

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: P227525

Luminaire Tested: **IST-AF-450-LED-E1-RW**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P227525  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P29767)  
Test Lab: INNOVATION CENTER-P2  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: MCGRAW-EDISON  
Catalog Number: IST-AF-450-LED-E1-RW  
Description: IMPACT ELITE LED TRAPEZOID LUMINAIRE  
LIGHT SQUARE WITH ACCULED OPTICS-RECTANGULAR WIDE TYPE I  
Light Source: (16) 4000K CCT, 70 CRI LEDs  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 3165.9 lumens  
Efficiency: N/A  
Efficacy: 125.1 lumens/watt  
Luminous Opening: Rectangular (W 0.5' x L: 0.5' x H: 0')  
IES Classification: Type II - Medium - Cutoff  
BUG Rating: B2 - U1 - G2

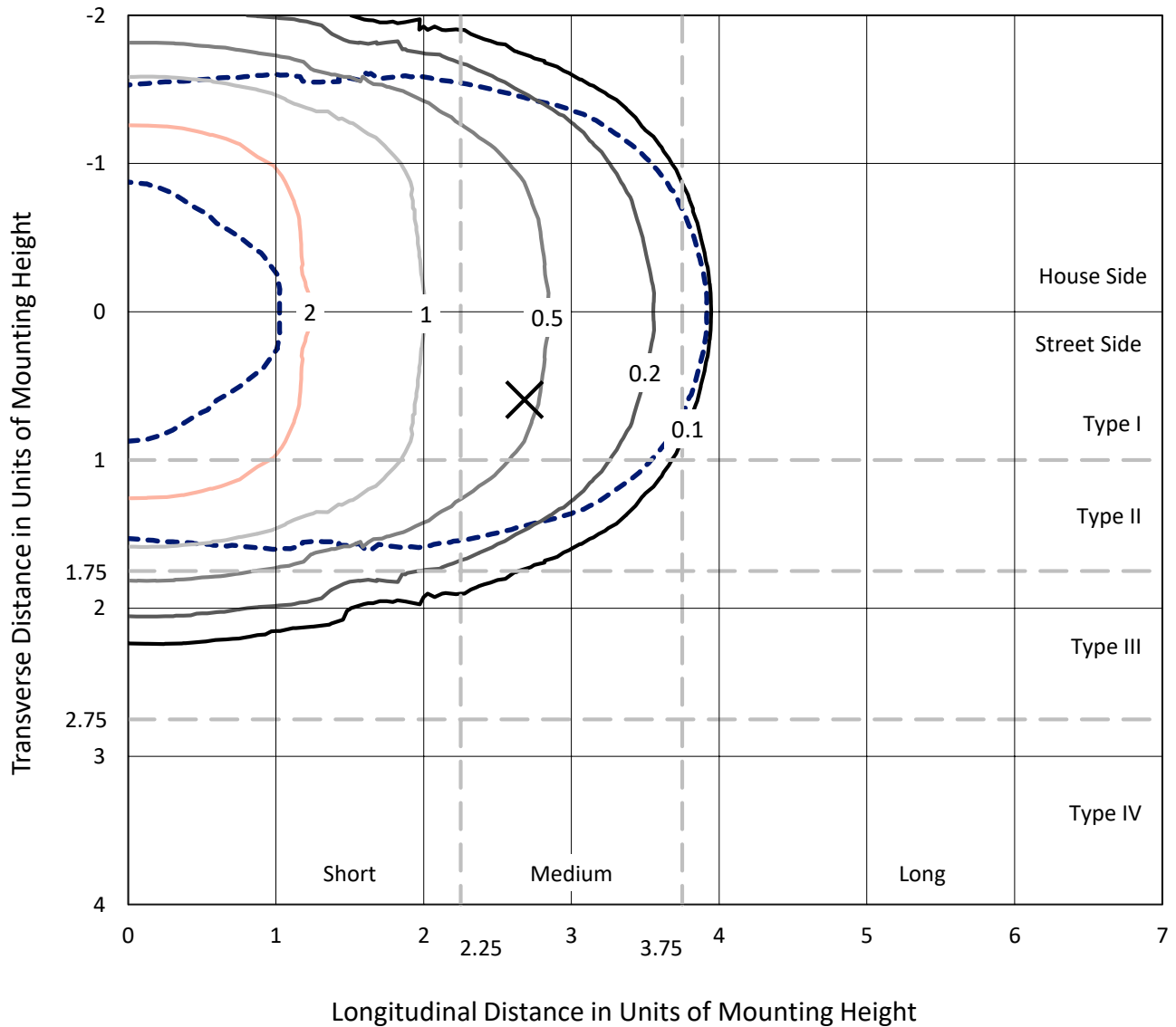
Input Watts (W): 25.31  
Input Voltage (V): 120  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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### Iso-Footcandle Lines of Horizontal Illumination

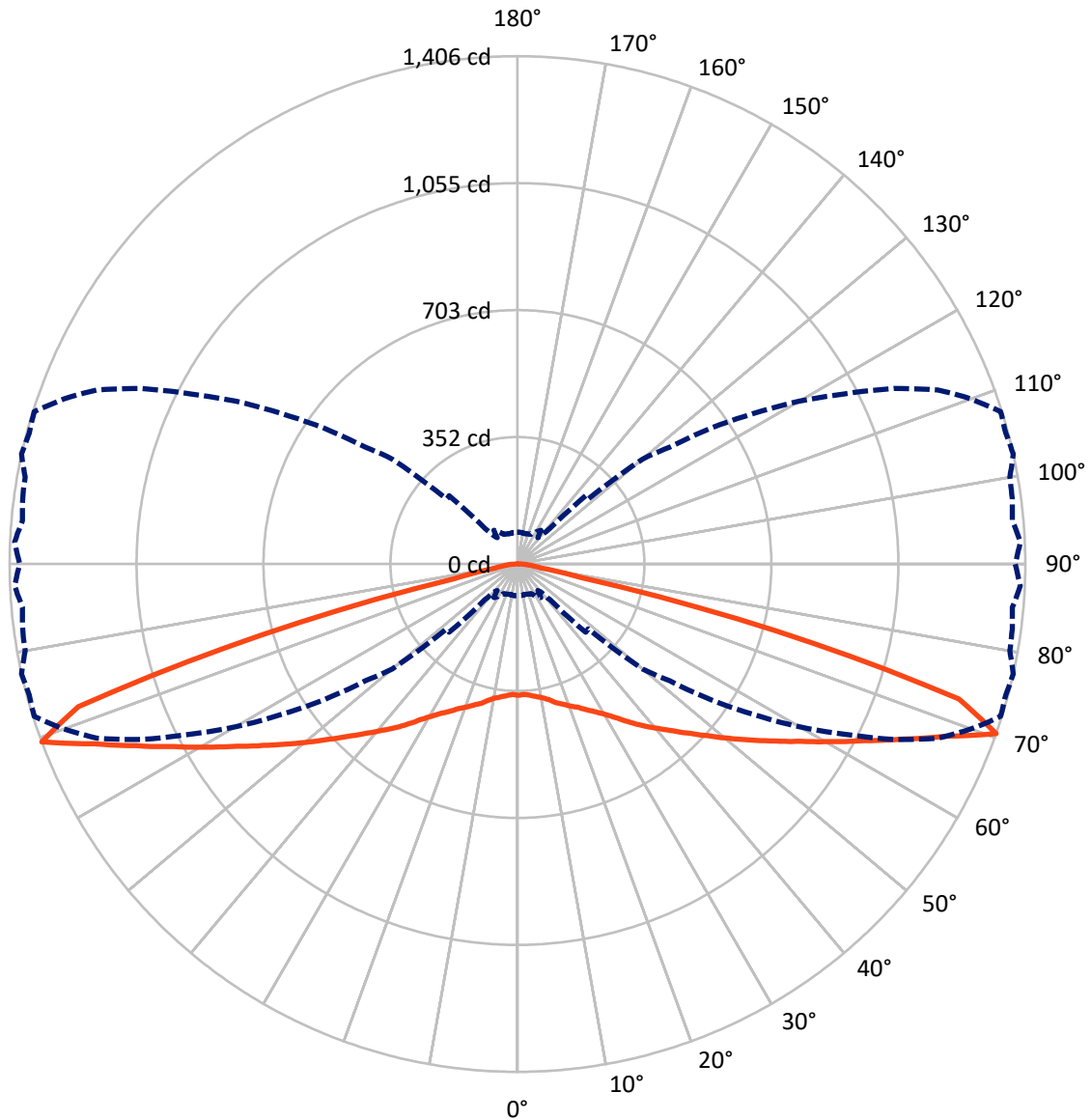
× Max cd  
 - - - 1/2 Max cd



Based on 10 foot mounting height. Maximum calculated value = 3.8 fc  
 Type II - Medium - Cutoff

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### Luminous Intensity Polar Plot



— Vertical Plane Through 77.5-Deg Lateral    - - - Horizontal Cone Through 70-Deg Vertical

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**FLUX DISTRIBUTION:**

|                    |           | Downward | Upward | Total  |
|--------------------|-----------|----------|--------|--------|
| <b>House Side</b>  | Lumens    | 1582.7   | 0.2    | 1582.9 |
|                    | % Fixture | 50.0     | 0.0    | 50.0   |
| <b>Street Side</b> | Lumens    | 1582.7   | 0.2    | 1582.9 |
|                    | % Fixture | 50.0     | 0.0    | 50.0   |
| <b>Total</b>       | Lumens    | 3165.4   | 0.5    | 3165.9 |
|                    | % Fixture | 100.0    | 0.0    | 100.0  |

**Coefficient of Utilization**

**ZONAL LUMENS:**

| Zone      | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10°    | 35.1   | 1.1       |
| 10°-20°   | 109.9  | 3.5       |
| 20°-30°   | 206.3  | 6.5       |
| 30°-40°   | 360.6  | 11.4      |
| 40°-50°   | 587.8  | 18.6      |
| 50°-60°   | 804.3  | 25.4      |
| 60°-70°   | 739.9  | 23.4      |
| 70°-80°   | 289.2  | 9.1       |
| 80°-90°   | 32.2   | 1.0       |
| 90°-100°  | 0.5    | 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°    | 3165.4 | 100.0     |
| 0°-180°   | 3165.9 | 100.0     |



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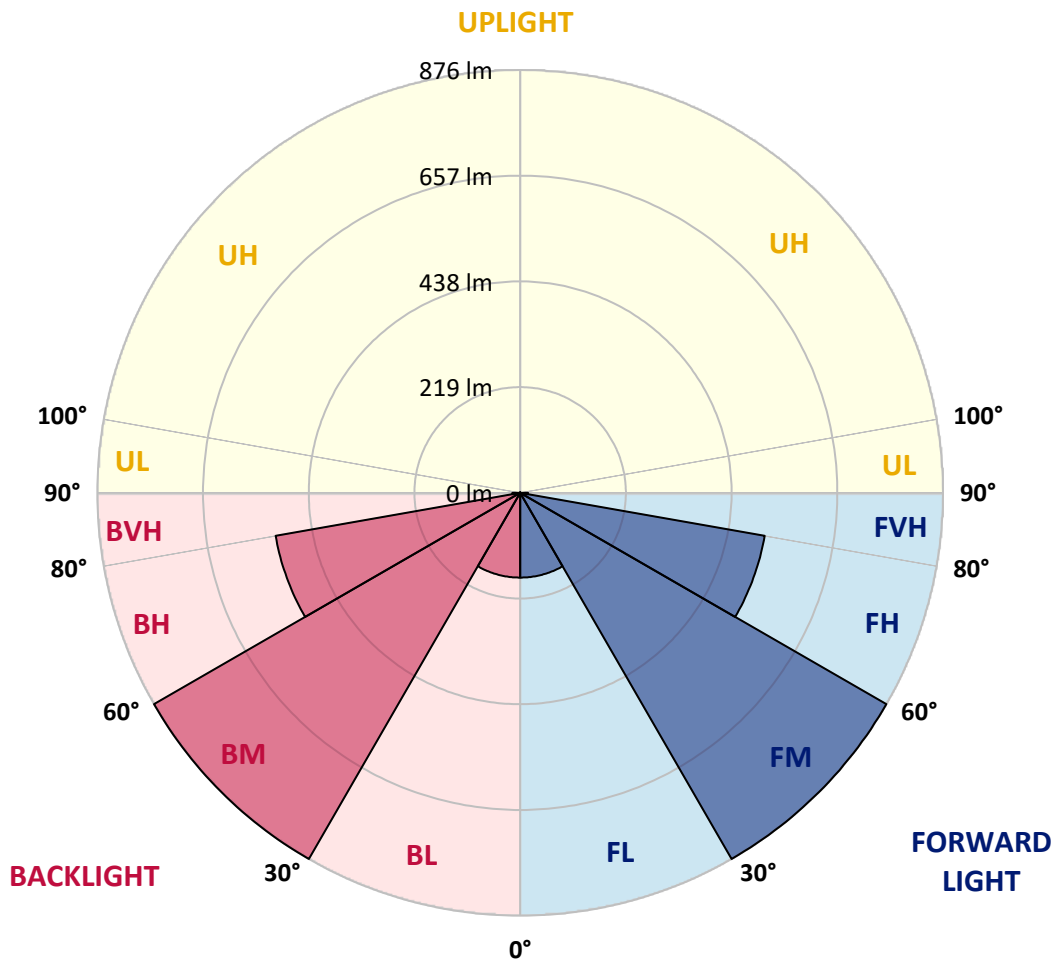
CATALOG NUMBER: IST-AF-450-LED-E1-RW

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

| Zone           | Lumens | % Fixture | Zone Rating/Lumen Limit |       |         |
|----------------|--------|-----------|-------------------------|-------|---------|
|                |        |           | B                       | U     | G       |
| FL (0°-30°)    | 175.7  | 5.5       |                         |       |         |
| FM (30°-60°)   | 876.3  | 27.7      |                         |       |         |
| FH (60°-80°)   | 514.6  | 16.3      |                         |       | G0/660  |
| FVH (80°-90°)  | 16.1   | 0.5       |                         |       | G1/100  |
| BL (0°-30°)    | 175.7  | 5.5       | B1/500                  |       |         |
| BM (30°-60°)   | 876.3  | 27.7      | B1/1000                 |       |         |
| BH (60°-80°)   | 514.6  | 16.3      | B2/1000                 |       | G2/1000 |
| BVH (80°-90°)  | 16.1   | 0.5       |                         |       | G1/100  |
| UL (90°-100°)  | 0.5    | 0.0       |                         | U1/10 |         |
| UH (100°-180°) | 0.2    | 0.0       |                         | U1/10 |         |

**BUG Rating: B2-U1-G2**

Type II Medium





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**CANDELA DISTRIBUTION (FULL):**

|        | 0°    | 5°    | 15°   | 25°   | 35°   | 37.5° | 40°    | 42.5°  | 45°    | 47.5°  | 50°    |
|--------|-------|-------|-------|-------|-------|-------|--------|--------|--------|--------|--------|
| 0°     | 363.7 | 363.7 | 363.7 | 363.7 | 363.7 | 363.7 | 363.7  | 363.7  | 363.7  | 363.7  | 363.7  |
| 2.5°   | 362.3 | 361.8 | 361.8 | 362.3 | 363.2 | 363.7 | 362.7  | 363.2  | 363.2  | 362.7  | 364.2  |
| 5°     | 363.2 | 362.7 | 363.2 | 364.2 | 365.5 | 366.9 | 366.4  | 366.4  | 366.9  | 366.0  | 368.4  |
| 7.5°   | 362.3 | 361.8 | 362.7 | 365.1 | 368.4 | 370.2 | 370.2  | 370.2  | 371.1  | 370.6  | 373.5  |
| 10°    | 358.1 | 357.6 | 360.0 | 364.2 | 370.2 | 371.6 | 373.0  | 373.5  | 376.2  | 376.2  | 379.0  |
| 12.5°  | 354.4 | 354.9 | 358.1 | 364.6 | 374.4 | 374.8 | 376.8  | 378.6  | 382.3  | 380.4  | 385.6  |
| 15°    | 355.8 | 356.7 | 360.9 | 368.8 | 381.9 | 381.4 | 382.8  | 384.6  | 390.7  | 386.5  | 394.9  |
| 17.5°  | 362.7 | 364.2 | 368.8 | 378.1 | 391.6 | 389.3 | 391.2  | 393.9  | 401.8  | 396.7  | 406.5  |
| 20°    | 373.9 | 375.8 | 380.9 | 391.2 | 403.8 | 401.4 | 403.2  | 406.5  | 415.8  | 410.7  | 420.5  |
| 22.5°  | 388.8 | 390.7 | 396.3 | 408.0 | 421.5 | 418.6 | 420.5  | 423.3  | 433.5  | 425.6  | 437.7  |
| 25°    | 408.9 | 410.7 | 416.8 | 428.8 | 444.3 | 441.0 | 441.9  | 443.8  | 454.5  | 445.2  | 456.8  |
| 27.5°  | 436.8 | 438.6 | 443.8 | 455.4 | 470.4 | 467.5 | 468.4  | 470.4  | 481.5  | 472.2  | 482.4  |
| 30°    | 472.2 | 474.0 | 478.7 | 490.3 | 502.9 | 499.6 | 501.0  | 502.5  | 512.7  | 503.4  | 511.8  |
| 32.5°  | 514.1 | 513.6 | 520.6 | 532.8 | 543.9 | 537.9 | 537.9  | 537.9  | 547.6  | 538.3  | 544.8  |
| 35°    | 563.4 | 563.4 | 570.4 | 582.1 | 592.3 | 585.3 | 582.1  | 580.2  | 591.0  | 579.3  | 583.9  |
| 37.5°  | 617.5 | 615.1 | 625.8 | 636.6 | 646.3 | 637.5 | 634.6  | 632.4  | 640.3  | 627.3  | 629.5  |
| 40°    | 674.7 | 672.9 | 684.6 | 696.6 | 703.2 | 691.5 | 689.2  | 686.4  | 694.8  | 682.2  | 681.7  |
| 42.5°  | 726.9 | 725.5 | 740.4 | 754.3 | 762.3 | 747.4 | 744.1  | 741.3  | 750.6  | 738.1  | 735.3  |
| 45°    | 771.1 | 770.7 | 787.9 | 807.0 | 820.9 | 805.2 | 802.8  | 798.1  | 807.4  | 792.1  | 790.6  |
| 47.5°  | 805.6 | 803.7 | 824.7 | 852.6 | 874.9 | 858.7 | 858.3  | 855.0  | 864.7  | 847.9  | 846.1  |
| 50°    | 828.9 | 830.2 | 853.0 | 885.7 | 922.0 | 906.6 | 908.1  | 906.6  | 921.1  | 904.3  | 906.6  |
| 52.5°  | 833.1 | 835.9 | 865.2 | 908.1 | 958.8 | 940.2 | 950.8  | 955.0  | 973.2  | 958.8  | 963.4  |
| 55°    | 783.3 | 791.2 | 835.9 | 910.3 | 981.6 | 970.0 | 983.5  | 995.5  | 1021.2 | 1009.0 | 1017.4 |
| 57.5°  | 672.0 | 688.2 | 739.9 | 847.9 | 978.8 | 985.3 | 1012.8 | 1031.4 | 1062.6 | 1051.9 | 1071.4 |
| 60°    | 519.2 | 530.4 | 587.7 | 713.8 | 889.4 | 898.3 | 948.1  | 1007.2 | 1078.9 | 1093.8 | 1124.5 |
| 62.5°  | 339.9 | 346.5 | 402.3 | 530.4 | 735.3 | 738.1 | 799.9  | 876.9  | 1001.2 | 1033.8 | 1119.9 |
| 65°    | 168.6 | 177.4 | 207.2 | 305.5 | 515.1 | 511.3 | 579.3  | 669.1  | 830.2  | 866.1  | 1006.3 |
| 67.5°  | 105.3 | 106.6 | 112.7 | 141.6 | 258.0 | 229.1 | 285.0  | 379.0  | 574.2  | 606.3  | 784.2  |
| 70°    | 88.5  | 88.0  | 86.6  | 90.8  | 113.6 | 92.2  | 102.0  | 133.2  | 267.3  | 265.9  | 452.1  |
| 72.5°  | 81.5  | 80.1  | 76.4  | 75.9  | 79.2  | 72.6  | 73.6   | 75.4   | 107.1  | 89.9   | 174.1  |
| 75°    | 75.0  | 72.2  | 67.5  | 66.1  | 66.1  | 61.0  | 61.0   | 61.5   | 69.4   | 65.2   | 79.2   |
| 77.5°  | 67.1  | 63.8  | 59.1  | 57.3  | 55.4  | 49.8  | 49.4   | 49.8   | 55.9   | 52.2   | 59.1   |
| 80°    | 57.7  | 54.5  | 51.2  | 48.4  | 45.6  | 40.5  | 39.1   | 39.1   | 44.2   | 40.5   | 46.1   |
| 82.5°  | 50.3  | 46.1  | 45.2  | 40.5  | 36.3  | 31.7  | 30.3   | 27.9   | 32.6   | 28.4   | 34.5   |
| 85°    | 37.2  | 34.0  | 42.9  | 35.9  | 28.8  | 25.6  | 20.5   | 17.2   | 20.5   | 16.8   | 21.9   |
| 87.5°  | 21.4  | 20.0  | 37.7  | 28.4  | 25.6  | 27.5  | 16.8   | 12.1   | 11.7   | 10.2   | 12.1   |
| 90°    | 4.2   | 4.7   | 6.0   | 4.2   | 5.6   | 2.8   | 1.4    | 1.4    | 2.8    | 1.8    | 3.3    |
| 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    |
| 110°   | 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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CATALOG NUMBER: IST-AF-450-LED-E1-RW

**CANDELA DISTRIBUTION (continued):**

|        | 0°  | 5°  | 15° | 25° | 35° | 37.5° | 40° | 42.5° | 45° | 47.5° | 50° |
|--------|-----|-----|-----|-----|-----|-------|-----|-------|-----|-------|-----|
| 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):**

|        | 52.5°  | 55°    | 57.5°  | 60°    | 62.5°  | 65°    | 67.5°  | 70°    | 72.5°  | 75°    | 77.5°  |
|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 0°     | 363.7  | 363.7  | 363.7  | 363.7  | 363.7  | 363.7  | 363.7  | 363.7  | 363.7  | 363.7  | 363.7  |
| 2.5°   | 362.7  | 364.2  | 362.3  | 364.2  | 360.9  | 363.7  | 361.3  | 364.2  | 361.8  | 364.2  | 361.3  |
| 5°     | 365.1  | 368.8  | 364.6  | 369.7  | 363.7  | 369.7  | 364.6  | 370.2  | 365.5  | 370.2  | 365.1  |
| 7.5°   | 368.8  | 375.3  | 369.7  | 376.2  | 368.8  | 377.2  | 370.2  | 378.1  | 371.1  | 378.6  | 370.6  |
| 10°    | 373.5  | 381.9  | 374.4  | 382.8  | 373.9  | 383.7  | 374.8  | 385.1  | 375.8  | 386.1  | 376.2  |
| 12.5°  | 377.7  | 388.3  | 380.0  | 391.2  | 381.4  | 393.0  | 382.8  | 395.8  | 384.6  | 398.1  | 385.6  |
| 15°    | 385.6  | 399.6  | 388.8  | 402.3  | 391.2  | 404.7  | 393.5  | 408.4  | 395.8  | 411.1  | 398.1  |
| 17.5°  | 395.8  | 411.1  | 400.0  | 413.5  | 401.4  | 416.3  | 404.2  | 419.1  | 406.5  | 422.4  | 408.0  |
| 20°    | 409.8  | 425.1  | 413.5  | 426.6  | 414.9  | 428.4  | 416.3  | 429.8  | 419.1  | 432.6  | 420.0  |
| 22.5°  | 425.6  | 440.1  | 427.5  | 440.5  | 427.5  | 440.1  | 428.4  | 440.5  | 429.8  | 442.3  | 431.2  |
| 25°    | 444.7  | 458.2  | 445.6  | 456.8  | 443.8  | 454.9  | 443.8  | 454.9  | 445.2  | 455.8  | 447.5  |
| 27.5°  | 471.3  | 481.5  | 468.4  | 478.2  | 464.2  | 474.0  | 462.4  | 472.2  | 462.9  | 472.2  | 463.8  |
| 30°    | 501.0  | 510.4  | 495.4  | 503.4  | 488.0  | 495.4  | 482.9  | 491.2  | 481.5  | 490.3  | 483.9  |
| 32.5°  | 533.7  | 541.1  | 526.2  | 532.8  | 516.9  | 523.4  | 509.9  | 515.5  | 507.1  | 512.7  | 508.5  |
| 35°    | 570.0  | 577.5  | 562.0  | 568.1  | 552.3  | 557.8  | 544.3  | 547.2  | 538.8  | 542.5  | 538.8  |
| 37.5°  | 613.3  | 619.8  | 602.1  | 607.6  | 590.4  | 597.4  | 581.1  | 583.9  | 573.7  | 576.0  | 568.6  |
| 40°    | 659.8  | 666.9  | 645.9  | 651.4  | 630.0  | 637.9  | 619.8  | 621.6  | 607.6  | 610.0  | 598.3  |
| 42.5°  | 710.1  | 716.7  | 690.6  | 695.2  | 670.0  | 678.4  | 657.0  | 660.7  | 644.0  | 646.3  | 631.5  |
| 45°    | 765.6  | 769.3  | 740.4  | 743.7  | 713.4  | 721.8  | 694.8  | 701.7  | 681.7  | 686.4  | 669.1  |
| 47.5°  | 817.2  | 824.7  | 793.0  | 795.9  | 763.2  | 768.3  | 737.1  | 746.4  | 725.1  | 732.0  | 711.1  |
| 50°    | 876.4  | 882.0  | 851.7  | 852.1  | 820.5  | 822.4  | 787.5  | 796.8  | 773.5  | 780.9  | 758.5  |
| 52.5°  | 936.9  | 940.6  | 908.1  | 911.2  | 880.0  | 883.3  | 848.4  | 852.1  | 825.1  | 831.7  | 809.8  |
| 55°    | 995.5  | 996.5  | 969.5  | 968.5  | 939.3  | 945.3  | 906.6  | 915.0  | 882.9  | 889.9  | 865.2  |
| 57.5°  | 1054.3 | 1057.5 | 1032.4 | 1033.3 | 1003.9 | 1008.1 | 973.2  | 979.3  | 949.0  | 957.4  | 926.7  |
| 60°    | 1116.1 | 1126.5 | 1101.7 | 1105.0 | 1077.1 | 1085.5 | 1043.1 | 1051.0 | 1017.9 | 1031.4 | 998.4  |
| 62.5°  | 1155.7 | 1194.0 | 1189.3 | 1194.4 | 1167.9 | 1172.1 | 1128.3 | 1140.9 | 1101.3 | 1111.0 | 1077.1 |
| 65°    | 1080.3 | 1173.9 | 1221.4 | 1273.6 | 1275.0 | 1288.5 | 1246.1 | 1250.8 | 1211.2 | 1208.8 | 1168.8 |
| 67.5°  | 880.6  | 996.0  | 1076.1 | 1183.2 | 1258.2 | 1330.3 | 1356.4 | 1363.0 | 1341.6 | 1318.8 | 1273.6 |
| 70°    | 531.3  | 657.6  | 775.3  | 901.5  | 1019.8 | 1149.7 | 1260.1 | 1336.4 | 1403.0 | 1399.8 | 1406.3 |
| 72.5°  | 210.0  | 314.8  | 393.5  | 511.8  | 629.1  | 772.9  | 895.0  | 1002.6 | 1117.1 | 1187.4 | 1278.7 |
| 75°    | 82.9   | 109.5  | 128.1  | 194.2  | 250.0  | 357.1  | 464.7  | 522.9  | 612.8  | 674.2  | 737.6  |
| 77.5°  | 59.6   | 65.2   | 66.1   | 76.8   | 81.0   | 112.2  | 131.3  | 151.3  | 170.4  | 182.5  | 180.2  |
| 80°    | 46.1   | 49.8   | 49.8   | 54.5   | 54.0   | 60.0   | 58.7   | 64.2   | 63.8   | 68.4   | 65.2   |
| 82.5°  | 34.5   | 36.8   | 36.8   | 40.5   | 40.5   | 44.2   | 43.3   | 47.1   | 45.6   | 48.9   | 45.6   |
| 85°    | 22.4   | 24.7   | 24.7   | 26.5   | 25.6   | 29.4   | 28.8   | 31.7   | 30.3   | 31.7   | 29.4   |
| 87.5°  | 12.6   | 14.0   | 14.4   | 15.9   | 14.4   | 17.2   | 16.8   | 18.2   | 16.8   | 18.2   | 17.2   |
| 90°    | 1.8    | 2.8    | 1.8    | 2.8    | 1.4    | 4.2    | 2.4    | 4.7    | 1.4    | 5.6    | 2.4    |
| 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    |
| 110°   | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    |



REPORT NUMBER: P227525

CATALOG NUMBER: IST-AF-450-LED-E1-RW

**CANDELA DISTRIBUTION (continued):**

|        | 52.5° | 55° | 57.5° | 60° | 62.5° | 65° | 67.5° | 70° | 72.5° | 75° | 77.5° |
|--------|-------|-----|-------|-----|-------|-----|-------|-----|-------|-----|-------|
| 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: P227525

CATALOG NUMBER: IST-AF-450-LED-E1-RW

**CANDELA DISTRIBUTION (continued):**

|        | 80°    | 82.5°  | 85°    | 87.5°  | 90°    |
|--------|--------|--------|--------|--------|--------|
| 0°     | 363.7  | 363.7  | 363.7  | 363.7  | 363.7  |
| 2.5°   | 363.7  | 362.7  | 364.6  | 361.8  | 364.2  |
| 5°     | 370.2  | 366.0  | 371.1  | 366.0  | 370.6  |
| 7.5°   | 379.0  | 372.0  | 379.5  | 372.0  | 379.5  |
| 10°    | 387.4  | 375.8  | 387.9  | 376.8  | 388.3  |
| 12.5°  | 400.0  | 386.1  | 401.8  | 386.5  | 401.8  |
| 15°    | 414.0  | 398.1  | 415.8  | 398.6  | 416.8  |
| 17.5°  | 425.1  | 409.8  | 427.0  | 409.8  | 427.5  |
| 20°    | 434.4  | 422.4  | 436.8  | 422.4  | 438.2  |
| 22.5°  | 445.2  | 436.3  | 448.0  | 436.3  | 450.7  |
| 25°    | 459.1  | 453.1  | 462.4  | 454.0  | 464.2  |
| 27.5°  | 475.5  | 471.3  | 478.7  | 472.6  | 480.6  |
| 30°    | 494.5  | 493.2  | 496.8  | 494.1  | 498.7  |
| 32.5°  | 516.0  | 519.2  | 519.2  | 519.2  | 521.1  |
| 35°    | 547.2  | 549.9  | 549.9  | 550.9  | 551.4  |
| 37.5°  | 576.9  | 581.6  | 581.1  | 582.6  | 582.6  |
| 40°    | 608.1  | 614.2  | 614.2  | 614.2  | 615.1  |
| 42.5°  | 642.6  | 649.2  | 650.1  | 647.2  | 649.2  |
| 45°    | 681.3  | 683.5  | 685.9  | 684.6  | 687.7  |
| 47.5°  | 722.7  | 725.1  | 726.9  | 725.1  | 730.2  |
| 50°    | 771.6  | 771.1  | 776.2  | 771.1  | 778.6  |
| 52.5°  | 822.9  | 827.1  | 830.2  | 825.1  | 830.2  |
| 55°    | 880.6  | 879.1  | 889.9  | 882.9  | 889.9  |
| 57.5°  | 943.9  | 943.9  | 954.6  | 948.1  | 955.9  |
| 60°    | 1018.9 | 1012.8 | 1027.7 | 1017.0 | 1027.7 |
| 62.5°  | 1094.8 | 1084.0 | 1100.8 | 1091.5 | 1105.5 |
| 65°    | 1182.3 | 1167.0 | 1182.7 | 1170.7 | 1183.2 |
| 67.5°  | 1270.8 | 1253.1 | 1258.2 | 1252.2 | 1259.2 |
| 70°    | 1384.4 | 1382.1 | 1376.0 | 1393.7 | 1378.3 |
| 72.5°  | 1264.3 | 1291.3 | 1269.4 | 1311.7 | 1282.9 |
| 75°    | 776.7  | 826.5  | 854.1  | 897.3  | 890.4  |
| 77.5°  | 183.9  | 163.5  | 180.2  | 161.6  | 182.1  |
| 80°    | 68.0   | 61.9   | 64.8   | 56.4   | 62.9   |
| 82.5°  | 46.5   | 40.5   | 39.1   | 31.2   | 33.6   |
| 85°    | 29.8   | 24.2   | 22.4   | 18.6   | 20.5   |
| 87.5°  | 17.7   | 13.5   | 12.6   | 10.7   | 11.2   |
| 90°    | 5.1    | 1.8    | 3.7    | 0.9    | 3.3    |
| 92.5°  | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    |
| 95°    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    |
| 97.5°  | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    |
| 100°   | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    |
| 102.5° | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    |
| 105°   | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    |
| 107.5° | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    |
| 110°   | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    |



REPORT NUMBER: P227525

CATALOG NUMBER: IST-AF-450-LED-E1-RW

**CANDELA DISTRIBUTION (continued):**

|        | 80° | 82.5° | 85° | 87.5° | 90° |
|--------|-----|-------|-----|-------|-----|
| 112.5° | 0.0 | 0.0   | 0.0 | 0.0   | 0.0 |
| 115°   | 0.0 | 0.0   | 0.0 | 0.0   | 0.0 |
| 117.5° | 0.0 | 0.0   | 0.0 | 0.0   | 0.0 |
| 120°   | 0.0 | 0.0   | 0.0 | 0.0   | 0.0 |
| 122.5° | 0.0 | 0.0   | 0.0 | 0.0   | 0.0 |
| 125°   | 0.0 | 0.0   | 0.0 | 0.0   | 0.0 |
| 127.5° | 0.0 | 0.0   | 0.0 | 0.0   | 0.0 |
| 130°   | 0.0 | 0.0   | 0.0 | 0.0   | 0.0 |
| 132.5° | 0.0 | 0.0   | 0.0 | 0.0   | 0.0 |
| 135°   | 0.0 | 0.0   | 0.0 | 0.0   | 0.0 |
| 137.5° | 0.0 | 0.0   | 0.0 | 0.0   | 0.0 |
| 140°   | 0.0 | 0.0   | 0.0 | 0.0   | 0.0 |
| 142.5° | 0.0 | 0.0   | 0.0 | 0.0   | 0.0 |
| 145°   | 0.0 | 0.0   | 0.0 | 0.0   | 0.0 |
| 147.5° | 0.0 | 0.0   | 0.0 | 0.0   | 0.0 |
| 150°   | 0.0 | 0.0   | 0.0 | 0.0   | 0.0 |
| 152.5° | 0.0 | 0.0   | 0.0 | 0.0   | 0.0 |
| 155°   | 0.0 | 0.0   | 0.0 | 0.0   | 0.0 |
| 157.5° | 0.0 | 0.0   | 0.0 | 0.0   | 0.0 |
| 160°   | 0.0 | 0.0   | 0.0 | 0.0   | 0.0 |
| 162.5° | 0.0 | 0.0   | 0.0 | 0.0   | 0.0 |
| 165°   | 0.0 | 0.0   | 0.0 | 0.0   | 0.0 |
| 167.5° | 0.0 | 0.0   | 0.0 | 0.0   | 0.0 |
| 170°   | 0.0 | 0.0   | 0.0 | 0.0   | 0.0 |
| 172.5° | 0.0 | 0.0   | 0.0 | 0.0   | 0.0 |
| 175°   | 0.0 | 0.0   | 0.0 | 0.0   | 0.0 |
| 177.5° | 0.0 | 0.0   | 0.0 | 0.0   | 0.0 |
| 180°   | 0.0 | 0.0   | 0.0 | 0.0   | 0.0 |

(END OF REPORT)