

Scaled data based on original data using  
LM-46-04 Photometric Testing of Indoor Luminaires Using High Intensity Discharge  
or Incandescent Filament Lamps (Reaffirmed 2012)

Test Report Prepared for

Cooper Lighting Solutions

(formerly Eaton)

Brand: STREETWORKS

Report Number: 766032\_320MP

Luminaire Tested: **GMX32PXXAS**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-46-04  
Report Number: 766032\_320MP  
Test Lab:  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: STREETWORKS  
Catalog Number: GMX32PXXAS  
Description: 400MH TYPE VERTICAL AREA SQUARE  
Light Source: 320 WATT PULSE-START CLEAR ED-37 VBU BURN  
Ballast/Driver: -

**Summary**

Lumens per Lamp: 33000 (1 lamp)  
Luminaire Lumens: 22281.8 lumens  
Efficiency: 67.5%  
Efficacy: 63.7 lumens/watt  
Luminous Opening: Rectangular w/ Sides (W: 1.81' x L: 1.81' x H: 0.83')  
IES Classification: Type V - Medium - Non-Cutoff  
BUG Rating: B5 - U3 - G5

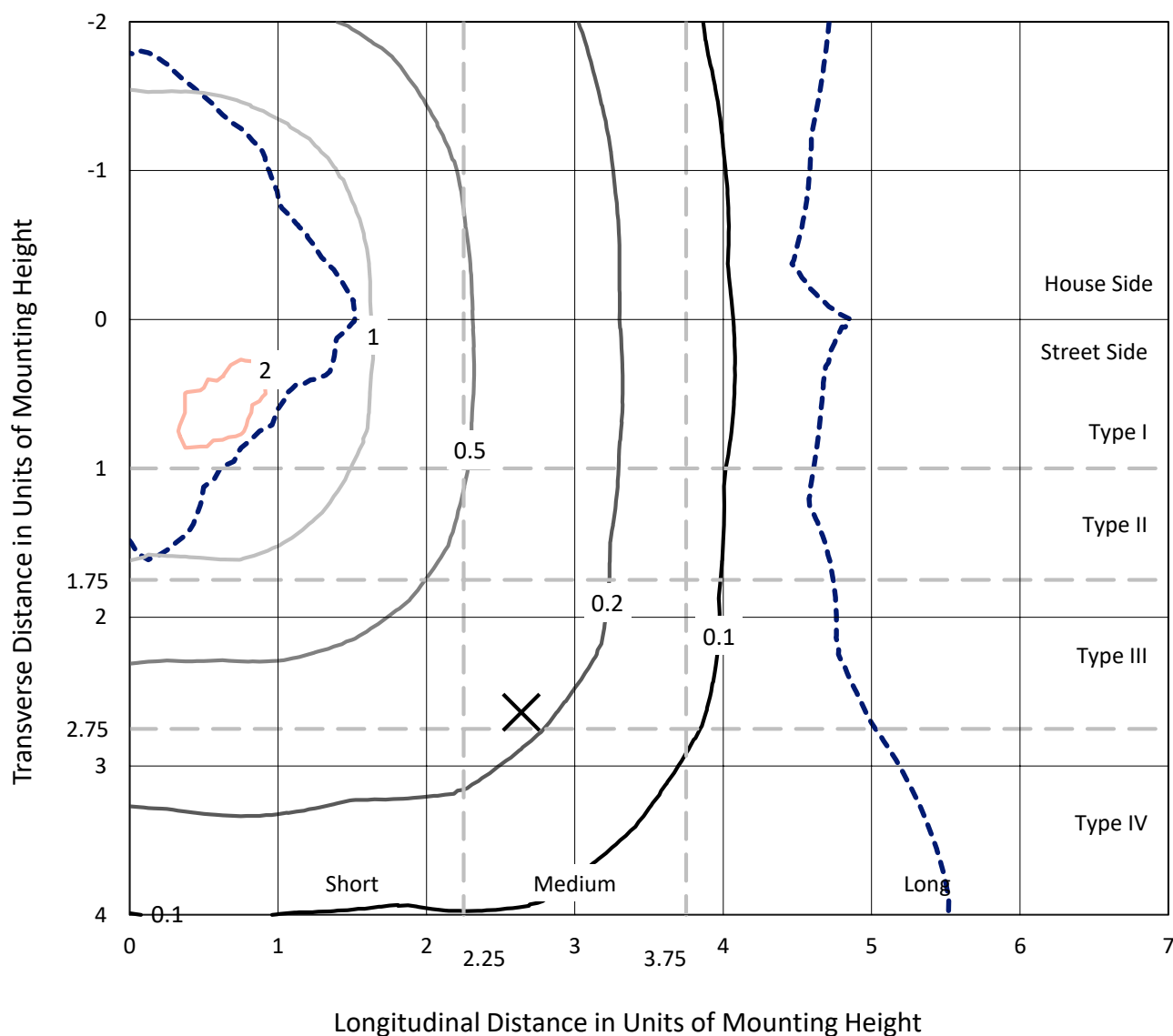
Input Watts (W): 350  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 28.75 FT



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## Iso-Footcandle Lines of Horizontal Illumination

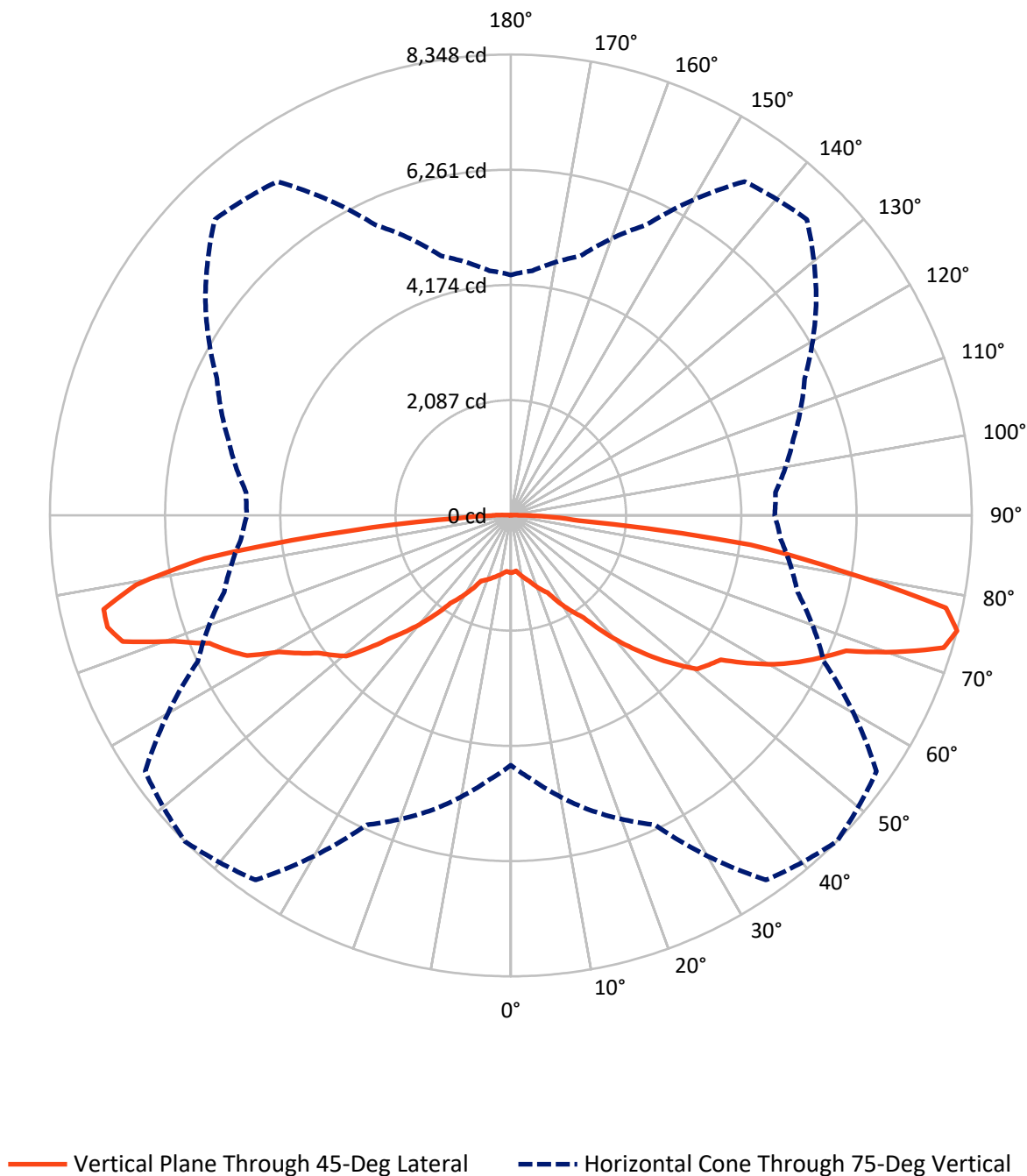
× Max cd  
 --- 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 2.1 fc  
 Type V - Medium - Non-Cutoff

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## Luminous Intensity Polar Plot



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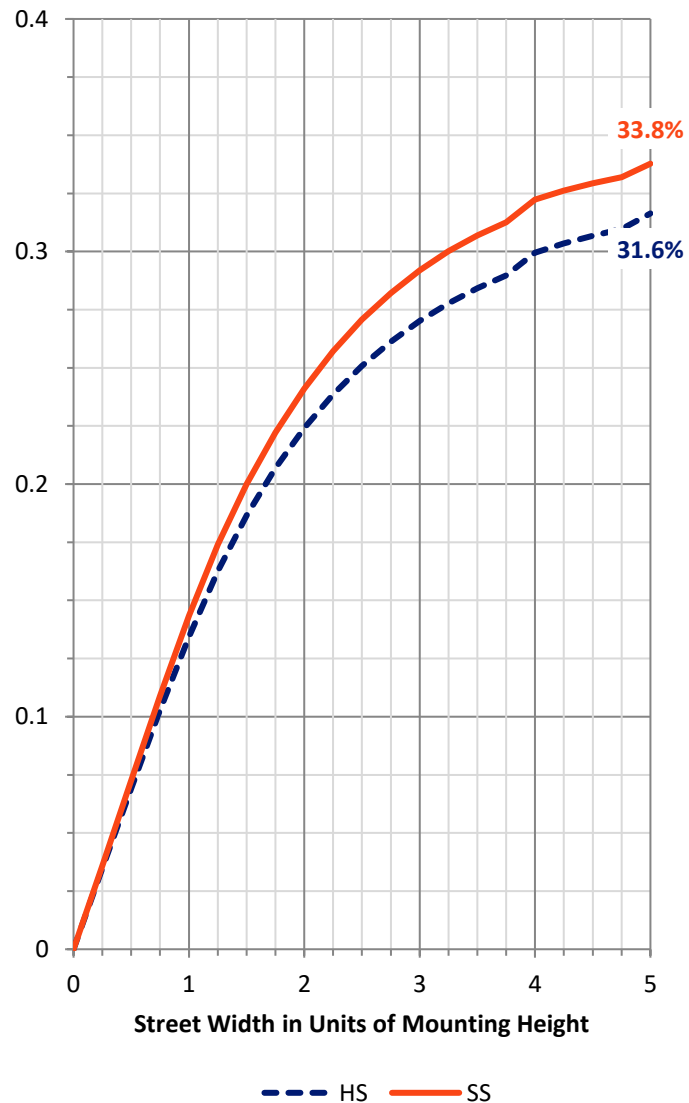
**FLUX DISTRIBUTION:**

|                    |        | Downward | Upward | Total   |
|--------------------|--------|----------|--------|---------|
| <b>House Side</b>  | Lumens | 10786.7  | 65.5   | 10852.2 |
|                    | % Lamp | 32.7     | 0.2    | 32.9    |
| <b>Street Side</b> | Lumens | 11382.0  | 47.6   | 11429.6 |
|                    | % Lamp | 34.5     | 0.1    | 34.6    |
| <b>Total</b>       | Lumens | 22168.7  | 113.1  | 22281.8 |
|                    | % Lamp | 67.2     | 0.3    | 67.5    |

**ZONAL LUMENS:**

| Zone      | Lumens  | % Fixture | % Lamp |
|-----------|---------|-----------|--------|
| 0°-10°    | 99.9    | 0.4       | 0.3    |
| 10°-20°   | 334.5   | 1.5       | 1.0    |
| 20°-30°   | 686.5   | 3.1       | 2.1    |
| 30°-40°   | 1361.2  | 6.1       | 4.1    |
| 40°-50°   | 2535.9  | 11.4      | 7.7    |
| 50°-60°   | 3848.0  | 17.3      | 11.7   |
| 60°-70°   | 5337.0  | 24.0      | 16.2   |
| 70°-80°   | 6109.9  | 27.4      | 18.5   |
| 80°-90°   | 1928.7  | 8.7       | 5.8    |
| 90°-100°  | 93.4    | 0.4       | 0.3    |
| 100°-110° | 21.7    | 0.1       | 0.1    |
| 110°-120° | 3.7     | 0.0       | 0.0    |
| 120°-130° | 0.4     | 0.0       | 0.0    |
| 130°-140° | 0.0     | 0.0       | 0.0    |
| 140°-150° | 0.0     | 0.0       | 0.0    |
| 150°-160° | 0.0     | 0.0       | 0.0    |
| 160°-170° | 0.0     | 0.0       | 0.0    |
| 170°-180° | 0.0     | 0.0       | 0.0    |
| 0°-90°    | 22168.7 | 99.5      | 67.2   |
| 0°-180°   | 22281.8 | 100.0     | 67.5   |

**Coefficient of Utilization**

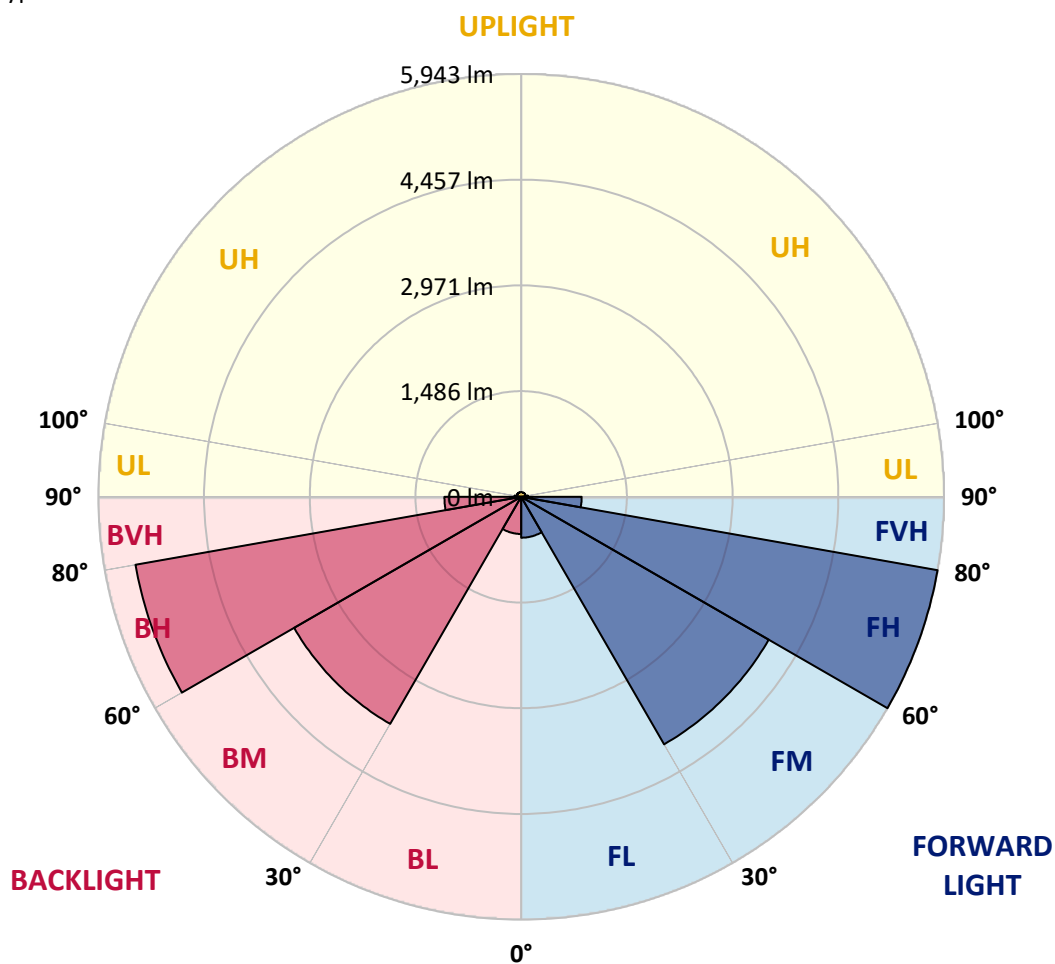


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**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

| Zone          |             | Lumens  | % Lamp | Zone Rating/Lumen Limit |        |         |
|---------------|-------------|---------|--------|-------------------------|--------|---------|
|               |             |         |        | B                       | U      | G       |
| FL            | (0°-30°)    | 575.1   | 1.7    |                         |        |         |
| FM            | (30°-60°)   | 4017.5  | 12.2   |                         |        |         |
| FH            | (60°-80°)   | 5942.8  | 18.0   |                         |        | G3/7500 |
| FVH           | (80°-90°)   | 850.0   | 2.6    |                         |        | G5      |
| BL            | (0°-30°)    | 522.5   | 1.6    | B2/1000                 |        |         |
| BM            | (30°-60°)   | 3684.5  | 11.2   | B3/5000                 |        |         |
| BH            | (60°-80°)   | 5504.1  | 16.7   | B5                      |        | G3/7500 |
| BVH           | (80°-90°)   | 1078.6  | 3.3    |                         |        | G5      |
| UL            | (90°-100°)  | 93.4    | 0.3    |                         | U3/500 |         |
| UH            | (100°-180°) | 65.5    | 0.2    |                         | U3/500 |         |
| Trapped Light |             | 10718.2 | 32.5   |                         |        |         |

**BUG Rating: B5-U3-G5**  
Type V Medium





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**CANDELA DISTRIBUTION (FULL):**

|       | 0°     | 5°     | 15°    | 25°    | 35°    | 45°    | 55°    | 65°    | 75°    | 85°    | 90°    |
|-------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 0°    | 1037.7 | 1037.7 | 1037.7 | 1037.7 | 1037.7 | 1037.7 | 1037.7 | 1037.7 | 1037.7 | 1037.7 | 1037.7 |
| 5°    | 1026.7 | 983.6  | 997.3  | 997.3  | 989.1  | 1011.1 | 1023.0 | 1008.3 | 1013.8 | 1004.7 | 1031.2 |
| 15°   | 1109.2 | 1095.4 | 1193.5 | 1260.4 | 1217.3 | 1230.2 | 1235.7 | 1207.2 | 1166.0 | 1175.2 | 1180.7 |
| 25°   | 1366.8 | 1346.6 | 1383.2 | 1474.9 | 1531.8 | 1551.9 | 1561.1 | 1520.8 | 1497.8 | 1419.9 | 1392.4 |
| 35°   | 1997.4 | 1910.3 | 2020.3 | 2166.1 | 2273.3 | 2273.3 | 2211.9 | 2209.2 | 2081.8 | 2040.5 | 2024.9 |
| 45°   | 3124.9 | 3166.2 | 3145.1 | 3535.6 | 3513.6 | 3686.8 | 3581.4 | 3638.2 | 3353.2 | 3456.8 | 3150.6 |
| 50°   | 3783.1 | 3573.2 | 3693.2 | 4168.1 | 4278.1 | 4373.4 | 4200.2 | 4327.6 | 3907.8 | 3936.2 | 3814.2 |
| 55°   | 4102.1 | 3795.9 | 4031.5 | 4474.2 | 4578.8 | 4613.6 | 4578.8 | 4526.5 | 4204.8 | 4193.8 | 4006.8 |
| 60°   | 4433.0 | 4334.9 | 4625.5 | 5212.2 | 5440.4 | 5476.2 | 5258.0 | 5127.8 | 4731.8 | 4572.3 | 4521.9 |
| 62.5° | 4714.4 | 4638.3 | 4932.6 | 5599.9 | 5851.1 | 5851.1 | 5752.1 | 5552.2 | 5099.4 | 4844.6 | 4752.9 |
| 65°   | 4904.2 | 4826.2 | 5166.3 | 5869.4 | 6124.2 | 6195.8 | 6116.0 | 5770.4 | 5278.2 | 4951.8 | 4881.2 |
| 67.5° | 5027.0 | 4956.4 | 5313.9 | 6116.0 | 6501.9 | 6549.6 | 6435.9 | 6036.2 | 5410.2 | 5108.6 | 5038.0 |
| 70°   | 5202.1 | 5192.9 | 5731.9 | 6471.7 | 7147.2 | 7407.6 | 7200.4 | 6339.7 | 5677.8 | 5248.8 | 5211.2 |
| 72.5° | 5115.9 | 5230.5 | 6106.8 | 6644.9 | 7870.5 | 8199.6 | 7943.8 | 6670.6 | 5820.8 | 5407.4 | 5234.2 |
| 75°   | 4524.7 | 4825.3 | 5524.8 | 6183.8 | 8060.2 | 8348.1 | 8084.1 | 6254.4 | 5376.2 | 4903.2 | 4780.4 |
| 77.5° | 4047.1 | 4102.1 | 4166.2 | 5314.8 | 7940.2 | 8058.4 | 7469.0 | 5555.9 | 4442.2 | 4451.3 | 4368.8 |
| 80°   | 2962.7 | 2956.2 | 3107.5 | 3721.7 | 5851.1 | 6047.2 | 5401.0 | 3535.6 | 3232.2 | 2949.8 | 3800.5 |
| 82.5° | 2180.8 | 1953.4 | 1956.2 | 2268.8 | 3184.5 | 4371.6 | 3428.3 | 2608.8 | 1870.0 | 1846.2 | 2605.2 |
| 85°   | 618.8  | 810.3  | 894.7  | 1107.3 | 1228.3 | 1243.9 | 1371.3 | 1090.8 | 808.5  | 784.7  | 945.1  |
| 87.5° | 257.6  | 280.5  | 379.5  | 419.8  | 534.4  | 659.1  | 616.9  | 522.5  | 367.6  | 275.9  | 305.2  |
| 90°   | 91.7   | 93.5   | 123.8  | 151.2  | 154.9  | 157.7  | 198.9  | 166.8  | 137.5  | 111.8  | 107.2  |
| 95°   | 24.8   | 30.2   | 57.8   | 61.4   | 75.2   | 52.2   | 77.9   | 56.8   | 45.8   | 30.2   | 22.9   |
| 105°  | 2.8    | 4.6    | 13.8   | 20.2   | 11.0   | 6.4    | 6.4    | 13.8   | 9.2    | 2.8    | 1.8    |
| 115°  | 2.8    | 2.8    | 2.8    | 2.8    | 2.8    | 2.8    | 1.8    | 0.0    | 0.0    | 0.0    | 0.0    |
| 125°  | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    |
| 135°  | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    |
| 145°  | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    |
| 155°  | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    |
| 165°  | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    |
| 175°  | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    |
| 180°  | 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°    | 1037.7 | 1037.7 | 1037.7 | 1037.7 | 1037.7 | 1037.7 | 1037.7 | 1037.7 | 1037.7 | 1037.7 |
| 5°    | 1027.6 | 1026.7 | 1020.2 | 1017.5 | 1015.7 | 1022.1 | 1049.6 | 1031.2 | 1041.3 | 1029.4 |
| 15°   | 1166.9 | 1191.7 | 1182.5 | 1168.8 | 1150.4 | 1110.1 | 1079.8 | 1045.9 | 1006.5 | 992.8  |
| 25°   | 1389.7 | 1349.3 | 1333.8 | 1326.4 | 1305.3 | 1285.2 | 1250.3 | 1223.8 | 1148.6 | 1155.0 |
| 35°   | 1974.5 | 1954.3 | 1937.8 | 1965.3 | 1926.8 | 1874.6 | 1810.4 | 1760.0 | 1689.4 | 1666.5 |
| 45°   | 3233.1 | 3391.7 | 3098.3 | 3387.1 | 3115.8 | 3006.7 | 2922.3 | 2949.8 | 2826.1 | 2809.6 |
| 50°   | 3807.8 | 3936.2 | 3926.1 | 4100.2 | 3922.4 | 3748.2 | 3597.9 | 3472.3 | 3421.9 | 3293.6 |
| 55°   | 4031.5 | 4207.5 | 4351.4 | 4373.4 | 4289.1 | 4070.0 | 4025.1 | 3784.9 | 3684.1 | 3725.3 |
| 60°   | 4489.8 | 4653.0 | 4787.8 | 4926.2 | 4869.3 | 4725.4 | 4555.8 | 4374.3 | 4059.0 | 4111.2 |
| 62.5° | 4734.6 | 4875.8 | 5091.2 | 5312.1 | 5410.2 | 5220.4 | 4983.9 | 4604.4 | 4374.3 | 4303.8 |
| 65°   | 4907.8 | 5054.5 | 5393.7 | 5555.9 | 5675.1 | 5458.8 | 5183.8 | 4768.5 | 4440.3 | 4433.0 |
| 67.5° | 5028.8 | 5206.7 | 5629.2 | 5797.9 | 5929.0 | 5684.2 | 5394.6 | 4830.8 | 4495.3 | 4472.4 |
| 70°   | 5225.0 | 5401.0 | 5857.5 | 6193.0 | 6508.3 | 6319.5 | 5727.3 | 5025.2 | 4648.4 | 4625.5 |
| 72.5° | 5293.8 | 5635.7 | 6243.4 | 6842.0 | 7392.0 | 7176.6 | 6161.8 | 5225.0 | 4775.8 | 4629.2 |
| 75°   | 4811.6 | 5295.6 | 5873.1 | 6752.2 | 7580.8 | 7380.1 | 5805.2 | 4862.9 | 4448.6 | 4356.0 |
| 77.5° | 4140.6 | 4536.6 | 5166.3 | 6352.5 | 7568.0 | 7462.6 | 5203.0 | 4157.1 | 3814.2 | 3768.4 |
| 80°   | 2983.8 | 3065.3 | 3661.2 | 5374.4 | 6901.6 | 6270.9 | 4036.1 | 3267.0 | 3168.9 | 2940.7 |
| 82.5° | 2081.8 | 2344.8 | 2800.4 | 4015.9 | 5602.7 | 4549.4 | 3081.8 | 2420.0 | 2602.4 | 2506.2 |
| 85°   | 839.7  | 1038.6 | 1479.5 | 1947.0 | 2916.8 | 2143.2 | 1749.0 | 1274.2 | 1329.2 | 1200.8 |
| 87.5° | 347.4  | 554.6  | 696.7  | 1012.9 | 924.0  | 1056.9 | 828.7  | 598.6  | 540.8  | 542.7  |
| 90°   | 116.4  | 166.8  | 243.8  | 269.5  | 353.8  | 294.2  | 292.4  | 223.7  | 198.9  | 155.8  |
| 95°   | 32.1   | 56.8   | 64.2   | 87.1   | 72.4   | 77.0   | 75.2   | 61.4   | 38.5   | 36.7   |
| 105°  | 2.8    | 11.9   | 16.5   | 15.6   | 11.0   | 11.9   | 18.3   | 15.6   | 6.4    | 2.8    |
| 115°  | 1.8    | 1.8    | 1.8    | 2.8    | 2.8    | 2.8    | 2.8    | 2.8    | 1.8    | 0.0    |
| 125°  | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    |
| 135°  | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    |
| 145°  | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    |
| 155°  | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    |
| 165°  | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    |
| 175°  | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    |
| 180°  | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    |

(END OF REPORT)