

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: P197279

Luminaire Tested: **NAV-AF-05-D-UNV-T3-8030-1200**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P197279  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (p24135)  
Test Lab: INNOVATION CENTER P2  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: LUMARK  
Catalog Number: NAV-AF-05-D-UNV-T3-8030-1200  
Description: NAVION ROADWAY AND AREA LUMINAIRE  
(5) 80 CRI, 3000K, 1200mA LIGHTSQUARES WITH 16 LEDS EACH AND TYPE III OPTICS  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 26924 lumens  
Efficiency: N/A  
Efficacy: 84.1 lumens/watt  
Luminous Opening: Rectangular (W 1' x L: 1.5' x H: 0')  
IES Classification: Type III - Short - Semi-Cutoff  
BUG Rating: B3 - U0 - G4

Input Watts (W): 320  
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: 25 FT

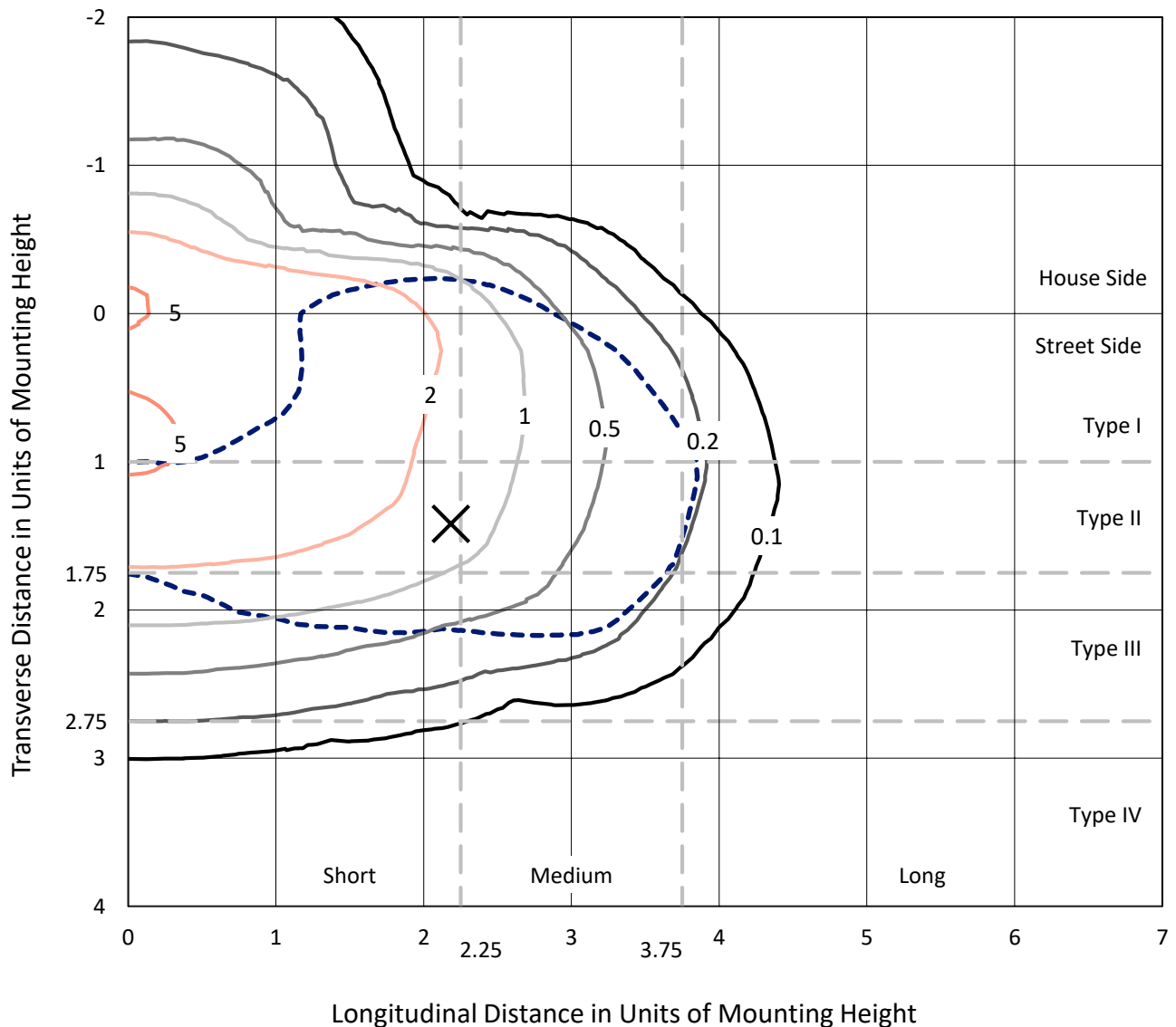


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### Iso-Footcandle Lines of Horizontal Illumination

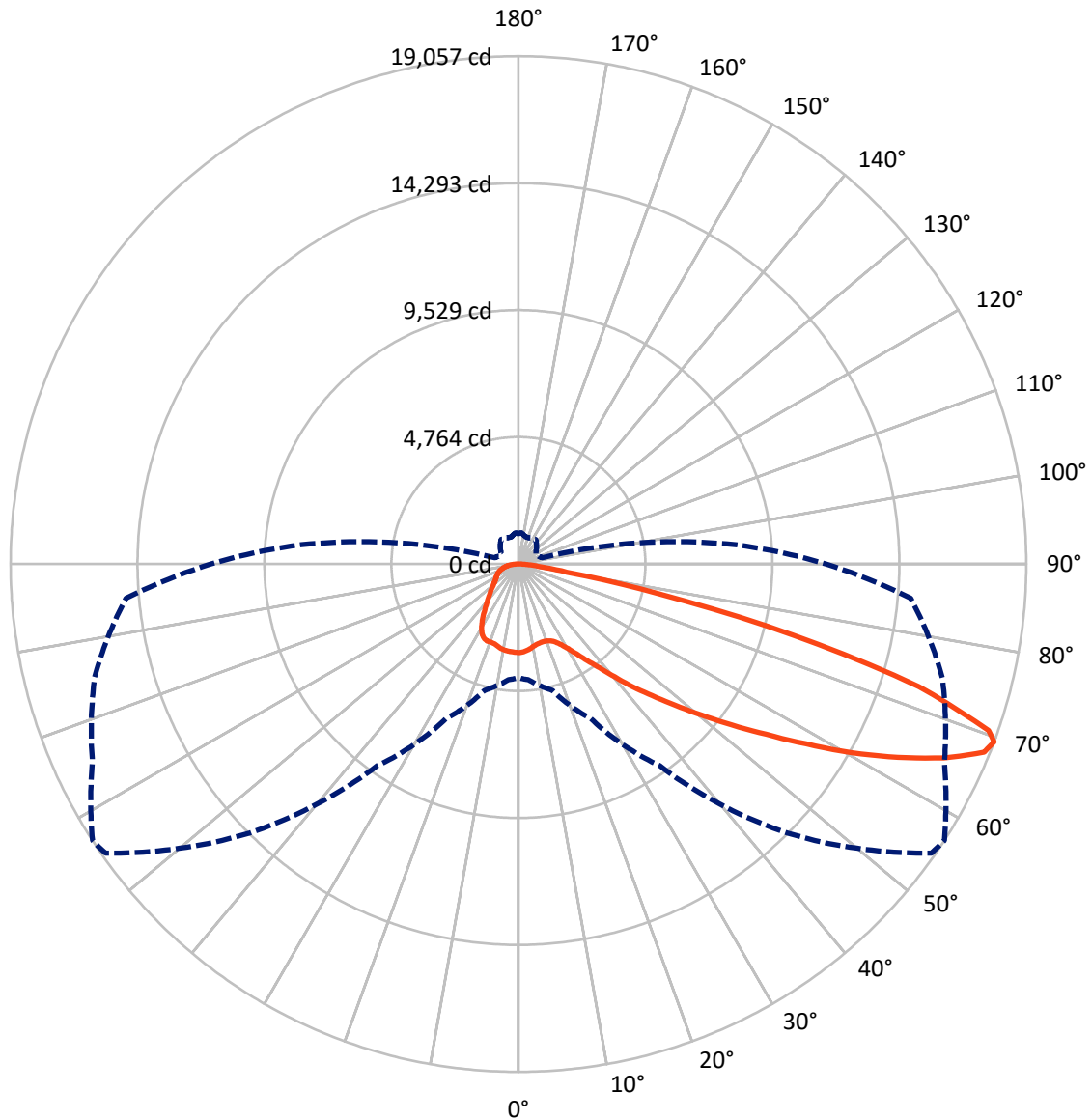
× Max cd  
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 5.4 fc  
 Type III - Short - Semi-Cutoff

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### Luminous Intensity Polar Plot



— Vertical Plane Through 57-Deg Lateral    - - - Horizontal Cone Through 69-Deg Vertical

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**FLUX DISTRIBUTION:**

|                    |           | Downward | Upward | Total   |
|--------------------|-----------|----------|--------|---------|
| <b>House Side</b>  | Lumens    | 5941.2   | 0.0    | 5941.2  |
|                    | % Fixture | 22.1     | 0.0    | 22.1    |
| <b>Street Side</b> | Lumens    | 20982.8  | 0.0    | 20982.8 |
|                    | % Fixture | 77.9     | 0.0    | 77.9    |
| <b>Total</b>       | Lumens    | 26924.0  | 0.0    | 26924.0 |
|                    | % Fixture | 100.0    | 0.0    | 100.0   |

**Coefficient of Utilization**

**ZONAL LUMENS:**

| Zone      | Lumens  | % Fixture |
|-----------|---------|-----------|
| 0°-10°    | 311.5   | 1.2       |
| 10°-20°   | 885.5   | 3.3       |
| 20°-30°   | 1473.1  | 5.5       |
| 30°-40°   | 2405.5  | 8.9       |
| 40°-50°   | 4059.9  | 15.1      |
| 50°-60°   | 6315.3  | 23.5      |
| 60°-70°   | 7522.9  | 27.9      |
| 70°-80°   | 3504.7  | 13.0      |
| 80°-90°   | 445.7   | 1.7       |
| 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°    | 26924.0 | 100.0     |
| 0°-180°   | 26924.0 | 100.0     |



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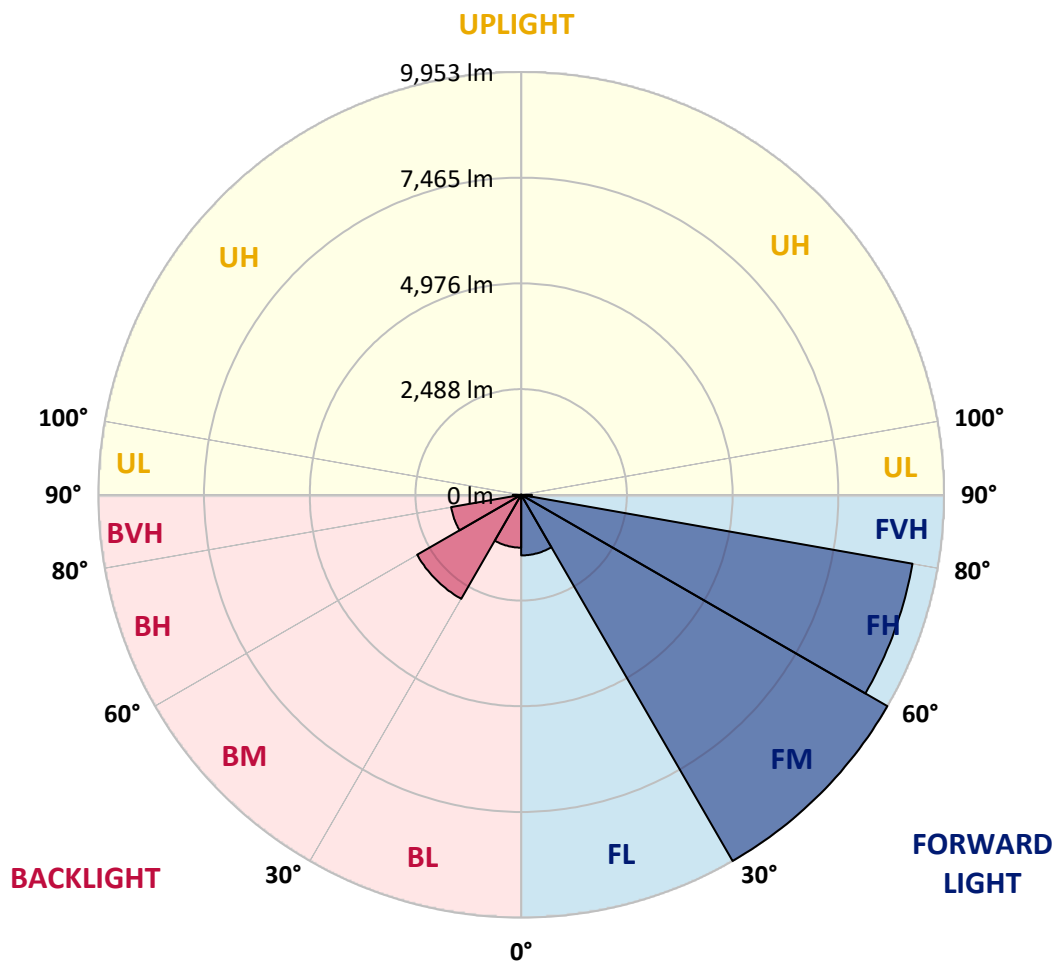
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**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

| Zone |             | Lumens | % Fixture | Zone Rating/Lumen Limit |      |          |
|------|-------------|--------|-----------|-------------------------|------|----------|
|      |             |        |           | B                       | U    | G        |
| FL   | (0°-30°)    | 1425.8 | 5.3       |                         |      |          |
| FM   | (30°-60°)   | 9953.0 | 37.0      |                         |      |          |
| FH   | (60°-80°)   | 9353.4 | 34.7      |                         |      | G4/12000 |
| FVH  | (80°-90°)   | 250.6  | 0.9       |                         |      | G3/500   |
| BL   | (0°-30°)    | 1244.2 | 4.6       | B3/2500                 |      |          |
| BM   | (30°-60°)   | 2827.7 | 10.5      | B3/5000                 |      |          |
| BH   | (60°-80°)   | 1674.1 | 6.2       | B3/2500                 |      | G3/2500  |
| BVH  | (80°-90°)   | 195.2  | 0.7       |                         |      | G2/225   |
| UL   | (90°-100°)  | 0.0    | 0.0       |                         | U0/0 |          |
| UH   | (100°-180°) | 0.0    | 0.0       |                         | U0/0 |          |

**BUG Rating: B3-U0-G4**

Type III Short





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**CANDELA DISTRIBUTION (FULL):**

|       | 0°      | 5°      | 15°     | 25°     | 35°     | 45°     | 55°     | 57°     | 65°     | 75°     | 85°     |
|-------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| 0°    | 3326.7  | 3326.7  | 3326.7  | 3326.7  | 3326.7  | 3326.7  | 3326.7  | 3326.7  | 3326.7  | 3326.7  | 3326.7  |
| 2.5°  | 3307.8  | 3307.8  | 3316.4  | 3316.4  | 3316.4  | 3312.9  | 3302.6  | 3306.0  | 3299.1  | 3294.0  | 3285.4  |
| 5°    | 3240.5  | 3244.0  | 3254.3  | 3257.8  | 3262.9  | 3264.7  | 3264.7  | 3262.9  | 3264.7  | 3264.7  | 3259.5  |
| 7.5°  | 3147.5  | 3150.9  | 3163.0  | 3169.9  | 3185.4  | 3199.2  | 3206.1  | 3206.1  | 3214.7  | 3221.6  | 3223.3  |
| 10°   | 3090.6  | 3090.6  | 3097.5  | 3097.5  | 3109.5  | 3116.4  | 3138.8  | 3137.1  | 3161.2  | 3183.7  | 3194.0  |
| 12.5° | 3083.7  | 3083.7  | 3080.2  | 3068.2  | 3061.3  | 3059.6  | 3082.0  | 3085.4  | 3121.6  | 3161.2  | 3180.2  |
| 15°   | 3106.1  | 3106.1  | 3095.7  | 3071.6  | 3045.8  | 3033.7  | 3056.1  | 3063.0  | 3102.6  | 3149.2  | 3178.5  |
| 17.5° | 3178.5  | 3176.8  | 3154.4  | 3106.1  | 3061.3  | 3042.3  | 3049.2  | 3056.1  | 3092.3  | 3145.7  | 3181.9  |
| 20°   | 3338.8  | 3338.8  | 3290.5  | 3202.6  | 3125.1  | 3080.2  | 3069.9  | 3075.1  | 3100.9  | 3150.9  | 3197.4  |
| 22.5° | 3619.8  | 3624.9  | 3538.7  | 3393.9  | 3261.2  | 3166.4  | 3125.1  | 3130.2  | 3142.3  | 3190.6  | 3242.3  |
| 25°   | 4033.4  | 4019.6  | 3897.3  | 3692.1  | 3485.3  | 3323.3  | 3238.8  | 3244.0  | 3244.0  | 3288.8  | 3342.2  |
| 27.5° | 4471.3  | 4474.7  | 4298.9  | 4078.3  | 3805.9  | 3564.6  | 3430.1  | 3428.4  | 3426.7  | 3469.8  | 3526.7  |
| 30°   | 4966.0  | 4967.7  | 4764.3  | 4509.2  | 4197.2  | 3888.6  | 3687.0  | 3685.3  | 3669.7  | 3723.2  | 3797.3  |
| 32.5° | 5507.2  | 5505.5  | 5269.3  | 4981.5  | 4635.0  | 4285.1  | 4023.1  | 4021.4  | 4009.3  | 4081.7  | 4171.3  |
| 35°   | 6107.0  | 6107.0  | 5872.6  | 5517.5  | 5143.5  | 4753.9  | 4450.6  | 4448.8  | 4455.7  | 4554.0  | 4638.5  |
| 37.5° | 6829.3  | 6844.8  | 6562.1  | 6131.2  | 5722.7  | 5307.2  | 4953.9  | 4943.5  | 4891.8  | 5057.3  | 5196.9  |
| 40°   | 7582.5  | 7625.6  | 7332.6  | 6829.3  | 6388.0  | 5958.8  | 5569.2  | 5562.3  | 5517.5  | 5693.3  | 5919.2  |
| 42.5° | 8397.8  | 8496.1  | 8170.3  | 7656.6  | 7175.7  | 6712.1  | 6320.8  | 6301.8  | 6129.4  | 6403.5  | 6756.9  |
| 45°   | 9466.5  | 9530.3  | 9058.0  | 8592.6  | 8139.3  | 7610.1  | 7144.7  | 7043.0  | 6870.6  | 7222.3  | 7680.8  |
| 47.5° | 10193.9 | 10162.9 | 9868.1  | 9556.1  | 9264.8  | 8758.1  | 8042.7  | 7913.5  | 7703.2  | 8168.6  | 8673.6  |
| 50°   | 10645.5 | 10667.9 | 10502.4 | 10486.9 | 10471.4 | 10118.1 | 9056.3  | 8901.1  | 8658.1  | 9209.7  | 9799.2  |
| 52.5° | 10943.7 | 10842.0 | 10871.3 | 11222.9 | 11648.7 | 11479.8 | 10202.5 | 10030.2 | 9780.2  | 10331.8 | 10997.1 |
| 55°   | 10819.6 | 10685.2 | 10955.8 | 11648.7 | 12650.2 | 12688.1 | 11460.8 | 11283.3 | 11069.5 | 11524.6 | 12438.2 |
| 57.5° | 10305.9 | 10373.2 | 10800.6 | 11764.2 | 13334.5 | 13770.6 | 12907.0 | 12726.0 | 12305.4 | 12767.4 | 13806.8 |
| 60°   | 9583.7  | 9719.9  | 10373.2 | 11581.5 | 13813.7 | 14613.4 | 14494.5 | 14373.9 | 13649.9 | 13977.4 | 15244.3 |
| 62.5° | 8808.1  | 8942.5  | 9745.7  | 11269.5 | 13598.2 | 15359.8 | 16052.7 | 15978.6 | 15134.0 | 15142.6 | 16156.2 |
| 65°   | 7661.8  | 7717.0  | 8537.4  | 10418.0 | 13000.1 | 16033.8 | 17612.7 | 17547.2 | 16552.6 | 16137.2 | 16411.3 |
| 67.5° | 5786.4  | 5855.4  | 6529.3  | 8223.7  | 11179.9 | 15668.3 | 18858.9 | 18848.6 | 17405.8 | 16506.1 | 15804.5 |
| 69°   | 4273.0  | 4357.5  | 4907.3  | 6384.5  | 9244.2  | 14275.6 | 18917.5 | 19057.1 | 17636.8 | 16468.1 | 14778.9 |
| 70°   | 3126.8  | 3223.3  | 3731.8  | 5067.7  | 7699.7  | 12738.1 | 18415.9 | 18715.8 | 17548.9 | 16228.5 | 13979.1 |
| 72.5° | 1329.0  | 1361.7  | 1611.7  | 2287.3  | 3905.9  | 7680.8  | 15084.0 | 15714.9 | 15849.3 | 14541.1 | 10921.3 |
| 75°   | 832.5   | 842.9   | 941.1   | 1173.8  | 1737.5  | 3176.8  | 9768.2  | 10628.3 | 11833.1 | 11281.6 | 7311.9  |
| 77.5° | 627.4   | 636.0   | 692.9   | 808.4   | 1079.0  | 1185.9  | 4531.6  | 5403.8  | 6777.6  | 6636.2  | 3638.7  |
| 80°   | 480.9   | 486.1   | 524.0   | 587.8   | 760.1   | 742.9   | 1470.3  | 1847.8  | 2828.6  | 2495.9  | 1287.6  |
| 82.5° | 377.5   | 379.2   | 412.0   | 424.0   | 530.9   | 499.9   | 737.7   | 822.2   | 1142.8  | 949.8   | 629.1   |
| 85°   | 334.4   | 339.6   | 372.3   | 310.3   | 339.6   | 301.6   | 405.1   | 439.5   | 606.7   | 572.3   | 237.9   |
| 87.5° | 170.6   | 179.3   | 312.0   | 265.4   | 170.6   | 143.1   | 177.5   | 191.3   | 246.5   | 267.2   | 115.5   |
| 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°    | 3326.7  | 3326.7  | 3326.7 | 3326.7 | 3326.7 | 3326.7 | 3326.7 | 3326.7 | 3326.7 | 3326.7 | 3326.7 |
| 2.5°  | 3287.1  | 3288.8  | 3294.0 | 3302.6 | 3316.4 | 3333.6 | 3354.3 | 3375.0 | 3387.1 | 3395.7 | 3392.2 |
| 5°    | 3259.5  | 3261.2  | 3271.6 | 3287.1 | 3304.3 | 3330.2 | 3364.6 | 3390.5 | 3409.5 | 3421.5 | 3419.8 |
| 7.5°  | 3225.0  | 3230.2  | 3250.9 | 3268.1 | 3292.2 | 3312.9 | 3340.5 | 3364.6 | 3383.6 | 3395.7 | 3393.9 |
| 10°   | 3199.2  | 3204.3  | 3230.2 | 3252.6 | 3273.3 | 3276.7 | 3271.6 | 3264.7 | 3262.9 | 3271.6 | 3268.1 |
| 12.5° | 3187.1  | 3197.4  | 3221.6 | 3237.1 | 3228.5 | 3195.7 | 3157.8 | 3142.3 | 3137.1 | 3154.4 | 3156.1 |
| 15°   | 3190.6  | 3199.2  | 3219.9 | 3209.5 | 3163.0 | 3107.8 | 3087.1 | 3099.2 | 3109.5 | 3119.9 | 3121.6 |
| 17.5° | 3199.2  | 3204.3  | 3209.5 | 3171.6 | 3106.1 | 3069.9 | 3063.0 | 3050.9 | 3019.9 | 3002.7 | 3000.9 |
| 20°   | 3214.7  | 3221.6  | 3213.0 | 3152.6 | 3094.0 | 3045.8 | 2963.0 | 2888.9 | 2818.2 | 2780.3 | 2764.8 |
| 22.5° | 3268.1  | 3273.3  | 3247.4 | 3188.8 | 3099.2 | 2942.3 | 2775.1 | 2647.6 | 2539.0 | 2480.4 | 2458.0 |
| 25°   | 3373.3  | 3381.9  | 3345.7 | 3271.6 | 3037.1 | 2763.1 | 2526.9 | 2354.6 | 2218.4 | 2147.7 | 2128.8 |
| 27.5° | 3557.7  | 3566.3  | 3526.7 | 3333.6 | 2892.4 | 2523.5 | 2237.4 | 2066.7 | 1949.5 | 1889.2 | 1880.5 |
| 30°   | 3833.5  | 3845.6  | 3809.4 | 3331.9 | 2671.7 | 2218.4 | 1954.7 | 1854.7 | 1787.5 | 1746.1 | 1744.4 |
| 32.5° | 4216.1  | 4261.0  | 4112.7 | 3273.3 | 2399.4 | 1909.8 | 1740.9 | 1706.5 | 1673.7 | 1646.1 | 1646.1 |
| 35°   | 4702.2  | 4807.4  | 4412.6 | 3150.9 | 2099.5 | 1699.6 | 1622.0 | 1589.2 | 1547.9 | 1518.6 | 1515.1 |
| 37.5° | 5283.1  | 5446.9  | 4626.4 | 2933.7 | 1840.9 | 1597.9 | 1549.6 | 1496.2 | 1430.7 | 1373.8 | 1360.0 |
| 40°   | 6081.2  | 6119.1  | 4731.5 | 2580.4 | 1647.8 | 1542.7 | 1482.4 | 1415.1 | 1332.4 | 1268.6 | 1261.7 |
| 42.5° | 6882.7  | 6758.6  | 4710.8 | 2201.2 | 1537.5 | 1492.7 | 1413.4 | 1339.3 | 1265.2 | 1211.8 | 1211.8 |
| 45°   | 7794.5  | 7317.1  | 4554.0 | 1820.2 | 1437.6 | 1435.8 | 1349.6 | 1279.0 | 1222.1 | 1182.5 | 1173.8 |
| 47.5° | 8666.7  | 7818.7  | 4283.4 | 1539.3 | 1334.1 | 1379.0 | 1308.3 | 1251.4 | 1199.7 | 1161.8 | 1154.9 |
| 50°   | 9725.1  | 8399.5  | 3995.5 | 1342.8 | 1234.2 | 1329.0 | 1291.0 | 1261.7 | 1211.8 | 1146.3 | 1139.4 |
| 52.5° | 10776.5 | 9078.7  | 3773.2 | 1194.5 | 1146.3 | 1289.3 | 1301.4 | 1304.8 | 1258.3 | 1130.7 | 1122.1 |
| 55°   | 11905.5 | 9804.4  | 3538.7 | 1079.0 | 1073.9 | 1270.4 | 1325.5 | 1322.1 | 1299.7 | 1134.2 | 1120.4 |
| 57.5° | 12979.4 | 10533.5 | 3188.8 | 998.0  | 1017.0 | 1251.4 | 1330.7 | 1275.5 | 1235.9 | 1151.4 | 1129.0 |
| 60°   | 13868.8 | 11136.8 | 2675.2 | 941.1  | 968.7  | 1213.5 | 1296.2 | 1213.5 | 1146.3 | 1148.0 | 1127.3 |
| 62.5° | 14301.5 | 11305.7 | 2046.0 | 875.6  | 929.1  | 1151.4 | 1246.2 | 1166.9 | 1104.9 | 1154.9 | 1142.8 |
| 65°   | 13972.2 | 10824.8 | 1458.2 | 815.3  | 880.8  | 1079.0 | 1216.9 | 1127.3 | 1084.2 | 1189.3 | 1175.6 |
| 67.5° | 12789.8 | 9514.8  | 1058.3 | 761.9  | 834.3  | 1004.9 | 1161.8 | 1091.1 | 1063.5 | 1215.2 | 1184.2 |
| 69°   | 11533.2 | 8215.1  | 917.0  | 730.8  | 801.5  | 965.3  | 1125.6 | 1072.1 | 1048.0 | 1179.0 | 1134.2 |
| 70°   | 10488.7 | 7213.6  | 846.3  | 711.9  | 773.9  | 942.9  | 1098.0 | 1060.1 | 1032.5 | 1135.9 | 1082.5 |
| 72.5° | 7520.5  | 4662.6  | 711.9  | 655.0  | 701.5  | 892.9  | 1037.7 | 1015.3 | 973.9  | 1025.6 | 991.1  |
| 75°   | 4543.6  | 2433.9  | 605.0  | 596.4  | 625.7  | 823.9  | 967.0  | 939.4  | 898.0  | 903.2  | 886.0  |
| 77.5° | 2087.4  | 1123.8  | 506.8  | 527.4  | 546.4  | 737.7  | 880.8  | 849.8  | 811.9  | 798.1  | 799.8  |
| 80°   | 915.3   | 656.7   | 424.0  | 449.9  | 460.2  | 663.6  | 787.7  | 753.3  | 711.9  | 786.0  | 729.1  |
| 82.5° | 494.7   | 380.9   | 330.9  | 348.2  | 377.5  | 577.4  | 684.3  | 639.5  | 599.8  | 698.1  | 563.6  |
| 85°   | 199.9   | 194.8   | 224.1  | 241.3  | 262.0  | 415.4  | 572.3  | 525.7  | 477.5  | 427.5  | 417.1  |
| 87.5° | 86.2    | 93.1    | 110.3  | 117.2  | 139.6  | 258.6  | 384.4  | 336.1  | 337.8  | 289.6  | 284.4  |
| 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)