

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: P884121

Luminaire Tested: **NAV-SB4D-740-U-T4FT**

Issue Date: 10/7/2024

**Test Information**

Test Method: LM-79-08  
Report Number: P884121  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2405-108-24)  
Test Lab: INNOVATION CENTER  
Issue Date: 10/7/2024  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: LUMARK  
Catalog Number: NAV-SB4D-740-U-T4FT  
Description: NAVION ROADWAY AND AREA HIGH DENSITY LED LUMINAIRE  
(4) 70 CRI, 4000K, 900mA LIGHTSQUARES WITH 26 LEDS EACH AND TYPE IV  
FORWARD THROW OPTICS  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

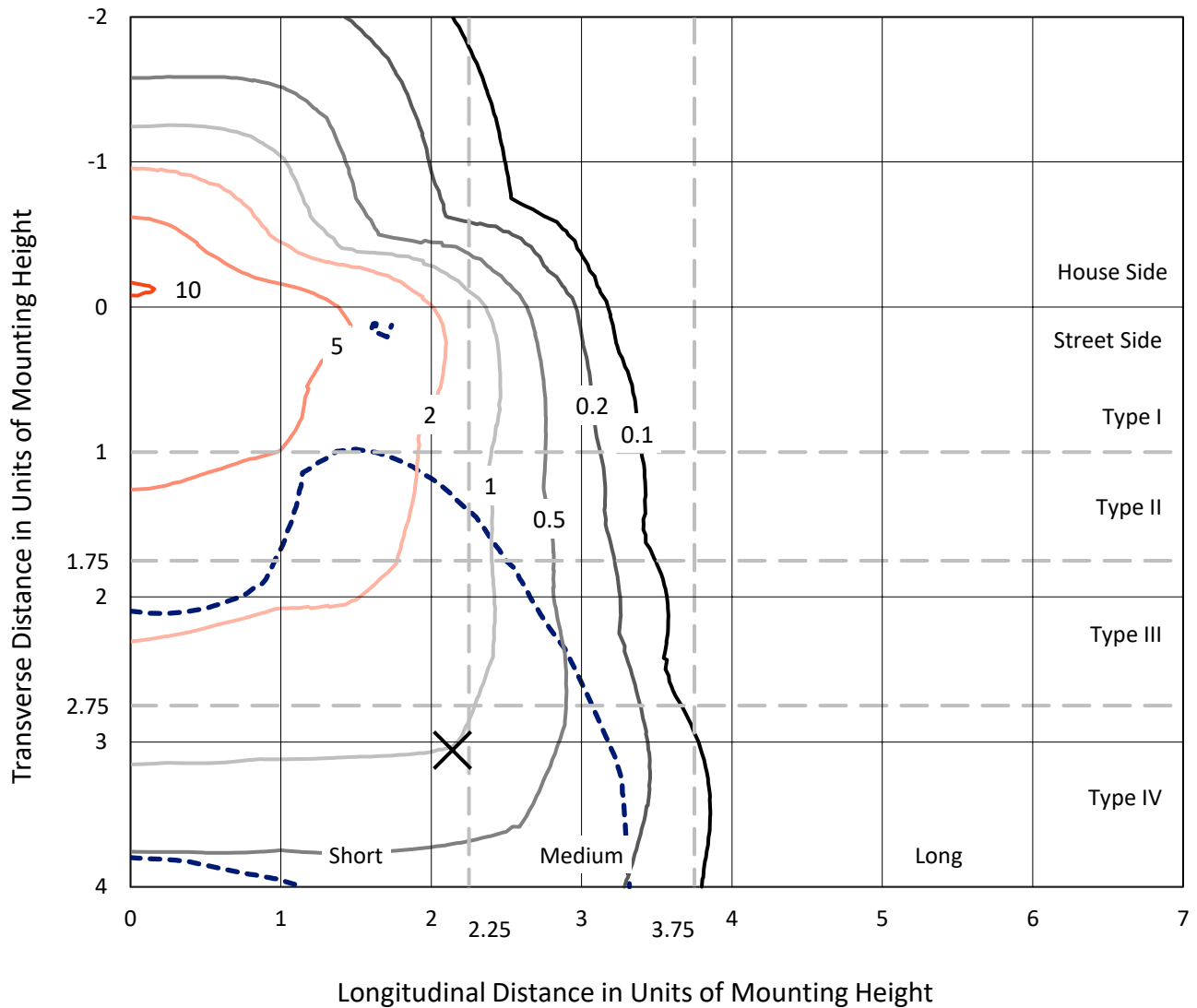
Lumens per Lamp: N/A  
Luminaire Lumens: 43945 lumens  
Efficiency: N/A  
Efficacy: 149.7 lumens/watt  
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')  
IES Classification: Type IV - Short  
BUG Rating: B4 - U0 - G5  
  
Input Watts (W): 293.6  
Input Voltage (V): 120.0  
Input Current (Ain): 2.469  
Voltage Rise (V): NR  
Power Factor: 0.999  
Total Harmonic Distortion (THDi): 3.108  
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

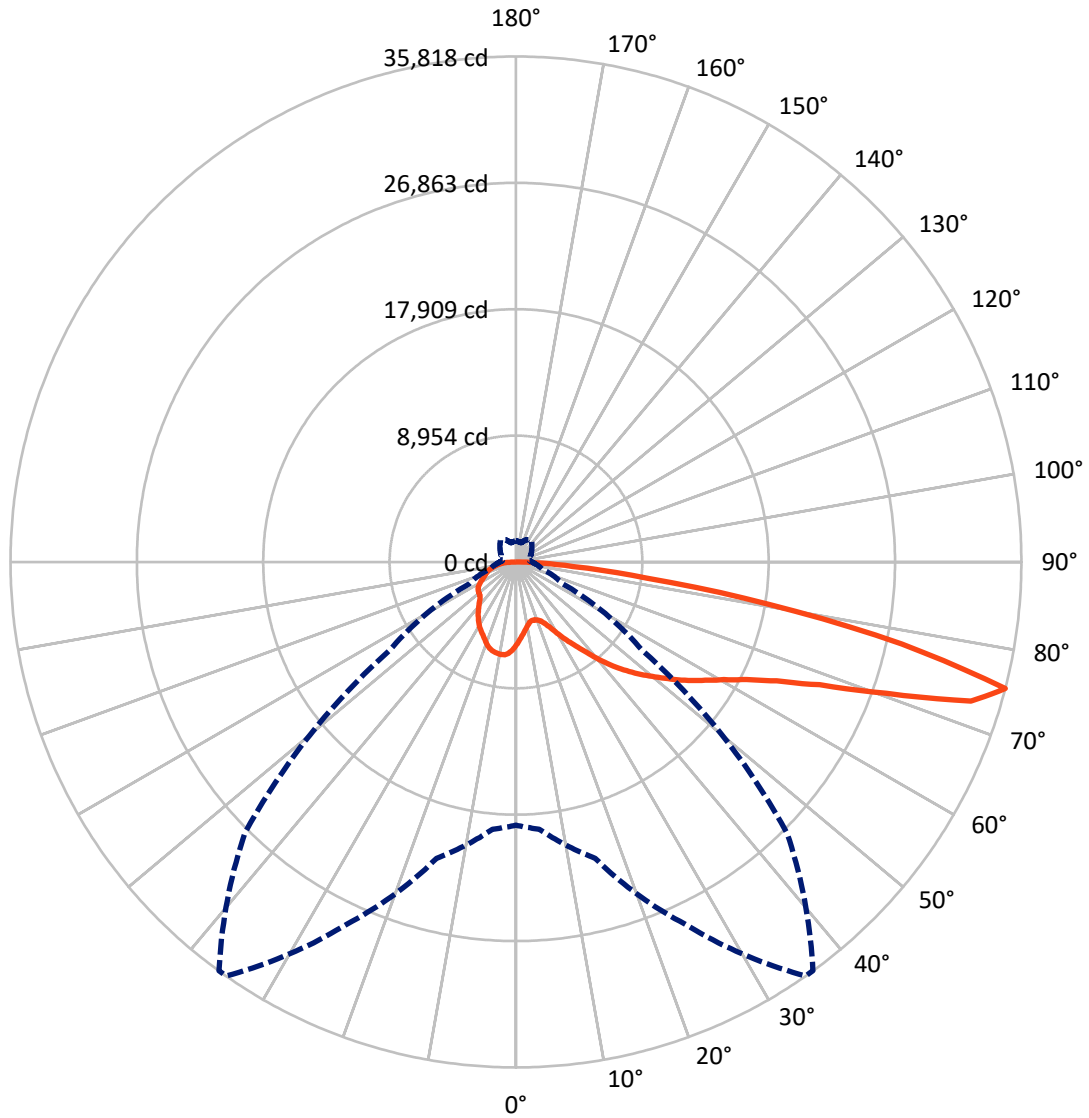
× Max cd  
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 10.4 fc  
 Type IV - Short - N/A

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### Luminous Intensity Polar Plot



— Vertical Plane Through 35-Deg Lateral      - - - Horizontal Cone Through 75-Deg Vertical

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**FLUX DISTRIBUTION:**

|                    |           | Downward | Upward | Total   |
|--------------------|-----------|----------|--------|---------|
| <b>House Side</b>  | Lumens    | 10457.8  | 0.0    | 10457.8 |
|                    | % Fixture | 23.8     | 0.0    | 23.8    |
| <b>Street Side</b> | Lumens    | 33487.2  | 0.0    | 33487.2 |
|                    | % Fixture | 76.2     | 0.0    | 76.2    |
| <b>Total</b>       | Lumens    | 43945.0  | 0.0    | 43945.0 |
|                    | % Fixture | 100.0    | 0.0    | 100.0   |

**Coefficient of Utilization**

**ZONAL LUMENS:**

| Zone      | Lumens  | % Fixture |
|-----------|---------|-----------|
| 0°-10°    | 554.4   | 1.3       |
| 10°-20°   | 1599.3  | 3.6       |
| 20°-30°   | 2685.6  | 6.1       |
| 30°-40°   | 4173.7  | 9.5       |
| 40°-50°   | 6195.0  | 14.1      |
| 50°-60°   | 8552.5  | 19.5      |
| 60°-70°   | 10376.1 | 23.6      |
| 70°-80°   | 8575.1  | 19.5      |
| 80°-90°   | 1233.4  | 2.8       |
| 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°    | 43945.0 | 100.0     |
| 0°-180°   | 43945.0 | 100.0     |



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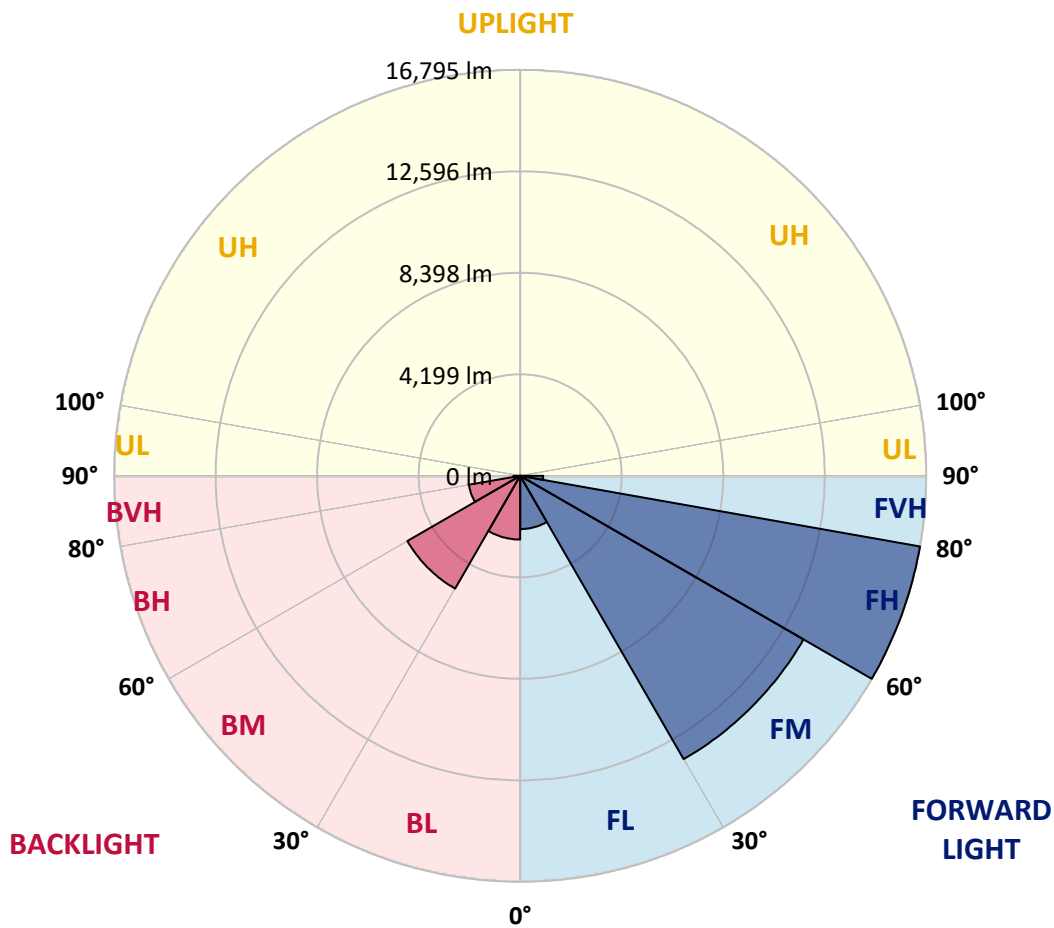
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**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

| Zone           | Lumens  | % Fixture | Zone Rating/Lumen Limit |      |         |
|----------------|---------|-----------|-------------------------|------|---------|
|                |         |           | B                       | U    | G       |
| FL (0°-30°)    | 2203.8  | 5.0       |                         |      |         |
| FM (30°-60°)   | 13532.7 | 30.8      |                         |      |         |
| FH (60°-80°)   | 16795.1 | 38.2      |                         |      | G5      |
| FVH (80°-90°)  | 955.6   | 2.2       |                         |      | G5      |
| BL (0°-30°)    | 2635.5  | 6.0       | B4/5000                 |      |         |
| BM (30°-60°)   | 5388.5  | 12.3      | B4/8500                 |      |         |
| BH (60°-80°)   | 2156.1  | 4.9       | B3/2500                 |      | G3/2500 |
| BVH (80°-90°)  | 277.7   | 0.6       |                         |      | G3/500  |
| UL (90°-100°)  | 0.0     | 0.0       |                         | U0/0 |         |
| UH (100°-180°) | 0.0     | 0.0       |                         | U0/0 |         |

**BUG Rating: B4-U0-G5**

Type IV Short



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**CANDELA DISTRIBUTION (FULL):**

|       | 0°      | 5°      | 15°     | 25°     | 35°     | 36°     | 45°     | 55°     | 65°     | 75°     | 85°     |
|-------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| 0°    | 5856.0  | 5856.0  | 5856.0  | 5856.0  | 5856.0  | 5856.0  | 5856.0  | 5856.0  | 5856.0  | 5856.0  | 5856.0  |
| 2.5°  | 5399.8  | 5433.1  | 5447.4  | 5440.2  | 5475.9  | 5471.1  | 5521.0  | 5582.8  | 5668.3  | 5751.4  | 5872.6  |
| 5°    | 4984.1  | 5019.7  | 5050.6  | 5079.1  | 5148.0  | 5169.4  | 5247.8  | 5366.6  | 5523.4  | 5682.5  | 5882.1  |
| 7.5°  | 4596.9  | 4627.8  | 4675.3  | 4727.5  | 4843.9  | 4865.3  | 4996.0  | 5181.3  | 5399.8  | 5632.7  | 5908.2  |
| 10°   | 4280.9  | 4311.8  | 4361.7  | 4421.1  | 4566.0  | 4592.1  | 4758.4  | 5005.5  | 5290.6  | 5585.1  | 5936.7  |
| 12.5° | 4145.5  | 4155.0  | 4183.5  | 4242.9  | 4368.8  | 4385.4  | 4568.4  | 4851.1  | 5183.7  | 5549.5  | 5979.5  |
| 15°   | 4138.4  | 4157.4  | 4159.8  | 4190.6  | 4295.2  | 4302.3  | 4471.0  | 4751.3  | 5117.1  | 5542.4  | 6043.6  |
| 17.5° | 4209.6  | 4223.9  | 4202.5  | 4221.5  | 4309.4  | 4321.3  | 4454.3  | 4703.8  | 5095.8  | 5573.3  | 6152.9  |
| 20°   | 4399.7  | 4411.6  | 4347.4  | 4321.3  | 4385.4  | 4394.9  | 4525.6  | 4734.7  | 5117.1  | 5637.4  | 6302.6  |
| 22.5° | 4803.6  | 4810.7  | 4653.9  | 4547.0  | 4551.7  | 4556.5  | 4670.5  | 4860.6  | 5200.3  | 5753.8  | 6492.6  |
| 25°   | 5433.1  | 5428.4  | 5178.9  | 4972.2  | 4853.4  | 4827.3  | 4903.3  | 5064.9  | 5340.5  | 5908.2  | 6737.3  |
| 27.5° | 6169.6  | 6133.9  | 5884.5  | 5575.6  | 5316.7  | 5278.7  | 5262.1  | 5331.0  | 5540.0  | 6112.5  | 7036.7  |
| 30°   | 7001.0  | 6967.8  | 6699.3  | 6295.5  | 5936.7  | 5875.0  | 5718.2  | 5682.5  | 5837.0  | 6390.5  | 7452.4  |
| 32.5° | 7913.3  | 7891.9  | 7571.2  | 7081.8  | 6601.9  | 6530.7  | 6267.0  | 6171.9  | 6293.1  | 6811.0  | 8032.1  |
| 35°   | 8678.2  | 8659.2  | 8393.2  | 7889.5  | 7302.7  | 7214.8  | 6946.4  | 6839.5  | 6901.3  | 7350.3  | 8789.9  |
| 37.5° | 9369.5  | 9360.0  | 9132.0  | 8735.3  | 8129.5  | 8022.6  | 7720.9  | 7685.2  | 7673.3  | 8060.6  | 9709.3  |
| 40°   | 10011.0 | 9987.2  | 9749.7  | 9540.6  | 9091.6  | 8994.2  | 8728.1  | 8697.2  | 8607.0  | 8934.8  | 10749.8 |
| 42.5° | 10721.3 | 10659.5 | 10315.1 | 10217.7 | 10096.5 | 10015.7 | 9856.6  | 9861.3  | 9661.8  | 9920.7  | 11852.1 |
| 45°   | 11301.0 | 11265.3 | 10911.3 | 10854.3 | 10985.0 | 10951.7 | 11089.5 | 11125.2 | 10737.9 | 10954.1 | 12997.2 |
| 47.5° | 11923.4 | 11890.1 | 11590.8 | 11550.4 | 11904.4 | 11913.9 | 12400.9 | 12412.8 | 11788.0 | 12027.9 | 14144.6 |
| 50°   | 12690.7 | 12643.2 | 12346.2 | 12396.1 | 12792.9 | 12828.5 | 13719.4 | 13638.6 | 12754.8 | 13118.3 | 15282.5 |
| 52.5° | 13196.7 | 13225.2 | 13161.1 | 13241.9 | 13783.5 | 13816.8 | 15016.5 | 14809.8 | 13712.2 | 14194.5 | 16399.1 |
| 55°   | 13569.7 | 13626.7 | 13826.3 | 14011.6 | 14828.8 | 14862.0 | 16239.9 | 15924.0 | 14505.7 | 15192.3 | 17449.1 |
| 57.5° | 14049.6 | 13968.8 | 14341.8 | 14702.9 | 15821.8 | 15909.7 | 17430.1 | 16997.8 | 15208.9 | 16052.2 | 18168.9 |
| 60°   | 14738.5 | 14681.5 | 14971.3 | 15505.8 | 16933.6 | 17073.8 | 18689.2 | 17964.6 | 15724.4 | 16734.1 | 18309.1 |
| 62.5° | 16135.4 | 15992.9 | 16038.0 | 16510.7 | 18335.2 | 18520.5 | 20109.8 | 18808.0 | 15981.0 | 17000.1 | 17558.4 |
| 65°   | 18223.6 | 17978.9 | 17750.8 | 18078.7 | 20309.4 | 20492.3 | 21713.4 | 19470.8 | 15885.9 | 16484.6 | 15565.2 |
| 67.5° | 20853.4 | 20611.1 | 20330.8 | 20639.6 | 23217.2 | 23362.1 | 23692.3 | 19843.8 | 15137.6 | 14498.6 | 12042.2 |
| 70°   | 23022.4 | 22932.1 | 23267.1 | 24538.1 | 27861.6 | 27866.3 | 26229.5 | 19534.9 | 13087.4 | 10279.4 | 6967.8  |
| 72.5° | 22734.9 | 22680.3 | 24445.4 | 28374.7 | 33715.2 | 33589.3 | 28631.3 | 17197.3 | 8816.0  | 4637.3  | 2610.8  |
| 75°   | 18651.2 | 19005.2 | 21739.5 | 28305.8 | 35817.6 | 35801.0 | 27160.8 | 10932.7 | 3646.6  | 1921.9  | 1349.4  |
| 77.5° | 10001.5 | 10562.1 | 14113.7 | 20898.6 | 27961.4 | 28381.8 | 19095.4 | 3824.8  | 1565.6  | 1230.6  | 933.6   |
| 80°   | 3261.8  | 3751.1  | 5625.5  | 10640.5 | 18168.9 | 18090.5 | 8184.1  | 1501.4  | 1071.4  | 871.9   | 646.2   |
| 82.5° | 1385.0  | 1442.0  | 2513.4  | 5024.5  | 9324.4  | 9179.5  | 2606.1  | 862.4   | 753.1   | 596.3   | 399.1   |
| 85°   | 541.6   | 605.8   | 1109.4  | 2323.4  | 4038.6  | 3950.7  | 940.8   | 427.6   | 482.3   | 389.6   | 237.6   |
| 87.5° | 178.2   | 216.2   | 396.7   | 795.8   | 1256.7  | 1211.6  | 230.4   | 147.3   | 209.1   | 178.2   | 85.5    |
| 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°    | 5856.0  | 5856.0  | 5856.0 | 5856.0 | 5856.0 | 5856.0 | 5856.0 | 5856.0 | 5856.0 | 5856.0 | 5856.0 |
| 2.5°  | 5905.9  | 5943.9  | 5989.0 | 6055.5 | 6112.5 | 6160.1 | 6209.9 | 6240.8 | 6252.7 | 6288.3 | 6286.0 |
| 5°    | 5948.6  | 6031.8  | 6143.4 | 6252.7 | 6359.6 | 6423.7 | 6480.8 | 6509.3 | 6535.4 | 6554.4 | 6559.2 |
| 7.5°  | 6019.9  | 6126.8  | 6302.6 | 6445.1 | 6535.4 | 6587.7 | 6625.7 | 6616.2 | 6625.7 | 6630.4 | 6637.6 |
| 10°   | 6081.7  | 6231.3  | 6440.4 | 6575.8 | 6644.7 | 6647.1 | 6637.6 | 6604.3 | 6587.7 | 6590.0 | 6594.8 |
| 12.5° | 6155.3  | 6321.6  | 6547.3 | 6661.3 | 6680.3 | 6628.1 | 6587.7 | 6530.7 | 6509.3 | 6499.8 | 6495.0 |
| 15°   | 6255.1  | 6445.1  | 6663.7 | 6706.4 | 6658.9 | 6592.4 | 6523.5 | 6430.9 | 6383.4 | 6345.4 | 6357.2 |
| 17.5° | 6376.2  | 6585.3  | 6754.0 | 6723.1 | 6620.9 | 6511.6 | 6400.0 | 6259.8 | 6162.4 | 6122.0 | 6124.4 |
| 20°   | 6544.9  | 6732.6  | 6822.9 | 6687.4 | 6533.0 | 6366.7 | 6176.7 | 6005.6 | 5915.4 | 5875.0 | 5870.2 |
| 22.5° | 6749.2  | 6929.8  | 6889.4 | 6625.7 | 6407.1 | 6141.0 | 5903.5 | 5777.6 | 5732.4 | 5703.9 | 5708.7 |
| 25°   | 6993.9  | 7148.3  | 6936.9 | 6535.4 | 6200.4 | 5841.7 | 5658.8 | 5618.4 | 5597.0 | 5575.6 | 5575.6 |
| 27.5° | 7312.2  | 7395.4  | 6972.5 | 6402.4 | 5877.3 | 5523.4 | 5456.9 | 5464.0 | 5456.9 | 5421.2 | 5428.4 |
| 30°   | 7732.7  | 7716.1  | 7005.8 | 6186.2 | 5506.7 | 5235.9 | 5240.7 | 5271.6 | 5276.3 | 5252.6 | 5264.4 |
| 32.5° | 8286.3  | 8117.6  | 7022.4 | 5905.9 | 5152.8 | 4984.1 | 4988.9 | 5022.1 | 5045.9 | 5005.5 | 5024.5 |
| 35°   | 8956.2  | 8585.6  | 6996.3 | 5554.3 | 4879.6 | 4744.2 | 4708.5 | 4718.0 | 4725.2 | 4687.2 | 4713.3 |
| 37.5° | 9737.8  | 9110.6  | 6879.9 | 5164.7 | 4653.9 | 4509.0 | 4433.0 | 4368.8 | 4330.8 | 4295.2 | 4318.9 |
| 40°   | 10595.4 | 9683.1  | 6666.1 | 4784.6 | 4402.1 | 4259.5 | 4145.5 | 4024.3 | 3896.1 | 3848.5 | 3869.9 |
| 42.5° | 11493.4 | 10272.3 | 6407.1 | 4421.1 | 4112.2 | 3995.8 | 3874.7 | 3698.9 | 3506.5 | 3409.1 | 3420.9 |
| 45°   | 12424.6 | 10875.7 | 6152.9 | 4062.4 | 3815.3 | 3765.4 | 3625.2 | 3413.8 | 3204.7 | 3081.2 | 3071.7 |
| 47.5° | 13336.9 | 11445.9 | 5779.9 | 3701.3 | 3537.3 | 3592.0 | 3482.7 | 3287.9 | 3055.1 | 2860.3 | 2838.9 |
| 50°   | 14208.7 | 11980.4 | 5169.4 | 3335.4 | 3311.7 | 3539.7 | 3435.2 | 3154.9 | 2888.8 | 2639.3 | 2618.0 |
| 52.5° | 15073.5 | 12412.8 | 4387.8 | 3002.8 | 3190.5 | 3525.5 | 3373.4 | 3064.6 | 2739.1 | 2477.8 | 2449.3 |
| 55°   | 15807.6 | 12636.1 | 3634.7 | 2717.7 | 3014.7 | 3404.3 | 3299.8 | 2957.7 | 2527.7 | 2249.7 | 2226.0 |
| 57.5° | 16225.7 | 12455.5 | 3007.6 | 2437.4 | 2772.4 | 3204.7 | 3173.9 | 2729.6 | 2275.9 | 2062.1 | 2033.6 |
| 60°   | 16045.1 | 11723.8 | 2494.4 | 2192.7 | 2541.9 | 2988.6 | 2955.3 | 2503.9 | 2083.4 | 1881.5 | 1853.0 |
| 62.5° | 15049.7 | 10329.3 | 2088.2 | 1978.9 | 2332.9 | 2767.6 | 2736.7 | 2330.5 | 1936.2 | 1741.3 | 1710.5 |
| 65°   | 13044.7 | 8402.7  | 1772.2 | 1800.7 | 2121.5 | 2501.6 | 2546.7 | 2185.6 | 1819.7 | 1629.7 | 1598.8 |
| 67.5° | 9949.2  | 6086.4  | 1525.2 | 1646.3 | 1914.8 | 2240.2 | 2370.9 | 2081.1 | 1722.3 | 1541.8 | 1513.3 |
| 70°   | 5670.7  | 3456.6  | 1316.1 | 1496.7 | 1731.8 | 1997.9 | 2235.5 | 1997.9 | 1617.8 | 1468.1 | 1449.1 |
| 72.5° | 2150.0  | 1586.9  | 1137.9 | 1347.0 | 1556.0 | 1793.6 | 2085.8 | 1867.3 | 1496.7 | 1385.0 | 1366.0 |
| 75°   | 1147.4  | 966.9   | 957.4  | 1171.2 | 1354.1 | 1594.1 | 1898.1 | 1739.0 | 1406.4 | 1463.4 | 1510.9 |
| 77.5° | 781.6   | 684.2   | 800.6  | 1002.5 | 1133.2 | 1373.1 | 1698.6 | 1544.2 | 1218.7 | 1214.0 | 1118.9 |
| 80°   | 541.6   | 484.6   | 650.9  | 807.7  | 876.6  | 1154.6 | 1482.4 | 1325.6 | 993.0  | 926.5  | 886.1  |
| 82.5° | 325.5   | 316.0   | 487.0  | 603.4  | 620.0  | 890.9  | 1228.2 | 1111.8 | 812.5  | 707.9  | 712.7  |
| 85°   | 178.2   | 187.7   | 311.2  | 354.0  | 361.1  | 622.4  | 962.1  | 860.0  | 624.8  | 525.0  | 529.8  |
| 87.5° | 49.9    | 64.1    | 114.0  | 140.2  | 173.4  | 323.1  | 572.5  | 510.8  | 313.6  | 218.6  | 218.6  |
| 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)