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: P1362659

Luminaire Tested: **GSS-SB2A-730-U-SL2**

Issue Date: 02/18/2026

Report Generated By 670245763

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

Scaled Data Report

**Test Information**

| | |
|---|---|
| Test Method: | LM-79-08 |
| Report Number: | P1362659 |
| Test Lab: | INNOVATION CENTER(G1) |
| Issue Date: | 02/18/2026 |
| Manufacturer: | COOPER LIGHTING SOLUTIONS (FORMERLY EATON) |
| Product Line: | McGRAW-EDISON |
| Catalog Number: | GSS-SB2A-730-U-SL2 |
| Description: | GALLEON II SLIM SITE HIGH DENSITY LED ARRAYS 2SQUARE 58W 70CRI 3000K FIXTURE w/ TYPE II SPILL CONTROL DISTRIBUTION OPTIC |
| Light Source: | (52) 3000K CCT, 70 CRI LEDS |
| Ballast/Driver: | ELECTRONIC DRIVER |

**Summary**

| | |
|---|---|
| Lumens per Lamp: | N/A |
| Luminaire Lumens: | 8155.2 lumens |
| Efficiency: | N/A |
| Efficacy: | 140.6 lumens/watt |
| Luminous Opening: | Rectangular (W 1' x L: 0.5' x H: 0') |
| IES Classification: | Type II - Medium |
| BUG Rating: | B1 - U0 - G2 |

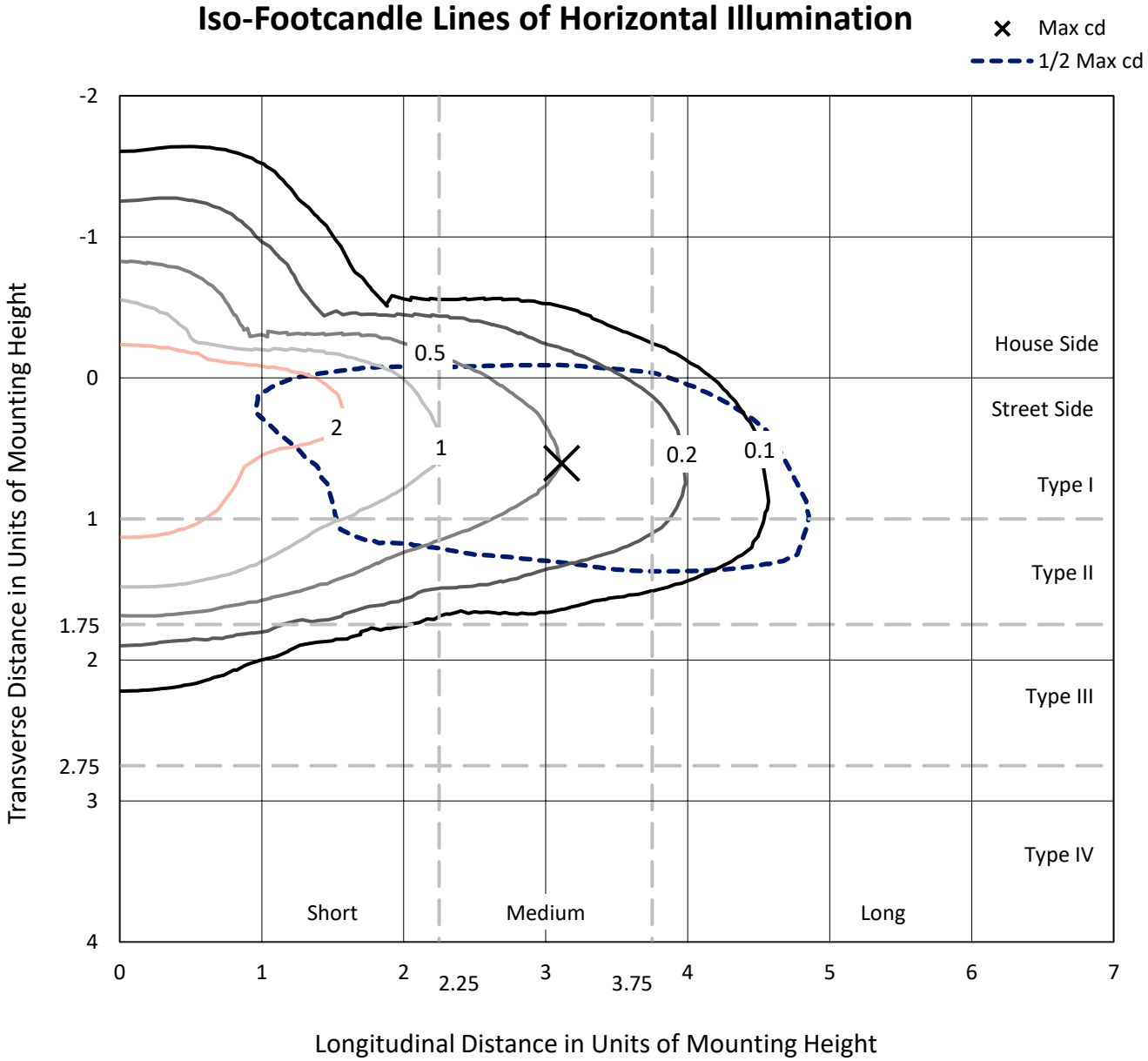
| | |
|---|---|
| Input Watts (W): | 58 |
| Input Voltage (V): | 120 |
| Input Current (Ain): | NR |
| Voltage Rise (V): | NR |
| Power Factor: | 0.98 |
| Total Harmonic Distortion (THDi): | 9.0% |
| Frequency (hertz): | 60 |
| Stabilization Time: | NR |
| Operation Time: | NR |
| Ambient Temperature (°C): | NR |
| Test Distance: | 28.75 FT |

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

Scaled Data Report

REPORT NUMBER: P1362659
CATALOG NUMBER: GSS-SB2A-730-U-SL2

## Iso-Footcandle Lines of Horizontal Illumination



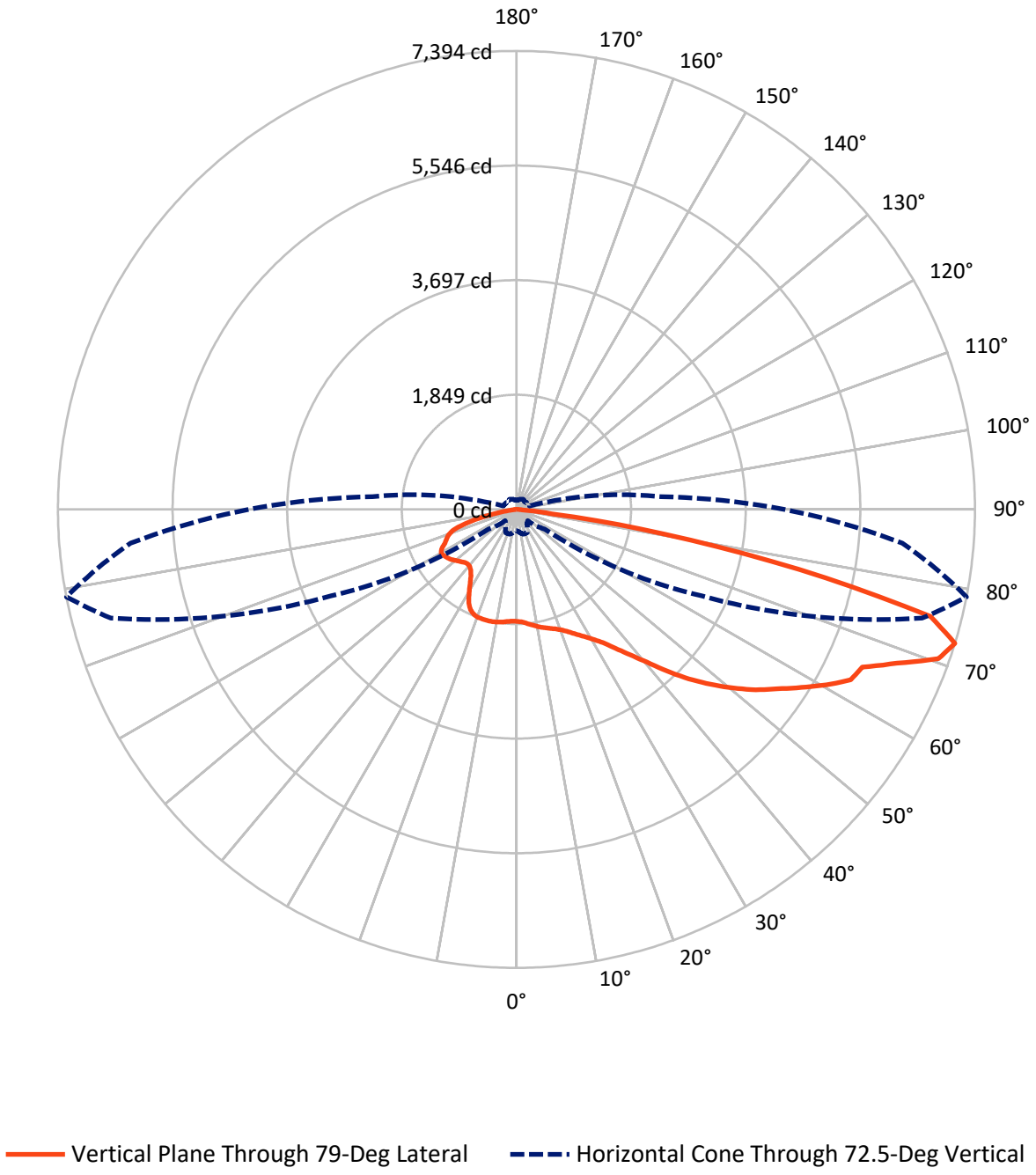

Based on 20 foot mounting height. Maximum calculated value = 4.5 fc
Type II - Medium - N/A

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

Scaled Data Report

REPORT NUMBER: P1362659
CATALOG NUMBER: GSS-SB2A-730-U-SL2

## Luminous Intensity Polar Plot



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

Scaled Data Report

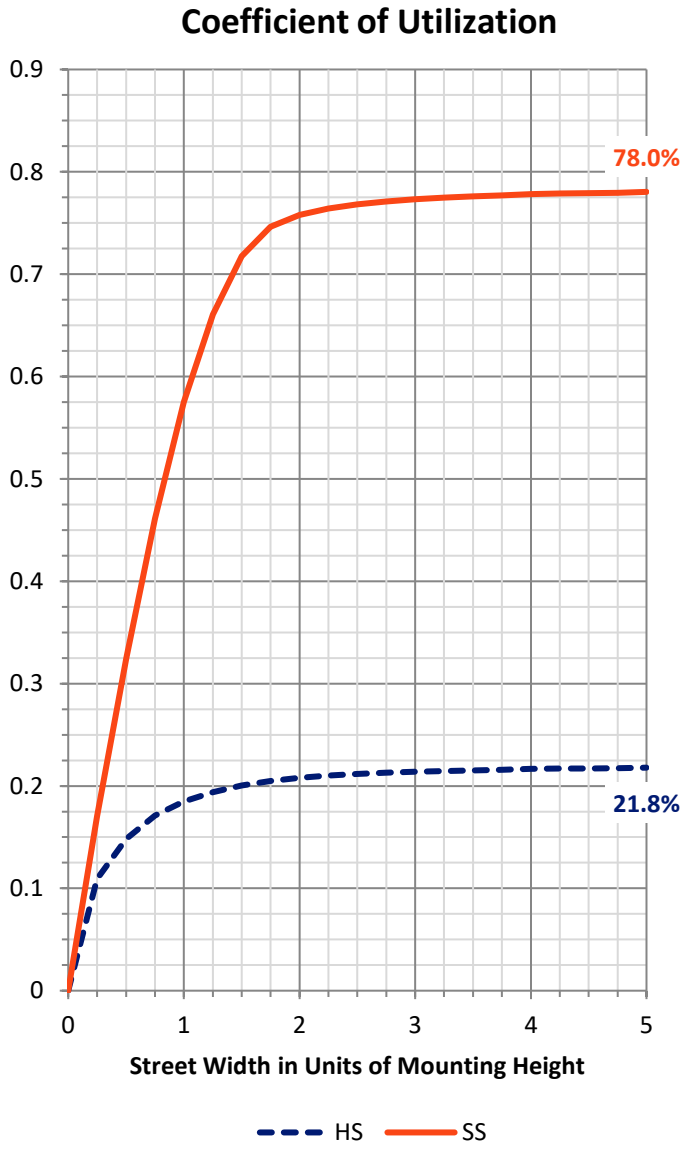
REPORT NUMBER: P1362659
CATALOG NUMBER: GSS-SB2A-730-U-SL2

**FLUX DISTRIBUTION:**

| | | Downward | Upward | Total |
|---|---|---|---|---|
| **House Side** | Lumens | 1791.4 | 0.0 | 1791.4 |
| | % Fixture | 22.0 | 0.0 | 22.0 |
| **Street Side** | Lumens | 6363.8 | 0.0 | 6363.8 |
| | % Fixture | 78.0 | 0.0 | 78.0 |
| **Total** | Lumens | 8155.2 | 0.0 | 8155.2 |
| | % Fixture | 100.0 | 0.0 | 100.0 |

**ZONAL LUMENS:**

| Zone | Lumens | % Fixture |
|---|---|---|
| 0°-10° | 167.7 | 2.1 |
| 10°-20° | 416.4 | 5.1 |
| 20°-30° | 655.6 | 8.0 |
| 30°-40° | 978.3 | 12.0 |
| 40°-50° | 1391.0 | 17.1 |
| 50°-60° | 1757.1 | 21.5 |
| 60°-70° | 1644.7 | 20.2 |
| 70°-80° | 1044.7 | 12.8 |
| 80°-90° | 99.7 | 1.2 |
| 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° | 8155.2 | 100.0 |
| 0°-180° | 8155.2 | 100.0 |



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

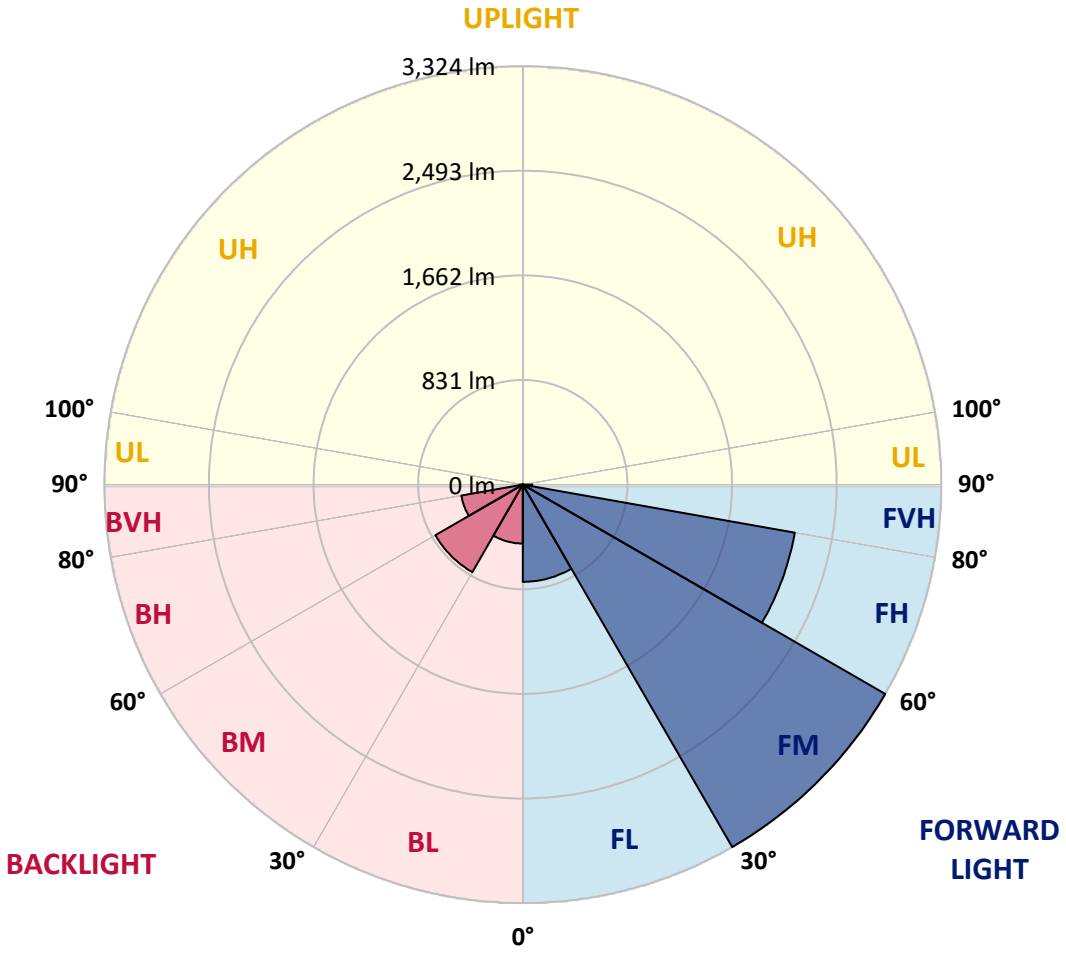
Scaled Data Report

REPORT NUMBER: P1362659
CATALOG NUMBER: GSS-SB2A-730-U-SL2

## LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

| Zone | | Lumens | % Fixture | Zone Rating/Lumen Limit B | U | G |
|---|---|---|---|---|---|---|
| FL | (0°-30°) | 771.9 | 9.5 | | | |
| FM | (30°-60°) | 3324.1 | 40.8 | | | |
| FH | (60°-80°) | 2193.5 | 26.9 | | | G2/5000 |
| FVH | (80°-90°) | 74.2 | 0.9 | | | G1/100 |
| BL | (0°-30°) | 467.7 | 5.7 | B1/500 | | |
| BM | (30°-60°) | 802.4 | 9.8 | B1/1000 | | |
| BH | (60°-80°) | 495.9 | 6.1 | B1/500 | | G1/500 |
| BVH | (80°-90°) | 25.4 | 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-G2**
Type II Medium



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

Scaled Data Report

REPORT NUMBER: P1362659
CATALOG NUMBER: GSS-SB2A-730-U-SL2

**CANDELA DISTRIBUTION (FULL):**

| | 0° | 5° | 15° | 25° | 35° | 45° | 55° | 65° | 75° | 79° | 85° |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0° | 1806.1 | 1806.1 | 1806.1 | 1806.1 | 1806.1 | 1806.1 | 1806.1 | 1806.1 | 1806.1 | *1806.1* | 1806.1 |
| 2.5° | 1848.5 | 1850.4 | 1842.7 | 1842.7 | 1844.7 | 1836.9 | 1827.3 | 1825.4 | 1817.6 | *1817.6* | 1817.6 |
| 5° | 1858.2 | 1858.2 | 1856.2 | 1865.9 | 1869.7 | 1875.5 | 1867.8 | 1862.0 | 1850.4 | *1850.4* | 1835.0 |
| 7.5° | 1755.9 | 1752.0 | 1767.5 | 1811.9 | 1858.2 | 1883.3 | 1898.7 | 1898.7 | 1892.9 | *1883.3* | 1869.7 |
| 10° | 1562.9 | 1568.7 | 1591.9 | 1651.7 | 1736.6 | 1850.4 | 1912.2 | 1937.3 | 1927.6 | *1923.8* | 1900.6 |
| 12.5° | 1460.7 | 1458.7 | 1476.1 | 1520.5 | 1593.8 | 1732.7 | 1885.2 | 1964.3 | 1966.2 | *1956.6* | 1929.6 |
| 15° | 1449.1 | 1443.3 | 1451.0 | 1466.5 | 1514.7 | 1626.6 | 1804.1 | 1973.9 | 1993.2 | *1989.4* | 1958.5 |
| 17.5° | 1514.7 | 1512.8 | 1501.2 | 1497.3 | 1495.4 | 1557.2 | 1725.0 | 1966.2 | 2029.9 | *2026.0* | 1991.3 |
| 20° | 1628.5 | 1618.9 | 1597.7 | 1578.4 | 1537.9 | 1543.6 | 1663.3 | 1956.6 | 2080.1 | *2074.3* | 2039.5 |
| 22.5° | 1750.1 | 1754.0 | 1734.7 | 1688.4 | 1617.0 | 1584.2 | 1644.0 | 1943.1 | 2147.6 | *2143.7* | 2097.4 |
| 25° | 1898.7 | 1894.8 | 1871.7 | 1819.6 | 1725.0 | 1653.6 | 1665.2 | 1939.2 | 2224.8 | *2228.6* | 2172.7 |
| 27.5° | 2051.1 | 2047.3 | 2018.3 | 1952.7 | 1842.7 | 1738.5 | 1713.4 | 1954.6 | 2323.2 | *2321.3* | 2251.8 |
| 30° | 2220.9 | 2222.9 | 2186.2 | 2097.4 | 1964.3 | 1844.7 | 1790.6 | 1995.2 | 2421.6 | *2427.4* | 2342.5 |
| 32.5° | 2373.4 | 2383.0 | 2361.8 | 2278.8 | 2112.9 | 1954.6 | 1885.2 | 2060.8 | 2552.8 | *2562.5* | 2458.3 |
| 35° | 2469.8 | 2475.6 | 2473.7 | 2435.1 | 2271.1 | 2080.1 | 1979.7 | 2143.7 | 2711.0 | *2747.7* | 2612.6 |
| 37.5° | 2562.5 | 2576.0 | 2577.9 | 2548.9 | 2425.5 | 2228.6 | 2091.6 | 2259.5 | 2913.6 | *2973.5* | 2815.2 |
| 40° | 2662.8 | 2658.9 | 2685.9 | 2651.2 | 2564.4 | 2386.9 | 2207.4 | 2390.7 | 3137.5 | *3235.9* | 3052.6 |
| 42.5° | 2722.6 | 2732.3 | 2767.0 | 2759.3 | 2672.4 | 2533.5 | 2338.6 | 2537.4 | 3417.2 | *3562.0* | 3340.1 |
| 45° | 2761.2 | 2770.8 | 2821.0 | 2828.7 | 2782.4 | 2633.8 | 2462.1 | 2678.2 | 3673.9 | *3899.6* | 3648.8 |
| 47.5° | 2774.7 | 2780.5 | 2846.1 | 2877.0 | 2857.7 | 2697.5 | 2558.6 | 2838.4 | 3926.7 | *4218.0* | 3957.5 |
| 50° | 2720.7 | 2741.9 | 2826.8 | 2896.3 | 2909.8 | 2730.3 | 2641.6 | 3008.2 | 4198.7 | *4526.7* | 4268.2 |
| 52.5° | 2637.7 | 2649.3 | 2751.6 | 2900.1 | 2942.6 | 2784.4 | 2743.8 | 3187.6 | 4455.4 | *4835.5* | 4534.5 |
| 55° | 2475.6 | 2498.8 | 2626.1 | 2836.5 | 2961.9 | 2855.7 | 2877.0 | 3390.2 | 4721.6 | *5105.6* | 4823.9 |
| 57.5° | 2016.4 | 2056.9 | 2267.2 | 2564.4 | 2909.8 | 2996.6 | 3075.7 | 3641.1 | 5013.0 | *5418.2* | 5082.5 |
| 60° | 1263.9 | 1317.9 | 1537.9 | 2018.3 | 2614.6 | 3079.6 | 3392.2 | 3967.2 | 5360.3 | *5746.2* | 5370.0 |
| 62.5° | 685.0 | 683.1 | 748.7 | 1032.3 | 1885.2 | 2863.5 | 3664.2 | 4532.5 | 5808.0 | *6051.1* | 5537.8 |
| 65° | 594.3 | 594.3 | 602.0 | 600.1 | 814.3 | 2112.9 | 3394.1 | 4870.2 | 6116.7 | *6132.1* | 5395.0 |
| 67.5° | 534.5 | 534.5 | 546.1 | 517.1 | 443.8 | 945.5 | 2483.3 | 4669.5 | 6628.0 | *6618.4* | 5578.4 |
| 70° | 470.8 | 472.7 | 492.0 | 474.7 | 357.0 | 384.0 | 1358.4 | 4252.7 | 7010.1 | *7216.6* | 5943.0 |
| 72.5° | *345.4* | *357.0* | *412.9* | *412.9* | *293.3* | *258.6* | *551.9* | *3297.6* | *6770.8* | *7394.1* | *6246.0* |
| 75° | 243.1 | 245.1 | 274.0 | 295.2 | 231.5 | 194.9 | 268.2 | 2207.4 | 6211.3 | *6898.2* | 5975.8 |
| 77.5° | 185.2 | 187.2 | 196.8 | 235.4 | 158.2 | 142.8 | 185.2 | 1206.0 | 4480.4 | *4658.0* | 3876.5 |
| 80° | 123.5 | 121.6 | 135.1 | 165.9 | 111.9 | 96.5 | 119.6 | 403.3 | 2514.2 | *2398.4* | 1618.9 |
| 82.5° | 61.7 | 63.7 | 73.3 | 86.8 | 65.6 | 57.9 | 69.5 | 208.4 | 986.0 | *573.1* | 235.4 |
| 85° | 17.4 | 21.2 | 25.1 | 34.7 | 27.0 | 25.1 | 32.8 | 73.3 | 125.4 | *92.6* | 63.7 |
| 87.5° | 1.9 | 1.9 | 3.9 | 3.9 | 3.9 | 5.8 | 9.6 | 15.4 | 21.2 | *21.2* | 21.2 |
| 90° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | *0.0* | 0.0 |

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

Scaled Data Report

REPORT NUMBER: P1362659
CATALOG NUMBER: GSS-SB2A-730-U-SL2

**CANDELA DISTRIBUTION (continued):**

| | 90° | 95° | 105° | 115° | 125° | 135° | 145° | 155° | 165° | 175° | 180° |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0° | 1806.1 | 1806.1 | 1806.1 | 1806.1 | 1806.1 | 1806.1 | 1806.1 | 1806.1 | 1806.1 | 1806.1 | 1806.1 |
| 2.5° | 1813.8 | 1808.0 | 1800.3 | 1788.7 | 1788.7 | 1775.2 | 1767.5 | 1752.0 | 1757.8 | 1750.1 | 1746.3 |
| 5° | 1831.2 | 1823.4 | 1806.1 | 1786.8 | 1767.5 | 1738.5 | 1715.4 | 1682.6 | 1678.7 | 1671.0 | 1659.4 |
| 7.5° | 1862.0 | 1842.7 | 1821.5 | 1777.1 | 1740.5 | 1674.9 | 1622.8 | 1557.2 | 1520.5 | 1497.3 | 1499.3 |
| 10° | 1892.9 | 1867.8 | 1823.4 | 1765.5 | 1686.4 | 1578.4 | 1443.3 | 1314.0 | 1215.6 | 1159.7 | 1171.2 |
| 12.5° | 1914.1 | 1887.1 | 1827.3 | 1734.7 | 1588.0 | 1371.9 | 1121.1 | 937.8 | 866.4 | 829.7 | 829.7 |
| 15° | 1935.3 | 1900.6 | 1821.5 | 1669.1 | 1402.8 | 1034.2 | 835.5 | 766.0 | 746.7 | 735.2 | 731.3 |
| 17.5° | 1962.4 | 1921.8 | 1804.1 | 1547.5 | 1105.6 | 808.5 | 739.0 | 717.8 | 717.8 | 715.9 | 712.0 |
| 20° | 1995.2 | 1946.9 | 1782.9 | 1354.6 | 849.0 | 725.5 | 706.2 | 702.4 | 706.2 | 704.3 | 702.4 |
| 22.5° | 2045.3 | 1977.8 | 1728.9 | 1088.3 | 729.4 | 686.9 | 685.0 | 665.7 | 669.6 | 673.4 | 671.5 |
| 25° | 2109.0 | 2016.4 | 1626.6 | 831.6 | 669.6 | 661.8 | 642.5 | 625.2 | 623.2 | 625.2 | 625.2 |
| 27.5° | 2168.8 | 2045.3 | 1460.7 | 685.0 | 627.1 | 625.2 | 607.8 | 592.4 | 592.4 | 594.3 | 594.3 |
| 30° | 2234.4 | 2062.7 | 1206.0 | 609.7 | 602.0 | 592.4 | 586.6 | 580.8 | 582.7 | 588.5 | 588.5 |
| 32.5° | 2321.3 | 2080.1 | 957.1 | 567.3 | 576.9 | 563.4 | 567.3 | 565.4 | 569.2 | 578.9 | 580.8 |
| 35° | 2427.4 | 2087.8 | 766.0 | 542.2 | 542.2 | 530.6 | 532.6 | 524.8 | 524.8 | 530.6 | 534.5 |
| 37.5° | 2568.2 | 2091.6 | 644.5 | 528.7 | 515.2 | 509.4 | 505.5 | 495.9 | 482.4 | 472.7 | 474.7 |
| 40° | 2720.7 | 2101.3 | 578.9 | 519.1 | 503.6 | 501.7 | 494.0 | 480.5 | 441.9 | 411.0 | 409.1 |
| 42.5° | 2923.3 | 2128.3 | 546.1 | 503.6 | 503.6 | 503.6 | 492.0 | 432.2 | 401.3 | 380.1 | 378.2 |
| 45° | 3127.8 | 2199.7 | 528.7 | 490.1 | 501.7 | 503.6 | 451.5 | 414.9 | 389.8 | 366.6 | 360.8 |
| 47.5° | 3355.5 | 2302.0 | 521.0 | 482.4 | 488.2 | 492.0 | 424.5 | 407.1 | 378.2 | 351.2 | 345.4 |
| 50° | 3581.3 | 2410.0 | 513.3 | 468.9 | 468.9 | 443.8 | 418.7 | 399.4 | 370.5 | 341.5 | 337.7 |
| 52.5° | 3820.5 | 2535.4 | 505.5 | 445.7 | 443.8 | 416.8 | 412.9 | 397.5 | 366.6 | 330.0 | 322.2 |
| 55° | 4028.9 | 2649.3 | 492.0 | 418.7 | 416.8 | 389.8 | 409.1 | 389.8 | 343.5 | 301.0 | 293.3 |
| 57.5° | 4227.7 | 2741.9 | 474.7 | 389.8 | 393.6 | 368.5 | 393.6 | 374.3 | 322.2 | 279.8 | 275.9 |
| 60° | 4416.8 | 2838.4 | 451.5 | 364.7 | 364.7 | 349.3 | 374.3 | 349.3 | 301.0 | 258.6 | 252.8 |
| 62.5° | 4472.7 | 2807.5 | 412.9 | 337.7 | 335.7 | 324.2 | 349.3 | 320.3 | 274.0 | 235.4 | 229.6 |
| 65° | 4279.8 | 2649.3 | 366.6 | 310.7 | 304.9 | 295.2 | 312.6 | 285.6 | 243.1 | 212.3 | 210.3 |
| 67.5° | 4306.8 | 2587.5 | 314.5 | 275.9 | 270.1 | 262.4 | 268.2 | 247.0 | 214.2 | 191.0 | 189.1 |
| 70° | 4341.5 | 2520.0 | 266.3 | 243.1 | 229.6 | 216.1 | 229.6 | 212.3 | 189.1 | 169.8 | 167.9 |
| 72.5° | *4314.5* | *2332.8* | *220.0* | *204.5* | *194.9* | *179.4* | *196.8* | *183.3* | *164.0* | *148.6* | *144.7* |
| 75° | 3924.7 | 1875.5 | 179.4 | 167.9 | 156.3 | 146.6 | 158.2 | 154.4 | 138.9 | 137.0 | 123.5 |
| 77.5° | 2639.6 | 1202.1 | 138.9 | 129.3 | 125.4 | 115.8 | 123.5 | 117.7 | 110.0 | 102.3 | 96.5 |
| 80° | 1144.2 | 538.3 | 100.3 | 90.7 | 86.8 | 81.0 | 88.8 | 86.8 | 83.0 | 77.2 | 75.3 |
| 82.5° | 164.0 | 127.4 | 67.5 | 61.7 | 52.1 | 48.2 | 52.1 | 56.0 | 81.0 | 98.4 | 96.5 |
| 85° | 46.3 | 38.6 | 32.8 | 28.9 | 23.2 | 19.3 | 21.2 | 34.7 | 46.3 | 28.9 | 25.1 |
| 87.5° | 21.2 | 19.3 | 15.4 | 9.6 | 5.8 | 5.8 | 3.9 | 1.9 | 1.9 | 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 |

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

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

Report Prepared for

Cooper Lighting Solutions

McGraw-Edison

Report Number: SP1-2407-184-4

Test Date: 10/10/2024

Luminaire Tested: GSS-SB1A-730-U-5WQ

Data in this report applies to families of products including GSS-SB1A-730-U-5WQ

Report Generated By FNC07603 / LDUCLS01DT446
Version: v7.04

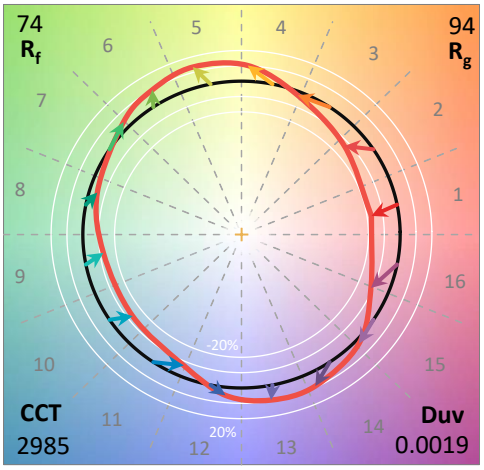
## Test Information

| | |
|---|---|
| Test Method: | LM-79-2019 |
| Report Number: | SP1-2407-184-4 |
| 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-730-U-5WQ** |
| Description: | GALLEON II SITE SLIM 1SQ 350MA 5WQ HIGH DENSITY LIGHTSQUARE WITH 70 CRI 3000K CCT 26 LEDS |

## Spectral Parameters

| | |
|---|---|
| CCT (K): | 2985 |
| CIE u': | 0.2504 |
| CIE v': | 0.5243 |
| Duv: | 0.0019 |
| CIE x: | 0.4408 |
| CIE y: | 0.4101 |
| CIE z: | 0.1491 |
| Peak Wavelength (nm): | 595 |
| Dominant Wavelength (nm): | 582 |
| Purity: | 55.41818 |
| Rf: | 73.8 |
| Rg: | 94.4 |

| | |
|---|---|
| CRI (Ra): | 70.8 |
| R1: | 66.3 |
| R2: | 80.6 |
| R3: | 94.5 |
| R4: | 68.2 |
| R5: | 66.5 |
| R6: | 74.7 |
| R7: | 76.2 |
| R8: | 39.6 |
| R9: | -43.2 |
| R10: | 57.6 |
| R11: | 64.8 |
| R12: | 53.5 |
| R13: | 68.7 |
| R14: | 97.0 |
| R15: | 56.4 |




## Test Conditions

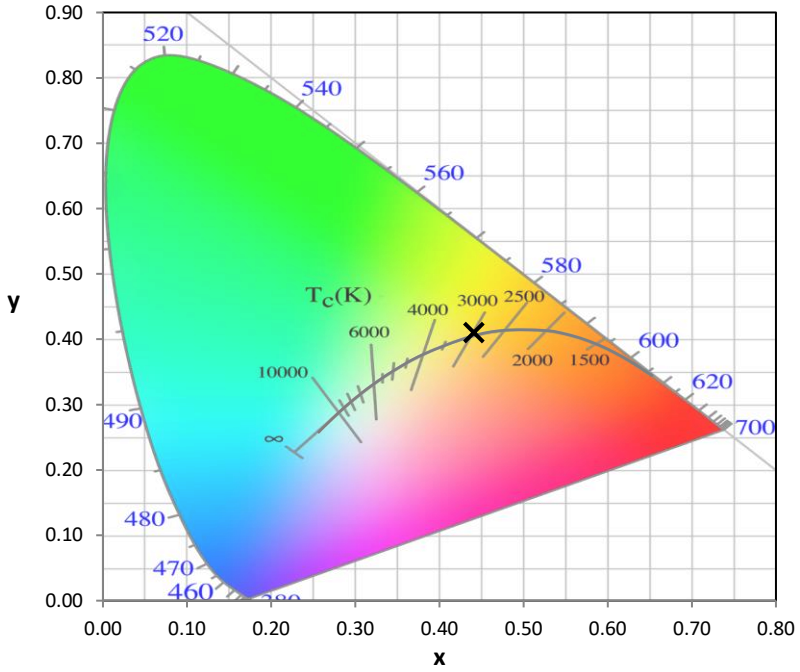
| | |
|---|---|
| Stabilization Time: | 36M |
| Operation Time: | 1H 36M |
| Sphere Temperature (°C): | 25.2 |

REPORT NUMBER: SP1-2407-184-4

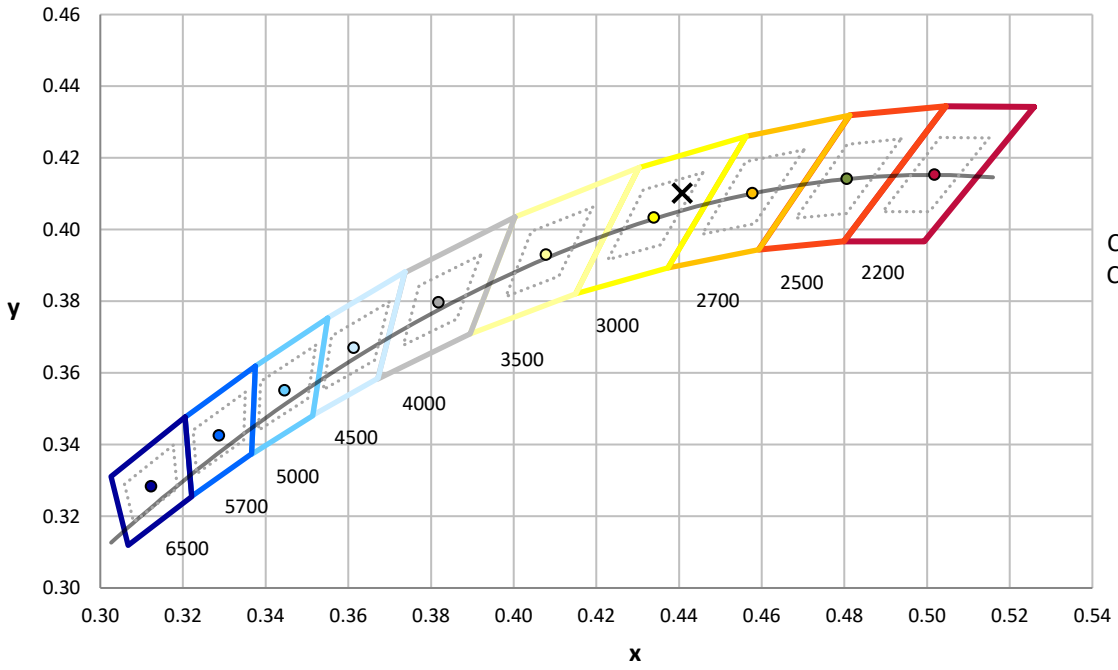
| Measurement and Test Equipment | | | |
|---|---|---|---|
| Instrument | Identification Number | Calibration Date | Calibration Due Date |
| Photometer | IN0058 | 6/18/2024 | 12/18/2024 |
| Power Meter | INXT2011004 | 2/8/2024 | 2/8/2025 |
| AC Power Source | IN0063 | 10/24/2023 | 10/24/2024 |
| DC 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: SP1-2407-184-4

## CIE 1931 Chromaticity Diagram




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

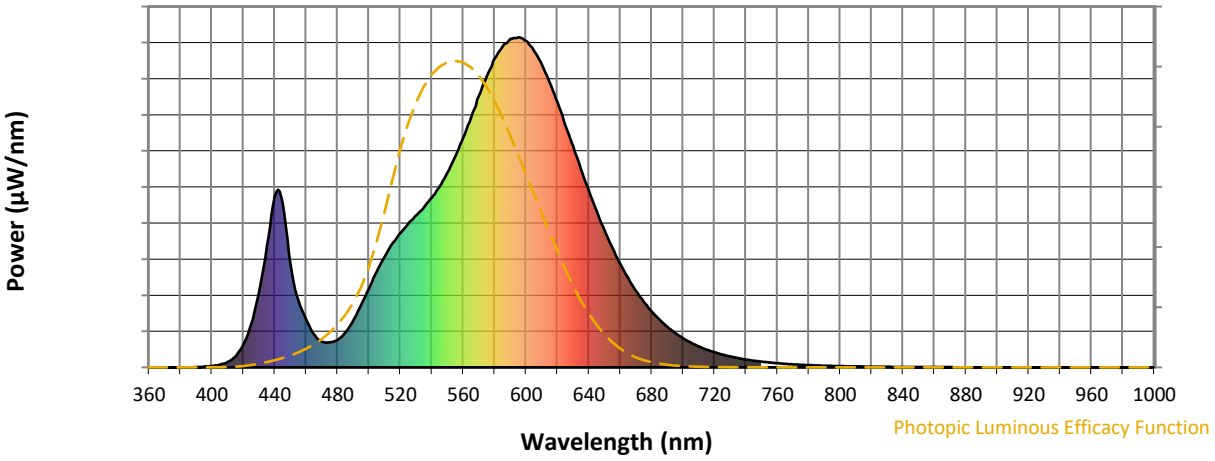



CCT = 2985K
CIE x = 0.4408
CIE y = 0.4101
Duv = 0.0019

Point lies inside the ANSI 3000K 4-step quadrangle

REPORT NUMBER: SP1-2407-184-4

## Photopic Flux vs. Wavelength

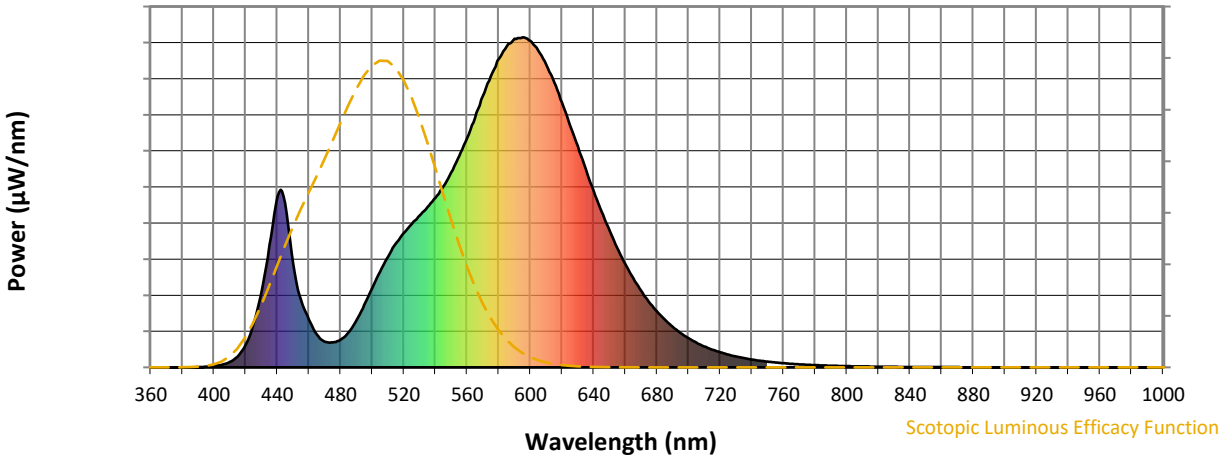



## Photopic Lumens: NR

| 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 | 142 | NR | 620 | 803 | NR | 750 | 17 | NR | 880 | 0 | NR |
| 365 | 0 | NR | 495 | 189 | NR | 625 | 734 | NR | 755 | 15 | NR | 885 | 0 | NR |
| 370 | 0 | NR | 500 | 240 | NR | 630 | 670 | NR | 760 | 13 | NR | 890 | 0 | NR |
| 375 | 0 | NR | 505 | 290 | NR | 635 | 600 | NR | 765 | 11 | NR | 895 | 0 | NR |
| 380 | 0 | NR | 510 | 335 | NR | 640 | 535 | NR | 770 | 9 | NR | 900 | 0 | NR |
| 385 | 0 | NR | 515 | 375 | NR | 645 | 473 | NR | 775 | 8 | NR | 905 | 0 | NR |
| 390 | 1 | NR | 520 | 408 | NR | 650 | 415 | NR | 780 | 7 | NR | 910 | 0 | NR |
| 395 | 2 | NR | 525 | 434 | NR | 655 | 362 | NR | 785 | 6 | NR | 915 | 0 | NR |
| 400 | 4 | NR | 530 | 461 | NR | 660 | 313 | NR | 790 | 5 | NR | 920 | 0 | NR |
| 405 | 8 | NR | 535 | 486 | NR | 665 | 271 | NR | 795 | 4 | NR | 925 | 0 | NR |
| 410 | 16 | NR | 540 | 514 | NR | 670 | 231 | NR | 800 | 4 | NR | 930 | 0 | NR |
| 415 | 33 | NR | 545 | 549 | NR | 675 | 198 | NR | 805 | 3 | NR | 935 | 0 | NR |
| 420 | 69 | NR | 550 | 591 | NR | 680 | 169 | NR | 810 | 3 | NR | 940 | 0 | NR |
| 425 | 131 | NR | 555 | 640 | NR | 685 | 144 | NR | 815 | 2 | NR | 945 | 0 | NR |
| 430 | 227 | NR | 560 | 695 | NR | 690 | 123 | NR | 820 | 2 | NR | 950 | 0 | NR |
| 435 | 369 | NR | 565 | 757 | NR | 695 | 104 | NR | 825 | 2 | NR | 955 | 0 | NR |
| 440 | 517 | NR | 570 | 822 | NR | 700 | 88 | NR | 830 | 2 | NR | 960 | 0 | NR |
| 445 | 498 | NR | 575 | 882 | NR | 705 | 75 | NR | 835 | 1 | NR | 965 | 0 | NR |
| 450 | 315 | NR | 580 | 935 | NR | 710 | 63 | NR | 840 | 1 | NR | 970 | 0 | NR |
| 455 | 204 | NR | 585 | 972 | NR | 715 | 54 | NR | 845 | 1 | NR | 975 | 0 | NR |
| 460 | 145 | NR | 590 | 996 | NR | 720 | 46 | NR | 850 | 1 | NR | 980 | 0 | NR |
| 465 | 100 | NR | 595 | 1000 | NR | 725 | 39 | NR | 855 | 1 | NR | 985 | 0 | NR |
| 470 | 78 | NR | 600 | 989 | NR | 730 | 33 | NR | 860 | 1 | NR | 990 | 0 | NR |
| 475 | 76 | NR | 605 | 960 | NR | 735 | 28 | NR | 865 | 1 | NR | 995 | 0 | NR |
| 480 | 83 | NR | 610 | 918 | NR | 740 | 24 | NR | 870 | 1 | NR | 1000 | 0 | NR |
| 485 | 105 | NR | 615 | 864 | NR | 745 | 20 | NR | 875 | 1 | NR | | | |

REPORT NUMBER: SP1-2407-184-4

## Scotopic Flux vs. Wavelength

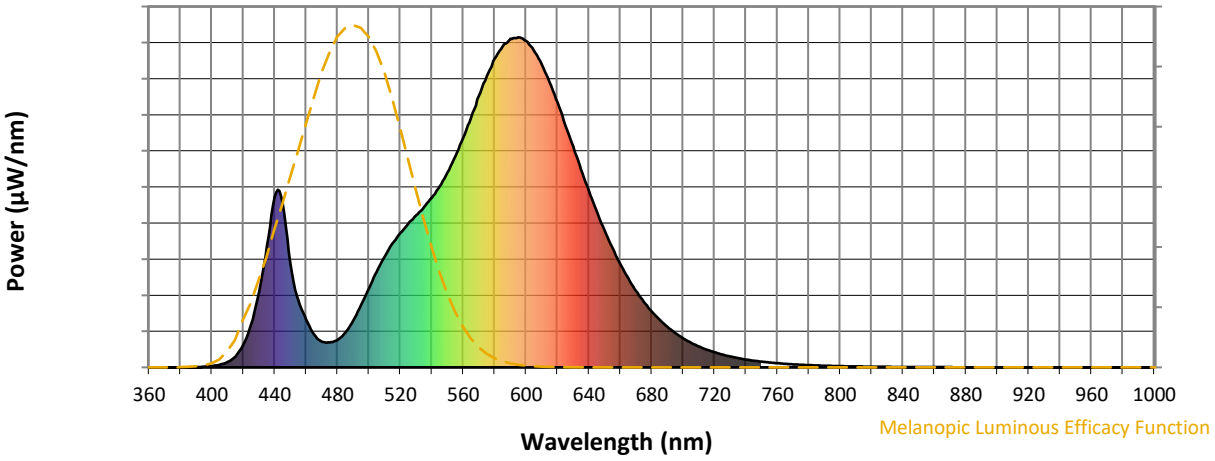



**Scotopic Lumens: NR** **S/P: 1.19**

| 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 | 142 | NR | 620 | 803 | NR | 750 | 17 | NR | 880 | 0 | NR |
| 365 | 0 | NR | 495 | 189 | NR | 625 | 734 | NR | 755 | 15 | NR | 885 | 0 | NR |
| 370 | 0 | NR | 500 | 240 | NR | 630 | 670 | NR | 760 | 13 | NR | 890 | 0 | NR |
| 375 | 0 | NR | 505 | 290 | NR | 635 | 600 | NR | 765 | 11 | NR | 895 | 0 | NR |
| 380 | 0 | NR | 510 | 335 | NR | 640 | 535 | NR | 770 | 9 | NR | 900 | 0 | NR |
| 385 | 0 | NR | 515 | 375 | NR | 645 | 473 | NR | 775 | 8 | NR | 905 | 0 | NR |
| 390 | 1 | NR | 520 | 408 | NR | 650 | 415 | NR | 780 | 7 | NR | 910 | 0 | NR |
| 395 | 2 | NR | 525 | 434 | NR | 655 | 362 | NR | 785 | 6 | NR | 915 | 0 | NR |
| 400 | 4 | NR | 530 | 461 | NR | 660 | 313 | NR | 790 | 5 | NR | 920 | 0 | NR |
| 405 | 8 | NR | 535 | 486 | NR | 665 | 271 | NR | 795 | 4 | NR | 925 | 0 | NR |
| 410 | 16 | NR | 540 | 514 | NR | 670 | 231 | NR | 800 | 4 | NR | 930 | 0 | NR |
| 415 | 33 | NR | 545 | 549 | NR | 675 | 198 | NR | 805 | 3 | NR | 935 | 0 | NR |
| 420 | 69 | NR | 550 | 591 | NR | 680 | 169 | NR | 810 | 3 | NR | 940 | 0 | NR |
| 425 | 131 | NR | 555 | 640 | NR | 685 | 144 | NR | 815 | 2 | NR | 945 | 0 | NR |
| 430 | 227 | NR | 560 | 695 | NR | 690 | 123 | NR | 820 | 2 | NR | 950 | 0 | NR |
| 435 | 369 | NR | 565 | 757 | NR | 695 | 104 | NR | 825 | 2 | NR | 955 | 0 | NR |
| 440 | 517 | NR | 570 | 822 | NR | 700 | 88 | NR | 830 | 2 | NR | 960 | 0 | NR |
| 445 | 498 | NR | 575 | 882 | NR | 705 | 75 | NR | 835 | 1 | NR | 965 | 0 | NR |
| 450 | 315 | NR | 580 | 935 | NR | 710 | 63 | NR | 840 | 1 | NR | 970 | 0 | NR |
| 455 | 204 | NR | 585 | 972 | NR | 715 | 54 | NR | 845 | 1 | NR | 975 | 0 | NR |
| 460 | 145 | NR | 590 | 996 | NR | 720 | 46 | NR | 850 | 1 | NR | 980 | 0 | NR |
| 465 | 100 | NR | 595 | 1000 | NR | 725 | 39 | NR | 855 | 1 | NR | 985 | 0 | NR |
| 470 | 78 | NR | 600 | 989 | NR | 730 | 33 | NR | 860 | 1 | NR | 990 | 0 | NR |
| 475 | 76 | NR | 605 | 960 | NR | 735 | 28 | NR | 865 | 1 | NR | 995 | 0 | NR |
| 480 | 83 | NR | 610 | 918 | NR | 740 | 24 | NR | 870 | 1 | NR | 1000 | 0 | NR |
| 485 | 105 | NR | 615 | 864 | NR | 745 | 20 | NR | 875 | 1 | NR | | | |

REPORT NUMBER: SP1-2407-184-4

## Melanopic Flux vs. Wavelength




**Melanopic Lumens: NR** **M/P: 2.13**

| 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 | 142 | NR | 620 | 803 | NR | 750 | 17 | NR | 880 | 0 | NR |
| 365 | 0 | NR | 495 | 189 | NR | 625 | 734 | NR | 755 | 15 | NR | 885 | 0 | NR |
| 370 | 0 | NR | 500 | 240 | NR | 630 | 670 | NR | 760 | 13 | NR | 890 | 0 | NR |
| 375 | 0 | NR | 505 | 290 | NR | 635 | 600 | NR | 765 | 11 | NR | 895 | 0 | NR |
| 380 | 0 | NR | 510 | 335 | NR | 640 | 535 | NR | 770 | 9 | NR | 900 | 0 | NR |
| 385 | 0 | NR | 515 | 375 | NR | 645 | 473 | NR | 775 | 8 | NR | 905 | 0 | NR |
| 390 | 1 | NR | 520 | 408 | NR | 650 | 415 | NR | 780 | 7 | NR | 910 | 0 | NR |
| 395 | 2 | NR | 525 | 434 | NR | 655 | 362 | NR | 785 | 6 | NR | 915 | 0 | NR |
| 400 | 4 | NR | 530 | 461 | NR | 660 | 313 | NR | 790 | 5 | NR | 920 | 0 | NR |
| 405 | 8 | NR | 535 | 486 | NR | 665 | 271 | NR | 795 | 4 | NR | 925 | 0 | NR |
| 410 | 16 | NR | 540 | 514 | NR | 670 | 231 | NR | 800 | 4 | NR | 930 | 0 | NR |
| 415 | 33 | NR | 545 | 549 | NR | 675 | 198 | NR | 805 | 3 | NR | 935 | 0 | NR |
| 420 | 69 | NR | 550 | 591 | NR | 680 | 169 | NR | 810 | 3 | NR | 940 | 0 | NR |
| 425 | 131 | NR | 555 | 640 | NR | 685 | 144 | NR | 815 | 2 | NR | 945 | 0 | NR |
| 430 | 227 | NR | 560 | 695 | NR | 690 | 123 | NR | 820 | 2 | NR | 950 | 0 | NR |
| 435 | 369 | NR | 565 | 757 | NR | 695 | 104 | NR | 825 | 2 | NR | 955 | 0 | NR |
| 440 | 517 | NR | 570 | 822 | NR | 700 | 88 | NR | 830 | 2 | NR | 960 | 0 | NR |
| 445 | 498 | NR | 575 | 882 | NR | 705 | 75 | NR | 835 | 1 | NR | 965 | 0 | NR |
| 450 | 315 | NR | 580 | 935 | NR | 710 | 63 | NR | 840 | 1 | NR | 970 | 0 | NR |
| 455 | 204 | NR | 585 | 972 | NR | 715 | 54 | NR | 845 | 1 | NR | 975 | 0 | NR |
| 460 | 145 | NR | 590 | 996 | NR | 720 | 46 | NR | 850 | 1 | NR | 980 | 0 | NR |
| 465 | 100 | NR | 595 | 1000 | NR | 725 | 39 | NR | 855 | 1 | NR | 985 | 0 | NR |
| 470 | 78 | NR | 600 | 989 | NR | 730 | 33 | NR | 860 | 1 | NR | 990 | 0 | NR |
| 475 | 76 | NR | 605 | 960 | NR | 735 | 28 | NR | 865 | 1 | NR | 995 | 0 | NR |
| 480 | 83 | NR | 610 | 918 | NR | 740 | 24 | NR | 870 | 1 | NR | 1000 | 0 | NR |
| 485 | 105 | NR | 615 | 864 | NR | 745 | 20 | NR | 875 | 1 | NR | | | |

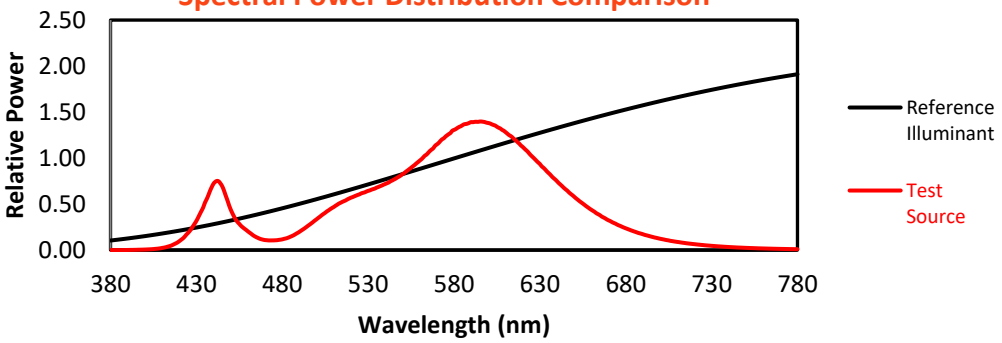
REPORT NUMBER: SP1-2407-184-4

# TM-30-18

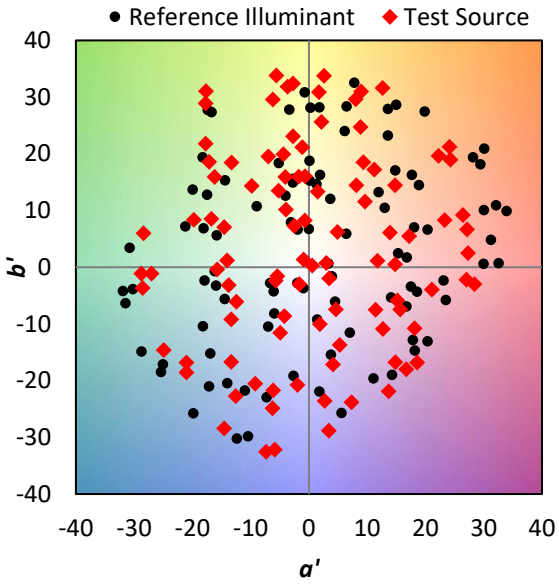
## Summary

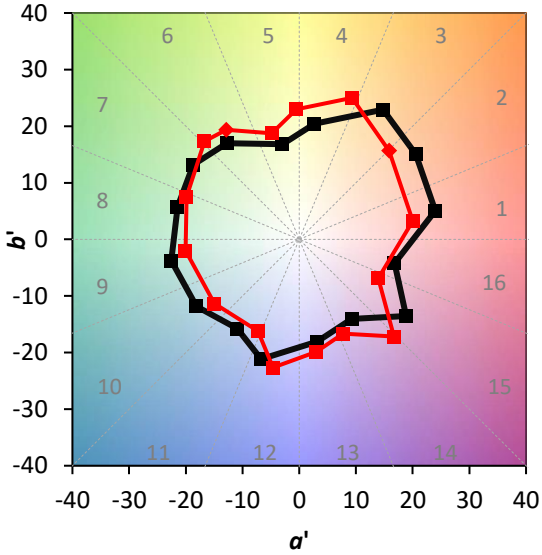
$R_f$ = 73.8
$R_g$ = 94.4
CIE $R_a$ = 70.8
$R_9$ = -43.2

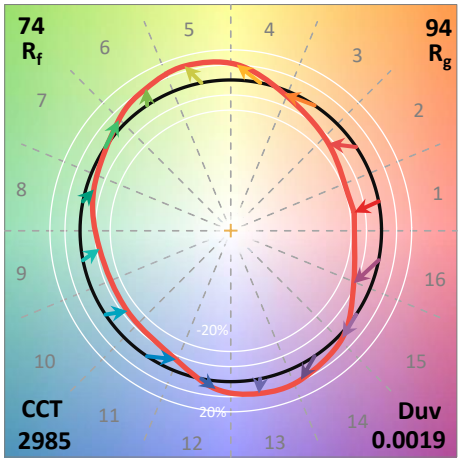
## Spectral Power Distribution Comparison

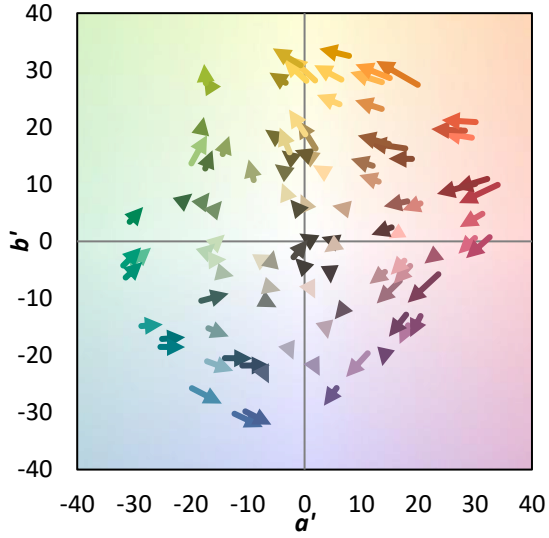



## Color Vector Graphics



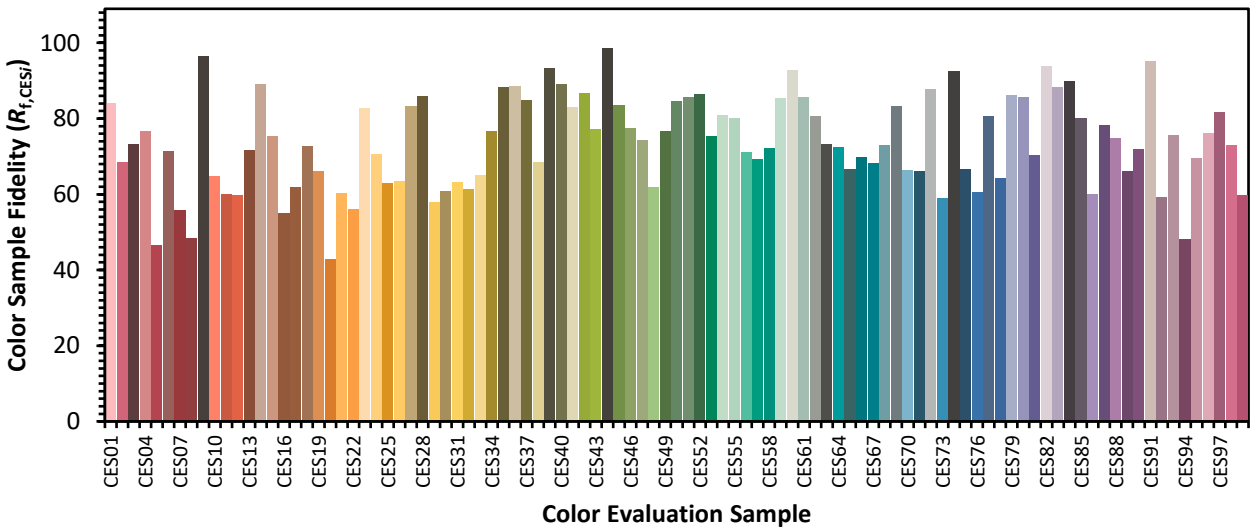



REPORT NUMBER: SP1-2407-184-4

# TM-30-18

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

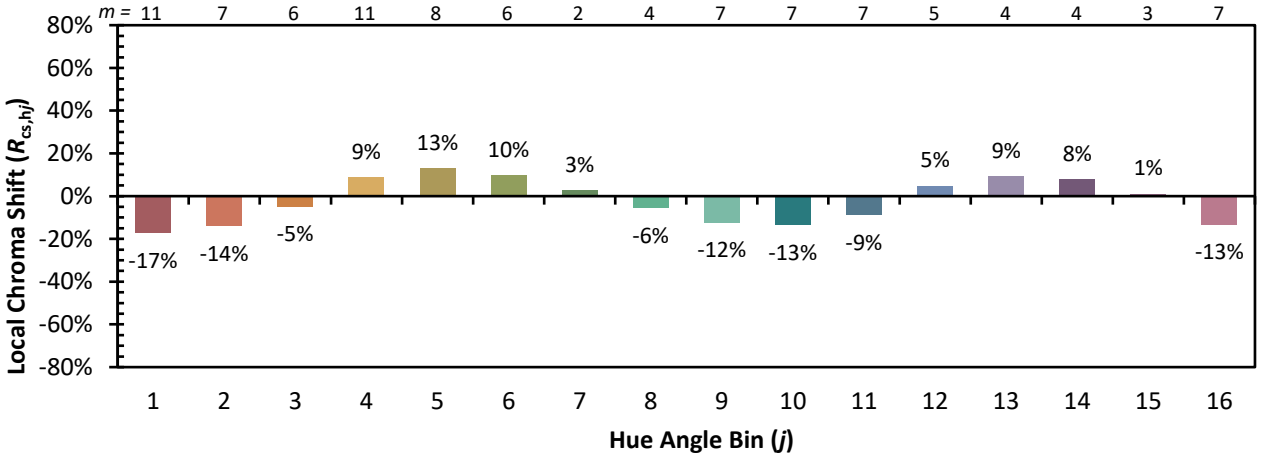
| | | | |
|---|---|---|---|
| CES01 = 86 | CES26 = 63 | CES51 = 86 | CES76 = 61 |
| CES02 = 62 | CES27 = 83 | CES52 = 86 | CES77 = 81 |
| CES03 = 31 | CES28 = 86 | CES53 = 75 | CES78 = 64 |
| CES04 = 71 | CES29 = 58 | CES54 = 81 | CES79 = 86 |
| CES05 = 49 | CES30 = 61 | CES55 = 80 | CES80 = 86 |
| CES06 = 51 | CES31 = 63 | CES56 = 71 | CES81 = 70 |
| CES07 = 41 | CES32 = 61 | CES57 = 69 | CES82 = 94 |
| CES08 = 40 | CES33 = 65 | CES58 = 72 | CES83 = 88 |
| CES09 = 29 | CES34 = 77 | CES59 = 85 | CES84 = 90 |
| CES10 = 76 | CES35 = 88 | CES60 = 93 | CES85 = 80 |
| CES11 = 59 | CES36 = 89 | CES61 = 86 | CES86 = 60 |
| CES12 = 65 | CES37 = 85 | CES62 = 81 | CES87 = 78 |
| CES13 = 43 | CES38 = 69 | CES63 = 73 | CES88 = 75 |
| CES14 = 74 | CES39 = 93 | CES64 = 72 | CES89 = 66 |
| CES15 = 71 | CES40 = 89 | CES65 = 67 | CES90 = 72 |
| CES16 = 47 | CES41 = 83 | CES66 = 70 | CES91 = 95 |
| CES17 = 50 | CES42 = 87 | CES67 = 68 | CES92 = 59 |
| CES18 = 56 | CES43 = 77 | CES68 = 73 | CES93 = 76 |
| CES19 = 73 | CES44 = 99 | CES69 = 83 | CES94 = 48 |
| CES20 = 66 | CES45 = 83 | CES70 = 66 | CES95 = 70 |
| CES21 = 87 | CES46 = 77 | CES71 = 66 | CES96 = 76 |
| CES22 = 79 | CES47 = 74 | CES72 = 88 | CES97 = 82 |
| CES23 = 92 | CES48 = 62 | CES73 = 59 | CES98 = 73 |
| CES24 = 91 | CES49 = 77 | CES74 = 93 | CES99 = 60 |
| CES25 = 73 | CES50 = 85 | CES75 = 67 | |

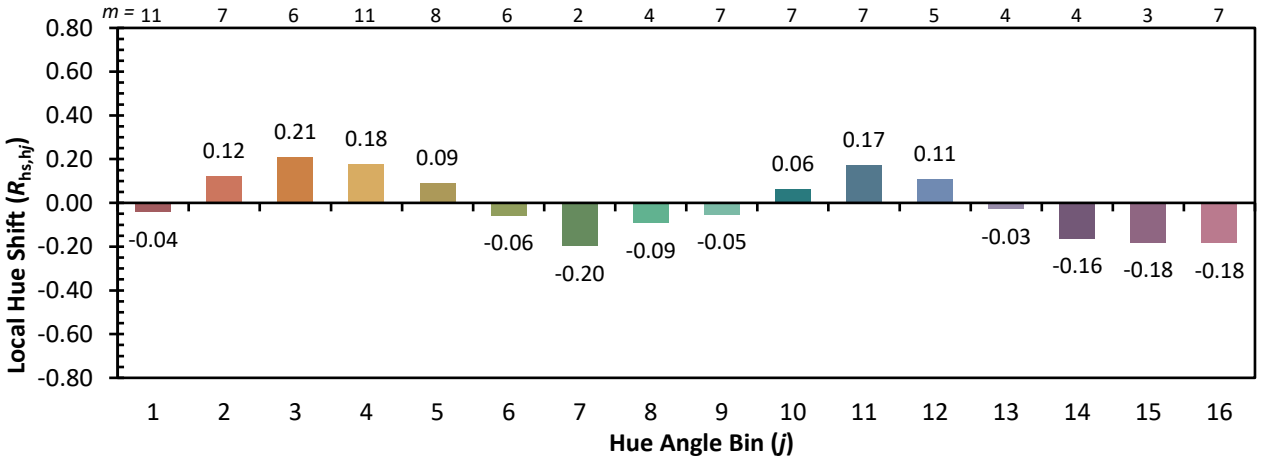


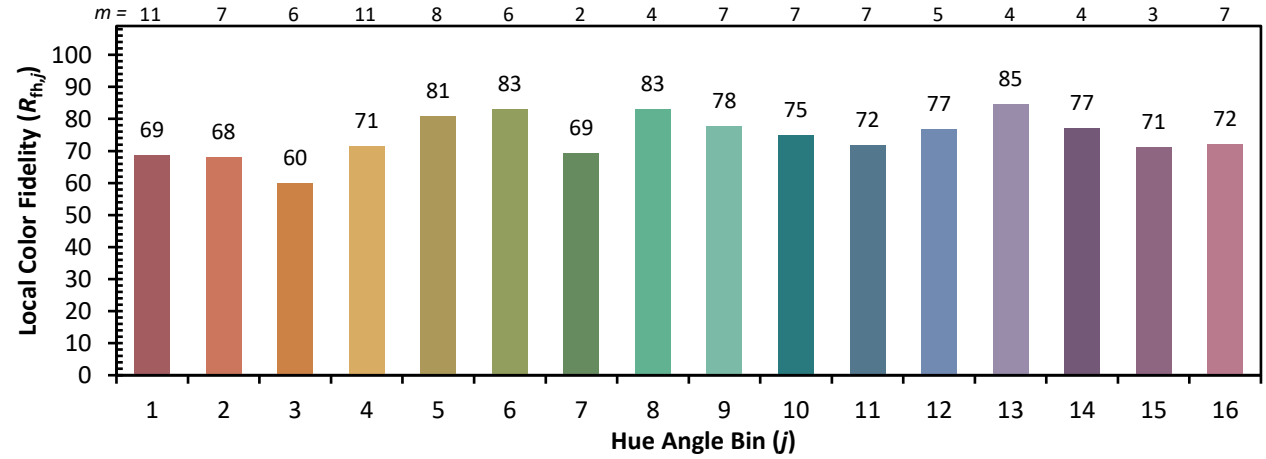
REPORT NUMBER: SP1-2407-184-4

**TM-30-18**

## Color Rendition by Hue-Angle Bin



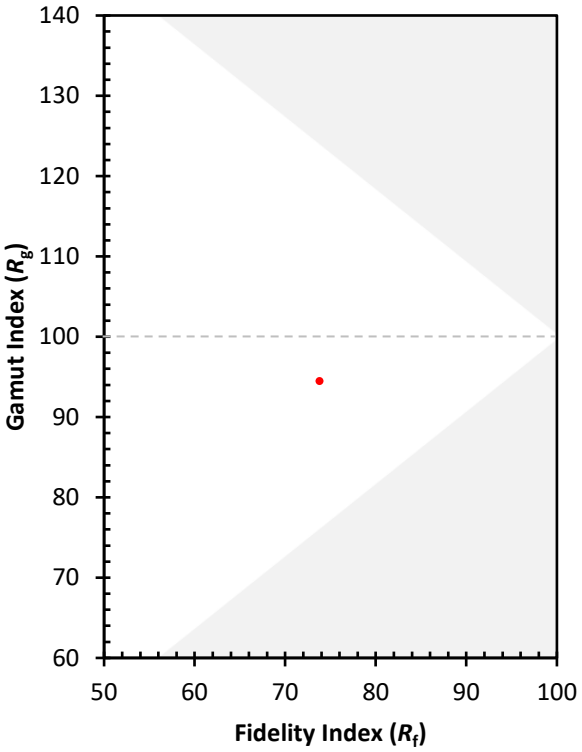



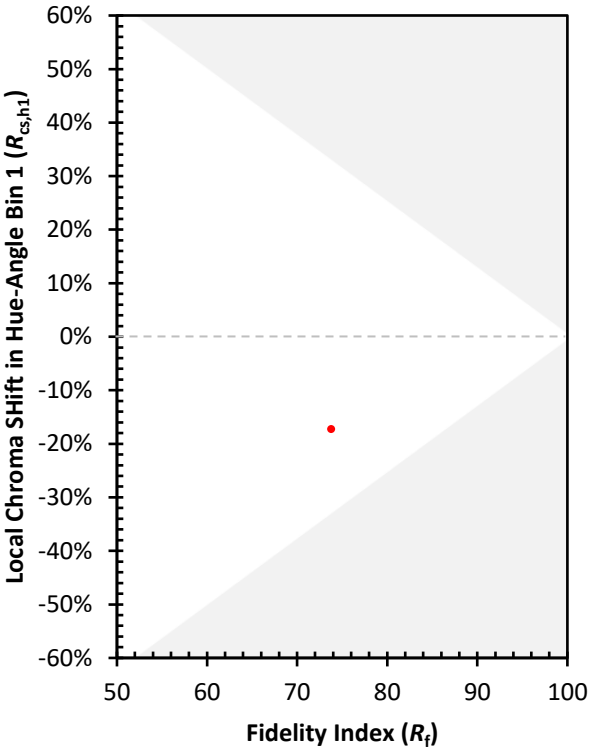



REPORT NUMBER: SP1-2407-184-4

# TM-30-18

## Measure Comparisons




(END OF REPORT)