Cooper Lighting Solutions Photometric Lab
1121 Highway 74 South
Peachtree City, GA 30269

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Peachtree City, GA 30269

Scaled data based on original data using

LM-79-2024 Approved Method: Electrical and Photometric Measurements of Solid-State Lighting Products

Test Report Prepared for

Cooper Lighting Solutions

Brand: McGRAW-EDISON

Report Number: P1502495

Luminaire Tested: GSS-SB5C-740-U-T4LG-HSS

Issue Date: 07/20/2026

Cooper Lighting Solutions Photometric Lab
1121 Highway 74 South
Peachtree City, GA 30269

Scaled Data Report

**Test Information**

| | |
|---|---|
| Test Method: | LM-79-2024 |
| Report Number: | P1502495 |
| Test Lab: | INNOVATION CENTER(G1) |
| Issue Date: | 7/20/2026 |
| Manufacturer: | COOPER LIGHTING SOLUTIONS |
| Product Line: | McGRAW-EDISON |
| Catalog Number: | GSS-SB5C-740-U-T4LG-HSS |
| Description: | GALLEON II SLIM SITE HIGH DENSITY LED ARRAYS 5SQUARE 252W 70CRI 4000K FIXTURE w/ TYPE IV LOW GLARE DISTRIBUTION FIXTURE W/ HOUSE SIDE SHIELD |
| Light Source: | (130) 4000K CCT, 70 CRI LEDS |
| Ballast/Driver: | ELECTRONIC DRIVER |

**Summary**

| | |
|---|---|
| Lumens per Lamp: | N/A |
| Luminaire Lumens: | 30830.8 lumens |
| Efficiency: | N/A |
| Efficacy: | 122.3 lumens/watt |
| Luminous Opening: | Rectangular (W 1.5' x L: 1' x H: 0') |
| IES Classification: | Type III - Short |
| BUG Rating: | B3 - U0 - G3 |

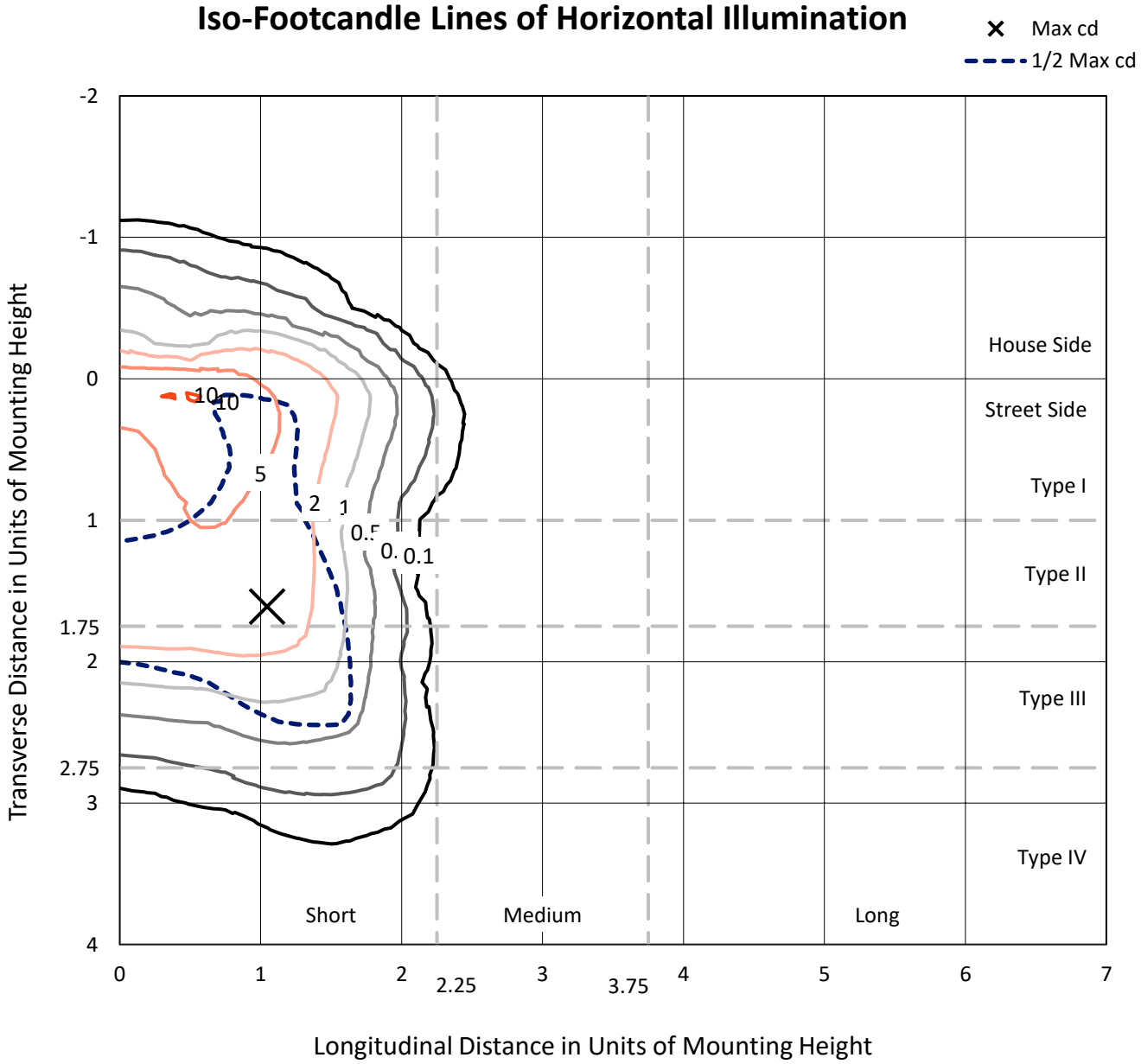
| | |
|---|---|
| Input Watts (W): | 252 |
| Input Voltage (V): | 120 |
| Input Current (Ain): | NR |
| Voltage Rise (V): | NR |
| Power Factor: | 0.98 |
| Total Harmonic Distortion (THDi): | 7.9% |
| Frequency (hertz): | 60 |
| Stabilization Time: | NR |
| Operation Time: | NR |
| Ambient Temperature (°C): | NR |
| Test Distance: | 28.75 FT |

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Scaled Data Report

REPORT NUMBER: P1502495
CATALOG NUMBER: GSS-SB5C-740-U-T4LG-HSS

## Iso-Footcandle Lines of Horizontal Illumination



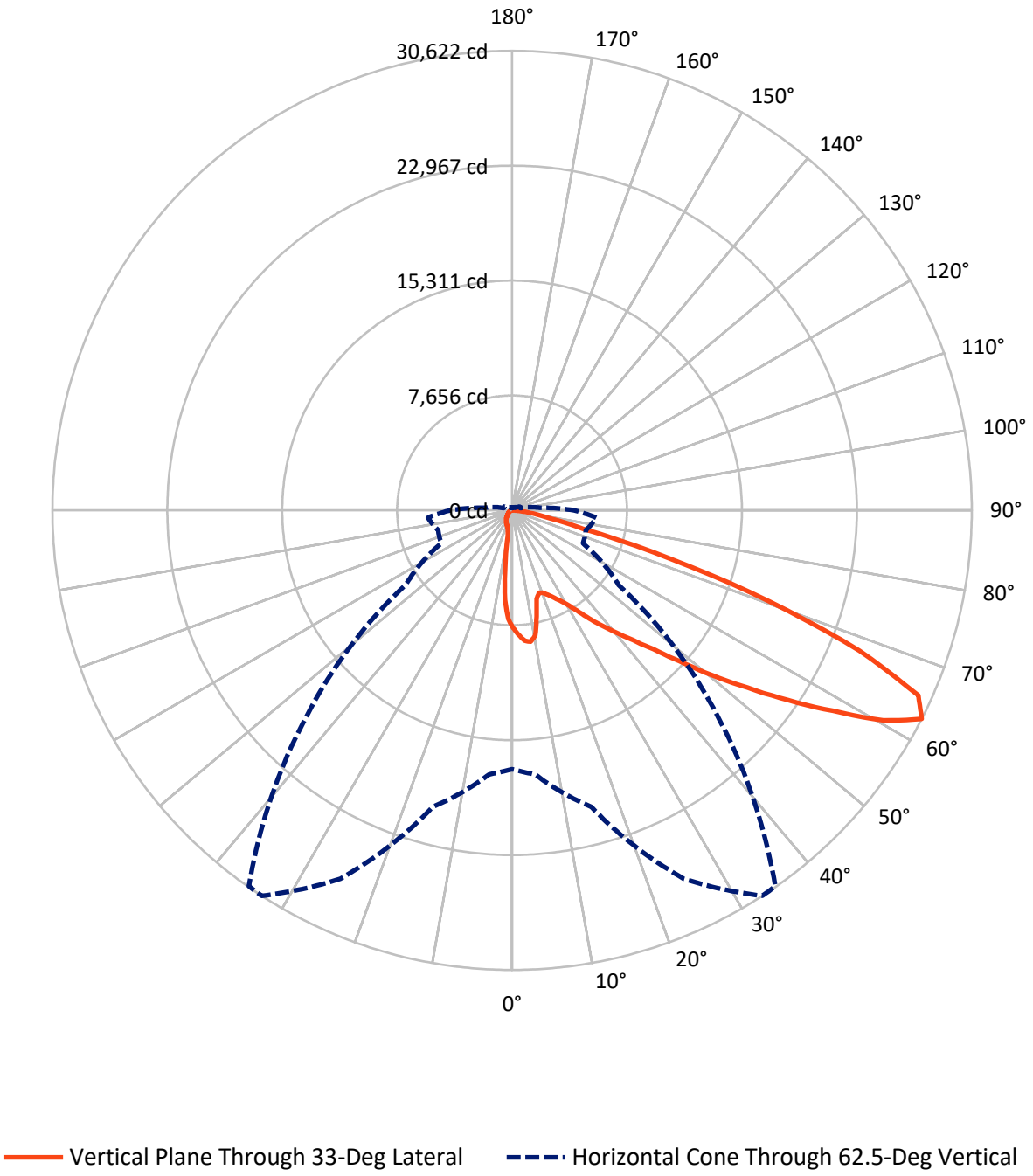

Based on 30 foot mounting height. Maximum calculated value = 10.4 fc
Type III - Short - N/A

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## Luminous Intensity Polar Plot



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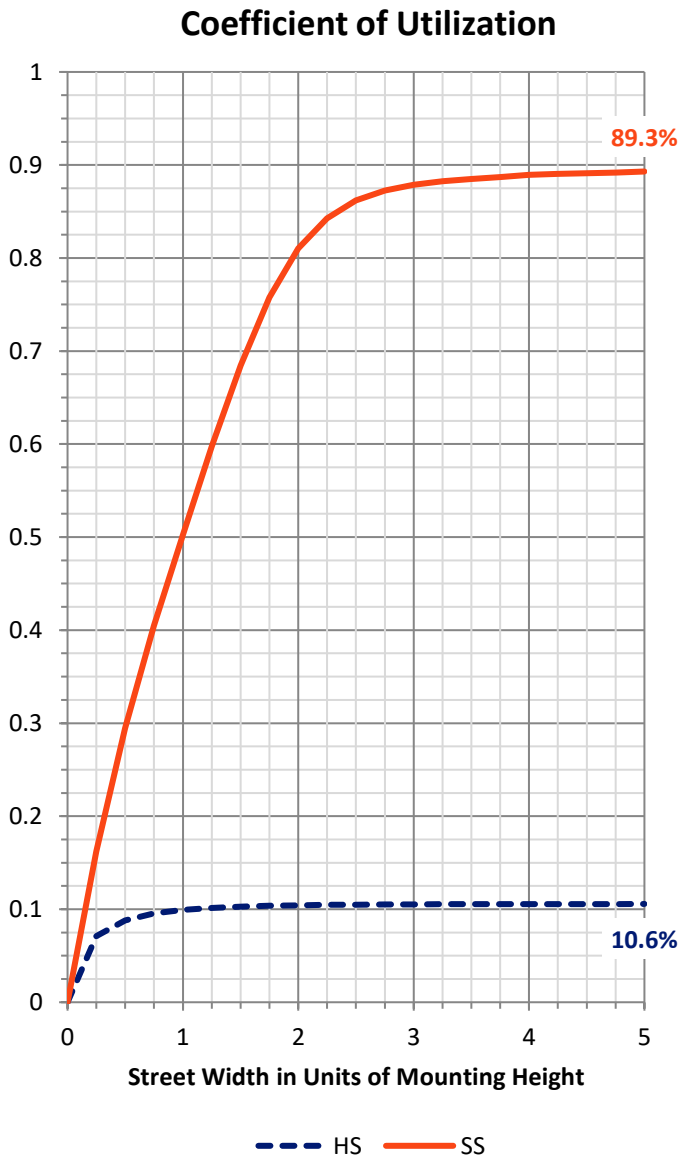
REPORT NUMBER: P1502495
CATALOG NUMBER: GSS-SB5C-740-U-T4LG-HSS

**FLUX DISTRIBUTION:**

| | | Downward | Upward | Total |
|---|---|---|---|---|
| **House Side** | Lumens | 3280.6 | 0.0 | 3280.6 |
| | % Fixture | 10.6 | 0.0 | 10.6 |
| **Street Side** | Lumens | 27550.2 | 0.0 | 27550.2 |
| | % Fixture | 89.4 | 0.0 | 89.4 |
| **Total** | Lumens | 30830.8 | 0.0 | 30830.8 |
| | % Fixture | 100.0 | 0.0 | 100.0 |

**ZONAL LUMENS:**

| Zone | Lumens | % Fixture |
|---|---|---|
| 0°-10° | 665.8 | 2.2 |
| 10°-20° | 1485.8 | 4.8 |
| 20°-30° | 2394.6 | 7.8 |
| 30°-40° | 3983.7 | 12.9 |
| 40°-50° | 6296.3 | 20.4 |
| 50°-60° | 8459.0 | 27.4 |
| 60°-70° | 6209.8 | 20.1 |
| 70°-80° | 1229.0 | 4.0 |
| 80°-90° | 106.8 | 0.3 |
| 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° | 30830.8 | 100.0 |
| 0°-180° | 30830.8 | 100.0 |



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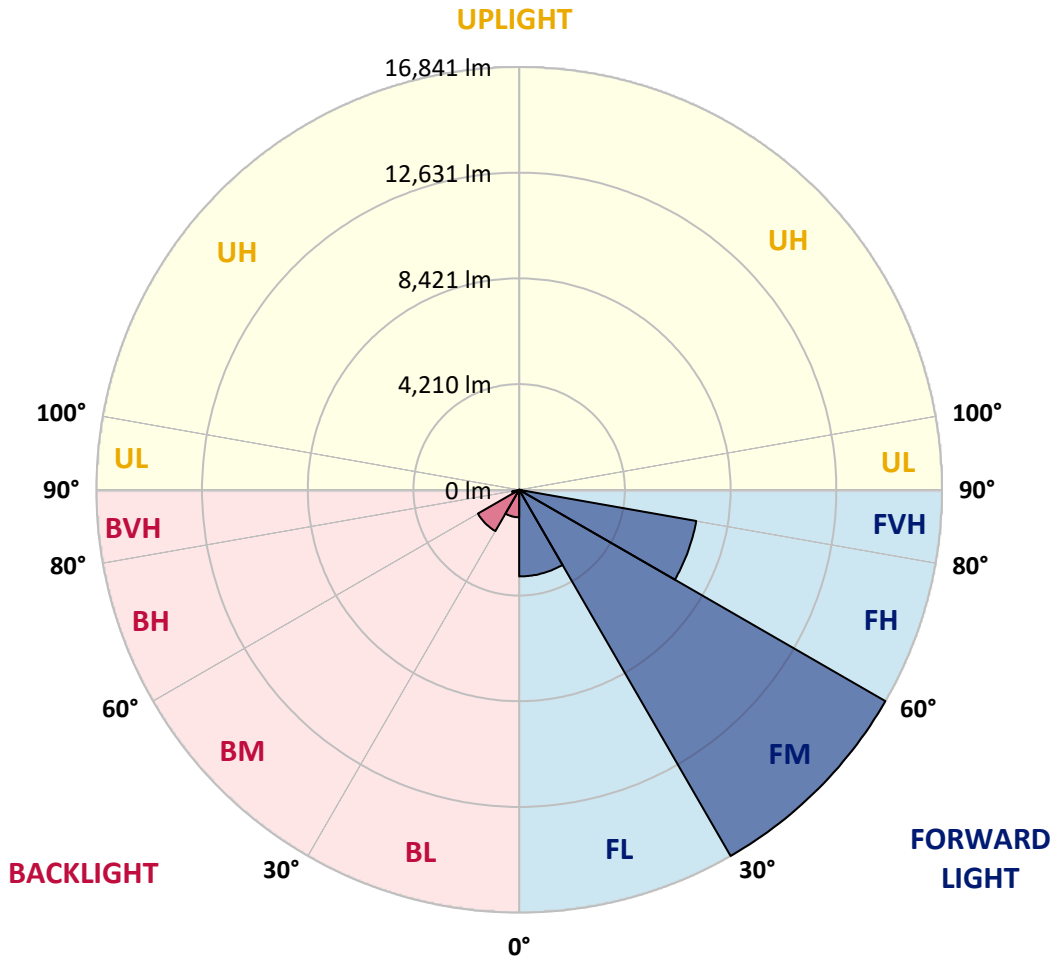
Scaled Data Report

REPORT NUMBER: P1502495
CATALOG NUMBER: GSS-SB5C-740-U-T4LG-HSS

## LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

| Zone | | Lumens | % Fixture | Zone Rating/Lumen Limit B | U | G |
|---|---|---|---|---|---|---|
| FL | (0°-30°) | 3451.7 | 11.2 | | | |
| FM | (30°-60°) | 16841.2 | 54.6 | | | |
| FH | (60°-80°) | 7158.5 | 23.2 | | | G3/7500 |
| FVH | (80°-90°) | 98.8 | 0.3 | | | G1/100 |
| BL | (0°-30°) | 1094.6 | 3.6 | B3/2500 | | |
| BM | (30°-60°) | 1897.7 | 6.2 | B2/2500 | | |
| BH | (60°-80°) | 280.3 | 0.9 | B1/500 | | G1/500 |
| BVH | (80°-90°) | 8.0 | 0.0 | | | G0/10 |
| UL | (90°-100°) | 0.0 | 0.0 | | U0/0 | |
| UH | (100°-180°) | 0.0 | 0.0 | | U0/0 | |

**BUG Rating: B3-U0-G3**
Type III Short



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REPORT NUMBER: P1502495
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**CANDELA DISTRIBUTION (FULL):**

| | 0° | 5° | 15° | 25° | 33° | 35° | 45° | 55° | 65° | 75° | 85° |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0° | 7831.4 | 7831.4 | 7831.4 | 7831.4 | 7831.4 | 7831.4 | 7831.4 | 7831.4 | 7831.4 | 7831.4 | 7831.4 |
| 2.5° | 8343.6 | 8378.3 | 8378.3 | 8308.9 | 8291.5 | 8256.8 | 8222.1 | 8213.4 | 8100.5 | 8013.7 | 7926.9 |
| 5° | 8769.0 | 8760.4 | 8751.7 | 8717.0 | 8725.6 | 8682.2 | 8656.2 | 8612.8 | 8421.8 | 8291.5 | 8057.1 |
| 7.5° | 8586.7 | 8664.9 | 8699.6 | 8795.1 | 8838.5 | 8829.8 | 8899.3 | 8916.6 | 8751.7 | 8569.4 | 8213.4 |
| 10° | 7397.3 | 7353.8 | 7666.4 | 8074.5 | 8482.5 | 8578.0 | 8951.4 | 9151.1 | 9090.3 | 8925.3 | 8465.2 |
| 12.5° | 5860.5 | 5903.9 | 6121.0 | 6598.5 | 7267.0 | 7475.4 | 8552.0 | 9342.1 | 9515.7 | 9411.5 | 8812.5 |
| 15° | 5365.6 | 5365.6 | 5478.5 | 5704.2 | 6103.6 | 6303.3 | 7631.7 | 9316.0 | 9967.2 | 9975.9 | 9246.6 |
| 17.5° | 5261.4 | 5278.8 | 5374.3 | 5521.9 | 5782.4 | 5869.2 | 6798.2 | 8934.0 | 10410.0 | 10566.3 | 9732.8 |
| 20° | 5278.8 | 5304.8 | 5409.0 | 5617.4 | 5869.2 | 5973.4 | 6581.1 | 8447.8 | 10783.3 | 11208.8 | 10245.0 |
| 22.5° | 5339.6 | 5330.9 | 5513.2 | 5791.0 | 6112.3 | 6207.8 | 6763.5 | 8248.1 | 11095.9 | 11946.7 | 10844.1 |
| 25° | 5409.0 | 5417.7 | 5652.1 | 6042.8 | 6433.5 | 6546.4 | 7171.5 | 8430.4 | 11321.6 | 12736.8 | 11451.9 |
| 27.5° | 5617.4 | 5643.4 | 5930.0 | 6355.4 | 6815.5 | 6963.1 | 7701.1 | 8908.0 | 11712.3 | 13500.9 | 12111.7 |
| 30° | 5938.6 | 5964.7 | 6294.6 | 6806.9 | 7301.8 | 7527.5 | 8361.0 | 9507.0 | 12294.0 | 14386.4 | 12788.9 |
| 32.5° | 6312.0 | 6346.7 | 6772.1 | 7362.5 | 7961.6 | 8178.7 | 9116.3 | 10418.7 | 13066.8 | 15289.4 | 13492.2 |
| 35° | 6780.8 | 6876.3 | 7336.5 | 8039.7 | 8847.2 | 9055.6 | 10045.3 | 11451.9 | 14073.9 | 16096.8 | 14091.3 |
| 37.5° | 7423.3 | 7501.4 | 8065.8 | 8942.7 | 9758.8 | 10036.7 | 11087.2 | 12537.1 | 14985.5 | 16817.5 | 14577.5 |
| 40° | 8204.7 | 8274.2 | 8908.0 | 9863.0 | 10713.9 | 10948.3 | 12181.2 | 13631.1 | 15966.6 | 17216.9 | 14681.6 |
| 42.5° | 9507.0 | 9698.0 | 10097.4 | 10904.9 | 11816.5 | 12111.7 | 13396.7 | 14690.3 | 16678.6 | 17295.0 | 14516.7 |
| 45° | 11781.8 | 11842.6 | 11929.4 | 12311.4 | 13188.3 | 13448.8 | 14681.6 | 15610.6 | 17104.0 | 17312.4 | 14369.1 |
| 47.5° | 13961.0 | 14169.4 | 14290.9 | 14464.6 | 14994.2 | 15089.7 | 16027.4 | 16435.5 | 17442.6 | 17251.6 | 14369.1 |
| 50° | 16140.3 | 16296.5 | 16504.9 | 16713.3 | 17277.6 | 17312.4 | 17451.3 | 16991.1 | 17460.0 | 16756.7 | 14282.3 |
| 52.5° | 18119.8 | 18171.9 | 18527.9 | 18927.3 | 19630.5 | 19821.5 | 18771.0 | 17399.2 | 16409.4 | 15193.9 | 13874.2 |
| 55° | 19891.0 | 19960.4 | 20498.7 | 21314.9 | 22322.0 | 22573.8 | 20385.9 | 16609.1 | 14160.7 | 13170.9 | 12927.8 |
| 57.5° | 21037.0 | 21202.0 | 22278.6 | 24075.8 | 25213.2 | 25100.3 | 21636.1 | 14759.8 | 11373.7 | 10774.6 | 11252.2 |
| 60° | 20464.0 | 20689.7 | 22955.8 | 26394.0 | 28416.9 | 28087.0 | 21288.8 | 12146.4 | 8404.4 | 7970.3 | 8908.0 |
| 62.5° | 17242.9 | 17659.6 | 20464.0 | 27079.9 | 30622.2 | 30570.1 | 19326.6 | 8664.9 | 5209.3 | 5096.5 | 5626.1 |
| 65° | 11990.2 | 12710.8 | 16036.1 | 24787.8 | 29736.6 | 29814.8 | 16270.5 | 5044.4 | 2413.7 | 2995.4 | 3290.6 |
| 67.5° | 7067.3 | 7579.6 | 10331.8 | 20238.3 | 24952.7 | 24232.1 | 11061.2 | 2335.5 | 1206.8 | 1823.3 | 1745.1 |
| 70° | 3108.2 | 3455.5 | 5921.3 | 14021.8 | 18180.6 | 17017.2 | 5400.3 | 1137.4 | 920.3 | 1102.6 | 963.7 |
| 72.5° | 1710.4 | 1866.7 | 3116.9 | 7405.9 | 11061.2 | 10514.2 | 1823.3 | 755.4 | 790.1 | 824.8 | 694.6 |
| 75° | 955.0 | 1024.5 | 1640.9 | 4280.3 | 4862.0 | 4523.4 | 885.6 | 494.9 | 668.5 | 668.5 | 512.3 |
| 77.5° | 555.7 | 616.4 | 1024.5 | 2665.4 | 2665.4 | 2153.2 | 538.3 | 312.6 | 503.6 | 451.5 | 277.8 |
| 80° | 260.5 | 295.2 | 564.3 | 1476.0 | 1684.4 | 1389.2 | 303.9 | 217.1 | 329.9 | 286.5 | 182.3 |
| 82.5° | 78.1 | 95.5 | 277.8 | 573.0 | 955.0 | 816.1 | 156.3 | 138.9 | 243.1 | 182.3 | 104.2 |
| 85° | 52.1 | 60.8 | 138.9 | 234.4 | 468.8 | 408.1 | 52.1 | 43.4 | 104.2 | 86.8 | 43.4 |
| 87.5° | 8.7 | 8.7 | 17.4 | 17.4 | 17.4 | 17.4 | 8.7 | 8.7 | 0.0 | 0.0 | 0.0 |
| 90° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

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Scaled Data Report

REPORT NUMBER: P1502495
CATALOG NUMBER: GSS-SB5C-740-U-T4LG-HSS

**CANDELA DISTRIBUTION (continued):**

| | 90° | 95° | 105° | 115° | 125° | 135° | 145° | 155° | 165° | 175° | 180° |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0° | 7831.4 | 7831.4 | 7831.4 | 7831.4 | 7831.4 | 7831.4 | 7831.4 | 7831.4 | 7831.4 | 7831.4 | 7831.4 |
| 2.5° | 7874.8 | 7814.0 | 7675.1 | 7544.9 | 7475.4 | 7319.1 | 7258.3 | 7188.9 | 7154.2 | 7145.5 | 7093.4 |
| 5° | 7909.5 | 7796.6 | 7449.4 | 7102.1 | 6737.4 | 6390.1 | 6034.1 | 5721.6 | 5469.8 | 5478.5 | 5487.2 |
| 7.5° | 8013.7 | 7788.0 | 7180.2 | 6485.6 | 5704.2 | 4801.3 | 3837.5 | 3116.9 | 2656.8 | 2561.3 | 2474.4 |
| 10° | 8152.6 | 7822.7 | 6850.3 | 5565.3 | 4028.6 | 2535.2 | 1788.5 | 1528.1 | 1415.2 | 1389.2 | 1397.8 |
| 12.5° | 8413.1 | 7909.5 | 6433.5 | 4297.7 | 2231.3 | 1458.6 | 1293.7 | 1250.2 | 1232.9 | 1232.9 | 1232.9 |
| 15° | 8734.3 | 8031.1 | 5782.4 | 2813.0 | 1458.6 | 1215.5 | 1180.8 | 1172.1 | 1154.7 | 1154.7 | 1163.4 |
| 17.5° | 9003.5 | 8031.1 | 4922.8 | 1831.9 | 1198.1 | 1128.7 | 1102.6 | 1094.0 | 1094.0 | 1102.6 | 1094.0 |
| 20° | 9298.7 | 7970.3 | 3959.1 | 1380.5 | 1111.3 | 1050.5 | 1033.2 | 1033.2 | 1033.2 | 1041.9 | 1041.9 |
| 22.5° | 9602.5 | 7866.1 | 3064.8 | 1180.8 | 1033.2 | 981.1 | 972.4 | 981.1 | 989.8 | 998.5 | 998.5 |
| 25° | 9941.1 | 7735.9 | 2422.3 | 1094.0 | 963.7 | 920.3 | 920.3 | 920.3 | 929.0 | 946.4 | 955.0 |
| 27.5° | 10314.5 | 7623.0 | 2075.1 | 1041.9 | 903.0 | 859.5 | 859.5 | 868.2 | 885.6 | 894.3 | 903.0 |
| 30° | 10661.8 | 7623.0 | 1962.2 | 1067.9 | 876.9 | 824.8 | 807.4 | 816.1 | 833.5 | 850.9 | 850.9 |
| 32.5° | 11095.9 | 7709.8 | 2023.0 | 1180.8 | 868.2 | 772.7 | 755.4 | 755.4 | 772.7 | 781.4 | 781.4 |
| 35° | 11460.5 | 7874.8 | 2231.3 | 1337.1 | 903.0 | 729.3 | 694.6 | 685.9 | 703.3 | 694.6 | 703.3 |
| 37.5° | 11755.7 | 8100.5 | 2613.4 | 1545.4 | 972.4 | 677.2 | 633.8 | 607.8 | 607.8 | 607.8 | 607.8 |
| 40° | 11842.6 | 8326.3 | 3099.6 | 1684.4 | 963.7 | 616.4 | 555.7 | 529.6 | 520.9 | 512.3 | 512.3 |
| 42.5° | 11721.0 | 8430.4 | 3490.3 | 1675.7 | 859.5 | 573.0 | 494.9 | 460.2 | 434.1 | 425.4 | 425.4 |
| 45° | 11625.5 | 8482.5 | 3629.2 | 1458.6 | 781.4 | 520.9 | 442.8 | 399.4 | 373.3 | 364.7 | 356.0 |
| 47.5° | 11634.2 | 8534.6 | 3420.8 | 1189.5 | 711.9 | 477.5 | 399.4 | 356.0 | 329.9 | 321.2 | 312.6 |
| 50° | 11668.9 | 8447.8 | 2899.9 | 989.8 | 651.2 | 434.1 | 356.0 | 321.2 | 295.2 | 286.5 | 277.8 |
| 52.5° | 11304.3 | 7987.6 | 2040.3 | 868.2 | 599.1 | 408.1 | 321.2 | 295.2 | 269.1 | 260.5 | 260.5 |
| 55° | 10349.2 | 6885.0 | 1380.5 | 772.7 | 555.7 | 373.3 | 295.2 | 277.8 | 251.8 | 234.4 | 234.4 |
| 57.5° | 8821.1 | 5192.0 | 955.0 | 703.3 | 486.2 | 338.6 | 277.8 | 251.8 | 225.7 | 208.4 | 208.4 |
| 60° | 6746.1 | 3386.1 | 694.6 | 642.5 | 399.4 | 312.6 | 260.5 | 243.1 | 208.4 | 191.0 | 182.3 |
| 62.5° | *4106.7* | *1901.4* | *564.3* | *564.3* | *338.6* | *295.2* | *234.4* | *217.1* | *182.3* | *156.3* | *147.6* |
| 65° | 2378.9 | 1120.0 | 460.2 | 477.5 | 295.2 | 269.1 | 208.4 | 182.3 | 147.6 | 121.6 | 112.9 |
| 67.5° | 1146.1 | 651.2 | 364.7 | 338.6 | 260.5 | 225.7 | 182.3 | 156.3 | 130.2 | 104.2 | 95.5 |
| 70° | 703.3 | 503.6 | 277.8 | 243.1 | 208.4 | 173.6 | 147.6 | 138.9 | 112.9 | 86.8 | 86.8 |
| 72.5° | 573.0 | 408.1 | 217.1 | 173.6 | 156.3 | 121.6 | 121.6 | 112.9 | 86.8 | 69.5 | 60.8 |
| 75° | 451.5 | 303.9 | 165.0 | 121.6 | 95.5 | 95.5 | 86.8 | 78.1 | 69.5 | 52.1 | 52.1 |
| 77.5° | 243.1 | 208.4 | 121.6 | 69.5 | 52.1 | 60.8 | 60.8 | 52.1 | 43.4 | 34.7 | 34.7 |
| 80° | 156.3 | 121.6 | 69.5 | 34.7 | 34.7 | 34.7 | 34.7 | 26.0 | 26.0 | 17.4 | 17.4 |
| 82.5° | 78.1 | 60.8 | 34.7 | 8.7 | 17.4 | 17.4 | 17.4 | 17.4 | 17.4 | 8.7 | 8.7 |
| 85° | 17.4 | 8.7 | 8.7 | 8.7 | 8.7 | 8.7 | 8.7 | 8.7 | 8.7 | 8.7 | 8.7 |
| 87.5° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 8.7 | 8.7 | 8.7 | 8.7 | 8.7 | 8.7 |
| 90° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

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

Report Prepared for

Cooper Lighting Solutions

McGraw-Edison

Report Number: SP1-2407-184-1

Test Date: 10/09/2024

Luminaire Tested: GSS-SB1A-740-U-5WQ

Data in this report applies to families of products including GSS-SB1A-740-U-5WQ

Report Generated By FNC07603 / LDUCLS01DT446
Version: v7.04

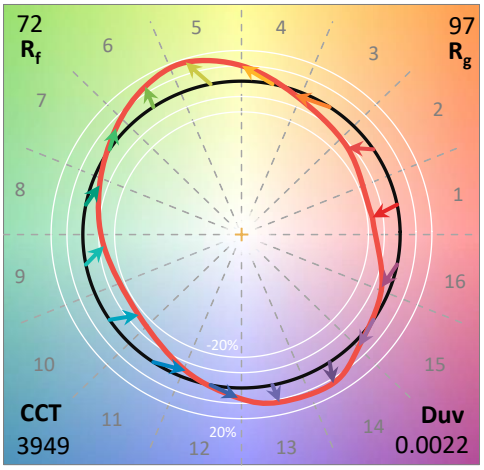
## Test Information

| | |
|---|---|
| Test Method: | LM-79-2019 |
| Report Number: | SP1-2407-184-1 |
| Test Lab: | COOPER LIGHTING SOLUTIONS |
| Photometer: | SP1 - 76IN SPHERE |
| Measurement Geometry: | 4π |
| Issue Date: | 10/15/2024 |
| Manufacturer: | COOPER LIGHTING SOLUTIONS |
| Product Line: | McGraw-Edison |
| Catalog Number: | **GSS-SB1A-740-U-5WQ** |
| Description: | GALLEON II SITE SLIM 1SQ 350MA 5WQ HIGH DENSITY LIGHTSQUARE WITH 70 CRI 4000K CCT 26 LEDS |

## Spectral Parameters

| | |
|---|---|
| CCT (K): | 3949 |
| CIE u': | 0.2248 |
| CIE v': | 0.5053 |
| Duv: | 0.0022 |
| CIE x: | 0.3844 |
| CIE y: | 0.3840 |
| CIE z: | 0.2316 |
| Peak Wavelength (nm): | 440 |
| Dominant Wavelength (nm): | 578 |
| Purity: | 30.60026 |
| Rf: | 71.8 |
| Rg: | 96.5 |

| | |
|---|---|
| CRI (Ra): | 70.7 |
| R1: | 68.0 |
| R2: | 76.0 |
| R3: | 84.3 |
| R4: | 72.0 |
| R5: | 68.6 |
| R6: | 68.3 |
| R7: | 77.9 |
| R8: | 50.3 |
| R9: | -36.7 |
| R10: | 45.1 |
| R11: | 70.7 |
| R12: | 47.1 |
| R13: | 68.5 |
| R14: | 91.1 |
| R15: | 58.7 |




## Test Conditions

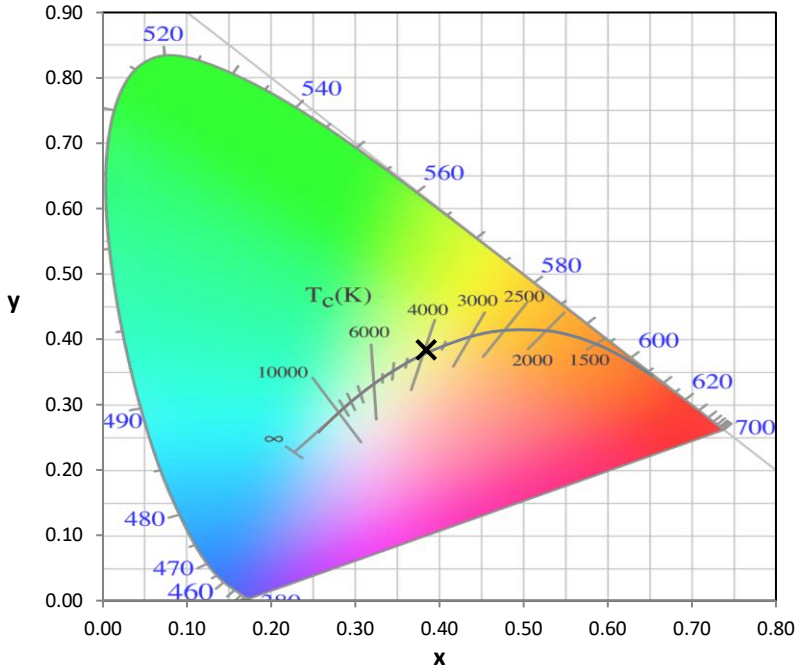
| | |
|---|---|
| Stabilization Time: | 34M |
| Operation Time: | 1H 34M |
| Sphere Temperature (°C): | 25.2 |

REPORT NUMBER: SP1-2407-184-1

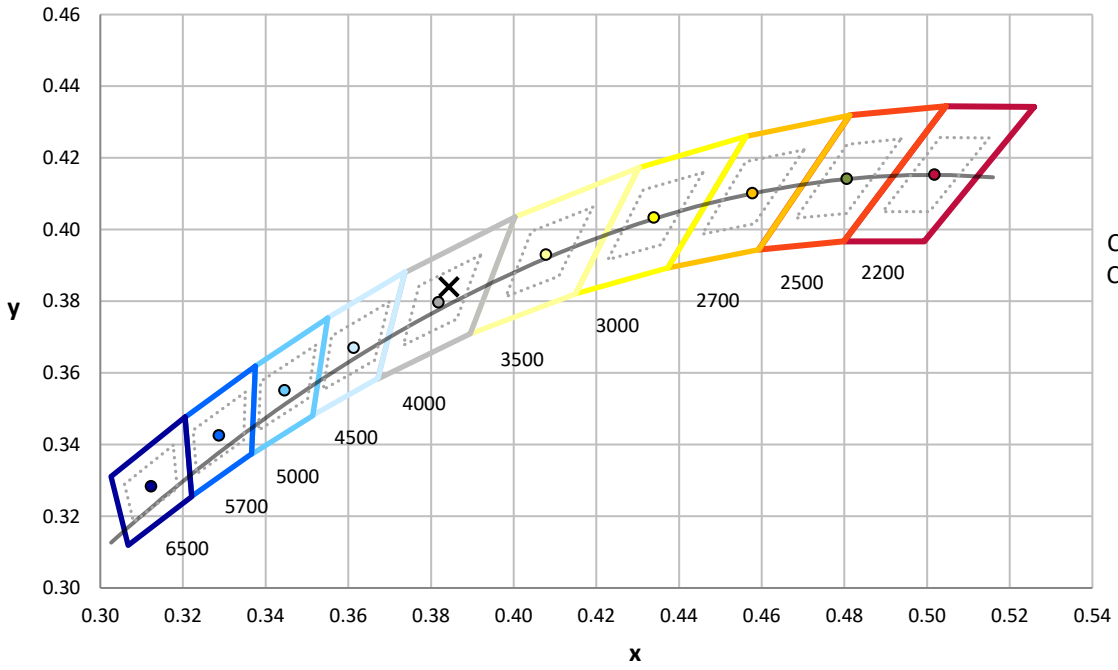
| Measurement and Test Equipment | | | |
|---|---|---|---|
| Instrument | Identification Number | Calibration Date | Calibration Due Date |
| Photometer | IN0058 | 6/18/2024 | 12/18/2024 |
| Power Meter | INXT2011004 | 2/8/2024 | 2/8/2025 |
| AC Power Source | IN0063 | 10/24/2023 | 10/24/2024 |
| DC 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: SP1-2407-184-1

## CIE 1931 Chromaticity Diagram




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

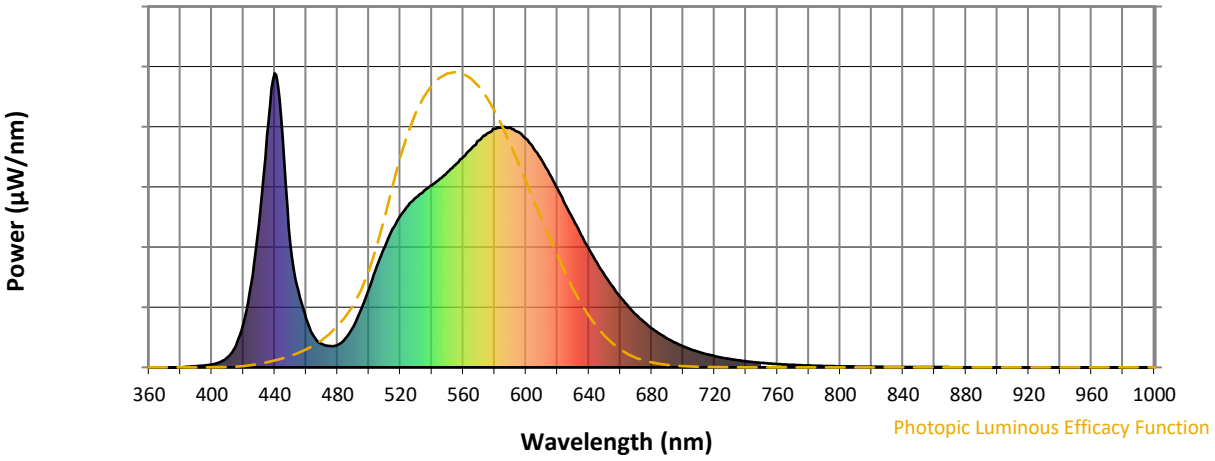



CCT = 3949K
CIE x = 0.3844
CIE y = 0.3840
Duv = 0.0022

Point lies inside the ANSI 4000K 4-step quadrangle

REPORT NUMBER: SP1-2407-184-1

## Photopic Flux vs. Wavelength

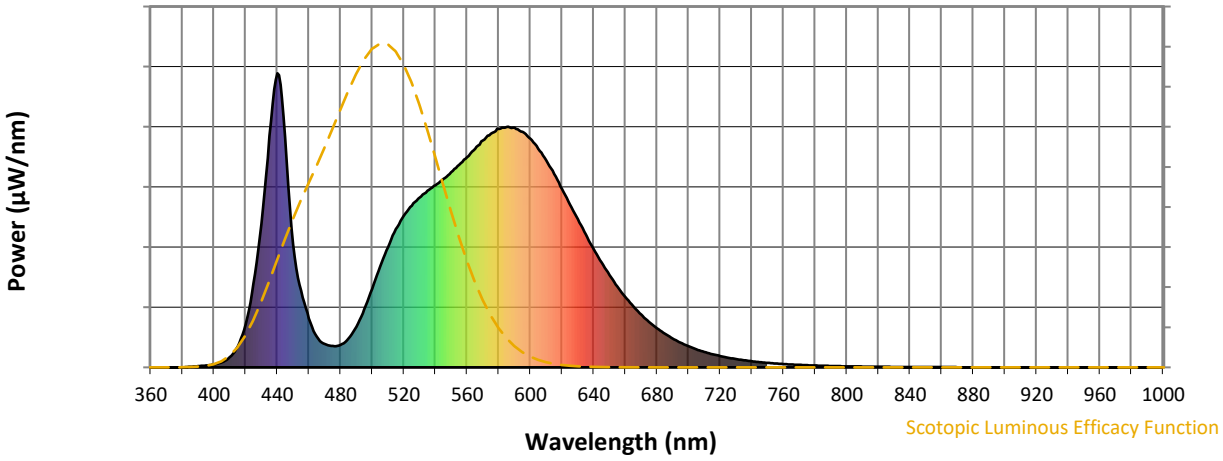



## Photopic Lumens: NR

| λ (nm) | Power W^/nm | Lumens (ϕ/nm) | λ (nm) | Power W^/nm | Lumens (ϕ/nm) | λ (nm) | Power W^/nm | Lumens (ϕ/nm) | λ (nm) | Power W^/nm | Lumens (ϕ/nm) | λ (nm) | Power W^/nm | Lumens (ϕ/nm) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 360 | 0 | NR | 490 | 139 | NR | 620 | 607 | NR | 750 | 15 | NR | 880 | 0 | NR |
| 365 | 0 | NR | 495 | 198 | NR | 625 | 554 | NR | 755 | 13 | NR | 885 | 0 | NR |
| 370 | 0 | NR | 500 | 267 | NR | 630 | 504 | NR | 760 | 11 | NR | 890 | 0 | NR |
| 375 | 0 | NR | 505 | 343 | NR | 635 | 452 | NR | 765 | 10 | NR | 895 | 0 | NR |
| 380 | 0 | NR | 510 | 410 | NR | 640 | 403 | NR | 770 | 8 | NR | 900 | 0 | NR |
| 385 | 2 | NR | 515 | 470 | NR | 645 | 357 | NR | 775 | 7 | NR | 905 | 0 | NR |
| 390 | 4 | NR | 520 | 516 | NR | 650 | 314 | NR | 780 | 6 | NR | 910 | 0 | NR |
| 395 | 7 | NR | 525 | 550 | NR | 655 | 275 | NR | 785 | 5 | NR | 915 | 0 | NR |
| 400 | 10 | NR | 530 | 578 | NR | 660 | 240 | NR | 790 | 5 | NR | 920 | 0 | NR |
| 405 | 17 | NR | 535 | 601 | NR | 665 | 208 | NR | 795 | 4 | NR | 925 | 0 | NR |
| 410 | 35 | NR | 540 | 620 | NR | 670 | 179 | NR | 800 | 4 | NR | 930 | 0 | NR |
| 415 | 70 | NR | 545 | 641 | NR | 675 | 155 | NR | 805 | 3 | NR | 935 | 0 | NR |
| 420 | 147 | NR | 550 | 664 | NR | 680 | 133 | NR | 810 | 3 | NR | 940 | 0 | NR |
| 425 | 285 | NR | 555 | 689 | NR | 685 | 114 | NR | 815 | 2 | NR | 945 | 0 | NR |
| 430 | 487 | NR | 560 | 715 | NR | 690 | 98 | NR | 820 | 2 | NR | 950 | 0 | NR |
| 435 | 787 | NR | 565 | 743 | NR | 695 | 84 | NR | 825 | 2 | NR | 955 | 0 | NR |
| 440 | 1000 | NR | 570 | 771 | NR | 700 | 72 | NR | 830 | 2 | NR | 960 | 0 | NR |
| 445 | 783 | NR | 575 | 794 | NR | 705 | 61 | NR | 835 | 1 | NR | 965 | 0 | NR |
| 450 | 417 | NR | 580 | 811 | NR | 710 | 52 | NR | 840 | 1 | NR | 970 | 0 | NR |
| 455 | 261 | NR | 585 | 817 | NR | 715 | 45 | NR | 845 | 1 | NR | 975 | 0 | NR |
| 460 | 167 | NR | 590 | 815 | NR | 720 | 39 | NR | 850 | 1 | NR | 980 | 0 | NR |
| 465 | 104 | NR | 595 | 801 | NR | 725 | 33 | NR | 855 | 1 | NR | 985 | 0 | NR |
| 470 | 79 | NR | 600 | 777 | NR | 730 | 28 | NR | 860 | 1 | NR | 990 | 0 | NR |
| 475 | 73 | NR | 605 | 744 | NR | 735 | 24 | NR | 865 | 1 | NR | 995 | 0 | NR |
| 480 | 76 | NR | 610 | 704 | NR | 740 | 21 | NR | 870 | 1 | NR | 1000 | 0 | NR |
| 485 | 98 | NR | 615 | 657 | NR | 745 | 18 | NR | 875 | 1 | NR | | | |

REPORT NUMBER: SP1-2407-184-1

## Scotopic Flux vs. Wavelength

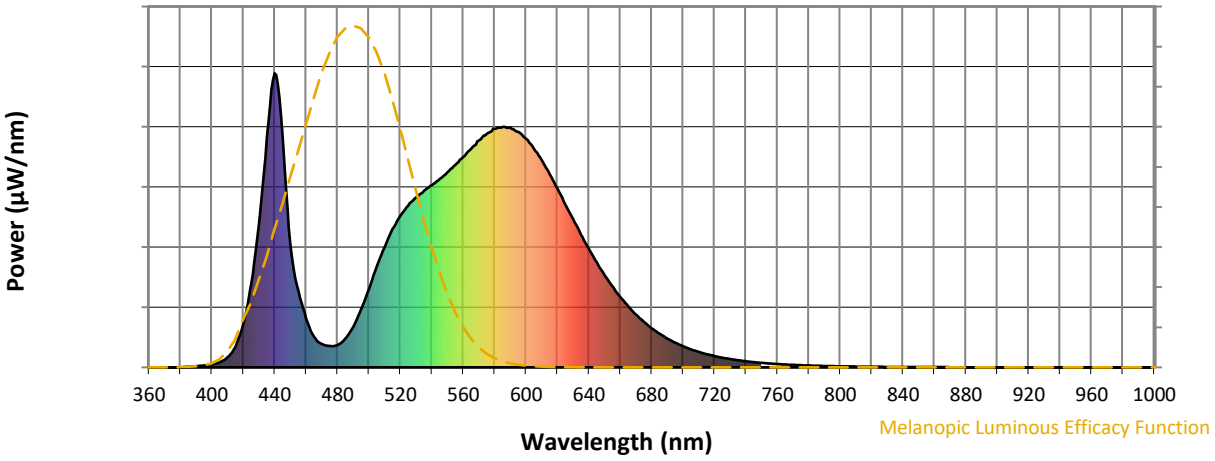



**Scotopic Lumens: NR** **S/P: 1.47**

| λ (nm) | Power W^/nm | Lumens (ϕ/nm) | λ (nm) | Power W^/nm | Lumens (ϕ/nm) | λ (nm) | Power W^/nm | Lumens (ϕ/nm) | λ (nm) | Power W^/nm | Lumens (ϕ/nm) | λ (nm) | Power W^/nm | Lumens (ϕ/nm) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 360 | 0 | NR | 490 | 139 | NR | 620 | 607 | NR | 750 | 15 | NR | 880 | 0 | NR |
| 365 | 0 | NR | 495 | 198 | NR | 625 | 554 | NR | 755 | 13 | NR | 885 | 0 | NR |
| 370 | 0 | NR | 500 | 267 | NR | 630 | 504 | NR | 760 | 11 | NR | 890 | 0 | NR |
| 375 | 0 | NR | 505 | 343 | NR | 635 | 452 | NR | 765 | 10 | NR | 895 | 0 | NR |
| 380 | 0 | NR | 510 | 410 | NR | 640 | 403 | NR | 770 | 8 | NR | 900 | 0 | NR |
| 385 | 2 | NR | 515 | 470 | NR | 645 | 357 | NR | 775 | 7 | NR | 905 | 0 | NR |
| 390 | 4 | NR | 520 | 516 | NR | 650 | 314 | NR | 780 | 6 | NR | 910 | 0 | NR |
| 395 | 7 | NR | 525 | 550 | NR | 655 | 275 | NR | 785 | 5 | NR | 915 | 0 | NR |
| 400 | 10 | NR | 530 | 578 | NR | 660 | 240 | NR | 790 | 5 | NR | 920 | 0 | NR |
| 405 | 17 | NR | 535 | 601 | NR | 665 | 208 | NR | 795 | 4 | NR | 925 | 0 | NR |
| 410 | 35 | NR | 540 | 620 | NR | 670 | 179 | NR | 800 | 4 | NR | 930 | 0 | NR |
| 415 | 70 | NR | 545 | 641 | NR | 675 | 155 | NR | 805 | 3 | NR | 935 | 0 | NR |
| 420 | 147 | NR | 550 | 664 | NR | 680 | 133 | NR | 810 | 3 | NR | 940 | 0 | NR |
| 425 | 285 | NR | 555 | 689 | NR | 685 | 114 | NR | 815 | 2 | NR | 945 | 0 | NR |
| 430 | 487 | NR | 560 | 715 | NR | 690 | 98 | NR | 820 | 2 | NR | 950 | 0 | NR |
| 435 | 787 | NR | 565 | 743 | NR | 695 | 84 | NR | 825 | 2 | NR | 955 | 0 | NR |
| 440 | 1000 | NR | 570 | 771 | NR | 700 | 72 | NR | 830 | 2 | NR | 960 | 0 | NR |
| 445 | 783 | NR | 575 | 794 | NR | 705 | 61 | NR | 835 | 1 | NR | 965 | 0 | NR |
| 450 | 417 | NR | 580 | 811 | NR | 710 | 52 | NR | 840 | 1 | NR | 970 | 0 | NR |
| 455 | 261 | NR | 585 | 817 | NR | 715 | 45 | NR | 845 | 1 | NR | 975 | 0 | NR |
| 460 | 167 | NR | 590 | 815 | NR | 720 | 39 | NR | 850 | 1 | NR | 980 | 0 | NR |
| 465 | 104 | NR | 595 | 801 | NR | 725 | 33 | NR | 855 | 1 | NR | 985 | 0 | NR |
| 470 | 79 | NR | 600 | 777 | NR | 730 | 28 | NR | 860 | 1 | NR | 990 | 0 | NR |
| 475 | 73 | NR | 605 | 744 | NR | 735 | 24 | NR | 865 | 1 | NR | 995 | 0 | NR |
| 480 | 76 | NR | 610 | 704 | NR | 740 | 21 | NR | 870 | 1 | NR | 1000 | 0 | NR |
| 485 | 98 | NR | 615 | 657 | NR | 745 | 18 | NR | 875 | 1 | NR | | | |

REPORT NUMBER: SP1-2407-184-1

## Melanopic Flux vs. Wavelength




**Melanopic Lumens: NR** **M/P: 2.78**

| λ (nm) | Power W^/nm | Lumens (ϕ/nm) | λ (nm) | Power W^/nm | Lumens (ϕ/nm) | λ (nm) | Power W^/nm | Lumens (ϕ/nm) | λ (nm) | Power W^/nm | Lumens (ϕ/nm) | λ (nm) | Power W^/nm | Lumens (ϕ/nm) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 360 | 0 | NR | 490 | 139 | NR | 620 | 607 | NR | 750 | 15 | NR | 880 | 0 | NR |
| 365 | 0 | NR | 495 | 198 | NR | 625 | 554 | NR | 755 | 13 | NR | 885 | 0 | NR |
| 370 | 0 | NR | 500 | 267 | NR | 630 | 504 | NR | 760 | 11 | NR | 890 | 0 | NR |
| 375 | 0 | NR | 505 | 343 | NR | 635 | 452 | NR | 765 | 10 | NR | 895 | 0 | NR |
| 380 | 0 | NR | 510 | 410 | NR | 640 | 403 | NR | 770 | 8 | NR | 900 | 0 | NR |
| 385 | 2 | NR | 515 | 470 | NR | 645 | 357 | NR | 775 | 7 | NR | 905 | 0 | NR |
| 390 | 4 | NR | 520 | 516 | NR | 650 | 314 | NR | 780 | 6 | NR | 910 | 0 | NR |
| 395 | 7 | NR | 525 | 550 | NR | 655 | 275 | NR | 785 | 5 | NR | 915 | 0 | NR |
| 400 | 10 | NR | 530 | 578 | NR | 660 | 240 | NR | 790 | 5 | NR | 920 | 0 | NR |
| 405 | 17 | NR | 535 | 601 | NR | 665 | 208 | NR | 795 | 4 | NR | 925 | 0 | NR |
| 410 | 35 | NR | 540 | 620 | NR | 670 | 179 | NR | 800 | 4 | NR | 930 | 0 | NR |
| 415 | 70 | NR | 545 | 641 | NR | 675 | 155 | NR | 805 | 3 | NR | 935 | 0 | NR |
| 420 | 147 | NR | 550 | 664 | NR | 680 | 133 | NR | 810 | 3 | NR | 940 | 0 | NR |
| 425 | 285 | NR | 555 | 689 | NR | 685 | 114 | NR | 815 | 2 | NR | 945 | 0 | NR |
| 430 | 487 | NR | 560 | 715 | NR | 690 | 98 | NR | 820 | 2 | NR | 950 | 0 | NR |
| 435 | 787 | NR | 565 | 743 | NR | 695 | 84 | NR | 825 | 2 | NR | 955 | 0 | NR |
| 440 | 1000 | NR | 570 | 771 | NR | 700 | 72 | NR | 830 | 2 | NR | 960 | 0 | NR |
| 445 | 783 | NR | 575 | 794 | NR | 705 | 61 | NR | 835 | 1 | NR | 965 | 0 | NR |
| 450 | 417 | NR | 580 | 811 | NR | 710 | 52 | NR | 840 | 1 | NR | 970 | 0 | NR |
| 455 | 261 | NR | 585 | 817 | NR | 715 | 45 | NR | 845 | 1 | NR | 975 | 0 | NR |
| 460 | 167 | NR | 590 | 815 | NR | 720 | 39 | NR | 850 | 1 | NR | 980 | 0 | NR |
| 465 | 104 | NR | 595 | 801 | NR | 725 | 33 | NR | 855 | 1 | NR | 985 | 0 | NR |
| 470 | 79 | NR | 600 | 777 | NR | 730 | 28 | NR | 860 | 1 | NR | 990 | 0 | NR |
| 475 | 73 | NR | 605 | 744 | NR | 735 | 24 | NR | 865 | 1 | NR | 995 | 0 | NR |
| 480 | 76 | NR | 610 | 704 | NR | 740 | 21 | NR | 870 | 1 | NR | 1000 | 0 | NR |
| 485 | 98 | NR | 615 | 657 | NR | 745 | 18 | NR | 875 | 1 | NR | | | |

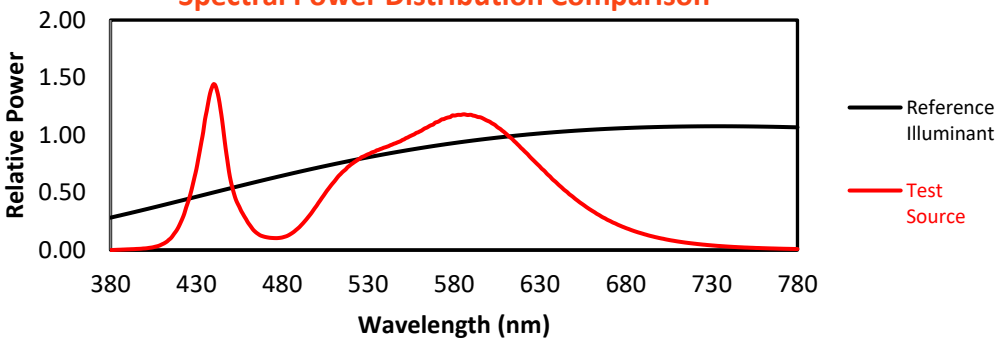
REPORT NUMBER: SP1-2407-184-1

# TM-30-18

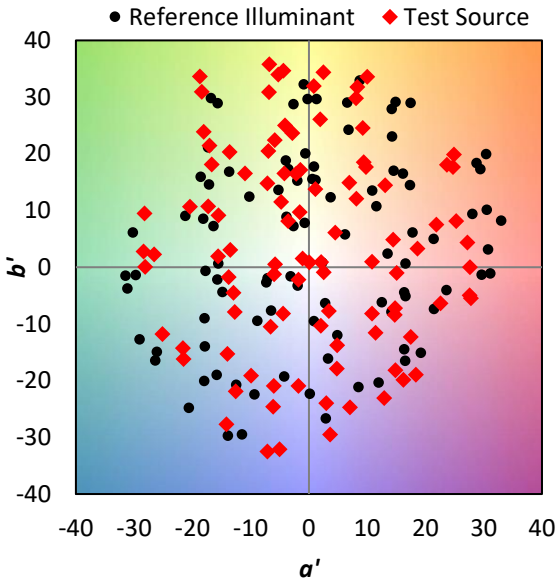
## Summary

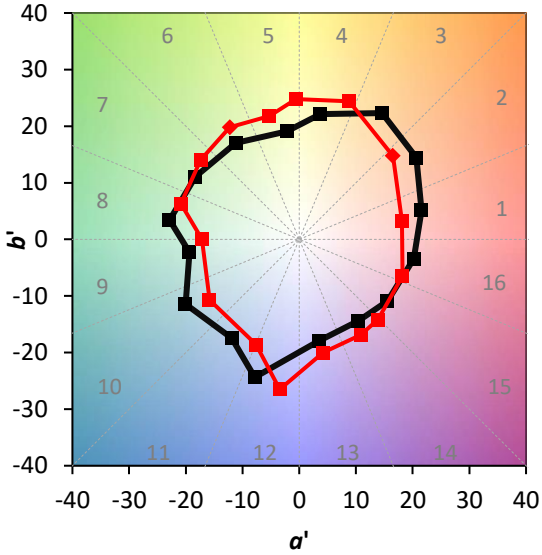
$R_f$ = 71.8
$R_g$ = 96.5
CIE $R_a$ = 70.7
$R_9$ = -36.7

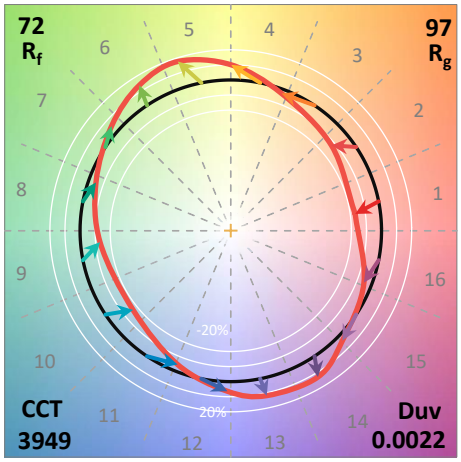
## Spectral Power Distribution Comparison

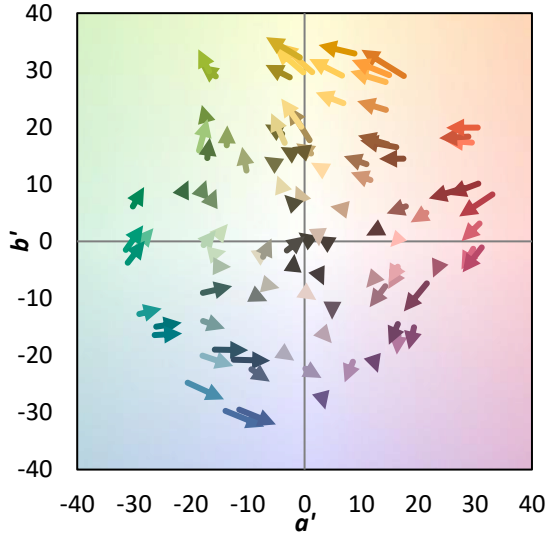



## Color Vector Graphics



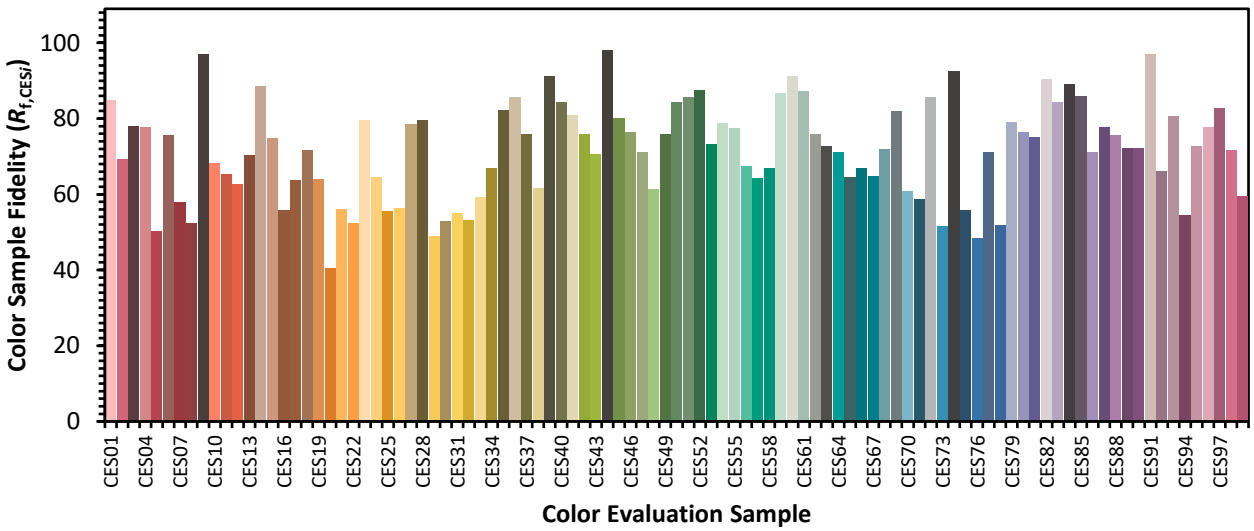



REPORT NUMBER: SP1-2407-184-1

# TM-30-18

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

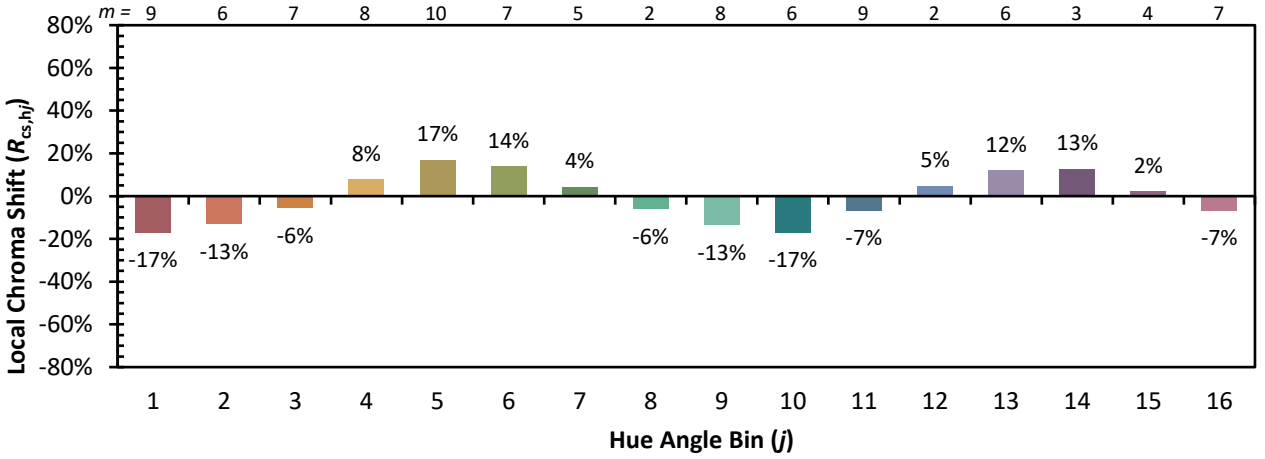
| | | | |
|---|---|---|---|
| CES01 = 85 | CES26 = 56 | CES51 = 86 | CES76 = 48 |
| CES02 = 61 | CES27 = 79 | CES52 = 88 | CES77 = 71 |
| CES03 = 30 | CES28 = 80 | CES53 = 73 | CES78 = 52 |
| CES04 = 70 | CES29 = 49 | CES54 = 79 | CES79 = 79 |
| CES05 = 47 | CES30 = 53 | CES55 = 77 | CES80 = 77 |
| CES06 = 50 | CES31 = 55 | CES56 = 67 | CES81 = 75 |
| CES07 = 40 | CES32 = 53 | CES57 = 64 | CES82 = 90 |
| CES08 = 39 | CES33 = 59 | CES58 = 67 | CES83 = 84 |
| CES09 = 29 | CES34 = 67 | CES59 = 87 | CES84 = 89 |
| CES10 = 74 | CES35 = 82 | CES60 = 91 | CES85 = 86 |
| CES11 = 57 | CES36 = 86 | CES61 = 87 | CES86 = 71 |
| CES12 = 63 | CES37 = 76 | CES62 = 76 | CES87 = 78 |
| CES13 = 42 | CES38 = 62 | CES63 = 73 | CES88 = 76 |
| CES14 = 74 | CES39 = 91 | CES64 = 71 | CES89 = 72 |
| CES15 = 71 | CES40 = 84 | CES65 = 64 | CES90 = 72 |
| CES16 = 46 | CES41 = 81 | CES66 = 67 | CES91 = 97 |
| CES17 = 49 | CES42 = 76 | CES67 = 65 | CES92 = 66 |
| CES18 = 56 | CES43 = 71 | CES68 = 72 | CES93 = 81 |
| CES19 = 72 | CES44 = 98 | CES69 = 82 | CES94 = 55 |
| CES20 = 65 | CES45 = 80 | CES70 = 61 | CES95 = 73 |
| CES21 = 86 | CES46 = 76 | CES71 = 59 | CES96 = 78 |
| CES22 = 78 | CES47 = 71 | CES72 = 86 | CES97 = 83 |
| CES23 = 92 | CES48 = 61 | CES73 = 52 | CES98 = 72 |
| CES24 = 91 | CES49 = 76 | CES74 = 93 | CES99 = 60 |
| CES25 = 72 | CES50 = 84 | CES75 = 56 | |

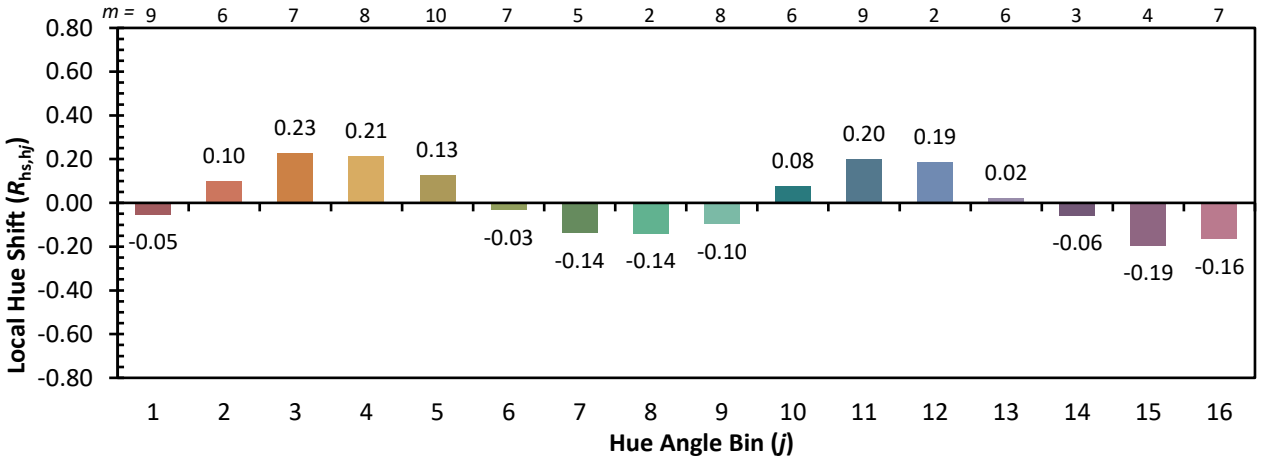


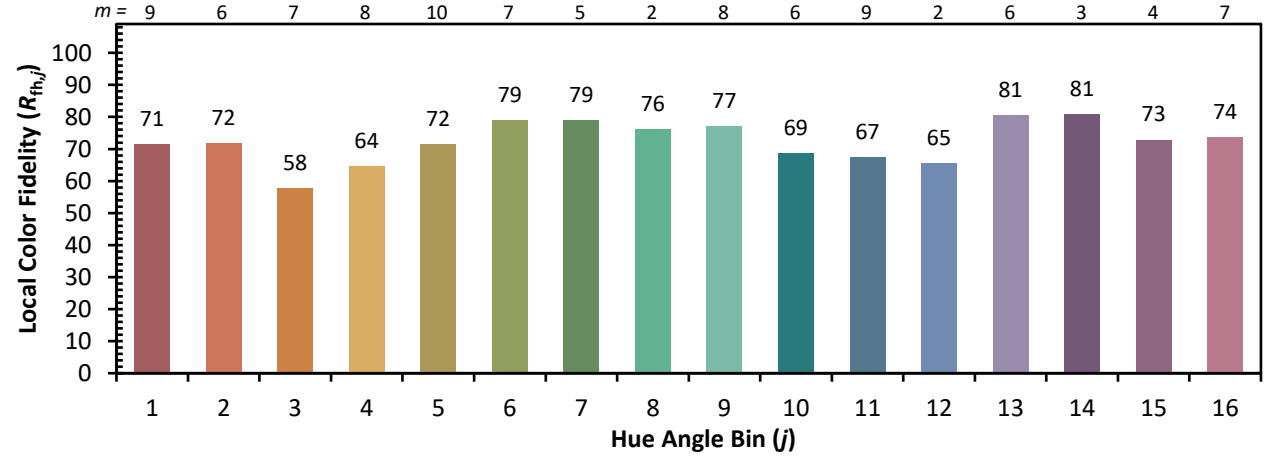
REPORT NUMBER: SP1-2407-184-1

**TM-30-18**

## Color Rendition by Hue-Angle Bin



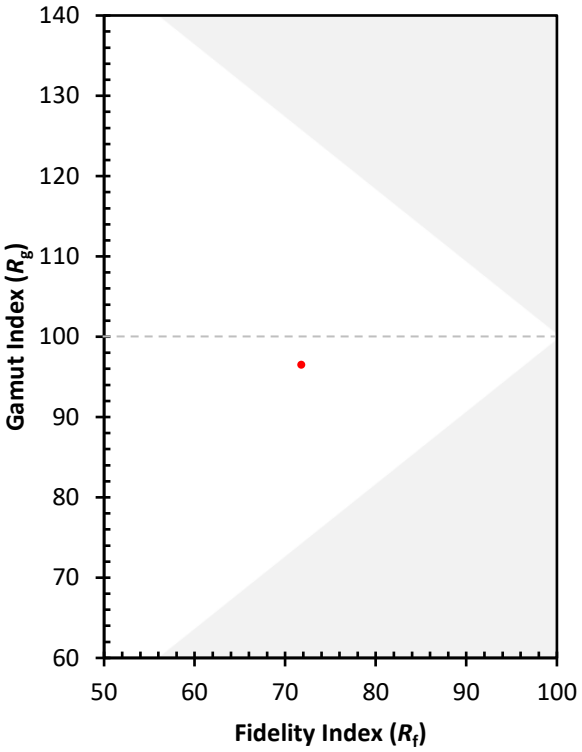



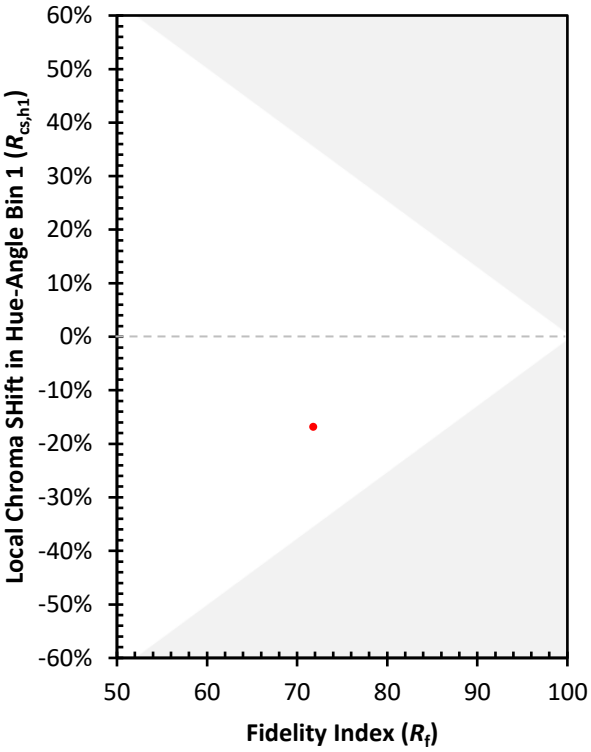



REPORT NUMBER: SP1-2407-184-1

# TM-30-18

## Measure Comparisons




(END OF REPORT)