

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: 767600\_400MP

Luminaire Tested: **GMX40PXXARHS**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-46-04  
Report Number: 767600\_400MP  
Test Lab:  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: STREETWORKS  
Catalog Number: GMX40PXXARHS  
Description: 400MH TYPE III VERTICAL AREA  
WITH HOUSE SIDE SHIELD  
Light Source: 400 WATT PULSE-START CLEAR ED-37 VBU BURN  
Ballast/Driver: -

**Summary**

Lumens per Lamp: 44000 (1 lamp)  
Luminaire Lumens: 24880.2 lumens  
Efficiency: 56.5%  
Efficacy: 55.0 lumens/watt  
Luminous Opening: Point Source (0' x 0' x 0')  
IES Classification: Type IV - Short - Cutoff  
BUG Rating: B4 - U3 - G4

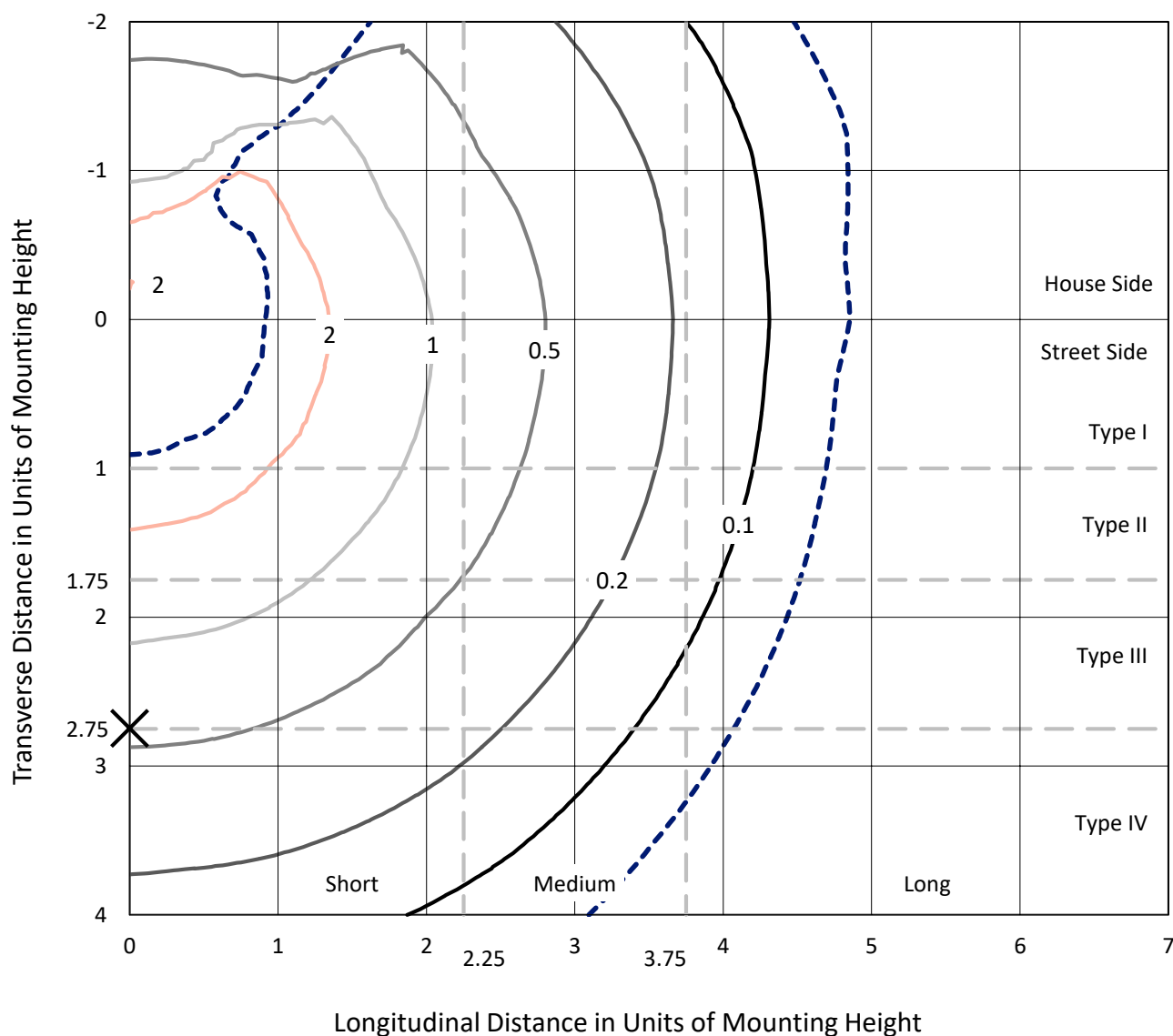
Input Watts (W): 452  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 28.75 FT



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## Iso-Footcandle Lines of Horizontal Illumination

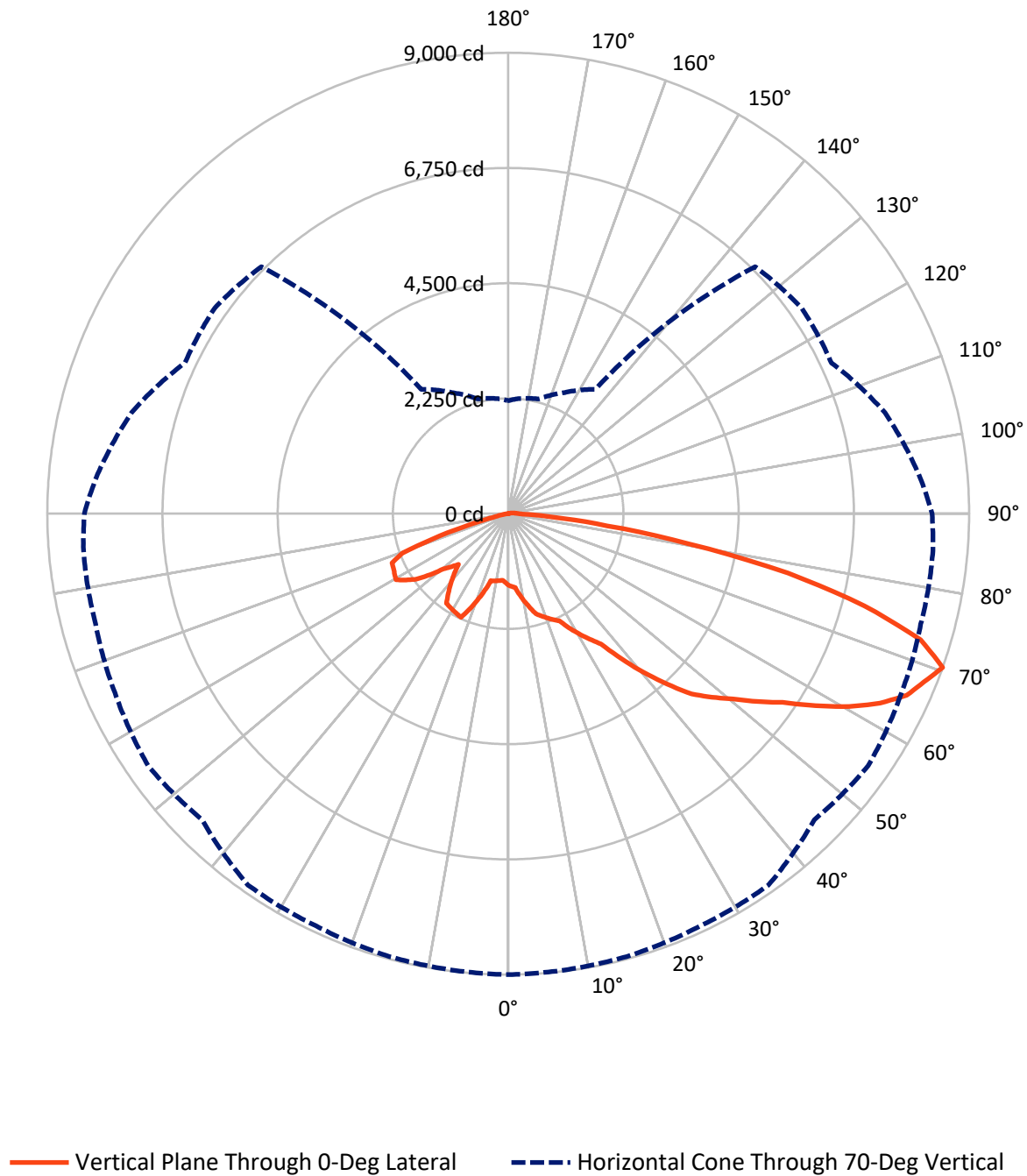
× Max cd  
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 3 fc  
 Type IV - Short - Cutoff

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## Luminous Intensity Polar Plot



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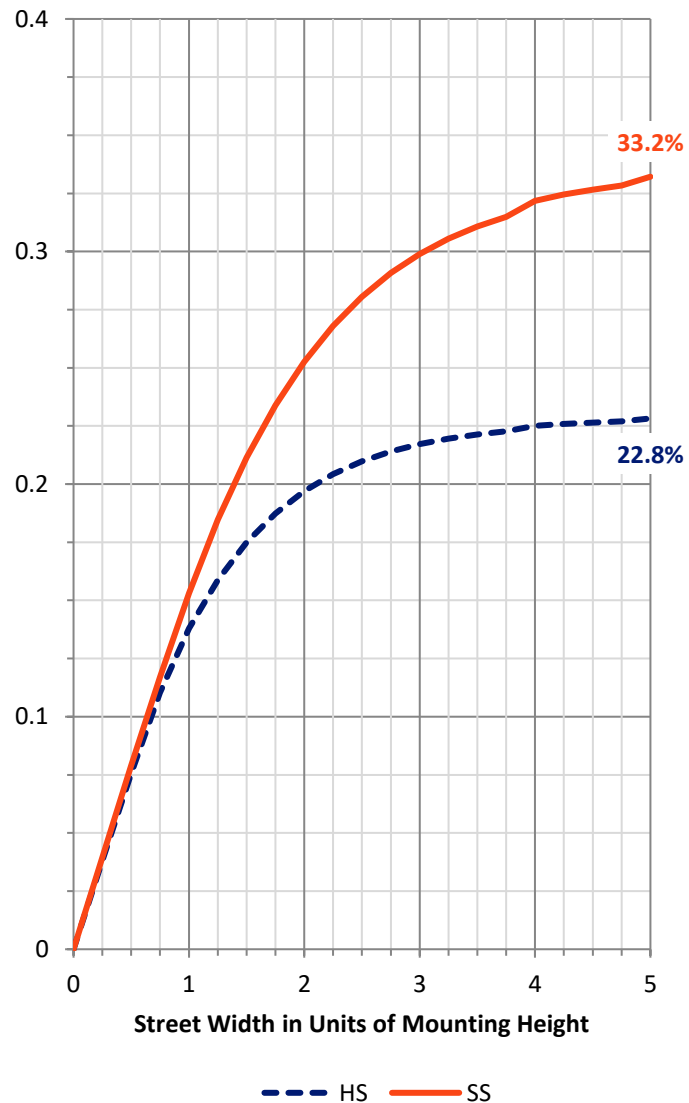
**FLUX DISTRIBUTION:**

|                    |        | Downward | Upward | Total   |
|--------------------|--------|----------|--------|---------|
| <b>House Side</b>  | Lumens | 10043.4  | 22.8   | 10066.1 |
|                    | % Lamp | 22.8     | 0.1    | 22.9    |
| <b>Street Side</b> | Lumens | 14751.8  | 62.3   | 14814.1 |
|                    | % Lamp | 33.5     | 0.1    | 33.7    |
| <b>Total</b>       | Lumens | 24795.2  | 85.1   | 24880.2 |
|                    | % Lamp | 56.4     | 0.2    | 56.5    |

**ZONAL LUMENS:**

| Zone      | Lumens  | % Fixture | % Lamp |
|-----------|---------|-----------|--------|
| 0°-10°    | 133.8   | 0.5       | 0.3    |
| 10°-20°   | 492.9   | 2.0       | 1.1    |
| 20°-30°   | 1059.9  | 4.3       | 2.4    |
| 30°-40°   | 1984.7  | 8.0       | 4.5    |
| 40°-50°   | 3349.0  | 13.5      | 7.6    |
| 50°-60°   | 4846.5  | 19.5      | 11.0   |
| 60°-70°   | 6426.4  | 25.8      | 14.6   |
| 70°-80°   | 5566.1  | 22.4      | 12.7   |
| 80°-90°   | 980.1   | 3.9       | 2.2    |
| 90°-100°  | 71.6    | 0.3       | 0.2    |
| 100°-110° | 20.3    | 0.1       | 0.0    |
| 110°-120° | 1.2     | 0.0       | 0.0    |
| 120°-130° | 0.0     | 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°    | 24795.2 | 99.7      | 56.4   |
| 0°-180°   | 24880.2 | 100.0     | 56.5   |

**Coefficient of Utilization**



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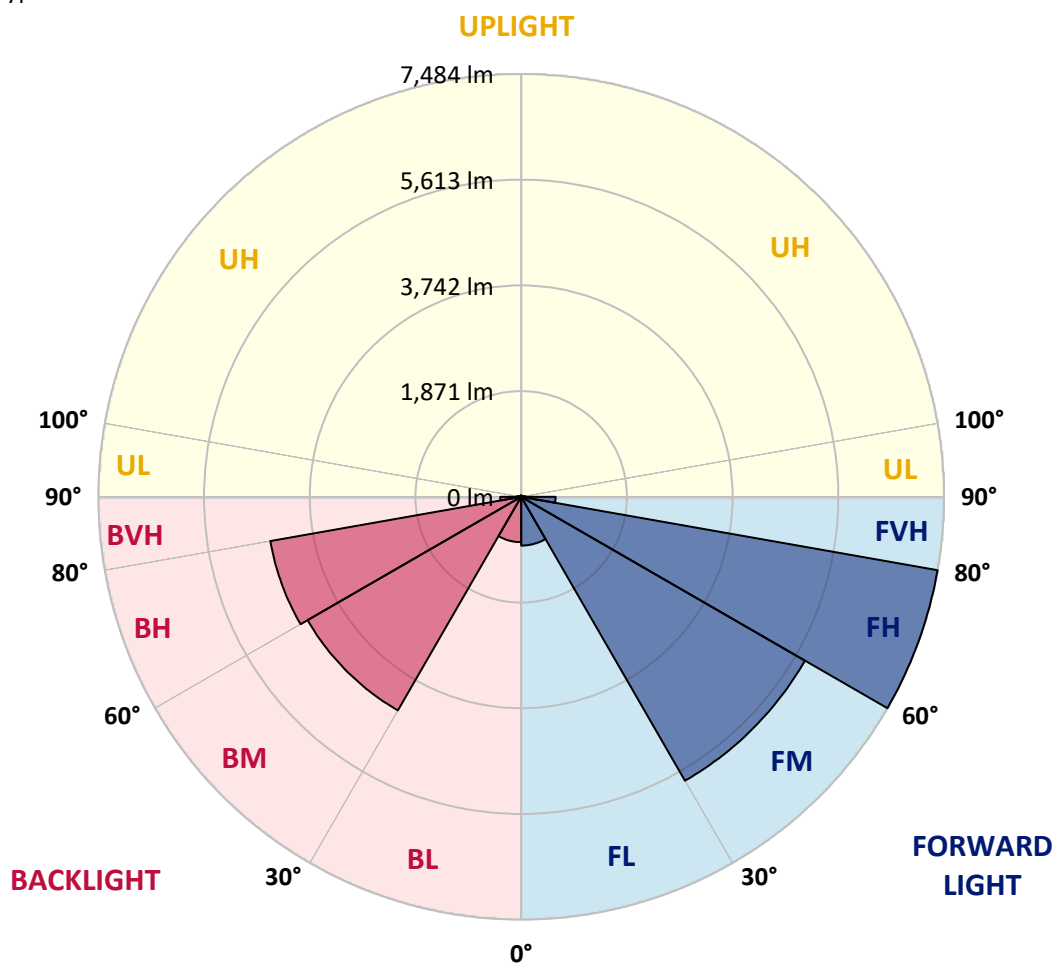
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**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

| Zone          |             | Lumens  | % Lamp | Zone Rating/Lumen Limit |        |         |
|---------------|-------------|---------|--------|-------------------------|--------|---------|
|               |             |         |        | B                       | U      | G       |
| FL            | (0°-30°)    | 862.8   | 2.0    |                         |        |         |
| FM            | (30°-60°)   | 5800.4  | 13.2   |                         |        |         |
| FH            | (60°-80°)   | 7483.6  | 17.0   |                         |        | G3/7500 |
| FVH           | (80°-90°)   | 609.4   | 1.4    |                         |        | G4/750  |
| BL            | (0°-30°)    | 802.8   | 1.8    | B2/1000                 |        |         |
| BM            | (30°-60°)   | 4365.2  | 9.9    | B3/5000                 |        |         |
| BH            | (60°-80°)   | 4508.9  | 10.2   | B4/5000                 |        | G4/5000 |
| BVH           | (80°-90°)   | 370.6   | 0.8    |                         |        | G3/500  |
| UL            | (90°-100°)  | 71.6    | 0.2    |                         | U3/500 |         |
| UH            | (100°-180°) | 22.8    | 0.1    |                         | U2/50  |         |
| Trapped Light |             | 19119.8 | 43.5   |                         |        |         |

**BUG Rating: B4-U3-G4**

Type IV Short





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**CANDELA DISTRIBUTION (FULL):**

|       | 0°     | 5°     | 15°    | 25°    | 35°    | 45°    | 55°    | 65°    | 75°    | 85°    | 90°    |
|-------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 0°    | 1400.7 | 1400.7 | 1400.7 | 1400.7 | 1400.7 | 1400.7 | 1400.7 | 1400.7 | 1400.7 | 1400.7 | 1400.7 |
| 5°    | 1449.6 | 1393.3 | 1425.1 | 1416.6 | 1393.3 | 1353.0 | 1360.3 | 1353.0 | 684.4  | 1320.0 | 1320.0 |
| 15°   | 2028.9 | 1988.6 | 2076.6 | 2069.2 | 1923.8 | 1827.2 | 1811.3 | 1746.6 | 1674.4 | 1658.6 | 1642.7 |
| 25°   | 2318.6 | 2294.1 | 2311.2 | 2278.2 | 2246.4 | 2197.6 | 2237.9 | 2230.6 | 2174.3 | 2222.0 | 2222.0 |
| 35°   | 3124.0 | 3059.2 | 3108.1 | 3148.4 | 3091.0 | 3155.8 | 3067.8 | 3091.0 | 3059.2 | 3171.7 | 3196.1 |
| 45°   | 5023.3 | 5088.1 | 5023.3 | 5233.6 | 4903.6 | 4959.8 | 4838.8 | 5079.6 | 4879.1 | 5088.1 | 4959.8 |
| 50°   | 5684.6 | 5877.7 | 5748.1 | 5788.4 | 5820.2 | 5539.1 | 5837.3 | 5700.4 | 5723.7 | 5781.1 | 5860.6 |
| 55°   | 6504.7 | 6376.3 | 6441.1 | 6400.8 | 6304.2 | 6151.4 | 6263.9 | 6030.4 | 6037.8 | 5974.2 | 5965.7 |
| 60°   | 7648.7 | 7664.6 | 7615.7 | 7552.1 | 7471.4 | 7141.4 | 7205.0 | 7011.9 | 6867.7 | 6755.2 | 6690.4 |
| 62.5° | 8147.3 | 8059.3 | 8043.4 | 7986.0 | 7873.6 | 7568.0 | 7640.1 | 7406.7 | 7310.1 | 7165.9 | 7092.6 |
| 65°   | 8550.7 | 8356.3 | 8413.8 | 8356.3 | 8147.3 | 7978.7 | 7922.4 | 7810.0 | 7656.0 | 7575.3 | 7462.9 |
| 67.5° | 8759.7 | 8679.0 | 8694.9 | 8606.9 | 8485.9 | 8268.3 | 8212.1 | 8187.7 | 7986.0 | 7986.0 | 7906.6 |
| 70°   | 9000.4 | 8984.6 | 8952.8 | 8880.7 | 8856.2 | 8452.9 | 8582.4 | 8445.6 | 8340.4 | 8324.6 | 8276.9 |
| 72.5° | 8421.1 | 8340.4 | 8452.9 | 8380.8 | 8429.7 | 8115.6 | 8187.7 | 7970.1 | 7906.6 | 7761.1 | 7792.9 |
| 75°   | 7181.8 | 7044.9 | 7197.7 | 7222.1 | 7245.3 | 7085.2 | 6996.0 | 6932.4 | 6875.0 | 6697.8 | 6706.3 |
| 77.5° | 5586.8 | 5514.7 | 5627.1 | 5635.7 | 5651.6 | 5474.3 | 5321.6 | 5209.1 | 5056.3 | 4942.7 | 5031.9 |
| 80°   | 3575.0 | 3542.0 | 3559.1 | 3518.8 | 3559.1 | 3357.4 | 3268.2 | 3196.1 | 3196.1 | 3301.2 | 3478.4 |
| 82.5° | 1948.2 | 1851.7 | 1827.2 | 1795.4 | 1819.9 | 1667.1 | 1698.9 | 1602.3 | 1667.1 | 1706.2 | 1763.7 |
| 85°   | 886.1  | 789.6  | 828.7  | 781.0  | 837.2  | 716.2  | 756.6  | 700.3  | 708.9  | 732.1  | 756.6  |
| 87.5° | 273.8  | 201.7  | 233.4  | 168.7  | 273.8  | 177.2  | 249.3  | 217.6  | 185.8  | 177.2  | 168.7  |
| 90°   | 193.1  | 121.0  | 152.8  | 96.6   | 193.1  | 105.1  | 185.8  | 152.8  | 128.3  | 112.4  | 105.1  |
| 95°   | 112.4  | 56.2   | 72.1   | 56.2   | 121.0  | 80.7   | 136.9  | 128.3  | 112.4  | 96.6   | 88.0   |
| 105°  | 15.9   | 8.6    | 8.6    | 8.6    | 0.0    | 0.0    | 8.6    | 8.6    | 8.6    | 8.6    | 8.6    |
| 115°  | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 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    |
| 166°  | 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°    | 1400.7 | 1400.7 | 1400.7 | 1400.7 | 1400.7 | 1400.7 | 1400.7 | 1400.7 | 1400.7 | 1400.7 |
| 5°    | 1312.7 | 1312.7 | 1344.4 | 1344.4 | 1344.4 | 1328.6 | 1335.9 | 1320.0 | 1320.0 | 1304.1 |
| 15°   | 1634.1 | 1593.8 | 1658.6 | 1723.3 | 1739.2 | 1650.0 | 1416.6 | 1376.2 | 1368.9 | 1353.0 |
| 25°   | 2197.6 | 2076.6 | 2004.4 | 2069.2 | 2190.2 | 2165.8 | 2253.8 | 2237.9 | 2253.8 | 2222.0 |
| 35°   | 3164.3 | 3043.3 | 2882.0 | 3043.3 | 3245.0 | 3268.2 | 3317.1 | 2504.3 | 2213.4 | 2125.4 |
| 45°   | 4830.2 | 4733.7 | 4556.4 | 4533.2 | 4807.0 | 4556.4 | 2439.6 | 1609.7 | 1409.2 | 1384.8 |
| 50°   | 5547.7 | 5449.9 | 5137.0 | 5177.3 | 5386.3 | 5063.7 | 2037.4 | 1730.7 | 1698.9 | 1658.6 |
| 55°   | 5804.3 | 5611.2 | 5273.9 | 5555.0 | 5700.4 | 4726.3 | 2423.7 | 2327.1 | 2246.4 | 2206.1 |
| 60°   | 6521.8 | 6215.0 | 5837.3 | 6111.1 | 6207.7 | 3678.9 | 2745.1 | 2673.0 | 2583.8 | 2544.7 |
| 62.5° | 6908.0 | 6504.7 | 6062.2 | 6279.8 | 6367.8 | 3236.4 | 2729.2 | 2632.7 | 2583.8 | 2511.7 |
| 65°   | 7269.8 | 6795.6 | 6311.6 | 6425.2 | 6553.6 | 2987.1 | 2737.8 | 2576.4 | 2536.1 | 2479.9 |
| 67.5° | 7673.1 | 7173.2 | 6625.7 | 6650.1 | 6697.8 | 2954.1 | 2753.7 | 2544.7 | 2464.0 | 2464.0 |
| 70°   | 8075.2 | 7615.7 | 6964.2 | 6996.0 | 6818.8 | 2962.7 | 2608.2 | 2318.6 | 2253.8 | 2206.1 |
| 72.5° | 7632.8 | 7439.7 | 6867.7 | 6618.3 | 6271.2 | 2745.1 | 2246.4 | 1714.8 | 1472.8 | 1400.7 |
| 75°   | 6625.7 | 6625.7 | 6223.6 | 5644.2 | 5112.6 | 2504.3 | 1819.9 | 1046.2 | 644.1  | 595.2  |
| 77.5° | 5023.3 | 5240.9 | 5016.0 | 4436.7 | 3799.9 | 2311.2 | 1433.7 | 539.0  | 282.3  | 242.0  |
| 80°   | 3413.7 | 3678.9 | 3647.1 | 3059.2 | 2567.9 | 1730.7 | 861.7  | 265.2  | 128.3  | 112.4  |
| 82.5° | 1674.4 | 1892.0 | 1916.4 | 1674.4 | 1425.1 | 772.4  | 330.0  | 105.1  | 56.2   | 48.9   |
| 85°   | 652.7  | 772.4  | 796.9  | 724.8  | 595.2  | 249.3  | 105.1  | 40.3   | 24.4   | 15.9   |
| 87.5° | 64.8   | 168.7  | 177.2  | 161.3  | 136.9  | 48.9   | 15.9   | 15.9   | 0.0    | 0.0    |
| 90°   | 40.3   | 88.0   | 80.7   | 80.7   | 56.2   | 31.8   | 8.6    | 0.0    | 0.0    | 0.0    |
| 95°   | 31.8   | 64.8   | 56.2   | 48.9   | 40.3   | 24.4   | 24.4   | 15.9   | 15.9   | 0.0    |
| 105°  | 0.0    | 8.6    | 8.6    | 8.6    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    |
| 115°  | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 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    |
| 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    |
| 166°  | 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)