

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



Scaled data based on original data using
LM-79-2019 Approved Method: Electrical and Photometric Measurements of Solid-
State Lighting Products

Test Report Prepared for

Cooper Lighting Solutions

Brand: McGRAW-EDISON

Report Number: P634726

Luminaire Tested: GWS-SA3C-735-U-RW-W-GRSBK

Issue Date: 1/10/2023

Test Information

Test Method: LM-79-2019
Report Number: P634726
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2209-782-50)
Test Lab: COOPER LIGHTING SOLUTIONS
Issue Date: 1/10/2023
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: McGRAW-EDISON
Catalog Number: GWS-SA3C-735-U-RW-W-GRSBK
Description: GALLEON WALL SLIM LUMINAIRE. (3) LIGHTSQUARES WITH 16 LEDS EACH AND RECTANGULAR WIDE OPTICS W/ FACTORY INSTALLED GLARE SHIELD, BK
Light Source: (48) 3500K CCT, 70 CRI LEDS
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 8917.1 lumens
Efficiency: N/A
Efficacy: 95.9 lumens/watt
Luminous Opening: Rectangular (W 1.5' x L: 0.5' x H: 0')
IES Classification: Type V - Short
BUG Rating: B3 - U0 - G0

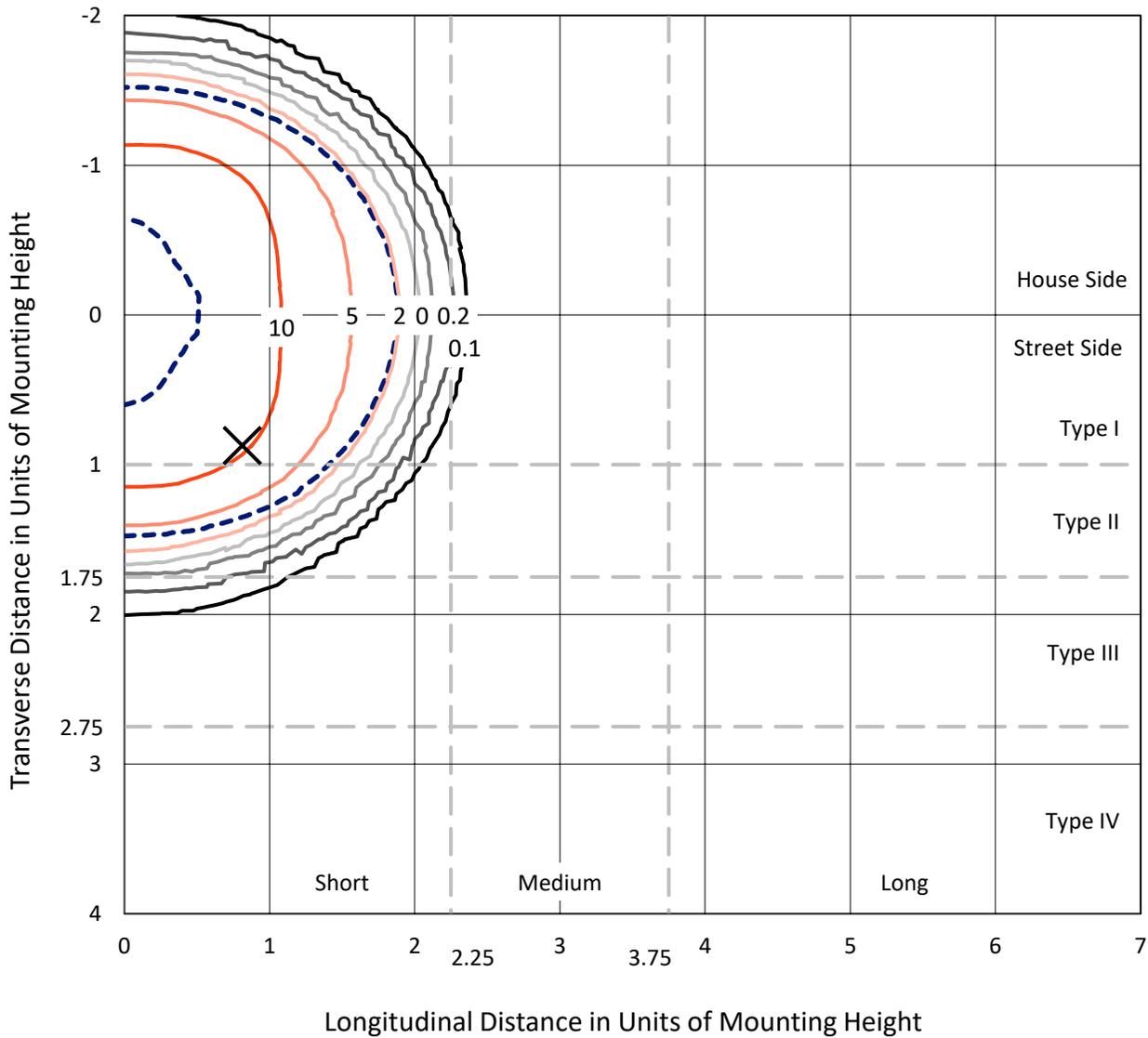
Input Watts (W): 93
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 0
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 28.75 FT



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Iso-Footcandle Lines of Horizontal Illumination

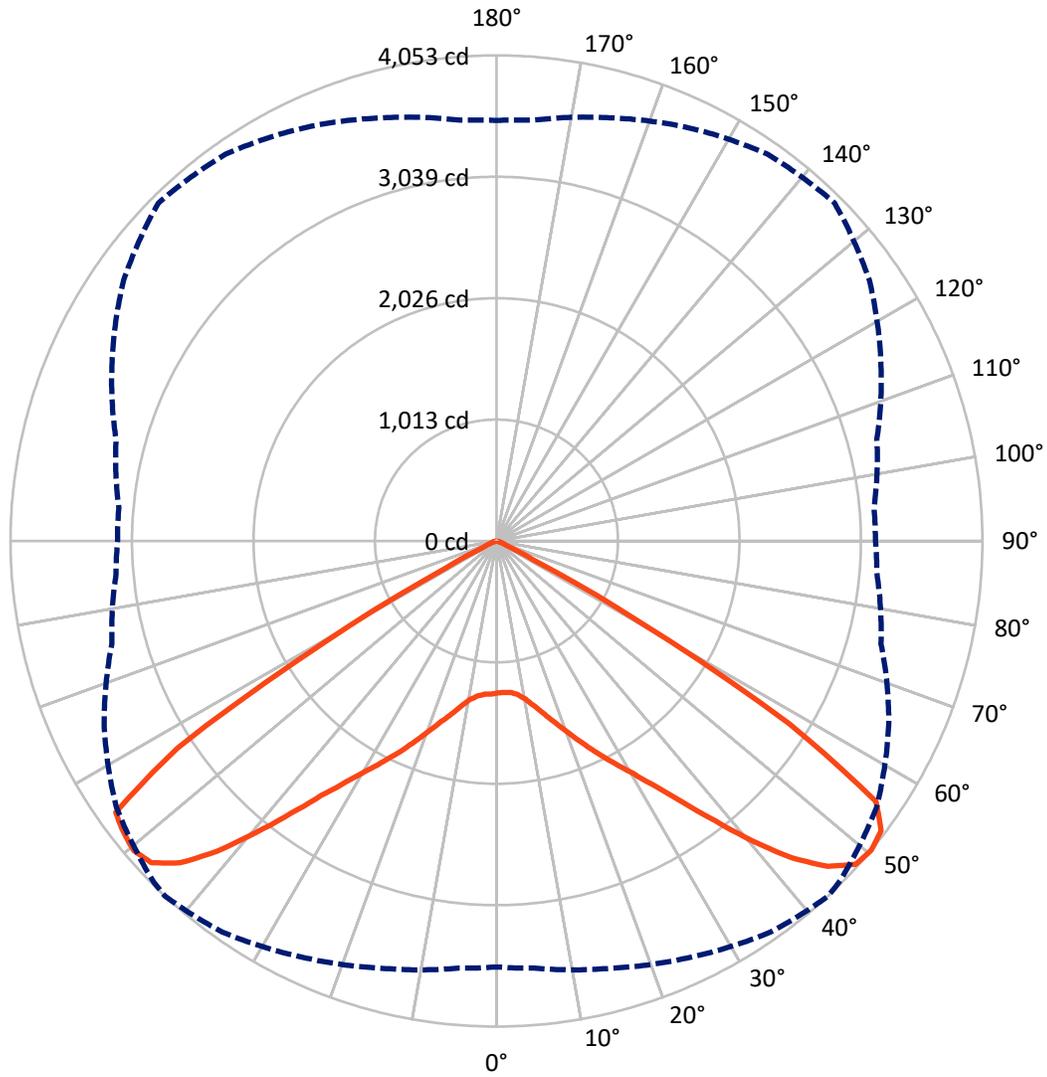
✕ Max cd
 - - - 1/2 Max cd



Based on 10 foot mounting height. Maximum calculated value = 15.2 fc
 Type V - Short - N/A

REPORT NUMBER: P634726
CATALOG NUMBER: GWS-SA3C-735-U-RW-W-GRSBK

Luminous Intensity Polar Plot



— Vertical Plane Through 43-Deg Lateral - - - Horizontal Cone Through 50-Deg Vertical

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CATALOG NUMBER: GWS-SA3C-735-U-RW-W-GRSBK

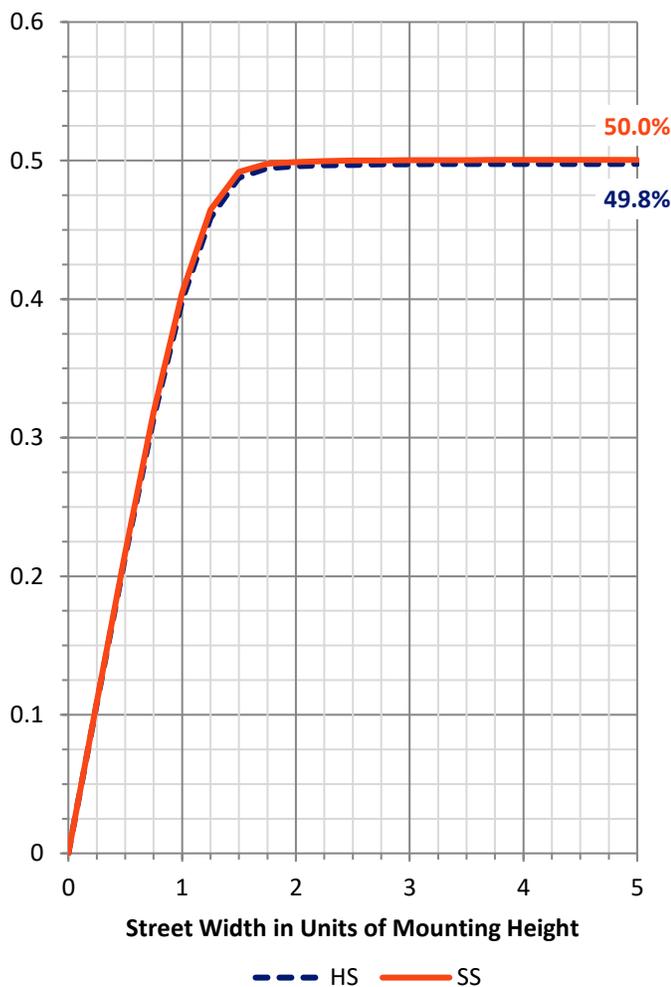
FLUX DISTRIBUTION:

| | | Downward | Upward | Total |
|--------------------|-----------|----------|--------|--------|
| House Side | Lumens | 4458.4 | 0.0 | 4458.4 |
| | % Fixture | 50.0 | 0.0 | 50.0 |
| Street Side | Lumens | 4458.7 | 0.0 | 4458.7 |
| | % Fixture | 50.0 | 0.0 | 50.0 |
| Total | Lumens | 8917.1 | 0.0 | 8917.1 |
| | % Fixture | 100.0 | 0.0 | 100.0 |

ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 124.9 | 1.4 |
| 10°-20° | 429.8 | 4.8 |
| 20°-30° | 869.6 | 9.8 |
| 30°-40° | 1613.4 | 18.1 |
| 40°-50° | 2678.1 | 30.0 |
| 50°-60° | 2733.2 | 30.7 |
| 60°-70° | 448.2 | 5.0 |
| 70°-80° | 19.6 | 0.2 |
| 80°-90° | 0.3 | 0.0 |
| 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° | 8917.1 | 100.0 |
| 0°-180° | 8917.1 | 100.0 |

Coefficient of Utilization



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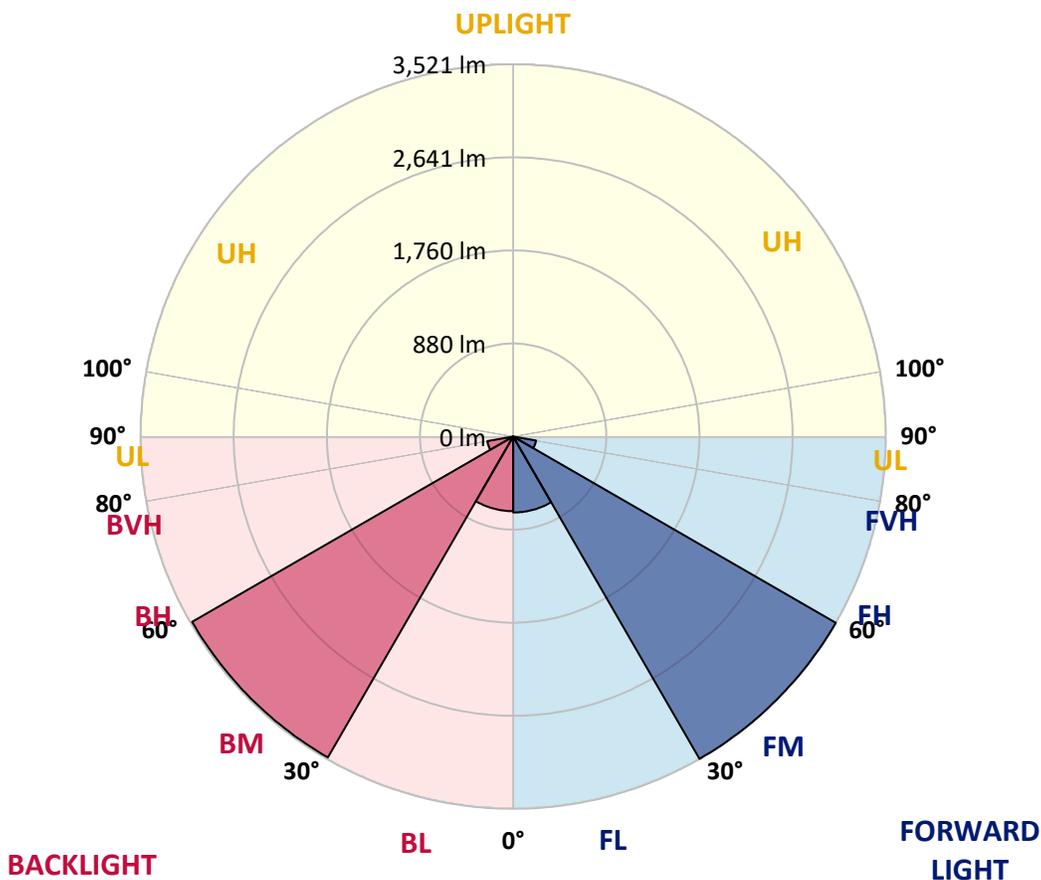
CATALOG NUMBER: GWS-SA3C-735-U-RW-W-GRSBK

LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

| Zone | Lumens | % Fixture | Zone Rating/Lumen Limit | | |
|----------------|--------|-----------|-------------------------|------|--------|
| | | | B | U | G |
| FL (0°-30°) | 718.4 | 8.1 | | | |
| FM (30°-60°) | 3520.9 | 39.5 | | | |
| FH (60°-80°) | 219.3 | 2.5 | | | G0/660 |
| FVH (80°-90°) | 0.1 | 0.0 | | | G0/10 |
| BL (0°-30°) | 705.9 | 7.9 | B2/1000 | | |
| BM (30°-60°) | 3503.8 | 39.3 | B3/5000 | | |
| BH (60°-80°) | 248.6 | 2.8 | B1/500 | | G0/660 |
| BVH (80°-90°) | 0.2 | 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-G0

Type V Short





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CANDELA DISTRIBUTION (FULL):

| | 0° | 5° | 15° | 25° | 35° | 43° | 45° | 55° | 65° | 75° | 85° |
|-------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 0° | 1268.3 | 1268.3 | 1268.3 | 1268.3 | 1268.3 | 1268.3 | 1268.3 | 1268.3 | 1268.3 | 1268.3 | 1268.3 |
| 2.5° | 1244.6 | 1247.6 | 1251.6 | 1255.5 | 1260.4 | 1265.4 | 1268.3 | 1277.2 | 1275.2 | 1283.1 | 1283.1 |
| 5° | 1230.8 | 1233.8 | 1238.7 | 1247.6 | 1258.5 | 1269.3 | 1277.2 | 1294.9 | 1304.8 | 1320.6 | 1326.5 |
| 7.5° | 1237.7 | 1241.7 | 1247.6 | 1261.4 | 1278.2 | 1294.9 | 1303.8 | 1332.4 | 1352.1 | 1381.7 | 1398.5 |
| 10° | 1260.4 | 1264.4 | 1274.2 | 1297.9 | 1319.6 | 1343.3 | 1354.1 | 1390.6 | 1422.2 | 1462.6 | 1486.3 |
| 12.5° | 1286.1 | 1291.0 | 1310.7 | 1346.2 | 1383.7 | 1415.3 | 1430.1 | 1470.5 | 1503.0 | 1548.4 | 1585.9 |
| 15° | 1312.7 | 1320.6 | 1351.2 | 1403.4 | 1456.7 | 1499.1 | 1514.9 | 1558.3 | 1590.8 | 1639.1 | 1681.6 |
| 17.5° | 1374.8 | 1383.7 | 1418.2 | 1474.4 | 1547.4 | 1596.7 | 1610.5 | 1655.9 | 1680.6 | 1713.1 | 1757.5 |
| 20° | 1452.7 | 1469.5 | 1511.9 | 1580.0 | 1659.9 | 1707.2 | 1717.1 | 1761.4 | 1759.5 | 1773.3 | 1811.7 |
| 22.5° | 1549.4 | 1561.2 | 1607.6 | 1688.5 | 1778.2 | 1830.5 | 1853.2 | 1871.9 | 1847.2 | 1835.4 | 1860.1 |
| 25° | 1650.0 | 1663.8 | 1714.1 | 1802.9 | 1903.5 | 1963.6 | 1982.4 | 1997.2 | 1957.7 | 1913.3 | 1916.3 |
| 27.5° | 1780.2 | 1790.0 | 1839.4 | 1934.0 | 2034.6 | 2102.7 | 2119.4 | 2145.1 | 2092.8 | 2021.8 | 2002.1 |
| 30° | 1935.0 | 1944.9 | 1997.2 | 2096.8 | 2196.4 | 2254.6 | 2280.2 | 2311.8 | 2254.6 | 2165.8 | 2143.1 |
| 32.5° | 2116.5 | 2126.4 | 2193.4 | 2296.0 | 2377.8 | 2441.0 | 2465.6 | 2499.2 | 2453.8 | 2354.2 | 2328.5 |
| 35° | 2333.5 | 2339.4 | 2418.3 | 2529.7 | 2616.5 | 2677.7 | 2694.4 | 2733.9 | 2683.6 | 2584.0 | 2570.2 |
| 37.5° | 2585.0 | 2591.9 | 2677.7 | 2806.9 | 2895.6 | 2963.7 | 2990.3 | 3001.2 | 2940.0 | 2828.6 | 2817.7 |
| 40° | 2861.1 | 2883.8 | 2967.6 | 3106.7 | 3206.3 | 3292.1 | 3315.8 | 3279.3 | 3193.5 | 3041.6 | 3021.9 |
| 42.5° | 3149.1 | 3168.8 | 3262.5 | 3413.4 | 3528.8 | 3616.6 | 3617.6 | 3538.7 | 3392.7 | 3182.6 | 3153.0 |
| 45° | 3388.8 | 3396.6 | 3518.0 | 3669.8 | 3811.9 | 3874.0 | 3879.9 | 3736.9 | 3517.0 | 3264.5 | 3201.4 |
| 47.5° | 3553.5 | 3566.3 | 3671.8 | 3817.8 | 3974.6 | 4030.8 | 4019.0 | 3840.5 | 3576.1 | 3317.7 | 3213.2 |
| 50° | 3555.4 | 3577.1 | 3691.5 | 3832.6 | 3984.4 | 4052.5 | 4035.7 | 3870.0 | 3609.7 | 3319.7 | 3184.6 |
| 52.5° | 3240.8 | 3276.3 | 3462.7 | 3666.9 | 3899.6 | 4016.0 | 4020.0 | 3908.5 | 3596.9 | 3288.2 | 3159.0 |
| 55° | 2444.9 | 2483.4 | 2718.1 | 3066.2 | 3516.0 | 3840.5 | 3896.7 | 3863.1 | 3582.1 | 3302.0 | 3204.3 |
| 57.5° | 1294.0 | 1264.4 | 1394.6 | 1739.7 | 2304.9 | 2878.9 | 3043.6 | 3311.8 | 3417.4 | 3318.7 | 3288.2 |
| 60° | 282.1 | 300.8 | 400.4 | 539.5 | 899.5 | 1354.1 | 1514.9 | 1974.5 | 2520.9 | 2763.5 | 2939.0 |
| 62.5° | 121.3 | 119.3 | 124.3 | 141.0 | 206.1 | 343.2 | 419.2 | 684.5 | 1079.9 | 1483.3 | 1756.5 |
| 65° | 99.6 | 100.6 | 104.5 | 104.5 | 97.6 | 98.6 | 103.6 | 156.8 | 252.5 | 354.1 | 475.4 |
| 67.5° | 75.0 | 75.9 | 82.8 | 84.8 | 79.9 | 71.0 | 70.0 | 59.2 | 62.1 | 77.9 | 80.9 |
| 70° | 47.3 | 47.3 | 51.3 | 53.3 | 53.3 | 49.3 | 48.3 | 42.4 | 41.4 | 47.3 | 53.3 |
| 72.5° | 25.6 | 25.6 | 27.6 | 28.6 | 27.6 | 26.6 | 26.6 | 25.6 | 24.7 | 28.6 | 36.5 |
| 75° | 10.8 | 10.8 | 11.8 | 11.8 | 10.8 | 10.8 | 10.8 | 10.8 | 10.8 | 12.8 | 19.7 |
| 77.5° | 2.0 | 3.0 | 3.9 | 3.0 | 2.0 | 2.0 | 2.0 | 3.0 | 3.0 | 3.9 | 5.9 |
| 80° | 1.0 | 1.0 | 2.0 | 1.0 | 0.0 | 0.0 | 0.0 | 0.0 | 1.0 | 1.0 | 1.0 |
| 82.5° | 1.0 | 1.0 | 1.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 1.0 |
| 85° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 87.5° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 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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CATALOG NUMBER: GWS-SA3C-735-U-RW-W-GRSBK

CANDELA DISTRIBUTION (continued):

| | 90° | 95° | 105° | 115° | 125° | 135° | 145° | 155° | 165° | 175° | 180° |
|-------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 0° | 1268.3 | 1268.3 | 1268.3 | 1268.3 | 1268.3 | 1268.3 | 1268.3 | 1268.3 | 1268.3 | 1268.3 | 1268.3 |
| 2.5° | 1290.0 | 1279.2 | 1283.1 | 1285.1 | 1282.1 | 1280.2 | 1269.3 | 1266.3 | 1261.4 | 1253.5 | 1251.6 |
| 5° | 1333.4 | 1324.5 | 1323.5 | 1317.6 | 1303.8 | 1287.1 | 1266.3 | 1257.5 | 1247.6 | 1237.7 | 1235.8 |
| 7.5° | 1406.4 | 1395.5 | 1388.6 | 1368.9 | 1337.4 | 1310.7 | 1276.2 | 1257.5 | 1244.6 | 1231.8 | 1228.9 |
| 10° | 1500.1 | 1487.3 | 1467.5 | 1431.0 | 1388.6 | 1350.2 | 1309.7 | 1285.1 | 1265.4 | 1247.6 | 1246.6 |
| 12.5° | 1599.7 | 1585.9 | 1550.4 | 1504.0 | 1452.7 | 1417.2 | 1366.0 | 1331.4 | 1301.8 | 1275.2 | 1272.3 |
| 15° | 1704.2 | 1687.5 | 1639.1 | 1583.9 | 1536.6 | 1500.1 | 1443.9 | 1388.6 | 1343.3 | 1304.8 | 1300.9 |
| 17.5° | 1784.1 | 1763.4 | 1706.2 | 1664.8 | 1626.3 | 1588.8 | 1525.7 | 1452.7 | 1392.6 | 1346.2 | 1335.4 |
| 20° | 1834.4 | 1814.7 | 1760.5 | 1737.8 | 1720.0 | 1693.4 | 1618.4 | 1542.5 | 1475.4 | 1418.2 | 1408.4 |
| 22.5° | 1882.7 | 1859.1 | 1811.7 | 1811.7 | 1825.5 | 1814.7 | 1733.8 | 1647.0 | 1568.1 | 1502.1 | 1487.3 |
| 25° | 1937.0 | 1918.3 | 1884.7 | 1912.3 | 1946.9 | 1945.9 | 1863.0 | 1754.5 | 1663.8 | 1589.8 | 1575.0 |
| 27.5° | 2015.9 | 1997.2 | 1985.3 | 2037.6 | 2081.0 | 2078.0 | 1987.3 | 1869.9 | 1774.3 | 1701.3 | 1687.5 |
| 30° | 2155.0 | 2137.2 | 2124.4 | 2187.5 | 2242.7 | 2222.0 | 2122.4 | 2009.0 | 1912.3 | 1829.5 | 1819.6 |
| 32.5° | 2340.4 | 2321.6 | 2304.9 | 2368.0 | 2417.3 | 2390.7 | 2296.0 | 2189.5 | 2078.0 | 1997.2 | 1977.4 |
| 35° | 2584.0 | 2544.5 | 2527.8 | 2602.7 | 2623.4 | 2593.8 | 2503.1 | 2409.4 | 2291.1 | 2198.3 | 2185.5 |
| 37.5° | 2835.5 | 2789.1 | 2777.3 | 2842.4 | 2875.9 | 2865.1 | 2758.5 | 2660.9 | 2532.7 | 2430.1 | 2415.3 |
| 40° | 3050.5 | 3008.1 | 2987.3 | 3088.9 | 3164.9 | 3171.8 | 3076.1 | 2956.8 | 2805.9 | 2699.4 | 2672.7 |
| 42.5° | 3176.7 | 3140.2 | 3135.3 | 3293.1 | 3417.4 | 3506.1 | 3391.7 | 3268.4 | 3109.6 | 2989.3 | 2967.6 |
| 45° | 3205.3 | 3181.6 | 3223.1 | 3430.2 | 3623.5 | 3785.2 | 3687.6 | 3557.4 | 3385.8 | 3258.6 | 3237.9 |
| 47.5° | 3202.4 | 3194.5 | 3268.4 | 3501.2 | 3745.8 | 3945.0 | 3896.7 | 3749.7 | 3584.0 | 3450.9 | 3431.2 |
| 50° | 3159.9 | 3160.9 | 3284.2 | 3536.7 | 3795.1 | 3988.4 | 3940.1 | 3804.0 | 3656.0 | 3524.9 | 3509.1 |
| 52.5° | 3143.2 | 3137.3 | 3254.6 | 3525.8 | 3845.4 | 3968.7 | 3860.2 | 3707.3 | 3542.6 | 3380.9 | 3357.2 |
| 55° | 3202.4 | 3187.6 | 3258.6 | 3517.0 | 3851.3 | 3957.8 | 3671.8 | 3340.4 | 3003.1 | 2811.8 | 2796.0 |
| 57.5° | 3291.1 | 3275.3 | 3308.9 | 3451.9 | 3542.6 | 3291.1 | 2702.3 | 2167.8 | 1820.6 | 1673.7 | 1609.6 |
| 60° | 2939.0 | 2928.2 | 2902.5 | 2729.9 | 2341.4 | 1766.4 | 1203.2 | 767.3 | 551.3 | 445.8 | 445.8 |
| 62.5° | 1823.6 | 1808.8 | 1669.7 | 1240.7 | 901.4 | 521.7 | 287.0 | 179.5 | 136.1 | 127.2 | 126.2 |
| 65° | 511.9 | 508.9 | 421.1 | 297.8 | 189.4 | 117.4 | 103.6 | 105.5 | 103.6 | 100.6 | 99.6 |
| 67.5° | 76.9 | 84.8 | 84.8 | 69.0 | 66.1 | 74.0 | 86.8 | 92.7 | 87.8 | 82.8 | 80.9 |
| 70° | 49.3 | 53.3 | 51.3 | 44.4 | 47.3 | 55.2 | 62.1 | 63.1 | 60.2 | 55.2 | 54.2 |
| 72.5° | 34.5 | 38.5 | 31.6 | 28.6 | 29.6 | 32.5 | 35.5 | 35.5 | 34.5 | 32.5 | 30.6 |
| 75° | 20.7 | 20.7 | 14.8 | 13.8 | 13.8 | 14.8 | 14.8 | 16.8 | 16.8 | 15.8 | 14.8 |
| 77.5° | 6.9 | 7.9 | 4.9 | 3.9 | 3.9 | 3.9 | 4.9 | 5.9 | 5.9 | 4.9 | 3.9 |
| 80° | 1.0 | 2.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 2.0 | 2.0 | 1.0 |
| 82.5° | 1.0 | 1.0 | 1.0 | 0.0 | 0.0 | 0.0 | 0.0 | 1.0 | 1.0 | 1.0 | 1.0 |
| 85° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 1.0 | 1.0 |
| 87.5° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 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 |

LM-79-08: Approved Method: Electrical and Photometric Measurements of Solid-
State Lighting Products

Report Prepared for

Cooper Lighting Solutions

All Brands

Data applicable to all product families using SA light engines

Report Number: SP1-2101-121-7

Luminaire Tested: IFLD-S-SA2A-735-U-T2

Test Date: 03/04/2021

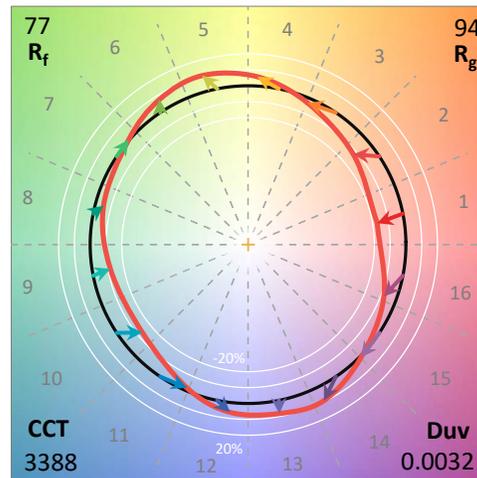
Test Information

Test Method: LM-79-08
 Report Number: SP1-2101-121-7
 Test Lab: COOPER LIGHTING SOLUTIONS
 Photometer: SP1
 Measurement Geometry: 4π
 Issue Date: 03/04/2021
 Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
 Product Line: STREETWORKS
 Catalog Number: **IFLD-S-SA2A-735-U-T2**
 Description: STREETWORKS INF FLOOD

PROGRAMMED @ 615mA.

Spectral Parameters

| | | | | | |
|---------------------------|--------|-----------|------|------|-------|
| CCT (K): | 3388 | CRI (Ra): | 73.1 | R9: | -34.6 |
| CIE u': | 0.2371 | R1: | 68.9 | R10: | 57.8 |
| CIE v': | 0.5177 | R2: | 81.1 | R11: | 68.6 |
| Duv: | 0.0032 | R3: | 93.1 | R12: | 53.9 |
| CIE x: | 0.4153 | R4: | 71.6 | R13: | 70.9 |
| CIE y: | 0.4030 | R5: | 69.4 | R14: | 96.2 |
| CIE z: | 0.1817 | R6: | 75.0 | | |
| Peak Wavelength (nm): | 590 | R7: | 79.5 | | |
| Dominant Wavelength (nm): | 580 | R8: | 46.4 | | |
| Purity: | 45.7 | | | | |
| Rf: | 76.9 | | | | |
| Rg: | 94.4 | | | | |



Test Conditions

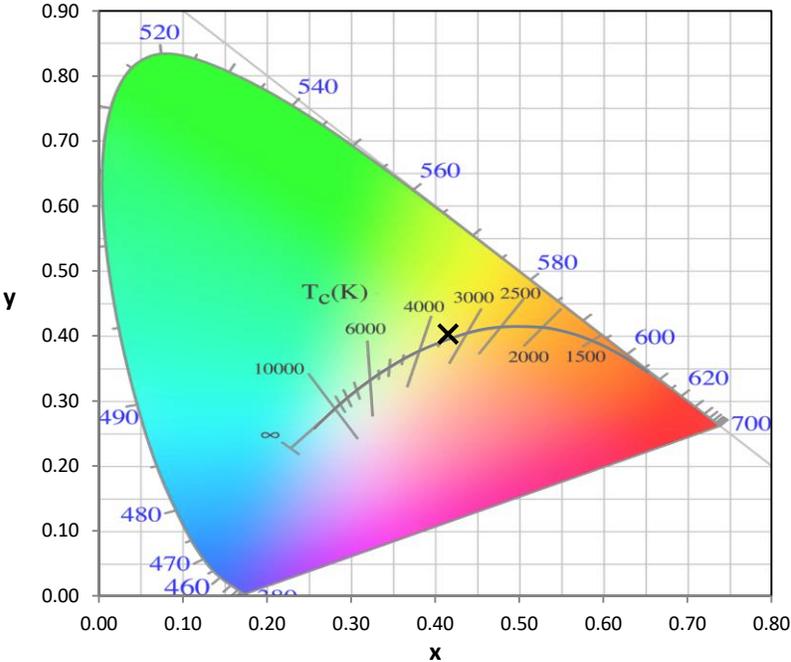
Stabilization Time: 81M
 Operation Time: 12H
 Room Temperature (°C) / RH%: 25.0/30%
 Sphere Temperature (°C): 24.1

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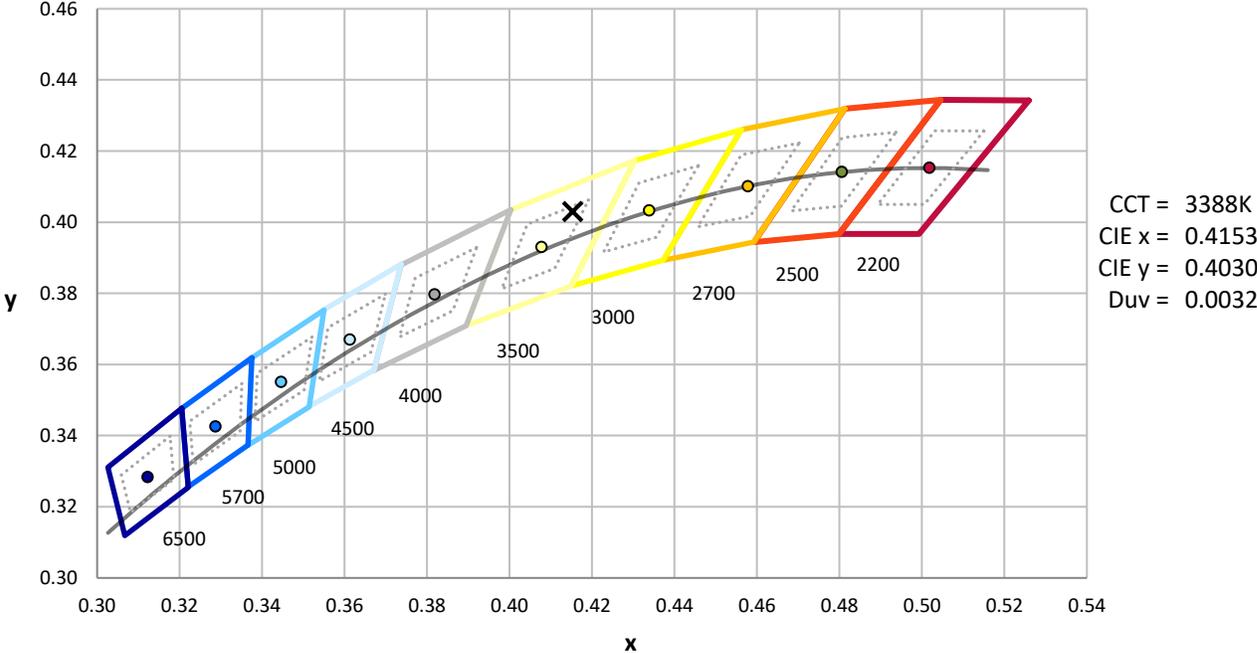
| Measurement and Test Equipment | | | |
|--------------------------------|-----------------------|------------------|----------------------|
| Instrument | Identification Number | Calibration Date | Calibration Due Date |
| Photometer | IN0058 | 1/31/2021 | 7/31/2021 |
| Power Meter | IN0071 | 12/1/2020 | 12/1/2021 |
| AC Power Source | IN0063 | 12/1/2020 | 12/1/2021 |
| DC Power Source | IN0208 | 12/1/2020 | 12/1/2021 |
| Sphere Thermometer | IN0085 | 12/1/2020 | 12/1/2021 |
| Room Thermometer | IN0046 | 12/1/2020 | 12/1/2021 |

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CIE 1931 Chromaticity Diagram



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

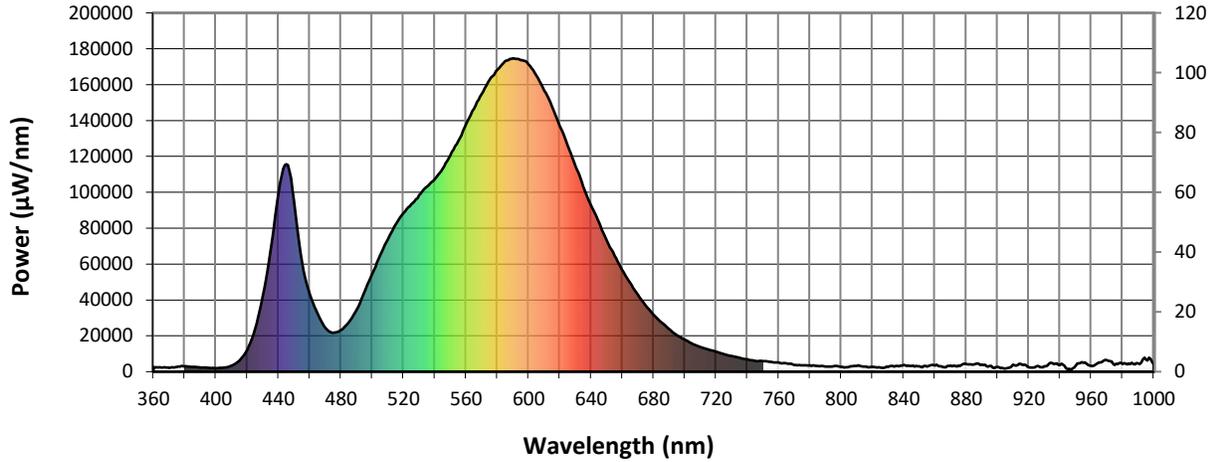


CCT = 3388K
 CIE x = 0.4153
 CIE y = 0.4030
 Duv = 0.0032

Point lies inside the ANSI 3500K 4-step quadrangle

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Photopic Flux vs. Wavelength

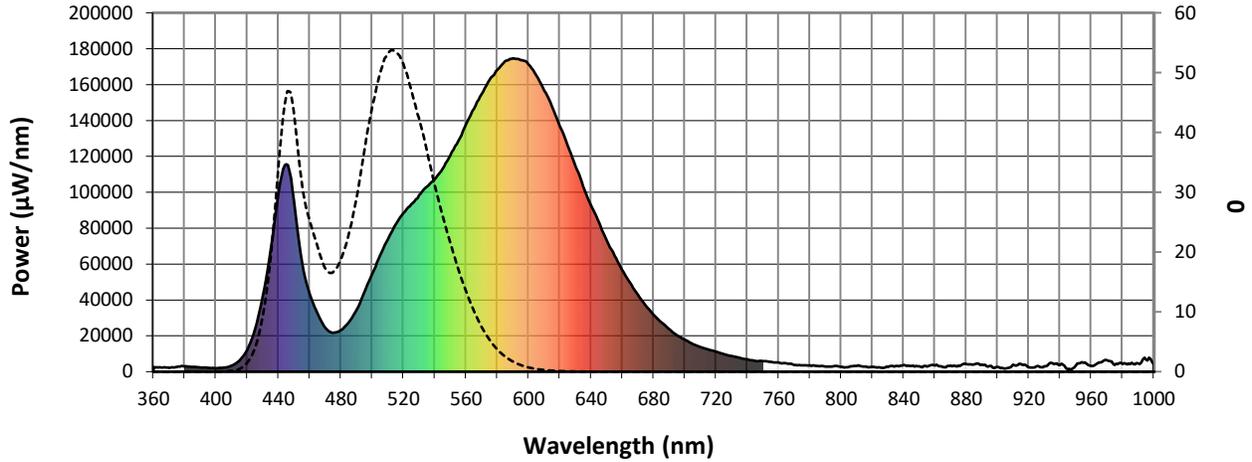


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| λ (nm) | Power (µW/nm) | Lumens (φ/nm) | λ (nm) | Power (µW/nm) | Lumens (φ/nm) | λ (nm) | Power (µW/nm) | Lumens (φ/nm) | λ (nm) | Power (µW/nm) | Lumens (φ/nm) | λ (nm) | Power (µW/nm) | Lumens (φ/nm) |
|--------|---------------|---------------|--------|---------------|---------------|--------|---------------|---------------|--------|---------------|---------------|--------|---------------|---------------|
| 360 | 2672 | 0.0 | 490 | 34553 | 4.9 | 620 | 136720 | 35.6 | 750 | 5870 | 0.0 | 880 | 4216 | 0.0 |
| 365 | 2252 | 0.0 | 495 | 44336 | 8.0 | 625 | 126308 | 27.9 | 755 | 5421 | 0.0 | 885 | 4132 | 0.0 |
| 370 | 2217 | 0.0 | 500 | 54643 | 12.1 | 630 | 114625 | 20.7 | 760 | 5097 | 0.0 | 890 | 3992 | 0.0 |
| 375 | 2697 | 0.0 | 505 | 64676 | 18.1 | 635 | 103216 | 15.5 | 765 | 4626 | 0.0 | 895 | 3214 | 0.0 |
| 380 | 3039 | 0.0 | 510 | 73825 | 25.4 | 640 | 92605 | 11.1 | 770 | 3782 | 0.0 | 900 | 2580 | 0.0 |
| 385 | 2655 | 0.0 | 515 | 81872 | 33.9 | 645 | 83234 | 8.0 | 775 | 3506 | 0.0 | 905 | 1776 | 0.0 |
| 390 | 2357 | 0.0 | 520 | 88574 | 43.0 | 650 | 73263 | 5.4 | 780 | 3507 | 0.0 | 910 | 3995 | 0.0 |
| 395 | 2186 | 0.0 | 525 | 93289 | 50.1 | 655 | 64627 | 3.7 | 785 | 3267 | 0.0 | 915 | 4288 | 0.0 |
| 400 | 2015 | 0.0 | 530 | 98393 | 57.9 | 660 | 56614 | 2.4 | 790 | 2849 | 0.0 | 920 | 2446 | 0.0 |
| 405 | 2234 | 0.0 | 535 | 103269 | 64.0 | 665 | 49537 | 1.6 | 795 | 3037 | 0.0 | 925 | 3009 | 0.0 |
| 410 | 3412 | 0.0 | 540 | 107316 | 69.9 | 670 | 42866 | 0.9 | 800 | 2716 | 0.0 | 930 | 3026 | 0.0 |
| 415 | 6135 | 0.0 | 545 | 113101 | 75.3 | 675 | 36708 | 0.6 | 805 | 2648 | 0.0 | 935 | 4734 | 0.0 |
| 420 | 12146 | 0.0 | 550 | 120690 | 82.0 | 680 | 31814 | 0.4 | 810 | 3187 | 0.0 | 940 | 3719 | 0.0 |
| 425 | 23983 | 0.1 | 555 | 128583 | 87.8 | 685 | 27485 | 0.2 | 815 | 2931 | 0.0 | 945 | 1480 | 0.0 |
| 430 | 42142 | 0.3 | 560 | 137796 | 93.6 | 690 | 23698 | 0.1 | 820 | 2717 | 0.0 | 950 | 3450 | 0.0 |
| 435 | 68228 | 0.8 | 565 | 146577 | 97.5 | 695 | 20309 | 0.1 | 825 | 2236 | 0.0 | 955 | 5051 | 0.0 |
| 440 | 99323 | 1.6 | 570 | 154581 | 100.5 | 700 | 17890 | 0.1 | 830 | 2628 | 0.0 | 960 | 3176 | 0.0 |
| 445 | 115584 | 2.4 | 575 | 162633 | 101.2 | 705 | 15500 | 0.0 | 835 | 3140 | 0.0 | 965 | 5178 | 0.0 |
| 450 | 94997 | 2.5 | 580 | 168101 | 99.9 | 710 | 13699 | 0.0 | 840 | 3675 | 0.0 | 970 | 6385 | 0.0 |
| 455 | 61433 | 2.1 | 585 | 173145 | 96.2 | 715 | 12398 | 0.0 | 845 | 3283 | 0.0 | 975 | 3810 | 0.0 |
| 460 | 43373 | 1.8 | 590 | 174675 | 90.3 | 720 | 11147 | 0.0 | 850 | 3055 | 0.0 | 980 | 4322 | 0.0 |
| 465 | 32472 | 1.7 | 595 | 173724 | 82.3 | 725 | 9761 | 0.0 | 855 | 2932 | 0.0 | 985 | 4200 | 0.0 |
| 470 | 24257 | 1.5 | 600 | 171241 | 73.8 | 730 | 8651 | 0.0 | 860 | 3382 | 0.0 | 990 | 4661 | 0.0 |
| 475 | 21690 | 1.7 | 605 | 165134 | 64.0 | 735 | 7730 | 0.0 | 865 | 2605 | 0.0 | 995 | 6746 | 0.0 |
| 480 | 23173 | 2.2 | 610 | 156652 | 53.8 | 740 | 6847 | 0.0 | 870 | 3325 | 0.0 | 1000 | 4150 | 0.0 |
| 485 | 27564 | 3.3 | 615 | 147879 | 44.6 | 745 | 6124 | 0.0 | 875 | 3325 | 0.0 | | | |

REPORT NUMBER: SP1-2101-121-7

Scotopic Flux vs. Wavelength



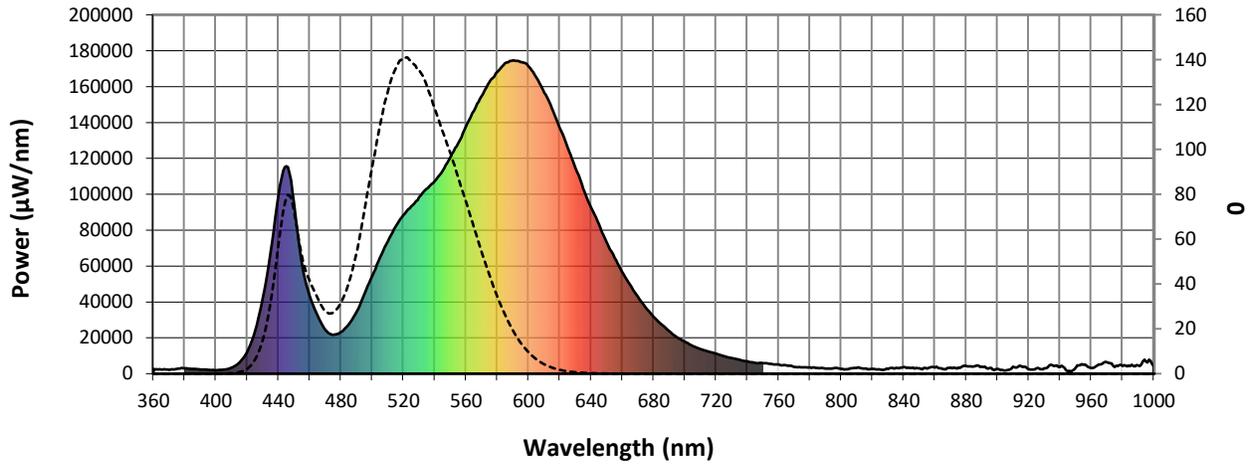
Scotopic Lumens: 12126

S/P: 1.36

| λ (nm) | Power (µW/nm) | Lumens (φ/nm) | λ (nm) | Power (µW/nm) | Lumens (φ/nm) | λ (nm) | Power (µW/nm) | Lumens (φ/nm) | λ (nm) | Power (µW/nm) | Lumens (φ/nm) | λ (nm) | Power (µW/nm) | Lumens (φ/nm) |
|--------|---------------|---------------|--------|---------------|---------------|--------|---------------|---------------|--------|---------------|---------------|--------|---------------|---------------|
| 360 | 2672 | 0.0 | 490 | 34553 | 53.2 | 620 | 136720 | 1.7 | 750 | 5870 | 0.0 | 880 | 4216 | 0.0 |
| 365 | 2252 | 0.0 | 495 | 44336 | 71.7 | 625 | 126308 | 1.1 | 755 | 5421 | 0.0 | 885 | 4132 | 0.0 |
| 370 | 2217 | 0.0 | 500 | 54643 | 91.4 | 630 | 114625 | 0.6 | 760 | 5097 | 0.0 | 890 | 3992 | 0.0 |
| 375 | 2697 | 0.0 | 505 | 64676 | 110.0 | 635 | 103216 | 0.4 | 765 | 4626 | 0.0 | 895 | 3214 | 0.0 |
| 380 | 3039 | 0.0 | 510 | 73825 | 125.1 | 640 | 92605 | 0.2 | 770 | 3782 | 0.0 | 900 | 2580 | 0.0 |
| 385 | 2655 | 0.0 | 515 | 81872 | 135.7 | 645 | 83234 | 0.1 | 775 | 3506 | 0.0 | 905 | 1776 | 0.0 |
| 390 | 2357 | 0.0 | 520 | 88574 | 140.8 | 650 | 73263 | 0.1 | 780 | 3507 | 0.0 | 910 | 3995 | 0.0 |
| 395 | 2186 | 0.0 | 525 | 93289 | 139.6 | 655 | 64627 | 0.1 | 785 | 3267 | 0.0 | 915 | 4288 | 0.0 |
| 400 | 2015 | 0.0 | 530 | 98393 | 135.7 | 660 | 56614 | 0.0 | 790 | 2849 | 0.0 | 920 | 2446 | 0.0 |
| 405 | 2234 | 0.1 | 535 | 103269 | 128.7 | 665 | 49537 | 0.0 | 795 | 3037 | 0.0 | 925 | 3009 | 0.0 |
| 410 | 3412 | 0.2 | 540 | 107316 | 118.6 | 670 | 42866 | 0.0 | 800 | 2716 | 0.0 | 930 | 3026 | 0.0 |
| 415 | 6135 | 0.6 | 545 | 113101 | 108.4 | 675 | 36708 | 0.0 | 805 | 2648 | 0.0 | 935 | 4734 | 0.0 |
| 420 | 12146 | 2.0 | 550 | 120690 | 98.7 | 680 | 31814 | 0.0 | 810 | 3187 | 0.0 | 940 | 3719 | 0.0 |
| 425 | 23983 | 5.9 | 555 | 128583 | 87.9 | 685 | 27485 | 0.0 | 815 | 2931 | 0.0 | 945 | 1480 | 0.0 |
| 430 | 42142 | 14.3 | 560 | 137796 | 77.0 | 690 | 23698 | 0.0 | 820 | 2717 | 0.0 | 950 | 3450 | 0.0 |
| 435 | 68228 | 30.5 | 565 | 146577 | 65.8 | 695 | 20309 | 0.0 | 825 | 2236 | 0.0 | 955 | 5051 | 0.0 |
| 440 | 99323 | 55.5 | 570 | 154581 | 54.6 | 700 | 17890 | 0.0 | 830 | 2628 | 0.0 | 960 | 3176 | 0.0 |
| 445 | 115584 | 77.4 | 575 | 162633 | 44.3 | 705 | 15500 | 0.0 | 835 | 3140 | 0.0 | 965 | 5178 | 0.0 |
| 450 | 94997 | 73.6 | 580 | 168101 | 34.6 | 710 | 13699 | 0.0 | 840 | 3675 | 0.0 | 970 | 6385 | 0.0 |
| 455 | 61433 | 53.7 | 585 | 173145 | 26.5 | 715 | 12398 | 0.0 | 845 | 3283 | 0.0 | 975 | 3810 | 0.0 |
| 460 | 43373 | 41.9 | 590 | 174675 | 19.5 | 720 | 11147 | 0.0 | 850 | 3055 | 0.0 | 980 | 4322 | 0.0 |
| 465 | 32472 | 34.3 | 595 | 173724 | 13.9 | 725 | 9761 | 0.0 | 855 | 2932 | 0.0 | 985 | 4200 | 0.0 |
| 470 | 24257 | 27.9 | 600 | 171241 | 9.7 | 730 | 8651 | 0.0 | 860 | 3382 | 0.0 | 990 | 4661 | 0.0 |
| 475 | 21690 | 27.1 | 605 | 165134 | 6.5 | 735 | 7730 | 0.0 | 865 | 2605 | 0.0 | 995 | 6746 | 0.0 |
| 480 | 23173 | 31.3 | 610 | 156652 | 4.2 | 740 | 6847 | 0.0 | 870 | 3325 | 0.0 | 1000 | 4150 | 0.0 |
| 485 | 27564 | 40.0 | 615 | 147879 | 2.7 | 745 | 6124 | 0.0 | 875 | 3325 | 0.0 | | | |

REPORT NUMBER: SP1-2101-121-7

Melanopic Flux vs. Wavelength

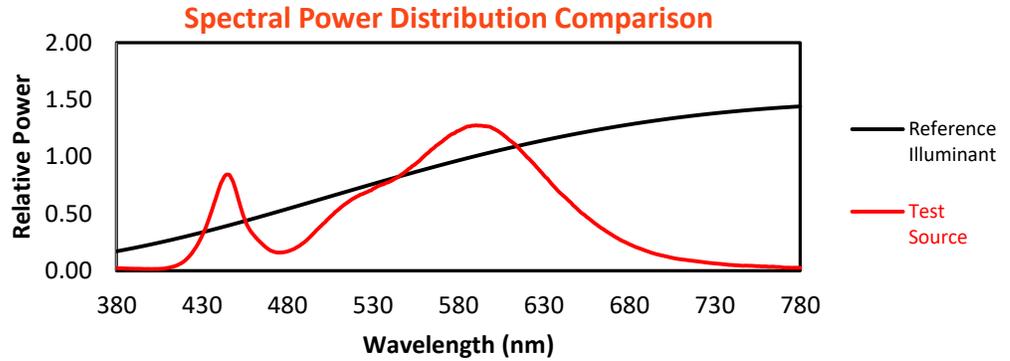


Melanopic Lumens: 4490.7 M/P: 0.5

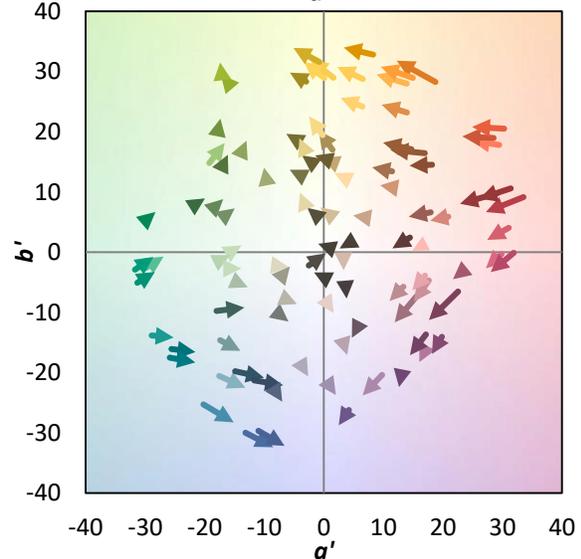
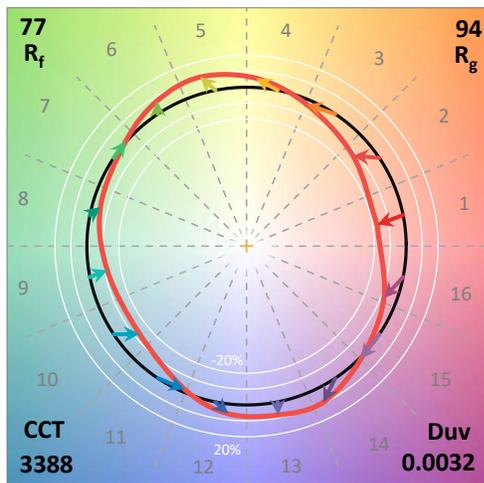
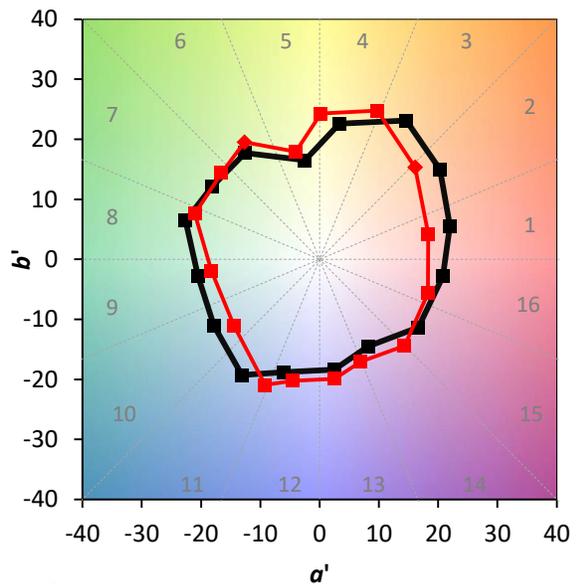
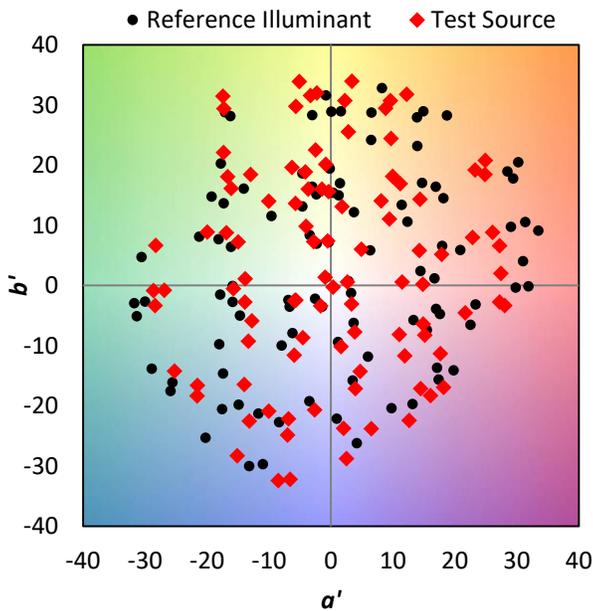
| λ (nm) | Power (µW/nm) | Lumens (φ/nm) | λ (nm) | Power (µW/nm) | Lumens (φ/nm) | λ (nm) | Power (µW/nm) | Lumens (φ/nm) | λ (nm) | Power (µW/nm) | Lumens (φ/nm) | λ (nm) | Power (µW/nm) | Lumens (φ/nm) |
|--------|---------------|---------------|--------|---------------|---------------|--------|---------------|---------------|--------|---------------|---------------|--------|---------------|---------------|
| 360 | 2672 | 0.0 | 490 | 34553 | 28.8 | 620 | 136720 | 0.1 | 750 | 5870 | 0.0 | 880 | 4216 | 0.0 |
| 365 | 2252 | 0.0 | 495 | 44336 | 36.6 | 625 | 126308 | 0.1 | 755 | 5421 | 0.0 | 885 | 4132 | 0.0 |
| 370 | 2217 | 0.0 | 500 | 54643 | 43.9 | 630 | 114625 | 0.0 | 760 | 5097 | 0.0 | 890 | 3992 | 0.0 |
| 375 | 2697 | 0.0 | 505 | 64676 | 49.6 | 635 | 103216 | 0.0 | 765 | 4626 | 0.0 | 895 | 3214 | 0.0 |
| 380 | 3039 | 0.0 | 510 | 73825 | 53.0 | 640 | 92605 | 0.0 | 770 | 3782 | 0.0 | 900 | 2580 | 0.0 |
| 385 | 2655 | 0.0 | 515 | 81872 | 53.5 | 645 | 83234 | 0.0 | 775 | 3506 | 0.0 | 905 | 1776 | 0.0 |
| 390 | 2357 | 0.0 | 520 | 88574 | 51.6 | 650 | 73263 | 0.0 | 780 | 3507 | 0.0 | 910 | 3995 | 0.0 |
| 395 | 2186 | 0.0 | 525 | 93289 | 47.3 | 655 | 64627 | 0.0 | 785 | 3267 | 0.0 | 915 | 4288 | 0.0 |
| 400 | 2015 | 0.0 | 530 | 98393 | 42.5 | 660 | 56614 | 0.0 | 790 | 2849 | 0.0 | 920 | 2446 | 0.0 |
| 405 | 2234 | 0.0 | 535 | 103269 | 37.2 | 665 | 49537 | 0.0 | 795 | 3037 | 0.0 | 925 | 3009 | 0.0 |
| 410 | 3412 | 0.1 | 540 | 107316 | 31.4 | 670 | 42866 | 0.0 | 800 | 2716 | 0.0 | 930 | 3026 | 0.0 |
| 415 | 6135 | 0.4 | 545 | 113101 | 26.3 | 675 | 36708 | 0.0 | 805 | 2648 | 0.0 | 935 | 4734 | 0.0 |
| 420 | 12146 | 1.4 | 550 | 120690 | 21.7 | 680 | 31814 | 0.0 | 810 | 3187 | 0.0 | 940 | 3719 | 0.0 |
| 425 | 23983 | 3.7 | 555 | 128583 | 17.3 | 685 | 27485 | 0.0 | 815 | 2931 | 0.0 | 945 | 1480 | 0.0 |
| 430 | 42142 | 8.9 | 560 | 137796 | 13.6 | 690 | 23698 | 0.0 | 820 | 2717 | 0.0 | 950 | 3450 | 0.0 |
| 435 | 68228 | 18.2 | 565 | 146577 | 10.3 | 695 | 20309 | 0.0 | 825 | 2236 | 0.0 | 955 | 5051 | 0.0 |
| 440 | 99323 | 33.2 | 570 | 154581 | 7.6 | 700 | 17890 | 0.0 | 830 | 2628 | 0.0 | 960 | 3176 | 0.0 |
| 445 | 115584 | 45.6 | 575 | 162633 | 5.4 | 705 | 15500 | 0.0 | 835 | 3140 | 0.0 | 965 | 5178 | 0.0 |
| 450 | 94997 | 43.8 | 580 | 168101 | 3.8 | 710 | 13699 | 0.0 | 840 | 3675 | 0.0 | 970 | 6385 | 0.0 |
| 455 | 61433 | 32.2 | 585 | 173145 | 2.6 | 715 | 12398 | 0.0 | 845 | 3283 | 0.0 | 975 | 3810 | 0.0 |
| 460 | 43373 | 25.6 | 590 | 174675 | 1.7 | 720 | 11147 | 0.0 | 850 | 3055 | 0.0 | 980 | 4322 | 0.0 |
| 465 | 32472 | 21.2 | 595 | 173724 | 1.1 | 725 | 9761 | 0.0 | 855 | 2932 | 0.0 | 985 | 4200 | 0.0 |
| 470 | 24257 | 17.4 | 600 | 171241 | 0.7 | 730 | 8651 | 0.0 | 860 | 3382 | 0.0 | 990 | 4661 | 0.0 |
| 475 | 21690 | 16.6 | 605 | 165134 | 0.5 | 735 | 7730 | 0.0 | 865 | 2605 | 0.0 | 995 | 6746 | 0.0 |
| 480 | 23173 | 18.6 | 610 | 156652 | 0.3 | 740 | 6847 | 0.0 | 870 | 3325 | 0.0 | 1000 | 4150 | 0.0 |
| 485 | 27564 | 22.7 | 615 | 147879 | 0.2 | 745 | 6124 | 0.0 | 875 | 3325 | 0.0 | | | |

Summary

$R_f = 76.9$
 $R_g = 94.4$
 $CIE R_a = 73.1$
 $R_g = -34.6$

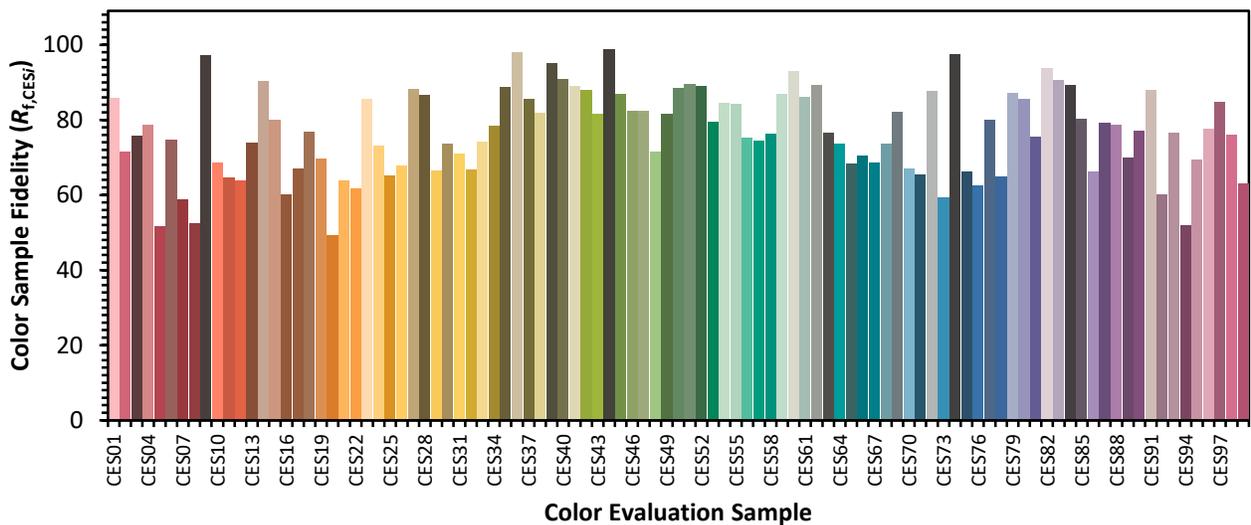


Color Vector Graphics

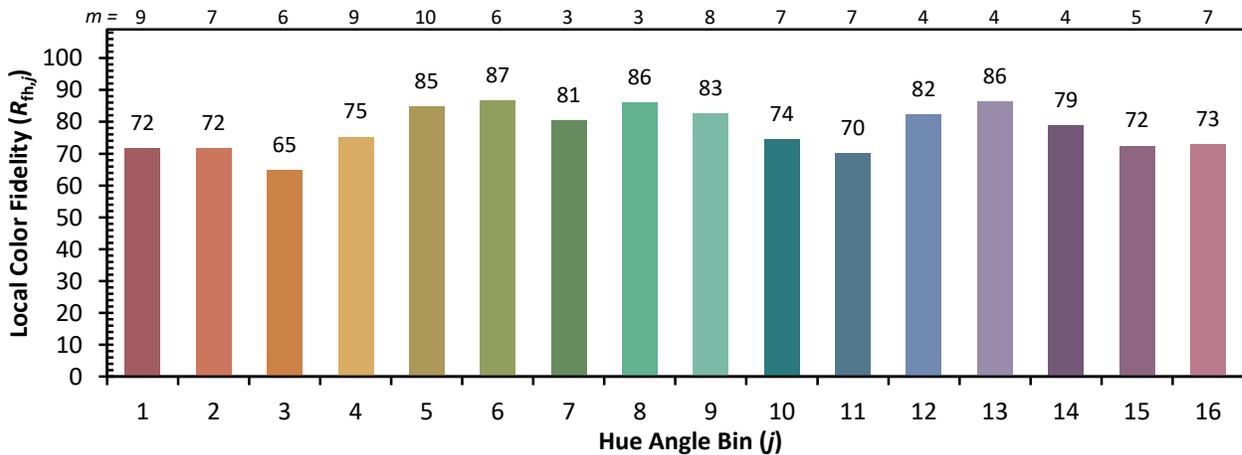
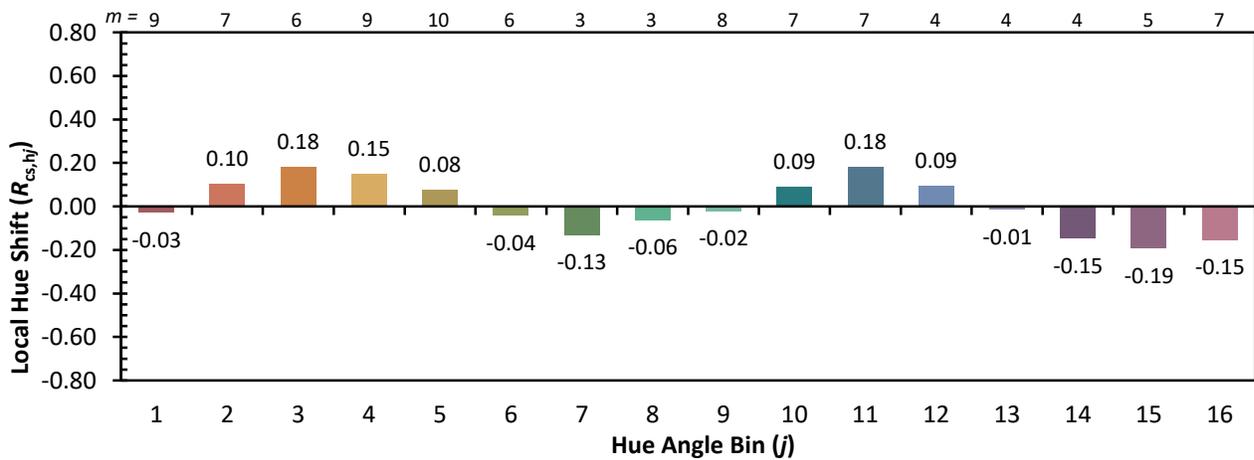
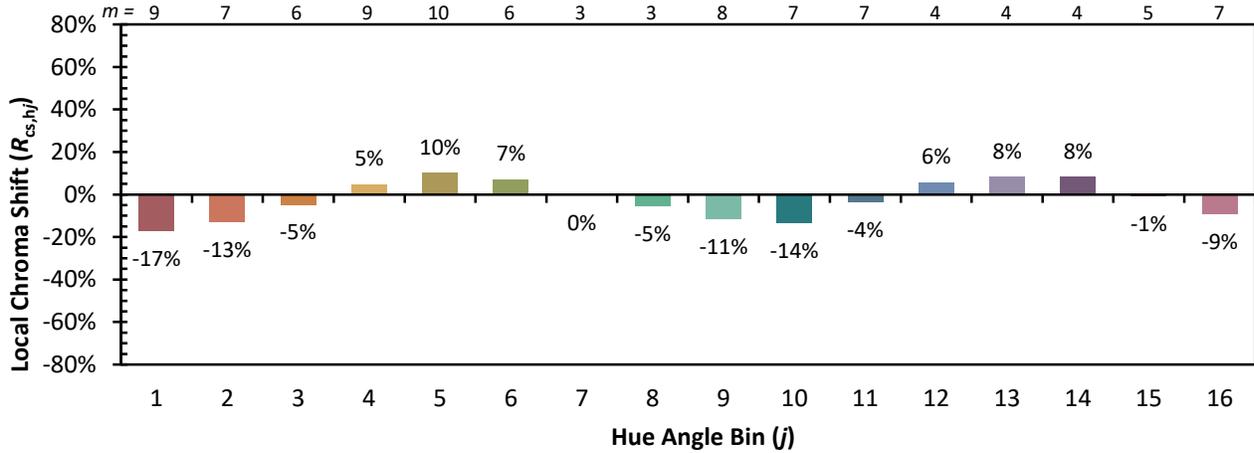


Individual Sample Fidelity Index ($R_{f,i}$)

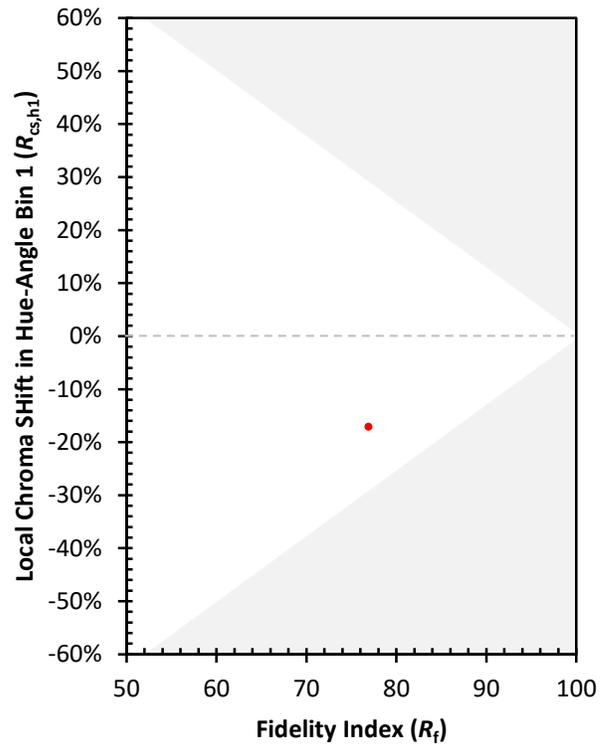
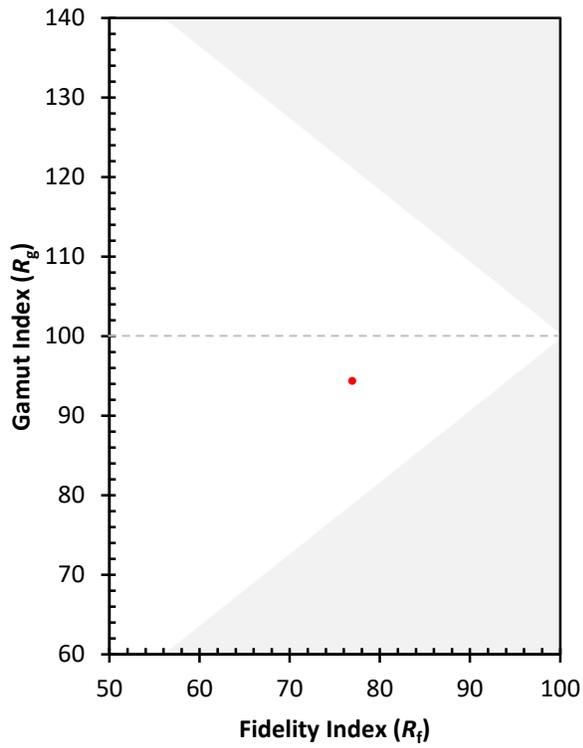
| | | | |
|------------|------------|------------|------------|
| CES01 = 86 | CES26 = 68 | CES51 = 90 | CES76 = 63 |
| CES02 = 62 | CES27 = 88 | CES52 = 89 | CES77 = 80 |
| CES03 = 31 | CES28 = 87 | CES53 = 80 | CES78 = 65 |
| CES04 = 70 | CES29 = 67 | CES54 = 84 | CES79 = 87 |
| CES05 = 48 | CES30 = 74 | CES55 = 84 | CES80 = 86 |
| CES06 = 51 | CES31 = 71 | CES56 = 75 | CES81 = 75 |
| CES07 = 40 | CES32 = 67 | CES57 = 74 | CES82 = 94 |
| CES08 = 39 | CES33 = 74 | CES58 = 76 | CES83 = 91 |
| CES09 = 29 | CES34 = 78 | CES59 = 87 | CES84 = 89 |
| CES10 = 75 | CES35 = 89 | CES60 = 93 | CES85 = 80 |
| CES11 = 58 | CES36 = 98 | CES61 = 86 | CES86 = 66 |
| CES12 = 64 | CES37 = 86 | CES62 = 89 | CES87 = 79 |
| CES13 = 43 | CES38 = 82 | CES63 = 77 | CES88 = 79 |
| CES14 = 74 | CES39 = 95 | CES64 = 74 | CES89 = 70 |
| CES15 = 71 | CES40 = 91 | CES65 = 68 | CES90 = 77 |
| CES16 = 47 | CES41 = 89 | CES66 = 71 | CES91 = 88 |
| CES17 = 50 | CES42 = 88 | CES67 = 69 | CES92 = 60 |
| CES18 = 56 | CES43 = 82 | CES68 = 74 | CES93 = 77 |
| CES19 = 72 | CES44 = 99 | CES69 = 82 | CES94 = 52 |
| CES20 = 65 | CES45 = 87 | CES70 = 67 | CES95 = 69 |
| CES21 = 86 | CES46 = 82 | CES71 = 66 | CES96 = 78 |
| CES22 = 79 | CES47 = 82 | CES72 = 88 | CES97 = 85 |
| CES23 = 92 | CES48 = 72 | CES73 = 59 | CES98 = 76 |
| CES24 = 91 | CES49 = 82 | CES74 = 97 | CES99 = 63 |
| CES25 = 72 | CES50 = 88 | CES75 = 66 | |



Color Rendition by Hue-Angle Bin



Measure Comparisons



(END OF REPORT)