

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: P968366

Luminaire Tested: **NAV-SB5B-827-U-AFL-HSS**

Issue Date: 1/21/2025

**Test Information**

Test Method: LM-79-08  
Report Number: P968366  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2411-289-15)  
Test Lab: INNOVATION CENTER  
Issue Date: 1/21/2025  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: LUMARK  
Catalog Number: NAV-SB5B-827-U-AFL-HSS  
Description: NAVION ROADWAY AND AREA HIGH DENSITY LED LUMINAIRE  
(5) 80 CRI, 2700K, 450mA LIGHTSQUARES WITH 26 LEDS EACH AND AUTOMOTIVE  
FRONTLINE OPTICS WITH HOUSE SIDE SHIELD  
Light Source: -  
Ballast/Driver: -

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 21616.2 lumens  
Efficiency: N/A  
Efficacy: 118.3 lumens/watt  
Luminous Opening: Rectangular (W 1.5' x L: 1' x H: 0')  
IES Classification: Type II - Short  
BUG Rating: B2 - U0 - G2

Input Watts (W): 182.7  
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

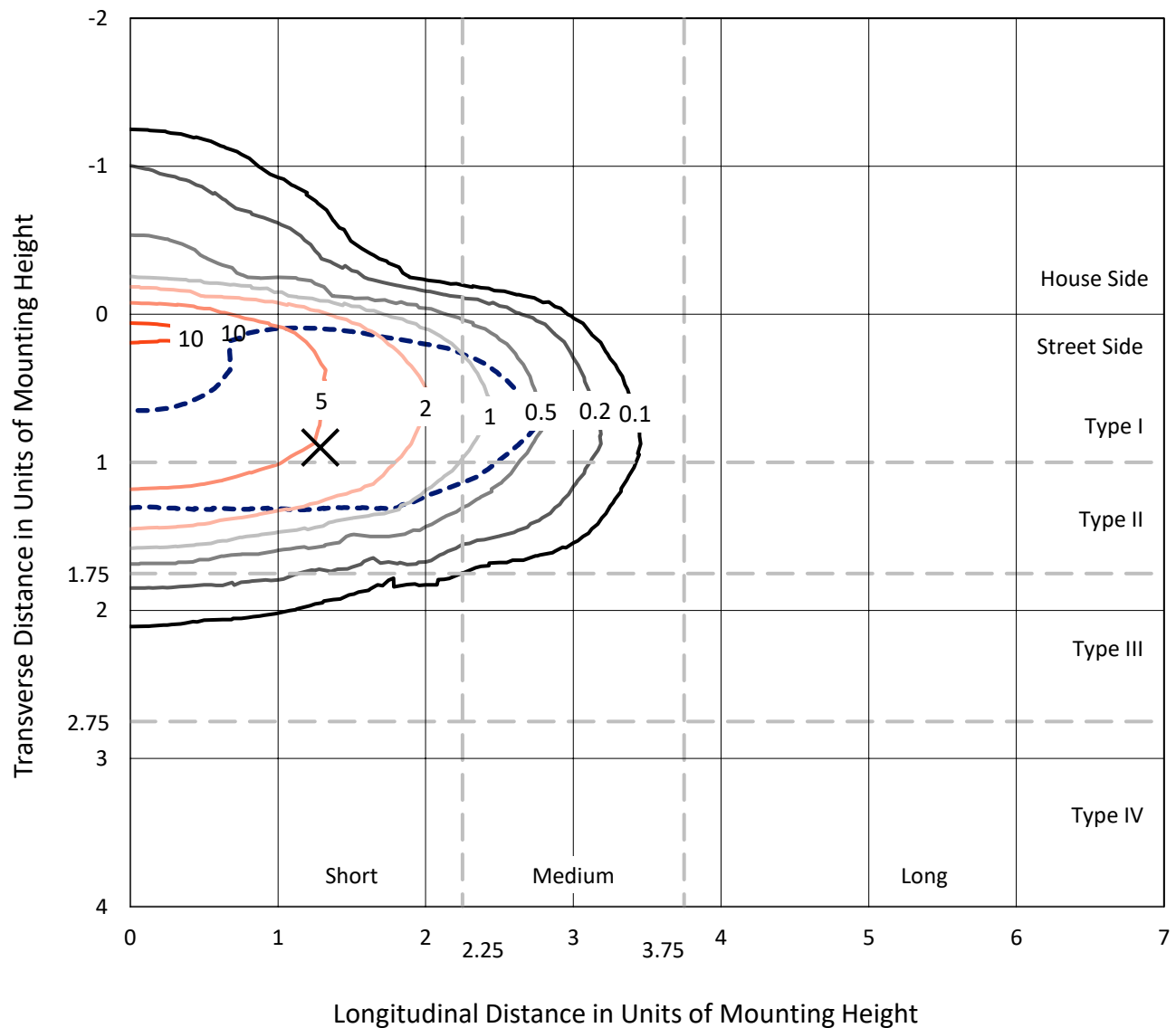


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## Iso-Footcandle Lines of Horizontal Illumination

× Max cd  
- - - 1/2 Max cd



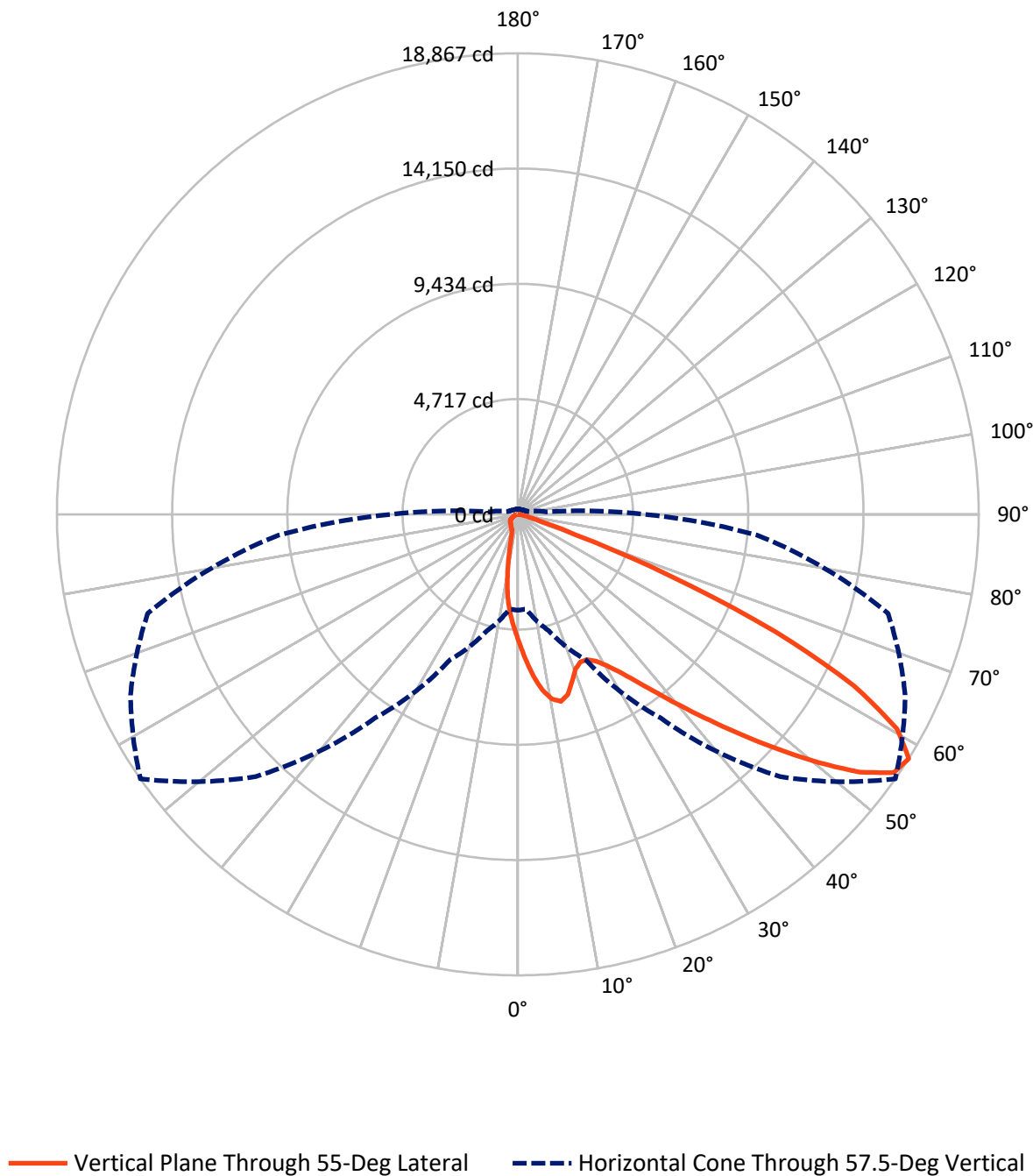
Based on 25 foot mounting height. Maximum calculated value = 11.9 fc

Type II - Short - N/A

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## Luminous Intensity Polar Plot



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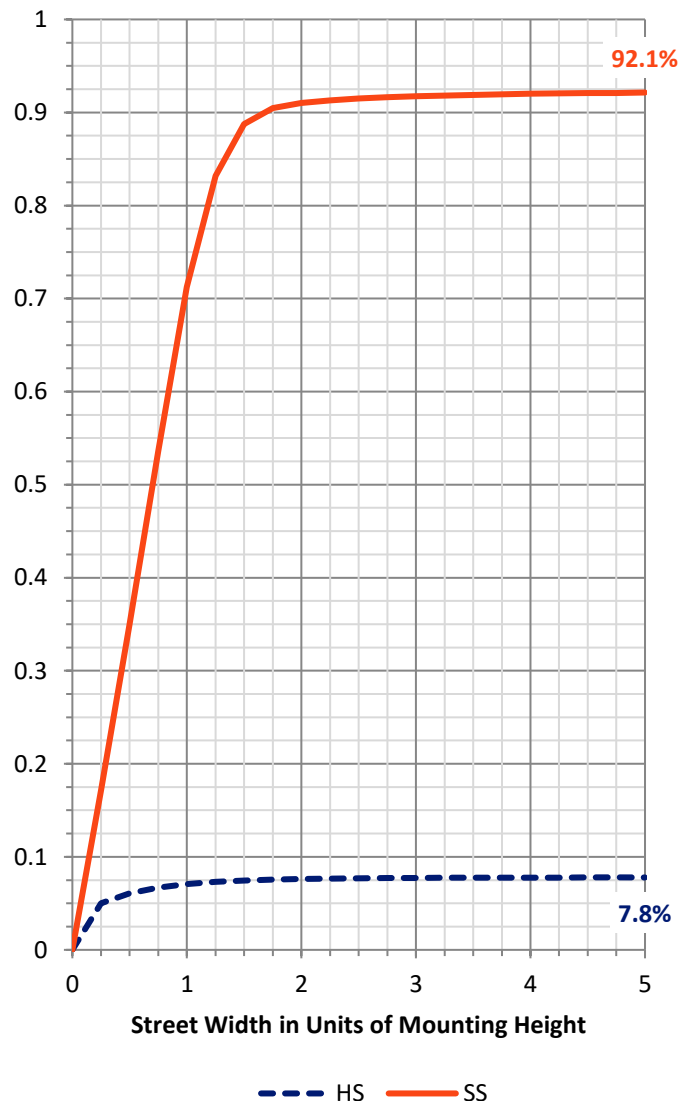
**FLUX DISTRIBUTION:**

|                    |           | Downward | Upward | Total   |
|--------------------|-----------|----------|--------|---------|
| <b>House Side</b>  | Lumens    | 1688.1   | 0.0    | 1688.1  |
|                    | % Fixture | 7.8      | 0.0    | 7.8     |
| <b>Street Side</b> | Lumens    | 19928.1  | 0.0    | 19928.1 |
|                    | % Fixture | 92.2     | 0.0    | 92.2    |
| <b>Total</b>       | Lumens    | 21616.2  | 0.0    | 21616.2 |
|                    | % Fixture | 100.0    | 0.0    | 100.0   |

**ZONAL LUMENS:**

| Zone      | Lumens  | % Fixture |
|-----------|---------|-----------|
| 0°-10°    | 484.7   | 2.2       |
| 10°-20°   | 1170.7  | 5.4       |
| 20°-30°   | 1873.1  | 8.7       |
| 30°-40°   | 3170.4  | 14.7      |
| 40°-50°   | 5205.1  | 24.1      |
| 50°-60°   | 5720.8  | 26.5      |
| 60°-70°   | 3281.4  | 15.2      |
| 70°-80°   | 670.5   | 3.1       |
| 80°-90°   | 39.5    | 0.2       |
| 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°    | 21616.2 | 100.0     |
| 0°-180°   | 21616.2 | 100.0     |

**Coefficient of Utilization**



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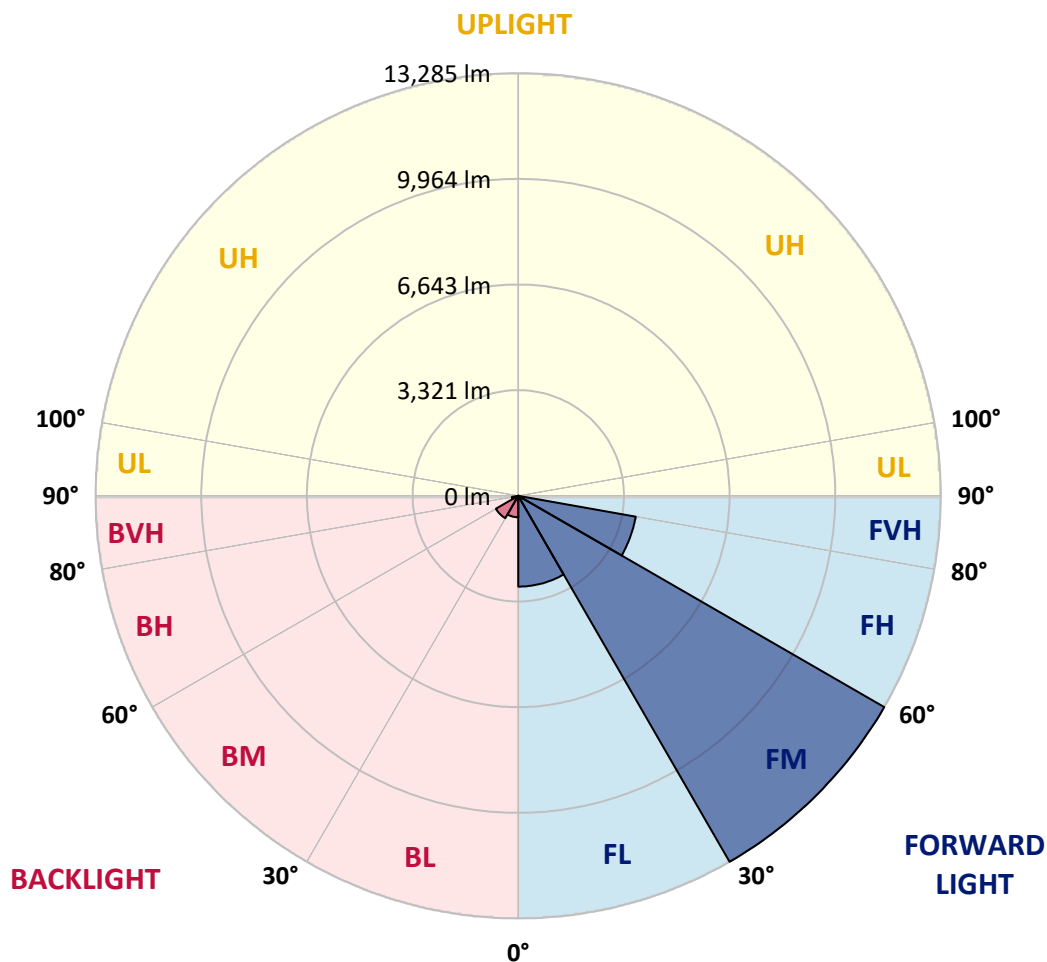
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**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

| Zone |             | Lumens  | % Fixture | Zone Rating/Lumen Limit |      |         |
|------|-------------|---------|-----------|-------------------------|------|---------|
|      |             |         |           | B                       | U    | G       |
| FL   | (0°-30°)    | 2854.6  | 13.2      |                         |      |         |
| FM   | (30°-60°)   | 13285.5 | 61.5      |                         |      |         |
| FH   | (60°-80°)   | 3751.2  | 17.4      |                         |      | G2/5000 |
| FVH  | (80°-90°)   | 36.9    | 0.2       |                         |      | G1/100  |
| BL   | (0°-30°)    | 674.0   | 3.1       | B2/1000                 |      |         |
| BM   | (30°-60°)   | 810.8   | 3.8       | B1/1000                 |      |         |
| BH   | (60°-80°)   | 200.8   | 0.9       | B1/500                  |      | G1/500  |
| BVH  | (80°-90°)   | 2.7     | 0.0       |                         |      | G0/10   |
| UL   | (90°-100°)  | 0.0     | 0.0       |                         | U0/0 |         |
| UH   | (100°-180°) | 0.0     | 0.0       |                         | U0/0 |         |

**BUG Rating: B2-U0-G2**

Type II Short



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**CANDELA DISTRIBUTION (FULL):**

|       | 0°      | 5°      | 15°     | 25°     | 35°     | 45°     | 55°     | 65°     | 75°     | 85°     | 90°    |
|-------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|--------|
| 0°    | 5208.9  | 5208.9  | 5208.9  | 5208.9  | 5208.9  | 5208.9  | 5208.9  | 5208.9  | 5208.9  | 5208.9  | 5208.9 |
| 2.5°  | 6463.2  | 6382.0  | 6370.0  | 6354.0  | 6199.3  | 6083.4  | 5915.4  | 5731.5  | 5524.9  | 5314.3  | 5220.9 |
| 5°    | 7466.9  | 7403.0  | 7391.0  | 7316.2  | 7140.4  | 6943.0  | 6644.6  | 6267.3  | 5882.1  | 5428.9  | 5234.3 |
| 7.5°  | 7661.5  | 7649.5  | 7704.2  | 7701.5  | 7677.6  | 7521.6  | 7269.6  | 6820.5  | 6241.9  | 5570.2  | 5268.9 |
| 10°   | 6793.8  | 6824.4  | 6987.1  | 7129.7  | 7514.9  | 7738.9  | 7684.2  | 7313.6  | 6612.5  | 5731.5  | 5307.7 |
| 12.5° | 6003.4  | 5967.4  | 6083.4  | 6244.6  | 6692.5  | 7359.0  | 7856.1  | 7725.5  | 7036.4  | 5914.0  | 5365.0 |
| 15°   | 5507.5  | 5492.9  | 5558.2  | 5632.9  | 5974.1  | 6645.9  | 7656.1  | 8060.1  | 7444.3  | 6130.0  | 5451.6 |
| 17.5° | 5349.0  | 5337.0  | 5357.0  | 5375.6  | 5596.8  | 6116.7  | 7180.3  | 8265.3  | 7834.8  | 6376.6  | 5547.5 |
| 20°   | 5478.2  | 5462.2  | 5459.6  | 5444.9  | 5536.8  | 5891.4  | 6749.8  | 8279.9  | 8185.3  | 6600.5  | 5630.2 |
| 22.5° | 5855.4  | 5836.8  | 5771.5  | 5712.8  | 5720.8  | 5922.0  | 6557.8  | 8133.4  | 8449.3  | 6809.8  | 5682.2 |
| 25°   | 6539.2  | 6508.5  | 6372.6  | 6175.3  | 6050.1  | 6135.3  | 6587.2  | 7940.1  | 8701.2  | 6973.7  | 5656.9 |
| 27.5° | 7395.0  | 7355.0  | 7180.3  | 6887.1  | 6600.5  | 6496.6  | 6799.1  | 7806.8  | 8910.4  | 7099.0  | 5602.1 |
| 30°   | 8233.3  | 8181.3  | 8009.5  | 7781.5  | 7363.0  | 7035.1  | 7181.7  | 7865.4  | 9159.7  | 7229.6  | 5530.2 |
| 32.5° | 9138.4  | 9089.1  | 8861.1  | 8578.5  | 8232.0  | 7790.8  | 7705.5  | 8152.0  | 9465.0  | 7412.3  | 5479.5 |
| 35°   | 10283.3 | 10206.0 | 9882.1  | 9496.9  | 9129.1  | 8682.5  | 8414.6  | 8646.5  | 9871.5  | 7690.9  | 5507.5 |
| 37.5° | 11586.9 | 11483.0 | 11133.8 | 10601.9 | 10122.1 | 9622.2  | 9278.3  | 9326.3  | 10467.3 | 8064.1  | 5594.1 |
| 40°   | 12815.9 | 12721.2 | 12398.6 | 11897.5 | 11295.0 | 10688.5 | 10322.0 | 10215.4 | 11289.7 | 8518.6  | 5746.2 |
| 42.5° | 13553.0 | 13467.7 | 13331.7 | 13119.8 | 12611.9 | 11993.4 | 11530.9 | 11300.3 | 12262.7 | 9062.4  | 5931.4 |
| 45°   | 13594.3 | 13519.6 | 13702.2 | 13948.8 | 13848.9 | 13436.9 | 12873.2 | 12450.7 | 13239.7 | 9572.9  | 6123.3 |
| 47.5° | 12933.1 | 12882.5 | 13436.9 | 14298.0 | 14727.2 | 14900.5 | 14380.6 | 13505.0 | 14046.1 | 9939.4  | 6202.0 |
| 50°   | 11131.1 | 11112.4 | 12253.4 | 13834.2 | 15061.8 | 16182.8 | 15970.8 | 14486.0 | 14671.2 | 10128.7 | 6127.3 |
| 52.5° | 9651.5  | 9583.5  | 10248.7 | 12349.3 | 14575.3 | 16857.1 | 17524.9 | 15448.3 | 15108.4 | 10164.7 | 5952.7 |
| 55°   | 7320.2  | 7260.3  | 8094.7  | 9864.8  | 13006.4 | 16617.3 | 18662.0 | 16441.3 | 15421.6 | 10072.8 | 5639.5 |
| 57.5° | 3926.8  | 3889.4  | 4943.8  | 6565.8  | 10167.4 | 15177.8 | 18867.2 | 17491.6 | 15685.6 | 9828.8  | 5201.0 |
| 60°   | 1528.8  | 1522.1  | 1916.7  | 3185.6  | 6179.3  | 12348.0 | 17831.5 | 18122.1 | 15850.9 | 9528.9  | 4834.4 |
| 62.5° | 925.1   | 945.0   | 1009.0  | 1430.2  | 2729.8  | 7670.9  | 15444.3 | 17405.0 | 15961.5 | 9254.3  | 4531.8 |
| 65°   | 765.1   | 766.4   | 774.4   | 982.4   | 1307.6  | 3209.6  | 11626.9 | 15045.8 | 15688.2 | 8765.2  | 4102.7 |
| 67.5° | 655.8   | 667.8   | 698.4   | 779.7   | 922.4   | 1407.5  | 6693.9  | 11654.9 | 14026.1 | 7626.8  | 3433.5 |
| 70°   | 517.2   | 533.2   | 571.8   | 641.1   | 711.8   | 881.1   | 2473.8  | 7754.8  | 10715.1 | 5748.8  | 2596.5 |
| 72.5° | 435.8   | 434.5   | 454.5   | 521.2   | 565.2   | 619.8   | 951.7   | 4345.3  | 6227.3  | 2744.4  | 1284.9 |
| 75°   | 337.2   | 350.5   | 375.9   | 435.8   | 462.5   | 449.2   | 515.9   | 1587.5  | 2231.3  | 831.7   | 437.2  |
| 77.5° | 263.9   | 274.6   | 297.2   | 355.9   | 382.5   | 318.6   | 297.2   | 567.8   | 717.1   | 298.6   | 197.3  |
| 80°   | 118.6   | 127.9   | 202.6   | 262.6   | 311.9   | 220.0   | 161.2   | 290.6   | 318.6   | 135.9   | 99.9   |
| 82.5° | 21.3    | 36.0    | 118.6   | 138.6   | 159.9   | 142.6   | 83.9    | 150.6   | 155.9   | 54.6    | 34.6   |
| 85°   | 1.3     | 2.7     | 41.3    | 50.6    | 64.0    | 46.6    | 25.3    | 60.0    | 52.0    | 18.7    | 13.3   |
| 87.5° | 0.0     | 0.0     | 0.0     | 1.3     | 1.3     | 6.7     | 8.0     | 10.7    | 8.0     | 6.7     | 5.3    |
| 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):**

|       | 95°    | 105°   | 115°   | 125°   | 135°   | 145°   | 155°   | 165°   | 175°   | 180°   |
|-------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 0°    | 5208.9 | 5208.9 | 5208.9 | 5208.9 | 5208.9 | 5208.9 | 5208.9 | 5208.9 | 5208.9 | 5208.9 |
| 2.5°  | 5125.0 | 4935.7 | 4751.8 | 4601.2 | 4513.2 | 4363.9 | 4265.3 | 4249.2 | 4207.9 | 4243.9 |
| 5°    | 5026.4 | 4687.8 | 4345.3 | 4038.7 | 3786.8 | 3461.5 | 3218.9 | 3116.3 | 3027.0 | 3057.7 |
| 7.5°  | 4979.8 | 4445.2 | 3912.0 | 3388.2 | 2849.7 | 2329.9 | 1943.4 | 1782.1 | 1659.5 | 1676.8 |
| 10°   | 4917.0 | 4193.3 | 3357.6 | 2557.9 | 1836.7 | 1323.6 | 1057.0 | 958.4  | 903.7  | 905.1  |
| 12.5° | 4869.1 | 3892.0 | 2713.8 | 1734.1 | 1118.3 | 845.0  | 762.4  | 738.4  | 722.4  | 723.8  |
| 15°   | 4845.1 | 3537.5 | 2078.0 | 1155.6 | 799.7  | 715.8  | 695.8  | 685.1  | 674.4  | 673.1  |
| 17.5° | 4805.1 | 3143.0 | 1520.8 | 843.7  | 699.8  | 670.5  | 653.1  | 641.1  | 627.8  | 625.1  |
| 20°   | 4745.1 | 2695.1 | 1111.6 | 713.1  | 655.8  | 633.1  | 609.2  | 593.2  | 577.2  | 574.5  |
| 22.5° | 4634.5 | 2222.0 | 854.4  | 659.8  | 623.8  | 598.5  | 569.2  | 550.5  | 534.5  | 531.9  |
| 25°   | 4429.2 | 1778.1 | 719.8  | 626.5  | 595.8  | 565.2  | 533.2  | 507.8  | 493.1  | 490.5  |
| 27.5° | 4169.3 | 1396.9 | 653.1  | 595.8  | 559.9  | 531.9  | 495.8  | 471.8  | 458.5  | 455.8  |
| 30°   | 3862.7 | 1075.6 | 614.5  | 561.2  | 517.2  | 493.1  | 461.1  | 441.2  | 433.2  | 433.2  |
| 32.5° | 3532.2 | 859.8  | 598.5  | 526.5  | 479.8  | 453.2  | 427.8  | 419.8  | 417.2  | 415.8  |
| 35°   | 3221.6 | 746.4  | 590.5  | 498.5  | 446.5  | 421.2  | 410.5  | 411.8  | 417.2  | 417.2  |
| 37.5° | 2945.7 | 710.4  | 586.5  | 478.5  | 417.2  | 394.5  | 401.2  | 413.2  | 407.8  | 407.8  |
| 40°   | 2696.5 | 714.4  | 583.8  | 463.8  | 393.2  | 379.9  | 393.2  | 383.9  | 370.5  | 369.2  |
| 42.5° | 2505.8 | 747.7  | 578.5  | 451.8  | 378.5  | 369.2  | 363.9  | 349.2  | 347.9  | 350.5  |
| 45°   | 2367.2 | 777.1  | 577.2  | 446.5  | 362.5  | 345.2  | 338.6  | 323.9  | 350.5  | 357.2  |
| 47.5° | 2203.2 | 777.1  | 577.2  | 427.8  | 335.9  | 329.2  | 318.6  | 302.6  | 329.2  | 335.9  |
| 50°   | 1991.4 | 727.7  | 554.5  | 406.5  | 314.6  | 310.6  | 291.9  | 271.9  | 266.6  | 270.6  |
| 52.5° | 1723.4 | 638.5  | 497.1  | 377.2  | 293.3  | 285.3  | 262.6  | 247.9  | 244.0  | 244.0  |
| 55°   | 1418.2 | 534.5  | 419.8  | 334.6  | 270.6  | 255.9  | 240.0  | 233.3  | 229.3  | 226.6  |
| 57.5° | 1152.9 | 438.5  | 337.2  | 297.2  | 249.3  | 230.6  | 225.3  | 217.3  | 210.6  | 206.6  |
| 60°   | 946.4  | 345.2  | 278.6  | 263.9  | 228.0  | 210.6  | 209.3  | 198.6  | 181.3  | 178.7  |
| 62.5° | 730.4  | 253.3  | 234.6  | 229.3  | 206.6  | 192.0  | 189.3  | 167.9  | 141.2  | 135.9  |
| 65°   | 515.9  | 197.3  | 189.3  | 201.3  | 184.0  | 170.7  | 163.9  | 131.9  | 103.9  | 99.9   |
| 67.5° | 362.5  | 165.2  | 149.2  | 176.0  | 159.9  | 142.6  | 138.6  | 111.9  | 86.6   | 83.9   |
| 70°   | 258.6  | 134.6  | 122.6  | 150.6  | 127.9  | 125.3  | 117.3  | 93.3   | 70.6   | 68.0   |
| 72.5° | 182.7  | 102.6  | 94.6   | 130.6  | 87.9   | 107.9  | 95.9   | 72.0   | 53.3   | 50.6   |
| 75°   | 134.6  | 73.3   | 66.6   | 76.0   | 64.0   | 81.3   | 68.0   | 48.0   | 33.3   | 32.0   |
| 77.5° | 98.6   | 46.6   | 40.0   | 37.3   | 37.3   | 50.6   | 37.3   | 20.0   | 14.7   | 13.3   |
| 80°   | 69.3   | 21.3   | 18.7   | 16.0   | 14.7   | 12.0   | 5.3    | 2.7    | 1.3    | 1.3    |
| 82.5° | 41.3   | 9.3    | 9.3    | 6.7    | 4.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    |
| 85°   | 9.3    | 4.0    | 4.0    | 1.3    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    |
| 87.5° | 1.3    | 1.3    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    |
| 90°   | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    |

(END OF REPORT)