

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: P966873

Luminaire Tested: **NAV-SB4C-835-U-T4W-HSS**

Issue Date: 1/21/2025

**Test Information**

Test Method: LM-79-08  
Report Number: P966873  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2411-289-2)  
Test Lab: INNOVATION CENTER  
Issue Date: 1/21/2025  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: LUMARK  
Catalog Number: NAV-SB4C-835-U-T4W-HSS  
Description: NAVION ROADWAY AND AREA HIGH DENSITY LED LUMINAIRE  
(4) 80 CRI, 3500K, 615mA LIGHTSQUARES WITH 26 LEDS EACH AND TYPE IV WIDE  
OPTICS WITH HOUSE SIDE SHIELD  
Light Source: -  
Ballast/Driver: -

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 21981.1 lumens  
Efficiency: N/A  
Efficacy: 109.5 lumens/watt  
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')  
IES Classification: Type IV - Short  
BUG Rating: B2 - U0 - G4

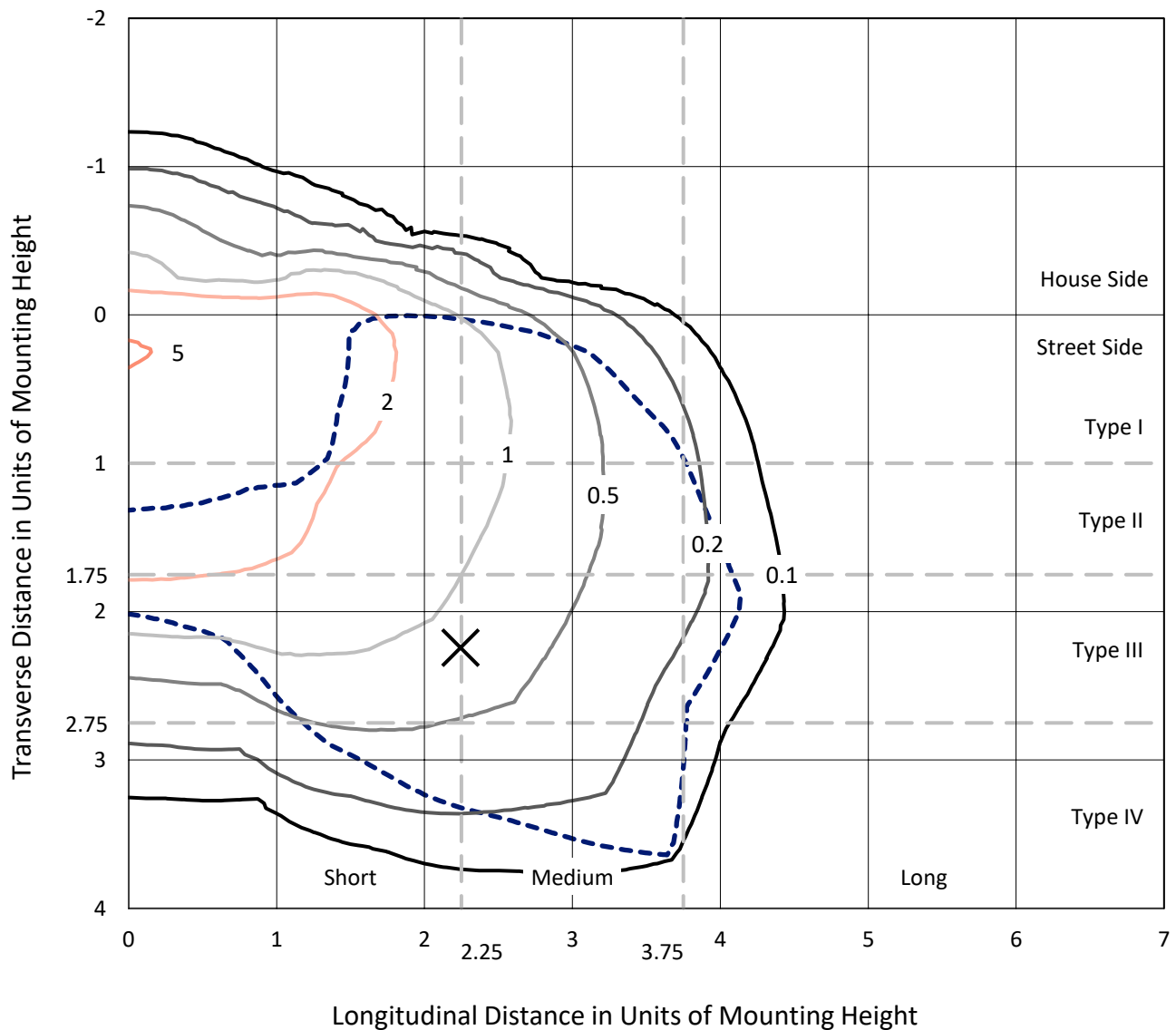
Input Watts (W): 200.7  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 24 FT



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## Iso-Footcandle Lines of Horizontal Illumination

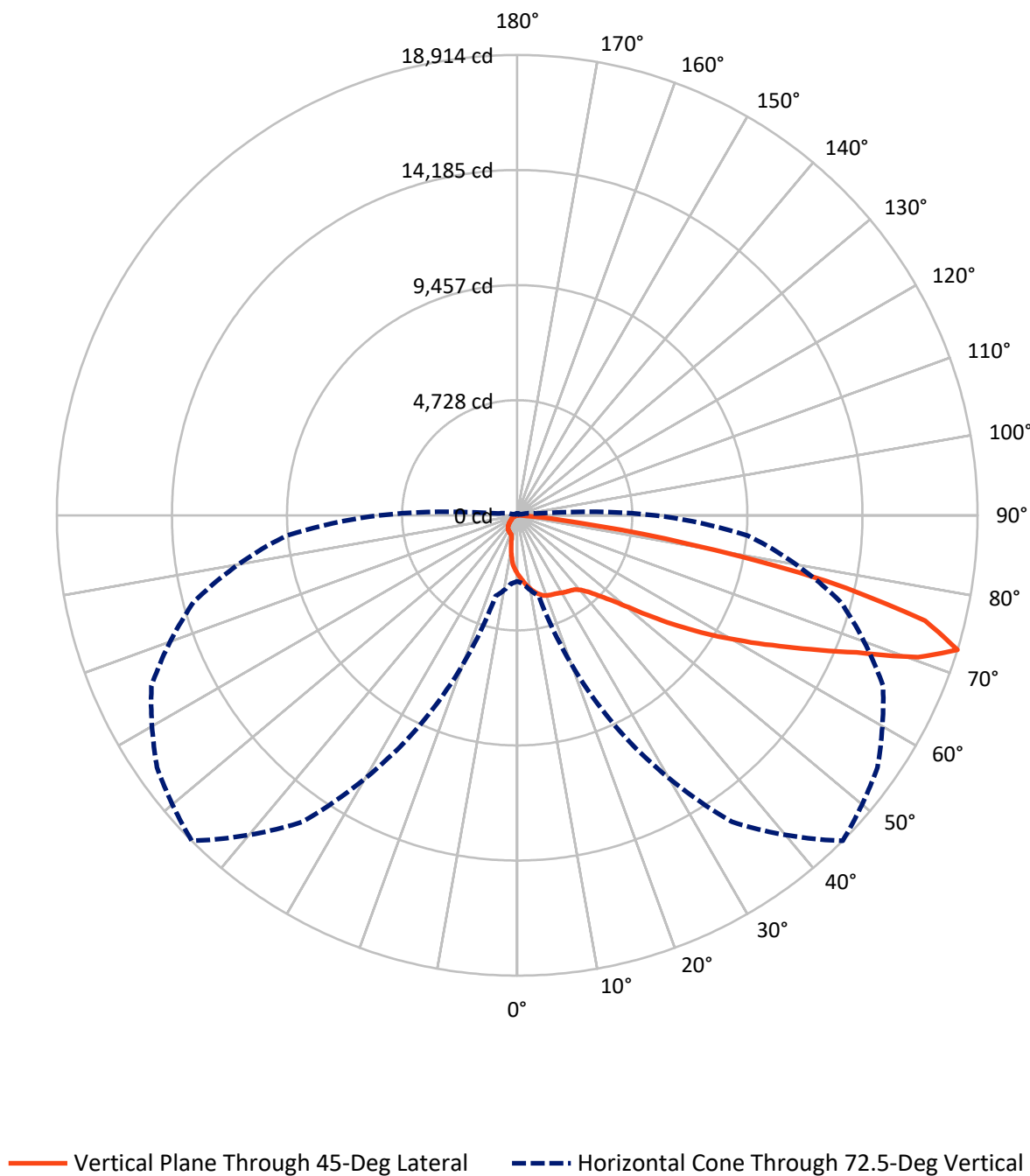
× Max cd  
- - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 5.3 fc  
Type IV - Short - N/A

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## Luminous Intensity Polar Plot



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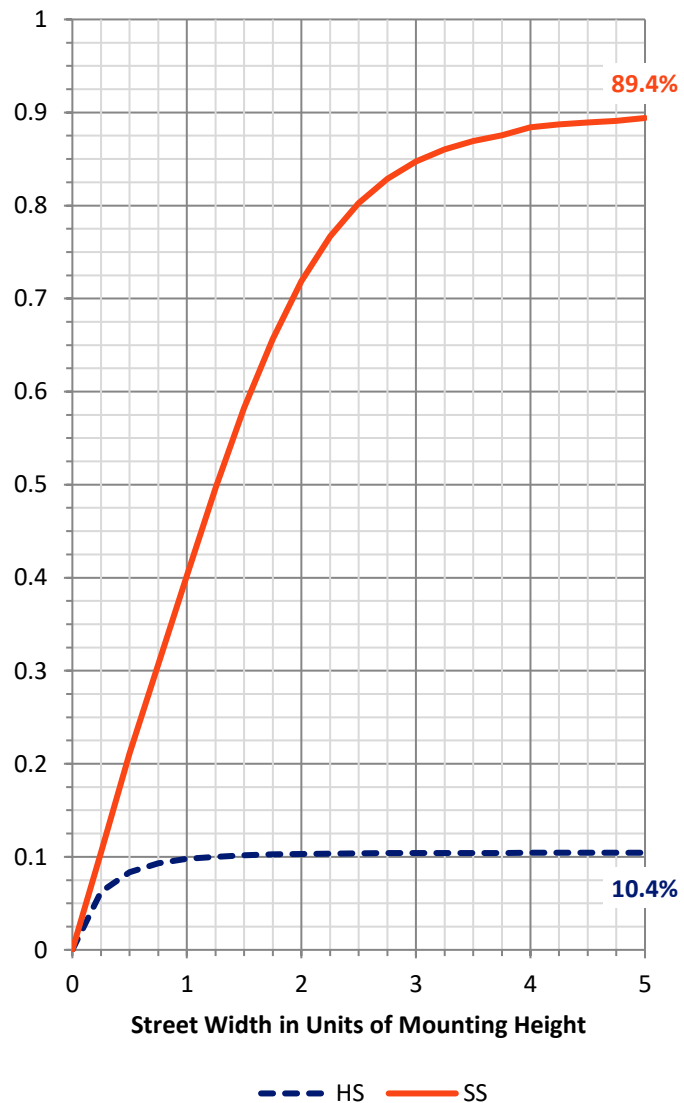
**FLUX DISTRIBUTION:**

|                    |           | Downward | Upward | Total   |
|--------------------|-----------|----------|--------|---------|
| <b>House Side</b>  | Lumens    | 2309.6   | 0.0    | 2309.6  |
|                    | % Fixture | 10.5     | 0.0    | 10.5    |
| <b>Street Side</b> | Lumens    | 19671.5  | 0.0    | 19671.5 |
|                    | % Fixture | 89.5     | 0.0    | 89.5    |
| <b>Total</b>       | Lumens    | 21981.1  | 0.0    | 21981.1 |
|                    | % Fixture | 100.0    | 0.0    | 100.0   |

**ZONAL LUMENS:**

| Zone      | Lumens  | % Fixture |
|-----------|---------|-----------|
| 0°-10°    | 226.9   | 1.0       |
| 10°-20°   | 663.1   | 3.0       |
| 20°-30°   | 1088.9  | 5.0       |
| 30°-40°   | 1544.3  | 7.0       |
| 40°-50°   | 2552.6  | 11.6      |
| 50°-60°   | 4585.5  | 20.9      |
| 60°-70°   | 6367.2  | 29.0      |
| 70°-80°   | 4618.6  | 21.0      |
| 80°-90°   | 333.9   | 1.5       |
| 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°    | 21981.1 | 100.0     |
| 0°-180°   | 21981.1 | 100.0     |

**Coefficient of Utilization**



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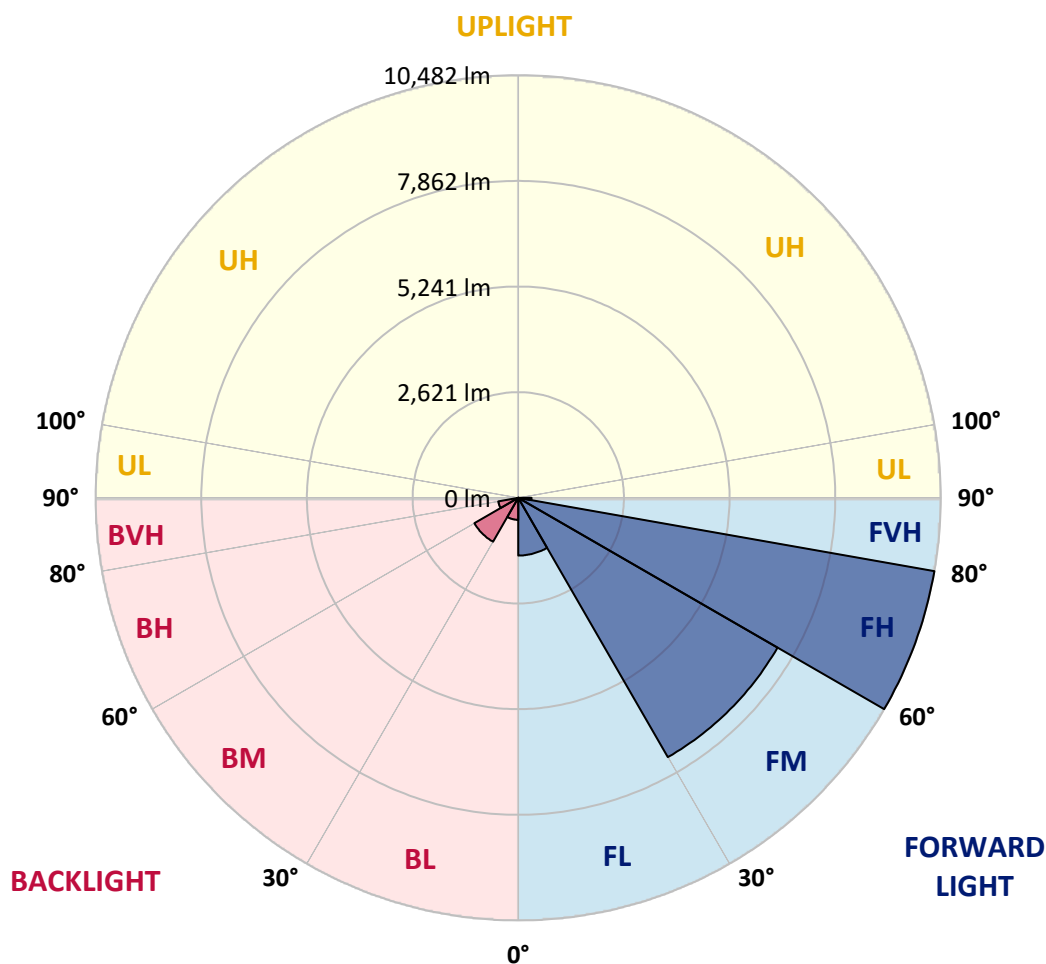
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**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

| Zone |             | Lumens  | % Fixture | Zone Rating/Lumen Limit |      |          |
|------|-------------|---------|-----------|-------------------------|------|----------|
|      |             |         |           | B                       | U    | G        |
| FL   | (0°-30°)    | 1431.9  | 6.5       |                         |      |          |
| FM   | (30°-60°)   | 7426.4  | 33.8      |                         |      |          |
| FH   | (60°-80°)   | 10482.2 | 47.7      |                         |      | G4/12000 |
| FVH  | (80°-90°)   | 331.1   | 1.5       |                         |      | G3/500   |
| BL   | (0°-30°)    | 547.1   | 2.5       | B2/1000                 |      |          |
| BM   | (30°-60°)   | 1256.1  | 5.7       | B2/2500                 |      |          |
| BH   | (60°-80°)   | 503.7   | 2.3       | B2/1000                 |      | G2/1000  |
| BVH  | (80°-90°)   | 2.8     | 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-G4**

Type IV Short



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**CANDELA DISTRIBUTION (FULL):**

|       | 0°      | 5°      | 15°     | 25°     | 35°     | 45°     | 46°     | 55°     | 65°     | 75°     | 85°     |
|-------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| 0°    | 2408.0  | 2408.0  | 2408.0  | 2408.0  | 2408.0  | 2408.0  | 2408.0  | 2408.0  | 2408.0  | 2408.0  | 2408.0  |
| 2.5°  | 2630.1  | 2634.7  | 2631.6  | 2613.6  | 2583.6  | 2567.1  | 2558.1  | 2528.1  | 2508.6  | 2474.1  | 2438.1  |
| 5°    | 2871.6  | 2889.7  | 2879.2  | 2843.1  | 2786.2  | 2745.7  | 2733.7  | 2672.2  | 2616.6  | 2552.1  | 2477.1  |
| 7.5°  | 3128.3  | 3137.2  | 3117.7  | 3071.2  | 2994.7  | 2925.7  | 2915.2  | 2829.7  | 2741.2  | 2642.1  | 2540.2  |
| 10°   | 3350.3  | 3360.8  | 3330.8  | 3263.3  | 3176.3  | 3090.8  | 3075.7  | 2981.2  | 2876.1  | 2754.7  | 2624.1  |
| 12.5° | 3536.4  | 3546.8  | 3507.9  | 3426.8  | 3330.8  | 3242.3  | 3227.3  | 3128.3  | 3012.7  | 2877.7  | 2715.6  |
| 15°   | 3677.4  | 3696.9  | 3644.4  | 3557.4  | 3453.8  | 3365.3  | 3357.8  | 3260.3  | 3147.8  | 2997.7  | 2825.2  |
| 17.5° | 3759.9  | 3779.4  | 3729.9  | 3624.9  | 3536.4  | 3461.3  | 3452.3  | 3371.3  | 3266.3  | 3122.3  | 2931.7  |
| 20°   | 3773.4  | 3791.4  | 3738.9  | 3647.4  | 3573.9  | 3513.8  | 3509.4  | 3450.9  | 3374.3  | 3236.2  | 3047.2  |
| 22.5° | 3732.9  | 3755.4  | 3707.4  | 3633.8  | 3582.9  | 3551.3  | 3545.4  | 3512.4  | 3468.8  | 3351.9  | 3155.3  |
| 25°   | 3690.9  | 3708.9  | 3672.9  | 3608.4  | 3581.4  | 3578.4  | 3582.9  | 3576.8  | 3567.8  | 3468.8  | 3281.3  |
| 27.5° | 3687.8  | 3707.4  | 3666.8  | 3605.3  | 3590.4  | 3621.8  | 3626.3  | 3654.8  | 3662.4  | 3575.4  | 3402.8  |
| 30°   | 3713.4  | 3726.9  | 3687.8  | 3623.4  | 3615.9  | 3687.8  | 3689.4  | 3740.4  | 3752.4  | 3665.4  | 3522.8  |
| 32.5° | 3768.9  | 3783.9  | 3744.9  | 3650.3  | 3639.9  | 3740.4  | 3744.9  | 3812.4  | 3832.0  | 3761.4  | 3648.9  |
| 35°   | 3899.4  | 3917.4  | 3872.4  | 3725.4  | 3687.8  | 3789.9  | 3803.4  | 3882.9  | 3922.0  | 3863.4  | 3779.4  |
| 37.5° | 4225.0  | 4172.5  | 4111.0  | 3877.0  | 3797.4  | 3867.9  | 3890.4  | 3983.5  | 4052.4  | 3985.0  | 3935.5  |
| 40°   | 5033.7  | 4868.6  | 4676.7  | 4135.0  | 3989.5  | 4034.5  | 4052.4  | 4145.5  | 4240.0  | 4174.0  | 4150.0  |
| 42.5° | 6247.5  | 6052.4  | 5743.4  | 4729.1  | 4279.1  | 4301.5  | 4315.0  | 4396.0  | 4529.6  | 4477.1  | 4483.0  |
| 45°   | 7329.3  | 7258.7  | 6943.7  | 5743.4  | 4820.7  | 4709.7  | 4726.2  | 4768.2  | 4964.7  | 4945.2  | 4984.2  |
| 47.5° | 8160.4  | 8119.9  | 7876.9  | 6907.7  | 5735.9  | 5209.3  | 5255.8  | 5275.3  | 5558.9  | 5627.9  | 5732.9  |
| 50°   | 8799.6  | 8784.7  | 8567.1  | 7942.9  | 6931.7  | 5945.9  | 5962.4  | 5920.4  | 6345.1  | 6516.0  | 6715.6  |
| 52.5° | 9402.7  | 9453.8  | 9293.3  | 8904.7  | 8208.5  | 6910.7  | 6907.7  | 6709.6  | 7282.7  | 7540.8  | 7881.4  |
| 55°   | 9947.4  | 9965.4  | 9981.9  | 9885.9  | 9492.8  | 8008.9  | 7980.4  | 7656.3  | 8370.6  | 8637.6  | 9006.7  |
| 57.5° | 10459.0 | 10466.5 | 10613.6 | 10810.1 | 10829.6 | 9188.2  | 9135.7  | 8747.1  | 9558.8  | 9749.4  | 9975.9  |
| 60°   | 10802.6 | 10837.1 | 11147.7 | 11693.8 | 11932.3 | 10405.0 | 10376.5 | 9980.4  | 10768.1 | 10856.6 | 10814.6 |
| 62.5° | 10307.5 | 10517.5 | 11300.7 | 12383.9 | 12973.6 | 11753.8 | 11740.3 | 11368.3 | 12040.4 | 11968.4 | 11608.3 |
| 65°   | 8343.5  | 8699.1  | 10076.5 | 12850.6 | 13995.4 | 13260.2 | 13279.7 | 12883.6 | 13347.2 | 13113.1 | 12253.5 |
| 67.5° | 5836.5  | 6211.5  | 7840.8  | 12888.1 | 15137.1 | 15029.1 | 15141.6 | 14520.5 | 14735.1 | 14209.9 | 12406.5 |
| 70°   | 4035.9  | 4229.6  | 5290.2  | 12080.9 | 16026.9 | 17465.7 | 17462.7 | 16531.0 | 16115.4 | 14709.6 | 11626.3 |
| 72.5° | 2714.2  | 2814.6  | 3435.8  | 9584.3  | 15372.7 | 18913.5 | 18826.5 | 18067.4 | 16580.5 | 13756.8 | 9498.8  |
| 75°   | 1144.8  | 1218.3  | 1590.4  | 5386.3  | 12161.9 | 17303.6 | 17068.1 | 15966.8 | 14732.0 | 10832.6 | 5926.4  |
| 77.5° | 363.1   | 394.6   | 627.2   | 1927.9  | 6699.1  | 13006.6 | 12757.6 | 9971.4  | 9873.8  | 5434.3  | 2166.5  |
| 80°   | 172.5   | 201.0   | 352.6   | 774.2   | 2636.1  | 7074.2  | 7039.7  | 4523.6  | 4247.5  | 1467.4  | 435.1   |
| 82.5° | 75.0    | 88.6    | 195.1   | 414.1   | 1179.3  | 2523.7  | 2574.6  | 1539.3  | 1273.8  | 556.7   | 133.6   |
| 85°   | 24.0    | 31.5    | 90.0    | 190.5   | 498.2   | 627.2   | 619.6   | 366.1   | 513.1   | 303.1   | 46.5    |
| 87.5° | 0.0     | 0.0     | 30.0    | 43.5    | 51.0    | 36.0    | 40.5    | 31.5    | 142.6   | 84.0    | 16.5    |
| 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°    | 2408.0 | 2408.0 | 2408.0 | 2408.0 | 2408.0 | 2408.0 | 2408.0 | 2408.0 | 2408.0 | 2408.0 | 2408.0 |
| 2.5°  | 2420.1 | 2396.0 | 2354.0 | 2315.1 | 2280.5 | 2246.1 | 2225.1 | 2195.0 | 2192.1 | 2192.1 | 2199.5 |
| 5°    | 2436.6 | 2397.6 | 2322.5 | 2243.0 | 2151.5 | 2064.5 | 1977.4 | 1893.5 | 1866.4 | 1846.9 | 1856.0 |
| 7.5°  | 2484.6 | 2423.1 | 2304.5 | 2153.0 | 1979.0 | 1788.4 | 1654.9 | 1510.8 | 1455.4 | 1425.4 | 1429.9 |
| 10°   | 2553.6 | 2469.6 | 2289.5 | 2024.0 | 1741.9 | 1482.4 | 1291.8 | 1135.8 | 1075.7 | 1050.2 | 1050.2 |
| 12.5° | 2630.1 | 2526.6 | 2262.6 | 1863.4 | 1482.4 | 1171.8 | 985.7  | 913.7  | 904.8  | 904.8  | 904.8  |
| 15°   | 2721.7 | 2595.6 | 2216.0 | 1674.4 | 1210.8 | 927.2  | 861.2  | 864.2  | 873.2  | 879.2  | 879.2  |
| 17.5° | 2816.2 | 2669.1 | 2142.6 | 1462.9 | 970.8  | 834.2  | 835.7  | 840.2  | 847.7  | 853.7  | 853.7  |
| 20°   | 2918.2 | 2742.7 | 2045.0 | 1237.8 | 832.7  | 807.2  | 811.7  | 816.2  | 822.2  | 825.2  | 826.7  |
| 22.5° | 3027.7 | 2811.7 | 1929.5 | 1017.2 | 786.2  | 784.6  | 786.2  | 790.7  | 798.2  | 798.2  | 801.2  |
| 25°   | 3144.8 | 2888.2 | 1797.4 | 856.7  | 762.2  | 762.2  | 765.2  | 768.1  | 774.2  | 774.2  | 775.7  |
| 27.5° | 3264.8 | 2958.7 | 1657.9 | 772.6  | 741.2  | 739.6  | 739.6  | 744.2  | 747.2  | 748.7  | 750.2  |
| 30°   | 3396.8 | 3041.3 | 1518.3 | 754.7  | 724.7  | 717.2  | 712.7  | 715.7  | 718.6  | 720.2  | 723.1  |
| 32.5° | 3531.8 | 3120.7 | 1393.8 | 762.2  | 708.2  | 694.6  | 679.7  | 676.7  | 676.7  | 682.6  | 687.2  |
| 35°   | 3681.9 | 3207.7 | 1297.9 | 787.7  | 699.2  | 661.6  | 637.7  | 624.1  | 625.7  | 634.7  | 639.2  |
| 37.5° | 3861.9 | 3312.8 | 1227.3 | 810.2  | 693.2  | 624.1  | 585.2  | 568.7  | 558.1  | 568.7  | 565.6  |
| 40°   | 4097.4 | 3467.4 | 1176.3 | 828.2  | 685.6  | 580.7  | 528.1  | 501.1  | 481.6  | 487.6  | 484.6  |
| 42.5° | 4444.1 | 3710.4 | 1156.8 | 829.7  | 669.1  | 529.6  | 469.7  | 433.6  | 405.1  | 406.6  | 400.6  |
| 45°   | 4930.1 | 4094.5 | 1257.3 | 810.2  | 633.1  | 474.2  | 408.1  | 360.1  | 342.0  | 337.5  | 331.6  |
| 47.5° | 5596.3 | 4654.1 | 1489.8 | 769.7  | 580.7  | 420.1  | 348.1  | 307.6  | 294.1  | 286.6  | 282.1  |
| 50°   | 6489.1 | 5372.7 | 1747.9 | 724.7  | 528.1  | 369.1  | 298.6  | 273.1  | 264.0  | 256.6  | 255.0  |
| 52.5° | 7524.3 | 6101.9 | 1959.5 | 679.7  | 475.6  | 324.1  | 267.1  | 252.0  | 244.6  | 238.5  | 237.1  |
| 55°   | 8474.1 | 6604.6 | 1947.5 | 631.6  | 424.6  | 288.0  | 244.6  | 235.5  | 226.5  | 220.6  | 217.5  |
| 57.5° | 9065.2 | 6675.1 | 1605.4 | 579.1  | 366.1  | 259.5  | 223.6  | 217.5  | 207.0  | 199.6  | 198.0  |
| 60°   | 9336.7 | 6273.0 | 1125.2 | 510.1  | 307.6  | 232.6  | 201.0  | 198.0  | 184.5  | 174.0  | 171.1  |
| 62.5° | 9386.2 | 5525.9 | 750.2  | 424.6  | 256.6  | 207.0  | 178.6  | 174.0  | 156.0  | 138.1  | 129.0  |
| 65°   | 9185.2 | 4457.6 | 519.2  | 331.6  | 219.0  | 180.1  | 153.0  | 144.0  | 124.5  | 106.5  | 100.6  |
| 67.5° | 8549.0 | 3129.7 | 361.6  | 238.5  | 186.0  | 142.6  | 121.6  | 118.5  | 103.5  | 88.6   | 84.0   |
| 70°   | 7383.3 | 1783.9 | 241.6  | 178.6  | 147.0  | 97.5   | 96.0   | 99.0   | 84.0   | 72.1   | 66.0   |
| 72.5° | 5660.9 | 816.2  | 150.1  | 130.5  | 100.6  | 66.0   | 76.6   | 78.0   | 64.5   | 54.0   | 48.0   |
| 75°   | 3332.3 | 349.6  | 94.5   | 84.0   | 51.0   | 43.5   | 55.6   | 57.0   | 43.5   | 34.5   | 30.0   |
| 77.5° | 1134.3 | 132.0  | 60.1   | 49.5   | 25.5   | 24.0   | 36.0   | 36.0   | 24.0   | 13.5   | 10.5   |
| 80°   | 258.1  | 49.5   | 30.0   | 19.5   | 12.0   | 10.5   | 12.0   | 10.5   | 6.0    | 1.5    | 0.0    |
| 82.5° | 73.5   | 19.5   | 12.0   | 7.5    | 4.5    | 4.5    | 1.5    | 0.0    | 0.0    | 0.0    | 0.0    |
| 85°   | 21.0   | 9.0    | 3.0    | 3.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    |
| 87.5° | 9.0    | 1.5    | 0.0    | 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    | 0.0    |

(END OF REPORT)