

Signify Classified - Internal  
Cooper Lighting Solutions Photometric Lab  
1121 Highway 74 South  
Peachtree City, GA 30269



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: P436742

Luminaire Tested: **TT-D1-750-U-WQ-HSS**

Issue Date: 12/2/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P436742  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2010-017-2)  
Test Lab: INNOVATION CENTER  
Issue Date: 12/2/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: MCGRAW-EDISON  
Catalog Number: TT-D1-750-U-WQ-HSS  
Description: TOPTIER LED PARKING GARAGE LUMINAIRE  
5000K, 70 CRI LEDS AND WIDE DISTRIBUTION WITH HOUSE SIDE SHIELD  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 3120 lumens  
Efficiency: N/A  
Efficacy: 111.4 lumens/watt  
Luminous Opening: Circular (Dia: 1.12' x H: 0')  
IES Classification: Type IV - Short  
BUG Rating: B1 - U1 - G2

Input Watts (W): 28  
Input Voltage (V): NR  
Input Current (A<sub>in</sub>): 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

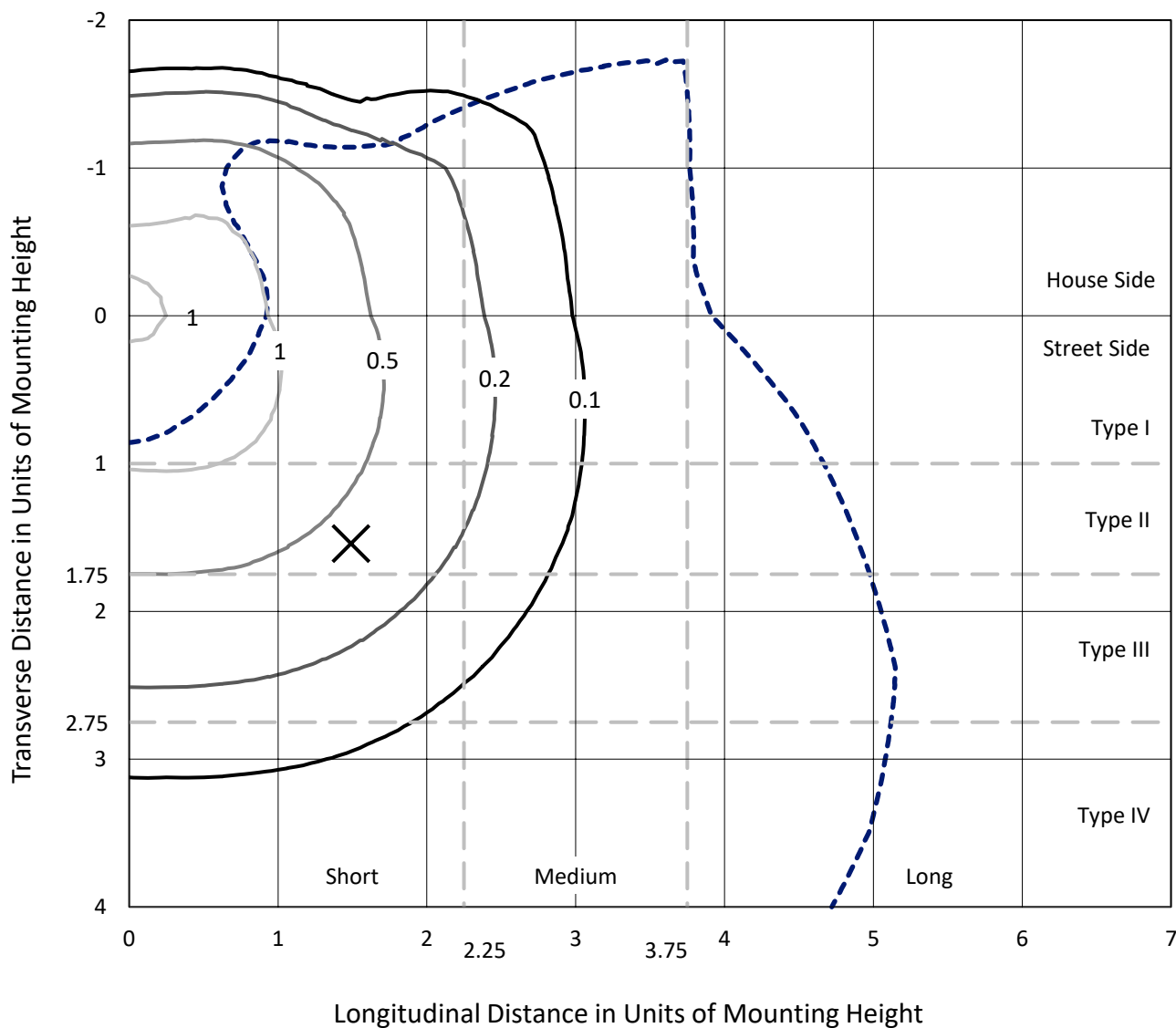
REPORT NUMBER: P436742

CATALOG NUMBER: TT-D1-750-U-WQ-HSS

## Iso-Footcandle Lines of Horizontal Illumination

× Max cd

--- 1/2 Max cd

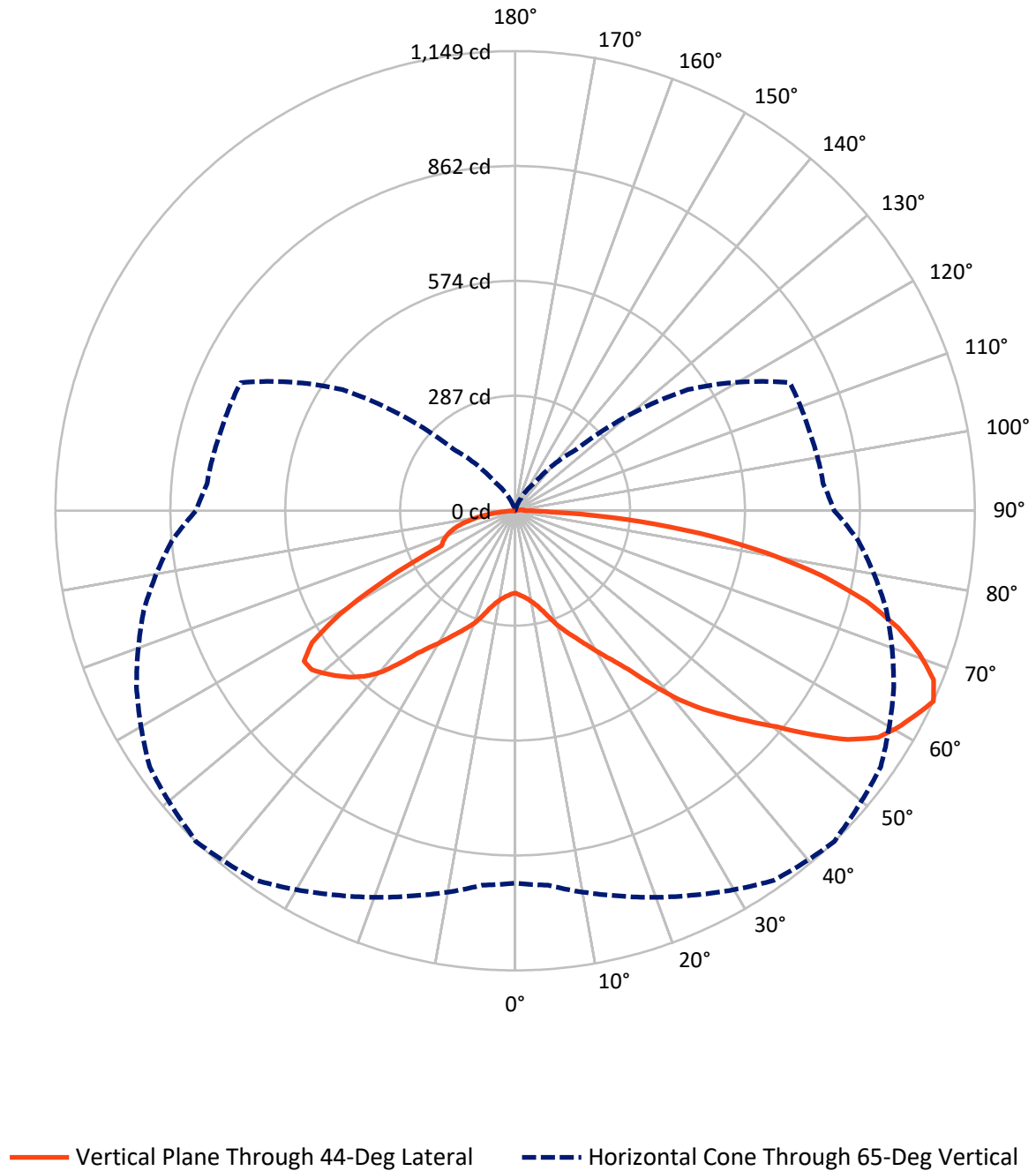


Based on 15 foot mounting height. Maximum calculated value = 1.2 fc  
 Type IV - Short - N/A

REPORT NUMBER: P436742

CATALOG NUMBER: TT-D1-750-U-WQ-HSS

## Luminous Intensity Polar Plot



REPORT NUMBER: P436742

CATALOG NUMBER: TT-D1-750-U-WQ-HSS

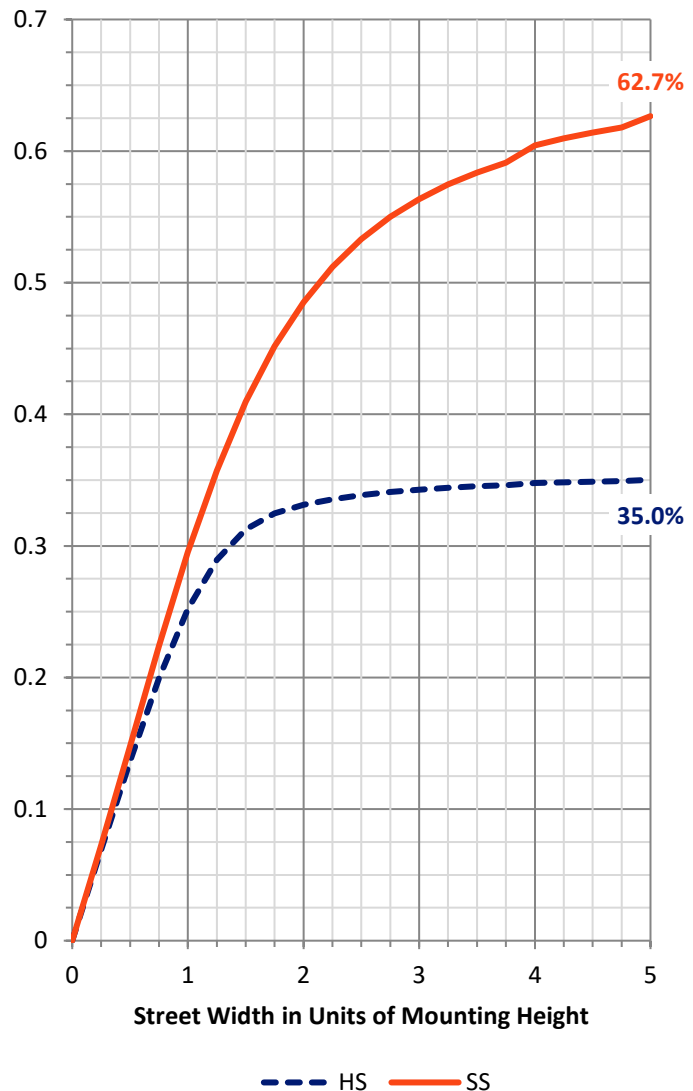
**FLUX DISTRIBUTION:**

|                    |           | Downward | Upward | Total  |
|--------------------|-----------|----------|--------|--------|
| <b>House Side</b>  | Lumens    | 1098.9   | 0.7    | 1099.6 |
|                    | % Fixture | 35.2     | 0.0    | 35.2   |
| <b>Street Side</b> | Lumens    | 2007.7   | 12.6   | 2020.3 |
|                    | % Fixture | 64.4     | 0.4    | 64.8   |
| <b>Total</b>       | Lumens    | 3106.6   | 13.3   | 3120.0 |
|                    | % Fixture | 99.6     | 0.4    | 100.0  |

**Coefficient of Utilization**

**ZONAL LUMENS:**

| Zone      | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10°    | 20.9   | 0.7       |
| 10°-20°   | 74.1   | 2.4       |
| 20°-30°   | 158.8  | 5.1       |
| 30°-40°   | 287.6  | 9.2       |
| 40°-50°   | 479.9  | 15.4      |
| 50°-60°   | 664.7  | 21.3      |
| 60°-70°   | 688.9  | 22.1      |
| 70°-80°   | 554.4  | 17.8      |
| 80°-90°   | 177.3  | 5.7       |
| 90°-100°  | 9.0    | 0.3       |
| 100°-110° | 2.9    | 0.1       |
| 110°-120° | 0.6    | 0.0       |
| 120°-130° | 0.3    | 0.0       |
| 130°-140° | 0.2    | 0.0       |
| 140°-150° | 0.2    | 0.0       |
| 150°-160° | 0.1    | 0.0       |
| 160°-170° | 0.1    | 0.0       |
| 170°-180° | 0.0    | 0.0       |
| 0°-90°    | 3106.6 | 99.6      |
| 0°-180°   | 3120.0 | 100.0     |



REPORT NUMBER: P436742

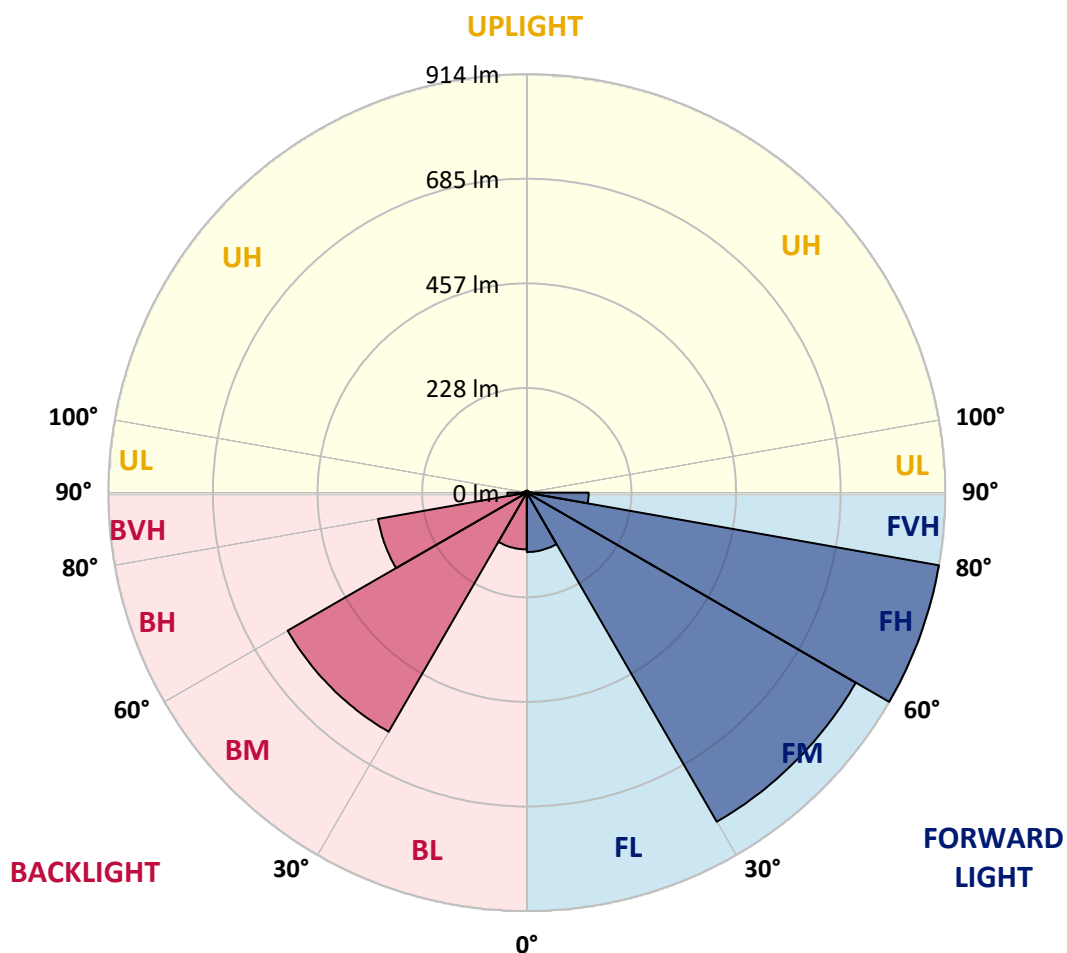
CATALOG NUMBER: TT-D1-750-U-WQ-HSS

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

| Zone |             | Lumens | % Fixture | Zone Rating/Lumen Limit |       |         |
|------|-------------|--------|-----------|-------------------------|-------|---------|
|      |             |        |           | B                       | U     | G       |
| FL   | (0°-30°)    | 129.7  | 4.2       |                         |       |         |
| FM   | (30°-60°)   | 829.5  | 26.6      |                         |       |         |
| FH   | (60°-80°)   | 913.6  | 29.3      |                         |       | G1/1800 |
| FVH  | (80°-90°)   | 134.9  | 4.3       |                         |       | G2/225  |
| BL   | (0°-30°)    | 124.1  | 4.0       | B1/500                  |       |         |
| BM   | (30°-60°)   | 602.8  | 19.3      | B1/1000                 |       |         |
| BH   | (60°-80°)   | 329.7  | 10.6      | B1/500                  |       | G1/500  |
| BVH  | (80°-90°)   | 42.4   | 1.4       |                         |       | G1/100  |
| UL   | (90°-100°)  | 9.0    | 0.3       |                         | U1/10 |         |
| UH   | (100°-180°) | 4.4    | 0.1       |                         | U1/10 |         |

**BUG Rating: B1-U1-G2**

Type IV Short



REPORT NUMBER: P436742

CATALOG NUMBER: TT-D1-750-U-WQ-HSS

**CANDELA DISTRIBUTION (FULL):**

|        | 0°    | 5°    | 15°   | 25°    | 35°    | 44°    | 45°    | 55°    | 65°    | 75°   | 85°   |
|--------|-------|-------|-------|--------|--------|--------|--------|--------|--------|-------|-------|
| 0°     | 205.9 | 205.9 | 205.9 | 205.9  | 205.9  | 205.9  | 205.9  | 205.9  | 205.9  | 205.9 | 205.9 |
| 2.5°   | 212.0 | 211.4 | 211.4 | 210.8  | 210.8  | 210.8  | 210.8  | 210.8  | 210.1  | 209.5 | 208.9 |
| 5°     | 217.5 | 217.5 | 216.8 | 216.8  | 216.2  | 215.6  | 216.2  | 215.6  | 215.0  | 214.4 | 213.8 |
| 7.5°   | 224.8 | 224.2 | 224.2 | 222.9  | 222.9  | 222.3  | 222.3  | 222.3  | 221.7  | 220.5 | 219.9 |
| 10°    | 235.1 | 233.9 | 233.9 | 232.7  | 232.1  | 231.5  | 231.5  | 230.2  | 230.2  | 229.6 | 229.0 |
| 12.5°  | 246.7 | 245.5 | 246.7 | 246.1  | 244.9  | 243.6  | 243.6  | 242.4  | 241.8  | 241.2 | 238.8 |
| 15°    | 261.9 | 260.1 | 261.3 | 261.3  | 260.7  | 260.1  | 260.1  | 257.7  | 256.4  | 255.2 | 252.8 |
| 17.5°  | 280.2 | 279.0 | 279.6 | 280.2  | 282.0  | 282.0  | 282.6  | 279.6  | 277.1  | 272.9 | 271.1 |
| 20°    | 303.3 | 302.7 | 304.6 | 304.6  | 306.4  | 306.4  | 307.0  | 303.9  | 299.7  | 296.6 | 293.0 |
| 22.5°  | 325.9 | 325.9 | 328.3 | 328.3  | 330.1  | 328.9  | 328.9  | 327.7  | 322.8  | 319.2 | 315.5 |
| 25°    | 349.0 | 348.4 | 350.8 | 352.7  | 355.1  | 352.1  | 353.3  | 351.5  | 346.6  | 341.7 | 336.8 |
| 27.5°  | 374.6 | 373.4 | 374.6 | 377.0  | 381.3  | 378.9  | 380.1  | 377.0  | 372.2  | 365.5 | 361.2 |
| 30°    | 402.6 | 400.8 | 402.6 | 406.3  | 409.3  | 410.5  | 409.9  | 405.7  | 401.4  | 391.7 | 388.6 |
| 32.5°  | 430.0 | 430.0 | 434.3 | 441.0  | 444.6  | 444.0  | 444.6  | 441.0  | 434.9  | 422.7 | 415.4 |
| 35°    | 463.5 | 466.0 | 471.4 | 481.2  | 489.1  | 486.1  | 486.1  | 484.8  | 474.5  | 459.9 | 450.1 |
| 37.5°  | 508.0 | 510.4 | 521.4 | 533.0  | 547.6  | 546.4  | 547.0  | 543.3  | 523.2  | 508.0 | 494.0 |
| 40°    | 559.8 | 562.2 | 578.7 | 595.1  | 609.1  | 613.4  | 614.0  | 606.1  | 584.1  | 562.2 | 540.3 |
| 42.5°  | 607.3 | 610.3 | 627.4 | 650.5  | 665.8  | 672.5  | 673.7  | 660.9  | 637.7  | 612.8 | 585.4 |
| 45°    | 654.8 | 658.4 | 677.9 | 702.3  | 724.2  | 727.3  | 727.9  | 716.9  | 691.3  | 662.7 | 627.4 |
| 47.5°  | 703.5 | 706.6 | 726.7 | 755.9  | 779.7  | 785.7  | 786.4  | 776.0  | 744.9  | 710.2 | 668.8 |
| 50°    | 748.0 | 754.1 | 781.5 | 812.5  | 844.2  | 849.1  | 849.7  | 838.1  | 801.6  | 762.6 | 707.8 |
| 52.5°  | 800.4 | 803.4 | 832.6 | 884.4  | 911.2  | 930.1  | 930.7  | 908.2  | 869.2  | 816.8 | 746.2 |
| 55°    | 861.3 | 866.8 | 896.6 | 948.4  | 996.5  | 1009.3 | 1012.9 | 986.1  | 934.4  | 877.7 | 794.9 |
| 57.5°  | 896.6 | 907.0 | 950.8 | 1000.2 | 1060.5 | 1069.0 | 1070.8 | 1042.8 | 985.5  | 923.4 | 831.4 |
| 60°    | 915.5 | 921.6 | 967.9 | 1044.6 | 1091.5 | 1099.4 | 1098.8 | 1077.5 | 1020.3 | 944.7 | 848.5 |
| 62.5°  | 936.8 | 947.2 | 986.1 | 1064.1 | 1104.9 | 1124.4 | 1121.4 | 1099.4 | 1041.0 | 958.1 | 864.9 |
| 65°    | 930.7 | 939.2 | 996.5 | 1059.8 | 1127.5 | 1148.8 | 1144.5 | 1115.3 | 1044.0 | 960.6 | 860.7 |
| 67.5°  | 906.3 | 913.0 | 969.7 | 1048.3 | 1112.8 | 1128.1 | 1135.4 | 1106.7 | 1027.0 | 934.4 | 833.9 |
| 70°    | 856.4 | 866.8 | 921.6 | 1002.0 | 1061.1 | 1072.0 | 1073.2 | 1055.6 | 983.7  | 886.2 | 789.4 |
| 72.5°  | 787.6 | 796.1 | 855.8 | 937.4  | 988.6  | 1001.4 | 1002.6 | 975.8  | 921.6  | 820.5 | 725.4 |
| 75°    | 705.3 | 713.3 | 759.6 | 844.8  | 895.4  | 908.2  | 907.0  | 882.0  | 824.7  | 729.1 | 640.8 |
| 77.5°  | 603.6 | 618.2 | 659.1 | 729.1  | 778.4  | 785.1  | 786.4  | 758.9  | 712.7  | 629.8 | 543.9 |
| 80°    | 476.3 | 490.3 | 536.6 | 589.0  | 630.4  | 635.9  | 637.7  | 614.6  | 572.6  | 499.5 | 426.4 |
| 82.5°  | 338.7 | 350.8 | 387.4 | 430.0  | 464.7  | 464.7  | 466.0  | 447.1  | 414.8  | 352.1 | 294.8 |
| 85°    | 193.1 | 202.2 | 226.6 | 257.0  | 282.0  | 279.0  | 279.6  | 262.5  | 241.2  | 192.5 | 155.9 |
| 87.5°  | 63.3  | 67.6  | 73.1  | 84.7   | 96.2   | 88.9   | 92.6   | 76.7   | 69.4   | 51.8  | 40.2  |
| 90°    | 33.5  | 33.5  | 32.3  | 31.1   | 28.6   | 25.0   | 25.0   | 20.1   | 15.2   | 9.7   | 3.7   |
| 92.5°  | 30.5  | 30.5  | 29.2  | 28.0   | 25.6   | 22.5   | 22.5   | 18.3   | 13.4   | 8.5   | 3.0   |
| 95°    | 25.0  | 25.0  | 24.4  | 23.1   | 21.3   | 18.9   | 18.3   | 15.2   | 11.6   | 6.7   | 2.4   |
| 97.5°  | 19.5  | 19.5  | 18.9  | 18.3   | 16.4   | 14.6   | 14.6   | 11.6   | 8.5    | 5.5   | 1.8   |
| 100°   | 14.6  | 14.6  | 14.6  | 13.4   | 12.8   | 11.0   | 11.0   | 9.1    | 6.7    | 4.3   | 1.2   |
| 102.5° | 10.4  | 11.0  | 10.4  | 9.7    | 9.1    | 7.9    | 7.9    | 6.7    | 4.9    | 3.0   | 1.2   |
| 105°   | 7.3   | 7.3   | 6.7   | 6.7    | 6.1    | 5.5    | 5.5    | 4.3    | 3.0    | 1.8   | 0.6   |
| 107.5° | 4.3   | 4.3   | 4.3   | 4.3    | 3.7    | 3.7    | 3.7    | 3.0    | 1.8    | 1.2   | 0.6   |
| 110°   | 2.4   | 2.4   | 2.4   | 2.4    | 1.8    | 1.8    | 1.8    | 1.2    | 1.2    | 0.6   | 0.6   |



REPORT NUMBER: P436742

CATALOG NUMBER: TT-D1-750-U-WQ-HSS

**CANDELA DISTRIBUTION (continued):**

|        | 0°  | 5°  | 15° | 25° | 35° | 44° | 45° | 55° | 65° | 75° | 85° |
|--------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 112.5° | 1.2 | 1.2 | 1.2 | 1.2 | 1.2 | 1.2 | 1.2 | 0.6 | 0.6 | 0.6 | 0.6 |
| 115°   | 0.6 | 0.6 | 0.6 | 1.2 | 0.6 | 0.6 | 0.6 | 0.6 | 0.6 | 0.6 | 0.6 |
| 117.5° | 0.6 | 0.6 | 0.6 | 0.6 | 0.6 | 0.6 | 0.6 | 0.6 | 0.6 | 0.6 | 0.6 |
| 120°   | 0.0 | 0.0 | 0.6 | 0.6 | 0.6 | 0.6 | 0.6 | 0.6 | 0.6 | 0.6 | 0.6 |
| 122.5° | 0.0 | 0.0 | 0.6 | 0.6 | 0.6 | 0.6 | 0.6 | 0.6 | 0.6 | 0.6 | 0.6 |
| 125°   | 0.0 | 0.0 | 0.6 | 0.6 | 0.6 | 0.6 | 0.6 | 0.6 | 0.6 | 0.6 | 0.6 |
| 127.5° | 0.0 | 0.0 | 0.0 | 0.6 | 0.6 | 0.6 | 0.6 | 0.6 | 0.6 | 0.6 | 0.6 |
| 130°   | 0.0 | 0.0 | 0.0 | 0.6 | 0.6 | 0.6 | 0.6 | 0.6 | 0.6 | 0.6 | 0.6 |
| 132.5° | 0.0 | 0.0 | 0.0 | 0.6 | 0.6 | 0.6 | 0.6 | 0.6 | 0.6 | 0.6 | 0.6 |
| 135°   | 0.0 | 0.0 | 0.0 | 0.0 | 0.6 | 0.6 | 0.6 | 0.6 | 0.6 | 0.6 | 0.6 |
| 137.5° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.6 | 0.6 | 0.6 | 0.6 | 0.6 |
| 140°   | 0.6 | 0.6 | 0.0 | 0.0 | 0.0 | 0.0 | 0.6 | 0.6 | 0.6 | 0.6 | 0.6 |
| 142.5° | 0.6 | 0.6 | 0.6 | 0.0 | 0.0 | 0.6 | 0.6 | 0.6 | 0.6 | 0.6 | 0.6 |
| 145°   | 0.6 | 0.6 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.6 | 0.6 | 0.6 | 0.6 |
| 147.5° | 0.6 | 0.6 | 0.6 | 0.0 | 0.0 | 0.6 | 0.6 | 0.6 | 0.6 | 0.6 | 0.6 |
| 150°   | 0.6 | 0.6 | 0.0 | 0.0 | 0.0 | 0.0 | 0.6 | 0.6 | 0.6 | 0.6 | 0.6 |
| 152.5° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.6 | 0.6 | 0.6 | 0.6 |
| 155°   | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.6 | 0.6 | 0.6 |
| 157.5° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.6 | 0.6 | 0.6 | 0.6 |
| 160°   | 0.6 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.6 | 0.6 | 0.6 | 0.6 |
| 162.5° | 0.6 | 0.6 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.6 | 0.6 | 0.6 | 0.6 |
| 165°   | 0.6 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.6 | 0.6 | 0.6 | 0.6 | 0.6 |
| 167.5° | 0.6 | 0.6 | 0.0 | 0.0 | 0.0 | 0.0 | 0.6 | 0.6 | 0.6 | 0.6 | 0.6 |
| 170°   | 0.6 | 0.0 | 0.0 | 0.0 | 0.0 | 0.6 | 0.0 | 0.6 | 0.6 | 0.6 | 0.6 |
| 172.5° | 0.6 | 0.6 | 0.0 | 0.0 | 0.0 | 0.0 | 0.6 | 0.6 | 0.6 | 0.6 | 0.6 |
| 175°   | 0.6 | 0.6 | 0.6 | 0.0 | 0.0 | 0.0 | 0.6 | 0.6 | 0.6 | 0.6 | 0.6 |
| 177.5° | 0.0 | 0.6 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.6 | 0.6 | 0.6 | 0.6 |
| 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: P436742

CATALOG NUMBER: TT-D1-750-U-WQ-HSS

**CANDELA DISTRIBUTION (continued):**

|        | 90°   | 95°   | 105°  | 115°  | 125°  | 135°  | 145°  | 155°  | 165°  | 175°  | 180°  |
|--------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 0°     | 205.9 | 205.9 | 205.9 | 205.9 | 205.9 | 205.9 | 205.9 | 205.9 | 205.9 | 205.9 | 205.9 |
| 2.5°   | 208.9 | 208.9 | 208.3 | 207.7 | 207.7 | 207.7 | 207.1 | 207.1 | 207.1 | 206.5 | 206.5 |
| 5°     | 213.8 | 213.2 | 213.2 | 212.6 | 212.6 | 212.0 | 212.0 | 211.4 | 210.8 | 210.8 | 210.1 |
| 7.5°   | 220.5 | 219.9 | 218.7 | 219.3 | 218.1 | 217.5 | 216.8 | 216.8 | 216.8 | 216.2 | 216.2 |
| 10°    | 228.4 | 228.4 | 227.2 | 227.2 | 226.0 | 225.4 | 224.8 | 224.8 | 225.4 | 225.4 | 224.8 |
| 12.5°  | 238.8 | 238.2 | 238.2 | 237.6 | 236.9 | 236.3 | 236.9 | 236.9 | 236.3 | 235.7 | 235.1 |
| 15°    | 251.6 | 251.6 | 251.6 | 252.2 | 251.6 | 251.6 | 251.6 | 251.0 | 249.7 | 248.5 | 248.5 |
| 17.5°  | 271.1 | 270.4 | 269.2 | 269.8 | 271.1 | 272.9 | 271.1 | 269.2 | 267.4 | 267.4 | 266.8 |
| 20°    | 291.2 | 291.8 | 291.8 | 292.4 | 294.2 | 296.0 | 293.6 | 292.4 | 291.2 | 289.9 | 288.7 |
| 22.5°  | 313.1 | 313.7 | 313.7 | 313.1 | 314.3 | 313.7 | 312.5 | 311.3 | 310.0 | 308.2 | 307.0 |
| 25°    | 334.4 | 335.0 | 334.4 | 333.8 | 334.4 | 332.6 | 330.7 | 328.9 | 325.9 | 322.8 | 322.8 |
| 27.5°  | 358.2 | 357.5 | 355.1 | 355.7 | 354.5 | 353.3 | 349.6 | 345.4 | 341.1 | 338.1 | 338.1 |
| 30°    | 383.1 | 383.1 | 378.3 | 380.7 | 378.3 | 377.6 | 369.7 | 364.2 | 358.2 | 353.9 | 353.3 |
| 32.5°  | 410.5 | 409.3 | 405.7 | 408.1 | 405.7 | 403.2 | 393.5 | 386.2 | 375.8 | 369.7 | 369.1 |
| 35°    | 443.4 | 440.4 | 437.3 | 439.8 | 439.8 | 433.1 | 423.3 | 409.9 | 395.3 | 388.0 | 387.4 |
| 37.5°  | 483.6 | 481.8 | 478.1 | 481.2 | 483.6 | 476.9 | 462.3 | 442.8 | 422.1 | 411.1 | 410.5 |
| 40°    | 528.1 | 525.7 | 523.8 | 528.1 | 529.9 | 523.2 | 503.7 | 476.3 | 448.3 | 432.5 | 430.0 |
| 42.5°  | 570.1 | 564.6 | 561.6 | 567.7 | 565.9 | 558.6 | 531.7 | 500.1 | 461.7 | 443.4 | 440.4 |
| 45°    | 607.9 | 601.8 | 597.5 | 603.0 | 600.6 | 586.0 | 556.1 | 513.5 | 467.2 | 444.6 | 441.0 |
| 47.5°  | 645.0 | 635.9 | 629.2 | 636.5 | 631.6 | 609.1 | 572.6 | 520.2 | 461.1 | 434.3 | 428.2 |
| 50°    | 676.7 | 665.8 | 661.5 | 670.0 | 662.7 | 631.0 | 584.1 | 517.1 | 445.9 | 406.9 | 397.1 |
| 52.5°  | 714.5 | 698.0 | 693.8 | 710.2 | 693.8 | 651.7 | 586.6 | 509.8 | 411.1 | 364.2 | 355.1 |
| 55°    | 752.9 | 734.6 | 727.9 | 743.1 | 718.1 | 656.0 | 574.4 | 467.8 | 358.8 | 308.8 | 295.4 |
| 57.5°  | 773.0 | 755.9 | 749.8 | 760.8 | 714.5 | 614.6 | 520.2 | 389.8 | 280.2 | 224.2 | 209.5 |
| 60°    | 791.2 | 761.4 | 753.5 | 768.1 | 676.7 | 518.3 | 402.6 | 279.6 | 169.3 | 127.3 | 116.3 |
| 62.5°  | 804.0 | 775.4 | 758.9 | 765.6 | 607.3 | 377.0 | 231.5 | 134.6 | 64.0  | 44.5  | 43.9  |
| 65°    | 797.3 | 773.0 | 762.0 | 757.1 | 527.5 | 216.8 | 85.3  | 34.1  | 1.8   | 1.8   | 1.2   |
| 67.5°  | 776.6 | 749.8 | 746.8 | 751.0 | 522.0 | 208.3 | 79.2  | 31.1  | 0.0   | 0.0   | 0.0   |
| 70°    | 730.9 | 712.0 | 712.0 | 726.7 | 498.2 | 197.4 | 73.7  | 28.6  | 0.0   | 0.0   | 0.0   |
| 72.5°  | 669.4 | 654.8 | 663.3 | 685.2 | 462.9 | 182.1 | 66.4  | 25.6  | 0.0   | 0.0   | 0.0   |
| 75°    | 595.7 | 580.5 | 591.4 | 615.8 | 419.1 | 162.6 | 57.9  | 21.9  | 0.0   | 0.0   | 0.0   |
| 77.5°  | 501.9 | 491.5 | 508.6 | 531.1 | 360.6 | 137.0 | 47.5  | 17.7  | 0.0   | 0.0   | 0.0   |
| 80°    | 391.0 | 385.6 | 408.1 | 428.2 | 291.2 | 107.8 | 35.9  | 12.8  | 0.0   | 0.0   | 0.0   |
| 82.5°  | 269.8 | 267.4 | 289.3 | 310.0 | 208.3 | 75.5  | 24.4  | 8.5   | 0.0   | 0.0   | 0.0   |
| 85°    | 141.3 | 141.3 | 158.4 | 177.2 | 116.3 | 40.8  | 12.2  | 3.7   | 0.0   | 0.0   | 0.0   |
| 87.5°  | 31.1  | 29.8  | 32.3  | 41.4  | 23.1  | 7.9   | 1.8   | 0.6   | 0.0   | 0.0   | 0.0   |
| 90°    | 0.6   | 0.6   | 0.6   | 0.6   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |
| 92.5°  | 0.6   | 0.6   | 0.6   | 0.6   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |
| 95°    | 0.6   | 0.6   | 0.6   | 0.6   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |
| 97.5°  | 0.6   | 0.6   | 0.6   | 0.6   | 0.6   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |
| 100°   | 0.6   | 0.6   | 0.6   | 0.6   | 0.6   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |
| 102.5° | 0.6   | 0.6   | 0.6   | 0.6   | 0.6   | 0.6   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |
| 105°   | 0.6   | 0.6   | 0.6   | 0.6   | 0.6   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |
| 107.5° | 0.6   | 0.6   | 0.6   | 0.6   | 0.6   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |
| 110°   | 0.6   | 0.6   | 0.6   | 0.6   | 0.6   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |



REPORT NUMBER: P436742

CATALOG NUMBER: TT-D1-750-U-WQ-HSS

**CANDELA DISTRIBUTION (continued):**

|        | 90° | 95° | 105° | 115° | 125° | 135° | 145° | 155° | 165° | 175° | 180° |
|--------|-----|-----|------|------|------|------|------|------|------|------|------|
| 112.5° | 0.6 | 0.6 | 0.6  | 0.6  | 0.6  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| 115°   | 0.6 | 0.6 | 0.6  | 0.6  | 0.6  | 0.6  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| 117.5° | 0.6 | 0.6 | 0.6  | 0.6  | 0.6  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| 120°   | 0.6 | 0.6 | 0.6  | 0.6  | 0.6  | 0.6  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| 122.5° | 0.6 | 0.6 | 0.6  | 0.6  | 0.6  | 0.6  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| 125°   | 0.6 | 0.6 | 0.6  | 0.6  | 0.6  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| 127.5° | 0.6 | 0.6 | 0.6  | 0.6  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| 130°   | 0.6 | 0.6 | 0.6  | 0.6  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| 132.5° | 0.6 | 0.6 | 0.6  | 0.6  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| 135°   | 0.6 | 0.6 | 0.6  | 0.6  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| 137.5° | 0.6 | 0.6 | 0.6  | 0.6  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| 140°   | 0.6 | 0.6 | 0.6  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| 142.5° | 0.6 | 0.6 | 0.6  | 0.6  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| 145°   | 0.6 | 0.6 | 0.6  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| 147.5° | 0.6 | 0.6 | 0.6  | 0.6  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| 150°   | 0.6 | 0.6 | 0.6  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| 152.5° | 0.6 | 0.6 | 0.6  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| 155°   | 0.6 | 0.6 | 0.6  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| 157.5° | 0.6 | 0.6 | 0.6  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| 160°   | 0.6 | 0.6 | 0.6  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| 162.5° | 0.6 | 0.6 | 0.6  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| 165°   | 0.6 | 0.6 | 0.6  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| 167.5° | 0.6 | 0.6 | 0.6  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| 170°   | 0.6 | 0.6 | 0.6  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| 172.5° | 0.6 | 0.6 | 0.6  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| 175°   | 0.6 | 0.6 | 0.6  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| 177.5° | 0.6 | 0.6 | 0.6  | 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  |

LM-79-2019: Approved Method: Electrical and Photometric Measurements of Solid-State Lighting Products

Report Prepared for

Cooper Lighting Solutions

Streetworks

Report Number: SP1-2407-176-6

Test Date: 09/26/2024

Luminaire Tested: MEM2-HTN-VA-30-750-U-WQ

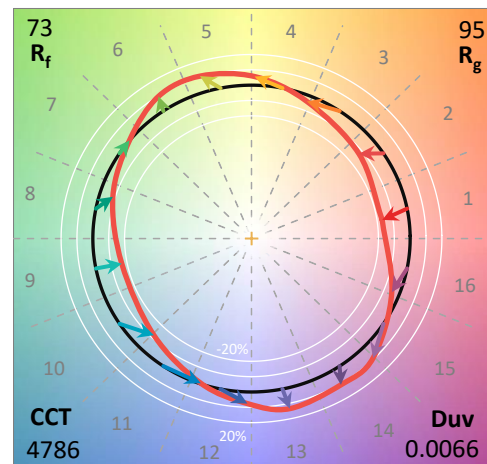
Data in this report applies to families of products including MEM2-HTN-VA-30-750-U-WQ

### Test Information

Test Method: LM-79-2019  
 Report Number: SP1-2407-176-6  
 Test Lab: COOPER LIGHTING SOLUTIONS  
 Photometer: SP1 - 76IN SPHERE  
 Measurement Geometry:  $4\pi$   
 Issue Date: 09/27/2024  
 Manufacturer: COOPER LIGHTING SOLUTIONS  
 Product Line: Streetworks  
 Catalog Number: **MEM2-HTN-VA-30-750-U-WQ**  
 Description: EPIC MODERN VISUAL COMFORT 30W WAVESTREAM WIDE

### Spectral Parameters

|                           |          |           |      |      |       |
|---------------------------|----------|-----------|------|------|-------|
| CCT (K):                  | 4786     | CRI (Ra): | 70.9 |      |       |
| CIE u':                   | 0.2093   | R1:       | 67.8 | R9:  | -29.8 |
| CIE v':                   | 0.4953   | R2:       | 75.1 | R10: | 40.9  |
| Duv:                      | 0.0066   | R3:       | 80.6 | R11: | 67.4  |
| CIE x:                    | 0.3533   | R4:       | 71.6 | R12: | 35.3  |
| CIE y:                    | 0.3716   | R5:       | 67.8 | R13: | 68.5  |
| CIE z:                    | 0.2751   | R6:       | 65.4 | R14: | 89.0  |
| Peak Wavelength (nm):     | 449      | R7:       | 82.0 | R15: | 60.9  |
| Dominant Wavelength (nm): | 570      | R8:       | 57.0 |      |       |
| Purity:                   | 17.53512 |           |      |      |       |
| Rf:                       | 73       |           |      |      |       |
| Rg:                       | 94.6     |           |      |      |       |



### Test Conditions

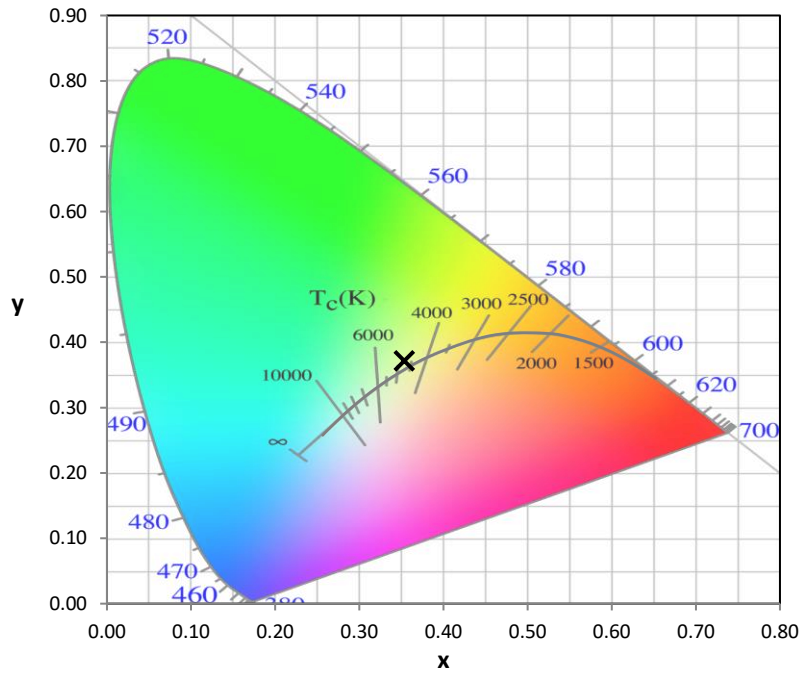
Stabilization Time: 45M  
 Operation Time: 1H 45M  
 Sphere Temperature (°C): 25.2

REPORT NUMBER: SP1-2407-176-6

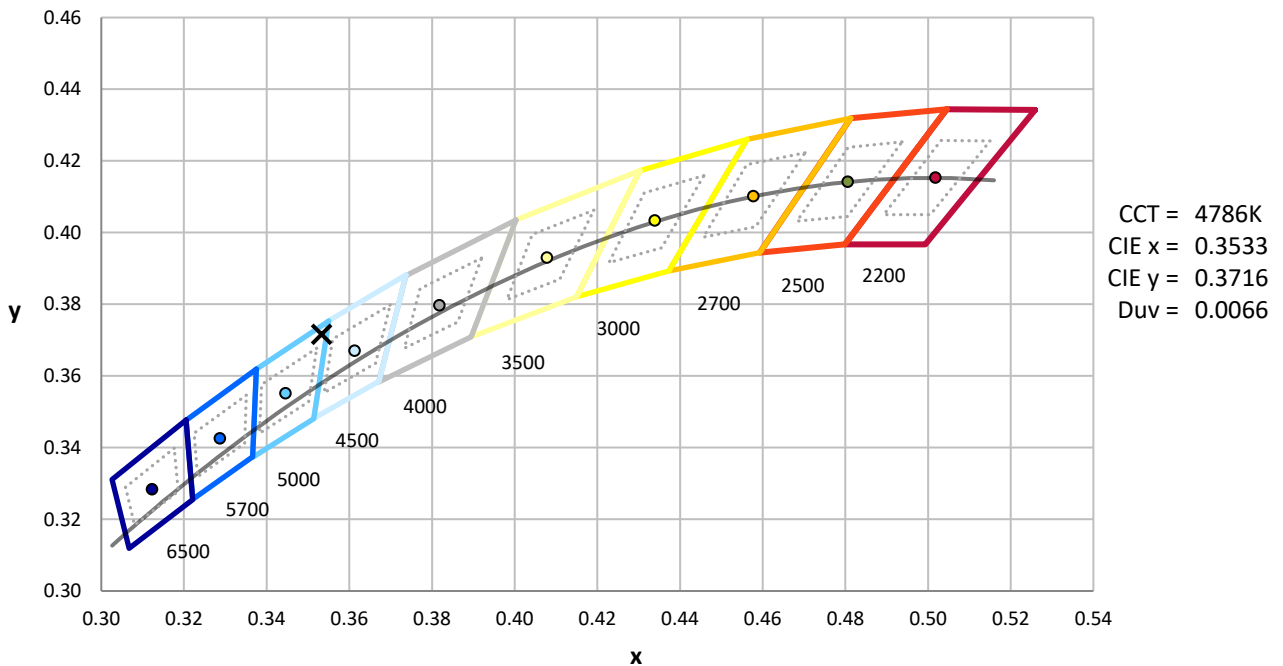
| Measurement and Test Equipment |                       |                  |                      |
|--------------------------------|-----------------------|------------------|----------------------|
| Instrument                     | Identification Number | Calibration Date | Calibration Due Date |
| Photometer                     | IN0058                | 6/18/2024        | 12/18/2024           |
| Power Meter                    | INXT2011004           | 2/8/2024         | 2/8/2025             |
| AC Power Source                | IN0063                | 10/24/2023       | 10/24/2024           |
| DC Power Source                | IN0208                | 10/24/2023       | 10/24/2024           |
| Sphere Thermometer             | IN0085                | 10/24/2023       | 10/24/2024           |
| Room Thermometer               | IN0046                | 10/24/2023       | 10/24/2024           |

REPORT NUMBER: SP1-2407-176-6

**CIE 1931 Chromaticity Diagram**

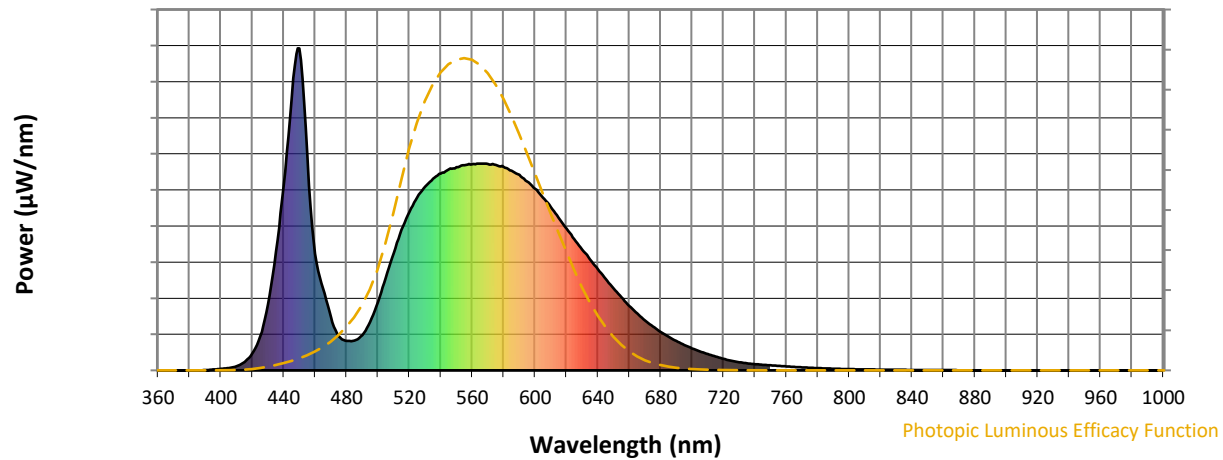


**CIE 1931 Chromaticity Diagram with 2017 ANSI 7-Step and 4-Step Quadrangles**



REPORT NUMBER: SP1-2407-176-6

### Photopic Flux vs. Wavelength

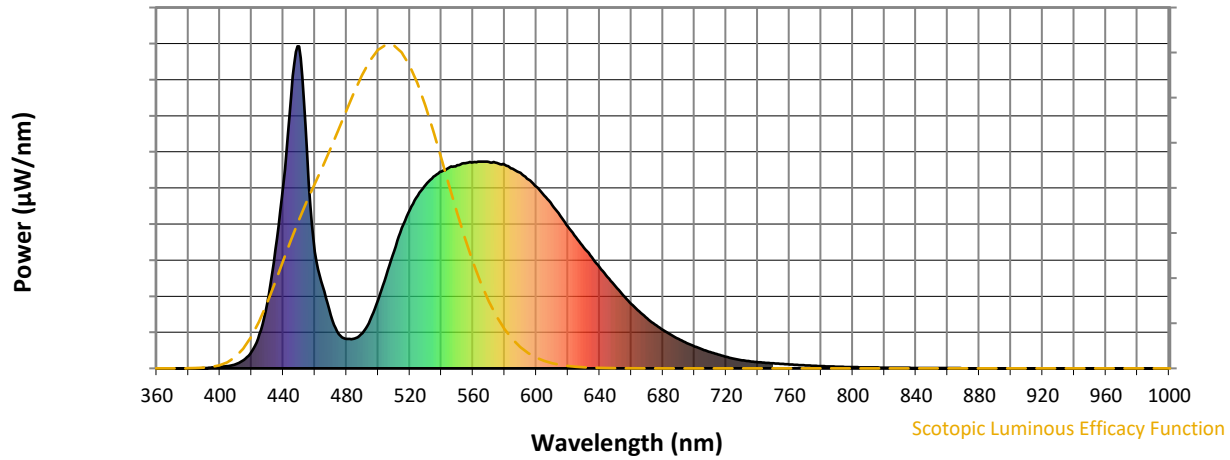


### Photopic Lumens: NR

| $\lambda$<br>(nm) | Power<br>$\text{W}^\wedge/\text{nm}$ | Lumens<br>( $\phi/\text{nm}$ ) | $\lambda$<br>(nm) | Power<br>$\text{W}^\wedge/\text{nm}$ | Lumens<br>( $\phi/\text{nm}$ ) | $\lambda$<br>(nm) | Power<br>$\text{W}^\wedge/\text{nm}$ | Lumens<br>( $\phi/\text{nm}$ ) | $\lambda$<br>(nm) | Power<br>$\text{W}^\wedge/\text{nm}$ | Lumens<br>( $\phi/\text{nm}$ ) | $\lambda$<br>(nm) | Power<br>$\text{W}^\wedge/\text{nm}$ | Lumens<br>( $\phi/\text{nm}$ ) |
|-------------------|--------------------------------------|--------------------------------|-------------------|--------------------------------------|--------------------------------|-------------------|--------------------------------------|--------------------------------|-------------------|--------------------------------------|--------------------------------|-------------------|--------------------------------------|--------------------------------|
| 360               | 0                                    | NR                             | 490               | 110                                  | NR                             | 620               | 440                                  | NR                             | 750               | 16                                   | NR                             | 880               | 0                                    | NR                             |
| 365               | 0                                    | NR                             | 495               | 150                                  | NR                             | 625               | 407                                  | NR                             | 755               | 14                                   | NR                             | 885               | 0                                    | NR                             |
| 370               | 0                                    | NR                             | 500               | 213                                  | NR                             | 630               | 375                                  | NR                             | 760               | 12                                   | NR                             | 890               | 0                                    | NR                             |
| 375               | 0                                    | NR                             | 505               | 288                                  | NR                             | 635               | 345                                  | NR                             | 765               | 11                                   | NR                             | 895               | 0                                    | NR                             |
| 380               | 0                                    | NR                             | 510               | 364                                  | NR                             | 640               | 314                                  | NR                             | 770               | 9                                    | NR                             | 900               | 0                                    | NR                             |
| 385               | 0                                    | NR                             | 515               | 436                                  | NR                             | 645               | 283                                  | NR                             | 775               | 8                                    | NR                             | 905               | 0                                    | NR                             |
| 390               | 1                                    | NR                             | 520               | 492                                  | NR                             | 650               | 254                                  | NR                             | 780               | 7                                    | NR                             | 910               | 0                                    | NR                             |
| 395               | 3                                    | NR                             | 525               | 537                                  | NR                             | 655               | 227                                  | NR                             | 785               | 6                                    | NR                             | 915               | 0                                    | NR                             |
| 400               | 5                                    | NR                             | 530               | 570                                  | NR                             | 660               | 200                                  | NR                             | 790               | 5                                    | NR                             | 920               | 0                                    | NR                             |
| 405               | 7                                    | NR                             | 535               | 595                                  | NR                             | 665               | 177                                  | NR                             | 795               | 4                                    | NR                             | 925               | 0                                    | NR                             |
| 410               | 13                                   | NR                             | 540               | 611                                  | NR                             | 670               | 155                                  | NR                             | 800               | 4                                    | NR                             | 930               | 0                                    | NR                             |
| 415               | 25                                   | NR                             | 545               | 624                                  | NR                             | 675               | 136                                  | NR                             | 805               | 3                                    | NR                             | 935               | 0                                    | NR                             |
| 420               | 52                                   | NR                             | 550               | 631                                  | NR                             | 680               | 119                                  | NR                             | 810               | 3                                    | NR                             | 940               | 0                                    | NR                             |
| 425               | 106                                  | NR                             | 555               | 637                                  | NR                             | 685               | 104                                  | NR                             | 815               | 3                                    | NR                             | 945               | 0                                    | NR                             |
| 430               | 204                                  | NR                             | 560               | 640                                  | NR                             | 690               | 91                                   | NR                             | 820               | 2                                    | NR                             | 950               | 0                                    | NR                             |
| 435               | 369                                  | NR                             | 565               | 642                                  | NR                             | 695               | 79                                   | NR                             | 825               | 2                                    | NR                             | 955               | 0                                    | NR                             |
| 440               | 573                                  | NR                             | 570               | 641                                  | NR                             | 700               | 68                                   | NR                             | 830               | 2                                    | NR                             | 960               | 0                                    | NR                             |
| 445               | 844                                  | NR                             | 575               | 638                                  | NR                             | 705               | 59                                   | NR                             | 835               | 2                                    | NR                             | 965               | 0                                    | NR                             |
| 450               | 999                                  | NR                             | 580               | 632                                  | NR                             | 710               | 50                                   | NR                             | 840               | 1                                    | NR                             | 970               | 0                                    | NR                             |
| 455               | 668                                  | NR                             | 585               | 620                                  | NR                             | 715               | 43                                   | NR                             | 845               | 1                                    | NR                             | 975               | 0                                    | NR                             |
| 460               | 361                                  | NR                             | 590               | 607                                  | NR                             | 720               | 36                                   | NR                             | 850               | 1                                    | NR                             | 980               | 0                                    | NR                             |
| 465               | 255                                  | NR                             | 595               | 586                                  | NR                             | 725               | 30                                   | NR                             | 855               | 1                                    | NR                             | 985               | 0                                    | NR                             |
| 470               | 165                                  | NR                             | 600               | 564                                  | NR                             | 730               | 25                                   | NR                             | 860               | 1                                    | NR                             | 990               | 0                                    | NR                             |
| 475               | 106                                  | NR                             | 605               | 537                                  | NR                             | 735               | 22                                   | NR                             | 865               | 1                                    | NR                             | 995               | 0                                    | NR                             |
| 480               | 91                                   | NR                             | 610               | 507                                  | NR                             | 740               | 19                                   | NR                             | 870               | 0                                    | NR                             | 1000              | 0                                    | NR                             |
| 485               | 93                                   | NR                             | 615               | 474                                  | NR                             | 745               | 17                                   | NR                             | 875               | 0                                    | NR                             |                   |                                      |                                |

REPORT NUMBER: SP1-2407-176-6

### Scotopic Flux vs. Wavelength



Scotopic Lumens: NR

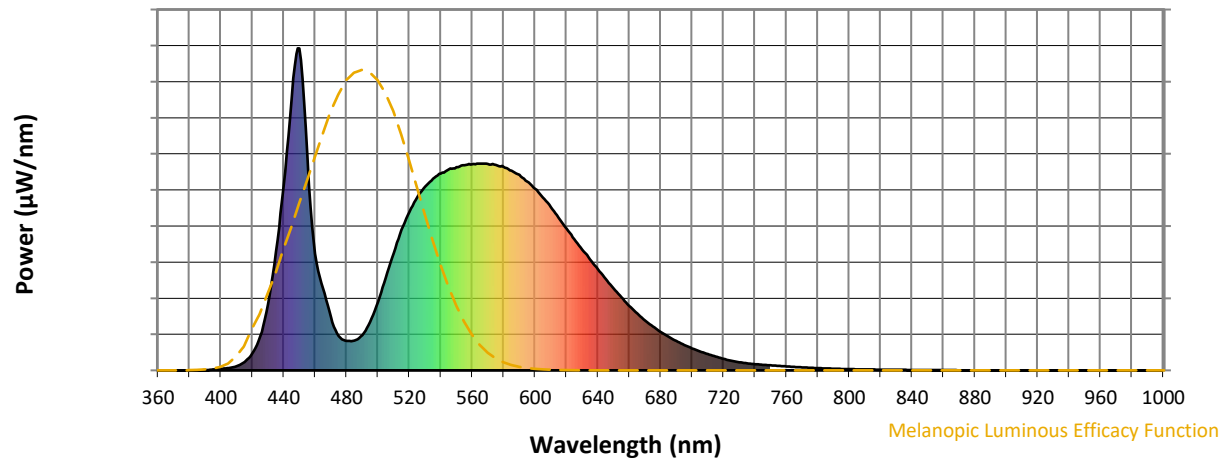
S/P: 1.69

| λ (nm) | Power W <sup>^</sup> /nm | Lumens (Φ/nm) | λ (nm) | Power W <sup>^</sup> /nm | Lumens (Φ/nm) | λ (nm) | Power W <sup>^</sup> /nm | Lumens (Φ/nm) | λ (nm) | Power W <sup>^</sup> /nm | Lumens (Φ/nm) | λ (nm) | Power W <sup>^</sup> /nm | Lumens (Φ/nm) |
|--------|--------------------------|---------------|--------|--------------------------|---------------|--------|--------------------------|---------------|--------|--------------------------|---------------|--------|--------------------------|---------------|
| 360    | 0                        | NR            | 490    | 110                      | NR            | 620    | 440                      | NR            | 750    | 16                       | NR            | 880    | 0                        | NR            |
| 365    | 0                        | NR            | 495    | 150                      | NR            | 625    | 407                      | NR            | 755    | 14                       | NR            | 885    | 0                        | NR            |
| 370    | 0                        | NR            | 500    | 213                      | NR            | 630    | 375                      | NR            | 760    | 12                       | NR            | 890    | 0                        | NR            |
| 375    | 0                        | NR            | 505    | 288                      | NR            | 635    | 345                      | NR            | 765    | 11                       | NR            | 895    | 0                        | NR            |
| 380    | 0                        | NR            | 510    | 364                      | NR            | 640    | 314                      | NR            | 770    | 9                        | NR            | 900    | 0                        | NR            |
| 385    | 0                        | NR            | 515    | 436                      | NR            | 645    | 283                      | NR            | 775    | 8                        | NR            | 905    | 0                        | NR            |
| 390    | 1                        | NR            | 520    | 492                      | NR            | 650    | 254                      | NR            | 780    | 7                        | NR            | 910    | 0                        | NR            |
| 395    | 3                        | NR            | 525    | 537                      | NR            | 655    | 227                      | NR            | 785    | 6                        | NR            | 915    | 0                        | NR            |
| 400    | 5                        | NR            | 530    | 570                      | NR            | 660    | 200                      | NR            | 790    | 5                        | NR            | 920    | 0                        | NR            |
| 405    | 7                        | NR            | 535    | 595                      | NR            | 665    | 177                      | NR            | 795    | 4                        | NR            | 925    | 0                        | NR            |
| 410    | 13                       | NR            | 540    | 611                      | NR            | 670    | 155                      | NR            | 800    | 4                        | NR            | 930    | 0                        | NR            |
| 415    | 25                       | NR            | 545    | 624                      | NR            | 675    | 136                      | NR            | 805    | 3                        | NR            | 935    | 0                        | NR            |
| 420    | 52                       | NR            | 550    | 631                      | NR            | 680    | 119                      | NR            | 810    | 3                        | NR            | 940    | 0                        | NR            |
| 425    | 106                      | NR            | 555    | 637                      | NR            | 685    | 104                      | NR            | 815    | 3                        | NR            | 945    | 0                        | NR            |
| 430    | 204                      | NR            | 560    | 640                      | NR            | 690    | 91                       | NR            | 820    | 2                        | NR            | 950    | 0                        | NR            |
| 435    | 369                      | NR            | 565    | 642                      | NR            | 695    | 79                       | NR            | 825    | 2                        | NR            | 955    | 0                        | NR            |
| 440    | 573                      | NR            | 570    | 641                      | NR            | 700    | 68                       | NR            | 830    | 2                        | NR            | 960    | 0                        | NR            |
| 445    | 844                      | NR            | 575    | 638                      | NR            | 705    | 59                       | NR            | 835    | 2                        | NR            | 965    | 0                        | NR            |
| 450    | 999                      | NR            | 580    | 632                      | NR            | 710    | 50                       | NR            | 840    | 1                        | NR            | 970    | 0                        | NR            |
| 455    | 668                      | NR            | 585    | 620                      | NR            | 715    | 43                       | NR            | 845    | 1                        | NR            | 975    | 0                        | NR            |
| 460    | 361                      | NR            | 590    | 607                      | NR            | 720    | 36                       | NR            | 850    | 1                        | NR            | 980    | 0                        | NR            |
| 465    | 255                      | NR            | 595    | 586                      | NR            | 725    | 30                       | NR            | 855    | 1                        | NR            | 985    | 0                        | NR            |
| 470    | 165                      | NR            | 600    | 564                      | NR            | 730    | 25                       | NR            | 860    | 1                        | NR            | 990    | 0                        | NR            |
| 475    | 106                      | NR            | 605    | 537                      | NR            | 735    | 22                       | NR            | 865    | 1                        | NR            | 995    | 0                        | NR            |
| 480    | 91                       | NR            | 610    | 507                      | NR            | 740    | 19                       | NR            | 870    | 0                        | NR            | 1000   | 0                        | NR            |
| 485    | 93                       | NR            | 615    | 474                      | NR            | 745    | 17                       | NR            | 875    | 0                        | NR            |        |                          |               |



REPORT NUMBER: SP1-2407-176-6

### Melanopic Flux vs. Wavelength


**Melanopic Lumens: NR**
**M/P: 3.36**

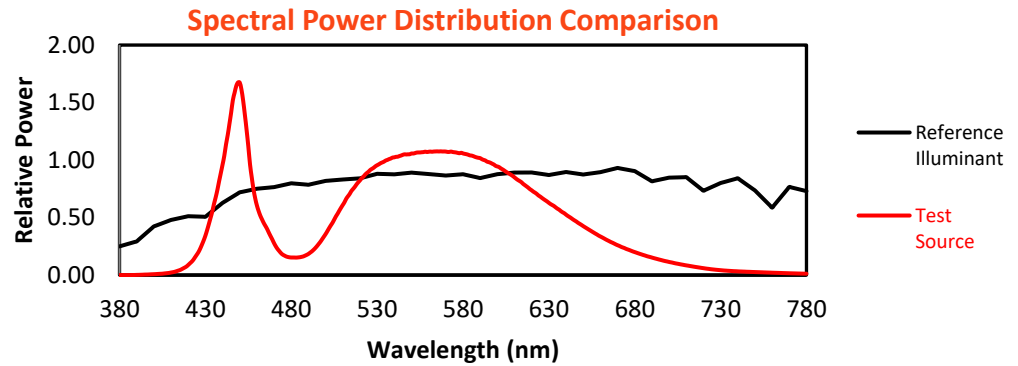
| $\lambda$<br>(nm) | Power<br>$\text{W}^\wedge/\text{nm}$ | Lumens<br>( $\phi/\text{nm}$ ) | $\lambda$<br>(nm) | Power<br>$\text{W}^\wedge/\text{nm}$ | Lumens<br>( $\phi/\text{nm}$ ) | $\lambda$<br>(nm) | Power<br>$\text{W}^\wedge/\text{nm}$ | Lumens<br>( $\phi/\text{nm}$ ) | $\lambda$<br>(nm) | Power<br>$\text{W}^\wedge/\text{nm}$ | Lumens<br>( $\phi/\text{nm}$ ) | $\lambda$<br>(nm) | Power<br>$\text{W}^\wedge/\text{nm}$ | Lumens<br>( $\phi/\text{nm}$ ) |
|-------------------|--------------------------------------|--------------------------------|-------------------|--------------------------------------|--------------------------------|-------------------|--------------------------------------|--------------------------------|-------------------|--------------------------------------|--------------------------------|-------------------|--------------------------------------|--------------------------------|
| 360               | 0                                    | NR                             | 490               | 110                                  | NR                             | 620               | 440                                  | NR                             | 750               | 16                                   | NR                             | 880               | 0                                    | NR                             |
| 365               | 0                                    | NR                             | 495               | 150                                  | NR                             | 625               | 407                                  | NR                             | 755               | 14                                   | NR                             | 885               | 0                                    | NR                             |
| 370               | 0                                    | NR                             | 500               | 213                                  | NR                             | 630               | 375                                  | NR                             | 760               | 12                                   | NR                             | 890               | 0                                    | NR                             |
| 375               | 0                                    | NR                             | 505               | 288                                  | NR                             | 635               | 345                                  | NR                             | 765               | 11                                   | NR                             | 895               | 0                                    | NR                             |
| 380               | 0                                    | NR                             | 510               | 364                                  | NR                             | 640               | 314                                  | NR                             | 770               | 9                                    | NR                             | 900               | 0                                    | NR                             |
| 385               | 0                                    | NR                             | 515               | 436                                  | NR                             | 645               | 283                                  | NR                             | 775               | 8                                    | NR                             | 905               | 0                                    | NR                             |
| 390               | 1                                    | NR                             | 520               | 492                                  | NR                             | 650               | 254                                  | NR                             | 780               | 7                                    | NR                             | 910               | 0                                    | NR                             |
| 395               | 3                                    | NR                             | 525               | 537                                  | NR                             | 655               | 227                                  | NR                             | 785               | 6                                    | NR                             | 915               | 0                                    | NR                             |
| 400               | 5                                    | NR                             | 530               | 570                                  | NR                             | 660               | 200                                  | NR                             | 790               | 5                                    | NR                             | 920               | 0                                    | NR                             |
| 405               | 7                                    | NR                             | 535               | 595                                  | NR                             | 665               | 177                                  | NR                             | 795               | 4                                    | NR                             | 925               | 0                                    | NR                             |
| 410               | 13                                   | NR                             | 540               | 611                                  | NR                             | 670               | 155                                  | NR                             | 800               | 4                                    | NR                             | 930               | 0                                    | NR                             |
| 415               | 25                                   | NR                             | 545               | 624                                  | NR                             | 675               | 136                                  | NR                             | 805               | 3                                    | NR                             | 935               | 0                                    | NR                             |
| 420               | 52                                   | NR                             | 550               | 631                                  | NR                             | 680               | 119                                  | NR                             | 810               | 3                                    | NR                             | 940               | 0                                    | NR                             |
| 425               | 106                                  | NR                             | 555               | 637                                  | NR                             | 685               | 104                                  | NR                             | 815               | 3                                    | NR                             | 945               | 0                                    | NR                             |
| 430               | 204                                  | NR                             | 560               | 640                                  | NR                             | 690               | 91                                   | NR                             | 820               | 2                                    | NR                             | 950               | 0                                    | NR                             |
| 435               | 369                                  | NR                             | 565               | 642                                  | NR                             | 695               | 79                                   | NR                             | 825               | 2                                    | NR                             | 955               | 0                                    | NR                             |
| 440               | 573                                  | NR                             | 570               | 641                                  | NR                             | 700               | 68                                   | NR                             | 830               | 2                                    | NR                             | 960               | 0                                    | NR                             |
| 445               | 844                                  | NR                             | 575               | 638                                  | NR                             | 705               | 59                                   | NR                             | 835               | 2                                    | NR                             | 965               | 0                                    | NR                             |
| 450               | 999                                  | NR                             | 580               | 632                                  | NR                             | 710               | 50                                   | NR                             | 840               | 1                                    | NR                             | 970               | 0                                    | NR                             |
| 455               | 668                                  | NR                             | 585               | 620                                  | NR                             | 715               | 43                                   | NR                             | 845               | 1                                    | NR                             | 975               | 0                                    | NR                             |
| 460               | 361                                  | NR                             | 590               | 607                                  | NR                             | 720               | 36                                   | NR                             | 850               | 1                                    | NR                             | 980               | 0                                    | NR                             |
| 465               | 255                                  | NR                             | 595               | 586                                  | NR                             | 725               | 30                                   | NR                             | 855               | 1                                    | NR                             | 985               | 0                                    | NR                             |
| 470               | 165                                  | NR                             | 600               | 564                                  | NR                             | 730               | 25                                   | NR                             | 860               | 1                                    | NR                             | 990               | 0                                    | NR                             |
| 475               | 106                                  | NR                             | 605               | 537                                  | NR                             | 735               | 22                                   | NR                             | 865               | 1                                    | NR                             | 995               | 0                                    | NR                             |
| 480               | 91                                   | NR                             | 610               | 507                                  | NR                             | 740               | 19                                   | NR                             | 870               | 0                                    | NR                             | 1000              | 0                                    | NR                             |
| 485               | 93                                   | NR                             | 615               | 474                                  | NR                             | 745               | 17                                   | NR                             | 875               | 0                                    | NR                             |                   |                                      |                                |

REPORT NUMBER: SP1-2407-176-6

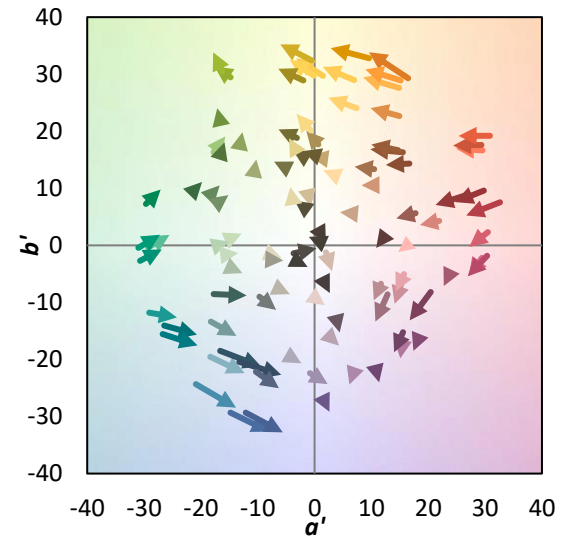
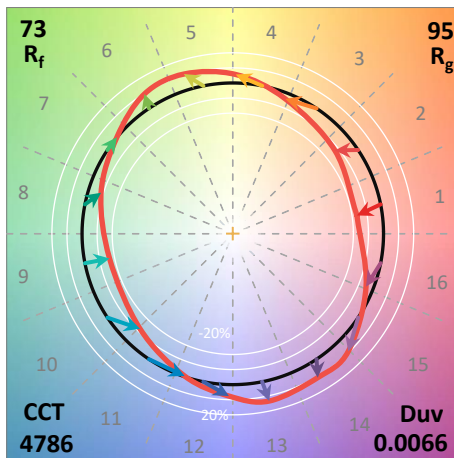
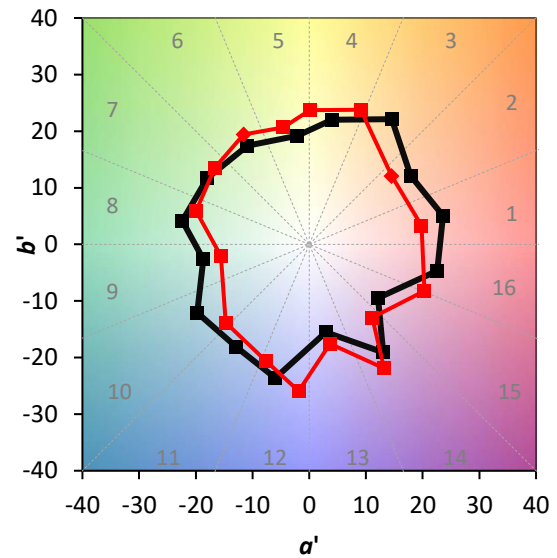
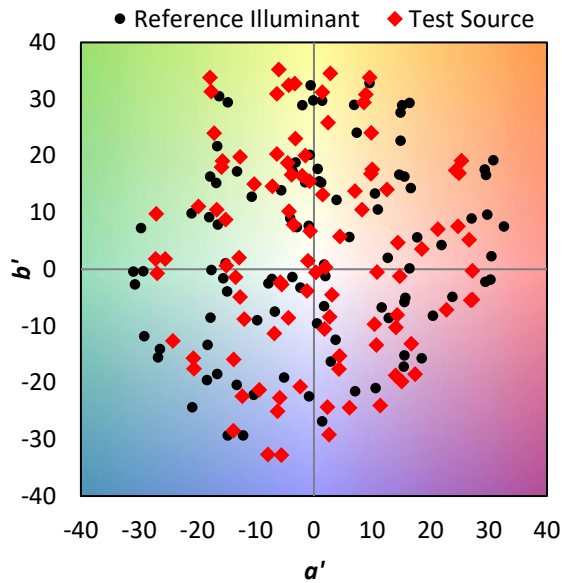
TM-30-18

### Summary

$R_f = 73$   
 $R_g = 94.6$   
 $CIE R_a = 70.9$   
 $R_g = -29.8$

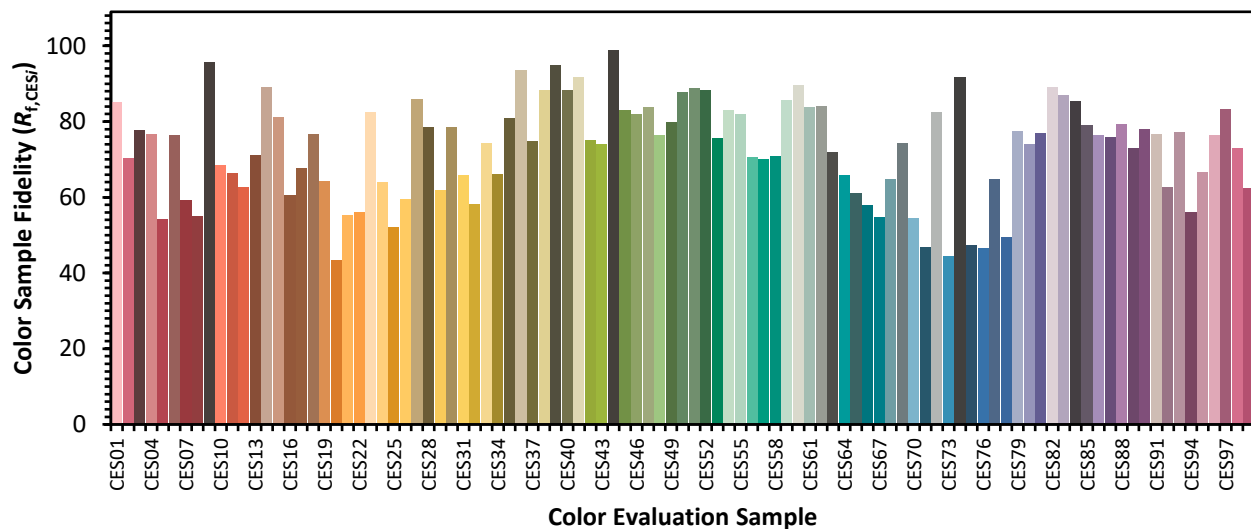


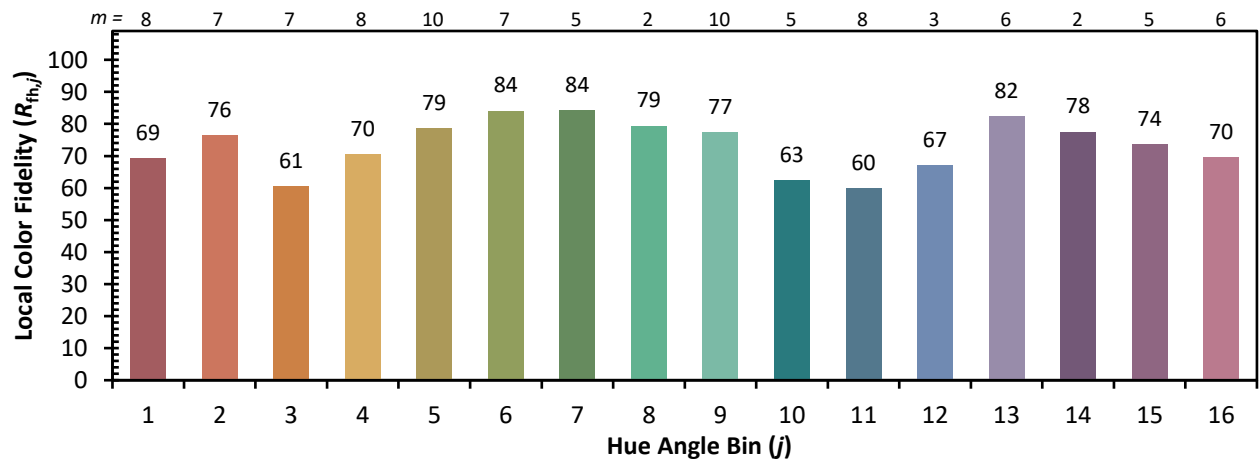
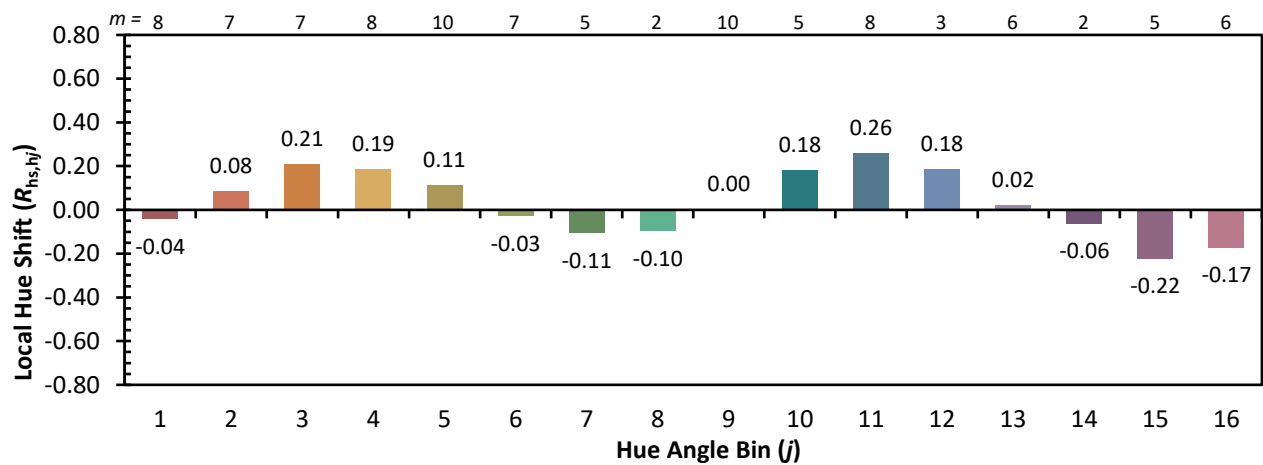
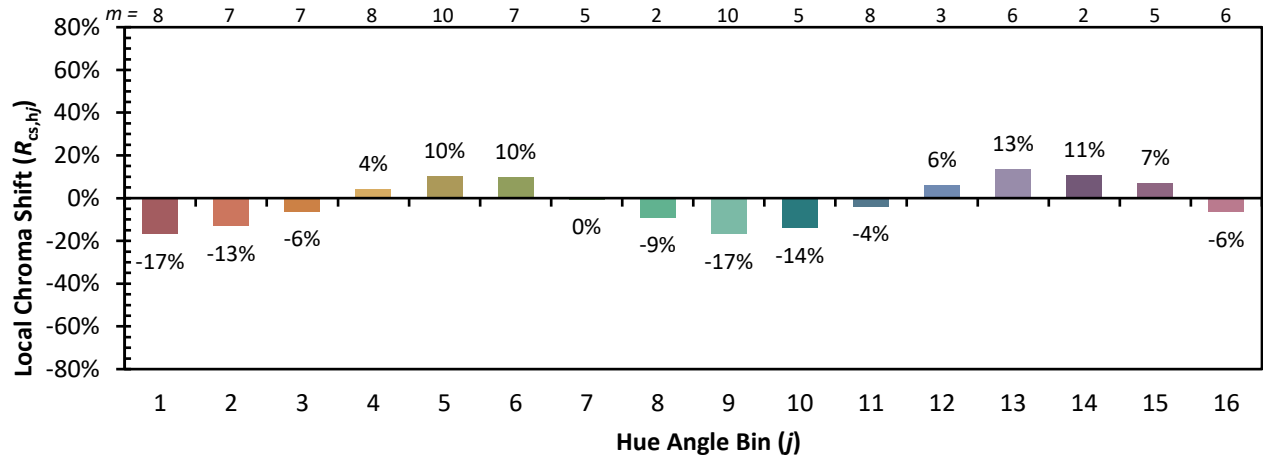
### Color Vector Graphics

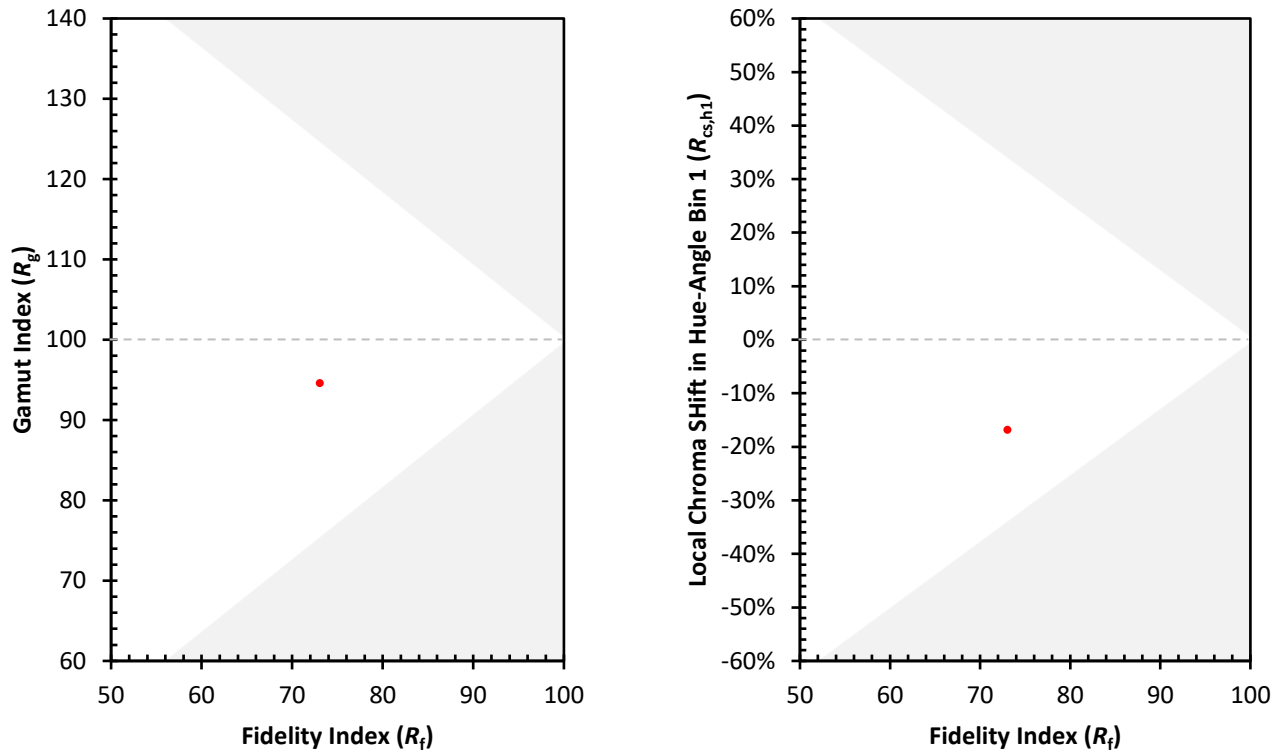


**Individual Sample Fidelity Index ( $R_{f,i}$ )**

|            |            |            |            |
|------------|------------|------------|------------|
| CES01 = 85 | CES26 = 60 | CES51 = 89 | CES76 = 46 |
| CES02 = 59 | CES27 = 86 | CES52 = 88 | CES77 = 65 |
| CES03 = 30 | CES28 = 78 | CES53 = 76 | CES78 = 49 |
| CES04 = 69 | CES29 = 62 | CES54 = 83 | CES79 = 78 |
| CES05 = 46 | CES30 = 79 | CES55 = 82 | CES80 = 74 |
| CES06 = 50 | CES31 = 66 | CES56 = 71 | CES81 = 77 |
| CES07 = 39 | CES32 = 58 | CES57 = 70 | CES82 = 89 |
| CES08 = 38 | CES33 = 74 | CES58 = 71 | CES83 = 87 |
| CES09 = 29 | CES34 = 66 | CES59 = 86 | CES84 = 86 |
| CES10 = 72 | CES35 = 81 | CES60 = 90 | CES85 = 79 |
| CES11 = 56 | CES36 = 94 | CES61 = 84 | CES86 = 76 |
| CES12 = 61 | CES37 = 75 | CES62 = 84 | CES87 = 76 |
| CES13 = 41 | CES38 = 88 | CES63 = 72 | CES88 = 79 |
| CES14 = 74 | CES39 = 95 | CES64 = 66 | CES89 = 73 |
| CES15 = 70 | CES40 = 88 | CES65 = 61 | CES90 = 78 |
| CES16 = 46 | CES41 = 92 | CES66 = 58 | CES91 = 77 |
| CES17 = 49 | CES42 = 75 | CES67 = 55 | CES92 = 63 |
| CES18 = 55 | CES43 = 74 | CES68 = 65 | CES93 = 77 |
| CES19 = 71 | CES44 = 99 | CES69 = 74 | CES94 = 56 |
| CES20 = 64 | CES45 = 83 | CES70 = 55 | CES95 = 67 |
| CES21 = 85 | CES46 = 82 | CES71 = 47 | CES96 = 76 |
| CES22 = 77 | CES47 = 84 | CES72 = 82 | CES97 = 83 |
| CES23 = 91 | CES48 = 76 | CES73 = 44 | CES98 = 73 |
| CES24 = 90 | CES49 = 80 | CES74 = 92 | CES99 = 62 |
| CES25 = 71 | CES50 = 88 | CES75 = 47 |            |



**Color Rendition by Hue-Angle Bin**


**Measure Comparisons**


(END OF REPORT)