

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

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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: STREETWORKS

Report Number: P1462387

Luminaire Tested: PRV-P-70-750-U-5MQ

Issue Date: 06/10/2026

**Test Information**

Test Method: LM-79-2024  
Report Number: P1462387  
Test Lab: INNOVATION CENTER(G3)  
Issue Date: 6/11/2026  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: STREETWORKS  
Catalog Number: PRV-P-70-750-U-5MQ  
Description: PREVAIL PETITE DISCRETE LED 2 SQUARES 70W 70CRI 5000K FIXTURE w/ TYPE V  
SQUARE MEDIUM DISTRIBUTION OPTIC  
Light Source: (20) 5000K CCT, 70 CRI LEDS  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 10124.3 lumens  
Efficiency: N/A  
Efficacy: 136.8 lumens/watt  
Luminous Opening: Rectangular (W 0.67' x L: 0.33' x H: 0')  
IES Classification: Type V - Short  
BUG Rating: B3 - U0 - G2

Input Watts (W): 74  
Input Voltage (V): 120  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: 0.97  
Total Harmonic Distortion (THDi): 8.0%  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 28.75 FT

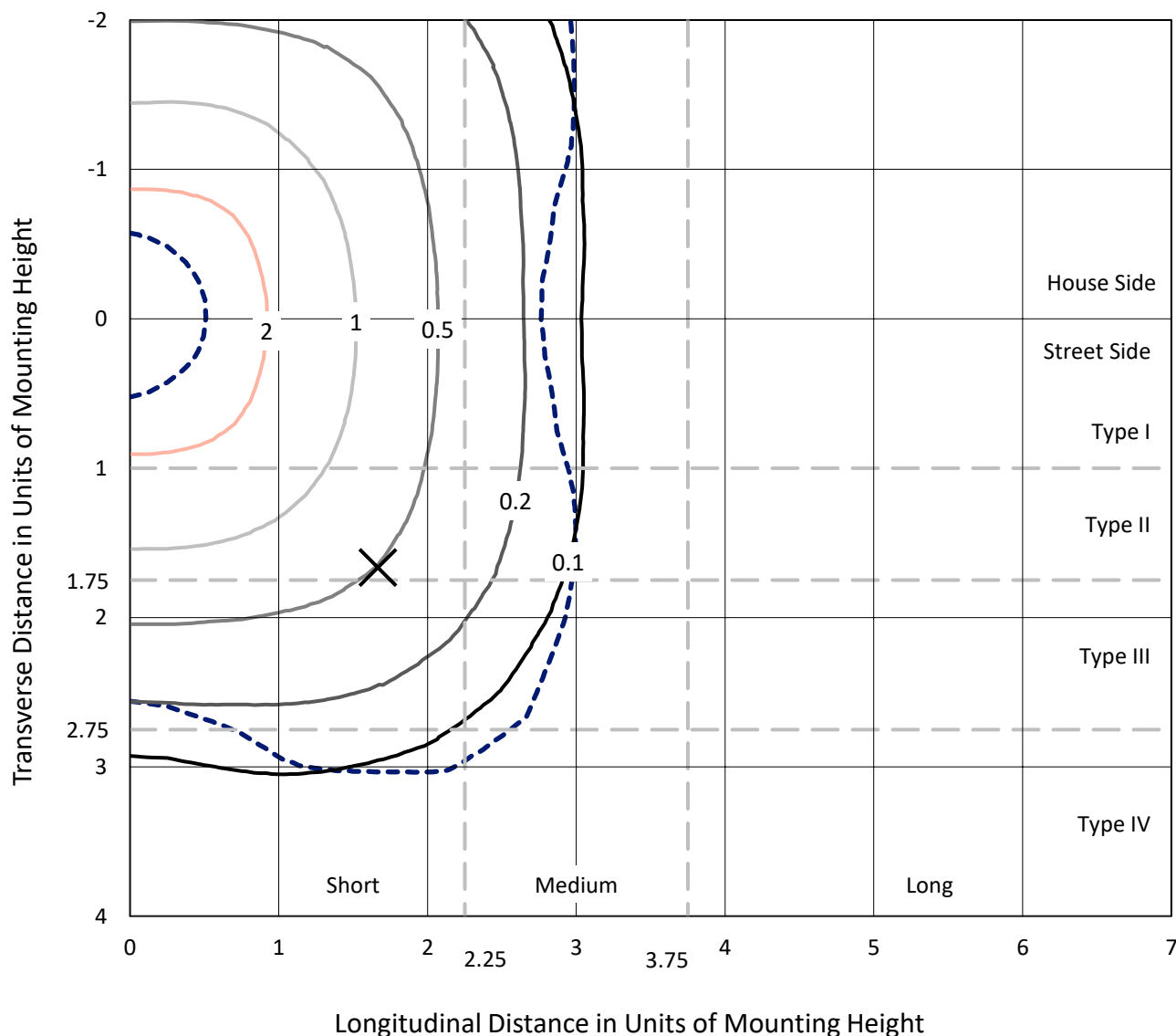
REPORT NUMBER: P1462387

CATALOG NUMBER: PRV-P-70-750-U-5MQ

## Iso-Footcandle Lines of Horizontal Illumination

× Max cd

--- 1/2 Max cd



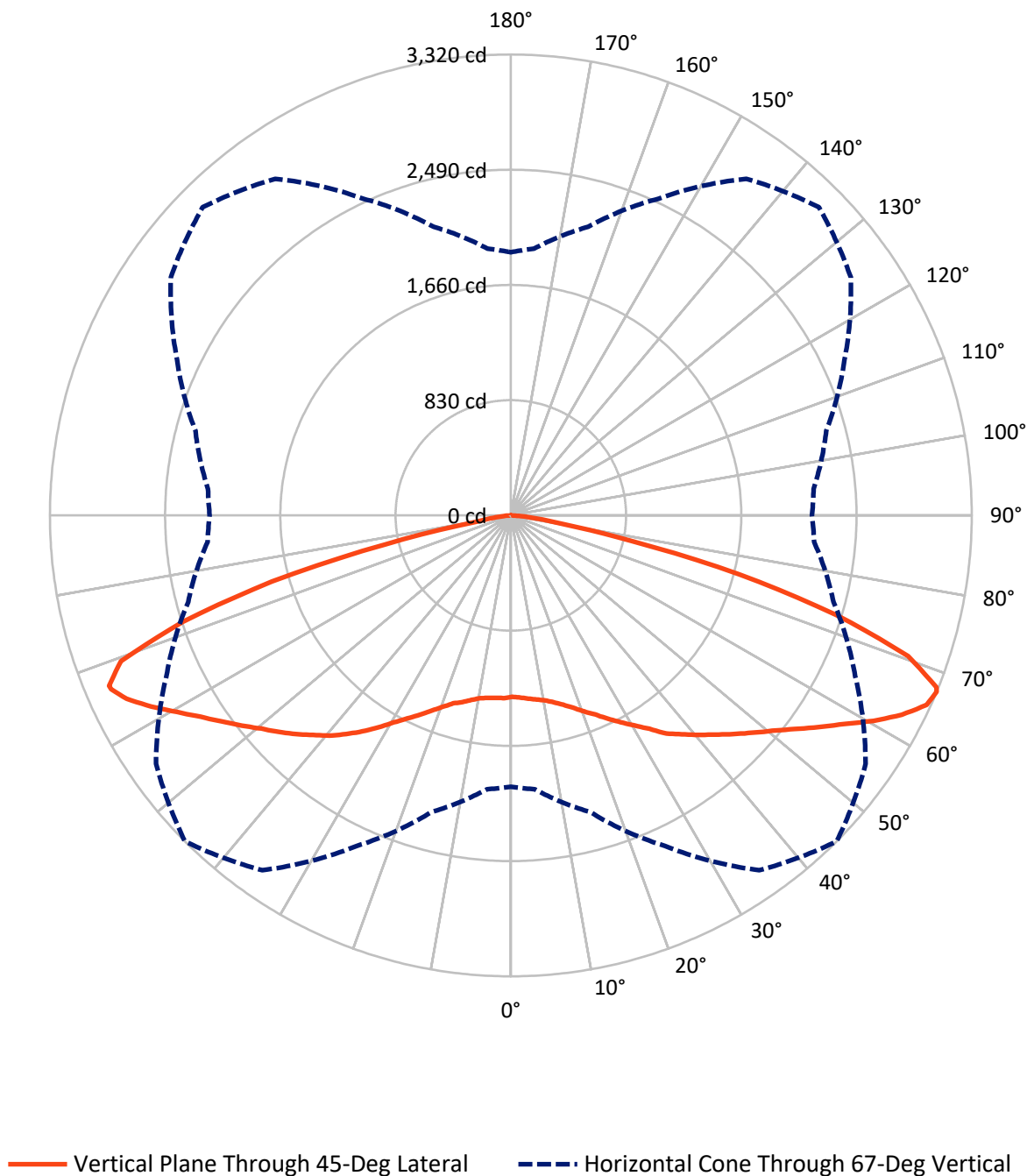
Based on 20 foot mounting height. Maximum calculated value = 3.3 fc

Type V - Short - N/A

REPORT NUMBER: P1462387

CATALOG NUMBER: PRV-P-70-750-U-5MQ

## Luminous Intensity Polar Plot



REPORT NUMBER: P1462387

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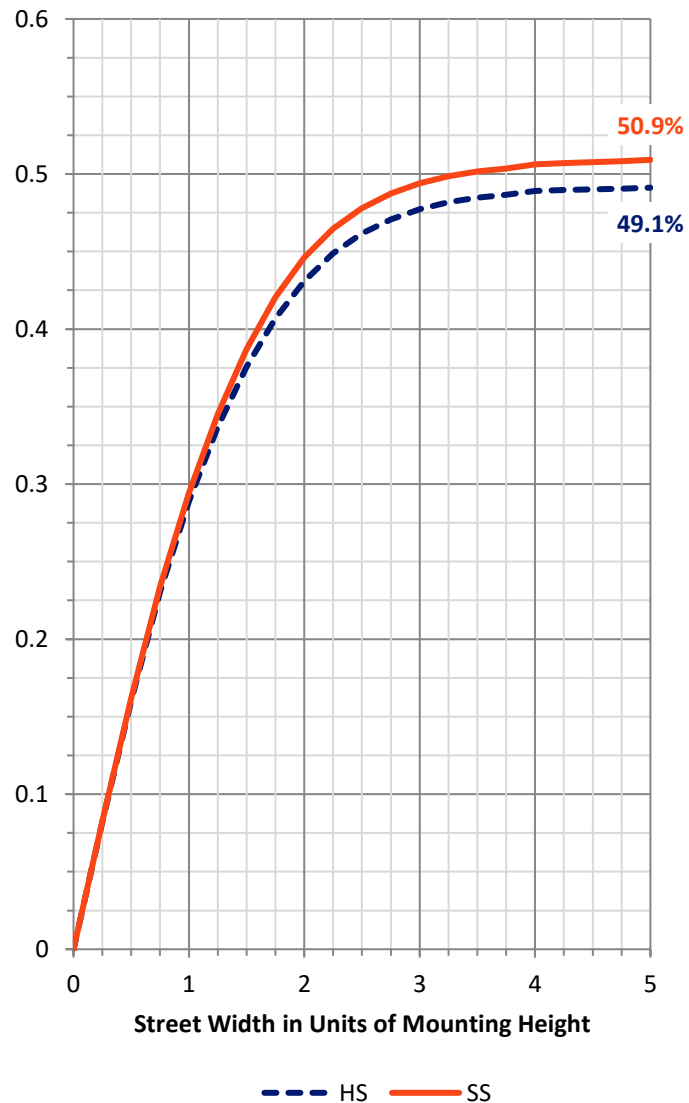
**FLUX DISTRIBUTION:**

|                    |           | Downward | Upward | Total   |
|--------------------|-----------|----------|--------|---------|
| <b>House Side</b>  | Lumens    | 4967.2   | 0.0    | 4967.2  |
|                    | % Fixture | 49.1     | 0.0    | 49.1    |
| <b>Street Side</b> | Lumens    | 5157.1   | 0.0    | 5157.1  |
|                    | % Fixture | 50.9     | 0.0    | 50.9    |
| <b>Total</b>       | Lumens    | 10124.3  | 0.0    | 10124.3 |
|                    | % Fixture | 100.0    | 0.0    | 100.0   |

**ZONAL LUMENS:**

| Zone      | Lumens  | % Fixture |
|-----------|---------|-----------|
| 0°-10°    | 126.5   | 1.2       |
| 10°-20°   | 400.3   | 4.0       |
| 20°-30°   | 742.0   | 7.3       |
| 30°-40°   | 1173.0  | 11.6      |
| 40°-50°   | 1643.0  | 16.2      |
| 50°-60°   | 2225.8  | 22.0      |
| 60°-70°   | 2585.6  | 25.5      |
| 70°-80°   | 1160.6  | 11.5      |
| 80°-90°   | 67.5    | 0.7       |
| 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°    | 10124.3 | 100.0     |
| 0°-180°   | 10124.3 | 100.0     |

**Coefficient of Utilization**



REPORT NUMBER: P1462387

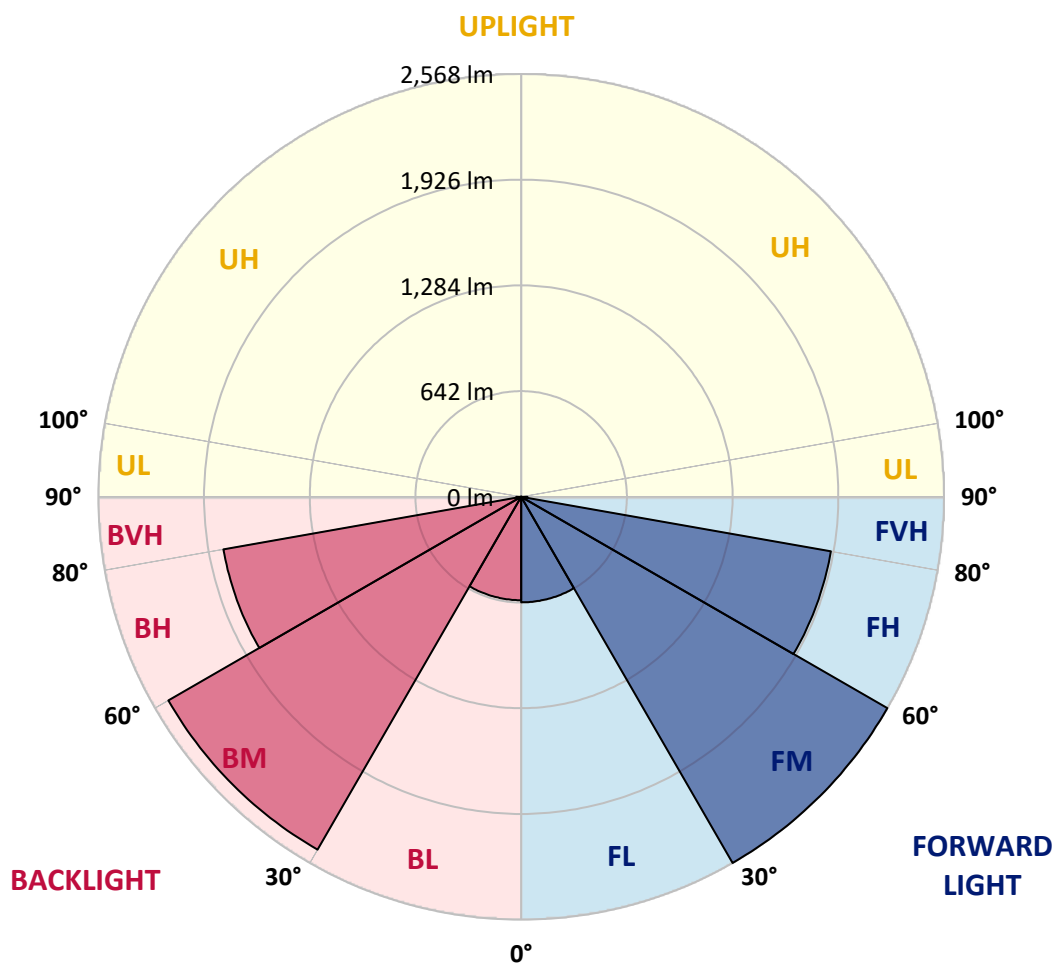
CATALOG NUMBER: PRV-P-70-750-U-5MQ

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

| Zone |             | Lumens | % Fixture | Zone Rating/Lumen Limit |      |         |
|------|-------------|--------|-----------|-------------------------|------|---------|
|      |             |        |           | B                       | U    | G       |
| FL   | (0°-30°)    | 641.0  | 6.3       |                         |      |         |
| FM   | (30°-60°)   | 2567.7 | 25.4      |                         |      |         |
| FH   | (60°-80°)   | 1909.9 | 18.9      |                         |      | G2/5000 |
| FVH  | (80°-90°)   | 38.5   | 0.4       |                         |      | G1/100  |
| BL   | (0°-30°)    | 627.8  | 6.2       | B2/1000                 |      |         |
| BM   | (30°-60°)   | 2474.1 | 24.4      | B2/2500                 |      |         |
| BH   | (60°-80°)   | 1836.3 | 18.1      | B3/2500                 |      | G2/5000 |
| BVH  | (80°-90°)   | 29.0   | 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-G2**

Type V Short



REPORT NUMBER: P1462387

CATALOG NUMBER: PRV-P-70-750-U-5MQ

**CANDELA DISTRIBUTION (FULL):**

|       | 0°     | 5°     | 15°    | 25°    | 35°    | 45°    | 55°    | 65°    | 75°    | 85°    | 90°    |
|-------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 0°    | 1307.0 | 1307.0 | 1307.0 | 1307.0 | 1307.0 | 1307.0 | 1307.0 | 1307.0 | 1307.0 | 1307.0 | 1307.0 |
| 2.5°  | 1307.0 | 1307.0 | 1311.8 | 1313.4 | 1310.2 | 1313.4 | 1313.4 | 1308.6 | 1310.2 | 1310.2 | 1310.2 |
| 5°    | 1315.0 | 1316.6 | 1319.7 | 1324.5 | 1322.9 | 1326.1 | 1321.3 | 1316.6 | 1318.1 | 1316.6 | 1315.0 |
| 7.5°  | 1324.5 | 1324.5 | 1332.5 | 1338.8 | 1338.8 | 1338.8 | 1330.9 | 1329.3 | 1330.9 | 1327.7 | 1326.1 |
| 10°   | 1346.8 | 1348.4 | 1356.3 | 1356.3 | 1356.3 | 1354.7 | 1351.5 | 1346.8 | 1348.4 | 1348.4 | 1345.2 |
| 12.5° | 1375.4 | 1375.4 | 1384.9 | 1384.9 | 1386.5 | 1381.7 | 1380.2 | 1377.0 | 1377.0 | 1375.4 | 1375.4 |
| 15°   | 1408.8 | 1412.0 | 1421.5 | 1419.9 | 1419.9 | 1415.1 | 1415.1 | 1412.0 | 1412.0 | 1407.2 | 1407.2 |
| 17.5° | 1448.5 | 1450.1 | 1458.1 | 1458.1 | 1459.7 | 1456.5 | 1454.9 | 1448.5 | 1451.7 | 1446.9 | 1446.9 |
| 20°   | 1494.6 | 1499.4 | 1505.8 | 1505.8 | 1507.4 | 1507.4 | 1501.0 | 1493.0 | 1496.2 | 1496.2 | 1491.5 |
| 22.5° | 1543.9 | 1548.7 | 1559.8 | 1561.4 | 1561.4 | 1558.2 | 1551.9 | 1540.7 | 1543.9 | 1547.1 | 1543.9 |
| 25°   | 1598.0 | 1599.6 | 1613.9 | 1620.3 | 1626.6 | 1621.8 | 1610.7 | 1601.2 | 1602.8 | 1604.4 | 1604.4 |
| 27.5° | 1650.5 | 1655.2 | 1671.1 | 1683.9 | 1685.4 | 1687.0 | 1677.5 | 1668.0 | 1671.1 | 1672.7 | 1669.5 |
| 30°   | 1709.3 | 1717.2 | 1734.7 | 1749.0 | 1753.8 | 1755.4 | 1747.5 | 1739.5 | 1736.3 | 1734.7 | 1734.7 |
| 32.5° | 1777.7 | 1779.3 | 1798.3 | 1817.4 | 1834.9 | 1833.3 | 1823.8 | 1812.6 | 1804.7 | 1801.5 | 1801.5 |
| 35°   | 1831.7 | 1838.1 | 1863.5 | 1890.6 | 1917.6 | 1928.7 | 1912.8 | 1882.6 | 1868.3 | 1860.3 | 1858.8 |
| 37.5° | 1876.2 | 1884.2 | 1916.0 | 1952.6 | 1986.0 | 2000.3 | 1984.4 | 1947.8 | 1923.9 | 1912.8 | 1909.6 |
| 40°   | 1927.1 | 1933.5 | 1966.9 | 2014.6 | 2059.1 | 2078.2 | 2052.7 | 2006.6 | 1976.4 | 1962.1 | 1958.9 |
| 42.5° | 1970.1 | 1976.4 | 2017.8 | 2078.2 | 2133.8 | 2157.7 | 2127.5 | 2073.4 | 2030.5 | 2006.6 | 2006.6 |
| 45°   | 2022.5 | 2025.7 | 2075.0 | 2149.7 | 2222.9 | 2246.7 | 2210.2 | 2141.8 | 2094.1 | 2063.9 | 2060.7 |
| 47.5° | 2105.2 | 2108.4 | 2164.0 | 2230.8 | 2313.5 | 2338.9 | 2305.6 | 2219.7 | 2160.9 | 2129.1 | 2127.5 |
| 50°   | 2211.7 | 2219.7 | 2280.1 | 2350.1 | 2420.0 | 2439.1 | 2413.7 | 2324.6 | 2246.7 | 2203.8 | 2199.0 |
| 52.5° | 2318.3 | 2331.0 | 2399.4 | 2480.5 | 2540.9 | 2555.2 | 2531.3 | 2431.2 | 2338.9 | 2281.7 | 2276.9 |
| 55°   | 2429.6 | 2442.3 | 2515.4 | 2622.0 | 2680.8 | 2691.9 | 2649.0 | 2540.9 | 2435.9 | 2366.0 | 2356.4 |
| 57.5° | 2494.8 | 2507.5 | 2610.8 | 2750.8 | 2827.1 | 2833.5 | 2784.2 | 2649.0 | 2534.5 | 2443.9 | 2431.2 |
| 60°   | 2493.2 | 2509.1 | 2649.0 | 2844.6 | 2982.9 | 3003.6 | 2919.3 | 2765.1 | 2615.6 | 2505.9 | 2483.6 |
| 62.5° | 2456.6 | 2478.9 | 2622.0 | 2889.1 | 3130.8 | 3161.0 | 3059.2 | 2852.5 | 2653.8 | 2521.8 | 2501.1 |
| 65°   | 2264.2 | 2288.1 | 2477.3 | 2822.3 | 3188.0 | 3291.4 | 3156.2 | 2847.8 | 2575.9 | 2396.2 | 2381.9 |
| 67°   | 1954.2 | 1979.6 | 2211.7 | 2626.7 | 3119.7 | 3320.0 | 3119.7 | 2736.5 | 2405.7 | 2192.7 | 2168.8 |
| 67.5° | 1876.2 | 1906.5 | 2146.6 | 2572.7 | 3083.1 | 3305.7 | 3092.6 | 2677.6 | 2351.7 | 2138.6 | 2119.5 |
| 70°   | 1405.6 | 1469.2 | 1764.9 | 2232.4 | 2763.5 | 3035.4 | 2803.2 | 2366.0 | 1965.3 | 1730.0 | 1679.1 |
| 72.5° | 895.2  | 954.0  | 1418.3 | 1903.3 | 2289.7 | 2450.3 | 2315.1 | 1869.9 | 1415.1 | 1162.3 | 1136.9 |
| 75°   | 256.0  | 303.7  | 726.6  | 1159.1 | 1628.2 | 1701.3 | 1399.2 | 1071.7 | 741.0  | 593.1  | 582.0  |
| 77.5° | 132.0  | 133.6  | 222.6  | 478.6  | 787.1  | 885.7  | 561.3  | 397.5  | 313.2  | 276.7  | 283.0  |
| 80°   | 63.6   | 65.2   | 95.4   | 240.1  | 337.1  | 380.0  | 271.9  | 213.1  | 217.8  | 198.8  | 187.6  |
| 82.5° | 33.4   | 35.0   | 49.3   | 104.9  | 154.2  | 195.6  | 195.6  | 149.5  | 146.3  | 138.3  | 124.0  |
| 85°   | 9.5    | 8.0    | 14.3   | 22.3   | 42.9   | 73.1   | 52.5   | 54.1   | 50.9   | 42.9   | 41.3   |
| 87.5° | 1.6    | 1.6    | 1.6    | 1.6    | 3.2    | 3.2    | 1.6    | 1.6    | 1.6    | 1.6    | 1.6    |
| 90°   | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    |

REPORT NUMBER: P1462387

CATALOG NUMBER: PRV-P-70-750-U-5MQ

**CANDELA DISTRIBUTION (continued):**

|       | 95°    | 105°   | 115°   | 125°   | 135°   | 145°   | 155°   | 165°   | 175°   | 180°   |
|-------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 0°    | 1307.0 | 1307.0 | 1307.0 | 1307.0 | 1307.0 | 1307.0 | 1307.0 | 1307.0 | 1307.0 | 1307.0 |
| 2.5°  | 1310.2 | 1310.2 | 1310.2 | 1311.8 | 1316.6 | 1307.0 | 1313.4 | 1308.6 | 1303.8 | 1305.4 |
| 5°    | 1318.1 | 1313.4 | 1311.8 | 1316.6 | 1318.1 | 1313.4 | 1318.1 | 1311.8 | 1311.8 | 1305.4 |
| 7.5°  | 1324.5 | 1324.5 | 1318.1 | 1324.5 | 1324.5 | 1321.3 | 1319.7 | 1318.1 | 1318.1 | 1303.8 |
| 10°   | 1345.2 | 1340.4 | 1332.5 | 1332.5 | 1334.0 | 1334.0 | 1332.5 | 1329.3 | 1324.5 | 1318.1 |
| 12.5° | 1373.8 | 1367.4 | 1357.9 | 1357.9 | 1357.9 | 1362.7 | 1357.9 | 1353.1 | 1345.2 | 1343.6 |
| 15°   | 1410.4 | 1399.2 | 1389.7 | 1388.1 | 1388.1 | 1386.5 | 1386.5 | 1380.2 | 1372.2 | 1369.0 |
| 17.5° | 1446.9 | 1432.6 | 1419.9 | 1423.1 | 1415.1 | 1415.1 | 1408.8 | 1413.5 | 1404.0 | 1405.6 |
| 20°   | 1488.3 | 1477.1 | 1466.0 | 1467.6 | 1461.2 | 1464.4 | 1454.9 | 1453.3 | 1443.8 | 1443.8 |
| 22.5° | 1539.2 | 1529.6 | 1516.9 | 1520.1 | 1515.3 | 1515.3 | 1504.2 | 1496.2 | 1486.7 | 1480.3 |
| 25°   | 1601.2 | 1586.9 | 1577.3 | 1577.3 | 1577.3 | 1569.4 | 1561.4 | 1553.5 | 1542.3 | 1537.6 |
| 27.5° | 1669.5 | 1656.8 | 1648.9 | 1647.3 | 1640.9 | 1629.8 | 1620.3 | 1620.3 | 1602.8 | 1594.8 |
| 30°   | 1734.7 | 1728.4 | 1723.6 | 1717.2 | 1712.5 | 1710.9 | 1693.4 | 1677.5 | 1666.4 | 1658.4 |
| 32.5° | 1795.2 | 1793.6 | 1795.2 | 1796.7 | 1799.9 | 1785.6 | 1766.5 | 1749.0 | 1723.6 | 1728.4 |
| 35°   | 1860.3 | 1857.2 | 1863.5 | 1881.0 | 1887.4 | 1873.1 | 1844.4 | 1807.9 | 1785.6 | 1779.3 |
| 37.5° | 1911.2 | 1914.4 | 1935.1 | 1960.5 | 1971.6 | 1949.4 | 1901.7 | 1854.0 | 1822.2 | 1817.4 |
| 40°   | 1960.5 | 1971.6 | 1997.1 | 2035.3 | 2055.9 | 2022.5 | 1957.3 | 1898.5 | 1852.4 | 1847.6 |
| 42.5° | 2013.0 | 2022.5 | 2055.9 | 2108.4 | 2127.5 | 2090.9 | 2013.0 | 1935.1 | 1877.8 | 1865.1 |
| 45°   | 2062.3 | 2075.0 | 2121.1 | 2187.9 | 2208.6 | 2164.0 | 2063.9 | 1963.7 | 1896.9 | 1885.8 |
| 47.5° | 2124.3 | 2145.0 | 2197.4 | 2270.6 | 2286.5 | 2238.8 | 2125.9 | 2011.4 | 1933.5 | 1922.4 |
| 50°   | 2199.0 | 2218.1 | 2283.3 | 2358.0 | 2364.4 | 2315.1 | 2210.2 | 2090.9 | 2001.9 | 1984.4 |
| 52.5° | 2275.3 | 2307.1 | 2381.9 | 2448.7 | 2458.2 | 2405.7 | 2302.4 | 2181.5 | 2078.2 | 2068.6 |
| 55°   | 2354.8 | 2386.6 | 2474.1 | 2544.1 | 2555.2 | 2515.4 | 2420.0 | 2288.1 | 2173.6 | 2152.9 |
| 57.5° | 2431.2 | 2463.0 | 2555.2 | 2647.4 | 2663.3 | 2642.6 | 2529.8 | 2373.9 | 2254.7 | 2238.8 |
| 60°   | 2478.9 | 2525.0 | 2634.7 | 2749.2 | 2788.9 | 2761.9 | 2610.8 | 2423.2 | 2291.2 | 2269.0 |
| 62.5° | 2504.3 | 2567.9 | 2707.8 | 2860.5 | 2932.0 | 2879.6 | 2645.8 | 2420.0 | 2264.2 | 2243.5 |
| 65°   | 2391.4 | 2526.6 | 2746.0 | 2971.8 | 3067.2 | 2963.8 | 2633.1 | 2346.9 | 2183.1 | 2148.1 |
| 67°   | 2189.5 | 2351.7 | 2652.2 | 2989.3 | 3138.7 | 2959.1 | 2517.0 | 2151.3 | 1928.7 | 1895.3 |
| 67.5° | 2137.0 | 2302.4 | 2615.6 | 2971.8 | 3143.5 | 2949.5 | 2466.2 | 2087.7 | 1849.2 | 1823.8 |
| 70°   | 1696.6 | 1914.4 | 2305.6 | 2731.7 | 2998.8 | 2734.9 | 2154.5 | 1706.1 | 1410.4 | 1335.6 |
| 72.5° | 1195.7 | 1410.4 | 1836.5 | 2272.2 | 2485.2 | 2311.9 | 1834.9 | 1370.6 | 911.1  | 842.7  |
| 75°   | 604.2  | 750.5  | 1089.2 | 1497.8 | 1785.6 | 1699.8 | 1152.8 | 620.1  | 194.0  | 152.6  |
| 77.5° | 267.1  | 287.8  | 421.4  | 640.8  | 928.6  | 723.5  | 376.8  | 138.3  | 62.0   | 55.7   |
| 80°   | 186.0  | 206.7  | 205.1  | 233.7  | 252.8  | 221.0  | 149.5  | 58.8   | 20.7   | 8.0    |
| 82.5° | 130.4  | 146.3  | 136.7  | 130.4  | 125.6  | 101.8  | 66.8   | 23.9   | 4.8    | 0.0    |
| 85°   | 42.9   | 54.1   | 46.1   | 50.9   | 52.5   | 27.0   | 6.4    | 1.6    | 0.0    | 0.0    |
| 87.5° | 1.6    | 1.6    | 1.6    | 1.6    | 1.6    | 1.6    | 1.6    | 1.6    | 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    |

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

Report Prepared for

Cooper Lighting Solutions

McGraw-Edison

Report Number: SP2-2501-321-5

Test Date: 04/10/2025

Luminaire Tested: GKO-PB1E-750-U-T4W

Data in this report applies to families of products including GKO-PB1E-750-U-T4W

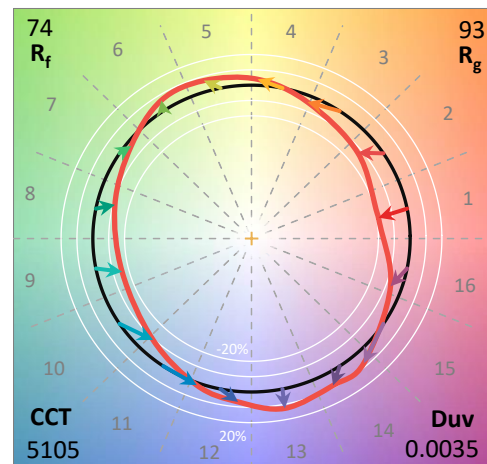
### Test Information

Test Method: LM-79-2019  
 Report Number: SP2-2501-321-5  
 Test Lab: COOPER LIGHTING SOLUTIONS  
 Photometer: SP2 - 165CM SPHERE  
 Measurement Geometry:  $4\pi$   
 Issue Date: 04/10/2025  
 Manufacturer: COOPER LIGHTING SOLUTIONS  
 Product Line: McGraw-Edison  
 Catalog Number: **GKO-PB1E-750-U-T4W**  
 Description: Gekko Wedge Wall Pack Fixture 1 SQ w/ T4W distribution

### Spectral Parameters

CCT (K): 5105  
 CIE  $u'$ : 0.2079  
 CIE  $v'$ : 0.4868  
 Duv: 0.0035  
 CIE x: 0.3428  
 CIE y: 0.3567  
 CIE z: 0.3005  
 Peak Wavelength (nm): 451  
 Dominant Wavelength (nm): 567  
 Purity: 9.884628  
 R<sub>f</sub>: 74.2  
 R<sub>g</sub>: 92.7

CRI (Ra): 72.2  
 R1: 68.8  
 R2: 78.3  
 R3: 84.9  
 R4: 71.7  
 R5: 69.8  
 R6: 69.8  
 R7: 81.2  
 R8: 53.5  
 R9: -38.2  
 R10: 48.2  
 R11: 68.1  
 R12: 42.9  
 R13: 70.6  
 R14: 91.6  
 R15: 61.7



### Test Conditions

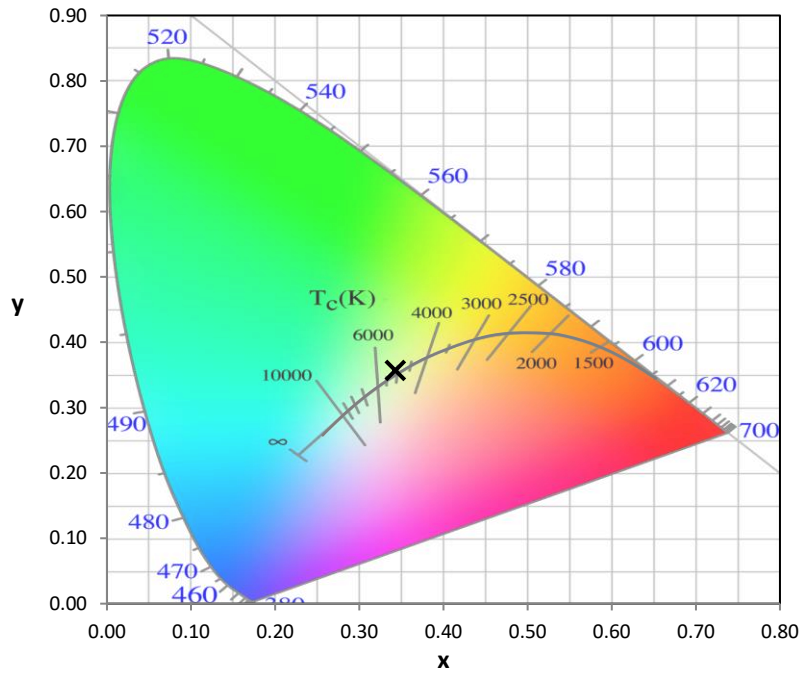
Stabilization Time: 30M  
 Operation Time: 1H 30M  
 Sphere Temperature (°C): 25.0

REPORT NUMBER: SP2-2501-321-5

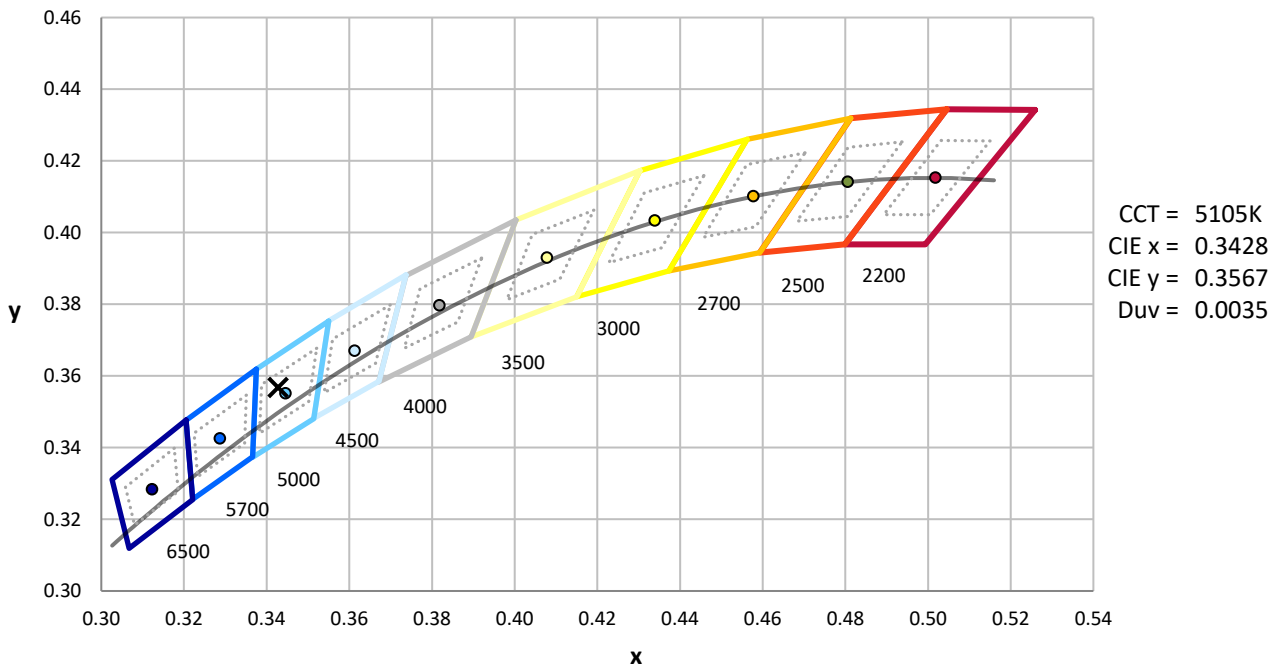
| Measurement and Test Equipment |                       |                  |                      |
|--------------------------------|-----------------------|------------------|----------------------|
| Instrument                     | Identification Number | Calibration Date | Calibration Due Date |
| Photometer                     | IN2187                | 1/6/2025         | 7/6/2025             |
| Power Meter                    | INXT2011002           | 1/21/2025        | 1/21/2026            |
| AC Power Source                | IN0458                | 10/22/2024       | 10/22/2025           |
| DC Power Source                | IN0212                | 10/22/2024       | 10/22/2025           |
| Sphere Thermometer             | IN4036B               | 10/22/2024       | 10/22/2025           |
| Room Thermometer               | IN0046                | 10/22/2024       | 10/22/2025           |

REPORT NUMBER: SP2-2501-321-5

**CIE 1931 Chromaticity Diagram**



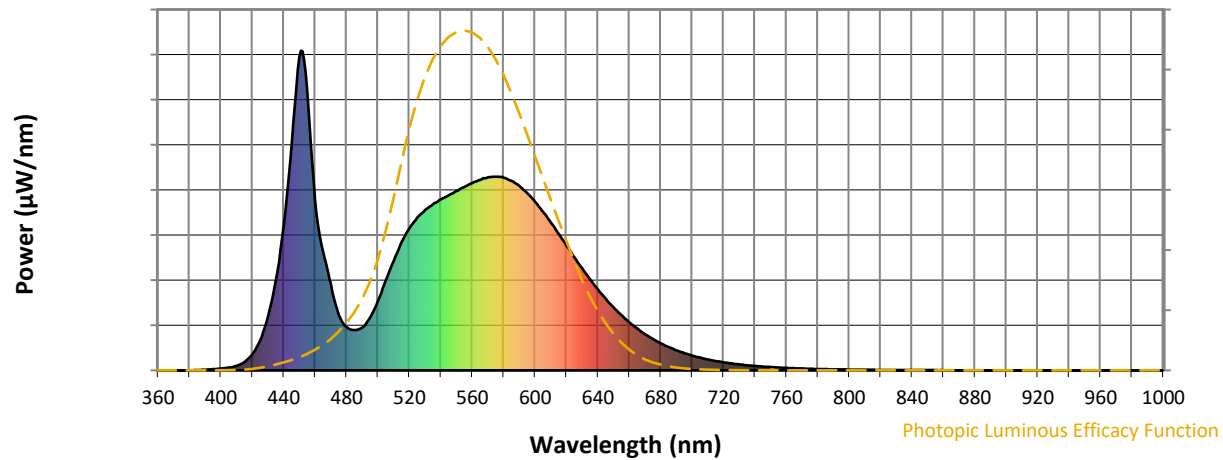
**CIE 1931 Chromaticity Diagram with 2017 ANSI 7-Step and 4-Step Quadrangles**



Point lies inside the ANSI 5000K 4-step quadrangle

REPORT NUMBER: SP2-2501-321-5

### Photopic Flux vs. Wavelength

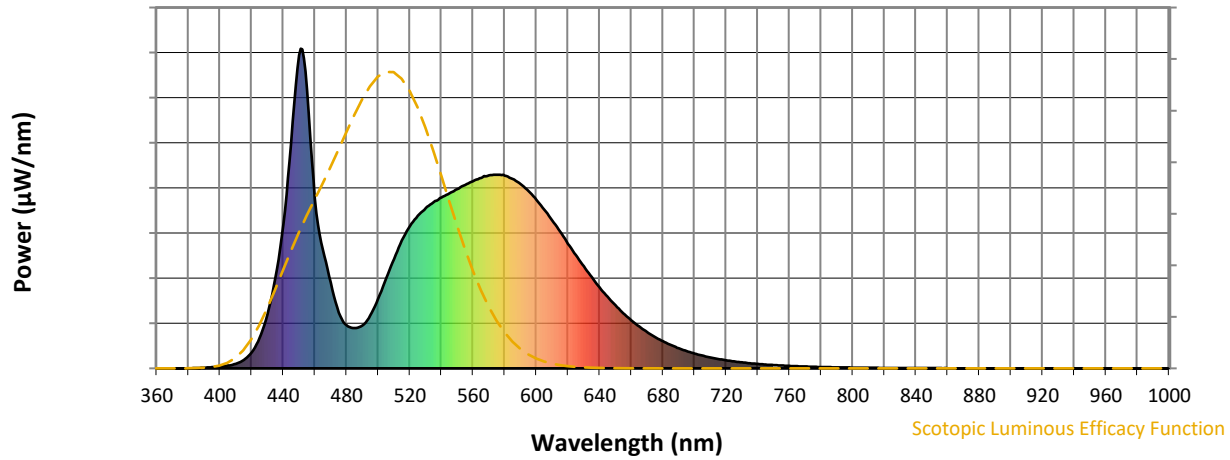


### Photopic Lumens: NR

| λ<br>(nm) | Power<br>W <sup>^</sup> /nm | Lumens<br>(φ/nm) | λ<br>(nm) | Power<br>W <sup>^</sup> /nm | Lumens<br>(φ/nm) | λ<br>(nm) | Power<br>W <sup>^</sup> /nm | Lumens<br>(φ/nm) | λ<br>(nm) | Power<br>W <sup>^</sup> /nm | Lumens<br>(φ/nm) | λ<br>(nm) | Power<br>W <sup>^</sup> /nm | Lumens<br>(φ/nm) |
|-----------|-----------------------------|------------------|-----------|-----------------------------|------------------|-----------|-----------------------------|------------------|-----------|-----------------------------|------------------|-----------|-----------------------------|------------------|
| 360       | 0                           | NR               | 490       | 134                         | NR               | 620       | 390                         | NR               | 750       | 10                          | NR               | 880       | 0                           | NR               |
| 365       | 0                           | NR               | 495       | 165                         | NR               | 625       | 354                         | NR               | 755       | 9                           | NR               | 885       | 0                           | NR               |
| 370       | 0                           | NR               | 500       | 218                         | NR               | 630       | 319                         | NR               | 760       | 8                           | NR               | 890       | 0                           | NR               |
| 375       | 0                           | NR               | 505       | 281                         | NR               | 635       | 285                         | NR               | 765       | 7                           | NR               | 895       | 0                           | NR               |
| 380       | 0                           | NR               | 510       | 343                         | NR               | 640       | 254                         | NR               | 770       | 6                           | NR               | 900       | 0                           | NR               |
| 385       | 1                           | NR               | 515       | 400                         | NR               | 645       | 224                         | NR               | 775       | 5                           | NR               | 905       | 0                           | NR               |
| 390       | 2                           | NR               | 520       | 444                         | NR               | 650       | 197                         | NR               | 780       | 4                           | NR               | 910       | 0                           | NR               |
| 395       | 4                           | NR               | 525       | 477                         | NR               | 655       | 173                         | NR               | 785       | 4                           | NR               | 915       | 0                           | NR               |
| 400       | 6                           | NR               | 530       | 501                         | NR               | 660       | 150                         | NR               | 790       | 3                           | NR               | 920       | 0                           | NR               |
| 405       | 9                           | NR               | 535       | 520                         | NR               | 665       | 131                         | NR               | 795       | 3                           | NR               | 925       | 0                           | NR               |
| 410       | 14                          | NR               | 540       | 534                         | NR               | 670       | 113                         | NR               | 800       | 2                           | NR               | 930       | 0                           | NR               |
| 415       | 26                          | NR               | 545       | 547                         | NR               | 675       | 98                          | NR               | 805       | 2                           | NR               | 935       | 0                           | NR               |
| 420       | 50                          | NR               | 550       | 561                         | NR               | 680       | 85                          | NR               | 810       | 2                           | NR               | 940       | 0                           | NR               |
| 425       | 95                          | NR               | 555       | 574                         | NR               | 685       | 73                          | NR               | 815       | 2                           | NR               | 945       | 0                           | NR               |
| 430       | 168                         | NR               | 560       | 586                         | NR               | 690       | 63                          | NR               | 820       | 1                           | NR               | 950       | 0                           | NR               |
| 435       | 284                         | NR               | 565       | 596                         | NR               | 695       | 54                          | NR               | 825       | 1                           | NR               | 955       | 0                           | NR               |
| 440       | 452                         | NR               | 570       | 604                         | NR               | 700       | 46                          | NR               | 830       | 1                           | NR               | 960       | 0                           | NR               |
| 445       | 705                         | NR               | 575       | 606                         | NR               | 705       | 40                          | NR               | 835       | 1                           | NR               | 965       | 0                           | NR               |
| 450       | 980                         | NR               | 580       | 603                         | NR               | 710       | 34                          | NR               | 840       | 1                           | NR               | 970       | 0                           | NR               |
| 455       | 869                         | NR               | 585       | 592                         | NR               | 715       | 29                          | NR               | 845       | 1                           | NR               | 975       | 0                           | NR               |
| 460       | 531                         | NR               | 590       | 577                         | NR               | 720       | 25                          | NR               | 850       | 1                           | NR               | 980       | 0                           | NR               |
| 465       | 372                         | NR               | 595       | 554                         | NR               | 725       | 22                          | NR               | 855       | 1                           | NR               | 985       | 0                           | NR               |
| 470       | 268                         | NR               | 600       | 527                         | NR               | 730       | 19                          | NR               | 860       | 1                           | NR               | 990       | 0                           | NR               |
| 475       | 174                         | NR               | 605       | 497                         | NR               | 735       | 16                          | NR               | 865       | 0                           | NR               | 995       | 0                           | NR               |
| 480       | 135                         | NR               | 610       | 462                         | NR               | 740       | 14                          | NR               | 870       | 0                           | NR               | 1000      | 0                           | NR               |
| 485       | 126                         | NR               | 615       | 428                         | NR               | 745       | 12                          | NR               | 875       | 0                           | NR               |           |                             |                  |

REPORT NUMBER: SP2-2501-321-5

### Scotopic Flux vs. Wavelength



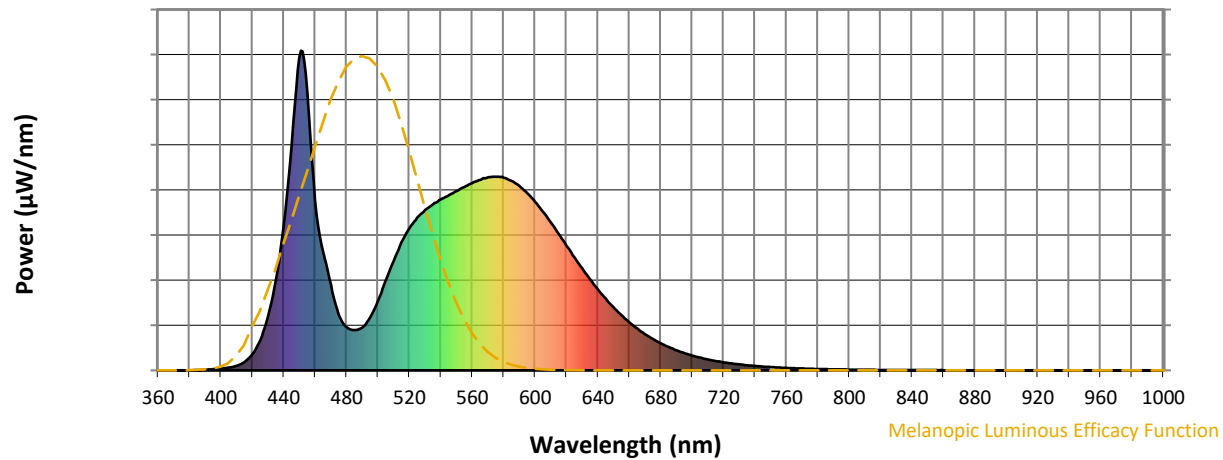
Scotopic Lumens: NR

S/P: 1.82

| 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    | 134                      | NR            | 620    | 390                      | NR            | 750    | 10                       | NR            | 880    | 0                        | NR            |
| 365    | 0                        | NR            | 495    | 165                      | NR            | 625    | 354                      | NR            | 755    | 9                        | NR            | 885    | 0                        | NR            |
| 370    | 0                        | NR            | 500    | 218                      | NR            | 630    | 319                      | NR            | 760    | 8                        | NR            | 890    | 0                        | NR            |
| 375    | 0                        | NR            | 505    | 281                      | NR            | 635    | 285                      | NR            | 765    | 7                        | NR            | 895    | 0                        | NR            |
| 380    | 0                        | NR            | 510    | 343                      | NR            | 640    | 254                      | NR            | 770    | 6                        | NR            | 900    | 0                        | NR            |
| 385    | 1                        | NR            | 515    | 400                      | NR            | 645    | 224                      | NR            | 775    | 5                        | NR            | 905    | 0                        | NR            |
| 390    | 2                        | NR            | 520    | 444                      | NR            | 650    | 197                      | NR            | 780    | 4                        | NR            | 910    | 0                        | NR            |
| 395    | 4                        | NR            | 525    | 477                      | NR            | 655    | 173                      | NR            | 785    | 4                        | NR            | 915    | 0                        | NR            |
| 400    | 6                        | NR            | 530    | 501                      | NR            | 660    | 150                      | NR            | 790    | 3                        | NR            | 920    | 0                        | NR            |
| 405    | 9                        | NR            | 535    | 520                      | NR            | 665    | 131                      | NR            | 795    | 3                        | NR            | 925    | 0                        | NR            |
| 410    | 14                       | NR            | 540    | 534                      | NR            | 670    | 113                      | NR            | 800    | 2                        | NR            | 930    | 0                        | NR            |
| 415    | 26                       | NR            | 545    | 547                      | NR            | 675    | 98                       | NR            | 805    | 2                        | NR            | 935    | 0                        | NR            |
| 420    | 50                       | NR            | 550    | 561                      | NR            | 680    | 85                       | NR            | 810    | 2                        | NR            | 940    | 0                        | NR            |
| 425    | 95                       | NR            | 555    | 574                      | NR            | 685    | 73                       | NR            | 815    | 2                        | NR            | 945    | 0                        | NR            |
| 430    | 168                      | NR            | 560    | 586                      | NR            | 690    | 63                       | NR            | 820    | 1                        | NR            | 950    | 0                        | NR            |
| 435    | 284                      | NR            | 565    | 596                      | NR            | 695    | 54                       | NR            | 825    | 1                        | NR            | 955    | 0                        | NR            |
| 440    | 452                      | NR            | 570    | 604                      | NR            | 700    | 46                       | NR            | 830    | 1                        | NR            | 960    | 0                        | NR            |
| 445    | 705                      | NR            | 575    | 606                      | NR            | 705    | 40                       | NR            | 835    | 1                        | NR            | 965    | 0                        | NR            |
| 450    | 980                      | NR            | 580    | 603                      | NR            | 710    | 34                       | NR            | 840    | 1                        | NR            | 970    | 0                        | NR            |
| 455    | 869                      | NR            | 585    | 592                      | NR            | 715    | 29                       | NR            | 845    | 1                        | NR            | 975    | 0                        | NR            |
| 460    | 531                      | NR            | 590    | 577                      | NR            | 720    | 25                       | NR            | 850    | 1                        | NR            | 980    | 0                        | NR            |
| 465    | 372                      | NR            | 595    | 554                      | NR            | 725    | 22                       | NR            | 855    | 1                        | NR            | 985    | 0                        | NR            |
| 470    | 268                      | NR            | 600    | 527                      | NR            | 730    | 19                       | NR            | 860    | 1                        | NR            | 990    | 0                        | NR            |
| 475    | 174                      | NR            | 605    | 497                      | NR            | 735    | 16                       | NR            | 865    | 0                        | NR            | 995    | 0                        | NR            |
| 480    | 135                      | NR            | 610    | 462                      | NR            | 740    | 14                       | NR            | 870    | 0                        | NR            | 1000   | 0                        | NR            |
| 485    | 126                      | NR            | 615    | 428                      | NR            | 745    | 12                       | NR            | 875    | 0                        | NR            |        |                          |               |

REPORT NUMBER: SP2-2501-321-5

### Melanopic Flux vs. Wavelength



Melanopic Lumens: NR

M/P: 3.75

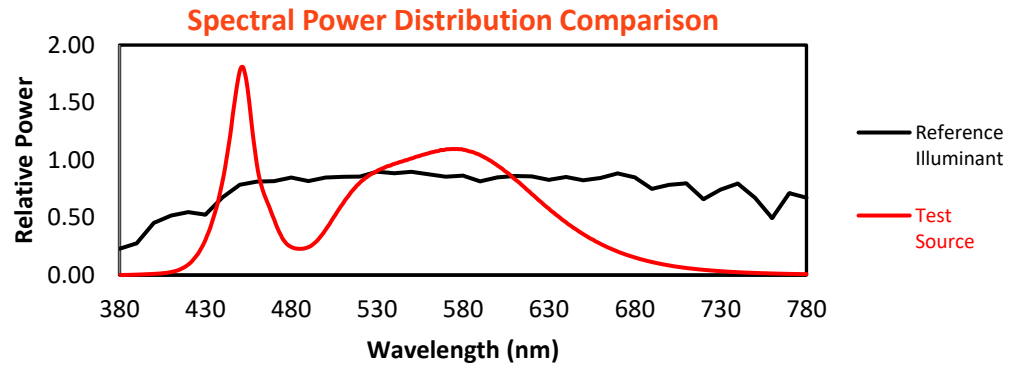
| $\lambda$<br>(nm) | Power<br>$\text{W}^{\wedge}/\text{nm}$ | Lumens<br>( $\phi/\text{nm}$ ) | $\lambda$<br>(nm) | Power<br>$\text{W}^{\wedge}/\text{nm}$ | Lumens<br>( $\phi/\text{nm}$ ) | $\lambda$<br>(nm) | Power<br>$\text{W}^{\wedge}/\text{nm}$ | Lumens<br>( $\phi/\text{nm}$ ) | $\lambda$<br>(nm) | 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               | 134                                    | NR                             | 620               | 390                                    | NR                             | 750               | 10                                     | NR                             | 880               | 0                                      | NR                             |
| 365               | 0                                      | NR                             | 495               | 165                                    | NR                             | 625               | 354                                    | NR                             | 755               | 9                                      | NR                             | 885               | 0                                      | NR                             |
| 370               | 0                                      | NR                             | 500               | 218                                    | NR                             | 630               | 319                                    | NR                             | 760               | 8                                      | NR                             | 890               | 0                                      | NR                             |
| 375               | 0                                      | NR                             | 505               | 281                                    | NR                             | 635               | 285                                    | NR                             | 765               | 7                                      | NR                             | 895               | 0                                      | NR                             |
| 380               | 0                                      | NR                             | 510               | 343                                    | NR                             | 640               | 254                                    | NR                             | 770               | 6                                      | NR                             | 900               | 0                                      | NR                             |
| 385               | 1                                      | NR                             | 515               | 400                                    | NR                             | 645               | 224                                    | NR                             | 775               | 5                                      | NR                             | 905               | 0                                      | NR                             |
| 390               | 2                                      | NR                             | 520               | 444                                    | NR                             | 650               | 197                                    | NR                             | 780               | 4                                      | NR                             | 910               | 0                                      | NR                             |
| 395               | 4                                      | NR                             | 525               | 477                                    | NR                             | 655               | 173                                    | NR                             | 785               | 4                                      | NR                             | 915               | 0                                      | NR                             |
| 400               | 6                                      | NR                             | 530               | 501                                    | NR                             | 660               | 150                                    | NR                             | 790               | 3                                      | NR                             | 920               | 0                                      | NR                             |
| 405               | 9                                      | NR                             | 535               | 520                                    | NR                             | 665               | 131                                    | NR                             | 795               | 3                                      | NR                             | 925               | 0                                      | NR                             |
| 410               | 14                                     | NR                             | 540               | 534                                    | NR                             | 670               | 113                                    | NR                             | 800               | 2                                      | NR                             | 930               | 0                                      | NR                             |
| 415               | 26                                     | NR                             | 545               | 547                                    | NR                             | 675               | 98                                     | NR                             | 805               | 2                                      | NR                             | 935               | 0                                      | NR                             |
| 420               | 50                                     | NR                             | 550               | 561                                    | NR                             | 680               | 85                                     | NR                             | 810               | 2                                      | NR                             | 940               | 0                                      | NR                             |
| 425               | 95                                     | NR                             | 555               | 574                                    | NR                             | 685               | 73                                     | NR                             | 815               | 2                                      | NR                             | 945               | 0                                      | NR                             |
| 430               | 168                                    | NR                             | 560               | 586                                    | NR                             | 690               | 63                                     | NR                             | 820               | 1                                      | NR                             | 950               | 0                                      | NR                             |
| 435               | 284                                    | NR                             | 565               | 596                                    | NR                             | 695               | 54                                     | NR                             | 825               | 1                                      | NR                             | 955               | 0                                      | NR                             |
| 440               | 452                                    | NR                             | 570               | 604                                    | NR                             | 700               | 46                                     | NR                             | 830               | 1                                      | NR                             | 960               | 0                                      | NR                             |
| 445               | 705                                    | NR                             | 575               | 606                                    | NR                             | 705               | 40                                     | NR                             | 835               | 1                                      | NR                             | 965               | 0                                      | NR                             |
| 450               | 980                                    | NR                             | 580               | 603                                    | NR                             | 710               | 34                                     | NR                             | 840               | 1                                      | NR                             | 970               | 0                                      | NR                             |
| 455               | 869                                    | NR                             | 585               | 592                                    | NR                             | 715               | 29                                     | NR                             | 845               | 1                                      | NR                             | 975               | 0                                      | NR                             |
| 460               | 531                                    | NR                             | 590               | 577                                    | NR                             | 720               | 25                                     | NR                             | 850               | 1                                      | NR                             | 980               | 0                                      | NR                             |
| 465               | 372                                    | NR                             | 595               | 554                                    | NR                             | 725               | 22                                     | NR                             | 855               | 1                                      | NR                             | 985               | 0                                      | NR                             |
| 470               | 268                                    | NR                             | 600               | 527                                    | NR                             | 730               | 19                                     | NR                             | 860               | 1                                      | NR                             | 990               | 0                                      | NR                             |
| 475               | 174                                    | NR                             | 605               | 497                                    | NR                             | 735               | 16                                     | NR                             | 865               | 0                                      | NR                             | 995               | 0                                      | NR                             |
| 480               | 135                                    | NR                             | 610               | 462                                    | NR                             | 740               | 14                                     | NR                             | 870               | 0                                      | NR                             | 1000              | 0                                      | NR                             |
| 485               | 126                                    | NR                             | 615               | 428                                    | NR                             | 745               | 12                                     | NR                             | 875               | 0                                      | NR                             |                   |                                        |                                |

REPORT NUMBER: SP2-2501-321-5

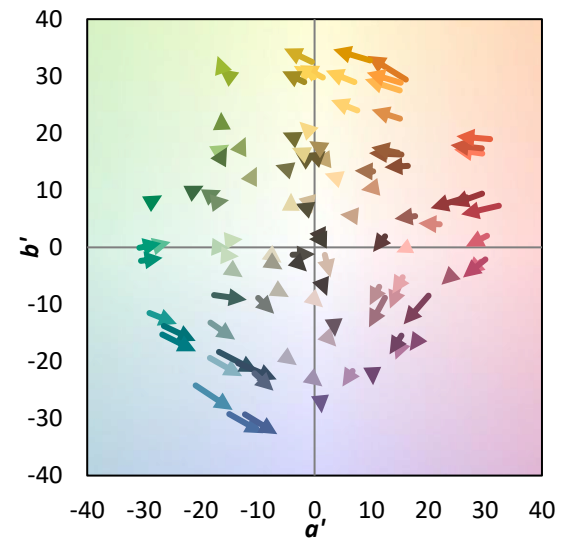
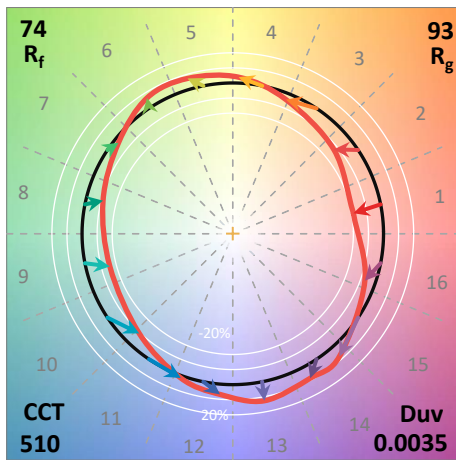
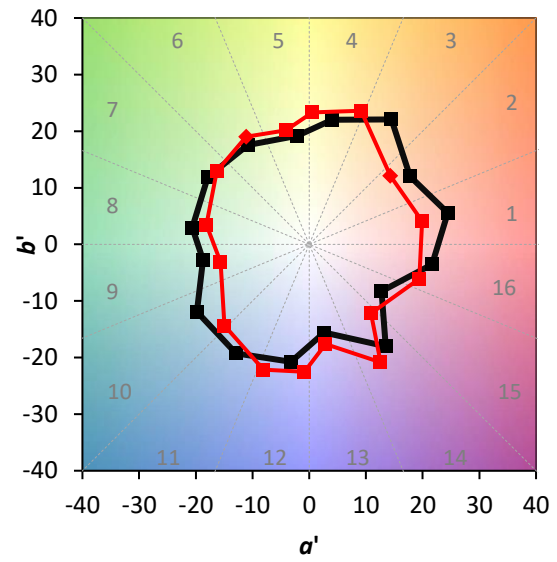
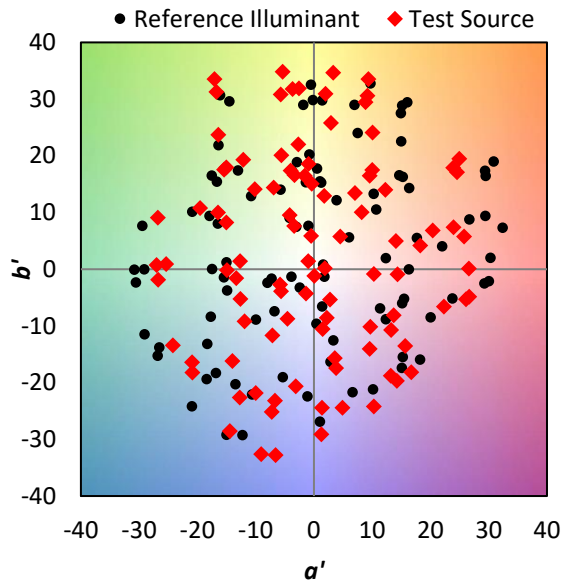
TM-30-18

### Summary

$R_f = 74.2$   
 $R_g = 92.7$   
 $\text{CIE } R_a = 72.2$   
 $R_g = -38.2$

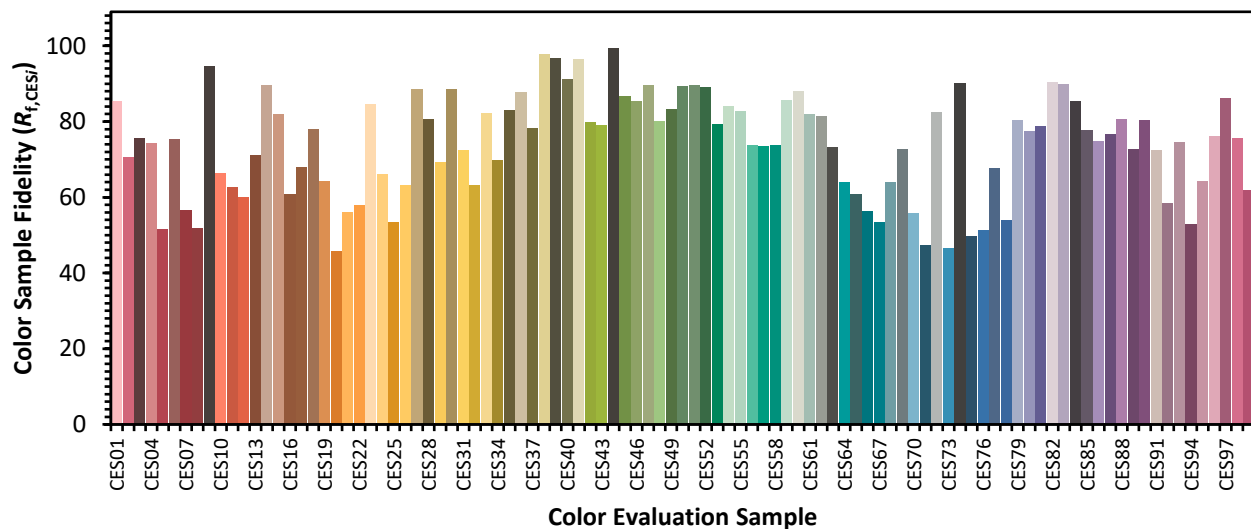


### Color Vector Graphics

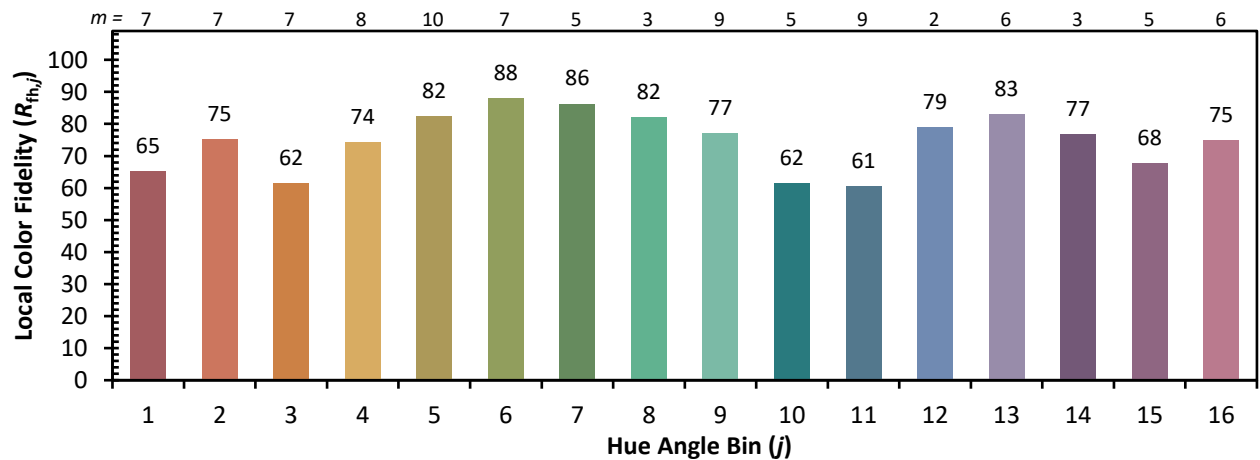
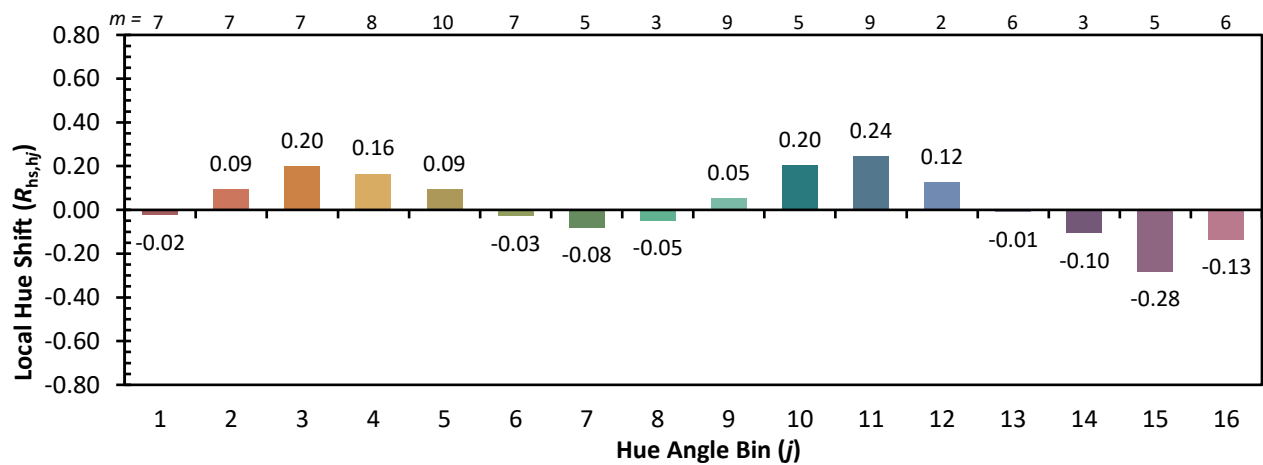
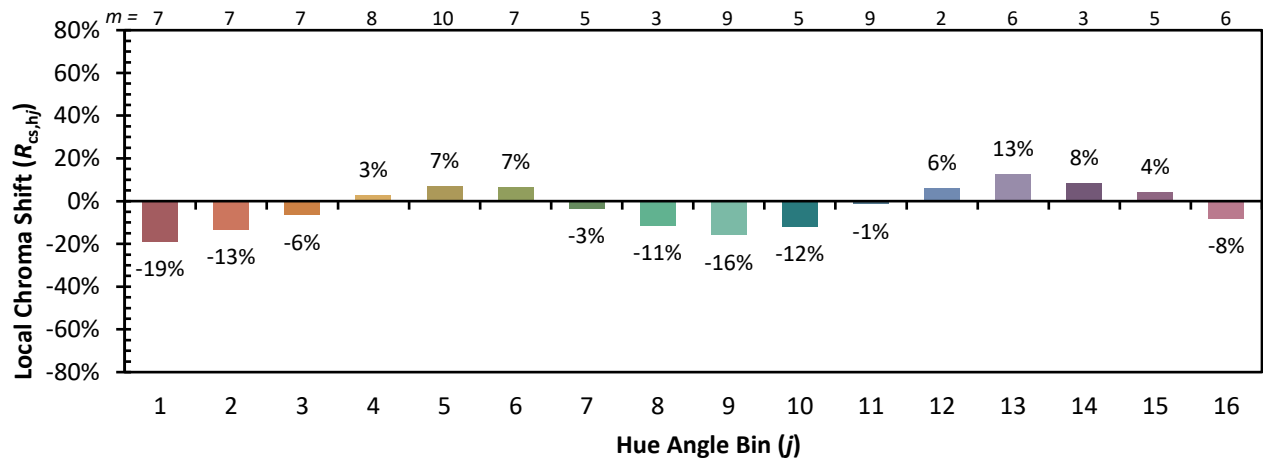


**Individual Sample Fidelity Index ( $R_{f,i}$ )**

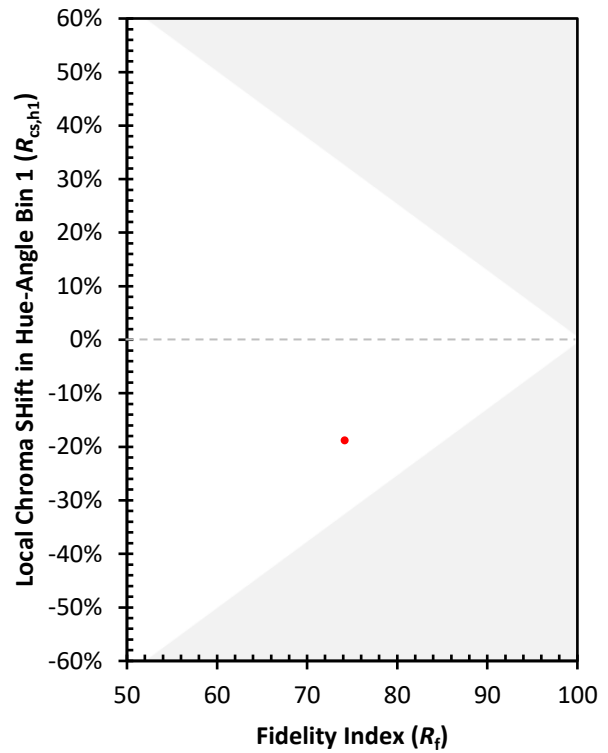
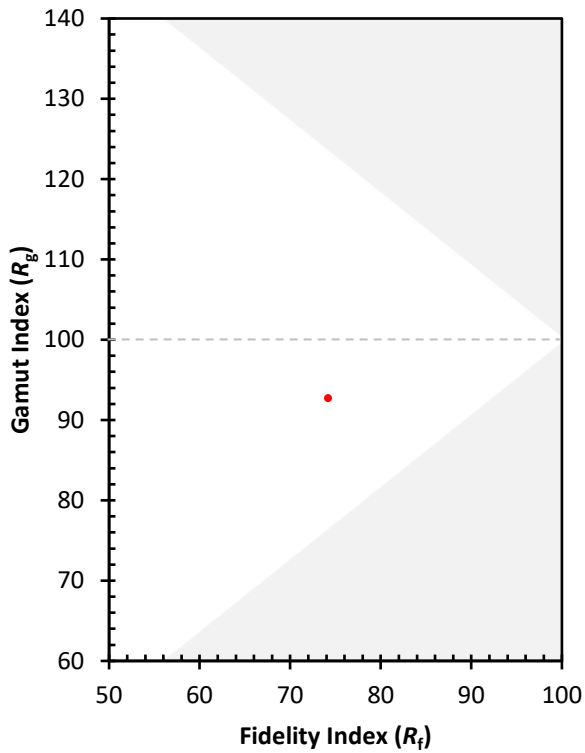
|            |            |            |            |
|------------|------------|------------|------------|
| CES01 = 85 | CES26 = 63 | CES51 = 89 | CES76 = 51 |
| CES02 = 59 | CES27 = 89 | CES52 = 89 | CES77 = 68 |
| CES03 = 30 | CES28 = 81 | CES53 = 79 | CES78 = 54 |
| CES04 = 69 | CES29 = 69 | CES54 = 84 | CES79 = 80 |
| CES05 = 46 | CES30 = 88 | CES55 = 83 | CES80 = 77 |
| CES06 = 50 | CES31 = 72 | CES56 = 74 | CES81 = 79 |
| CES07 = 38 | CES32 = 63 | CES57 = 73 | CES82 = 91 |
| CES08 = 38 | CES33 = 82 | CES58 = 74 | CES83 = 90 |
| CES09 = 29 | CES34 = 70 | CES59 = 86 | CES84 = 85 |
| CES10 = 72 | CES35 = 83 | CES60 = 88 | CES85 = 78 |
| CES11 = 56 | CES36 = 88 | CES61 = 82 | CES86 = 75 |
| CES12 = 61 | CES37 = 78 | CES62 = 81 | CES87 = 77 |
| CES13 = 41 | CES38 = 98 | CES63 = 73 | CES88 = 81 |
| CES14 = 74 | CES39 = 97 | CES64 = 64 | CES89 = 73 |
| CES15 = 70 | CES40 = 91 | CES65 = 61 | CES90 = 80 |
| CES16 = 46 | CES41 = 96 | CES66 = 56 | CES91 = 72 |
| CES17 = 49 | CES42 = 80 | CES67 = 54 | CES92 = 58 |
| CES18 = 55 | CES43 = 79 | CES68 = 64 | CES93 = 75 |
| CES19 = 71 | CES44 = 99 | CES69 = 73 | CES94 = 53 |
| CES20 = 63 | CES45 = 87 | CES70 = 56 | CES95 = 64 |
| CES21 = 85 | CES46 = 85 | CES71 = 47 | CES96 = 76 |
| CES22 = 77 | CES47 = 90 | CES72 = 82 | CES97 = 86 |
| CES23 = 91 | CES48 = 80 | CES73 = 47 | CES98 = 76 |
| CES24 = 90 | CES49 = 83 | CES74 = 90 | CES99 = 62 |
| CES25 = 71 | CES50 = 89 | CES75 = 50 |            |



Color Rendition by Hue-Angle Bin



**Measure Comparisons**



(END OF REPORT)