

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: P226601

Luminaire Tested: **IST-AF-450-LED-E1-T4FT-7060**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P226601  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P35943)  
Test Lab: INNOVATION CENTER-P3  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: MCGRAW-EDISON  
Catalog Number: IST-AF-450-LED-E1-T4FT-7060  
Description: IMPACT ELITE LED TRAPEZOID LUMINAIRE  
LIGHT SQUARE WITH ACCULED OPTICS-TYPE IV FORWARD THROW  
Light Source: (16) 5700K CCT, 70 CRI LEDs  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

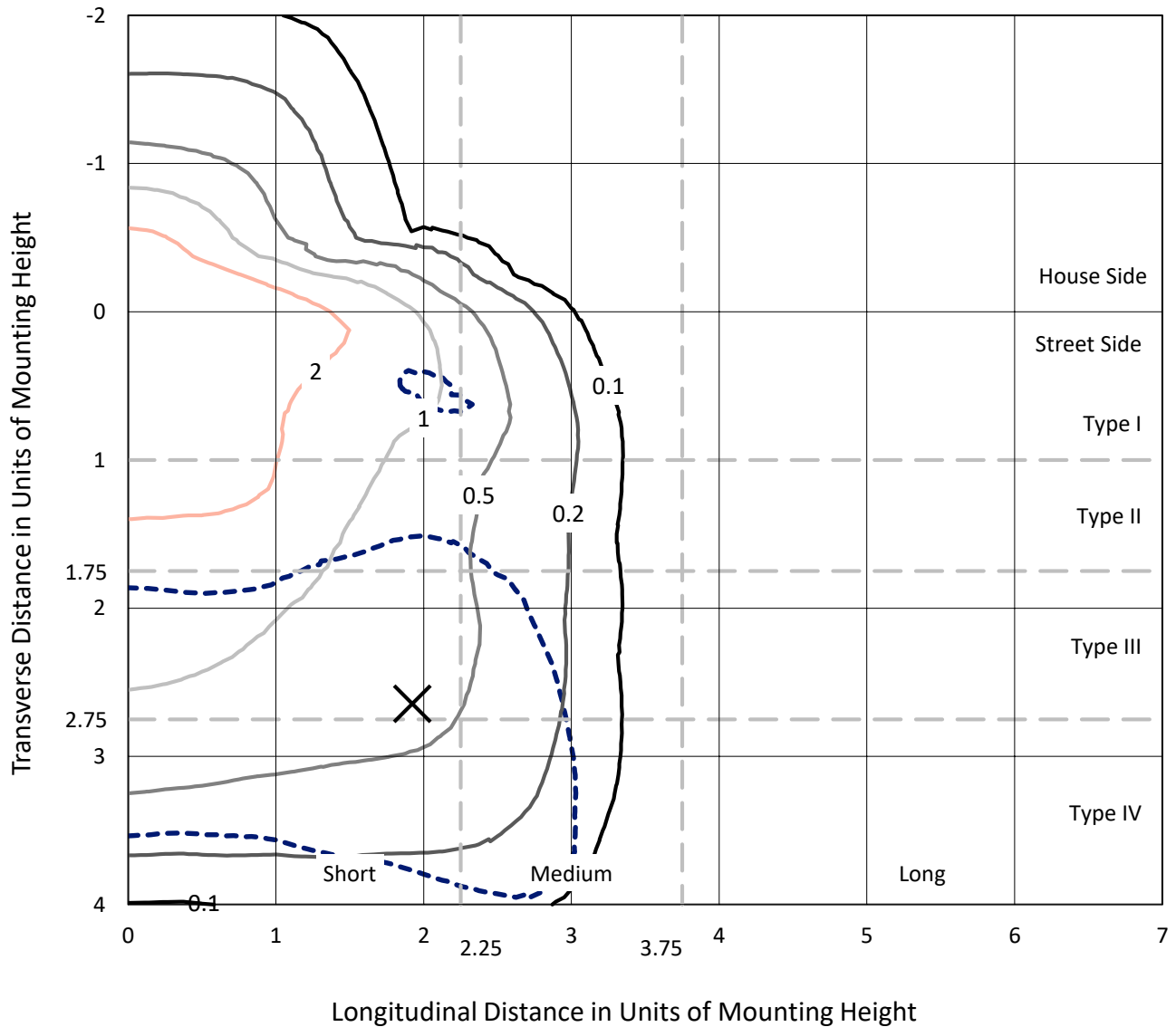
Lumens per Lamp: N/A  
Luminaire Lumens: 3177.2 lumens  
Efficiency: N/A  
Efficacy: 125.5 lumens/watt  
Luminous Opening: Rectangular (W 0.5' x L: 0.5' x H: 0')  
IES Classification: Type IV - Short - Non-Cutoff  
BUG Rating: B1 - U1 - G1  
  
Input Watts (W): 25.31  
Input Voltage (V): 120  
Input 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

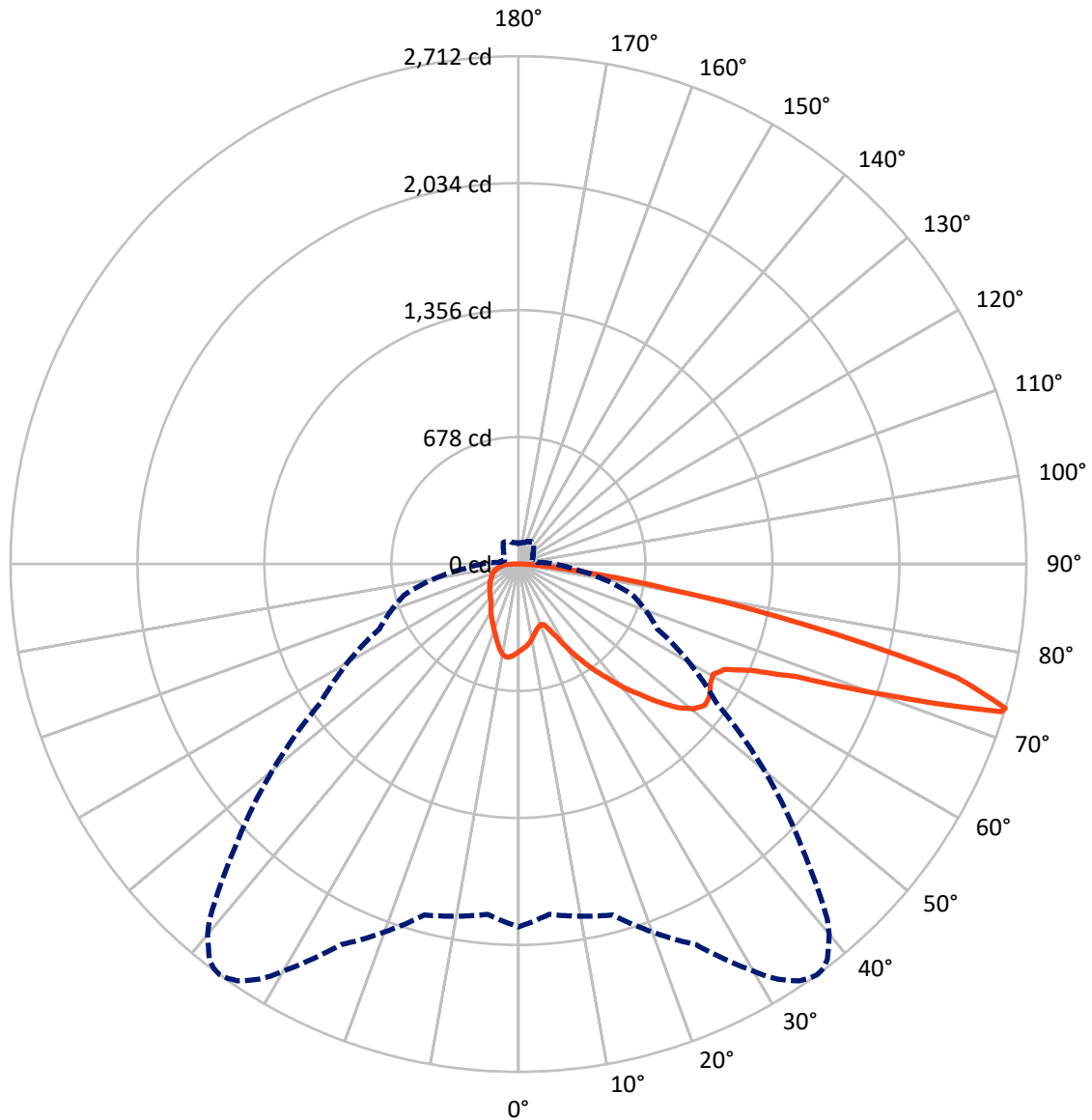
× Max cd  
 - - - 1/2 Max cd



Based on 10 foot mounting height. Maximum calculated value = 4.9 fc  
 Type IV - Short - Non-Cutoff

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### Luminous Intensity Polar Plot



— Vertical Plane Through 36-Deg Lateral    - - - Horizontal Cone Through 73-Deg Vertical

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**FLUX DISTRIBUTION:**

|                    |           | Downward | Upward | Total  |
|--------------------|-----------|----------|--------|--------|
| <b>House Side</b>  | Lumens    | 669.9    | 0.7    | 670.7  |
|                    | % Fixture | 21.1     | 0.0    | 21.1   |
| <b>Street Side</b> | Lumens    | 2506.3   | 0.3    | 2506.6 |
|                    | % Fixture | 78.9     | 0.0    | 78.9   |
| <b>Total</b>       | Lumens    | 3176.2   | 1.0    | 3177.2 |
|                    | % Fixture | 100.0    | 0.0    | 100.0  |

**Coefficient of Utilization**

**ZONAL LUMENS:**

| Zone      | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10°    | 43.9   | 1.4       |
| 10°-20°   | 116.4  | 3.7       |
| 20°-30°   | 190.7  | 6.0       |
| 30°-40°   | 316.0  | 9.9       |
| 40°-50°   | 464.4  | 14.6      |
| 50°-60°   | 585.6  | 18.4      |
| 60°-70°   | 766.9  | 24.1      |
| 70°-80°   | 620.8  | 19.5      |
| 80°-90°   | 71.4   | 2.2       |
| 90°-100°  | 1.0    | 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°    | 3176.2 | 100.0     |
| 0°-180°   | 3177.2 | 100.0     |



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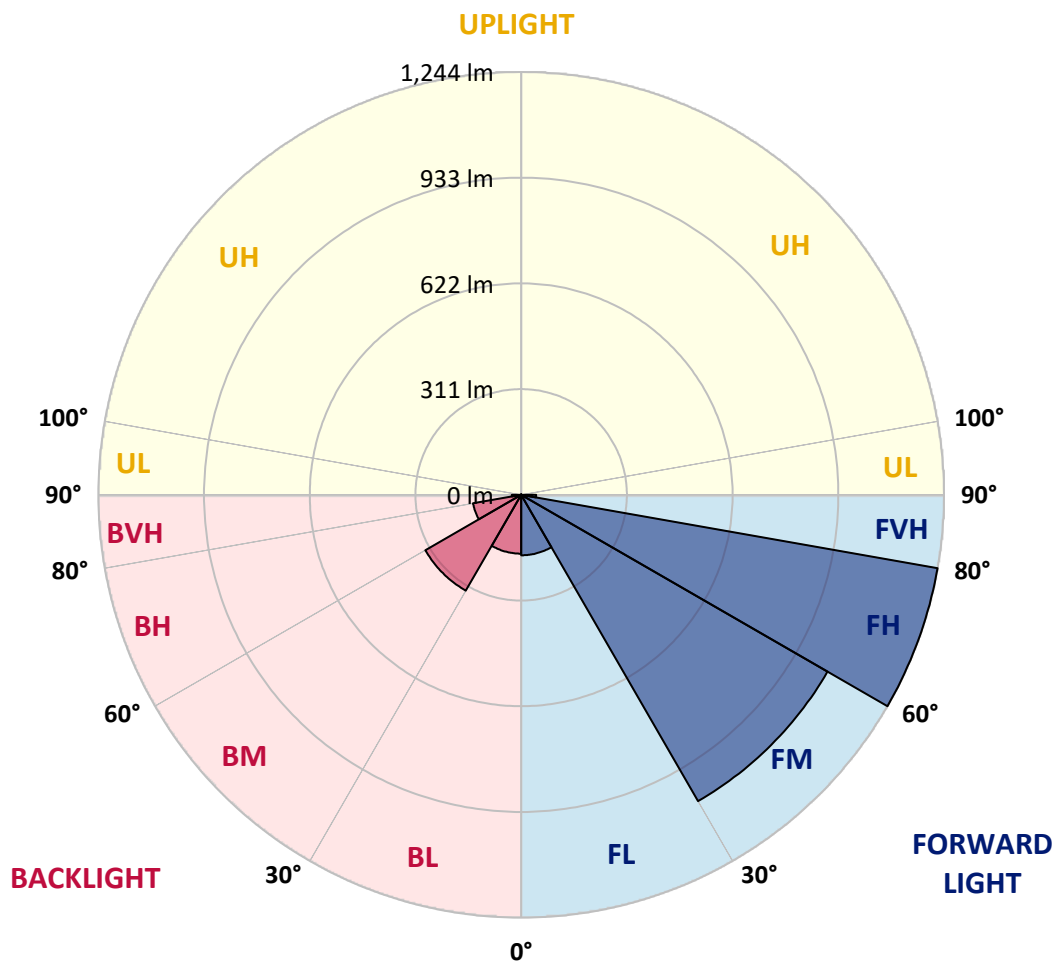
CATALOG NUMBER: IST-AF-450-LED-E1-T4FT-7060

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

| Zone |             | Lumens | % Fixture | Zone Rating/Lumen Limit |       |         |
|------|-------------|--------|-----------|-------------------------|-------|---------|
|      |             |        |           | B                       | U     | G       |
| FL   | (0°-30°)    | 177.9  | 5.6       |                         |       |         |
| FM   | (30°-60°)   | 1040.5 | 32.7      |                         |       |         |
| FH   | (60°-80°)   | 1243.9 | 39.2      |                         |       | G1/1800 |
| FVH  | (80°-90°)   | 44.0   | 1.4       |                         |       | G1/100  |
| BL   | (0°-30°)    | 173.2  | 5.5       | B1/500                  |       |         |
| BM   | (30°-60°)   | 325.6  | 10.2      | B1/1000                 |       |         |
| BH   | (60°-80°)   | 143.7  | 4.5       | B1/500                  |       | G1/500  |
| BVH  | (80°-90°)   | 27.4   | 0.9       |                         |       | G1/100  |
| UL   | (90°-100°)  | 1.0    | 0.0       |                         | U1/10 |         |
| UH   | (100°-180°) | 0.7    | 0.0       |                         | U1/10 |         |

**BUG Rating: B1-U1-G1**

Type IV Short





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**CANDELA DISTRIBUTION (FULL):**

|        | 0°     | 5°     | 15°    | 25°    | 30°    | 31°    | 32°    | 33°    | 34°    | 35°    | 36°    |
|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 0°     | 466.6  | 466.6  | 466.6  | 466.6  | 466.6  | 466.6  | 466.6  | 466.6  | 466.6  | 466.6  | 466.6  |
| 2.5°   | 449.8  | 450.7  | 451.6  | 451.6  | 451.6  | 453.0  | 452.5  | 452.5  | 453.0  | 453.4  | 453.4  |
| 5°     | 432.9  | 433.4  | 436.1  | 437.0  | 439.8  | 439.3  | 439.3  | 439.3  | 441.1  | 439.8  | 440.7  |
| 7.5°   | 413.8  | 414.7  | 417.5  | 420.6  | 422.9  | 423.4  | 422.9  | 422.0  | 424.3  | 425.2  | 424.3  |
| 10°    | 391.0  | 391.5  | 395.1  | 397.9  | 401.5  | 401.1  | 402.4  | 402.4  | 403.3  | 402.9  | 404.7  |
| 12.5°  | 379.7  | 378.8  | 376.9  | 378.3  | 379.2  | 379.2  | 379.2  | 380.6  | 380.1  | 381.0  | 382.4  |
| 15°    | 378.3  | 376.0  | 366.9  | 363.7  | 362.8  | 362.8  | 362.4  | 361.9  | 363.3  | 364.6  | 364.6  |
| 17.5°  | 384.7  | 380.1  | 362.4  | 353.3  | 351.4  | 350.5  | 351.0  | 350.1  | 350.1  | 351.9  | 351.4  |
| 20°    | 415.6  | 407.4  | 371.9  | 351.9  | 346.4  | 346.4  | 346.0  | 344.6  | 344.6  | 345.1  | 345.1  |
| 22.5°  | 494.4  | 483.9  | 422.0  | 380.6  | 361.5  | 361.0  | 359.6  | 358.3  | 354.6  | 353.7  | 351.9  |
| 25°    | 604.1  | 591.8  | 485.7  | 441.1  | 414.3  | 413.4  | 406.5  | 405.6  | 397.0  | 397.4  | 391.5  |
| 27.5°  | 689.2  | 681.0  | 570.9  | 511.7  | 486.2  | 480.7  | 477.5  | 469.3  | 462.1  | 456.1  | 448.9  |
| 30°    | 718.4  | 717.0  | 656.9  | 609.1  | 570.9  | 564.5  | 555.8  | 552.2  | 541.7  | 533.5  | 528.5  |
| 32.5°  | 764.3  | 765.7  | 740.7  | 687.9  | 654.6  | 648.3  | 641.0  | 632.3  | 625.0  | 619.6  | 607.7  |
| 35°    | 829.9  | 830.3  | 813.1  | 773.4  | 735.2  | 726.6  | 722.5  | 712.4  | 705.6  | 698.8  | 692.9  |
| 37.5°  | 875.4  | 877.7  | 865.4  | 834.9  | 812.1  | 799.8  | 799.4  | 792.1  | 784.4  | 778.5  | 773.0  |
| 40°    | 962.8  | 950.5  | 910.0  | 890.4  | 871.8  | 870.4  | 866.3  | 862.2  | 864.0  | 860.9  | 866.8  |
| 42.5°  | 1051.1 | 1035.7 | 979.2  | 951.4  | 940.1  | 942.3  | 941.0  | 941.4  | 946.9  | 945.5  | 951.9  |
| 45°    | 1126.7 | 1109.0 | 1055.2 | 1022.5 | 1031.6 | 1034.3 | 1042.0 | 1046.6 | 1044.3 | 1052.5 | 1052.5 |
| 47.5°  | 1202.3 | 1160.9 | 1097.1 | 1112.1 | 1118.5 | 1139.5 | 1144.9 | 1143.6 | 1151.3 | 1154.9 | 1144.9 |
| 50°    | 1149.0 | 1138.1 | 1133.1 | 1179.1 | 1207.7 | 1214.6 | 1222.3 | 1226.4 | 1230.0 | 1225.0 | 1215.0 |
| 52.5°  | 1036.6 | 1035.7 | 1106.2 | 1218.7 | 1242.8 | 1251.9 | 1259.2 | 1262.4 | 1261.0 | 1258.3 | 1250.1 |
| 55°    | 998.8  | 991.5  | 1052.5 | 1177.7 | 1214.6 | 1223.2 | 1233.7 | 1240.1 | 1246.4 | 1245.5 | 1239.2 |
| 57.5°  | 1050.2 | 1044.3 | 1044.8 | 1141.7 | 1177.7 | 1185.4 | 1192.3 | 1199.5 | 1201.4 | 1207.3 | 1207.7 |
| 60°    | 1199.5 | 1191.8 | 1129.4 | 1140.4 | 1176.8 | 1185.4 | 1186.3 | 1190.4 | 1190.9 | 1194.1 | 1194.5 |
| 62.5°  | 1414.9 | 1400.8 | 1305.6 | 1223.7 | 1236.4 | 1240.5 | 1243.7 | 1242.8 | 1241.0 | 1238.7 | 1238.7 |
| 65°    | 1650.7 | 1637.5 | 1515.0 | 1419.4 | 1382.6 | 1392.6 | 1376.6 | 1373.4 | 1369.8 | 1369.8 | 1365.7 |
| 67.5°  | 1931.1 | 1906.1 | 1811.4 | 1703.9 | 1650.7 | 1655.7 | 1663.0 | 1635.2 | 1625.2 | 1626.1 | 1604.7 |
| 70°    | 2217.0 | 2190.6 | 2149.2 | 2147.8 | 2174.7 | 2162.8 | 2129.1 | 2173.8 | 2120.9 | 2108.2 | 2103.6 |
| 72.5°  | 2059.0 | 2027.6 | 2036.3 | 2293.5 | 2534.8 | 2573.9 | 2611.2 | 2645.8 | 2676.8 | 2695.5 | 2698.2 |
| 73°    | 1937.9 | 1878.3 | 1940.2 | 2242.5 | 2510.2 | 2568.0 | 2614.4 | 2651.3 | 2684.5 | 2701.4 | 2711.8 |
| 75°    | 967.8  | 971.0  | 1276.0 | 1850.1 | 2193.8 | 2243.4 | 2315.8 | 2356.3 | 2416.4 | 2447.3 | 2420.0 |
| 77.5°  | 224.4  | 232.6  | 386.5  | 878.1  | 1315.2 | 1386.2 | 1444.0 | 1503.2 | 1572.8 | 1598.8 | 1576.0 |
| 80°    | 79.2   | 82.9   | 136.1  | 333.7  | 549.0  | 588.2  | 637.8  | 702.9  | 767.5  | 783.5  | 823.5  |
| 82.5°  | 41.9   | 46.0   | 71.9   | 144.8  | 234.4  | 256.3  | 269.0  | 295.9  | 318.7  | 332.3  | 339.6  |
| 85°    | 24.1   | 24.6   | 41.0   | 80.1   | 107.4  | 116.1  | 124.3  | 130.7  | 137.9  | 132.9  | 132.9  |
| 87.5°  | 9.6    | 10.5   | 20.9   | 37.8   | 51.9   | 57.8   | 57.8   | 57.8   | 57.4   | 50.5   | 46.0   |
| 90°    | 1.8    | 2.7    | 4.1    | 7.7    | 6.8    | 6.8    | 6.4    | 5.5    | 5.0    | 5.5    | 3.2    |
| 92.5°  | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    |
| 95°    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    |
| 97.5°  | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    |
| 100°   | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    |
| 102.5° | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    |
| 105°   | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    |
| 107.5° | 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):**

|        | 0°  | 5°  | 15° | 25° | 30° | 31° | 32° | 33° | 34° | 35° | 36° |
|--------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 110°   | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 112.5° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 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 | 0.0 |
| 117.5° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 120°   | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 122.5° | 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 |
| 127.5° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 130°   | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 132.5° | 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 |
| 137.5° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 140°   | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 142.5° | 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 |
| 147.5° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 150°   | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 152.5° | 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 |
| 157.5° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 160°   | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 162.5° | 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 |
| 167.5° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 170°   | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 172.5° | 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 |
| 177.5° | 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):**

|        | 37°    | 38°    | 39°    | 40°    | 41°    | 45°    | 55°    | 65°    | 75°    | 85°    | 90°    |
|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 0°     | 466.6  | 466.6  | 466.6  | 466.6  | 466.6  | 466.6  | 466.6  | 466.6  | 466.6  | 466.6  | 466.6  |
| 2.5°   | 454.3  | 454.8  | 453.9  | 455.7  | 454.3  | 454.3  | 456.6  | 460.7  | 463.9  | 464.8  | 467.5  |
| 5°     | 441.6  | 442.0  | 442.0  | 442.5  | 442.0  | 442.9  | 447.0  | 450.7  | 457.1  | 460.2  | 464.3  |
| 7.5°   | 425.2  | 426.6  | 426.1  | 427.0  | 427.0  | 427.9  | 434.3  | 440.2  | 446.6  | 452.5  | 457.5  |
| 10°    | 405.6  | 406.5  | 408.3  | 407.4  | 407.4  | 410.2  | 417.0  | 425.6  | 433.4  | 442.0  | 448.0  |
| 12.5°  | 382.4  | 384.7  | 384.2  | 386.0  | 387.0  | 388.8  | 400.2  | 409.7  | 419.3  | 429.3  | 437.0  |
| 15°    | 364.2  | 365.6  | 366.5  | 366.9  | 366.9  | 371.0  | 382.4  | 394.2  | 407.0  | 418.8  | 427.0  |
| 17.5°  | 352.4  | 352.4  | 353.3  | 353.7  | 354.6  | 357.4  | 369.2  | 382.4  | 397.0  | 411.5  | 420.6  |
| 20°    | 345.5  | 345.5  | 346.0  | 346.4  | 346.4  | 349.6  | 360.5  | 375.6  | 391.5  | 410.2  | 421.1  |
| 22.5°  | 351.0  | 349.6  | 349.2  | 349.2  | 347.3  | 347.3  | 357.8  | 373.7  | 393.8  | 417.9  | 432.0  |
| 25°    | 388.3  | 384.2  | 377.8  | 376.5  | 374.2  | 363.3  | 361.9  | 380.1  | 404.7  | 434.8  | 456.1  |
| 27.5°  | 444.3  | 440.2  | 436.1  | 431.1  | 427.5  | 407.4  | 380.1  | 396.5  | 425.6  | 468.4  | 494.8  |
| 30°    | 517.6  | 509.4  | 503.5  | 498.0  | 482.1  | 460.2  | 417.9  | 422.0  | 458.0  | 515.3  | 548.6  |
| 32.5°  | 599.5  | 590.9  | 581.8  | 569.0  | 564.9  | 529.4  | 475.3  | 464.3  | 498.9  | 570.0  | 604.6  |
| 35°    | 678.8  | 674.7  | 668.3  | 663.3  | 653.7  | 624.1  | 549.9  | 515.3  | 546.3  | 634.1  | 661.0  |
| 37.5°  | 770.7  | 763.0  | 763.4  | 759.3  | 753.9  | 728.8  | 627.3  | 576.8  | 597.3  | 695.6  | 712.4  |
| 40°    | 861.3  | 859.5  | 862.2  | 855.4  | 846.3  | 812.6  | 684.2  | 621.9  | 650.5  | 754.8  | 750.7  |
| 42.5°  | 946.9  | 948.3  | 945.1  | 937.3  | 927.3  | 870.9  | 720.6  | 660.1  | 698.3  | 806.7  | 781.2  |
| 45°    | 1044.8 | 1039.8 | 1026.6 | 1012.9 | 1000.6 | 920.9  | 740.2  | 702.9  | 744.3  | 862.7  | 812.1  |
| 47.5°  | 1137.2 | 1117.6 | 1106.2 | 1085.3 | 1061.2 | 966.5  | 766.6  | 748.0  | 795.3  | 915.5  | 841.7  |
| 50°    | 1205.0 | 1186.8 | 1167.7 | 1142.2 | 1116.7 | 1006.1 | 801.7  | 798.9  | 853.1  | 974.7  | 882.2  |
| 52.5°  | 1236.0 | 1219.1 | 1200.5 | 1174.5 | 1149.0 | 1034.8 | 848.6  | 848.6  | 921.4  | 1053.0 | 938.2  |
| 55°    | 1231.0 | 1218.7 | 1202.3 | 1178.6 | 1159.0 | 1050.2 | 896.8  | 903.2  | 1007.0 | 1137.6 | 1002.9 |
| 57.5°  | 1204.6 | 1197.7 | 1188.2 | 1171.8 | 1155.8 | 1062.1 | 953.7  | 957.8  | 1121.7 | 1219.1 | 1063.9 |
| 60°    | 1195.4 | 1192.7 | 1187.3 | 1177.7 | 1165.4 | 1088.0 | 1014.3 | 1023.4 | 1250.1 | 1293.8 | 1098.5 |
| 62.5°  | 1236.0 | 1230.5 | 1226.4 | 1216.8 | 1205.5 | 1151.7 | 1090.3 | 1093.0 | 1370.7 | 1302.9 | 1064.8 |
| 65°    | 1349.8 | 1339.8 | 1332.9 | 1320.2 | 1307.4 | 1247.8 | 1187.3 | 1157.7 | 1429.9 | 1217.8 | 950.5  |
| 67.5°  | 1588.3 | 1571.9 | 1552.4 | 1528.2 | 1493.2 | 1439.5 | 1283.3 | 1166.8 | 1376.2 | 1031.6 | 749.8  |
| 70°    | 2059.9 | 2024.4 | 1979.4 | 1927.9 | 1914.7 | 1758.1 | 1343.4 | 1099.4 | 1144.0 | 720.6  | 497.1  |
| 72.5°  | 2693.6 | 2656.8 | 2616.7 | 2574.4 | 2490.6 | 2146.4 | 1317.0 | 886.8  | 711.5  | 370.6  | 236.7  |
| 73°    | 2704.1 | 2679.1 | 2630.8 | 2581.6 | 2513.4 | 2139.6 | 1288.3 | 817.6  | 627.3  | 291.8  | 193.9  |
| 75°    | 2425.0 | 2415.0 | 2367.7 | 2273.0 | 2215.2 | 1807.3 | 948.7  | 473.9  | 274.5  | 180.3  | 126.1  |
| 77.5°  | 1573.7 | 1562.8 | 1536.0 | 1526.9 | 1420.3 | 1171.8 | 424.7  | 184.4  | 149.3  | 119.7  | 89.2   |
| 80°    | 838.5  | 787.6  | 778.5  | 742.0  | 664.2  | 451.1  | 145.2  | 112.9  | 99.2   | 80.1   | 62.4   |
| 82.5°  | 340.1  | 318.2  | 310.0  | 280.9  | 264.0  | 135.2  | 72.8   | 78.3   | 66.5   | 47.3   | 38.2   |
| 85°    | 125.2  | 115.2  | 112.4  | 91.5   | 80.6   | 40.1   | 44.6   | 55.1   | 41.4   | 26.4   | 19.1   |
| 87.5°  | 43.2   | 37.3   | 32.3   | 25.0   | 23.2   | 16.4   | 24.6   | 30.0   | 26.4   | 15.9   | 9.1    |
| 90°    | 3.2    | 2.7    | 2.3    | 1.8    | 2.3    | 1.8    | 2.7    | 4.1    | 4.6    | 2.7    | 1.8    |
| 92.5°  | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    |
| 95°    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    |
| 97.5°  | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    |
| 100°   | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    |
| 102.5° | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    |
| 105°   | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    |
| 107.5° | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    |



REPORT NUMBER: P226601

CATALOG NUMBER: IST-AF-450-LED-E1-T4FT-7060

**CANDELA DISTRIBUTION (continued):**

|        | 37° | 38° | 39° | 40° | 41° | 45° | 55° | 65° | 75° | 85° | 90° |
|--------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 110°   | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 112.5° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 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 | 0.0 |
| 117.5° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 120°   | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 122.5° | 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 |
| 127.5° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 130°   | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 132.5° | 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 |
| 137.5° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 140°   | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 142.5° | 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 |
| 147.5° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 150°   | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 152.5° | 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 |
| 157.5° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 160°   | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 162.5° | 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 |
| 167.5° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 170°   | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 172.5° | 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 |
| 177.5° | 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 |



REPORT NUMBER: P226601

CATALOG NUMBER: IST-AF-450-LED-E1-T4FT-7060

**CANDELA DISTRIBUTION (continued):**

|        | 95°   | 105°  | 115°  | 125°  | 135°  | 145°  | 155°  | 165°  | 175°  | 180°  |
|--------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 0°     | 466.6 | 466.6 | 466.6 | 466.6 | 466.6 | 466.6 | 466.6 | 466.6 | 466.6 | 466.6 |
| 2.5°   | 468.4 | 470.3 | 473.9 | 476.6 | 478.9 | 482.1 | 483.0 | 484.8 | 482.5 | 485.3 |
| 5°     | 466.6 | 472.1 | 478.9 | 485.3 | 491.2 | 496.2 | 498.5 | 498.9 | 499.4 | 501.2 |
| 7.5°   | 462.1 | 470.3 | 481.2 | 489.8 | 498.9 | 502.1 | 503.5 | 503.9 | 500.8 | 502.1 |
| 10°    | 453.0 | 466.2 | 479.8 | 490.3 | 494.8 | 492.6 | 488.9 | 483.0 | 480.3 | 480.3 |
| 12.5°  | 442.9 | 459.8 | 475.7 | 481.6 | 477.5 | 468.9 | 458.9 | 448.0 | 443.9 | 443.9 |
| 15°    | 434.8 | 456.1 | 469.3 | 465.3 | 453.4 | 437.0 | 423.4 | 412.0 | 408.3 | 407.0 |
| 17.5°  | 430.2 | 454.3 | 459.3 | 446.6 | 426.6 | 406.1 | 392.4 | 382.9 | 379.7 | 379.7 |
| 20°    | 433.8 | 456.1 | 448.0 | 424.3 | 399.2 | 380.6 | 368.7 | 362.4 | 359.2 | 360.5 |
| 22.5°  | 449.3 | 463.0 | 437.9 | 402.4 | 371.9 | 356.0 | 350.5 | 346.4 | 346.0 | 346.9 |
| 25°    | 475.3 | 472.1 | 429.3 | 379.7 | 346.4 | 335.1 | 334.6 | 333.2 | 332.8 | 332.3 |
| 27.5°  | 509.0 | 483.5 | 418.8 | 354.2 | 320.9 | 315.5 | 318.2 | 317.8 | 317.3 | 317.8 |
| 30°    | 553.6 | 493.5 | 403.3 | 326.4 | 296.8 | 296.8 | 300.9 | 299.5 | 297.7 | 298.2 |
| 32.5°  | 595.0 | 500.8 | 379.7 | 295.4 | 277.7 | 278.6 | 280.0 | 276.3 | 271.8 | 272.7 |
| 35°    | 630.5 | 500.8 | 347.8 | 267.7 | 258.1 | 258.1 | 259.0 | 255.8 | 252.2 | 250.8 |
| 37.5°  | 660.1 | 490.7 | 307.7 | 246.7 | 242.2 | 242.2 | 245.8 | 242.6 | 235.8 | 234.4 |
| 40°    | 677.8 | 468.9 | 270.9 | 231.3 | 234.4 | 234.9 | 229.9 | 224.4 | 218.1 | 216.7 |
| 42.5°  | 689.2 | 437.0 | 241.7 | 220.3 | 229.4 | 225.8 | 214.0 | 205.3 | 204.9 | 206.7 |
| 45°    | 699.2 | 401.1 | 218.5 | 209.4 | 224.0 | 216.2 | 200.3 | 192.1 | 194.8 | 196.7 |
| 47.5°  | 709.3 | 365.1 | 199.8 | 197.1 | 214.0 | 208.5 | 191.7 | 182.5 | 181.2 | 183.9 |
| 50°    | 732.9 | 315.0 | 178.5 | 182.5 | 201.7 | 199.8 | 183.9 | 173.4 | 164.8 | 164.3 |
| 52.5°  | 764.8 | 248.1 | 160.2 | 169.8 | 192.1 | 194.8 | 175.3 | 165.3 | 153.4 | 151.6 |
| 55°    | 800.3 | 190.3 | 145.2 | 159.8 | 183.0 | 187.6 | 172.1 | 157.1 | 144.3 | 142.5 |
| 57.5°  | 810.8 | 150.2 | 131.1 | 145.7 | 170.7 | 180.7 | 167.1 | 147.5 | 137.9 | 136.1 |
| 60°    | 774.8 | 124.7 | 119.3 | 133.8 | 158.4 | 173.9 | 159.3 | 140.2 | 131.6 | 130.2 |
| 62.5°  | 665.1 | 110.2 | 112.9 | 126.1 | 149.3 | 167.5 | 153.4 | 134.7 | 127.9 | 127.0 |
| 65°    | 507.6 | 100.2 | 107.4 | 119.7 | 141.1 | 161.6 | 149.3 | 132.5 | 127.0 | 126.1 |
| 67.5°  | 318.7 | 92.9  | 102.0 | 112.9 | 132.9 | 155.2 | 146.1 | 129.7 | 125.6 | 124.3 |
| 70°    | 176.6 | 85.1  | 94.7  | 105.2 | 124.7 | 149.3 | 142.0 | 125.6 | 125.2 | 122.5 |
| 72.5°  | 107.4 | 76.9  | 87.0  | 97.0  | 115.6 | 142.0 | 134.7 | 120.6 | 116.1 | 110.6 |
| 73°    | 102.4 | 76.0  | 85.1  | 95.1  | 113.4 | 140.2 | 133.4 | 118.8 | 114.3 | 108.8 |
| 75°    | 82.9  | 68.3  | 77.8  | 86.5  | 105.2 | 132.9 | 125.6 | 112.4 | 105.2 | 101.1 |
| 77.5°  | 61.0  | 58.3  | 67.4  | 75.6  | 94.7  | 122.9 | 114.7 | 102.9 | 94.2  | 92.0  |
| 80°    | 45.1  | 48.3  | 56.9  | 64.2  | 83.3  | 112.9 | 103.3 | 92.0  | 86.5  | 83.8  |
| 82.5°  | 30.5  | 37.3  | 45.5  | 51.4  | 73.7  | 102.0 | 91.5  | 80.6  | 84.2  | 70.1  |
| 85°    | 17.8  | 25.9  | 32.8  | 40.1  | 59.2  | 91.0  | 79.7  | 68.7  | 60.1  | 54.2  |
| 87.5°  | 11.8  | 14.6  | 20.0  | 27.3  | 42.8  | 71.5  | 63.3  | 53.7  | 39.2  | 39.2  |
| 90°    | 1.4   | 1.8   | 2.7   | 3.2   | 5.9   | 30.5  | 20.9  | 25.0  | 4.6   | 4.1   |
| 92.5°  | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |
| 95°    | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |
| 97.5°  | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |
| 100°   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |
| 102.5° | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |
| 105°   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |
| 107.5° | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |



REPORT NUMBER: P226601  
 CATALOG NUMBER: IST-AF-450-LED-E1-T4FT-7060

**CANDELA DISTRIBUTION (continued):**

|        | 95° | 105° | 115° | 125° | 135° | 145° | 155° | 165° | 175° | 180° |
|--------|-----|------|------|------|------|------|------|------|------|------|
| 110°   | 0.0 | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| 112.5° | 0.0 | 0.0  | 0.0  | 0.0  | 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  |
| 117.5° | 0.0 | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| 120°   | 0.0 | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| 122.5° | 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  |
| 127.5° | 0.0 | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| 130°   | 0.0 | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| 132.5° | 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  |
| 137.5° | 0.0 | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| 140°   | 0.0 | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| 142.5° | 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  |
| 147.5° | 0.0 | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| 150°   | 0.0 | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| 152.5° | 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  |
| 157.5° | 0.0 | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| 160°   | 0.0 | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| 162.5° | 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  |
| 167.5° | 0.0 | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| 170°   | 0.0 | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| 172.5° | 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  |
| 177.5° | 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)