4992.0 | 4957.6 | 4969.1 |
| 25°   | 6117.7  | 5949.5  | 5832.9  | 5767.9 | 5527.1 | 5194.6 | 5009.2 | 4873.5 | 4783.7 | 4724.4 | 4747.4 |
| 27.5° | 6736.9  | 6454.0  | 6159.7  | 6001.1 | 5527.1 | 5089.4 | 4787.5 | 4567.7 | 4420.5 | 4359.4 | 4390.0 |
| 30°   | 7327.4  | 7031.2  | 6597.4  | 6282.0 | 5513.8 | 4917.4 | 4430.0 | 4124.3 | 3952.3 | 3891.1 | 3927.5 |
| 32.5° | 7832.0  | 7508.9  | 7061.7  | 6589.7 | 5481.3 | 4638.4 | 3986.7 | 3648.4 | 3482.1 | 3409.6 | 3445.8 |
| 35°   | 8300.2  | 7956.3  | 7528.1  | 6928.0 | 5395.2 | 4229.5 | 3499.4 | 3241.4 | 3055.9 | 2939.4 | 2977.6 |
| 37.5° | 8779.9  | 8371.0  | 7969.6  | 7233.8 | 5240.4 | 3751.6 | 3124.8 | 2905.0 | 2687.1 | 2530.4 | 2572.4 |
| 40°   | 9301.7  | 8812.4  | 8441.7  | 7415.4 | 4986.2 | 3296.8 | 2834.2 | 2633.6 | 2402.3 | 2236.0 | 2268.5 |
| 42.5° | 9911.3  | 9341.8  | 8967.2  | 7508.9 | 4638.4 | 2973.8 | 2645.0 | 2448.2 | 2230.3 | 2094.7 | 2121.4 |
| 45°   | 10547.8 | 9924.8  | 9446.9  | 7507.1 | 4250.5 | 2822.8 | 2583.9 | 2389.0 | 2148.2 | 2006.7 | 2029.7 |
| 47.5° | 11214.7 | 10534.3 | 9861.6  | 7384.8 | 3914.1 | 2843.9 | 2549.5 | 2260.9 | 1995.3 | 1857.7 | 1876.8 |
| 50°   | 11883.6 | 11201.4 | 10263.0 | 7155.4 | 3770.8 | 2797.9 | 2421.5 | 2081.3 | 1767.8 | 1643.6 | 1651.3 |
| 52.5° | 12546.8 | 11910.4 | 10609.0 | 6828.7 | 3625.5 | 2627.9 | 2257.0 | 1848.1 | 1674.2 | 1588.1 | 1588.1 |
| 55°   | 13213.9 | 12611.8 | 10985.4 | 6352.7 | 3262.4 | 2429.1 | 1981.8 | 1760.2 | 1599.6 | 1521.3 | 1513.6 |
| 57.5° | 13882.8 | 13422.2 | 11342.9 | 5876.8 | 2805.6 | 2184.5 | 1830.9 | 1653.1 | 1525.1 | 1458.3 | 1446.8 |
| 60°   | 14578.5 | 14349.1 | 11711.6 | 5439.2 | 2354.5 | 1871.0 | 1720.1 | 1567.1 | 1437.2 | 1362.6 | 1356.9 |
| 62.5° | 15295.2 | 15369.7 | 12000.3 | 4875.4 | 1939.8 | 1679.9 | 1620.6 | 1464.0 | 1337.8 | 1267.1 | 1265.2 |
| 65°   | 16017.6 | 16353.9 | 12189.5 | 4093.7 | 1572.9 | 1498.3 | 1513.6 | 1351.2 | 1223.1 | 1162.0 | 1160.1 |
| 67.5° | 16562.3 | 17063.0 | 12135.9 | 3098.0 | 1290.1 | 1326.4 | 1379.9 | 1232.7 | 1112.3 | 1064.6 | 1066.4 |
| 70°   | 16623.3 | 16978.8 | 11608.4 | 2121.4 | 1079.8 | 1158.1 | 1230.8 | 1116.1 | 991.9  | 957.5  | 959.4  |
| 72.5° | 15809.2 | 15832.1 | 10138.8 | 1385.6 | 913.6  | 1016.7 | 1074.1 | 997.6  | 877.2  | 842.9  | 840.9  |
| 75°   | 13674.4 | 13093.5 | 7444.1  | 913.6  | 764.4  | 873.4  | 926.9  | 873.4  | 756.9  | 764.4  | 737.7  |
| 77.5° | 10360.5 | 9273.0  | 4519.9  | 649.7  | 638.4  | 733.9  | 806.5  | 768.3  | 668.9  | 751.1  | 661.2  |
| 80°   | 5337.9  | 5016.9  | 2016.3  | 485.4  | 504.5  | 586.7  | 663.2  | 613.5  | 529.4  | 504.5  | 460.6  |
| 82.5° | 1223.1  | 1421.9  | 795.1   | 347.8  | 365.0  | 422.4  | 506.5  | 460.6  | 380.3  | 321.0  | 317.2  |
| 85°   | 428.1   | 468.2   | 351.7   | 217.9  | 214.0  | 263.7  | 344.0  | 307.7  | 258.0  | 206.4  | 217.9  |
| 87.5° | 135.7   | 177.7   | 131.9   | 87.9   | 91.7   | 118.5  | 158.7  | 145.2  | 120.4  | 78.3   | 82.2   |
| 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)