

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: P883986

Luminaire Tested: **NAV-SB4C-830-U-T2-HSS**

Issue Date: 10/7/2024

**Test Information**

Test Method: LM-79-08  
Report Number: P883986  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2405-108-4)  
Test Lab: INNOVATION CENTER  
Issue Date: 10/7/2024  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: LUMARK  
Catalog Number: NAV-SB4C-830-U-T2-HSS  
Description: NAVION ROADWAY AND AREA HIGH DENSITY LED LUMINAIRE  
(4) 80 CRI, 3000K, 615mA LIGHTSQUARES WITH 26 LEDS EACH AND TYPE II  
OPTICS WITH HOUSE SIDE SHIELD  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

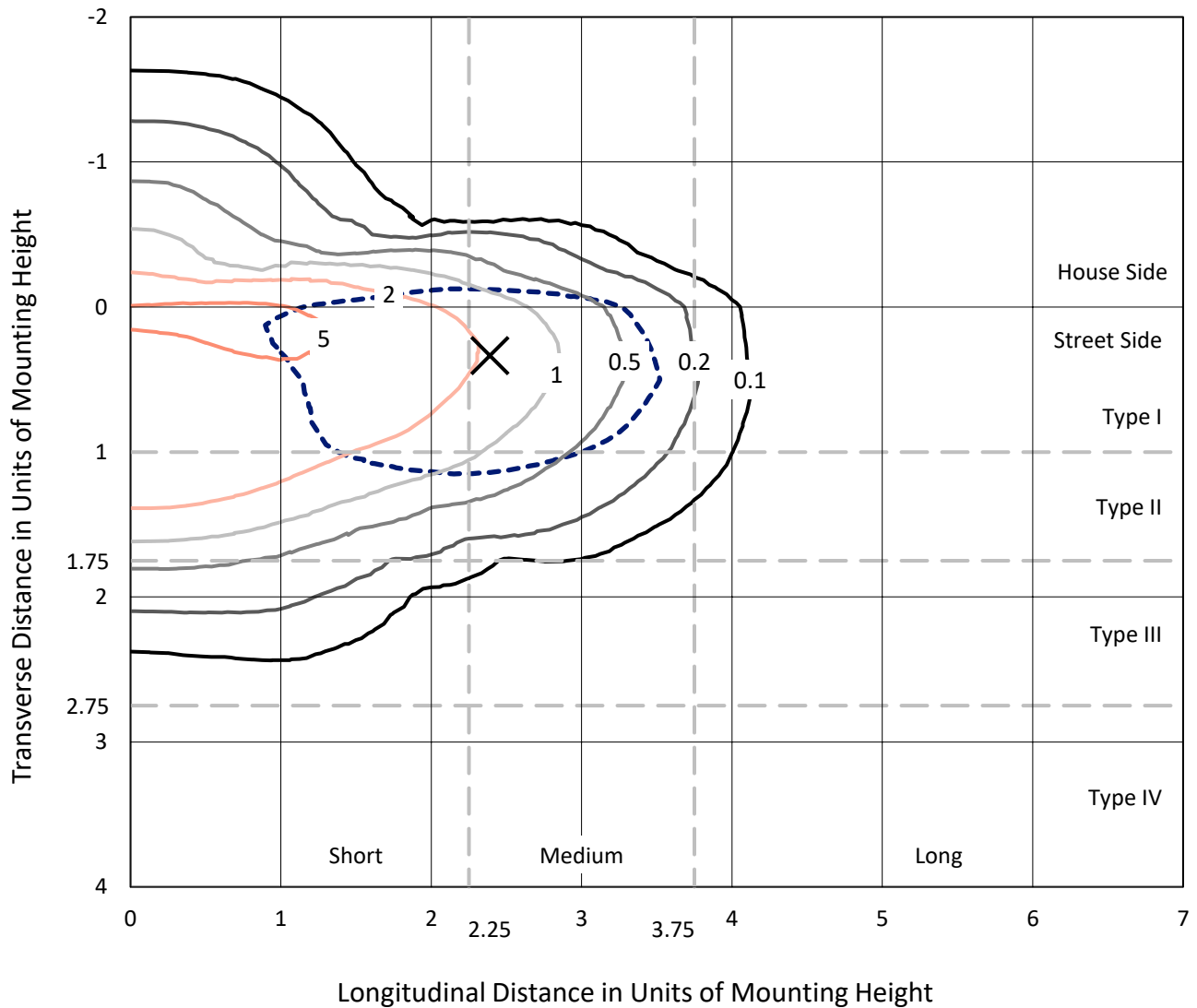
Lumens per Lamp: N/A  
Luminaire Lumens: 19392 lumens  
Efficiency: N/A  
Efficacy: 96.6 lumens/watt  
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')  
IES Classification: Type II - Medium  
BUG Rating: B3 - U0 - G3  
  
Input Watts (W): 200.7  
Input Voltage (V): 120.0  
Input Current (Ain): 1.714  
Voltage Rise (V): NR  
Power Factor: 0.994  
Total Harmonic Distortion (THDi): 9.472  
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

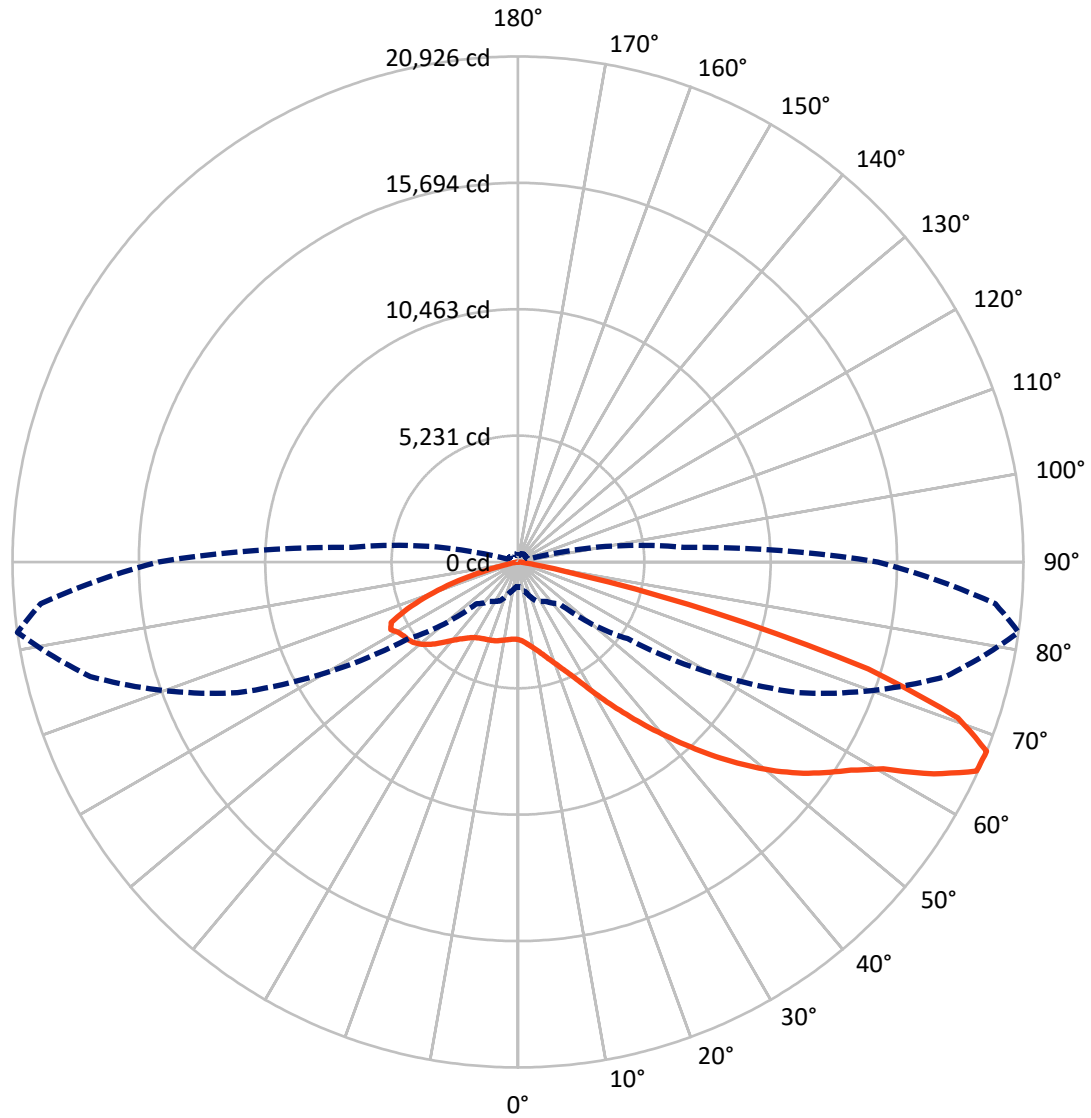
✕ Max cd  
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 6.8 fc  
 Type II - Medium - N/A

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### Luminous Intensity Polar Plot



— Vertical Plane Through 82-Deg Lateral      - - - Horizontal Cone Through 67.5-Deg Vertical

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**FLUX DISTRIBUTION:**

|                    |           | Downward | Upward | Total   |
|--------------------|-----------|----------|--------|---------|
| <b>House Side</b>  | Lumens    | 3512.7   | 0.0    | 3512.7  |
|                    | % Fixture | 18.1     | 0.0    | 18.1    |
| <b>Street Side</b> | Lumens    | 15879.3  | 0.0    | 15879.3 |
|                    | % Fixture | 81.9     | 0.0    | 81.9    |
| <b>Total</b>       | Lumens    | 19392.0  | 0.0    | 19392.0 |
|                    | % Fixture | 100.0    | 0.0    | 100.0   |

**ZONAL LUMENS:**

| Zone      | Lumens  | % Fixture |
|-----------|---------|-----------|
| 0°-10°    | 286.2   | 1.5       |
| 10°-20°   | 743.8   | 3.8       |
| 20°-30°   | 1191.3  | 6.1       |
| 30°-40°   | 2106.5  | 10.9      |
| 40°-50°   | 3690.9  | 19.0      |
| 50°-60°   | 4922.6  | 25.4      |
| 60°-70°   | 4582.7  | 23.6      |
| 70°-80°   | 1758.8  | 9.1       |
| 80°-90°   | 109.2   | 0.6       |
| 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°    | 19392.0 | 100.0     |
| 0°-180°   | 19392.0 | 100.0     |

**Coefficient of Utilization**



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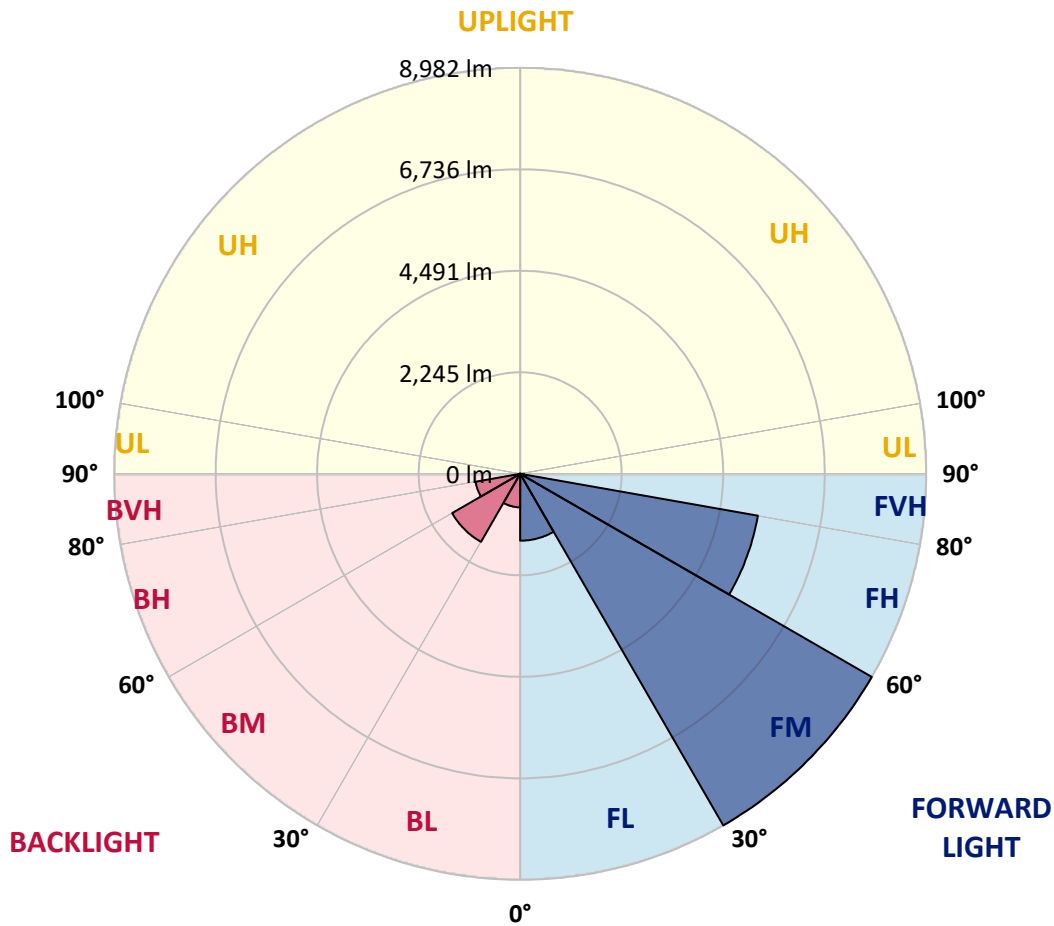
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**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

| Zone           | Lumens | % Fixture | Zone Rating/Lumen Limit |      |         |
|----------------|--------|-----------|-------------------------|------|---------|
|                |        |           | B                       | U    | G       |
| FL (0°-30°)    | 1479.4 | 7.6       |                         |      |         |
| FM (30°-60°)   | 8981.6 | 46.3      |                         |      |         |
| FH (60°-80°)   | 5338.9 | 27.5      |                         |      | G3/7500 |
| FVH (80°-90°)  | 79.4   | 0.4       |                         |      | G1/100  |
| BL (0°-30°)    | 741.9  | 3.8       | B2/1000                 |      |         |
| BM (30°-60°)   | 1738.4 | 9.0       | B2/2500                 |      |         |
| BH (60°-80°)   | 1002.6 | 5.2       | B3/2500                 |      | G3/2500 |
| BVH (80°-90°)  | 29.8   | 0.2       |                         |      | G1/100  |
| UL (90°-100°)  | 0.0    | 0.0       |                         | U0/0 |         |
| UH (100°-180°) | 0.0    | 0.0       |                         | U0/0 |         |

**BUG Rating: B3-U0-G3**

Type II Medium



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**CANDELA DISTRIBUTION (FULL):**

|       | 0°     | 5°     | 15°    | 25°    | 35°    | 45°    | 55°     | 65°     | 75°     | 82°     | 85°     |
|-------|--------|--------|--------|--------|--------|--------|---------|---------|---------|---------|---------|
| 0°    | 3212.6 | 3212.6 | 3212.6 | 3212.6 | 3212.6 | 3212.6 | 3212.6  | 3212.6  | 3212.6  | 3212.6  | 3212.6  |
| 2.5°  | 3395.5 | 3415.0 | 3403.9 | 3398.3 | 3388.5 | 3374.6 | 3363.4  | 3328.5  | 3292.2  | 3268.4  | 3260.1  |
| 5°    | 3463.9 | 3483.5 | 3482.1 | 3487.6 | 3494.6 | 3498.8 | 3496.0  | 3456.9  | 3405.3  | 3364.8  | 3341.0  |
| 7.5°  | 3405.3 | 3427.6 | 3445.8 | 3473.7 | 3522.5 | 3574.2 | 3599.3  | 3591.0  | 3537.9  | 3482.1  | 3452.7  |
| 10°   | 3239.1 | 3262.9 | 3306.1 | 3371.8 | 3475.1 | 3586.8 | 3680.3  | 3723.6  | 3690.1  | 3628.7  | 3588.2  |
| 12.5° | 2934.8 | 2958.5 | 3043.7 | 3186.1 | 3359.2 | 3553.3 | 3732.0  | 3847.9  | 3856.2  | 3794.8  | 3747.3  |
| 15°   | 2592.7 | 2616.4 | 2707.2 | 2885.9 | 3149.8 | 3461.1 | 3759.9  | 3979.1  | 4053.1  | 4000.0  | 3942.8  |
| 17.5° | 2380.5 | 2401.4 | 2469.8 | 2613.6 | 2888.7 | 3276.8 | 3750.1  | 4118.7  | 4287.7  | 4245.8  | 4177.4  |
| 20°   | 2316.3 | 2334.4 | 2366.5 | 2467.0 | 2696.0 | 3085.5 | 3685.9  | 4250.0  | 4540.4  | 4516.6  | 4439.8  |
| 22.5° | 2384.7 | 2401.4 | 2411.2 | 2455.9 | 2599.7 | 2959.9 | 3604.9  | 4384.0  | 4833.6  | 4836.3  | 4742.8  |
| 25°   | 2542.4 | 2559.2 | 2548.0 | 2575.9 | 2638.8 | 2920.8 | 3574.2  | 4541.8  | 5202.1  | 5232.9  | 5126.8  |
| 27.5° | 2802.1 | 2803.5 | 2777.0 | 2775.6 | 2785.4 | 2979.4 | 3606.3  | 4710.7  | 5667.1  | 5724.3  | 5593.1  |
| 30°   | 3322.9 | 3302.0 | 3200.0 | 3089.7 | 3039.5 | 3155.4 | 3695.7  | 4910.3  | 6215.8  | 6317.7  | 6152.9  |
| 32.5° | 4125.7 | 4095.0 | 3907.9 | 3644.0 | 3378.7 | 3438.8 | 3856.2  | 5137.9  | 6813.3  | 6997.6  | 6796.6  |
| 35°   | 4996.9 | 4988.5 | 4793.1 | 4400.7 | 3937.2 | 3842.3 | 4117.3  | 5436.7  | 7465.3  | 7758.5  | 7519.8  |
| 37.5° | 5806.7 | 5802.5 | 5690.8 | 5228.7 | 4664.6 | 4404.9 | 4536.2  | 5827.6  | 8163.4  | 8587.9  | 8305.8  |
| 40°   | 6546.7 | 6559.2 | 6447.5 | 6034.3 | 5466.0 | 5126.8 | 5105.8  | 6310.7  | 8939.7  | 9491.2  | 9156.1  |
| 42.5° | 7186.1 | 7200.1 | 7087.0 | 6781.2 | 6257.7 | 5925.4 | 5805.3  | 6902.7  | 9697.8  | 10461.5 | 10065.0 |
| 45°   | 7620.3 | 7706.9 | 7690.1 | 7445.8 | 7070.2 | 6725.4 | 6645.8  | 7645.5  | 10562.1 | 11490.5 | 11025.6 |
| 47.5° | 7743.2 | 7822.8 | 7948.4 | 7981.9 | 7753.0 | 7413.7 | 7508.6  | 8540.4  | 11436.1 | 12520.9 | 11991.7 |
| 50°   | 7440.2 | 7514.2 | 7775.3 | 8122.9 | 8282.1 | 8177.4 | 8347.7  | 9499.6  | 12331.0 | 13548.5 | 12939.7 |
| 52.5° | 6842.7 | 6918.0 | 7247.5 | 7797.6 | 8446.9 | 8776.4 | 9189.6  | 10444.8 | 13198.0 | 14521.6 | 13837.5 |
| 55°   | 5978.4 | 6058.0 | 6481.0 | 7103.7 | 8132.7 | 9023.5 | 9891.9  | 11388.6 | 13992.5 | 15397.0 | 14647.3 |
| 57.5° | 4802.8 | 4861.5 | 5301.3 | 6172.5 | 7342.5 | 8777.8 | 10409.9 | 12419.0 | 14740.8 | 16257.1 | 15450.1 |
| 60°   | 3130.2 | 3181.9 | 3692.9 | 4664.6 | 6032.9 | 7956.8 | 10513.2 | 13568.0 | 15734.9 | 17375.4 | 16532.1 |
| 62.5° | 2081.7 | 2116.6 | 2419.6 | 3133.0 | 4248.6 | 6380.5 | 9908.7  | 14485.3 | 17192.5 | 19321.7 | 18387.6 |
| 65°   | 1428.3 | 1463.2 | 1766.2 | 2263.2 | 2744.9 | 4220.6 | 8170.4  | 14363.8 | 18513.3 | 20867.2 | 19762.9 |
| 67.5° | 1019.2 | 1048.5 | 1305.4 | 1774.5 | 1986.8 | 2451.7 | 5538.6  | 12811.3 | 18323.4 | 20925.9 | 19836.9 |
| 70°   | 730.2  | 747.0  | 959.2  | 1382.2 | 1579.1 | 1473.0 | 3080.0  | 9798.4  | 16043.4 | 19323.1 | 18326.2 |
| 72.5° | 511.0  | 516.6  | 666.0  | 1052.7 | 1271.9 | 1075.1 | 1466.0  | 6532.7  | 12134.2 | 15166.6 | 14207.5 |
| 75°   | 346.3  | 353.2  | 448.2  | 772.1  | 1020.6 | 821.0  | 776.3   | 3503.0  | 7123.3  | 8395.2  | 7525.4  |
| 77.5° | 212.2  | 215.0  | 289.0  | 527.8  | 763.7  | 625.5  | 499.8   | 1484.1  | 2756.0  | 2705.8  | 2306.5  |
| 80°   | 120.1  | 120.1  | 184.3  | 328.1  | 520.8  | 403.5  | 350.4   | 631.1   | 872.6   | 766.5   | 675.7   |
| 82.5° | 67.0   | 68.4   | 134.0  | 203.8  | 344.9  | 238.7  | 192.7   | 291.8   | 377.0   | 333.7   | 290.4   |
| 85°   | 27.9   | 30.7   | 82.4   | 96.3   | 164.7  | 118.7  | 78.2    | 122.9   | 139.6   | 124.3   | 90.8    |
| 87.5° | 2.8    | 4.2    | 25.1   | 18.2   | 19.5   | 23.7   | 11.2    | 23.7    | 19.5    | 19.5    | 14.0    |
| 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°    | 3212.6  | 3212.6 | 3212.6 | 3212.6 | 3212.6 | 3212.6 | 3212.6 | 3212.6 | 3212.6 | 3212.6 | 3212.6 |
| 2.5°  | 3233.5  | 3212.6 | 3159.5 | 3098.1 | 3017.1 | 2978.0 | 2925.0 | 2888.7 | 2858.0 | 2860.8 | 2832.8 |
| 5°    | 3296.4  | 3243.3 | 3124.6 | 2976.6 | 2792.3 | 2661.1 | 2521.5 | 2425.2 | 2347.0 | 2330.2 | 2292.5 |
| 7.5°  | 3382.9  | 3299.2 | 3091.1 | 2824.5 | 2513.1 | 2277.2 | 2066.3 | 1930.9 | 1834.6 | 1803.9 | 1773.1 |
| 10°   | 3494.6  | 3373.2 | 3047.8 | 2633.2 | 2185.0 | 1884.8 | 1658.7 | 1552.5 | 1486.9 | 1464.6 | 1447.8 |
| 12.5° | 3624.5  | 3458.3 | 2990.6 | 2400.0 | 1847.1 | 1558.1 | 1414.3 | 1361.3 | 1340.3 | 1333.3 | 1329.2 |
| 15°   | 3787.8  | 3564.4 | 2904.0 | 2123.6 | 1560.9 | 1358.5 | 1297.0 | 1290.1 | 1292.9 | 1290.1 | 1288.7 |
| 17.5° | 3981.9  | 3680.3 | 2763.0 | 1838.8 | 1368.3 | 1256.6 | 1234.2 | 1239.8 | 1246.8 | 1245.4 | 1242.6 |
| 20°   | 4194.1  | 3794.8 | 2582.9 | 1586.1 | 1237.0 | 1184.0 | 1171.4 | 1177.0 | 1182.6 | 1179.8 | 1178.4 |
| 22.5° | 4435.6  | 3917.7 | 2383.3 | 1389.2 | 1149.1 | 1116.9 | 1103.0 | 1104.4 | 1104.4 | 1098.8 | 1096.0 |
| 25°   | 4724.7  | 4053.1 | 2173.8 | 1249.6 | 1082.0 | 1056.9 | 1040.2 | 1034.6 | 1026.2 | 1009.4 | 1006.6 |
| 27.5° | 5069.5  | 4196.9 | 1972.8 | 1151.8 | 1029.0 | 1005.2 | 985.7  | 971.7  | 950.8  | 922.9  | 920.1  |
| 30°   | 5457.6  | 4371.4 | 1802.5 | 1090.4 | 987.1  | 963.4  | 941.0  | 920.1  | 889.4  | 854.5  | 851.7  |
| 32.5° | 5914.2  | 4558.5 | 1678.2 | 1049.9 | 949.4  | 924.3  | 897.7  | 872.6  | 839.1  | 804.2  | 805.6  |
| 35°   | 6458.7  | 4784.7 | 1605.6 | 1022.0 | 920.1  | 886.6  | 857.3  | 829.3  | 804.2  | 773.5  | 770.7  |
| 37.5° | 7049.3  | 5024.8 | 1583.3 | 1008.0 | 900.5  | 848.9  | 815.4  | 795.8  | 793.0  | 774.9  | 773.5  |
| 40°   | 7695.7  | 5309.7 | 1600.0 | 999.7  | 879.6  | 812.6  | 776.3  | 772.1  | 779.1  | 747.0  | 748.3  |
| 42.5° | 8379.8  | 5647.5 | 1627.9 | 989.9  | 850.3  | 776.3  | 741.4  | 741.4  | 735.8  | 691.1  | 691.1  |
| 45°   | 9119.8  | 6037.1 | 1655.9 | 966.2  | 815.4  | 740.0  | 713.4  | 703.7  | 679.9  | 636.7  | 635.3  |
| 47.5° | 9865.4  | 6433.6 | 1676.8 | 922.9  | 773.5  | 709.3  | 685.5  | 663.2  | 628.3  | 589.2  | 587.8  |
| 50°   | 10573.2 | 6789.6 | 1654.5 | 858.6  | 726.0  | 679.9  | 654.8  | 624.1  | 586.4  | 559.9  | 555.7  |
| 52.5° | 11205.7 | 7098.2 | 1559.5 | 783.3  | 675.7  | 649.2  | 626.9  | 594.8  | 564.1  | 536.1  | 533.3  |
| 55°   | 11755.8 | 7348.1 | 1392.0 | 712.0  | 631.1  | 622.7  | 600.4  | 559.9  | 518.0  | 494.2  | 491.5  |
| 57.5° | 12283.5 | 7537.9 | 1182.6 | 653.4  | 590.6  | 593.4  | 559.9  | 523.6  | 484.5  | 459.3  | 456.5  |
| 60°   | 12985.8 | 7792.1 | 970.3  | 599.0  | 547.3  | 555.7  | 519.4  | 492.8  | 444.0  | 411.9  | 407.7  |
| 62.5° | 14108.3 | 8187.2 | 770.7  | 531.9  | 497.0  | 499.8  | 484.5  | 452.4  | 393.7  | 356.0  | 353.2  |
| 65°   | 14999.1 | 8042.0 | 607.3  | 459.3  | 439.8  | 444.0  | 444.0  | 409.1  | 346.3  | 303.0  | 298.8  |
| 67.5° | 14898.6 | 6885.9 | 484.5  | 388.1  | 385.3  | 388.1  | 397.9  | 368.6  | 307.2  | 272.3  | 266.7  |
| 70°   | 13724.4 | 5477.2 | 388.1  | 322.5  | 335.1  | 328.1  | 356.0  | 336.5  | 276.4  | 241.5  | 237.3  |
| 72.5° | 11198.7 | 3945.6 | 296.0  | 266.7  | 256.9  | 268.1  | 321.1  | 303.0  | 230.4  | 191.3  | 187.1  |
| 75°   | 6543.9  | 2105.4 | 220.6  | 210.8  | 185.7  | 223.4  | 284.8  | 258.3  | 175.9  | 141.0  | 136.8  |
| 77.5° | 2130.6  | 734.4  | 162.0  | 155.0  | 138.2  | 180.1  | 242.9  | 217.8  | 143.8  | 111.7  | 107.5  |
| 80°   | 571.0   | 222.0  | 110.3  | 101.9  | 89.4   | 134.0  | 192.7  | 173.1  | 103.3  | 72.6   | 71.2   |
| 82.5° | 229.0   | 93.5   | 64.2   | 57.2   | 48.9   | 92.1   | 152.2  | 139.6  | 76.8   | 46.1   | 46.1   |
| 85°   | 74.0    | 30.7   | 23.7   | 18.2   | 22.3   | 57.2   | 90.8   | 94.9   | 54.5   | 23.7   | 18.2   |
| 87.5° | 9.8     | 4.2    | 4.2    | 5.6    | 4.2    | 9.8    | 27.9   | 26.5   | 15.4   | 2.8    | 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)