

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: STREETWORKS

Report Number: P231039

Luminaire Tested: **ARCH-M-AF48-70-D-U-T2R-7050**

Issue Date: 3/3/2020

### Test Information

Test Method: LM-79-08  
Report Number: P231039  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P29635)  
Test Lab: INNOVATION CENTER-P2  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: STREETWORKS  
Catalog Number: ARCH-M-AF48-70-D-U-T2R-7050  
Description: ARCHEON-M ROADWAY AND AREA LUMINAIRE  
(2) 70 CRI, 5000K, 470mA LIGHT ENGINES WITH 24 LEDS AND TYPE II ROADWAY OPTICS  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

### Summary

Lumens per Lamp: N/A  
Luminaire Lumens: 10007 lumens  
Efficiency: N/A  
Efficacy: 137.1 lumens/watt  
Luminous Opening: Rectangular (W 0.75' x L: 1' x H: 0')  
IES Classification: Type II - Medium - Semi-Cutoff  
BUG Rating: B1 - U0 - G2

Input Watts (W): 73  
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

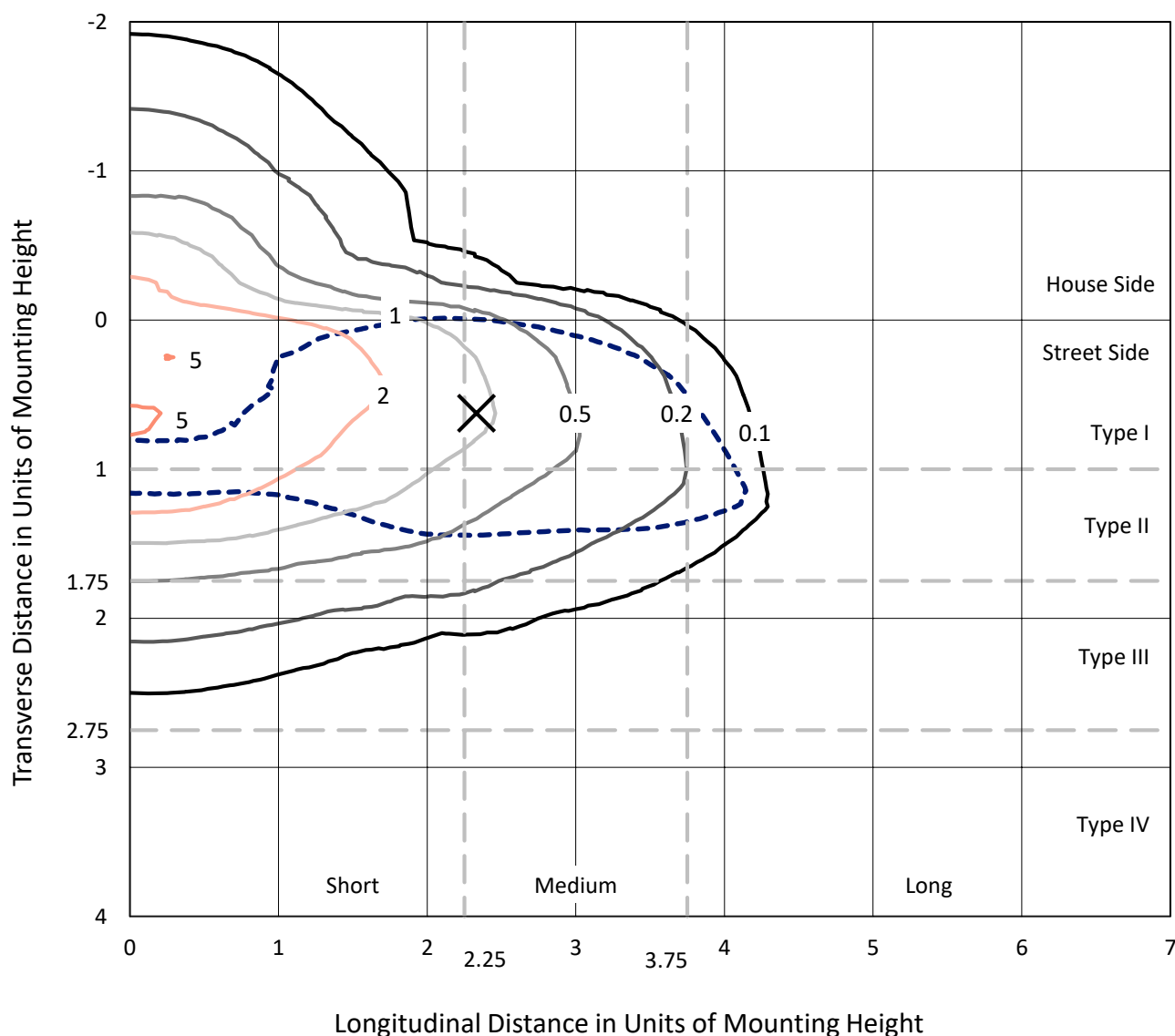


REPORT NUMBER: P231039

CATALOG NUMBER: ARCH-M-AF48-70-D-U-T2R-7050

## Iso-Footcandle Lines of Horizontal Illumination

× Max cd  
 --- 1/2 Max cd

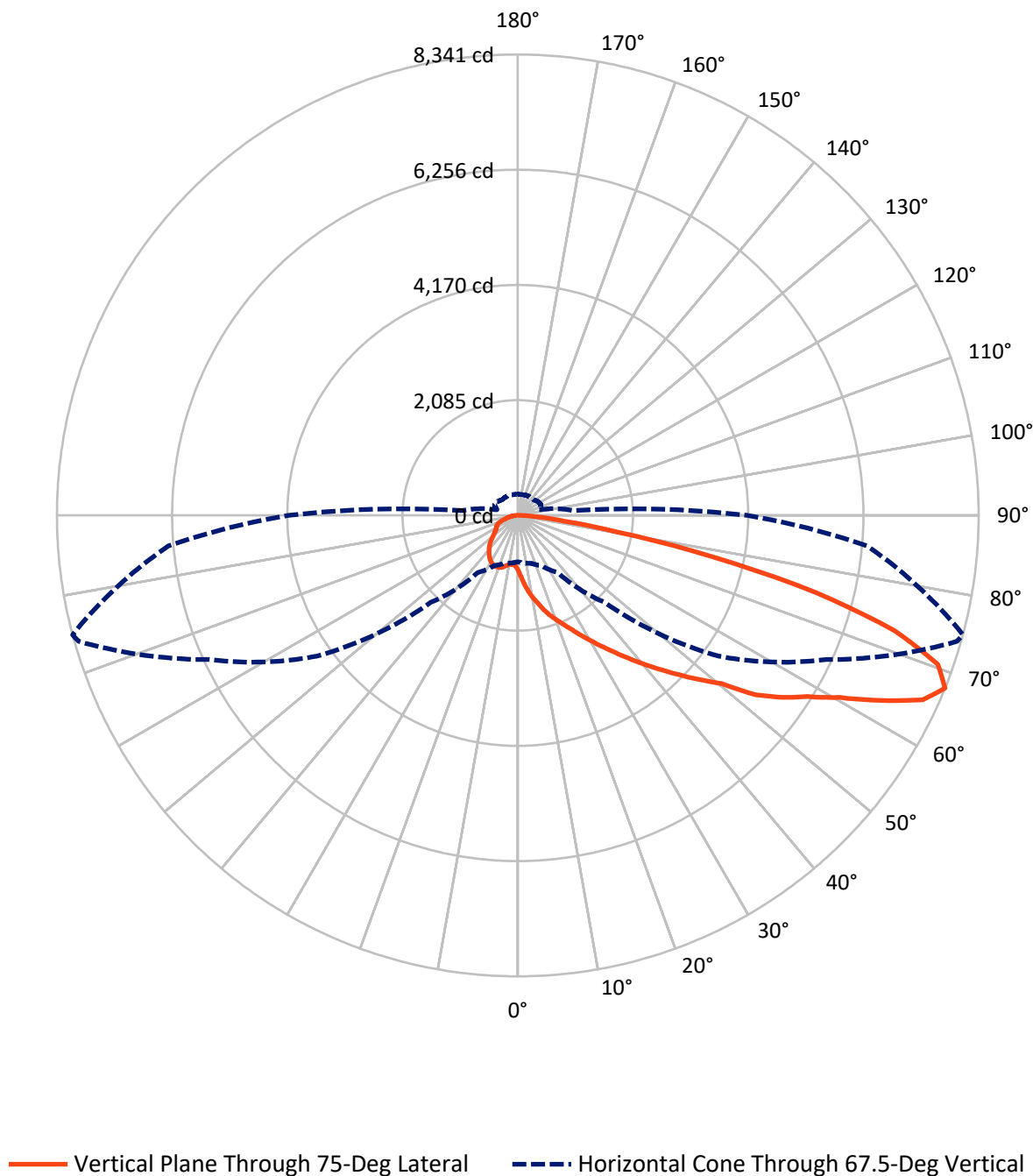


Based on 20 foot mounting height. Maximum calculated value = 5.2 fc  
 Type II - Medium - Semi-Cutoff

REPORT NUMBER: P231039

CATALOG NUMBER: ARCH-M-AF48-70-D-U-T2R-7050

## Luminous Intensity Polar Plot



REPORT NUMBER: P231039

CATALOG NUMBER: ARCH-M-AF48-70-D-U-T2R-7050

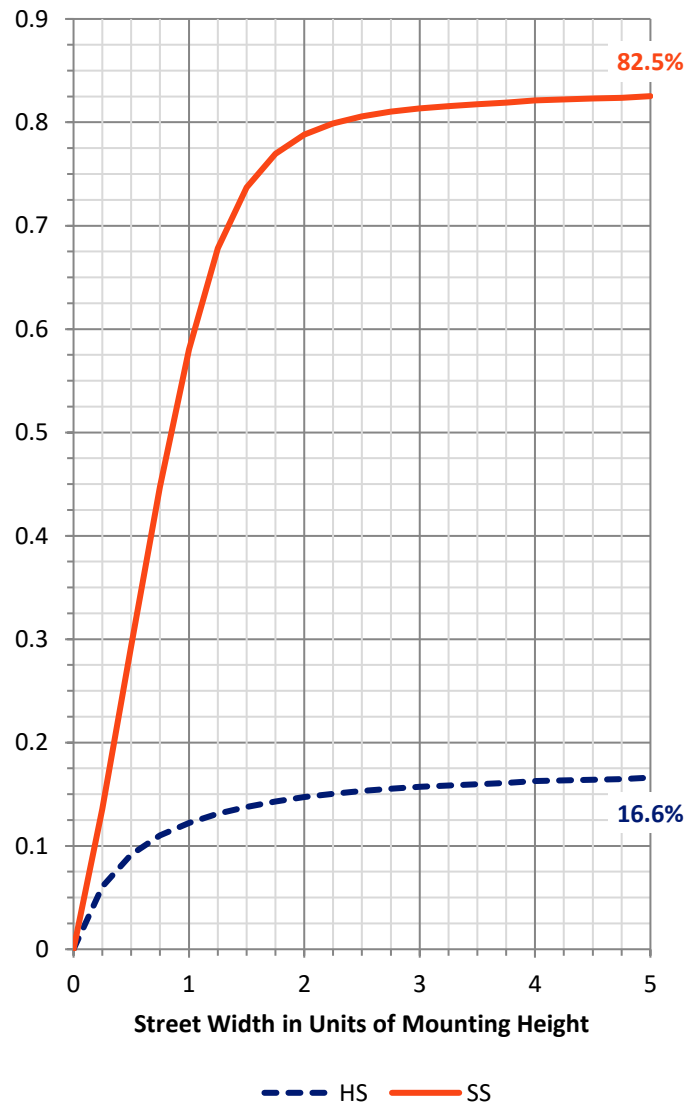
**FLUX DISTRIBUTION:**

|                    |           | Downward | Upward | Total   |
|--------------------|-----------|----------|--------|---------|
| <b>House Side</b>  | Lumens    | 1708.8   | 0.0    | 1708.8  |
|                    | % Fixture | 17.1     | 0.0    | 17.1    |
| <b>Street Side</b> | Lumens    | 8298.2   | 0.0    | 8298.2  |
|                    | % Fixture | 82.9     | 0.0    | 82.9    |
| <b>Total</b>       | Lumens    | 10007.0  | 0.0    | 10007.0 |
|                    | % Fixture | 100.0    | 0.0    | 100.0   |

**ZONAL LUMENS:**

| Zone      | Lumens  | % Fixture |
|-----------|---------|-----------|
| 0°-10°    | 116.5   | 1.2       |
| 10°-20°   | 421.0   | 4.2       |
| 20°-30°   | 767.8   | 7.7       |
| 30°-40°   | 1260.4  | 12.6      |
| 40°-50°   | 1822.6  | 18.2      |
| 50°-60°   | 2148.0  | 21.5      |
| 60°-70°   | 2087.3  | 20.9      |
| 70°-80°   | 1160.3  | 11.6      |
| 80°-90°   | 223.1   | 2.2       |
| 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°    | 10007.0 | 100.0     |
| 0°-180°   | 10007.0 | 100.0     |

**Coefficient of Utilization**



REPORT NUMBER: P231039

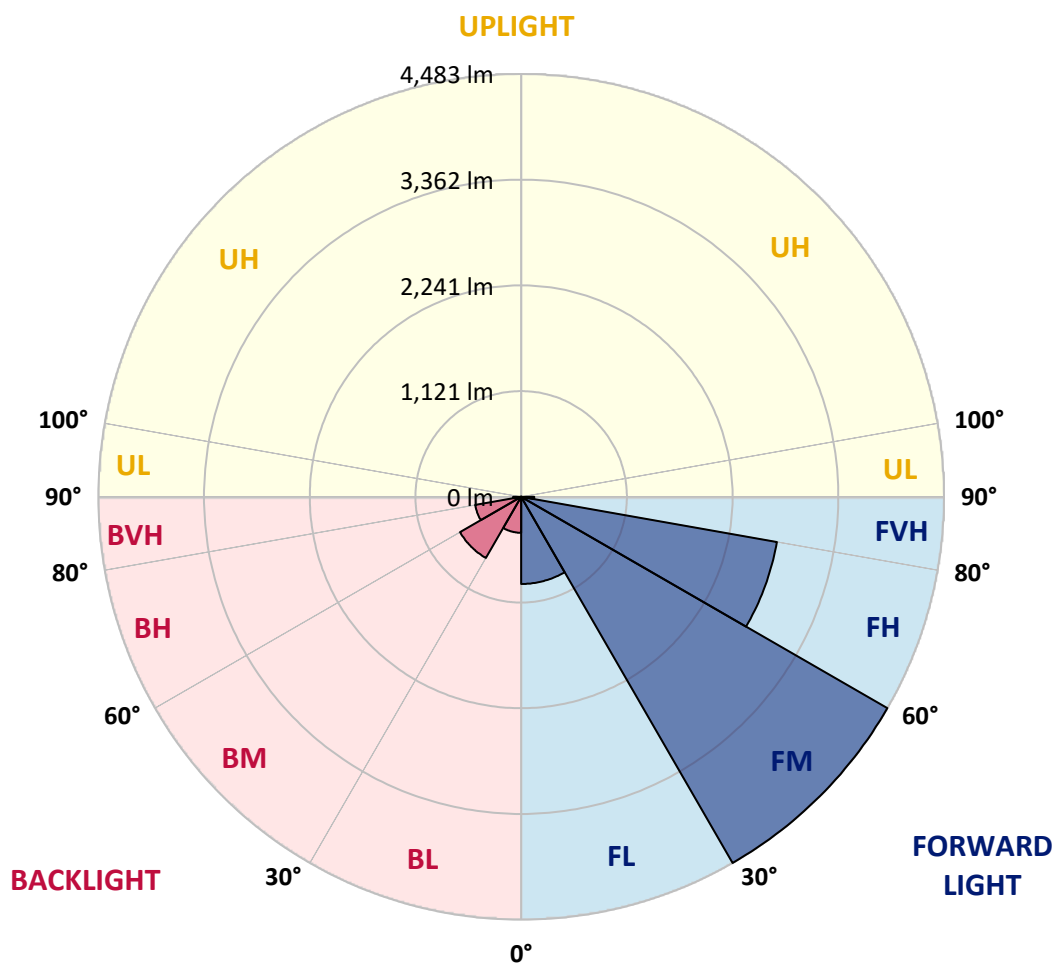
CATALOG NUMBER: ARCH-M-AF48-70-D-U-T2R-7050

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

| Zone |             | Lumens | % Fixture | Zone Rating/Lumen Limit |      |         |
|------|-------------|--------|-----------|-------------------------|------|---------|
|      |             |        |           | B                       | U    | G       |
| FL   | (0°-30°)    | 923.9  | 9.2       |                         |      |         |
| FM   | (30°-60°)   | 4482.6 | 44.8      |                         |      |         |
| FH   | (60°-80°)   | 2752.8 | 27.5      |                         |      | G2/5000 |
| FVH  | (80°-90°)   | 138.8  | 1.4       |                         |      | G2/225  |
| BL   | (0°-30°)    | 381.4  | 3.8       | B1/500                  |      |         |
| BM   | (30°-60°)   | 748.4  | 7.5       | B1/1000                 |      |         |
| BH   | (60°-80°)   | 494.8  | 4.9       | B1/500                  |      | G1/500  |
| BVH  | (80°-90°)   | 84.3   | 0.8       |                         |      | G1/100  |
| UL   | (90°-100°)  | 0.0    | 0.0       |                         | U0/0 |         |
| UH   | (100°-180°) | 0.0    | 0.0       |                         | U0/0 |         |

**BUG Rating: B1-U0-G2**

Type II Medium





REPORT NUMBER: P231039

CATALOG NUMBER: ARCH-M-AF48-70-D-U-T2R-7050

**CANDELA DISTRIBUTION (FULL):**

|       | 0°     | 5°     | 15°    | 25°    | 35°    | 45°    | 55°    | 65°    | 74°    | 75°    | 85°    |
|-------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 0°    | 991.6  | 991.6  | 991.6  | 991.6  | 991.6  | 991.6  | 991.6  | 991.6  | 991.6  | 991.6  | 991.6  |
| 2.5°  | 1405.8 | 1410.0 | 1401.6 | 1382.8 | 1355.6 | 1305.4 | 1261.5 | 1184.1 | 1115.0 | 1106.7 | 1033.4 |
| 5°    | 1652.7 | 1656.8 | 1646.4 | 1623.4 | 1594.1 | 1539.7 | 1479.0 | 1378.6 | 1267.7 | 1246.8 | 1092.0 |
| 7.5°  | 1822.1 | 1824.2 | 1811.6 | 1788.6 | 1765.6 | 1711.2 | 1650.6 | 1537.6 | 1401.6 | 1384.9 | 1167.3 |
| 10°   | 1966.5 | 1970.6 | 1953.9 | 1939.3 | 1914.2 | 1859.8 | 1797.0 | 1677.8 | 1537.6 | 1514.6 | 1244.7 |
| 12.5° | 2100.3 | 2104.5 | 2094.1 | 2081.5 | 2073.1 | 2022.9 | 1953.9 | 1811.6 | 1661.0 | 1635.9 | 1336.8 |
| 15°   | 2190.3 | 2194.5 | 2196.6 | 2213.3 | 2223.8 | 2188.2 | 2119.2 | 1964.4 | 1794.9 | 1771.9 | 1445.6 |
| 17.5° | 2165.2 | 2175.7 | 2207.0 | 2267.7 | 2332.6 | 2334.6 | 2278.2 | 2115.0 | 1926.7 | 1901.6 | 1556.4 |
| 20°   | 2092.0 | 2100.3 | 2138.0 | 2230.0 | 2357.7 | 2430.9 | 2426.7 | 2267.7 | 2050.1 | 2022.9 | 1658.9 |
| 22.5° | 2152.6 | 2163.1 | 2163.1 | 2219.6 | 2345.1 | 2481.1 | 2535.5 | 2418.3 | 2173.6 | 2148.5 | 1761.4 |
| 25°   | 2412.0 | 2418.3 | 2374.4 | 2351.4 | 2397.4 | 2522.9 | 2625.4 | 2581.5 | 2324.2 | 2294.9 | 1872.3 |
| 27.5° | 2774.0 | 2763.5 | 2709.1 | 2617.1 | 2566.9 | 2600.3 | 2704.9 | 2736.3 | 2497.8 | 2462.3 | 1987.4 |
| 30°   | 3133.8 | 3127.5 | 3064.7 | 2941.3 | 2828.3 | 2757.2 | 2792.8 | 2874.4 | 2686.1 | 2644.3 | 2098.2 |
| 32.5° | 3470.6 | 3460.1 | 3391.1 | 3246.7 | 3119.1 | 2987.3 | 2918.3 | 2999.9 | 2886.9 | 2838.8 | 2221.7 |
| 35°   | 3780.2 | 3753.0 | 3684.0 | 3533.3 | 3401.5 | 3276.0 | 3106.6 | 3119.1 | 3104.5 | 3054.3 | 2357.7 |
| 37.5° | 4031.2 | 4010.3 | 3935.0 | 3794.8 | 3654.7 | 3535.4 | 3357.6 | 3255.1 | 3338.8 | 3290.7 | 2514.6 |
| 40°   | 4253.0 | 4230.0 | 4152.6 | 4012.4 | 3882.7 | 3769.7 | 3629.6 | 3420.4 | 3602.4 | 3548.0 | 2690.3 |
| 42.5° | 4420.3 | 4403.6 | 4340.8 | 4202.8 | 4077.3 | 3974.8 | 3905.7 | 3629.6 | 3876.4 | 3824.1 | 2882.7 |
| 45°   | 4510.3 | 4493.6 | 4460.1 | 4349.2 | 4234.2 | 4154.7 | 4160.9 | 3878.5 | 4163.0 | 4119.1 | 3110.8 |
| 47.5° | 4399.4 | 4412.0 | 4441.3 | 4420.3 | 4349.2 | 4311.6 | 4389.0 | 4135.8 | 4483.1 | 4441.3 | 3357.6 |
| 50°   | 4102.4 | 4114.9 | 4232.1 | 4376.4 | 4401.5 | 4447.5 | 4594.0 | 4432.9 | 4822.0 | 4788.5 | 3663.0 |
| 52.5° | 3372.3 | 3441.3 | 3765.6 | 4110.7 | 4347.1 | 4537.5 | 4822.0 | 4874.3 | 5393.1 | 5393.1 | 4202.8 |
| 55°   | 2548.0 | 2608.7 | 2979.0 | 3581.5 | 4135.8 | 4545.9 | 4989.4 | 5173.5 | 5805.2 | 5813.6 | 4485.2 |
| 57.5° | 2064.8 | 2102.4 | 2284.4 | 2901.6 | 3692.3 | 4441.3 | 5188.1 | 5430.8 | 6148.3 | 6186.0 | 4849.2 |
| 60°   | 1675.7 | 1696.6 | 1815.8 | 2244.7 | 3079.4 | 4158.8 | 5330.3 | 5799.0 | 6637.8 | 6690.1 | 5313.6 |
| 62.5° | 1347.2 | 1368.2 | 1447.6 | 1705.0 | 2416.2 | 3629.6 | 5305.2 | 6181.8 | 7290.5 | 7376.3 | 5922.4 |
| 65°   | 1075.3 | 1098.3 | 1150.6 | 1309.6 | 1790.7 | 2972.7 | 5047.9 | 6378.4 | 7966.2 | 8049.9 | 6326.1 |
| 67.5° | 838.9  | 859.8  | 895.4  | 1000.0 | 1261.5 | 2223.8 | 4439.2 | 6171.3 | 8269.6 | 8340.7 | 6347.0 |
| 70°   | 633.9  | 644.3  | 673.6  | 740.6  | 901.6  | 1476.9 | 3474.8 | 5476.8 | 7997.6 | 8062.5 | 5928.7 |
| 72.5° | 491.6  | 489.5  | 506.3  | 539.7  | 629.7  | 1016.7 | 2303.3 | 4453.8 | 7070.9 | 7137.8 | 5058.4 |
| 75°   | 401.7  | 399.6  | 410.0  | 420.5  | 456.1  | 682.0  | 1359.8 | 3353.4 | 5706.9 | 5579.3 | 3794.8 |
| 77.5° | 338.9  | 336.8  | 347.3  | 349.4  | 364.0  | 470.7  | 774.0  | 2207.0 | 3807.4 | 3587.7 | 2138.0 |
| 80°   | 286.6  | 284.5  | 297.1  | 301.2  | 311.7  | 345.2  | 445.6  | 1194.5 | 1912.1 | 1811.6 | 1020.9 |
| 82.5° | 215.5  | 223.8  | 246.9  | 257.3  | 269.9  | 255.2  | 276.1  | 527.2  | 887.0  | 847.2  | 443.5  |
| 85°   | 104.6  | 123.4  | 186.2  | 207.1  | 221.7  | 161.1  | 188.3  | 248.9  | 399.6  | 380.7  | 179.9  |
| 87.5° | 35.6   | 31.4   | 110.9  | 131.8  | 144.3  | 73.2   | 104.6  | 138.1  | 165.3  | 150.6  | 56.5   |
| 90°   | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    |



REPORT NUMBER: P231039

CATALOG NUMBER: ARCH-M-AF48-70-D-U-T2R-7050

**CANDELA DISTRIBUTION (continued):**

|       | 90°    | 95°    | 105°   | 115°  | 125°  | 135°  | 145°  | 155°  | 165°  | 175°  | 180°  |
|-------|--------|--------|--------|-------|-------|-------|-------|-------|-------|-------|-------|
| 0°    | 991.6  | 991.6  | 991.6  | 991.6 | 991.6 | 991.6 | 991.6 | 991.6 | 991.6 | 991.6 | 991.6 |
| 2.5°  | 1002.1 | 970.7  | 924.7  | 889.1 | 866.1 | 847.2 | 838.9 | 836.8 | 832.6 | 830.5 | 830.5 |
| 5°    | 1023.0 | 966.5  | 895.4  | 857.7 | 847.2 | 838.9 | 843.1 | 845.2 | 845.2 | 845.2 | 845.2 |
| 7.5°  | 1054.4 | 974.9  | 889.1  | 864.0 | 861.9 | 861.9 | 874.4 | 880.7 | 884.9 | 884.9 | 884.9 |
| 10°   | 1096.2 | 989.5  | 899.5  | 878.6 | 884.9 | 889.1 | 903.7 | 912.1 | 916.3 | 918.4 | 920.5 |
| 12.5° | 1152.7 | 1020.9 | 920.5  | 903.7 | 912.1 | 914.2 | 924.7 | 928.8 | 933.0 | 935.1 | 935.1 |
| 15°   | 1228.0 | 1066.9 | 953.9  | 933.0 | 935.1 | 933.0 | 933.0 | 928.8 | 926.7 | 926.7 | 930.9 |
| 17.5° | 1305.4 | 1110.8 | 983.2  | 953.9 | 945.6 | 928.8 | 916.3 | 905.8 | 899.5 | 895.4 | 897.5 |
| 20°   | 1382.8 | 1150.6 | 1000.0 | 958.1 | 935.1 | 907.9 | 884.9 | 870.3 | 861.9 | 853.5 | 857.7 |
| 22.5° | 1460.2 | 1188.2 | 1006.2 | 945.6 | 912.1 | 872.4 | 847.2 | 824.2 | 805.4 | 792.9 | 795.0 |
| 25°   | 1546.0 | 1230.1 | 1006.2 | 930.9 | 880.7 | 838.9 | 807.5 | 769.8 | 742.7 | 732.2 | 736.4 |
| 27.5° | 1631.7 | 1265.6 | 995.8  | 903.7 | 845.2 | 803.3 | 757.3 | 713.4 | 696.6 | 690.4 | 692.4 |
| 30°   | 1717.5 | 1292.8 | 972.8  | 870.3 | 807.5 | 761.5 | 700.8 | 671.5 | 650.6 | 633.9 | 636.0 |
| 32.5° | 1803.3 | 1311.7 | 941.4  | 828.4 | 767.8 | 709.2 | 659.0 | 625.5 | 587.8 | 566.9 | 569.0 |
| 35°   | 1901.6 | 1326.3 | 903.7  | 786.6 | 723.8 | 663.2 | 625.5 | 571.1 | 531.4 | 514.6 | 510.4 |
| 37.5° | 2004.1 | 1336.8 | 864.0  | 740.6 | 679.9 | 629.7 | 592.0 | 525.1 | 487.4 | 464.4 | 462.3 |
| 40°   | 2115.0 | 1341.0 | 815.9  | 692.4 | 638.1 | 608.8 | 548.1 | 497.9 | 433.0 | 418.4 | 418.4 |
| 42.5° | 2246.8 | 1338.9 | 767.8  | 644.3 | 592.0 | 560.6 | 516.7 | 493.7 | 437.2 | 422.6 | 414.2 |
| 45°   | 2397.4 | 1338.9 | 715.5  | 587.8 | 546.0 | 500.0 | 481.2 | 466.5 | 428.9 | 435.1 | 439.3 |
| 47.5° | 2568.9 | 1334.7 | 652.7  | 541.8 | 508.3 | 468.6 | 458.1 | 426.8 | 412.1 | 416.3 | 420.5 |
| 50°   | 2805.3 | 1341.0 | 596.2  | 504.2 | 481.2 | 447.7 | 435.1 | 418.4 | 412.1 | 414.2 | 412.1 |
| 52.5° | 3133.8 | 1320.0 | 541.8  | 481.2 | 460.2 | 416.3 | 416.3 | 414.2 | 416.3 | 414.2 | 414.2 |
| 55°   | 3313.7 | 1274.0 | 502.1  | 468.6 | 445.6 | 401.7 | 410.0 | 414.2 | 418.4 | 416.3 | 416.3 |
| 57.5° | 3568.9 | 1242.6 | 470.7  | 460.2 | 437.2 | 397.5 | 405.8 | 414.2 | 416.3 | 414.2 | 414.2 |
| 60°   | 3870.2 | 1221.7 | 449.8  | 462.3 | 430.9 | 397.5 | 407.9 | 414.2 | 412.1 | 410.0 | 410.0 |
| 62.5° | 4219.5 | 1213.3 | 435.1  | 468.6 | 424.7 | 399.6 | 407.9 | 414.2 | 405.8 | 403.8 | 403.8 |
| 65°   | 4351.3 | 1138.0 | 416.3  | 472.8 | 428.9 | 399.6 | 405.8 | 407.9 | 397.5 | 395.4 | 393.3 |
| 67.5° | 4148.4 | 1008.3 | 389.1  | 464.4 | 441.4 | 399.6 | 399.6 | 397.5 | 384.9 | 382.8 | 378.6 |
| 70°   | 3694.4 | 836.8  | 347.3  | 437.2 | 449.8 | 401.7 | 391.2 | 380.7 | 368.2 | 368.2 | 359.8 |
| 72.5° | 3025.0 | 659.0  | 292.9  | 389.1 | 443.5 | 407.9 | 374.5 | 359.8 | 345.2 | 345.2 | 336.8 |
| 75°   | 2179.8 | 491.6  | 234.3  | 324.3 | 416.3 | 405.8 | 353.5 | 334.7 | 318.0 | 315.9 | 305.4 |
| 77.5° | 1242.6 | 345.2  | 190.4  | 253.1 | 370.3 | 395.4 | 334.7 | 305.4 | 286.6 | 280.3 | 274.0 |
| 80°   | 638.1  | 232.2  | 154.8  | 198.7 | 307.5 | 366.1 | 320.1 | 272.0 | 251.0 | 240.6 | 230.1 |
| 82.5° | 303.3  | 154.8  | 119.2  | 146.4 | 232.2 | 320.1 | 301.2 | 234.3 | 211.3 | 198.7 | 186.2 |
| 85°   | 136.0  | 92.0   | 79.5   | 94.1  | 165.3 | 248.9 | 265.7 | 192.5 | 165.3 | 207.1 | 152.7 |
| 87.5° | 43.9   | 41.8   | 41.8   | 43.9  | 79.5  | 108.8 | 194.6 | 142.3 | 131.8 | 108.8 | 92.0  |
| 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)