

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: McGRAW-EDISON

Report Number: P301827

Luminaire Tested: **GLNA-AF-05-LED-E1-SL4-HSS**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P301827  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P24301)  
Test Lab: INNOVATION CENTER P2  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: MCGRAW-EDISON  
Catalog Number: GLNA-AF-05-LED-E1-SL4-HSS  
Description: GALLEONAIRE AREA AND ROADWAY LUMINAIRE  
(5) 70 CRI, 4000K CCT 1050mA LIGHTSQUARE WITH 16 LEDS EACH AND Type IV  
w/Spill Control WITH HOUSESIDE SHEILD OPTICS  
Light Source: -  
Ballast/Driver: -

**Summary**

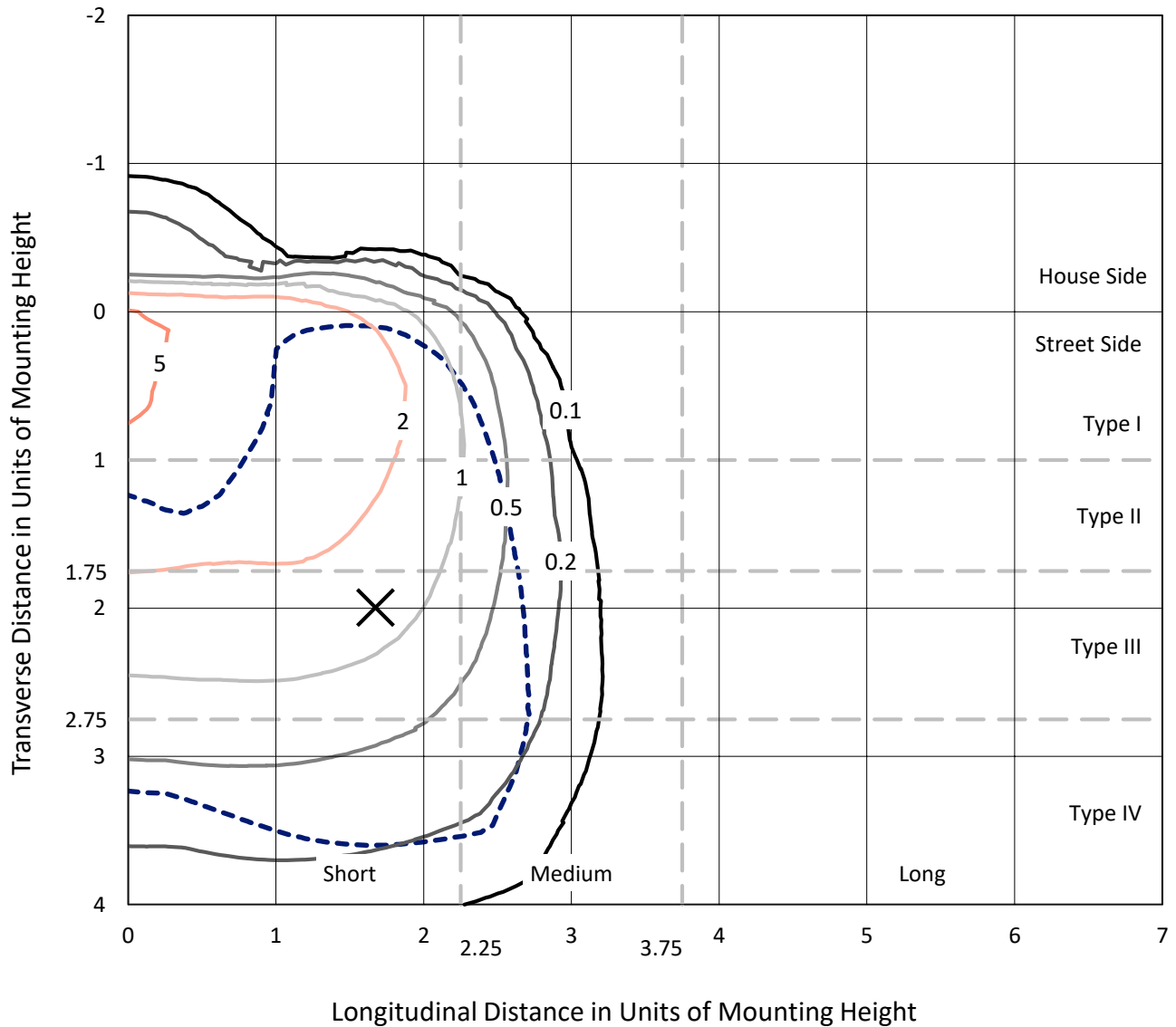
Lumens per Lamp: N/A  
Luminaire Lumens: 21938.6 lumens  
Efficiency: N/A  
Efficacy: 78.6 lumens/watt  
Luminous Opening: Rectangular (W 1.5' x L: 1' x H: 0')  
IES Classification: Type IV - Short - Semi-Cutoff  
BUG Rating: B1 - U0 - G4  
  
Input Watts (W): 279  
Input Voltage (V): NR  
Input Current (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

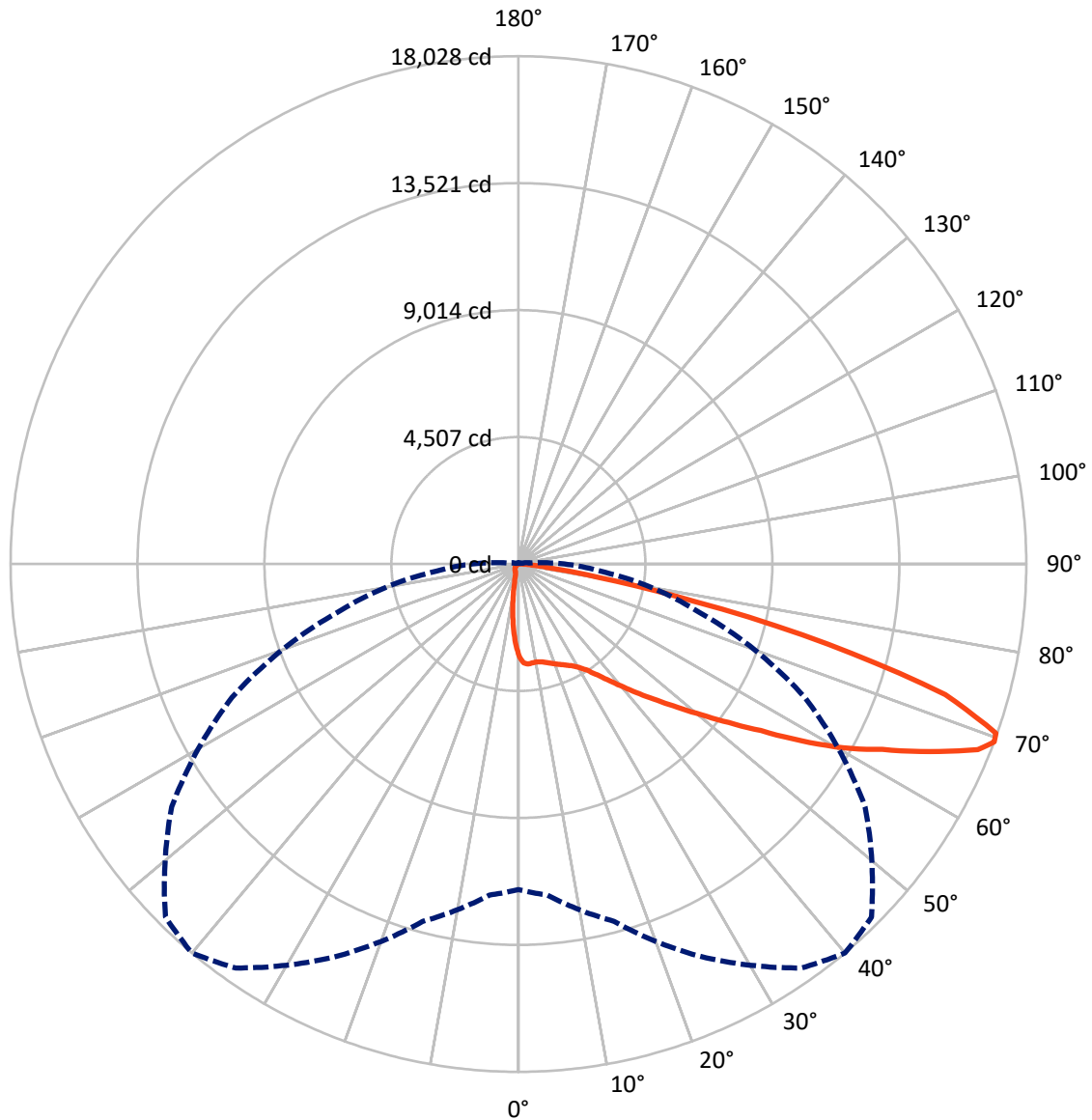
× Max cd  
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 5.7 fc  
 Type IV - Short - Semi-Cutoff

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### Luminous Intensity Polar Plot



— Vertical Plane Through 40-Deg Lateral    - - - Horizontal Cone Through 69-Deg Vertical

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**FLUX DISTRIBUTION:**

|                    |           | Downward | Upward | Total   |
|--------------------|-----------|----------|--------|---------|
| <b>House Side</b>  | Lumens    | 1283.5   | 0.0    | 1283.5  |
|                    | % Fixture | 5.9      | 0.0    | 5.9     |
| <b>Street Side</b> | Lumens    | 20655.1  | 0.0    | 20655.1 |
|                    | % Fixture | 94.1     | 0.0    | 94.1    |
| <b>Total</b>       | Lumens    | 21938.6  | 0.0    | 21938.6 |
|                    | % Fixture | 100.0    | 0.0    | 100.0   |

**Coefficient of Utilization**

**ZONAL LUMENS:**

| Zone      | Lumens  | % Fixture |
|-----------|---------|-----------|
| 0°-10°    | 265.8   | 1.2       |
| 10°-20°   | 653.6   | 3.0       |
| 20°-30°   | 1100.8  | 5.0       |
| 30°-40°   | 1802.1  | 8.2       |
| 40°-50°   | 3120.2  | 14.2      |
| 50°-60°   | 4914.6  | 22.4      |
| 60°-70°   | 6418.3  | 29.3      |
| 70°-80°   | 3305.7  | 15.1      |
| 80°-90°   | 357.6   | 1.6       |
| 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°    | 21938.6 | 100.0     |
| 0°-180°   | 21938.6 | 100.0     |



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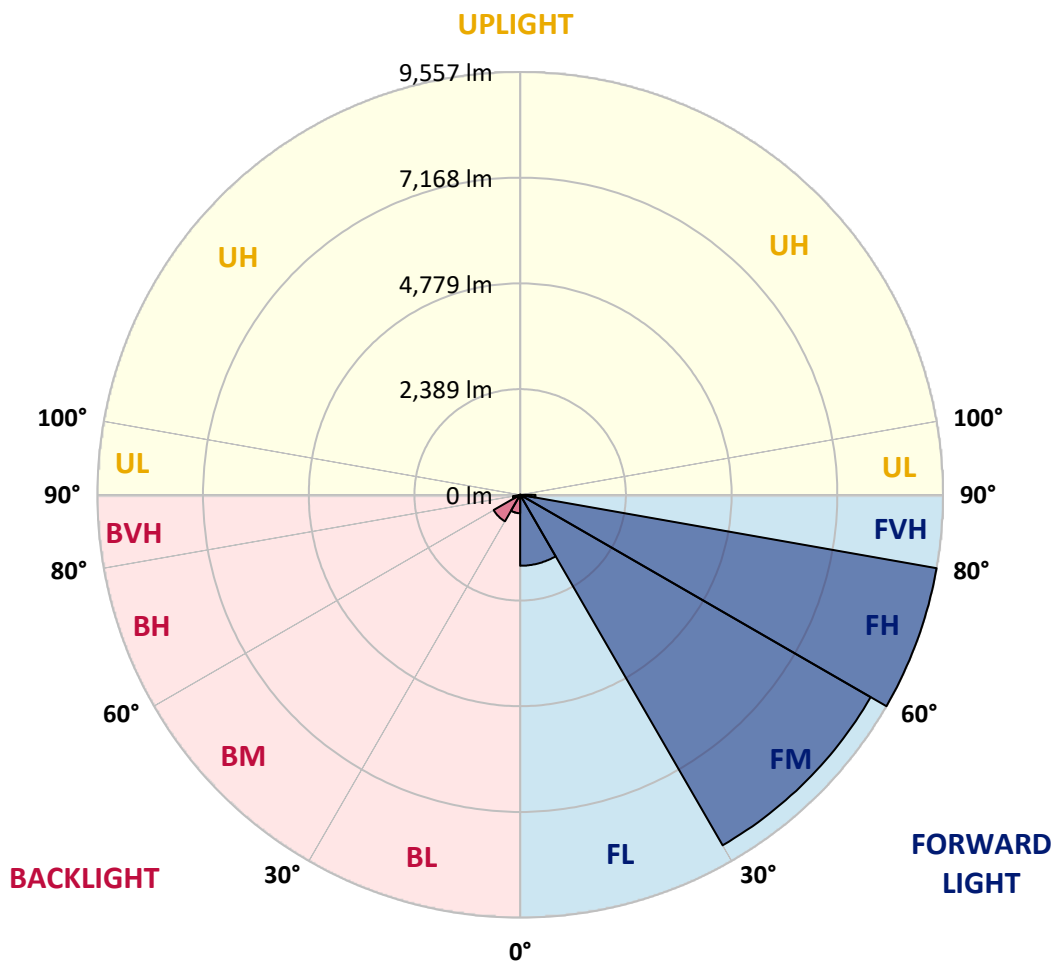
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**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

| Zone |             | Lumens | % Fixture | Zone Rating/Lumen Limit |      |          |
|------|-------------|--------|-----------|-------------------------|------|----------|
|      |             |        |           | B                       | U    | G        |
| FL   | (0°-30°)    | 1604.3 | 7.3       |                         |      |          |
| FM   | (30°-60°)   | 9147.0 | 41.7      |                         |      |          |
| FH   | (60°-80°)   | 9557.4 | 43.6      |                         |      | G4/12000 |
| FVH  | (80°-90°)   | 346.4  | 1.6       |                         |      | G3/500   |
| BL   | (0°-30°)    | 415.8  | 1.9       | B1/500                  |      |          |
| BM   | (30°-60°)   | 689.9  | 3.1       | B1/1000                 |      |          |
| BH   | (60°-80°)   | 166.7  | 0.8       | B1/500                  |      | G1/500   |
| BVH  | (80°-90°)   | 11.2   | 0.1       |                         |      | G1/100   |
| UL   | (90°-100°)  | 0.0    | 0.0       |                         | U0/0 |          |
| UH   | (100°-180°) | 0.0    | 0.0       |                         | U0/0 |          |

**BUG Rating: B1-U0-G4**

Type IV Short





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**CANDELA DISTRIBUTION (FULL):**

|       | 0°      | 5°      | 15°     | 25°     | 35°     | 40°     | 45°     | 55°     | 65°     | 75°     | 85°    |
|-------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|--------|
| 0°    | 3277.7  | 3277.7  | 3277.7  | 3277.7  | 3277.7  | 3277.7  | 3277.7  | 3277.7  | 3277.7  | 3277.7  | 3277.7 |
| 2.5°  | 3599.0  | 3579.4  | 3567.6  | 3552.0  | 3532.4  | 3515.4  | 3508.9  | 3460.6  | 3414.9  | 3352.2  | 3280.4 |
| 5°    | 3665.6  | 3659.1  | 3638.2  | 3617.3  | 3593.8  | 3567.6  | 3553.3  | 3495.8  | 3430.5  | 3339.1  | 3213.8 |
| 7.5°  | 3672.1  | 3664.3  | 3638.2  | 3609.4  | 3576.8  | 3545.4  | 3520.6  | 3463.2  | 3403.1  | 3310.4  | 3157.6 |
| 10°   | 3661.7  | 3652.5  | 3632.9  | 3601.6  | 3561.1  | 3531.1  | 3506.3  | 3451.4  | 3400.5  | 3316.9  | 3147.2 |
| 12.5° | 3649.9  | 3640.8  | 3631.6  | 3616.0  | 3580.7  | 3559.8  | 3538.9  | 3486.7  | 3441.0  | 3370.5  | 3185.0 |
| 15°   | 3661.7  | 3656.4  | 3666.9  | 3660.4  | 3640.8  | 3622.5  | 3601.6  | 3554.6  | 3512.8  | 3454.0  | 3254.2 |
| 17.5° | 3711.3  | 3711.3  | 3743.9  | 3747.9  | 3729.6  | 3703.5  | 3673.4  | 3626.4  | 3591.2  | 3541.5  | 3336.5 |
| 20°   | 3827.5  | 3823.6  | 3865.4  | 3873.2  | 3828.8  | 3788.3  | 3743.9  | 3686.5  | 3659.1  | 3627.7  | 3417.5 |
| 22.5° | 4027.3  | 4009.0  | 4033.8  | 4026.0  | 3938.5  | 3875.8  | 3821.0  | 3750.5  | 3736.1  | 3721.7  | 3507.6 |
| 25°   | 4287.2  | 4276.7  | 4293.7  | 4216.7  | 4062.6  | 3977.7  | 3912.4  | 3832.7  | 3832.7  | 3847.1  | 3609.4 |
| 27.5° | 4664.6  | 4625.4  | 4567.9  | 4432.1  | 4201.0  | 4092.6  | 4022.1  | 3937.2  | 3959.4  | 4012.9  | 3743.9 |
| 30°   | 5051.1  | 5008.0  | 4876.1  | 4667.2  | 4369.5  | 4255.8  | 4173.6  | 4084.8  | 4137.0  | 4234.9  | 3924.1 |
| 32.5° | 5432.4  | 5384.1  | 5197.4  | 4933.6  | 4611.0  | 4497.4  | 4417.8  | 4319.8  | 4407.3  | 4571.9  | 4187.9 |
| 35°   | 5802.0  | 5758.9  | 5543.4  | 5232.6  | 4932.3  | 4838.3  | 4765.1  | 4680.2  | 4792.6  | 5022.4  | 4560.1 |
| 37.5° | 6217.3  | 6170.3  | 5907.8  | 5570.9  | 5322.7  | 5254.8  | 5201.3  | 5116.4  | 5312.3  | 5649.2  | 5078.5 |
| 40°   | 6727.9  | 6648.2  | 6294.3  | 5958.7  | 5774.6  | 5741.9  | 5705.4  | 5693.6  | 5997.9  | 6464.1  | 5769.3 |
| 42.5° | 7312.9  | 7182.3  | 6699.1  | 6367.4  | 6270.8  | 6294.3  | 6285.2  | 6337.4  | 6855.8  | 7477.4  | 6610.3 |
| 45°   | 7897.9  | 7729.5  | 7149.7  | 6803.6  | 6816.7  | 6898.9  | 6949.9  | 7158.8  | 7930.6  | 8639.7  | 7515.3 |
| 47.5° | 8394.2  | 8228.3  | 7581.9  | 7275.0  | 7431.7  | 7593.7  | 7732.1  | 8127.8  | 9035.3  | 9783.6  | 8219.2 |
| 50°   | 8818.6  | 8661.9  | 8040.3  | 7793.5  | 8146.0  | 8407.2  | 8631.8  | 9218.2  | 10223.7 | 10654.6 | 8712.8 |
| 52.5° | 9165.9  | 9061.5  | 8515.6  | 8387.6  | 8962.2  | 9344.8  | 9673.9  | 10376.5 | 11276.2 | 11362.4 | 9096.7 |
| 55°   | 9504.1  | 9429.7  | 9026.2  | 9094.1  | 9920.7  | 10441.8 | 10858.3 | 11605.3 | 12182.5 | 11952.7 | 9465.0 |
| 57.5° | 9893.3  | 9825.4  | 9608.6  | 9989.9  | 11180.9 | 11836.4 | 12290.9 | 12694.4 | 12980.4 | 12556.0 | 9812.3 |
| 60°   | 10290.3 | 10251.1 | 10256.3 | 10985.0 | 12627.8 | 13257.2 | 13508.0 | 13612.4 | 13763.9 | 13124.0 | 9831.9 |
| 62.5° | 10669.0 | 10743.4 | 10996.8 | 12092.4 | 14013.3 | 14496.5 | 14623.2 | 14726.3 | 14548.7 | 13214.1 | 9083.7 |
| 65°   | 11310.2 | 11431.6 | 12036.2 | 13574.6 | 15537.3 | 16054.4 | 16185.0 | 15831.1 | 14672.8 | 12049.3 | 7388.6 |
| 67.5° | 11623.6 | 11845.6 | 12924.2 | 14956.2 | 17015.5 | 17590.1 | 17541.8 | 15902.9 | 13167.1 | 9188.1  | 4741.6 |
| 69°   | 11558.3 | 11794.6 | 13129.2 | 15379.3 | 17506.5 | 18027.6 | 17720.7 | 15024.1 | 11217.5 | 6656.0  | 2910.8 |
| 70°   | 11299.7 | 11538.7 | 13023.5 | 15363.6 | 17569.2 | 17981.9 | 17389.0 | 13938.9 | 9484.6  | 4867.0  | 1820.4 |
| 72.5° | 9436.2  | 9642.6  | 11562.2 | 13886.7 | 16185.0 | 15849.4 | 14547.4 | 9656.9  | 4621.5  | 1325.5  | 410.0  |
| 75°   | 5808.5  | 5923.4  | 8296.2  | 10461.3 | 12224.3 | 11362.4 | 9692.2  | 4804.3  | 1377.7  | 374.8   | 227.2  |
| 77.5° | 3068.8  | 3121.0  | 4541.8  | 6166.3  | 7749.1  | 6411.8  | 4967.5  | 1873.9  | 634.7   | 235.1   | 164.5  |
| 80°   | 1813.9  | 1853.0  | 2445.9  | 2819.4  | 3353.5  | 2801.1  | 1986.2  | 1150.5  | 454.4   | 147.6   | 146.3  |
| 82.5° | 1038.2  | 1063.0  | 1773.4  | 1567.0  | 1321.5  | 1128.3  | 988.5   | 1090.4  | 272.9   | 99.2    | 151.5  |
| 85°   | 381.3   | 386.5   | 997.7   | 1192.3  | 786.1   | 467.5   | 491.0   | 903.7   | 73.1    | 62.7    | 118.8  |
| 87.5° | 177.6   | 173.7   | 513.2   | 730.0   | 459.7   | 296.4   | 382.6   | 198.5   | 28.7    | 40.5    | 32.6   |
| 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°    | 3277.7 | 3277.7 | 3277.7 | 3277.7 | 3277.7 | 3277.7 | 3277.7 | 3277.7 | 3277.7 | 3277.7 | 3277.7 |
| 2.5°  | 3238.6 | 3190.2 | 3102.8 | 3012.6 | 2921.2 | 2850.7 | 2781.5 | 2726.7 | 2708.4 | 2674.4 | 2677.0 |
| 5°    | 3139.3 | 3050.5 | 2867.7 | 2682.3 | 2489.0 | 2329.7 | 2179.5 | 2058.1 | 1999.3 | 1939.2 | 1939.2 |
| 7.5°  | 3053.1 | 2923.8 | 2637.9 | 2336.2 | 2024.1 | 1761.6 | 1525.3 | 1347.7 | 1249.7 | 1171.4 | 1170.1 |
| 10°   | 3020.5 | 2845.5 | 2445.9 | 2013.7 | 1578.8 | 1221.0 | 940.2  | 760.0  | 667.3  | 607.2  | 604.6  |
| 12.5° | 3034.8 | 2818.1 | 2298.3 | 1715.9 | 1170.1 | 784.8  | 544.5  | 428.3  | 389.2  | 370.9  | 370.9  |
| 15°   | 3076.6 | 2810.2 | 2150.8 | 1424.7 | 826.6  | 491.0  | 361.7  | 330.4  | 327.8  | 327.8  | 327.8  |
| 17.5° | 3127.6 | 2812.9 | 1999.3 | 1141.3 | 562.8  | 351.3  | 312.1  | 308.2  | 310.8  | 310.8  | 310.8  |
| 20°   | 3179.8 | 2814.2 | 1836.1 | 878.9  | 397.0  | 305.6  | 293.8  | 292.5  | 295.1  | 295.1  | 296.4  |
| 22.5° | 3243.8 | 2820.7 | 1672.8 | 656.9  | 327.8  | 288.6  | 279.5  | 279.5  | 280.8  | 280.8  | 279.5  |
| 25°   | 3316.9 | 2833.7 | 1503.1 | 487.1  | 299.0  | 276.8  | 269.0  | 267.7  | 269.0  | 267.7  | 266.4  |
| 27.5° | 3408.3 | 2852.0 | 1313.7 | 381.3  | 286.0  | 265.1  | 258.6  | 258.6  | 257.3  | 256.0  | 254.6  |
| 30°   | 3523.2 | 2872.9 | 1100.9 | 323.9  | 272.9  | 254.6  | 248.1  | 246.8  | 245.5  | 242.9  | 242.9  |
| 32.5° | 3698.2 | 2918.6 | 890.6  | 293.8  | 258.6  | 240.3  | 235.1  | 235.1  | 232.4  | 229.8  | 228.5  |
| 35°   | 3967.2 | 3008.7 | 702.6  | 275.5  | 242.9  | 224.6  | 218.1  | 218.1  | 215.5  | 214.2  | 212.9  |
| 37.5° | 4339.4 | 3145.8 | 545.9  | 258.6  | 227.2  | 207.6  | 201.1  | 199.8  | 197.2  | 194.6  | 193.3  |
| 40°   | 4834.3 | 3315.6 | 429.6  | 242.9  | 211.6  | 190.7  | 185.4  | 182.8  | 177.6  | 173.7  | 173.7  |
| 42.5° | 5455.9 | 3508.9 | 348.7  | 225.9  | 193.3  | 175.0  | 171.1  | 167.2  | 158.0  | 154.1  | 152.8  |
| 45°   | 6106.3 | 3682.6 | 295.1  | 206.3  | 175.0  | 159.3  | 156.7  | 150.2  | 138.4  | 134.5  | 134.5  |
| 47.5° | 6575.1 | 3723.0 | 259.9  | 188.0  | 158.0  | 142.3  | 141.0  | 129.3  | 118.8  | 116.2  | 114.9  |
| 50°   | 6867.6 | 3643.4 | 231.1  | 169.8  | 142.3  | 126.7  | 122.8  | 108.4  | 101.9  | 99.2   | 97.9   |
| 52.5° | 7064.8 | 3501.0 | 207.6  | 154.1  | 128.0  | 112.3  | 103.2  | 92.7   | 87.5   | 84.9   | 84.9   |
| 55°   | 7222.8 | 3299.9 | 184.1  | 139.7  | 116.2  | 100.6  | 87.5   | 79.7   | 74.4   | 71.8   | 71.8   |
| 57.5° | 7267.2 | 3027.0 | 160.6  | 128.0  | 104.5  | 88.8   | 74.4   | 69.2   | 62.7   | 61.4   | 61.4   |
| 60°   | 6944.6 | 2534.7 | 142.3  | 113.6  | 94.0   | 77.0   | 65.3   | 58.8   | 52.2   | 50.9   | 49.6   |
| 62.5° | 6094.5 | 1961.4 | 125.4  | 100.6  | 82.3   | 66.6   | 56.2   | 48.3   | 43.1   | 43.1   | 43.1   |
| 65°   | 4648.9 | 1315.0 | 109.7  | 87.5   | 71.8   | 56.2   | 48.3   | 39.2   | 36.6   | 36.6   | 37.9   |
| 67.5° | 2782.8 | 715.6  | 94.0   | 74.4   | 61.4   | 47.0   | 40.5   | 34.0   | 32.6   | 34.0   | 34.0   |
| 69°   | 1631.0 | 420.5  | 84.9   | 66.6   | 53.5   | 41.8   | 35.3   | 30.0   | 32.6   | 34.0   | 34.0   |
| 70°   | 1006.8 | 283.4  | 78.4   | 60.1   | 48.3   | 37.9   | 32.6   | 28.7   | 31.3   | 32.6   | 32.6   |
| 72.5° | 280.8  | 146.3  | 62.7   | 47.0   | 39.2   | 31.3   | 26.1   | 26.1   | 30.0   | 31.3   | 31.3   |
| 75°   | 182.8  | 108.4  | 48.3   | 35.3   | 30.0   | 24.8   | 22.2   | 24.8   | 28.7   | 30.0   | 30.0   |
| 77.5° | 151.5  | 88.8   | 39.2   | 28.7   | 24.8   | 23.5   | 20.9   | 22.2   | 26.1   | 27.4   | 27.4   |
| 80°   | 138.4  | 62.7   | 31.3   | 26.1   | 22.2   | 20.9   | 19.6   | 18.3   | 23.5   | 24.8   | 24.8   |
| 82.5° | 131.9  | 49.6   | 27.4   | 23.5   | 20.9   | 18.3   | 17.0   | 18.3   | 20.9   | 22.2   | 23.5   |
| 85°   | 82.3   | 32.6   | 24.8   | 22.2   | 18.3   | 17.0   | 17.0   | 17.0   | 19.6   | 20.9   | 20.9   |
| 87.5° | 30.0   | 26.1   | 22.2   | 18.3   | 15.7   | 15.7   | 15.7   | 15.7   | 17.0   | 19.6   | 19.6   |
| 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)