

Scaled data based on original data using  
LM-79-08 Approved Method: Electrical and Photometric Measurements of Solid-  
State Lighting Products

Test Report Prepared for  
Cooper Lighting Solutions  
(formerly Eaton)

Brand: STREETWORKS

Report Number: P1382194

Luminaire Tested: **VAL-T-SB1D-722-U-5MQ**

Issue Date: 02/18/2026

This test was performed under the Supervised Manufacturer's Testing Program. The results of this test have not been  
influenced by sources from within Cooper Lighting Solutions or from external interests.

**Test Information**

Test Method: LM-79-08  
 Report Number: P1382194  
 Test Lab: INNOVATION CENTER(G1)  
 Issue Date: 02/18/2026  
 Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
 Product Line: STREETWORKS  
 Catalog Number: VAL-T-SB1D-722-U-5MQ  
 Description: GALLEON II WALL SLIM HIGH DENSITY LED ARRAYS 1SQUARE 76W 70CRI  
 2200K FIXTURE w/ TYPE V SQUARE MEDIUM DISTRIBUTION OPTIC  
 Light Source: (26) 2200K CCT, 70 CRI LEDS  
 Ballast/Driver: ELECTRONIC DRIVER  
 Luminaire Equipment:

| <u>Sample No.</u> | <u>Condition</u> | <u>Description</u> |
|-------------------|------------------|--------------------|
| a                 | good             | reflector          |
| b                 | good             | lens               |
| c                 | good             | housing            |
| d                 | good             | cord               |

**Summary**

Lumens per Lamp: N/A  
 Luminaire Lumens: 7768.2 lumens  
 Efficiency: N/A  
 Efficacy: 102.2 lumens/watt  
 Luminous Opening: Rectangular (W 0.5' x L: 0.5' x H: 0')  
 IES Classification: Type V - Short  
 BUG Rating: B3 - U0 - G1  
  
 Input Watts (W): 76  
 Input Voltage (V): 120  
 Input Current (Ain): NR  
 Voltage Rise (V): NR  
 Power Factor: 0.98  
 Total Harmonic Distortion (THDi): 6.7%  
 Frequency (hertz): 60  
 Stabilization Time: NR  
 Operation Time: NR  
 Ambient Temperature (°C): NR  
 Test Distance: 28.75 FT

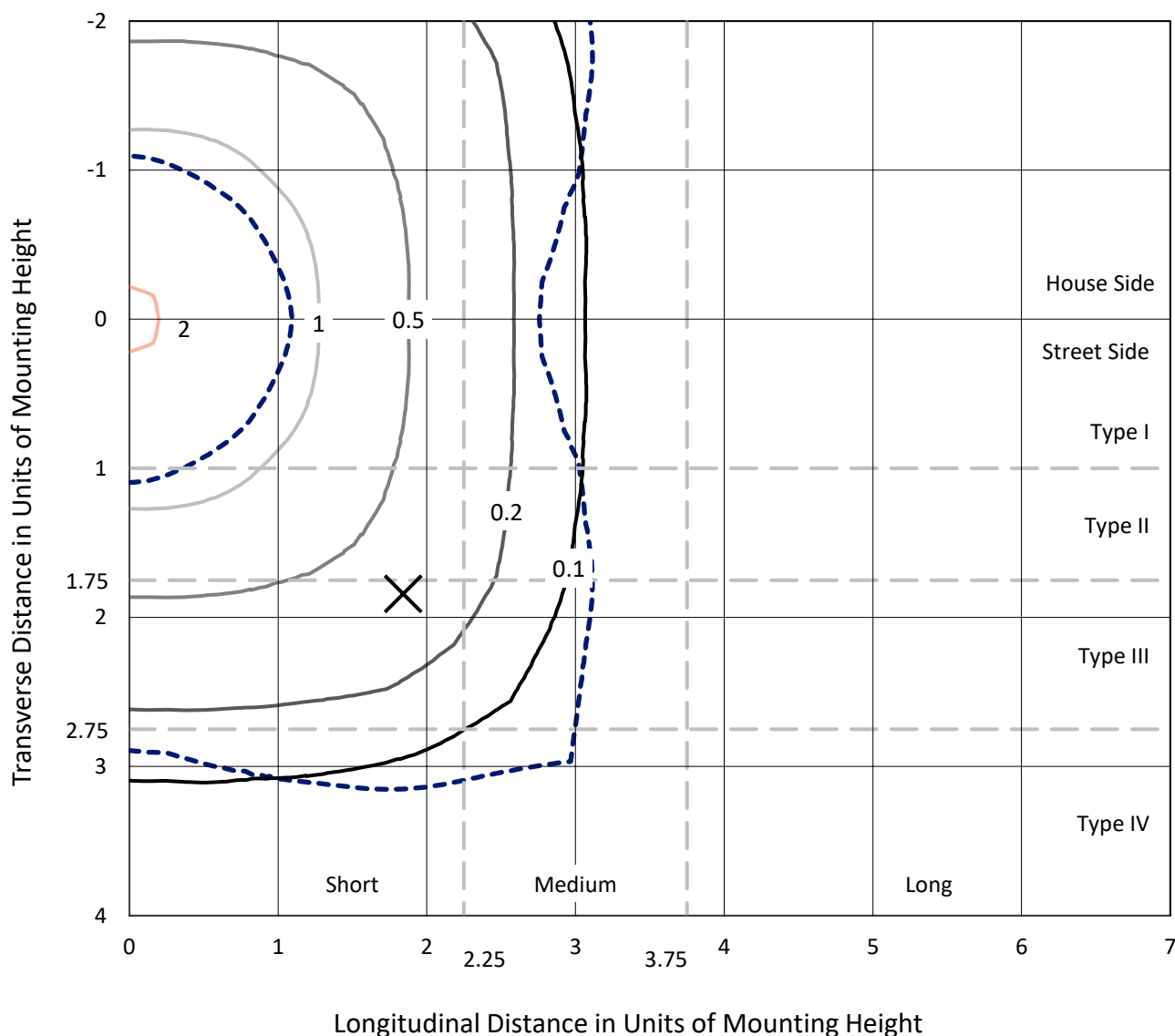
REPORT NUMBER: P1382194

CATALOG NUMBER: VAL-T-SB1D-722-U-5MQ

## Iso-Footcandle Lines of Horizontal Illumination

× Max cd

--- 1/2 Max cd

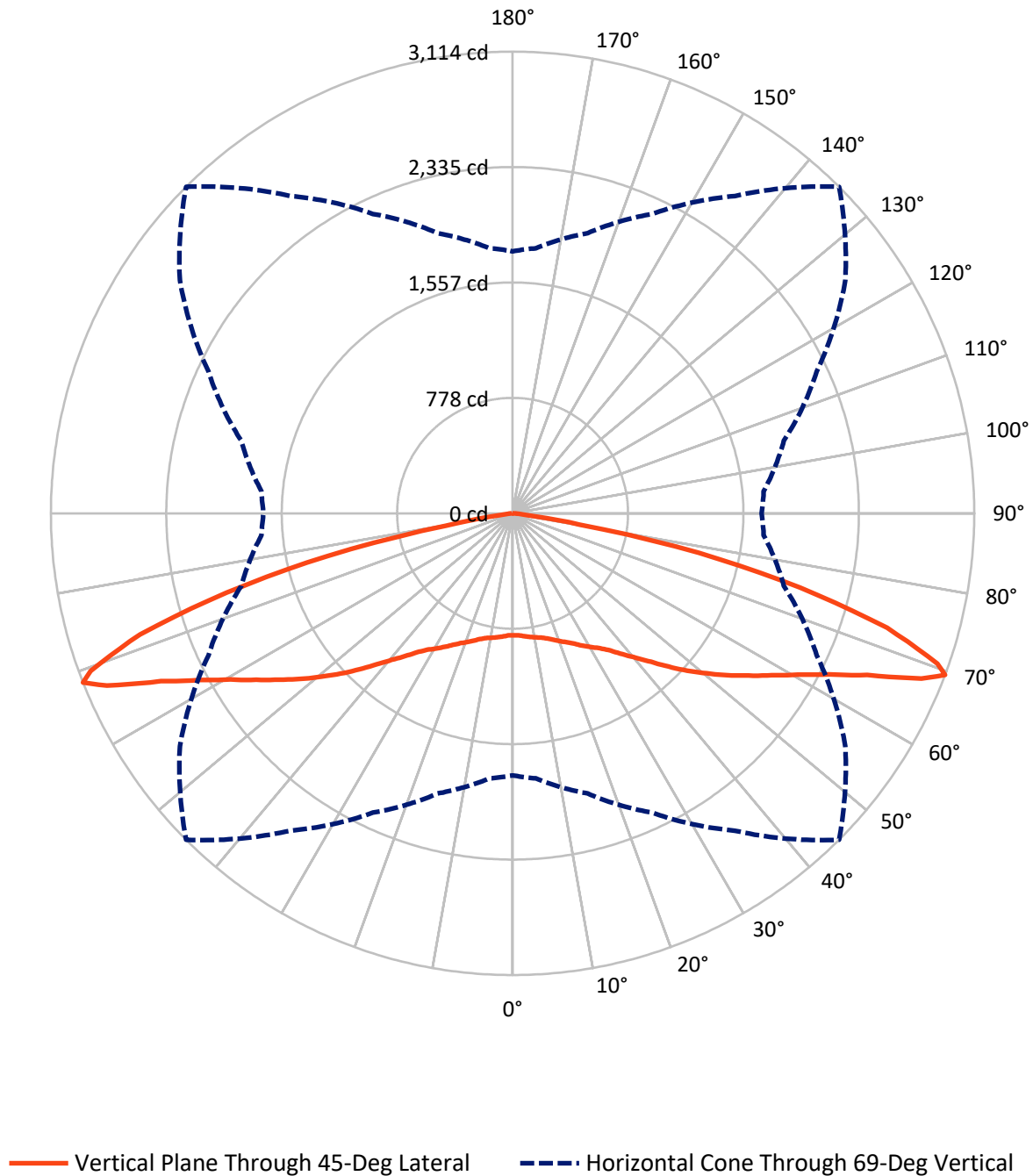


Based on 20 foot mounting height. Maximum calculated value = 2.1 fc

Type V - Short - N/A

REPORT NUMBER: P1382194  
CATALOG NUMBER: VAL-T-SB1D-722-U-5MQ

## Luminous Intensity Polar Plot



REPORT NUMBER: P1382194

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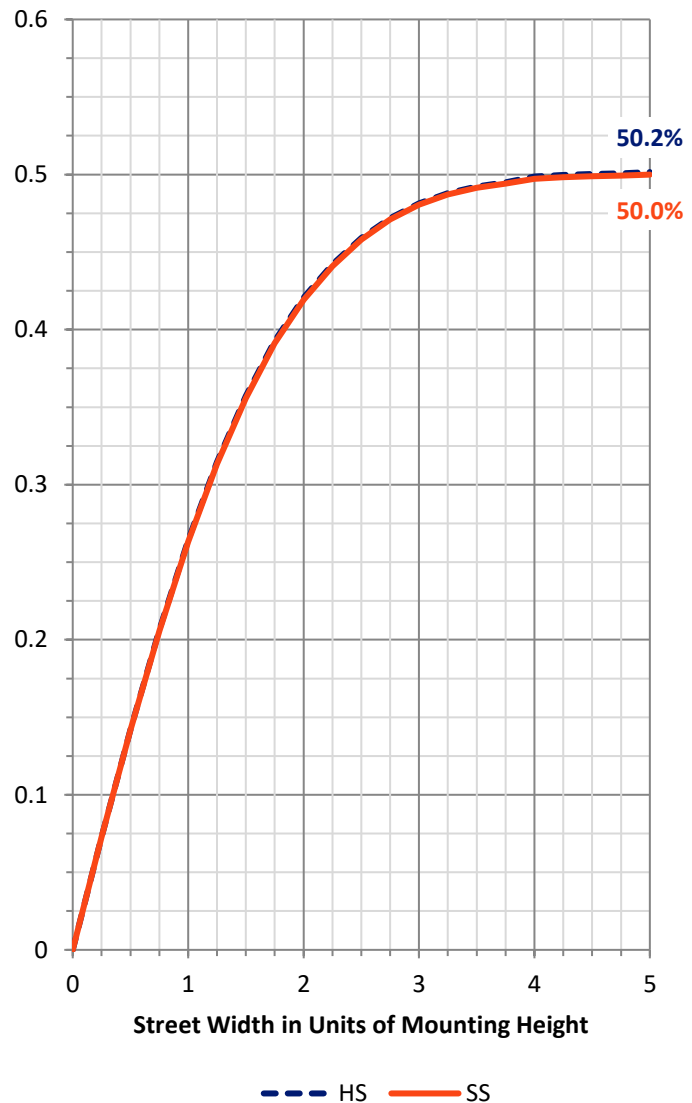
**FLUX DISTRIBUTION:**

|                    |           | Downward | Upward | Total  |
|--------------------|-----------|----------|--------|--------|
| <b>House Side</b>  | Lumens    | 3884.1   | 0.0    | 3884.1 |
|                    | % Fixture | 50.0     | 0.0    | 50.0   |
| <b>Street Side</b> | Lumens    | 3884.1   | 0.0    | 3884.1 |
|                    | % Fixture | 50.0     | 0.0    | 50.0   |
| <b>Total</b>       | Lumens    | 7768.2   | 0.0    | 7768.2 |
|                    | % Fixture | 100.0    | 0.0    | 100.0  |

**Coefficient of Utilization**

**ZONAL LUMENS:**

| Zone      | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10°    | 80.1   | 1.0       |
| 10°-20°   | 248.7  | 3.2       |
| 20°-30°   | 446.1  | 5.7       |
| 30°-40°   | 718.2  | 9.2       |
| 40°-50°   | 1146.3 | 14.8      |
| 50°-60°   | 1698.6 | 21.9      |
| 60°-70°   | 2181.3 | 28.1      |
| 70°-80°   | 1208.2 | 15.6      |
| 80°-90°   | 40.8   | 0.5       |
| 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°    | 7768.2 | 100.0     |
| 0°-180°   | 7768.2 | 100.0     |



REPORT NUMBER: P1382194

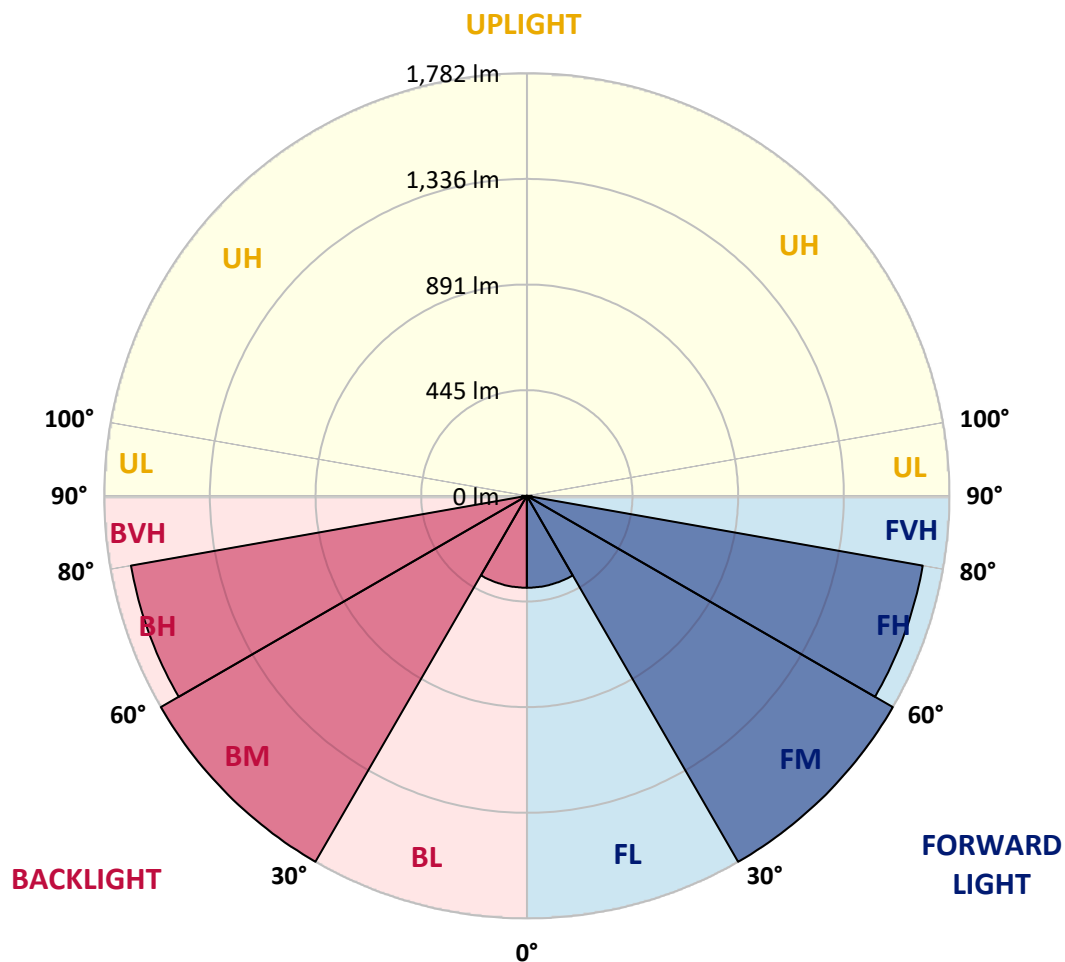
CATALOG NUMBER: VAL-T-SB1D-722-U-5MQ

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

| Zone |             | Lumens | % Fixture | Zone Rating/Lumen Limit |      |         |
|------|-------------|--------|-----------|-------------------------|------|---------|
|      |             |        |           | B                       | U    | G       |
| FL   | (0°-30°)    | 387.4  | 5.0       |                         |      |         |
| FM   | (30°-60°)   | 1781.5 | 22.9      |                         |      |         |
| FH   | (60°-80°)   | 1694.7 | 21.8      |                         |      | G1/1800 |
| FVH  | (80°-90°)   | 20.4   | 0.3       |                         |      | G1/100  |
| BL   | (0°-30°)    | 387.4  | 5.0       | B1/500                  |      |         |
| BM   | (30°-60°)   | 1781.5 | 22.9      | B2/2500                 |      |         |
| BH   | (60°-80°)   | 1694.7 | 21.8      | B3/2500                 |      | G1/1800 |
| BVH  | (80°-90°)   | 20.4   | 0.3       |                         |      | G1/100  |
| UL   | (90°-100°)  | 0.0    | 0.0       |                         | U0/0 |         |
| UH   | (100°-180°) | 0.0    | 0.0       |                         | U0/0 |         |

**BUG Rating: B3-U0-G1**

Type V Short



REPORT NUMBER: P1382194

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**CANDELA DISTRIBUTION (FULL):**

|       | 0°     | 5°     | 15°    | 25°    | 35°    | 45°    | 55°    | 65°    | 75°    | 85°    | 90°    |
|-------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 0°    | 822.2  | 822.2  | 822.2  | 822.2  | 822.2  | 822.2  | 822.2  | 822.2  | 822.2  | 822.2  | 822.2  |
| 2.5°  | 831.1  | 827.5  | 827.5  | 825.7  | 824.0  | 824.0  | 825.7  | 824.0  | 827.5  | 825.7  | 825.7  |
| 5°    | 836.4  | 832.9  | 832.9  | 834.7  | 831.1  | 832.9  | 834.7  | 831.1  | 836.4  | 832.9  | 832.9  |
| 7.5°  | 843.6  | 841.8  | 840.0  | 843.6  | 841.8  | 841.8  | 845.4  | 841.8  | 845.4  | 840.0  | 838.2  |
| 10°   | 854.3  | 848.9  | 848.9  | 850.7  | 848.9  | 850.7  | 854.3  | 850.7  | 850.7  | 847.1  | 847.1  |
| 12.5° | 861.4  | 859.6  | 857.9  | 859.6  | 859.6  | 859.6  | 861.4  | 857.9  | 859.6  | 857.9  | 856.1  |
| 15°   | 872.1  | 870.3  | 870.3  | 870.3  | 872.1  | 875.7  | 873.9  | 868.6  | 870.3  | 866.8  | 866.8  |
| 17.5° | 888.2  | 884.6  | 886.4  | 888.2  | 891.7  | 897.1  | 891.7  | 884.6  | 884.6  | 881.0  | 879.3  |
| 20°   | 906.0  | 904.2  | 906.0  | 909.6  | 913.1  | 920.3  | 913.1  | 906.0  | 902.4  | 898.9  | 895.3  |
| 22.5° | 925.6  | 923.8  | 929.2  | 932.8  | 936.3  | 945.2  | 938.1  | 931.0  | 922.1  | 918.5  | 916.7  |
| 25°   | 947.0  | 945.2  | 950.6  | 961.3  | 970.2  | 975.6  | 968.4  | 955.9  | 948.8  | 941.7  | 938.1  |
| 27.5° | 970.2  | 970.2  | 979.1  | 989.8  | 1002.3 | 1011.2 | 1004.1 | 988.0  | 973.8  | 966.6  | 964.9  |
| 30°   | 1005.9 | 1005.9 | 1014.8 | 1029.1 | 1039.8 | 1046.9 | 1039.8 | 1027.3 | 1013.0 | 1005.9 | 1004.1 |
| 32.5° | 1054.0 | 1054.0 | 1064.7 | 1075.4 | 1080.8 | 1084.4 | 1082.6 | 1077.2 | 1064.7 | 1054.0 | 1050.5 |
| 35°   | 1111.1 | 1112.9 | 1125.4 | 1134.3 | 1139.6 | 1136.1 | 1139.6 | 1136.1 | 1125.4 | 1116.5 | 1114.7 |
| 37.5° | 1184.2 | 1184.2 | 1196.7 | 1205.6 | 1202.1 | 1205.6 | 1205.6 | 1207.4 | 1202.1 | 1189.6 | 1184.2 |
| 40°   | 1264.5 | 1266.3 | 1280.5 | 1285.9 | 1284.1 | 1280.5 | 1285.9 | 1291.2 | 1284.1 | 1271.6 | 1268.0 |
| 42.5° | 1353.7 | 1357.2 | 1367.9 | 1378.6 | 1375.1 | 1369.7 | 1380.4 | 1384.0 | 1371.5 | 1360.8 | 1360.8 |
| 45°   | 1446.4 | 1446.4 | 1462.4 | 1482.1 | 1483.9 | 1474.9 | 1482.1 | 1483.9 | 1467.8 | 1453.5 | 1448.2 |
| 47.5° | 1540.9 | 1544.5 | 1565.9 | 1587.3 | 1594.4 | 1585.5 | 1590.9 | 1592.6 | 1565.9 | 1551.6 | 1542.7 |
| 50°   | 1635.4 | 1640.8 | 1669.3 | 1703.2 | 1710.4 | 1696.1 | 1706.8 | 1699.7 | 1671.1 | 1640.8 | 1633.7 |
| 52.5° | 1712.1 | 1724.6 | 1767.4 | 1813.8 | 1833.4 | 1813.8 | 1828.1 | 1815.6 | 1767.4 | 1728.2 | 1715.7 |
| 55°   | 1797.7 | 1806.7 | 1861.9 | 1922.6 | 1949.3 | 1931.5 | 1945.8 | 1924.4 | 1856.6 | 1808.4 | 1796.0 |
| 57.5° | 1881.6 | 1885.1 | 1947.6 | 2033.2 | 2076.0 | 2061.7 | 2063.5 | 2022.5 | 1949.3 | 1886.9 | 1869.1 |
| 60°   | 1947.6 | 1958.3 | 2038.5 | 2138.4 | 2206.2 | 2207.9 | 2191.9 | 2129.5 | 2043.9 | 1972.5 | 1958.3 |
| 62.5° | 1861.9 | 1885.1 | 2029.6 | 2241.8 | 2352.4 | 2393.4 | 2345.3 | 2249.0 | 2063.5 | 1935.1 | 1913.7 |
| 65°   | 1804.9 | 1819.1 | 1927.9 | 2186.5 | 2527.2 | 2628.8 | 2532.5 | 2234.7 | 1995.7 | 1894.0 | 1874.4 |
| 67.5° | 1842.3 | 1860.2 | 1981.4 | 2181.2 | 2568.2 | 2973.1 | 2644.9 | 2281.1 | 2036.7 | 1878.0 | 1858.4 |
| 69°   | 1767.4 | 1794.2 | 1956.5 | 2227.6 | 2612.8 | 3113.9 | 2739.4 | 2263.2 | 1894.0 | 1699.7 | 1680.0 |
| 70°   | 1681.8 | 1705.0 | 1879.8 | 2202.6 | 2677.0 | 3039.0 | 2776.9 | 2154.4 | 1754.9 | 1569.5 | 1551.6 |
| 72.5° | 1310.9 | 1335.8 | 1540.9 | 1945.8 | 2539.7 | 2641.3 | 2423.7 | 1799.5 | 1455.3 | 1289.5 | 1269.8 |
| 75°   | 433.4  | 478.0  | 672.4  | 1214.5 | 1633.7 | 2002.8 | 1565.9 | 1209.2 | 781.2  | 590.3  | 531.5  |
| 77.5° | 92.7   | 99.9   | 174.8  | 312.1  | 677.7  | 1282.3 | 761.5  | 297.8  | 160.5  | 112.4  | 101.7  |
| 80°   | 49.9   | 53.5   | 73.1   | 91.0   | 167.6  | 458.4  | 146.2  | 80.3   | 76.7   | 55.3   | 51.7   |
| 82.5° | 32.1   | 32.1   | 41.0   | 49.9   | 64.2   | 85.6   | 57.1   | 48.2   | 42.8   | 30.3   | 30.3   |
| 85°   | 17.8   | 17.8   | 19.6   | 25.0   | 25.0   | 26.8   | 25.0   | 23.2   | 19.6   | 17.8   | 16.1   |
| 87.5° | 10.7   | 12.5   | 12.5   | 10.7   | 10.7   | 10.7   | 10.7   | 10.7   | 10.7   | 12.5   | 10.7   |
| 90°   | 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

McGraw-Edison

Report Number: SP1-2407-184-2

Test Date: 10/09/2024

Luminaire Tested: GSS-SB1A-722-U-5WQ

Data in this report applies to families of products including GSS-SB1A-722-U-5WQ



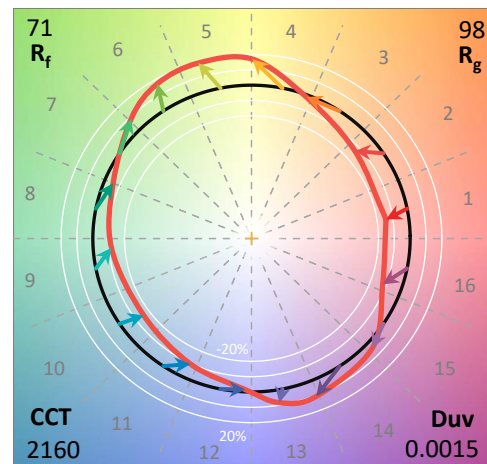
### Test Information

Test Method: LM-79-2019  
 Report Number: SP1-2407-184-2  
 Test Lab: COOPER LIGHTING SOLUTIONS  
 Photometer: SP1 - 76IN SPHERE  
 Measurement Geometry:  $4\pi$   
 Issue Date: 10/15/2024  
 Manufacturer: COOPER LIGHTING SOLUTIONS  
 Product Line: McGraw-Edison  
 Catalog Number: **GSS-SB1A-722-U-5WQ**  
 Description: GALLEON II SITE SLIM 1SQ 350MA 5WQ HIGH DENSITY LIGHTSQUARE WITH 70 CRI  
 2200K CCT 26 LEDS

### Spectral Parameters

CCT (K): 2160  
 CIE  $u'$ : 0.2927  
 CIE  $v'$ : 0.5388  
 Duv: 0.0015  
 CIE x: 0.5130  
 CIE y: 0.4197  
 CIE z: 0.0674  
 Peak Wavelength (nm): 609  
 Dominant Wavelength (nm): 587  
 Purity: 79.96089  
 R<sub>f</sub>: 70.6  
 R<sub>g</sub>: 97.6

CRI (Ra): 71.9  
 R1: 68.7  
 R2: 82.6  
 R3: 95.5  
 R4: 66.4  
 R5: 65.4  
 R6: 75.9  
 R7: 77.2  
 R8: 43.5  
 R9: -17.8  
 R10: 60.5  
 R11: 60.2  
 R12: 48.2  
 R13: 70.7  
 R14: 96.8  
 R15: 61.8



### Test Conditions

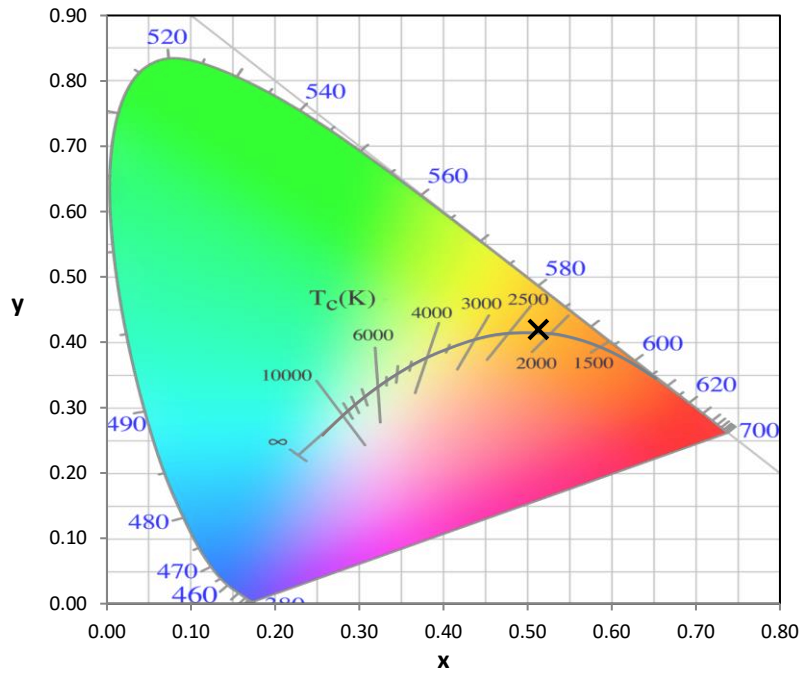
Stabilization Time: 21M  
 Operation Time: 1H 21M  
 Sphere Temperature (°C): 25.2

REPORT NUMBER: SP1-2407-184-2

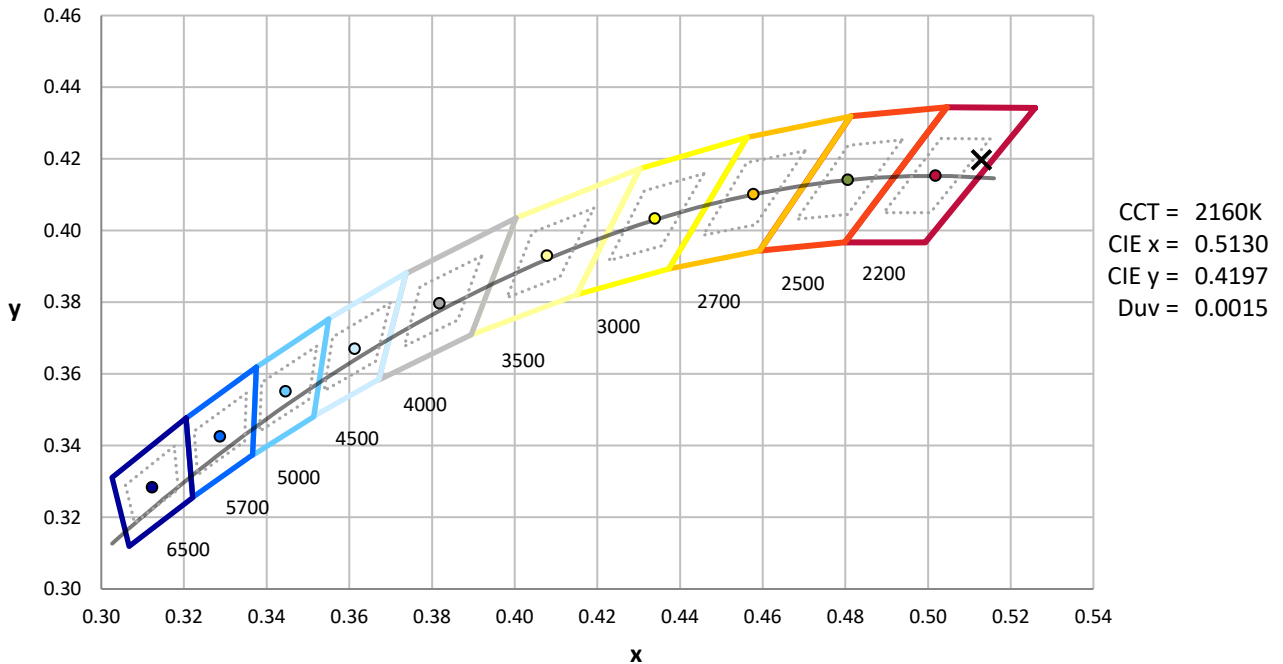
| Measurement and Test Equipment |                       |                  |                      |
|--------------------------------|-----------------------|------------------|----------------------|
| Instrument                     | Identification Number | Calibration Date | Calibration Due Date |
| 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: SP1-2407-184-2

**CIE 1931 Chromaticity Diagram**



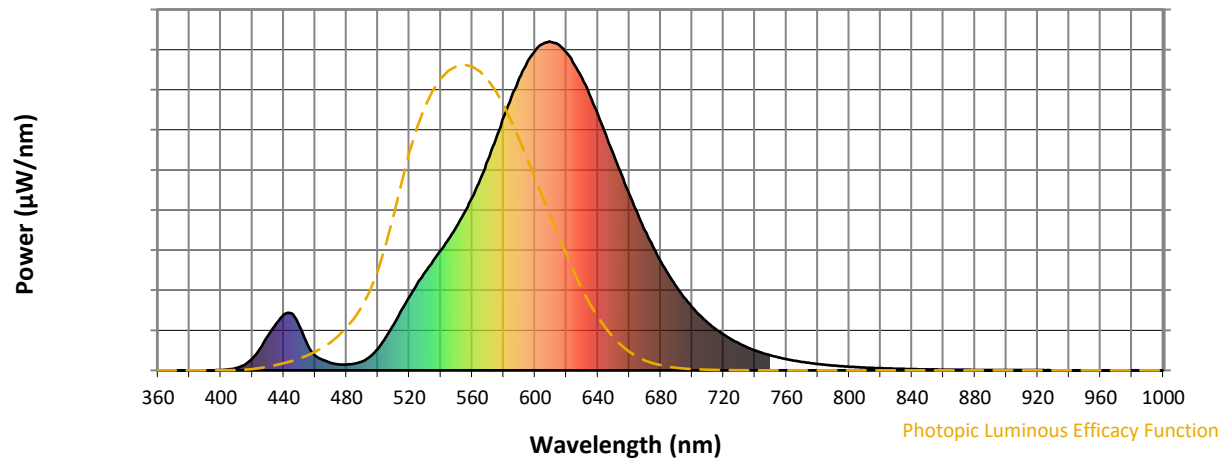
**CIE 1931 Chromaticity Diagram with 2017 ANSI 7-Step and 4-Step Quadrangles**



Point lies inside the ANSI 2200K 7-step quadrangle

REPORT NUMBER: SP1-2407-184-2

### Photopic Flux vs. Wavelength

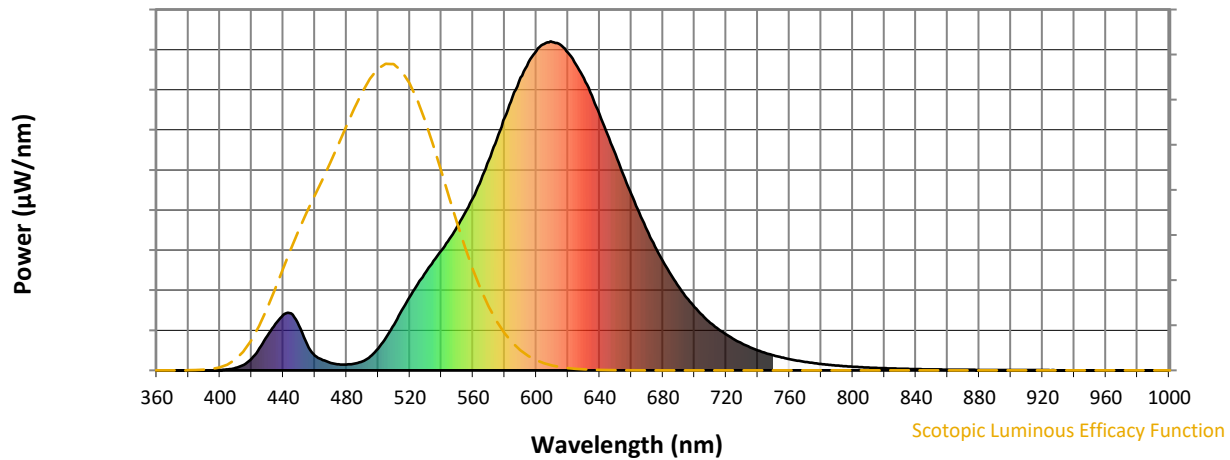


### Photopic Lumens: NR

| $\lambda$<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               | 27                                   | NR                             | 620               | 966                                  | NR                             | 750               | 46                                   | NR                             | 880               | 1                                    | NR                             |
| 365               | 0                                    | NR                             | 495               | 42                                   | NR                             | 625               | 930                                  | NR                             | 755               | 39                                   | NR                             | 885               | 1                                    | NR                             |
| 370               | 0                                    | NR                             | 500               | 67                                   | NR                             | 630               | 888                                  | NR                             | 760               | 34                                   | NR                             | 890               | 1                                    | NR                             |
| 375               | 0                                    | NR                             | 505               | 101                                  | NR                             | 635               | 835                                  | NR                             | 765               | 30                                   | NR                             | 895               | 1                                    | NR                             |
| 380               | 0                                    | NR                             | 510               | 139                                  | NR                             | 640               | 778                                  | NR                             | 770               | 26                                   | NR                             | 900               | 1                                    | NR                             |
| 385               | 0                                    | NR                             | 515               | 183                                  | NR                             | 645               | 717                                  | NR                             | 775               | 22                                   | NR                             | 905               | 1                                    | NR                             |
| 390               | 0                                    | NR                             | 520               | 224                                  | NR                             | 650               | 656                                  | NR                             | 780               | 19                                   | NR                             | 910               | 1                                    | NR                             |
| 395               | 0                                    | NR                             | 525               | 262                                  | NR                             | 655               | 595                                  | NR                             | 785               | 17                                   | NR                             | 915               | 1                                    | NR                             |
| 400               | 1                                    | NR                             | 530               | 299                                  | NR                             | 660               | 536                                  | NR                             | 790               | 15                                   | NR                             | 920               | 1                                    | NR                             |
| 405               | 3                                    | NR                             | 535               | 332                                  | NR                             | 665               | 480                                  | NR                             | 795               | 13                                   | NR                             | 925               | 1                                    | NR                             |
| 410               | 7                                    | NR                             | 540               | 365                                  | NR                             | 670               | 425                                  | NR                             | 800               | 11                                   | NR                             | 930               | 1                                    | NR                             |
| 415               | 17                                   | NR                             | 545               | 400                                  | NR                             | 675               | 376                                  | NR                             | 805               | 10                                   | NR                             | 935               | 0                                    | NR                             |
| 420               | 36                                   | NR                             | 550               | 437                                  | NR                             | 680               | 332                                  | NR                             | 810               | 8                                    | NR                             | 940               | 0                                    | NR                             |
| 425               | 67                                   | NR                             | 555               | 479                                  | NR                             | 685               | 291                                  | NR                             | 815               | 8                                    | NR                             | 945               | 0                                    | NR                             |
| 430               | 105                                  | NR                             | 560               | 525                                  | NR                             | 690               | 255                                  | NR                             | 820               | 7                                    | NR                             | 950               | 0                                    | NR                             |
| 435               | 141                                  | NR                             | 565               | 579                                  | NR                             | 695               | 221                                  | NR                             | 825               | 6                                    | NR                             | 955               | 0                                    | NR                             |
| 440               | 169                                  | NR                             | 570               | 639                                  | NR                             | 700               | 192                                  | NR                             | 830               | 5                                    | NR                             | 960               | 0                                    | NR                             |
| 445               | 173                                  | NR                             | 575               | 703                                  | NR                             | 705               | 167                                  | NR                             | 835               | 4                                    | NR                             | 965               | 0                                    | NR                             |
| 450               | 136                                  | NR                             | 580               | 769                                  | NR                             | 710               | 144                                  | NR                             | 840               | 4                                    | NR                             | 970               | 0                                    | NR                             |
| 455               | 80                                   | NR                             | 585               | 832                                  | NR                             | 715               | 125                                  | NR                             | 845               | 3                                    | NR                             | 975               | 0                                    | NR                             |
| 460               | 45                                   | NR                             | 590               | 890                                  | NR                             | 720               | 109                                  | NR                             | 850               | 3                                    | NR                             | 980               | 0                                    | NR                             |
| 465               | 32                                   | NR                             | 595               | 937                                  | NR                             | 725               | 94                                   | NR                             | 855               | 3                                    | NR                             | 985               | 0                                    | NR                             |
| 470               | 23                                   | NR                             | 600               | 972                                  | NR                             | 730               | 81                                   | NR                             | 860               | 2                                    | NR                             | 990               | 0                                    | NR                             |
| 475               | 18                                   | NR                             | 605               | 992                                  | NR                             | 735               | 70                                   | NR                             | 865               | 2                                    | NR                             | 995               | 0                                    | NR                             |
| 480               | 18                                   | NR                             | 610               | 998                                  | NR                             | 740               | 61                                   | NR                             | 870               | 2                                    | NR                             | 1000              | 0                                    | NR                             |
| 485               | 20                                   | NR                             | 615               | 990                                  | NR                             | 745               | 53                                   | NR                             | 875               | 2                                    | NR                             |                   |                                      |                                |

REPORT NUMBER: SP1-2407-184-2

### Scotopic Flux vs. Wavelength



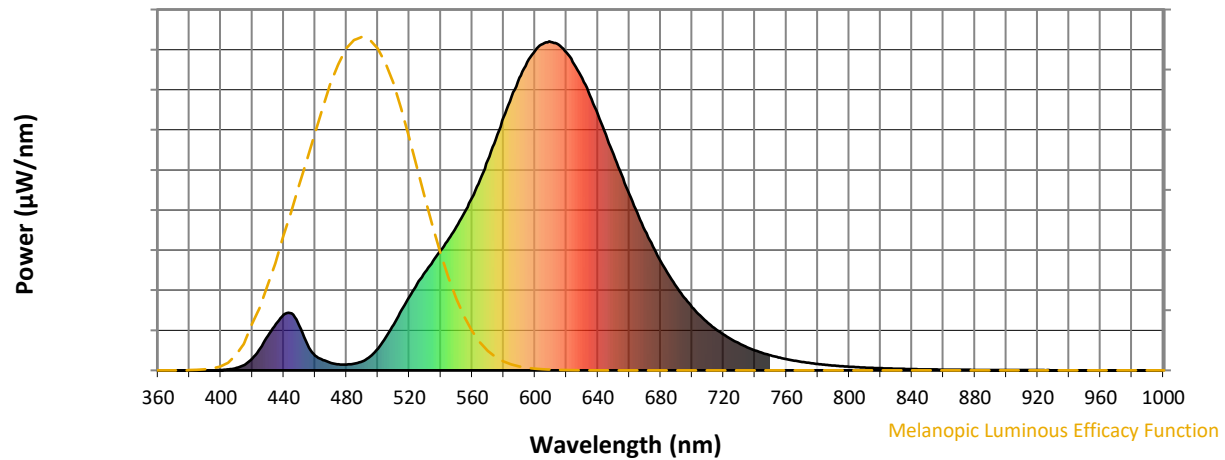
Scotopic Lumens: NR

S/P: 0.8

| 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    | 27                       | NR            | 620    | 966                      | NR            | 750    | 46                       | NR            | 880    | 1                        | NR            |
| 365    | 0                        | NR            | 495    | 42                       | NR            | 625    | 930                      | NR            | 755    | 39                       | NR            | 885    | 1                        | NR            |
| 370    | 0                        | NR            | 500    | 67                       | NR            | 630    | 888                      | NR            | 760    | 34                       | NR            | 890    | 1                        | NR            |
| 375    | 0                        | NR            | 505    | 101                      | NR            | 635    | 835                      | NR            | 765    | 30                       | NR            | 895    | 1                        | NR            |
| 380    | 0                        | NR            | 510    | 139                      | NR            | 640    | 778                      | NR            | 770    | 26                       | NR            | 900    | 1                        | NR            |
| 385    | 0                        | NR            | 515    | 183                      | NR            | 645    | 717                      | NR            | 775    | 22                       | NR            | 905    | 1                        | NR            |
| 390    | 0                        | NR            | 520    | 224                      | NR            | 650    | 656                      | NR            | 780    | 19                       | NR            | 910    | 1                        | NR            |
| 395    | 0                        | NR            | 525    | 262                      | NR            | 655    | 595                      | NR            | 785    | 17                       | NR            | 915    | 1                        | NR            |
| 400    | 1                        | NR            | 530    | 299                      | NR            | 660    | 536                      | NR            | 790    | 15                       | NR            | 920    | 1                        | NR            |
| 405    | 3                        | NR            | 535    | 332                      | NR            | 665    | 480                      | NR            | 795    | 13                       | NR            | 925    | 1                        | NR            |
| 410    | 7                        | NR            | 540    | 365                      | NR            | 670    | 425                      | NR            | 800    | 11                       | NR            | 930    | 1                        | NR            |
| 415    | 17                       | NR            | 545    | 400                      | NR            | 675    | 376                      | NR            | 805    | 10                       | NR            | 935    | 0                        | NR            |
| 420    | 36                       | NR            | 550    | 437                      | NR            | 680    | 332                      | NR            | 810    | 8                        | NR            | 940    | 0                        | NR            |
| 425    | 67                       | NR            | 555    | 479                      | NR            | 685    | 291                      | NR            | 815    | 8                        | NR            | 945    | 0                        | NR            |
| 430    | 105                      | NR            | 560    | 525                      | NR            | 690    | 255                      | NR            | 820    | 7                        | NR            | 950    | 0                        | NR            |
| 435    | 141                      | NR            | 565    | 579                      | NR            | 695    | 221                      | NR            | 825    | 6                        | NR            | 955    | 0                        | NR            |
| 440    | 169                      | NR            | 570    | 639                      | NR            | 700    | 192                      | NR            | 830    | 5                        | NR            | 960    | 0                        | NR            |
| 445    | 173                      | NR            | 575    | 703                      | NR            | 705    | 167                      | NR            | 835    | 4                        | NR            | 965    | 0                        | NR            |
| 450    | 136                      | NR            | 580    | 769                      | NR            | 710    | 144                      | NR            | 840    | 4                        | NR            | 970    | 0                        | NR            |
| 455    | 80                       | NR            | 585    | 832                      | NR            | 715    | 125                      | NR            | 845    | 3                        | NR            | 975    | 0                        | NR            |
| 460    | 45                       | NR            | 590    | 890                      | NR            | 720    | 109                      | NR            | 850    | 3                        | NR            | 980    | 0                        | NR            |
| 465    | 32                       | NR            | 595    | 937                      | NR            | 725    | 94                       | NR            | 855    | 3                        | NR            | 985    | 0                        | NR            |
| 470    | 23                       | NR            | 600    | 972                      | NR            | 730    | 81                       | NR            | 860    | 2                        | NR            | 990    | 0                        | NR            |
| 475    | 18                       | NR            | 605    | 992                      | NR            | 735    | 70                       | NR            | 865    | 2                        | NR            | 995    | 0                        | NR            |
| 480    | 18                       | NR            | 610    | 998                      | NR            | 740    | 61                       | NR            | 870    | 2                        | NR            | 1000   | 0                        | NR            |
| 485    | 20                       | NR            | 615    | 990                      | NR            | 745    | 53                       | NR            | 875    | 2                        | NR            |        |                          |               |

REPORT NUMBER: SP1-2407-184-2

### Melanopic Flux vs. Wavelength



Melanopic Lumens: NR

M/P: 1.21

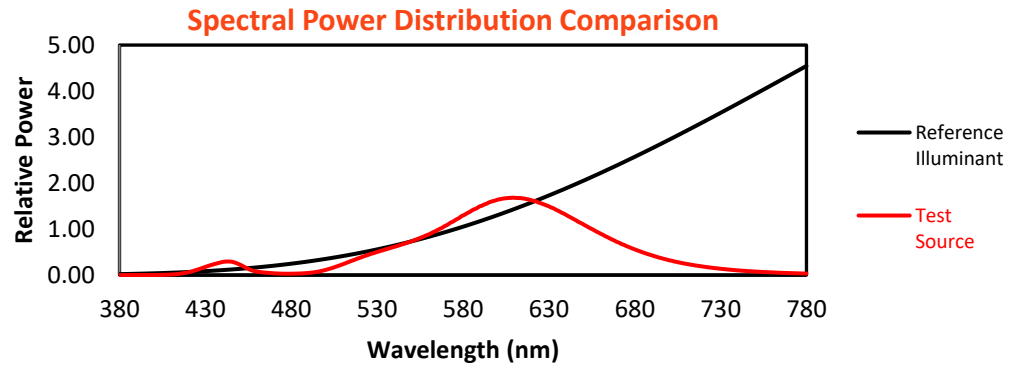
| $\lambda$<br>(nm) | Power<br>$\text{W}^{\wedge}/\text{nm}$ | Lumens<br>( $\phi/\text{nm}$ ) | $\lambda$<br>(nm) | Power<br>$\text{W}^{\wedge}/\text{nm}$ | Lumens<br>( $\phi/\text{nm}$ ) | $\lambda$<br>(nm) | Power<br>$\text{W}^{\wedge}/\text{nm}$ | Lumens<br>( $\phi/\text{nm}$ ) | $\lambda$<br>(nm) | 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               | 27                                     | NR                             | 620               | 966                                    | NR                             | 750               | 46                                     | NR                             | 880               | 1                                      | NR                             |
| 365               | 0                                      | NR                             | 495               | 42                                     | NR                             | 625               | 930                                    | NR                             | 755               | 39                                     | NR                             | 885               | 1                                      | NR                             |
| 370               | 0                                      | NR                             | 500               | 67                                     | NR                             | 630               | 888                                    | NR                             | 760               | 34                                     | NR                             | 890               | 1                                      | NR                             |
| 375               | 0                                      | NR                             | 505               | 101                                    | NR                             | 635               | 835                                    | NR                             | 765               | 30                                     | NR                             | 895               | 1                                      | NR                             |
| 380               | 0                                      | NR                             | 510               | 139                                    | NR                             | 640               | 778                                    | NR                             | 770               | 26                                     | NR                             | 900               | 1                                      | NR                             |
| 385               | 0                                      | NR                             | 515               | 183                                    | NR                             | 645               | 717                                    | NR                             | 775               | 22                                     | NR                             | 905               | 1                                      | NR                             |
| 390               | 0                                      | NR                             | 520               | 224                                    | NR                             | 650               | 656                                    | NR                             | 780               | 19                                     | NR                             | 910               | 1                                      | NR                             |
| 395               | 0                                      | NR                             | 525               | 262                                    | NR                             | 655               | 595                                    | NR                             | 785               | 17                                     | NR                             | 915               | 1                                      | NR                             |
| 400               | 1                                      | NR                             | 530               | 299                                    | NR                             | 660               | 536                                    | NR                             | 790               | 15                                     | NR                             | 920               | 1                                      | NR                             |
| 405               | 3                                      | NR                             | 535               | 332                                    | NR                             | 665               | 480                                    | NR                             | 795               | 13                                     | NR                             | 925               | 1                                      | NR                             |
| 410               | 7                                      | NR                             | 540               | 365                                    | NR                             | 670               | 425                                    | NR                             | 800               | 11                                     | NR                             | 930               | 1                                      | NR                             |
| 415               | 17                                     | NR                             | 545               | 400                                    | NR                             | 675               | 376                                    | NR                             | 805               | 10                                     | NR                             | 935               | 0                                      | NR                             |
| 420               | 36                                     | NR                             | 550               | 437                                    | NR                             | 680               | 332                                    | NR                             | 810               | 8                                      | NR                             | 940               | 0                                      | NR                             |
| 425               | 67                                     | NR                             | 555               | 479                                    | NR                             | 685               | 291                                    | NR                             | 815               | 8                                      | NR                             | 945               | 0                                      | NR                             |
| 430               | 105                                    | NR                             | 560               | 525                                    | NR                             | 690               | 255                                    | NR                             | 820               | 7                                      | NR                             | 950               | 0                                      | NR                             |
| 435               | 141                                    | NR                             | 565               | 579                                    | NR                             | 695               | 221                                    | NR                             | 825               | 6                                      | NR                             | 955               | 0                                      | NR                             |
| 440               | 169                                    | NR                             | 570               | 639                                    | NR                             | 700               | 192                                    | NR                             | 830               | 5                                      | NR                             | 960               | 0                                      | NR                             |
| 445               | 173                                    | NR                             | 575               | 703                                    | NR                             | 705               | 167                                    | NR                             | 835               | 4                                      | NR                             | 965               | 0                                      | NR                             |
| 450               | 136                                    | NR                             | 580               | 769                                    | NR                             | 710               | 144                                    | NR                             | 840               | 4                                      | NR                             | 970               | 0                                      | NR                             |
| 455               | 80                                     | NR                             | 585               | 832                                    | NR                             | 715               | 125                                    | NR                             | 845               | 3                                      | NR                             | 975               | 0                                      | NR                             |
| 460               | 45                                     | NR                             | 590               | 890                                    | NR                             | 720               | 109                                    | NR                             | 850               | 3                                      | NR                             | 980               | 0                                      | NR                             |
| 465               | 32                                     | NR                             | 595               | 937                                    | NR                             | 725               | 94                                     | NR                             | 855               | 3                                      | NR                             | 985               | 0                                      | NR                             |
| 470               | 23                                     | NR                             | 600               | 972                                    | NR                             | 730               | 81                                     | NR                             | 860               | 2                                      | NR                             | 990               | 0                                      | NR                             |
| 475               | 18                                     | NR                             | 605               | 992                                    | NR                             | 735               | 70                                     | NR                             | 865               | 2                                      | NR                             | 995               | 0                                      | NR                             |
| 480               | 18                                     | NR                             | 610               | 998                                    | NR                             | 740               | 61                                     | NR                             | 870               | 2                                      | NR                             | 1000              | 0                                      | NR                             |
| 485               | 20                                     | NR                             | 615               | 990                                    | NR                             | 745               | 53                                     | NR                             | 875               | 2                                      | NR                             |                   |                                        |                                |

REPORT NUMBER: SP1-2407-184-2

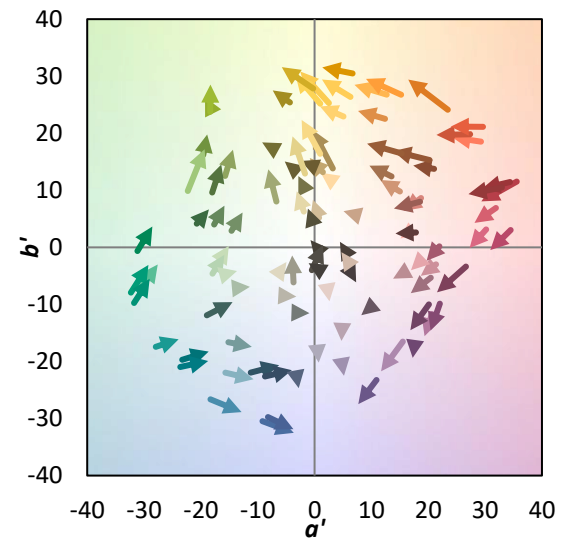
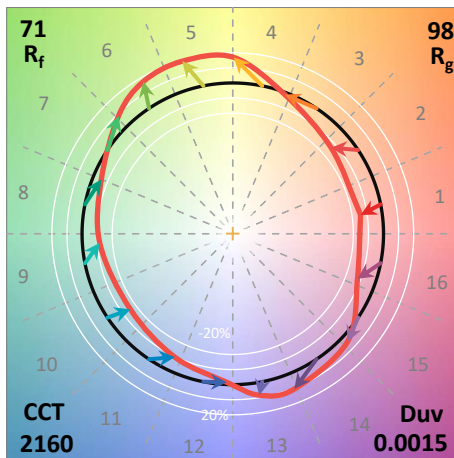
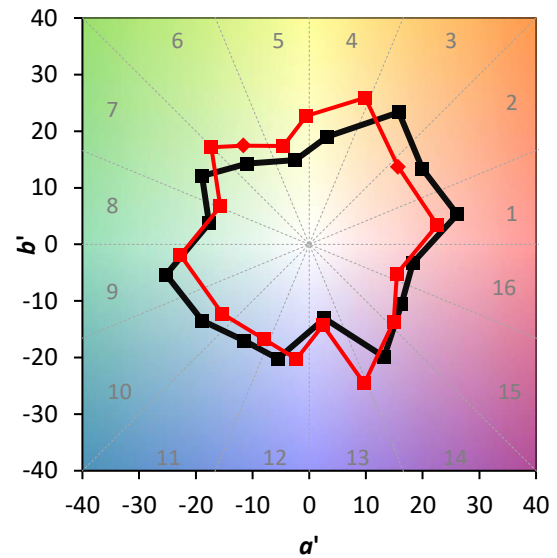
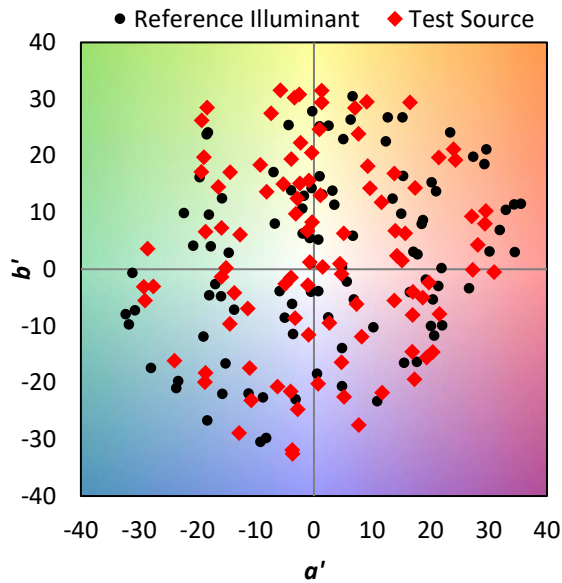
TM-30-18

### Summary

$R_f = 70.6$   
 $R_g = 97.6$   
 $CIE\ R_a = 71.9$   
 $R_g = -17.8$

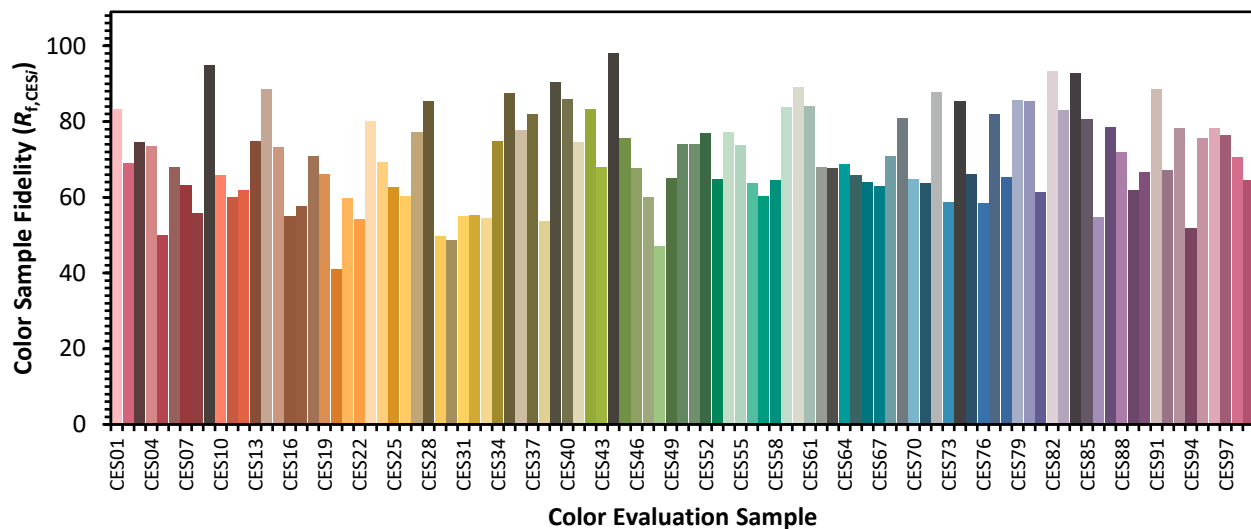


### Color Vector Graphics



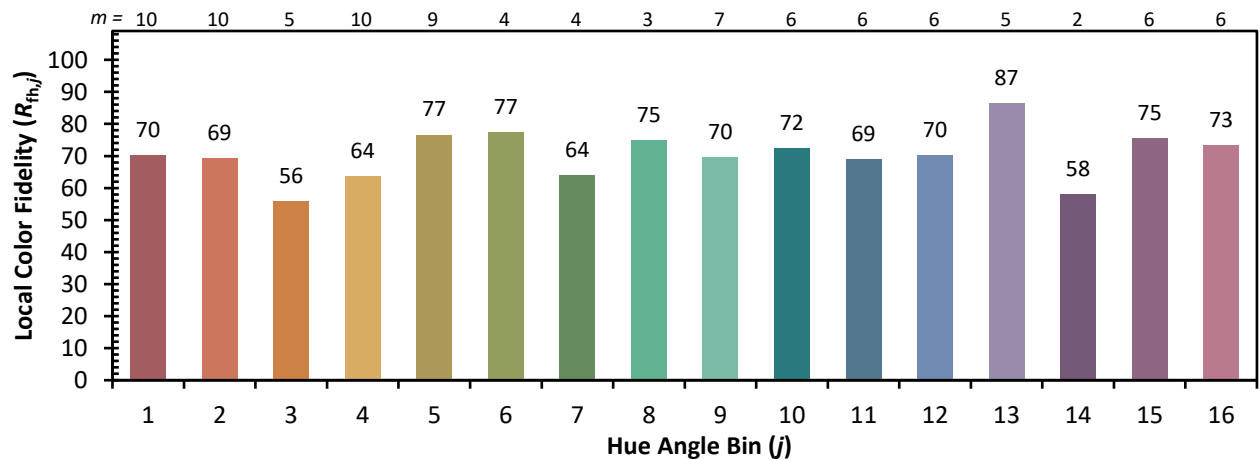
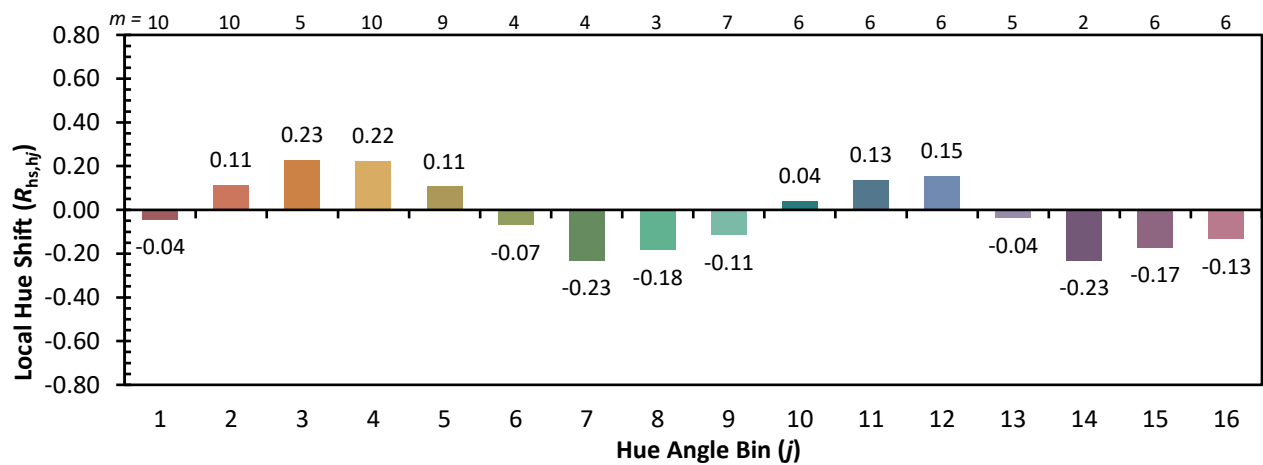
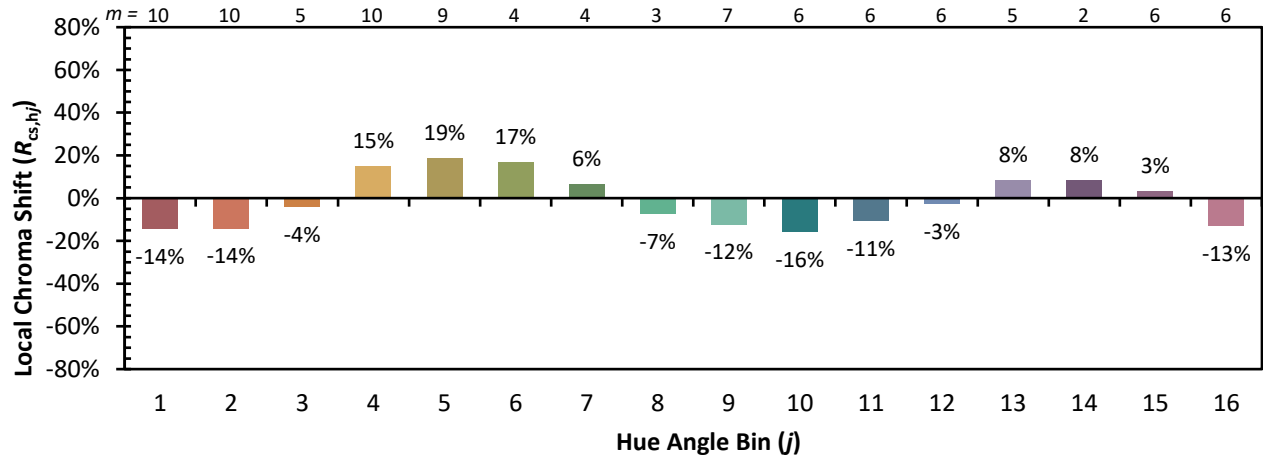
**Individual Sample Fidelity Index ( $R_{f,i}$ )**

|            |            |            |            |
|------------|------------|------------|------------|
| CES01 = 87 | CES26 = 60 | CES51 = 74 | CES76 = 58 |
| CES02 = 65 | CES27 = 77 | CES52 = 77 | CES77 = 82 |
| CES03 = 32 | CES28 = 85 | CES53 = 65 | CES78 = 65 |
| CES04 = 72 | CES29 = 50 | CES54 = 77 | CES79 = 86 |
| CES05 = 52 | CES30 = 49 | CES55 = 74 | CES80 = 85 |
| CES06 = 53 | CES31 = 55 | CES56 = 64 | CES81 = 61 |
| CES07 = 44 | CES32 = 55 | CES57 = 60 | CES82 = 93 |
| CES08 = 43 | CES33 = 55 | CES58 = 64 | CES83 = 83 |
| CES09 = 29 | CES34 = 75 | CES59 = 84 | CES84 = 93 |
| CES10 = 79 | CES35 = 88 | CES60 = 89 | CES85 = 81 |
| CES11 = 62 | CES36 = 78 | CES61 = 84 | CES86 = 55 |
| CES12 = 68 | CES37 = 82 | CES62 = 68 | CES87 = 79 |
| CES13 = 45 | CES38 = 54 | CES63 = 68 | CES88 = 72 |
| CES14 = 75 | CES39 = 90 | CES64 = 69 | CES89 = 62 |
| CES15 = 72 | CES40 = 86 | CES65 = 66 | CES90 = 67 |
| CES16 = 49 | CES41 = 75 | CES66 = 64 | CES91 = 89 |
| CES17 = 51 | CES42 = 83 | CES67 = 63 | CES92 = 67 |
| CES18 = 57 | CES43 = 68 | CES68 = 71 | CES93 = 78 |
| CES19 = 74 | CES44 = 98 | CES69 = 81 | CES94 = 52 |
| CES20 = 68 | CES45 = 76 | CES70 = 65 | CES95 = 76 |
| CES21 = 89 | CES46 = 68 | CES71 = 64 | CES96 = 78 |
| CES22 = 81 | CES47 = 60 | CES72 = 88 | CES97 = 76 |
| CES23 = 92 | CES48 = 47 | CES73 = 59 | CES98 = 71 |
| CES24 = 92 | CES49 = 65 | CES74 = 85 | CES99 = 65 |
| CES25 = 74 | CES50 = 74 | CES75 = 66 |            |

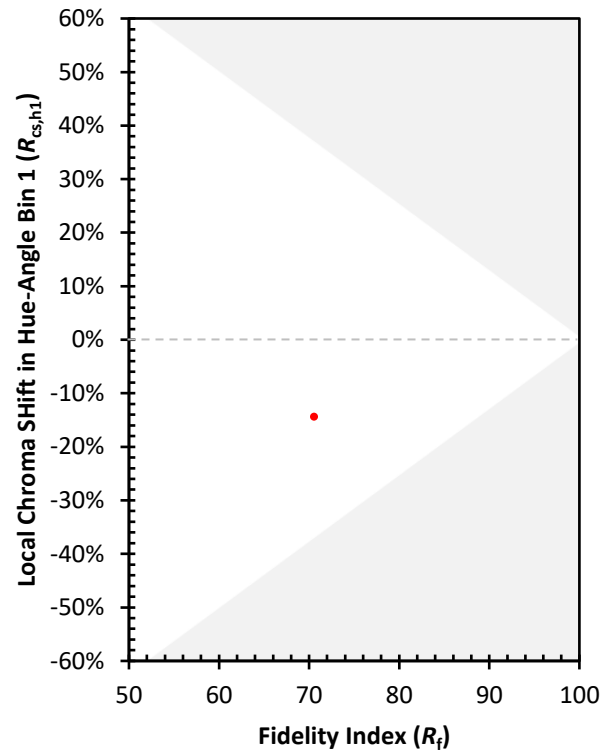
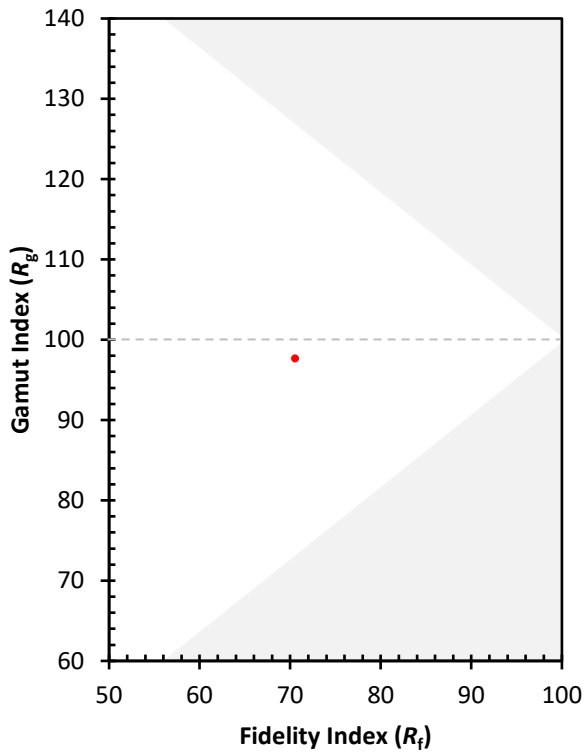




Color Rendition by Hue-Angle Bin



**Measure Comparisons**



(END OF REPORT)