

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: P1212033

Luminaire Tested: **GKO-PB1D-835-U-T1**

Issue Date: 11/5/2025

**Test Information**

Test Method: LM-79-08  
Report Number: P1212033  
Test Lab: INNOVATION CENTER(G1)  
Issue Date: 11/5/2025  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: MCGRAW-EDISON  
Catalog Number: GKO-PB1D-835-U-T1  
Description: GEKKO WALL PACK 3500LM PACKAGE 80CRI 3500K FIXTURE w/ TYPE I DISTRIBUTION OPTIC  
Light Source: (10) 3500K CCT, 80 CRI LEDS  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

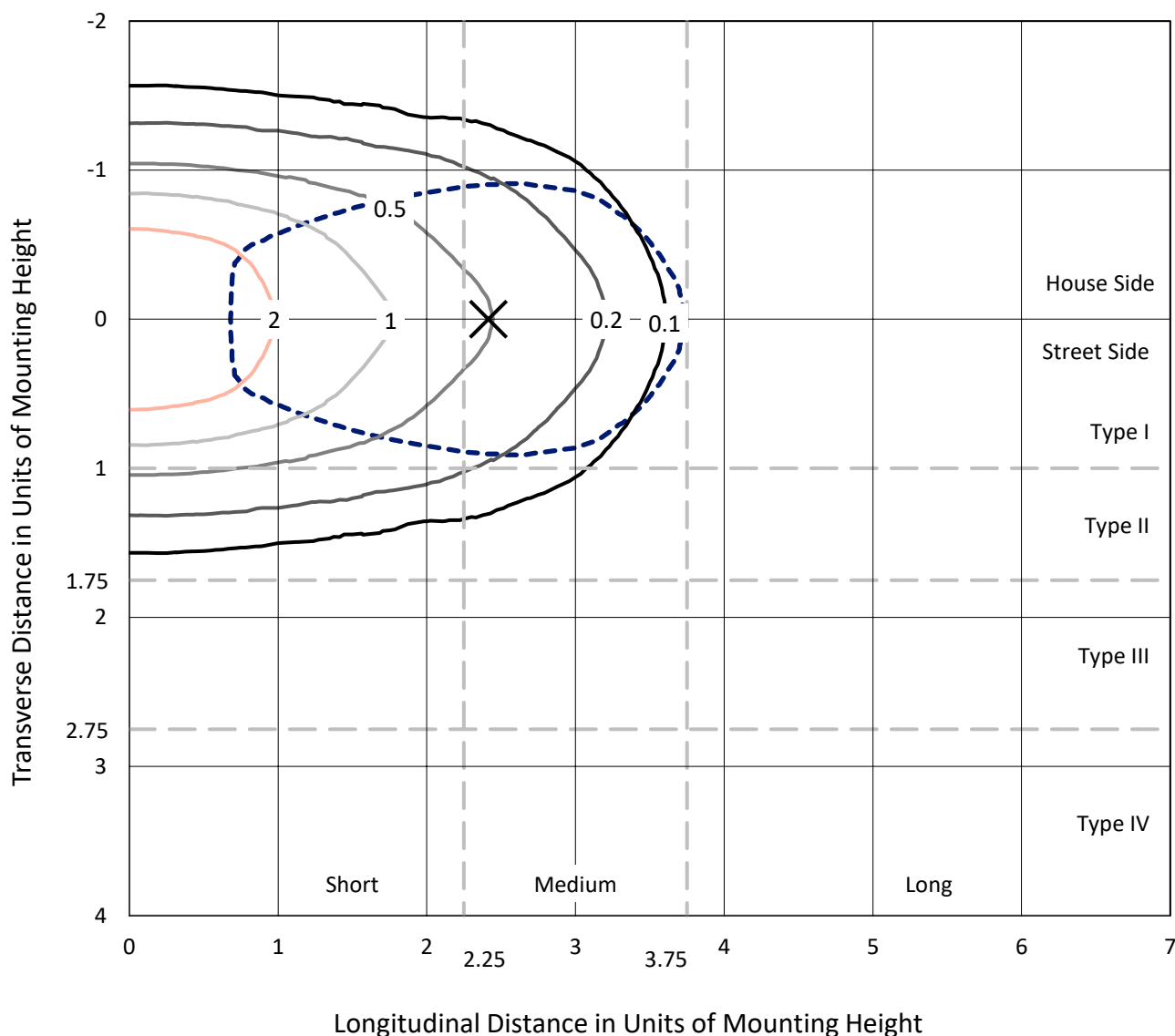
Lumens per Lamp: N/A  
Luminaire Lumens: 3433.2 lumens  
Efficiency: N/A  
Efficacy: 134.1 lumens/watt  
Luminous Opening: Rectangular (W 0.33' x L: 0.33' x H: 0')  
IES Classification: Type I - Short  
BUG Rating: B1 - U0 - G1

Input Watts (W): 25.6  
Input Voltage (V): 120  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: 0.97  
Total Harmonic Distortion (THDi):  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 28.75 FT

REPORT NUMBER: P1212033  
 CATALOG NUMBER: GKO-PB1D-835-U-T1

## Iso-Footcandle Lines of Horizontal Illumination

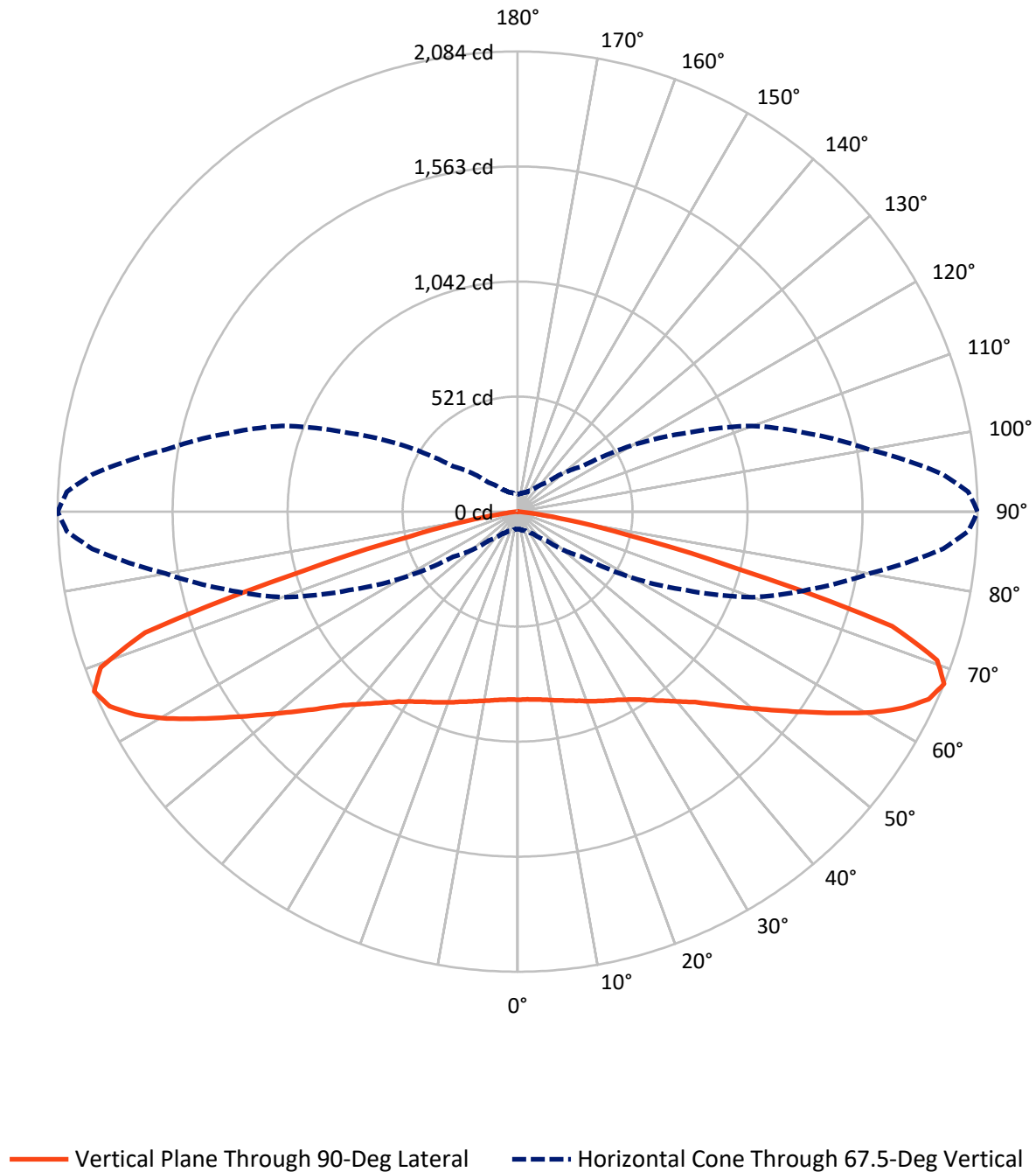
✕ Max cd  
 - - - 1/2 Max cd



Based on 15 foot mounting height. Maximum calculated value = 3.8 fc  
 Type I - Short - N/A

REPORT NUMBER: P1212033  
CATALOG NUMBER: GKO-PB1D-835-U-T1

## Luminous Intensity Polar Plot



REPORT NUMBER: P1212033

CATALOG NUMBER: GKO-PB1D-835-U-T1

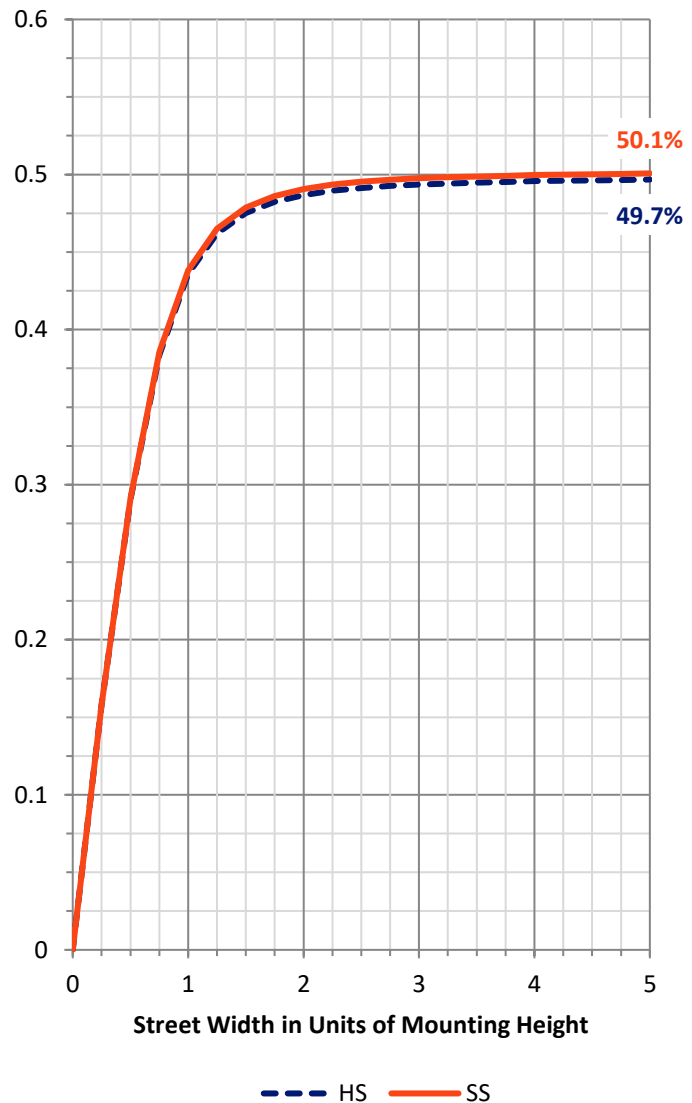
**FLUX DISTRIBUTION:**

|                    |           | Downward | Upward | Total  |
|--------------------|-----------|----------|--------|--------|
| <b>House Side</b>  | Lumens    | 1716.6   | 0.0    | 1716.6 |
|                    | % Fixture | 50.0     | 0.0    | 50.0   |
| <b>Street Side</b> | Lumens    | 1716.6   | 0.0    | 1716.6 |
|                    | % Fixture | 50.0     | 0.0    | 50.0   |
| <b>Total</b>       | Lumens    | 3433.2   | 0.0    | 3433.2 |
|                    | % Fixture | 100.0    | 0.0    | 100.0  |

**Coefficient of Utilization**

**ZONAL LUMENS:**

| Zone      | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10°    | 81.7   | 2.4       |
| 10°-20°   | 246.2  | 7.2       |
| 20°-30°   | 409.4  | 11.9      |
| 30°-40°   | 543.9  | 15.8      |
| 40°-50°   | 613.1  | 17.9      |
| 50°-60°   | 630.5  | 18.4      |
| 60°-70°   | 595.8  | 17.4      |
| 70°-80°   | 291.7  | 8.5       |
| 80°-90°   | 20.9   | 0.6       |
| 90°-100°  | 0.0    | 0.0       |
| 100°-110° | 0.0    | 0.0       |
| 110°-120° | 0.0    | 0.0       |
| 120°-130° | 0.0    | 0.0       |
| 130°-140° | 0.0    | 0.0       |
| 140°-150° | 0.0    | 0.0       |
| 150°-160° | 0.0    | 0.0       |
| 160°-170° | 0.0    | 0.0       |
| 170°-180° | 0.0    | 0.0       |
| 0°-90°    | 3433.2 | 100.0     |
| 0°-180°   | 3433.2 | 100.0     |



REPORT NUMBER: P1212033

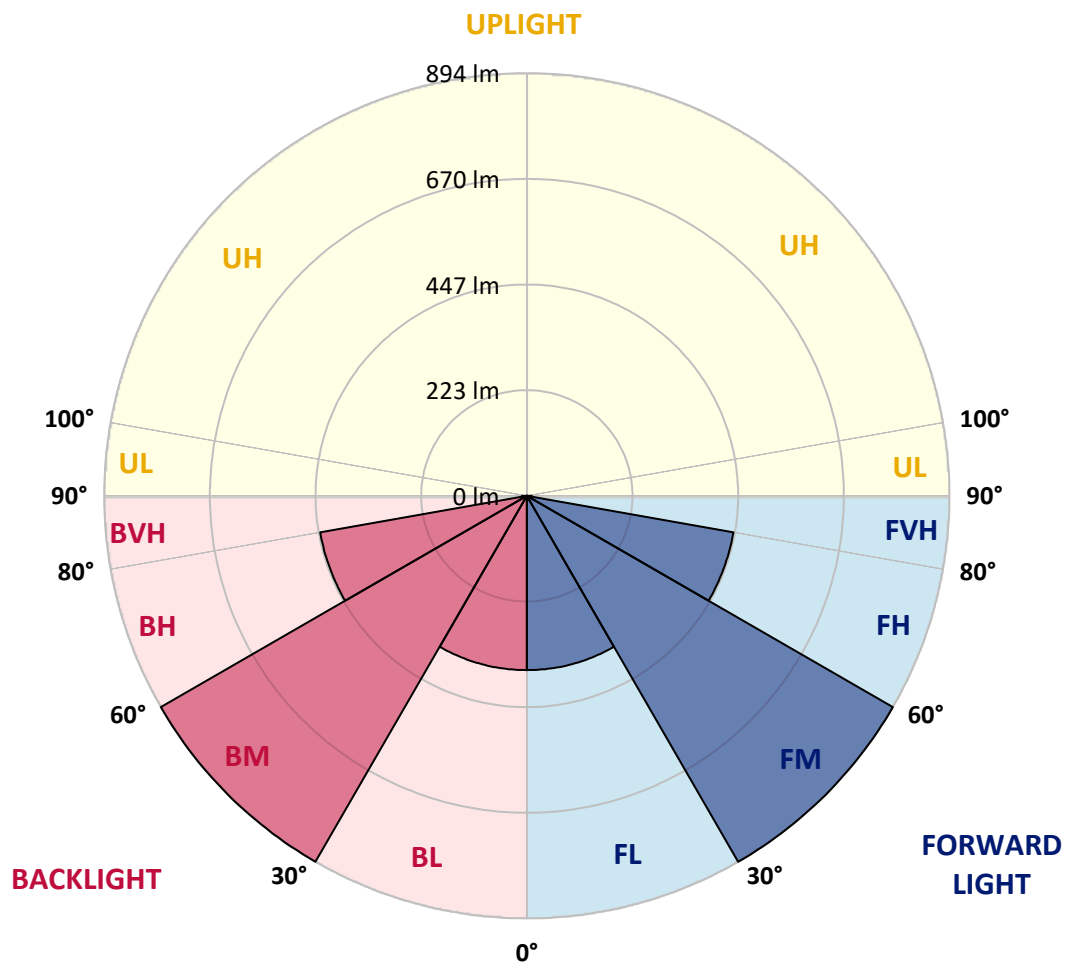
CATALOG NUMBER: GKO-PB1D-835-U-T1

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

| Zone |             | Lumens | % Fixture | Zone Rating/Lumen Limit |      |        |
|------|-------------|--------|-----------|-------------------------|------|--------|
|      |             |        |           | B                       | U    | G      |
| FL   | (0°-30°)    | 368.7  | 10.7      |                         |      |        |
| FM   | (30°-60°)   | 893.8  | 26.0      |                         |      |        |
| FH   | (60°-80°)   | 443.8  | 12.9      |                         |      | G0/660 |
| FVH  | (80°-90°)   | 10.4   | 0.3       |                         |      | G1/100 |
| BL   | (0°-30°)    | 368.7  | 10.7      | B1/500                  |      |        |
| BM   | (30°-60°)   | 893.8  | 26.0      | B1/1000                 |      |        |
| BH   | (60°-80°)   | 443.8  | 12.9      | B1/500                  |      | G1/500 |
| BVH  | (80°-90°)   | 10.4   | 0.3       |                         |      | G1/100 |
| UL   | (90°-100°)  | 0.0    | 0.0       |                         | U0/0 |        |
| UH   | (100°-180°) | 0.0    | 0.0       |                         | U0/0 |        |

**BUG Rating: B1-U0-G1**

Type I Short



REPORT NUMBER: P1212033

CATALOG NUMBER: GKO-PB1D-835-U-T1

**CANDELA DISTRIBUTION (FULL):**

|       | 0°    | 5°    | 15°   | 25°   | 35°   | 45°   | 55°    | 65°    | 70°    | 75°    | 80°    |
|-------|-------|-------|-------|-------|-------|-------|--------|--------|--------|--------|--------|
| 0°    | 851.9 | 851.9 | 851.9 | 851.9 | 851.9 | 851.9 | 851.9  | 851.9  | 851.9  | 851.9  | 851.9  |
| 2.5°  | 852.6 | 853.8 | 851.3 | 851.3 | 852.6 | 853.2 | 853.2  | 853.8  | 852.6  | 852.6  | 851.9  |
| 5°    | 852.6 | 853.2 | 851.9 | 851.9 | 853.2 | 855.1 | 854.5  | 855.7  | 855.7  | 855.1  | 855.1  |
| 7.5°  | 851.9 | 853.2 | 851.9 | 852.6 | 854.5 | 858.2 | 858.2  | 858.2  | 859.5  | 860.8  | 860.8  |
| 10°   | 851.3 | 852.6 | 853.2 | 853.8 | 856.4 | 862.0 | 863.3  | 863.9  | 865.8  | 867.7  | 867.7  |
| 12.5° | 848.1 | 849.4 | 851.3 | 853.8 | 858.2 | 865.8 | 868.4  | 870.3  | 873.4  | 875.3  | 876.6  |
| 15°   | 843.7 | 844.3 | 848.8 | 853.8 | 860.8 | 870.3 | 875.3  | 878.5  | 882.9  | 885.5  | 887.4  |
| 17.5° | 837.4 | 838.0 | 845.0 | 852.6 | 862.7 | 876.0 | 884.2  | 889.3  | 893.7  | 897.5  | 900.0  |
| 20°   | 829.1 | 831.0 | 839.3 | 851.3 | 865.8 | 881.7 | 893.7  | 902.6  | 907.0  | 910.8  | 914.6  |
| 22.5° | 819.0 | 820.9 | 831.0 | 848.1 | 869.0 | 889.3 | 905.1  | 916.5  | 922.2  | 927.2  | 931.7  |
| 25°   | 803.8 | 806.3 | 818.4 | 840.5 | 870.3 | 897.5 | 917.7  | 932.3  | 937.4  | 943.7  | 947.5  |
| 27.5° | 780.4 | 782.3 | 796.9 | 825.3 | 866.5 | 906.4 | 932.3  | 949.4  | 955.1  | 962.0  | 965.8  |
| 30°   | 743.7 | 747.5 | 765.2 | 800.7 | 857.0 | 913.3 | 949.4  | 966.5  | 973.4  | 980.4  | 985.5  |
| 32.5° | 696.2 | 701.9 | 721.5 | 767.1 | 838.6 | 915.8 | 967.7  | 987.4  | 996.2  | 1003.8 | 1010.2 |
| 35°   | 637.4 | 643.1 | 666.5 | 724.1 | 809.5 | 910.8 | 986.1  | 1011.4 | 1022.2 | 1032.3 | 1039.9 |
| 37.5° | 570.3 | 575.3 | 603.8 | 669.6 | 767.7 | 895.0 | 1000.7 | 1038.0 | 1052.6 | 1065.8 | 1076.0 |
| 40°   | 502.5 | 508.2 | 539.3 | 609.5 | 717.1 | 864.6 | 1007.0 | 1067.1 | 1085.5 | 1102.6 | 1115.2 |
| 42.5° | 429.1 | 436.1 | 470.9 | 545.6 | 658.2 | 822.8 | 1001.9 | 1095.6 | 1118.4 | 1141.8 | 1160.8 |
| 45°   | 363.9 | 365.2 | 403.2 | 475.3 | 593.7 | 769.0 | 984.2  | 1122.8 | 1153.8 | 1186.7 | 1214.0 |
| 47.5° | 301.3 | 303.8 | 336.7 | 408.2 | 526.6 | 708.2 | 951.9  | 1144.3 | 1193.7 | 1236.1 | 1276.0 |
| 50°   | 245.6 | 248.7 | 278.5 | 342.4 | 459.5 | 641.8 | 908.3  | 1157.0 | 1227.9 | 1285.5 | 1341.2 |
| 52.5° | 200.0 | 203.8 | 228.5 | 284.8 | 391.8 | 572.2 | 854.5  | 1158.9 | 1258.9 | 1334.8 | 1408.9 |
| 55°   | 166.5 | 169.0 | 188.0 | 232.9 | 326.6 | 500.0 | 793.1  | 1149.4 | 1279.1 | 1379.1 | 1477.9 |
| 57.5° | 140.5 | 143.0 | 156.3 | 191.8 | 267.7 | 426.0 | 718.4  | 1127.2 | 1289.9 | 1417.8 | 1547.5 |
| 60°   | 122.2 | 124.1 | 133.5 | 158.9 | 220.3 | 356.3 | 638.0  | 1088.0 | 1286.7 | 1441.8 | 1605.1 |
| 62.5° | 108.9 | 109.5 | 117.7 | 135.4 | 181.7 | 290.5 | 547.5  | 1029.1 | 1260.8 | 1445.0 | 1644.3 |
| 65°   | 96.8  | 97.5  | 102.5 | 115.2 | 149.4 | 233.6 | 453.2  | 948.1  | 1211.4 | 1422.8 | 1650.0 |
| 67.5° | 78.5  | 79.7  | 87.3  | 96.8  | 122.8 | 184.8 | 357.0  | 841.8  | 1134.2 | 1365.2 | 1617.8 |
| 70°   | 62.7  | 63.3  | 70.9  | 81.6  | 100.0 | 145.6 | 274.1  | 698.8  | 1013.3 | 1271.6 | 1534.2 |
| 72.5° | 46.8  | 48.1  | 55.1  | 65.8  | 81.6  | 112.7 | 198.1  | 528.5  | 810.1  | 1072.2 | 1336.1 |
| 75°   | 37.3  | 38.0  | 40.5  | 50.6  | 63.3  | 85.4  | 133.5  | 320.3  | 488.0  | 663.3  | 819.0  |
| 77.5° | 31.6  | 32.3  | 32.3  | 39.2  | 46.8  | 57.6  | 70.9   | 127.2  | 206.3  | 293.7  | 389.3  |
| 80°   | 26.0  | 27.2  | 24.7  | 29.1  | 33.5  | 33.5  | 32.9   | 60.8   | 97.5   | 138.0  | 181.0  |
| 82.5° | 19.0  | 20.3  | 19.0  | 20.3  | 20.3  | 18.4  | 17.1   | 22.8   | 31.0   | 42.4   | 46.2   |
| 85°   | 13.3  | 13.9  | 15.2  | 13.9  | 13.3  | 10.8  | 8.2    | 6.3    | 3.8    | 4.4    | 6.3    |
| 87.5° | 8.9   | 10.8  | 12.7  | 12.0  | 10.1  | 8.2   | 5.7    | 3.8    | 1.9    | 2.5    | 2.5    |
| 90°   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    |



REPORT NUMBER: P1212033  
 CATALOG NUMBER: GKO-PB1D-835-U-T1

**CANDELA DISTRIBUTION (continued):**

|       | 85°    | 87.5°  | 90°    |
|-------|--------|--------|--------|
| 0°    | 851.9  | 851.9  | 851.9  |
| 2.5°  | 852.6  | 851.9  | 851.3  |
| 5°    | 855.7  | 855.1  | 854.5  |
| 7.5°  | 860.1  | 860.1  | 860.1  |
| 10°   | 867.1  | 868.4  | 868.4  |
| 12.5° | 876.0  | 877.2  | 877.2  |
| 15°   | 886.7  | 887.4  | 888.6  |
| 17.5° | 900.0  | 900.7  | 900.7  |
| 20°   | 915.8  | 915.2  | 916.5  |
| 22.5° | 931.7  | 931.7  | 931.7  |
| 25°   | 948.1  | 948.1  | 948.1  |
| 27.5° | 967.1  | 967.1  | 965.8  |
| 30°   | 988.0  | 988.0  | 988.0  |
| 32.5° | 1013.3 | 1013.9 | 1014.6 |
| 35°   | 1045.6 | 1046.9 | 1048.8 |
| 37.5° | 1082.3 | 1085.5 | 1087.4 |
| 40°   | 1126.0 | 1127.2 | 1130.4 |
| 42.5° | 1174.7 | 1178.5 | 1179.1 |
| 45°   | 1235.5 | 1241.8 | 1244.3 |
| 47.5° | 1307.0 | 1315.9 | 1320.3 |
| 50°   | 1386.7 | 1396.9 | 1403.2 |
| 52.5° | 1473.5 | 1489.9 | 1497.5 |
| 55°   | 1565.9 | 1594.3 | 1602.6 |
| 57.5° | 1670.3 | 1708.9 | 1720.3 |
| 60°   | 1772.8 | 1827.3 | 1845.6 |
| 62.5° | 1860.2 | 1936.8 | 1959.5 |
| 65°   | 1921.6 | 2014.0 | 2047.5 |
| 67.5° | 1934.2 | 2043.7 | 2083.6 |
| 70°   | 1858.3 | 1970.3 | 2016.5 |
| 72.5° | 1615.9 | 1717.1 | 1774.7 |
| 75°   | 954.5  | 1027.2 | 1009.5 |
| 77.5° | 479.1  | 500.0  | 503.2  |
| 80°   | 210.1  | 222.8  | 227.9  |
| 82.5° | 51.9   | 53.2   | 60.1   |
| 85°   | 7.0    | 8.2    | 7.6    |
| 87.5° | 2.5    | 2.5    | 3.2    |
| 90°   | 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

McGraw-Edison

Report Number: SP1-2511-595-3

Test Date: 01/09/2026

Luminaire Tested: GKO-PB1C-835-U-T4W

Data in this report applies to families of products including GKO-PB1C

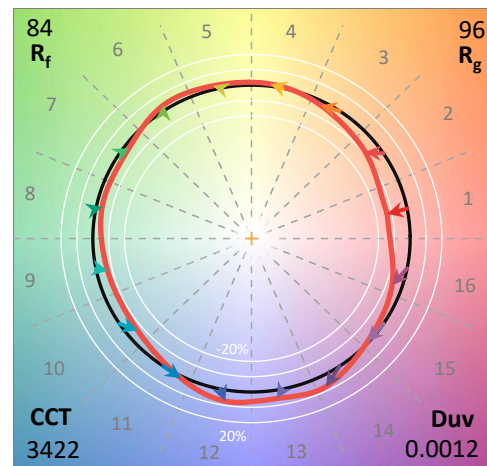
### Test Information

Test Method: LM-79-2019  
 Report Number: SP1-2511-595-3  
 Test Lab: COOPER LIGHTING SOLUTIONS  
 Photometer: SP1 - 76IN SPHERE  
 Measurement Geometry:  $4\pi$   
 Issue Date: 01/09/2026  
 Manufacturer: COOPER LIGHTING SOLUTIONS  
 Product Line: McGraw-Edison  
 Catalog Number: **GKO-PB1C-835-U-T4W**  
 Description: Gekko Wedge Wall Pack Fixture 1 SQ w/ T4W distribution

### Spectral Parameters

CCT (K): 3422  
 CIE  $u'$ : 0.2372  
 CIE  $v'$ : 0.5144  
 Duv: 0.0012  
 CIE x: 0.4111  
 CIE y: 0.3962  
 CIE z: 0.1928  
 Peak Wavelength (nm): 598  
 Dominant Wavelength (nm): 580  
 Purity: 42.28884  
 R<sub>f</sub>: 83.9  
 R<sub>g</sub>: 95.8

CRI (Ra): 81.5  
 R1: 79.2  
 R2: 88.7  
 R3: 96.3  
 R4: 80.3  
 R5: 79.7  
 R6: 85.6  
 R7: 83.5  
 R8: 58.4  
 R9: -1.4  
 R10: 74.4  
 R11: 79.7  
 R12: 66.0  
 R13: 81.3  
 R14: 98.3  
 R15: 71.2



### Test Conditions

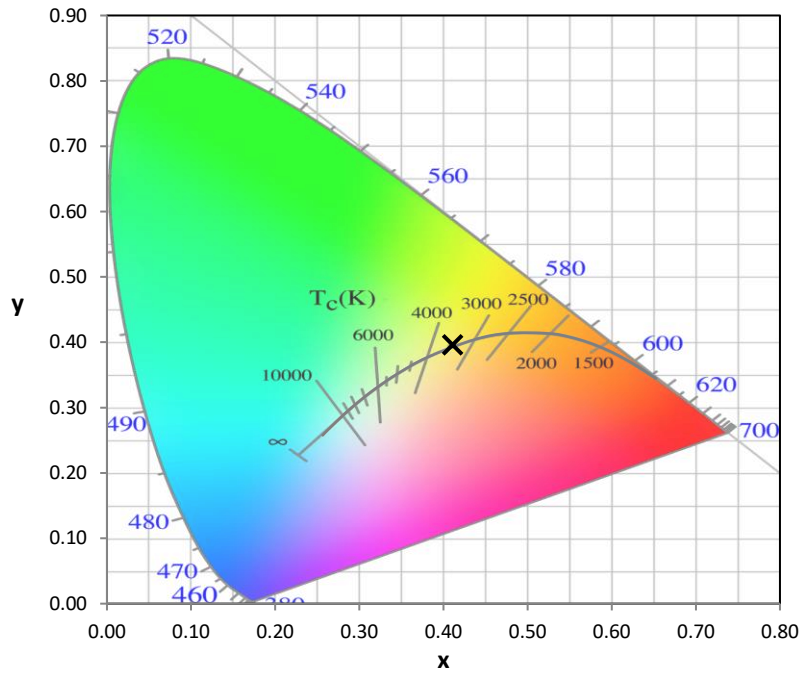
Stabilization Time: 20M  
 Operation Time: 1H 20M  
 Sphere Temperature (°C): 25.1

REPORT NUMBER: SP1-2511-595-3

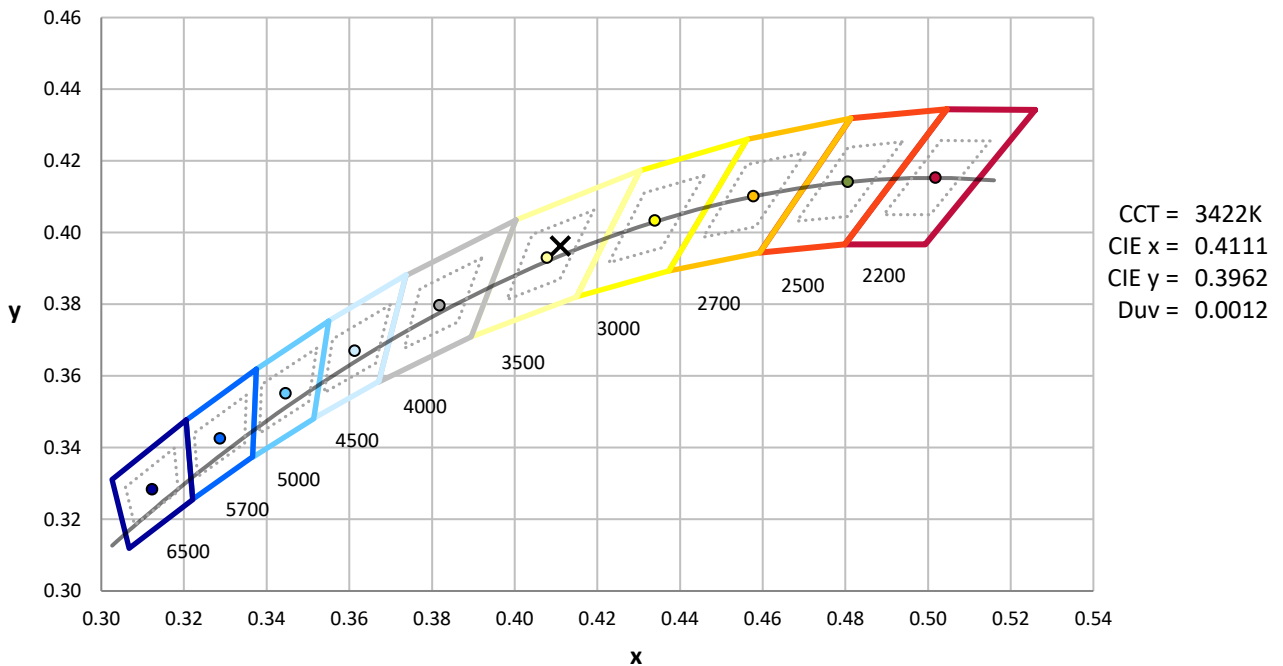
| Measurement and Test Equipment |                       |                  |                      |
|--------------------------------|-----------------------|------------------|----------------------|
| Instrument                     | Identification Number | Calibration Date | Calibration Due Date |
| Photometer                     | 76INCH SPHERE IN0058  | 12/16/2025       | 6/16/2026            |
| Power Meter                    | XITRON INXT2011004    | 10/21/2025       | 10/21/2026           |
| AC Power Source                | CHROMA 61603 IN0063   | 10/21/2025       | 10/21/2026           |
| DC Power Source                | AGILENT E3634A IN0208 | 10/21/2025       | 10/21/2026           |
| Sphere Thermometer             | ONSET IN0085          | 10/21/2025       | 10/21/2026           |
| Room Thermometer               | ONSET IN0046          | 10/21/2025       | 10/21/2026           |

REPORT NUMBER: SP1-2511-595-3

**CIE 1931 Chromaticity Diagram**



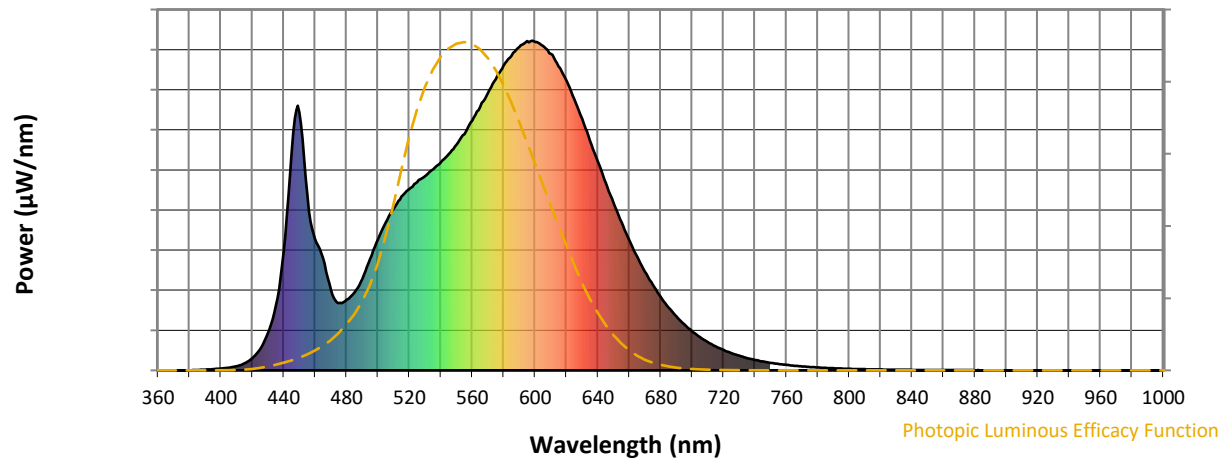
**CIE 1931 Chromaticity Diagram with 2017 ANSI 7-Step and 4-Step Quadrangles**



Point lies inside the ANSI 3500K 4-step quadrangle

REPORT NUMBER: SP1-2511-595-3

### Photopic Flux vs. Wavelength

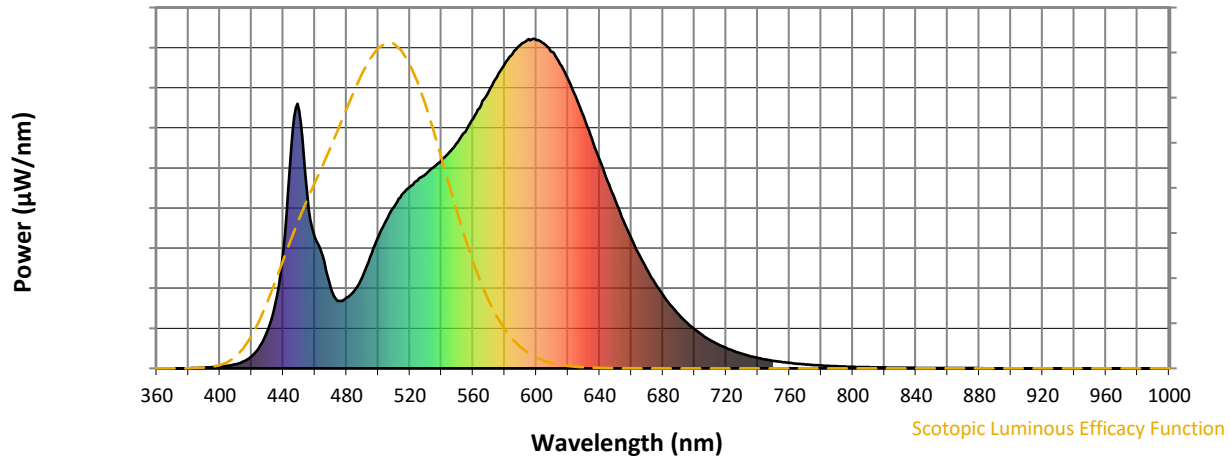


### Photopic Lumens: NR

| $\lambda$<br>(nm) | Power<br>$\text{W}/\text{nm}$ | Lumens<br>( $\phi/\text{nm}$ ) | $\lambda$<br>(nm) | Power<br>$\text{W}/\text{nm}$ | Lumens<br>( $\phi/\text{nm}$ ) | $\lambda$<br>(nm) | Power<br>$\text{W}/\text{nm}$ | Lumens<br>( $\phi/\text{nm}$ ) | $\lambda$<br>(nm) | Power<br>$\text{W}/\text{nm}$ | Lumens<br>( $\phi/\text{nm}$ ) | $\lambda$<br>(nm) | Power<br>$\text{W}/\text{nm}$ | Lumens<br>( $\phi/\text{nm}$ ) |
|-------------------|-------------------------------|--------------------------------|-------------------|-------------------------------|--------------------------------|-------------------|-------------------------------|--------------------------------|-------------------|-------------------------------|--------------------------------|-------------------|-------------------------------|--------------------------------|
| 360               | 0                             | NR                             | 490               | 278                           | NR                             | 620               | 878                           | NR                             | 750               | 23                            | NR                             | 880               | 1                             | NR                             |
| 365               | 0                             | NR                             | 495               | 338                           | NR                             | 625               | 823                           | NR                             | 755               | 20                            | NR                             | 885               | 0                             | NR                             |
| 370               | 0                             | NR                             | 500               | 398                           | NR                             | 630               | 763                           | NR                             | 760               | 17                            | NR                             | 890               | 0                             | NR                             |
| 375               | 0                             | NR                             | 505               | 448                           | NR                             | 635               | 697                           | NR                             | 765               | 14                            | NR                             | 895               | 0                             | NR                             |
| 380               | 0                             | NR                             | 510               | 490                           | NR                             | 640               | 633                           | NR                             | 770               | 12                            | NR                             | 900               | 0                             | NR                             |
| 385               | 1                             | NR                             | 515               | 527                           | NR                             | 645               | 568                           | NR                             | 775               | 10                            | NR                             | 905               | 0                             | NR                             |
| 390               | 2                             | NR                             | 520               | 550                           | NR                             | 650               | 508                           | NR                             | 780               | 9                             | NR                             | 910               | 0                             | NR                             |
| 395               | 3                             | NR                             | 525               | 571                           | NR                             | 655               | 450                           | NR                             | 785               | 7                             | NR                             | 915               | 0                             | NR                             |
| 400               | 5                             | NR                             | 530               | 589                           | NR                             | 660               | 395                           | NR                             | 790               | 6                             | NR                             | 920               | 0                             | NR                             |
| 405               | 8                             | NR                             | 535               | 610                           | NR                             | 665               | 345                           | NR                             | 795               | 5                             | NR                             | 925               | 0                             | NR                             |
| 410               | 13                            | NR                             | 540               | 631                           | NR                             | 670               | 299                           | NR                             | 800               | 5                             | NR                             | 930               | 0                             | NR                             |
| 415               | 21                            | NR                             | 545               | 656                           | NR                             | 675               | 259                           | NR                             | 805               | 4                             | NR                             | 935               | 0                             | NR                             |
| 420               | 37                            | NR                             | 550               | 685                           | NR                             | 680               | 223                           | NR                             | 810               | 4                             | NR                             | 940               | 0                             | NR                             |
| 425               | 65                            | NR                             | 555               | 717                           | NR                             | 685               | 191                           | NR                             | 815               | 3                             | NR                             | 945               | 0                             | NR                             |
| 430               | 114                           | NR                             | 560               | 758                           | NR                             | 690               | 164                           | NR                             | 820               | 3                             | NR                             | 950               | 0                             | NR                             |
| 435               | 198                           | NR                             | 565               | 799                           | NR                             | 695               | 139                           | NR                             | 825               | 2                             | NR                             | 955               | 0                             | NR                             |
| 440               | 359                           | NR                             | 570               | 841                           | NR                             | 700               | 118                           | NR                             | 830               | 2                             | NR                             | 960               | 0                             | NR                             |
| 445               | 663                           | NR                             | 575               | 883                           | NR                             | 705               | 101                           | NR                             | 835               | 2                             | NR                             | 965               | 0                             | NR                             |
| 450               | 782                           | NR                             | 580               | 924                           | NR                             | 710               | 86                            | NR                             | 840               | 1                             | NR                             | 970               | 0                             | NR                             |
| 455               | 533                           | NR                             | 585               | 954                           | NR                             | 715               | 73                            | NR                             | 845               | 1                             | NR                             | 975               | 0                             | NR                             |
| 460               | 398                           | NR                             | 590               | 982                           | NR                             | 720               | 62                            | NR                             | 850               | 1                             | NR                             | 980               | 0                             | NR                             |
| 465               | 341                           | NR                             | 595               | 999                           | NR                             | 725               | 52                            | NR                             | 855               | 1                             | NR                             | 985               | 0                             | NR                             |
| 470               | 244                           | NR                             | 600               | 996                           | NR                             | 730               | 44                            | NR                             | 860               | 1                             | NR                             | 990               | 0                             | NR                             |
| 475               | 204                           | NR                             | 605               | 984                           | NR                             | 735               | 37                            | NR                             | 865               | 1                             | NR                             | 995               | 0                             | NR                             |
| 480               | 214                           | NR                             | 610               | 960                           | NR                             | 740               | 32                            | NR                             | 870               | 1                             | NR                             | 1000              | 0                             | NR                             |
| 485               | 236                           | NR                             | 615               | 923                           | NR                             | 745               | 27                            | NR                             | 875               | 1                             | NR                             |                   |                               |                                |

REPORT NUMBER: SP1-2511-595-3

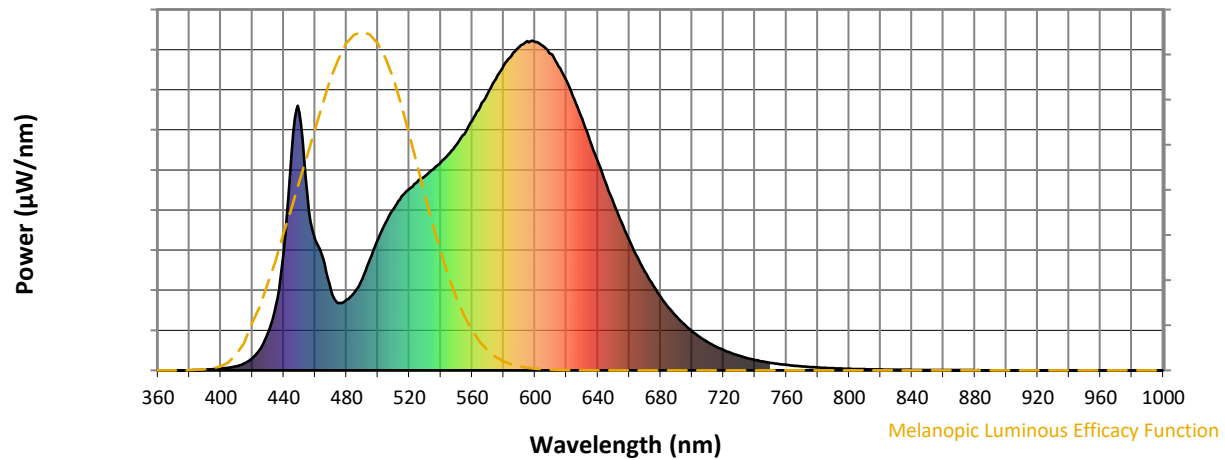
### Scotopic Flux vs. Wavelength


**Scotopic Lumens: NR**
**S/P: 1.48**

| 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    | 278                      | NR            | 620    | 878                      | NR            | 750    | 23                       | NR            | 880    | 1                        | NR            |
| 365    | 0                        | NR            | 495    | 338                      | NR            | 625    | 823                      | NR            | 755    | 20                       | NR            | 885    | 0                        | NR            |
| 370    | 0                        | NR            | 500    | 398                      | NR            | 630    | 763                      | NR            | 760    | 17                       | NR            | 890    | 0                        | NR            |
| 375    | 0                        | NR            | 505    | 448                      | NR            | 635    | 697                      | NR            | 765    | 14                       | NR            | 895    | 0                        | NR            |
| 380    | 0                        | NR            | 510    | 490                      | NR            | 640    | 633                      | NR            | 770    | 12                       | NR            | 900    | 0                        | NR            |
| 385    | 1                        | NR            | 515    | 527                      | NR            | 645    | 568                      | NR            | 775    | 10                       | NR            | 905    | 0                        | NR            |
| 390    | 2                        | NR            | 520    | 550                      | NR            | 650    | 508                      | NR            | 780    | 9                        | NR            | 910    | 0                        | NR            |
| 395    | 3                        | NR            | 525    | 571                      | NR            | 655    | 450                      | NR            | 785    | 7                        | NR            | 915    | 0                        | NR            |
| 400    | 5                        | NR            | 530    | 589                      | NR            | 660    | 395                      | NR            | 790    | 6                        | NR            | 920    | 0                        | NR            |
| 405    | 8                        | NR            | 535    | 610                      | NR            | 665    | 345                      | NR            | 795    | 5                        | NR            | 925    | 0                        | NR            |
| 410    | 13                       | NR            | 540    | 631                      | NR            | 670    | 299                      | NR            | 800    | 5                        | NR            | 930    | 0                        | NR            |
| 415    | 21                       | NR            | 545    | 656                      | NR            | 675    | 259                      | NR            | 805    | 4                        | NR            | 935    | 0                        | NR            |
| 420    | 37                       | NR            | 550    | 685                      | NR            | 680    | 223                      | NR            | 810    | 4                        | NR            | 940    | 0                        | NR            |
| 425    | 65                       | NR            | 555    | 717                      | NR            | 685    | 191                      | NR            | 815    | 3                        | NR            | 945    | 0                        | NR            |
| 430    | 114                      | NR            | 560    | 758                      | NR            | 690    | 164                      | NR            | 820    | 3                        | NR            | 950    | 0                        | NR            |
| 435    | 198                      | NR            | 565    | 799                      | NR            | 695    | 139                      | NR            | 825    | 2                        | NR            | 955    | 0                        | NR            |
| 440    | 359                      | NR            | 570    | 841                      | NR            | 700    | 118                      | NR            | 830    | 2                        | NR            | 960    | 0                        | NR            |
| 445    | 663                      | NR            | 575    | 883                      | NR            | 705    | 101                      | NR            | 835    | 2                        | NR            | 965    | 0                        | NR            |
| 450    | 782                      | NR            | 580    | 924                      | NR            | 710    | 86                       | NR            | 840    | 1                        | NR            | 970    | 0                        | NR            |
| 455    | 533                      | NR            | 585    | 954                      | NR            | 715    | 73                       | NR            | 845    | 1                        | NR            | 975    | 0                        | NR            |
| 460    | 398                      | NR            | 590    | 982                      | NR            | 720    | 62                       | NR            | 850    | 1                        | NR            | 980    | 0                        | NR            |
| 465    | 341                      | NR            | 595    | 999                      | NR            | 725    | 52                       | NR            | 855    | 1                        | NR            | 985    | 0                        | NR            |
| 470    | 244                      | NR            | 600    | 996                      | NR            | 730    | 44                       | NR            | 860    | 1                        | NR            | 990    | 0                        | NR            |
| 475    | 204                      | NR            | 605    | 984                      | NR            | 735    | 37                       | NR            | 865    | 1                        | NR            | 995    | 0                        | NR            |
| 480    | 214                      | NR            | 610    | 960                      | NR            | 740    | 32                       | NR            | 870    | 1                        | NR            | 1000   | 0                        | NR            |
| 485    | 236                      | NR            | 615    | 923                      | NR            | 745    | 27                       | NR            | 875    | 1                        | NR            |        |                          |               |

REPORT NUMBER: SP1-2511-595-3

### Melanopic Flux vs. Wavelength


**Melanopic Lumens: NR**
**M/P: 2.92**

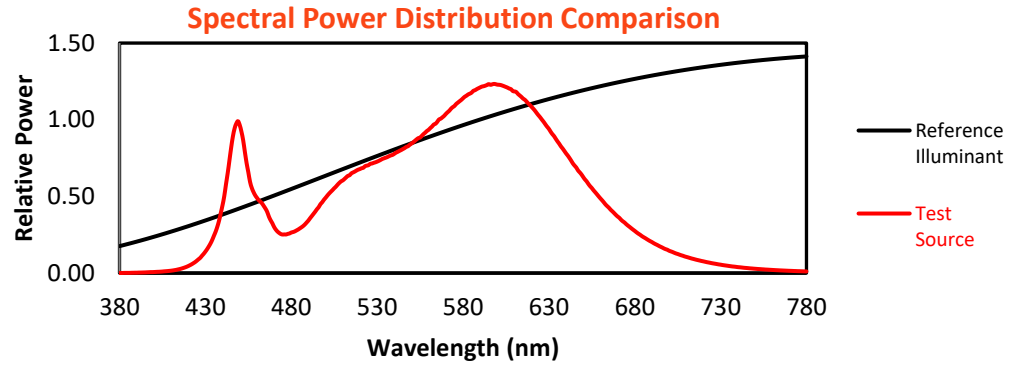
| $\lambda$<br>(nm) | Power<br>$\text{W}^\wedge/\text{nm}$ | Lumens<br>( $\phi/\text{nm}$ ) | $\lambda$<br>(nm) | Power<br>$\text{W}^\wedge/\text{nm}$ | Lumens<br>( $\phi/\text{nm}$ ) | $\lambda$<br>(nm) | Power<br>$\text{W}^\wedge/\text{nm}$ | Lumens<br>( $\phi/\text{nm}$ ) | $\lambda$<br>(nm) | Power<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               | 278                                  | NR                             | 620               | 878                                  | NR                             | 750               | 23                                   | NR                             | 880               | 1                                    | NR                             |
| 365               | 0                                    | NR                             | 495               | 338                                  | NR                             | 625               | 823                                  | NR                             | 755               | 20                                   | NR                             | 885               | 0                                    | NR                             |
| 370               | 0                                    | NR                             | 500               | 398                                  | NR                             | 630               | 763                                  | NR                             | 760               | 17                                   | NR                             | 890               | 0                                    | NR                             |
| 375               | 0                                    | NR                             | 505               | 448                                  | NR                             | 635               | 697                                  | NR                             | 765               | 14                                   | NR                             | 895               | 0                                    | NR                             |
| 380               | 0                                    | NR                             | 510               | 490                                  | NR                             | 640               | 633                                  | NR                             | 770               | 12                                   | NR                             | 900               | 0                                    | NR                             |
| 385               | 1                                    | NR                             | 515               | 527                                  | NR                             | 645               | 568                                  | NR                             | 775               | 10                                   | NR                             | 905               | 0                                    | NR                             |
| 390               | 2                                    | NR                             | 520               | 550                                  | NR                             | 650               | 508                                  | NR                             | 780               | 9                                    | NR                             | 910               | 0                                    | NR                             |
| 395               | 3                                    | NR                             | 525               | 571                                  | NR                             | 655               | 450                                  | NR                             | 785               | 7                                    | NR                             | 915               | 0                                    | NR                             |
| 400               | 5                                    | NR                             | 530               | 589                                  | NR                             | 660               | 395                                  | NR                             | 790               | 6                                    | NR                             | 920               | 0                                    | NR                             |
| 405               | 8                                    | NR                             | 535               | 610                                  | NR                             | 665               | 345                                  | NR                             | 795               | 5                                    | NR                             | 925               | 0                                    | NR                             |
| 410               | 13                                   | NR                             | 540               | 631                                  | NR                             | 670               | 299                                  | NR                             | 800               | 5                                    | NR                             | 930               | 0                                    | NR                             |
| 415               | 21                                   | NR                             | 545               | 656                                  | NR                             | 675               | 259                                  | NR                             | 805               | 4                                    | NR                             | 935               | 0                                    | NR                             |
| 420               | 37                                   | NR                             | 550               | 685                                  | NR                             | 680               | 223                                  | NR                             | 810               | 4                                    | NR                             | 940               | 0                                    | NR                             |
| 425               | 65                                   | NR                             | 555               | 717                                  | NR                             | 685               | 191                                  | NR                             | 815               | 3                                    | NR                             | 945               | 0                                    | NR                             |
| 430               | 114                                  | NR                             | 560               | 758                                  | NR                             | 690               | 164                                  | NR                             | 820               | 3                                    | NR                             | 950               | 0                                    | NR                             |
| 435               | 198                                  | NR                             | 565               | 799                                  | NR                             | 695               | 139                                  | NR                             | 825               | 2                                    | NR                             | 955               | 0                                    | NR                             |
| 440               | 359                                  | NR                             | 570               | 841                                  | NR                             | 700               | 118                                  | NR                             | 830               | 2                                    | NR                             | 960               | 0                                    | NR                             |
| 445               | 663                                  | NR                             | 575               | 883                                  | NR                             | 705               | 101                                  | NR                             | 835               | 2                                    | NR                             | 965               | 0                                    | NR                             |
| 450               | 782                                  | NR                             | 580               | 924                                  | NR                             | 710               | 86                                   | NR                             | 840               | 1                                    | NR                             | 970               | 0                                    | NR                             |
| 455               | 533                                  | NR                             | 585               | 954                                  | NR                             | 715               | 73                                   | NR                             | 845               | 1                                    | NR                             | 975               | 0                                    | NR                             |
| 460               | 398                                  | NR                             | 590               | 982                                  | NR                             | 720               | 62                                   | NR                             | 850               | 1                                    | NR                             | 980               | 0                                    | NR                             |
| 465               | 341                                  | NR                             | 595               | 999                                  | NR                             | 725               | 52                                   | NR                             | 855               | 1                                    | NR                             | 985               | 0                                    | NR                             |
| 470               | 244                                  | NR                             | 600               | 996                                  | NR                             | 730               | 44                                   | NR                             | 860               | 1                                    | NR                             | 990               | 0                                    | NR                             |
| 475               | 204                                  | NR                             | 605               | 984                                  | NR                             | 735               | 37                                   | NR                             | 865               | 1                                    | NR                             | 995               | 0                                    | NR                             |
| 480               | 214                                  | NR                             | 610               | 960                                  | NR                             | 740               | 32                                   | NR                             | 870               | 1                                    | NR                             | 1000              | 0                                    | NR                             |
| 485               | 236                                  | NR                             | 615               | 923                                  | NR                             | 745               | 27                                   | NR                             | 875               | 1                                    | NR                             |                   |                                      |                                |

REPORT NUMBER: SP1-2511-595-3

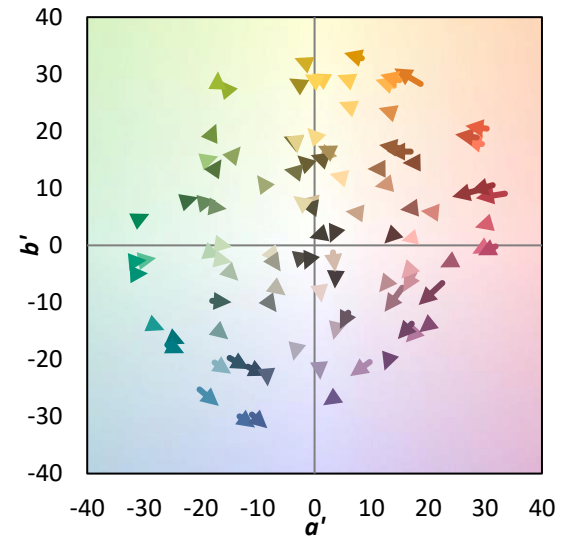
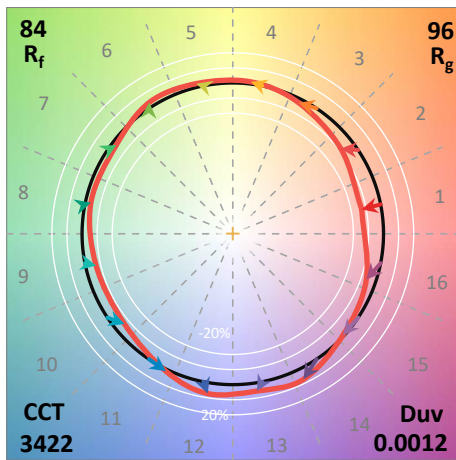
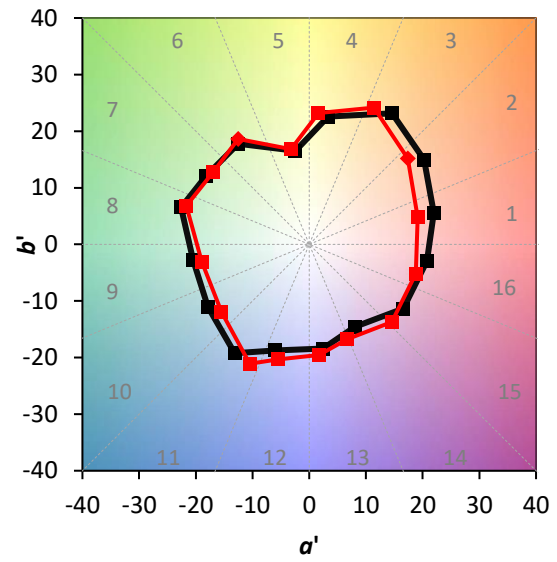
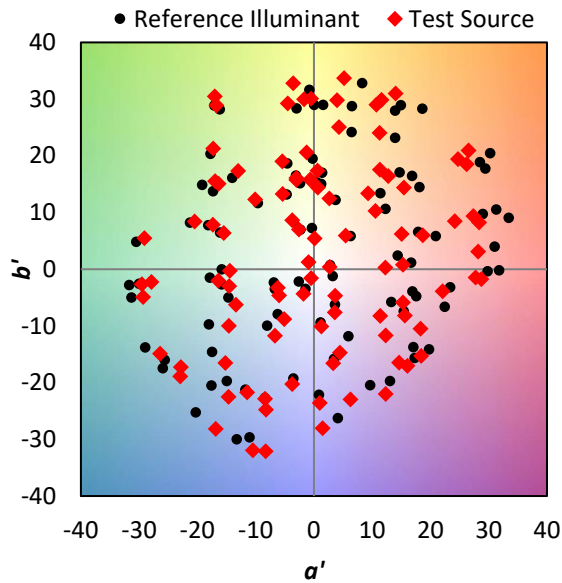
TM-30-18

### Summary

$R_f = 83.9$   
 $R_g = 95.8$   
 $CIE R_a = 81.5$   
 $R_g = -1.4$

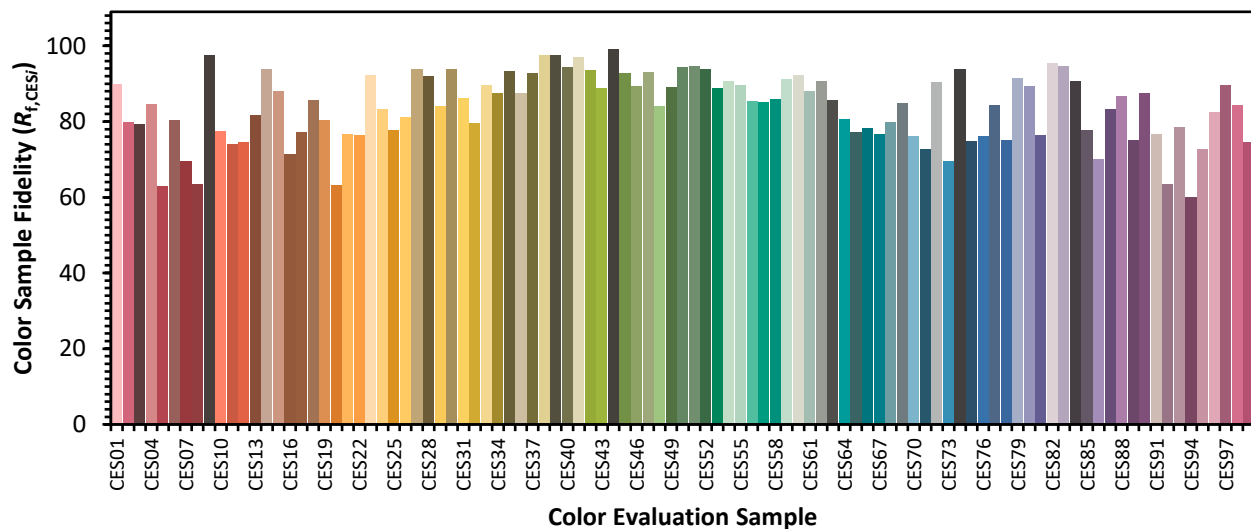


### Color Vector Graphics

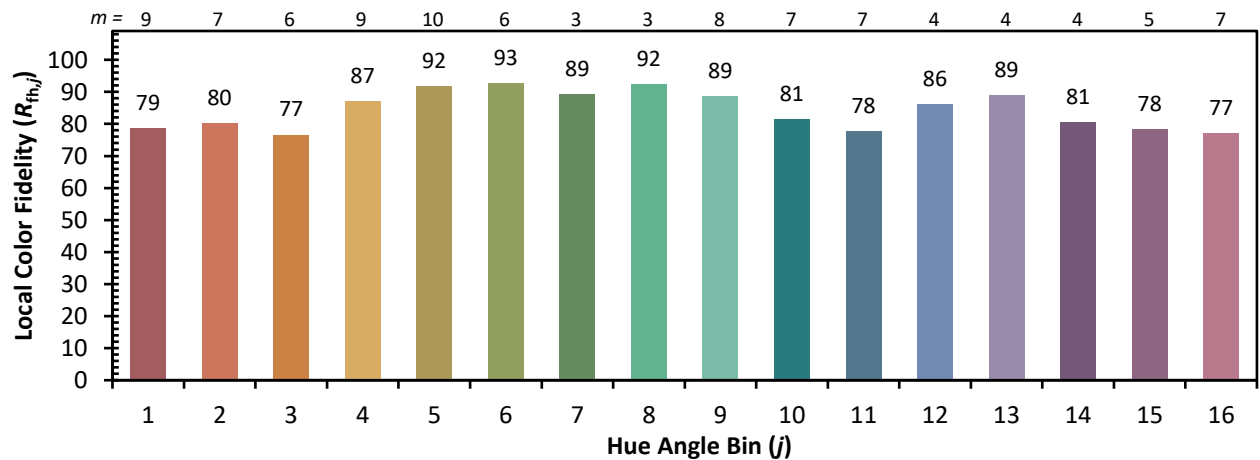
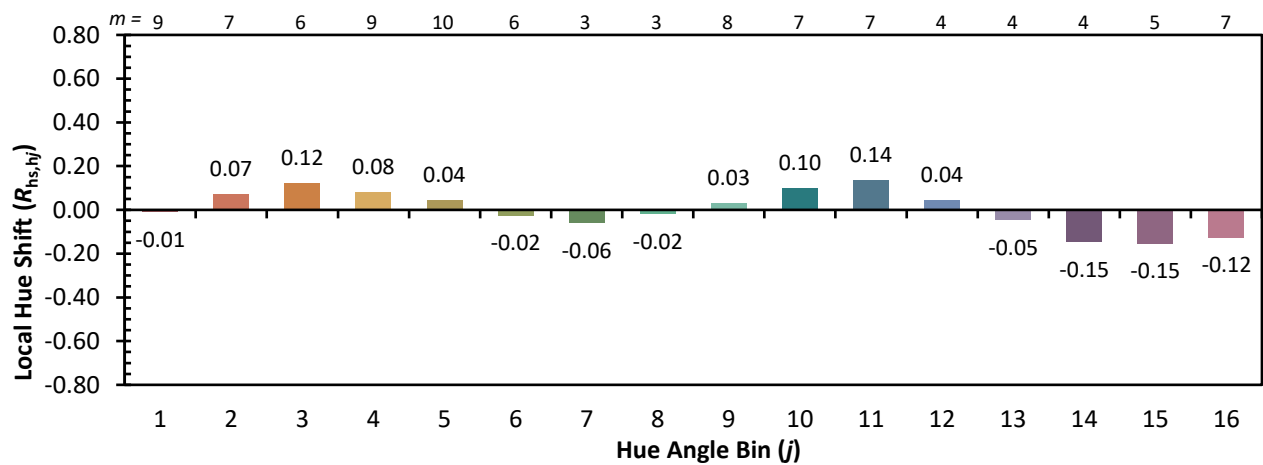
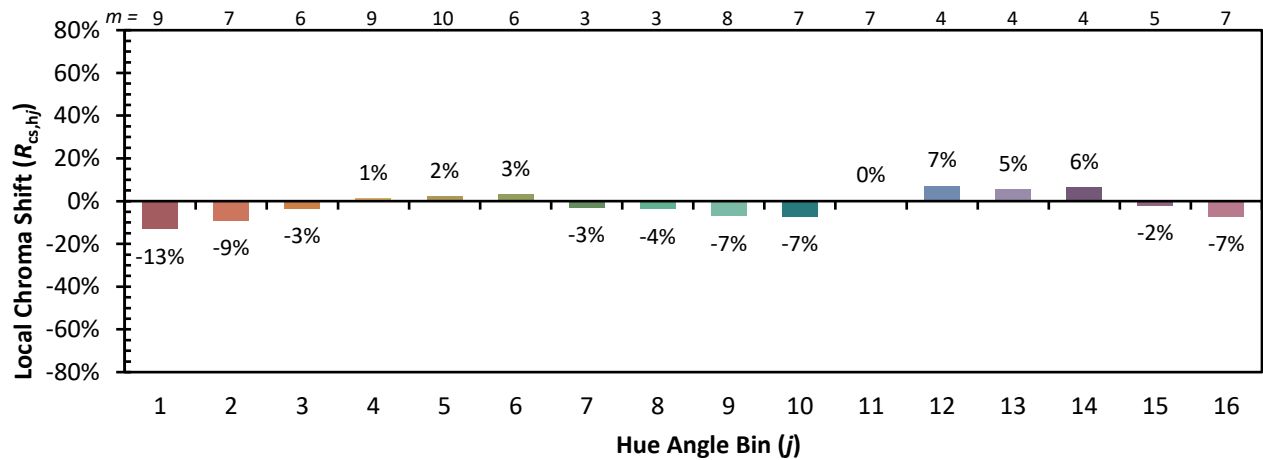


**Individual Sample Fidelity Index ( $R_{f,i}$ )**

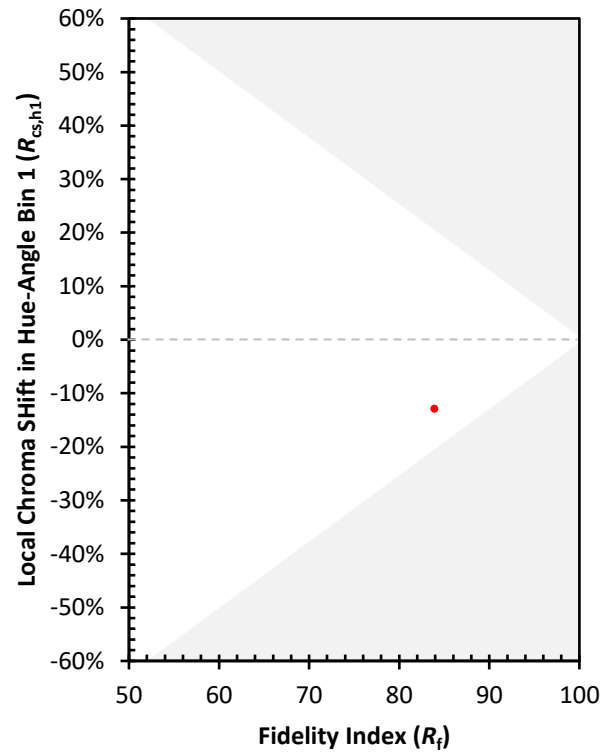
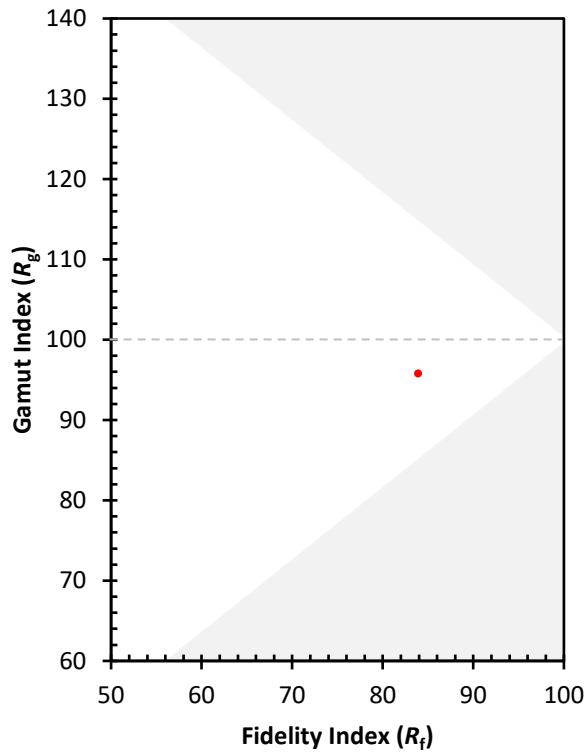
|            |            |            |            |
|------------|------------|------------|------------|
| CES01 = 86 | CES26 = 81 | CES51 = 95 | CES76 = 76 |
| CES02 = 62 | CES27 = 94 | CES52 = 94 | CES77 = 84 |
| CES03 = 31 | CES28 = 92 | CES53 = 89 | CES78 = 75 |
| CES04 = 70 | CES29 = 84 | CES54 = 91 | CES79 = 91 |
| CES05 = 49 | CES30 = 94 | CES55 = 90 | CES80 = 89 |
| CES06 = 51 | CES31 = 86 | CES56 = 85 | CES81 = 76 |
| CES07 = 41 | CES32 = 80 | CES57 = 85 | CES82 = 95 |
| CES08 = 40 | CES33 = 90 | CES58 = 86 | CES83 = 95 |
| CES09 = 29 | CES34 = 87 | CES59 = 91 | CES84 = 91 |
| CES10 = 75 | CES35 = 93 | CES60 = 92 | CES85 = 78 |
| CES11 = 58 | CES36 = 87 | CES61 = 88 | CES86 = 70 |
| CES12 = 64 | CES37 = 93 | CES62 = 91 | CES87 = 83 |
| CES13 = 43 | CES38 = 98 | CES63 = 86 | CES88 = 87 |
| CES14 = 74 | CES39 = 98 | CES64 = 81 | CES89 = 75 |
| CES15 = 71 | CES40 = 94 | CES65 = 77 | CES90 = 88 |
| CES16 = 47 | CES41 = 97 | CES66 = 78 | CES91 = 77 |
| CES17 = 50 | CES42 = 94 | CES67 = 77 | CES92 = 63 |
| CES18 = 56 | CES43 = 89 | CES68 = 80 | CES93 = 78 |
| CES19 = 72 | CES44 = 99 | CES69 = 85 | CES94 = 60 |
| CES20 = 66 | CES45 = 93 | CES70 = 76 | CES95 = 73 |
| CES21 = 86 | CES46 = 89 | CES71 = 73 | CES96 = 83 |
| CES22 = 78 | CES47 = 93 | CES72 = 90 | CES97 = 90 |
| CES23 = 92 | CES48 = 84 | CES73 = 70 | CES98 = 84 |
| CES24 = 91 | CES49 = 89 | CES74 = 94 | CES99 = 74 |
| CES25 = 72 | CES50 = 94 | CES75 = 75 |            |



Color Rendition by Hue-Angle Bin



**Measure Comparisons**



(END OF REPORT)