

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: P1462275

Luminaire Tested: PRV-P-70-730-U-5WQ

Issue Date: 06/10/2026

**Test Information**

Test Method: LM-79-2024  
Report Number: P1462275  
Test Lab: INNOVATION CENTER(G3)  
Issue Date: 6/11/2026  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: STREETWORKS  
Catalog Number: PRV-P-70-730-U-5WQ  
Description: PREVAIL PETITE DISCRETE LED 2 SQUARES 70W 70CRI 3000K FIXTURE w/ TYPE V  
SQUARE WIDE DISTRIBUTION OPTIC  
Light Source: (20) 3000K CCT, 70 CRI LEDS  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 9999.7 lumens  
Efficiency: N/A  
Efficacy: 135.1 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

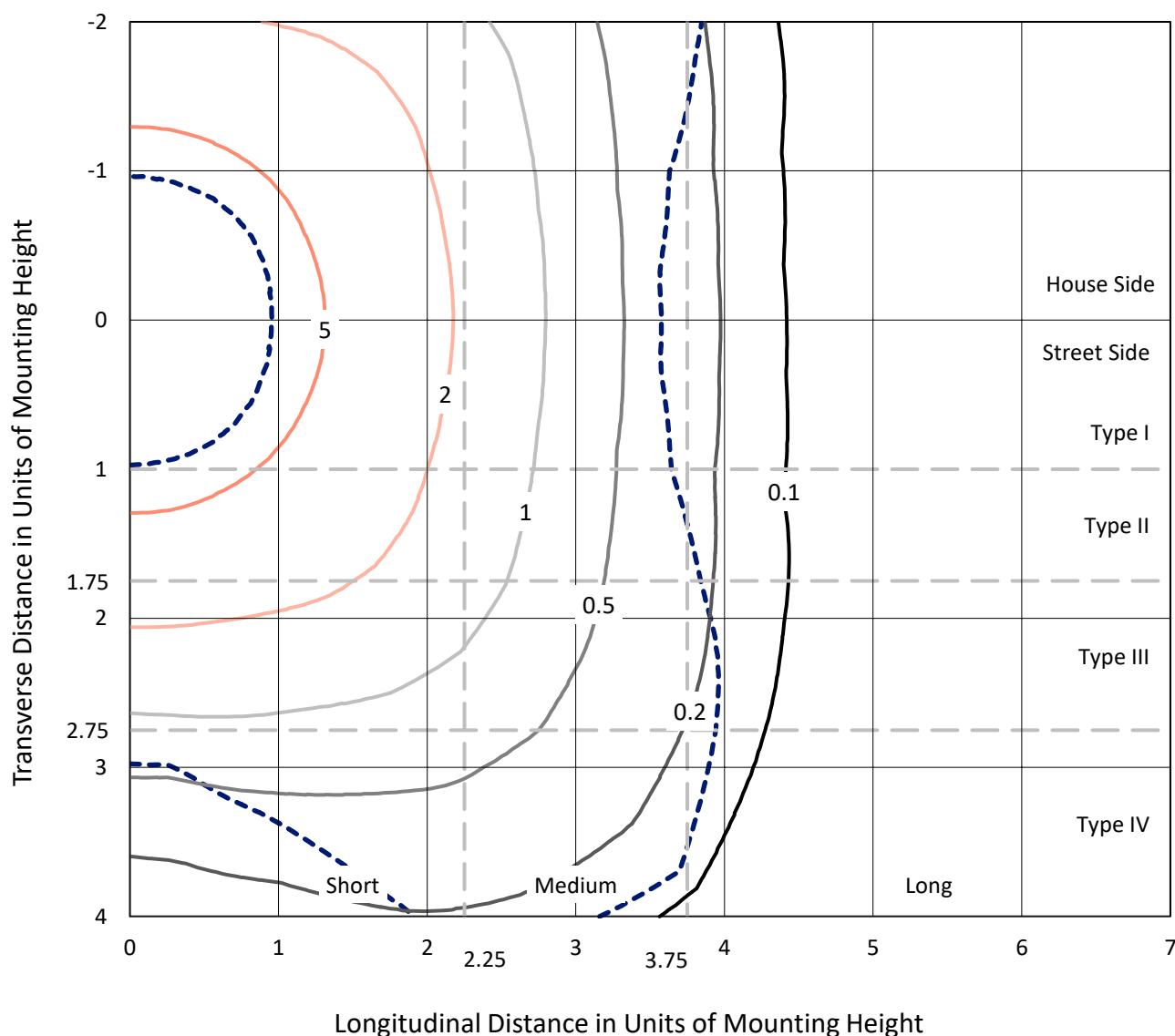
Input Watts (W): 74  
Input Voltage (V): 120  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: 0.97  
Total Harmonic Distortion (THDi): 8.0%  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 28.75 FT

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## Iso-Footcandle Lines of Horizontal Illumination

× Max cd  
 --- 1/2 Max cd

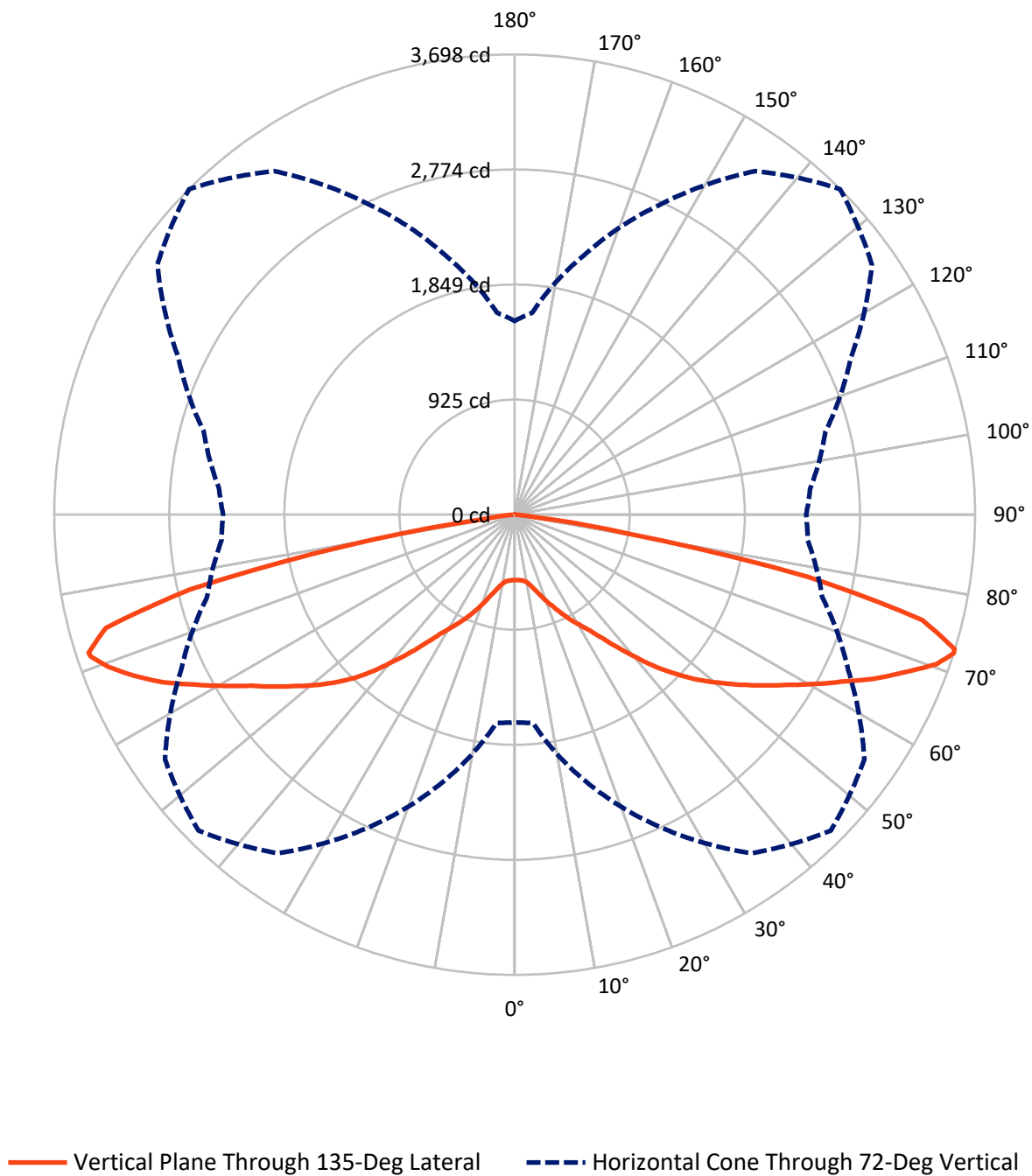


Based on 10 foot mounting height. Maximum calculated value = 7 fc  
 Type V - Short - N/A

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## Luminous Intensity Polar Plot



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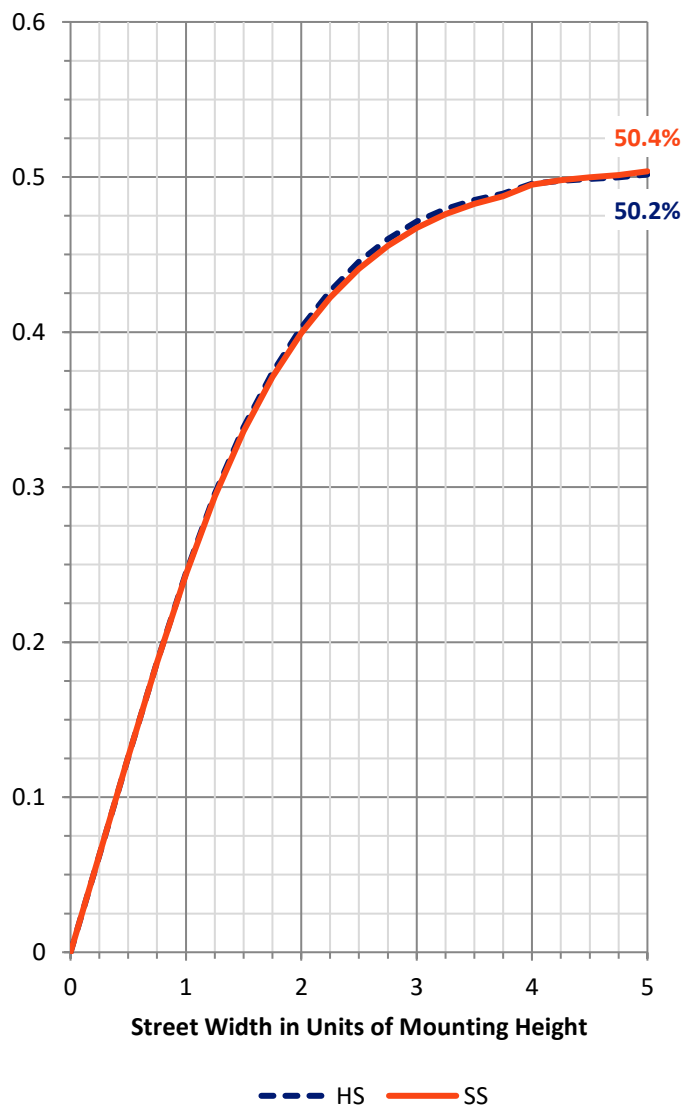
**FLUX DISTRIBUTION:**

|                    |           | Downward | Upward | Total  |
|--------------------|-----------|----------|--------|--------|
| <b>House Side</b>  | Lumens    | 4978.9   | 0.0    | 4978.9 |
|                    | % Fixture | 49.8     | 0.0    | 49.8   |
| <b>Street Side</b> | Lumens    | 5020.8   | 0.0    | 5020.8 |
|                    | % Fixture | 50.2     | 0.0    | 50.2   |
| <b>Total</b>       | Lumens    | 9999.7   | 0.0    | 9999.7 |
|                    | % Fixture | 100.0    | 0.0    | 100.0  |

**ZONAL LUMENS:**

| Zone      | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10°    | 51.3   | 0.5       |
| 10°-20°   | 183.3  | 1.8       |
| 20°-30°   | 404.5  | 4.0       |
| 30°-40°   | 792.3  | 7.9       |
| 40°-50°   | 1437.8 | 14.4      |
| 50°-60°   | 2112.6 | 21.1      |
| 60°-70°   | 2786.7 | 27.9      |
| 70°-80°   | 2114.6 | 21.1      |
| 80°-90°   | 116.7  | 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°    | 9999.7 | 100.0     |
| 0°-180°   | 9999.7 | 100.0     |

**Coefficient of Utilization**



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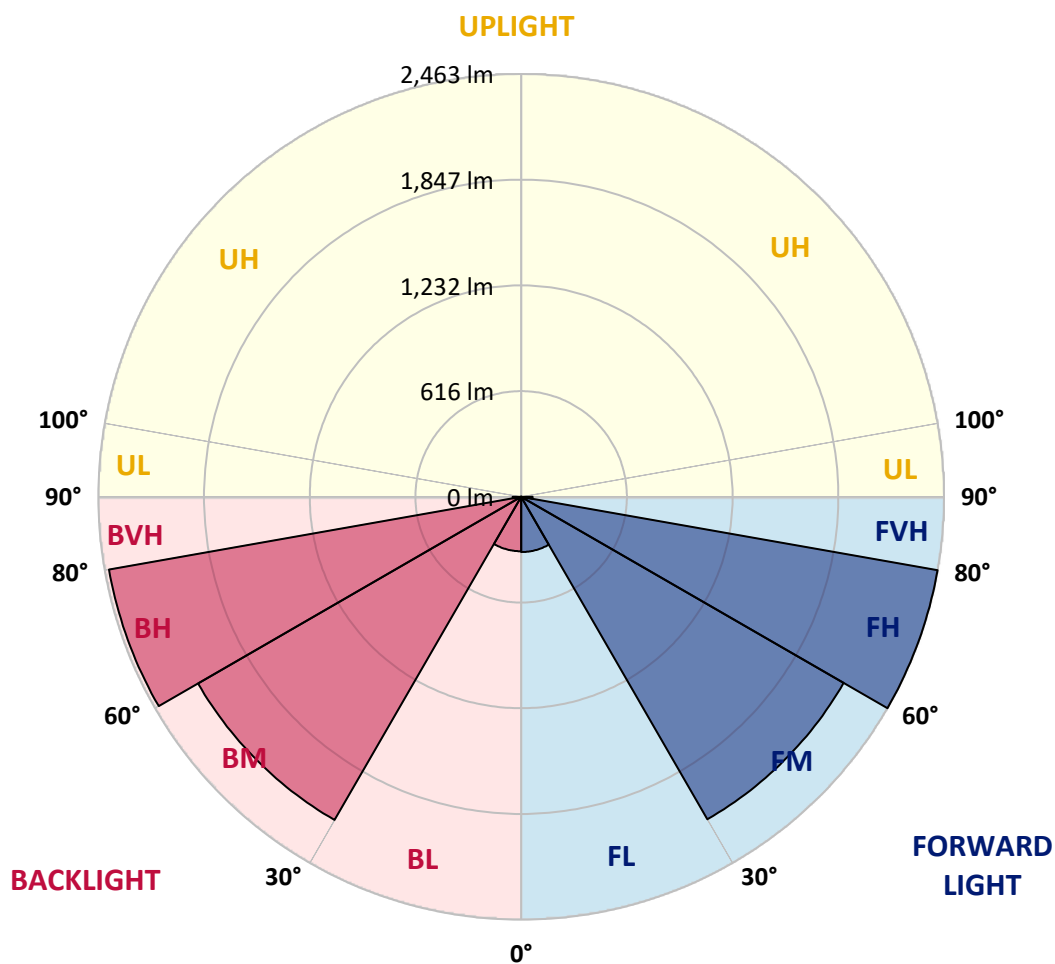
CATALOG NUMBER: PRV-P-70-730-U-5WQ

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

| Zone |             | Lumens | % Fixture | Zone Rating/Lumen Limit |      |         |
|------|-------------|--------|-----------|-------------------------|------|---------|
|      |             |        |           | B                       | U    | G       |
| FL   | (0°-30°)    | 321.8  | 3.2       |                         |      |         |
| FM   | (30°-60°)   | 2169.0 | 21.7      |                         |      |         |
| FH   | (60°-80°)   | 2463.2 | 24.6      |                         |      | G2/5000 |
| FVH  | (80°-90°)   | 66.8   | 0.7       |                         |      | G1/100  |
| BL   | (0°-30°)    | 317.3  | 3.2       | B1/500                  |      |         |
| BM   | (30°-60°)   | 2173.6 | 21.7      | B2/2500                 |      |         |
| BH   | (60°-80°)   | 2438.1 | 24.4      | B3/2500                 |      | G2/5000 |
| BVH  | (80°-90°)   | 49.9   | 0.5       |                         |      | 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



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**CANDELA DISTRIBUTION (FULL):**

|       | 0°     | 5°     | 15°    | 25°    | 35°    | 45°    | 55°    | 65°    | 75°    | 85°    | 90°    |
|-------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 0°    | 525.3  | 525.3  | 525.3  | 525.3  | 525.3  | 525.3  | 525.3  | 525.3  | 525.3  | 525.3  | 525.3  |
| 2.5°  | 526.8  | 528.3  | 528.3  | 528.3  | 528.3  | 526.8  | 526.8  | 526.8  | 525.3  | 525.3  | 526.8  |
| 5°    | 531.3  | 531.3  | 532.9  | 532.9  | 531.3  | 531.3  | 529.8  | 528.3  | 526.8  | 525.3  | 526.8  |
| 7.5°  | 541.9  | 538.9  | 540.4  | 540.4  | 538.9  | 537.4  | 535.9  | 532.9  | 532.9  | 532.9  | 532.9  |
| 10°   | 561.6  | 561.6  | 561.6  | 560.1  | 560.1  | 557.1  | 554.1  | 551.0  | 554.1  | 554.1  | 555.6  |
| 12.5° | 598.0  | 598.0  | 598.0  | 596.4  | 591.9  | 590.4  | 587.4  | 582.8  | 584.3  | 585.8  | 584.3  |
| 15°   | 644.9  | 644.9  | 644.9  | 640.3  | 641.9  | 635.8  | 629.7  | 625.2  | 626.7  | 626.7  | 625.2  |
| 17.5° | 702.4  | 700.9  | 699.4  | 694.8  | 694.8  | 688.8  | 681.2  | 673.6  | 670.6  | 669.1  | 669.1  |
| 20°   | 755.4  | 752.4  | 756.9  | 756.9  | 761.4  | 756.9  | 743.3  | 728.1  | 720.6  | 716.0  | 716.0  |
| 22.5° | 800.8  | 806.9  | 808.4  | 817.5  | 828.0  | 828.0  | 806.9  | 788.7  | 772.0  | 763.0  | 761.4  |
| 25°   | 867.4  | 870.4  | 873.5  | 878.0  | 897.7  | 899.2  | 873.5  | 850.8  | 837.1  | 837.1  | 837.1  |
| 27.5° | 934.0  | 934.0  | 941.6  | 950.7  | 968.8  | 971.9  | 947.6  | 921.9  | 917.4  | 914.3  | 912.8  |
| 30°   | 1003.6 | 1003.6 | 1018.8 | 1033.9 | 1043.0 | 1046.0 | 1026.4 | 1006.7 | 1002.1 | 997.6  | 999.1  |
| 32.5° | 1091.4 | 1099.0 | 1118.7 | 1133.8 | 1135.3 | 1130.8 | 1130.8 | 1114.2 | 1100.5 | 1109.6 | 1106.6 |
| 35°   | 1226.2 | 1229.2 | 1238.3 | 1247.4 | 1251.9 | 1247.4 | 1242.8 | 1236.8 | 1233.7 | 1238.3 | 1233.7 |
| 37.5° | 1380.6 | 1383.6 | 1389.7 | 1380.6 | 1382.1 | 1383.6 | 1391.2 | 1397.2 | 1398.8 | 1398.8 | 1397.2 |
| 40°   | 1528.9 | 1538.0 | 1538.0 | 1532.0 | 1530.5 | 1524.4 | 1538.0 | 1554.7 | 1571.3 | 1574.4 | 1569.8 |
| 42.5° | 1703.0 | 1698.5 | 1706.1 | 1693.9 | 1681.8 | 1687.9 | 1697.0 | 1716.6 | 1733.3 | 1745.4 | 1746.9 |
| 45°   | 1865.0 | 1868.0 | 1869.5 | 1842.3 | 1833.2 | 1840.8 | 1845.3 | 1862.0 | 1889.2 | 1907.4 | 1898.3 |
| 47.5° | 1999.7 | 2001.2 | 2002.8 | 1987.6 | 1981.6 | 1978.5 | 1983.1 | 1989.1 | 2011.8 | 2023.9 | 2028.5 |
| 50°   | 2098.1 | 2104.2 | 2113.3 | 2107.2 | 2105.7 | 2108.7 | 2110.2 | 2116.3 | 2131.4 | 2139.0 | 2140.5 |
| 52.5° | 2195.0 | 2201.1 | 2219.2 | 2211.7 | 2228.3 | 2237.4 | 2237.4 | 2229.8 | 2237.4 | 2241.9 | 2240.4 |
| 55°   | 2279.8 | 2285.8 | 2320.7 | 2328.2 | 2357.0 | 2376.7 | 2370.6 | 2338.8 | 2347.9 | 2337.3 | 2340.3 |
| 57.5° | 2360.0 | 2369.1 | 2410.0 | 2437.2 | 2505.3 | 2525.0 | 2509.9 | 2461.4 | 2441.8 | 2438.7 | 2435.7 |
| 60°   | 2391.8 | 2402.4 | 2464.5 | 2564.4 | 2662.8 | 2709.7 | 2665.8 | 2573.5 | 2532.6 | 2522.0 | 2525.0 |
| 62.5° | 2397.9 | 2411.5 | 2493.2 | 2644.6 | 2836.9 | 2908.0 | 2847.5 | 2705.2 | 2634.0 | 2617.4 | 2611.3 |
| 65°   | 2396.3 | 2406.9 | 2505.3 | 2718.8 | 2998.8 | 3127.5 | 3057.9 | 2859.6 | 2749.1 | 2726.4 | 2733.9 |
| 67.5° | 2399.4 | 2414.5 | 2531.1 | 2773.3 | 3145.7 | 3316.7 | 3222.9 | 3000.4 | 2855.0 | 2808.1 | 2811.1 |
| 70°   | 2164.7 | 2243.5 | 2532.6 | 2841.4 | 3262.2 | 3487.8 | 3374.3 | 3065.4 | 2800.5 | 2661.3 | 2665.8 |
| 72°   | 1668.2 | 1678.8 | 2222.3 | 2771.8 | 3321.3 | 3590.7 | 3428.8 | 2956.5 | 2556.8 | 2363.0 | 2341.8 |
| 72.5° | 1488.1 | 1559.2 | 2132.9 | 2740.0 | 3321.3 | 3598.3 | 3406.0 | 2897.4 | 2466.0 | 2293.4 | 2273.7 |
| 75°   | 914.3  | 990.0  | 1476.0 | 2245.0 | 3094.2 | 3407.6 | 3001.9 | 2373.6 | 1846.8 | 1654.6 | 1657.6 |
| 77.5° | 375.4  | 408.7  | 811.4  | 1721.2 | 2408.5 | 2677.9 | 2196.5 | 1571.3 | 1040.0 | 865.9  | 844.7  |
| 80°   | 86.3   | 92.3   | 136.2  | 572.2  | 1221.6 | 1380.6 | 923.4  | 523.8  | 349.7  | 239.2  | 225.6  |
| 82.5° | 45.4   | 48.4   | 62.1   | 112.0  | 168.0  | 231.6  | 204.4  | 148.4  | 162.0  | 136.2  | 131.7  |
| 85°   | 15.1   | 15.1   | 19.7   | 30.3   | 40.9   | 51.5   | 59.0   | 72.7   | 69.6   | 53.0   | 50.0   |
| 87.5° | 1.5    | 1.5    | 3.0    | 4.5    | 4.5    | 4.5    | 4.5    | 3.0    | 3.0    | 3.0    | 1.5    |
| 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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**CANDELA DISTRIBUTION (continued):**

|       | 95°    | 105°   | 115°   | 125°   | 135°   | 145°   | 155°   | 165°   | 175°   | 180°   |
|-------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 0°    | 525.3  | 525.3  | 525.3  | 525.3  | 525.3  | 525.3  | 525.3  | 525.3  | 525.3  | 525.3  |
| 2.5°  | 526.8  | 525.3  | 525.3  | 526.8  | 526.8  | 526.8  | 526.8  | 526.8  | 526.8  | 526.8  |
| 5°    | 526.8  | 526.8  | 525.3  | 526.8  | 529.8  | 529.8  | 529.8  | 529.8  | 528.3  | 528.3  |
| 7.5°  | 532.9  | 531.3  | 531.3  | 534.4  | 537.4  | 537.4  | 537.4  | 537.4  | 537.4  | 535.9  |
| 10°   | 554.1  | 552.5  | 551.0  | 555.6  | 554.1  | 557.1  | 557.1  | 557.1  | 555.6  | 557.1  |
| 12.5° | 584.3  | 582.8  | 582.8  | 584.3  | 587.4  | 585.8  | 588.9  | 590.4  | 591.9  | 591.9  |
| 15°   | 625.2  | 620.7  | 620.7  | 625.2  | 631.3  | 632.8  | 629.7  | 634.3  | 634.3  | 634.3  |
| 17.5° | 670.6  | 670.6  | 669.1  | 673.6  | 685.8  | 684.2  | 679.7  | 682.7  | 684.2  | 687.3  |
| 20°   | 716.0  | 719.1  | 723.6  | 737.2  | 747.8  | 741.8  | 738.7  | 738.7  | 732.7  | 734.2  |
| 22.5° | 766.0  | 772.0  | 781.1  | 797.8  | 808.4  | 806.9  | 796.3  | 785.7  | 779.6  | 778.1  |
| 25°   | 835.6  | 834.1  | 841.7  | 862.9  | 879.5  | 873.5  | 858.3  | 846.2  | 841.7  | 840.2  |
| 27.5° | 912.8  | 912.8  | 915.8  | 935.5  | 956.7  | 943.1  | 928.0  | 917.4  | 906.8  | 906.8  |
| 30°   | 999.1  | 991.5  | 1003.6 | 1017.3 | 1026.4 | 1017.3 | 1008.2 | 988.5  | 976.4  | 971.9  |
| 32.5° | 1103.6 | 1103.6 | 1097.5 | 1105.1 | 1111.1 | 1114.2 | 1103.6 | 1085.4 | 1074.8 | 1070.3 |
| 35°   | 1236.8 | 1232.2 | 1224.7 | 1224.7 | 1221.6 | 1229.2 | 1227.7 | 1224.7 | 1212.6 | 1212.6 |
| 37.5° | 1400.3 | 1392.7 | 1377.6 | 1370.0 | 1360.9 | 1360.9 | 1376.0 | 1385.1 | 1380.6 | 1377.6 |
| 40°   | 1562.2 | 1563.8 | 1538.0 | 1518.3 | 1512.3 | 1516.8 | 1533.5 | 1557.7 | 1548.6 | 1536.5 |
| 42.5° | 1746.9 | 1727.2 | 1693.9 | 1674.3 | 1678.8 | 1680.3 | 1698.5 | 1724.2 | 1722.7 | 1706.1 |
| 45°   | 1899.8 | 1874.1 | 1849.9 | 1833.2 | 1830.2 | 1846.8 | 1863.5 | 1884.7 | 1886.2 | 1886.2 |
| 47.5° | 2016.4 | 2008.8 | 1980.0 | 1980.0 | 1983.1 | 1989.1 | 2005.8 | 2011.8 | 2004.3 | 1996.7 |
| 50°   | 2134.5 | 2122.3 | 2107.2 | 2116.3 | 2122.3 | 2129.9 | 2125.4 | 2120.8 | 2102.7 | 2092.1 |
| 52.5° | 2237.4 | 2231.3 | 2228.3 | 2258.6 | 2270.7 | 2254.0 | 2238.9 | 2220.7 | 2199.6 | 2193.5 |
| 55°   | 2334.3 | 2341.8 | 2352.4 | 2406.9 | 2420.6 | 2396.3 | 2355.5 | 2332.8 | 2310.1 | 2302.5 |
| 57.5° | 2431.2 | 2443.3 | 2476.6 | 2562.9 | 2581.0 | 2535.6 | 2475.1 | 2429.6 | 2396.3 | 2394.8 |
| 60°   | 2512.9 | 2535.6 | 2597.7 | 2726.4 | 2764.2 | 2694.6 | 2591.6 | 2505.3 | 2459.9 | 2455.4 |
| 62.5° | 2615.8 | 2641.6 | 2735.4 | 2900.4 | 2954.9 | 2876.2 | 2699.1 | 2562.9 | 2493.2 | 2487.2 |
| 65°   | 2727.9 | 2767.2 | 2889.8 | 3106.3 | 3176.0 | 3045.8 | 2786.9 | 2617.4 | 2532.6 | 2529.6 |
| 67.5° | 2818.7 | 2882.3 | 3045.8 | 3297.1 | 3378.8 | 3232.0 | 2883.8 | 2685.5 | 2579.5 | 2564.4 |
| 70°   | 2674.9 | 2818.7 | 3118.4 | 3472.7 | 3596.8 | 3357.6 | 2909.5 | 2546.2 | 2213.2 | 2152.6 |
| 72°   | 2382.7 | 2585.6 | 2979.2 | 3502.9 | 3698.2 | 3369.7 | 2744.5 | 2158.7 | 1628.8 | 1556.2 |
| 72.5° | 2267.7 | 2497.8 | 2920.1 | 3471.1 | 3695.2 | 3344.0 | 2667.3 | 2030.0 | 1474.4 | 1433.6 |
| 75°   | 1653.1 | 1831.7 | 2390.3 | 3035.2 | 3383.3 | 2967.0 | 2051.2 | 1202.0 | 703.9  | 640.3  |
| 77.5° | 837.1  | 1020.3 | 1488.1 | 2072.4 | 2413.0 | 1937.7 | 1158.1 | 472.3  | 148.4  | 119.6  |
| 80°   | 234.6  | 311.8  | 461.7  | 787.2  | 912.8  | 743.3  | 387.5  | 78.7   | 30.3   | 19.7   |
| 82.5° | 139.3  | 166.5  | 142.3  | 127.2  | 177.1  | 128.7  | 68.1   | 31.8   | 6.1    | 1.5    |
| 85°   | 54.5   | 81.7   | 74.2   | 45.4   | 33.3   | 21.2   | 12.1   | 6.1    | 1.5    | 0.0    |
| 87.5° | 3.0    | 3.0    | 4.5    | 4.5    | 3.0    | 3.0    | 3.0    | 1.5    | 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: SP2-2501-321-4

Test Date: 04/10/2025

Luminaire Tested: GKO-PB1E-730-U-T4W

Data in this report applies to families of products including GKO-PB1E-730-U-T4W

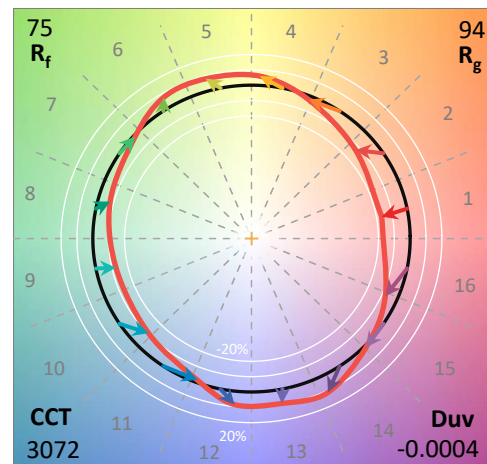
### Test Information

Test Method: LM-79-2019  
 Report Number: SP2-2501-321-4  
 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-730-U-T4W**  
 Description: Gekko Wedge Wall Pack Fixture 1 SQ w/ T4W distribution

### Spectral Parameters

CCT (K): 3072  
 CIE  $u'$ : 0.2482  
 CIE  $v'$ : 0.5193  
 Duv: -0.0004  
 CIE x: 0.4313  
 CIE y: 0.4010  
 CIE z: 0.1677  
 Peak Wavelength (nm): 593  
 Dominant Wavelength (nm): 582  
 Purity: 49.8225  
 R<sub>f</sub>: 74.7  
 R<sub>g</sub>: 94.2

CRI (Ra): 71.7  
 R1: 68.1  
 R2: 82.1  
 R3: 93.4  
 R4: 67.3  
 R5: 67.2  
 R6: 74.9  
 R7: 77.5  
 R8: 43.4  
 R9: -33.9  
 R10: 58.6  
 R11: 62.0  
 R12: 48.5  
 R13: 70.7  
 R14: 96.4  
 R15: 60.2



### Test Conditions

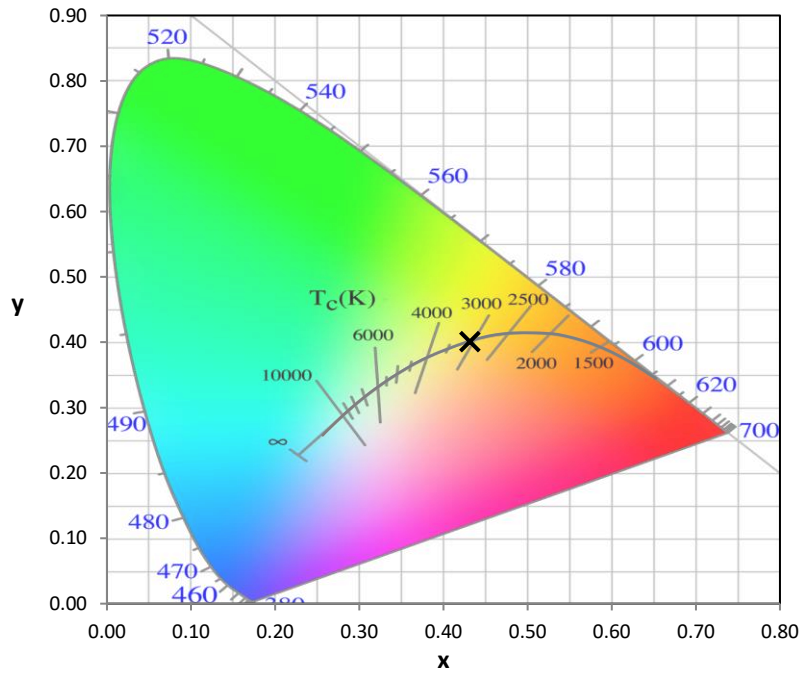
Stabilization Time: 30M  
 Operation Time: 1H 30M  
 Sphere Temperature (°C): 25.7

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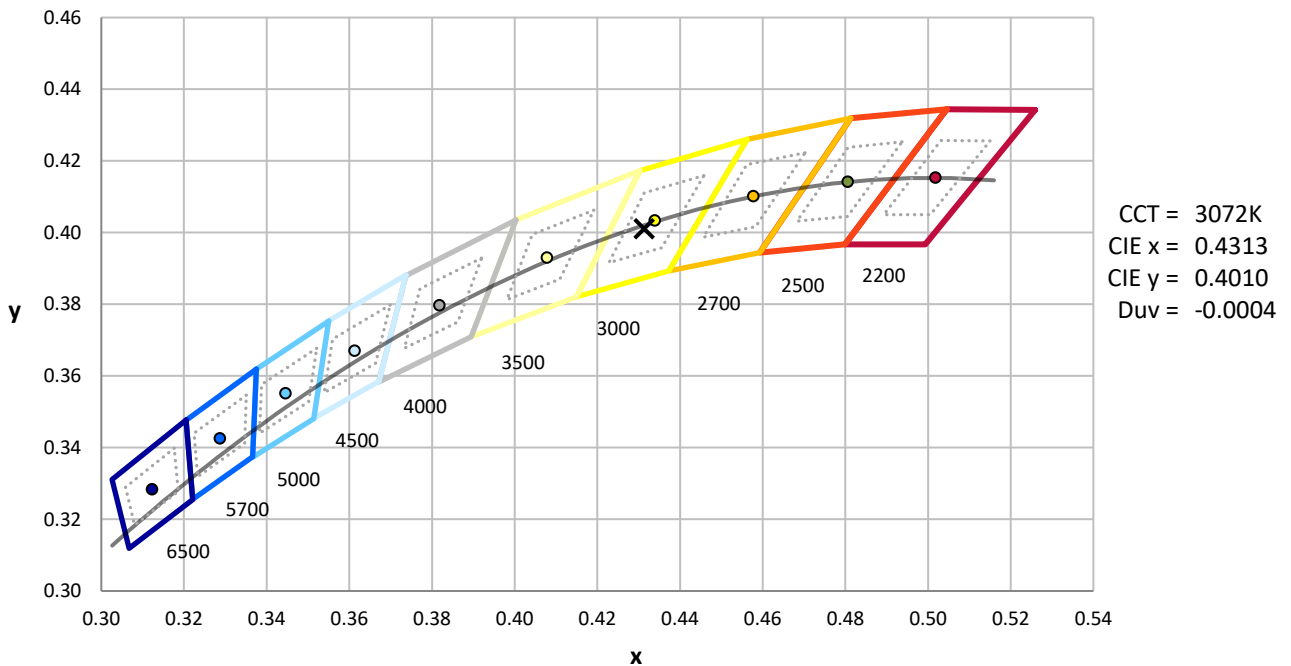
| Measurement and Test Equipment |                       |                  |                      |
|--------------------------------|-----------------------|------------------|----------------------|
| Instrument                     | Identification Number | Calibration Date | Calibration Due Date |
| 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: SP2-2501-321-4

**CIE 1931 Chromaticity Diagram**



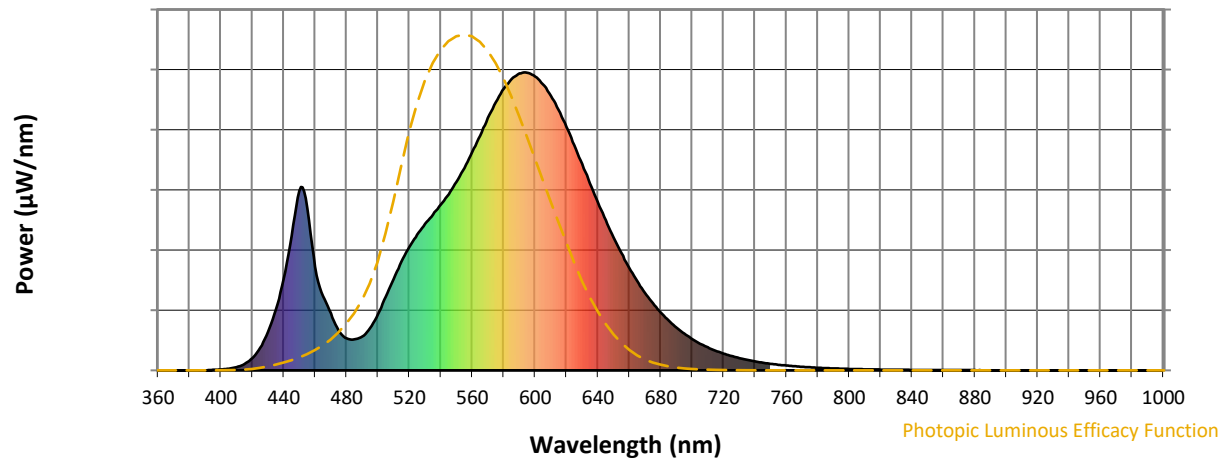
**CIE 1931 Chromaticity Diagram with 2017 ANSI 7-Step and 4-Step Quadrangles**



Point lies inside the ANSI 3000K 4-step quadrangle

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### Photopic Flux vs. Wavelength

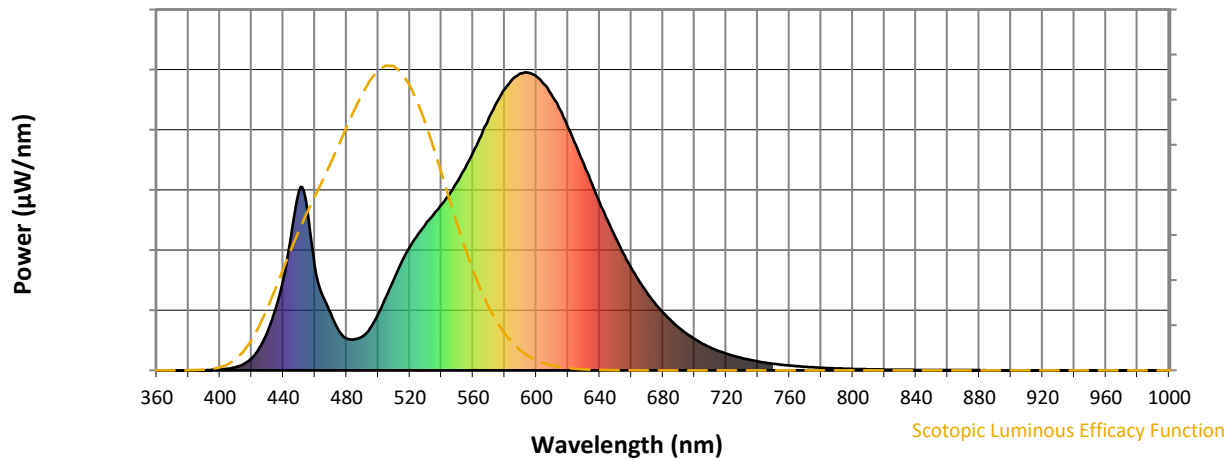


### Photopic Lumens: NR

| $\lambda$<br>(nm) | Power<br>$\text{W}^\wedge/\text{nm}$ | Lumens<br>( $\phi/\text{nm}$ ) | $\lambda$<br>(nm) | Power<br>$\text{W}^\wedge/\text{nm}$ | Lumens<br>( $\phi/\text{nm}$ ) | $\lambda$<br>(nm) | Power<br>$\text{W}^\wedge/\text{nm}$ | Lumens<br>( $\phi/\text{nm}$ ) | $\lambda$<br>(nm) | Power<br>$\text{W}^\wedge/\text{nm}$ | Lumens<br>( $\phi/\text{nm}$ ) | $\lambda$<br>(nm) | Power<br>$\text{W}^\wedge/\text{nm}$ | Lumens<br>( $\phi/\text{nm}$ ) |
|-------------------|--------------------------------------|--------------------------------|-------------------|--------------------------------------|--------------------------------|-------------------|--------------------------------------|--------------------------------|-------------------|--------------------------------------|--------------------------------|-------------------|--------------------------------------|--------------------------------|
| 360               | 0                                    | NR                             | 490               | 114                                  | NR                             | 620               | 817                                  | NR                             | 750               | 22                                   | NR                             | 880               | 1                                    | NR                             |
| 365               | 0                                    | NR                             | 495               | 141                                  | NR                             | 625               | 756                                  | NR                             | 755               | 19                                   | NR                             | 885               | 1                                    | NR                             |
| 370               | 0                                    | NR                             | 500               | 189                                  | NR                             | 630               | 693                                  | NR                             | 760               | 16                                   | NR                             | 890               | 0                                    | NR                             |
| 375               | 0                                    | NR                             | 505               | 247                                  | NR                             | 635               | 628                                  | NR                             | 765               | 14                                   | NR                             | 895               | 0                                    | NR                             |
| 380               | 0                                    | NR                             | 510               | 307                                  | NR                             | 640               | 564                                  | NR                             | 770               | 12                                   | NR                             | 900               | 0                                    | NR                             |
| 385               | 0                                    | NR                             | 515               | 366                                  | NR                             | 645               | 504                                  | NR                             | 775               | 10                                   | NR                             | 905               | 0                                    | NR                             |
| 390               | 0                                    | NR                             | 520               | 415                                  | NR                             | 650               | 446                                  | NR                             | 780               | 9                                    | NR                             | 910               | 0                                    | NR                             |
| 395               | 2                                    | NR                             | 525               | 455                                  | NR                             | 655               | 393                                  | NR                             | 785               | 8                                    | NR                             | 915               | 0                                    | NR                             |
| 400               | 3                                    | NR                             | 530               | 491                                  | NR                             | 660               | 344                                  | NR                             | 790               | 7                                    | NR                             | 920               | 0                                    | NR                             |
| 405               | 6                                    | NR                             | 535               | 523                                  | NR                             | 665               | 300                                  | NR                             | 795               | 6                                    | NR                             | 925               | 0                                    | NR                             |
| 410               | 11                                   | NR                             | 540               | 556                                  | NR                             | 670               | 260                                  | NR                             | 800               | 5                                    | NR                             | 930               | 0                                    | NR                             |
| 415               | 21                                   | NR                             | 545               | 591                                  | NR                             | 675               | 226                                  | NR                             | 805               | 4                                    | NR                             | 935               | 0                                    | NR                             |
| 420               | 41                                   | NR                             | 550               | 632                                  | NR                             | 680               | 195                                  | NR                             | 810               | 4                                    | NR                             | 940               | 0                                    | NR                             |
| 425               | 76                                   | NR                             | 555               | 679                                  | NR                             | 685               | 167                                  | NR                             | 815               | 3                                    | NR                             | 945               | 0                                    | NR                             |
| 430               | 129                                  | NR                             | 560               | 732                                  | NR                             | 690               | 144                                  | NR                             | 820               | 3                                    | NR                             | 950               | 0                                    | NR                             |
| 435               | 205                                  | NR                             | 565               | 787                                  | NR                             | 695               | 123                                  | NR                             | 825               | 2                                    | NR                             | 955               | 0                                    | NR                             |
| 440               | 307                                  | NR                             | 570               | 847                                  | NR                             | 700               | 105                                  | NR                             | 830               | 2                                    | NR                             | 960               | 0                                    | NR                             |
| 445               | 451                                  | NR                             | 575               | 900                                  | NR                             | 705               | 90                                   | NR                             | 835               | 2                                    | NR                             | 965               | 0                                    | NR                             |
| 450               | 603                                  | NR                             | 580               | 944                                  | NR                             | 710               | 77                                   | NR                             | 840               | 2                                    | NR                             | 970               | 0                                    | NR                             |
| 455               | 544                                  | NR                             | 585               | 977                                  | NR                             | 715               | 66                                   | NR                             | 845               | 1                                    | NR                             | 975               | 0                                    | NR                             |
| 460               | 348                                  | NR                             | 590               | 997                                  | NR                             | 720               | 56                                   | NR                             | 850               | 1                                    | NR                             | 980               | 0                                    | NR                             |
| 465               | 249                                  | NR                             | 595               | 998                                  | NR                             | 725               | 48                                   | NR                             | 855               | 1                                    | NR                             | 985               | 0                                    | NR                             |
| 470               | 191                                  | NR                             | 600               | 986                                  | NR                             | 730               | 41                                   | NR                             | 860               | 1                                    | NR                             | 990               | 0                                    | NR                             |
| 475               | 133                                  | NR                             | 605               | 960                                  | NR                             | 735               | 35                                   | NR                             | 865               | 1                                    | NR                             | 995               | 0                                    | NR                             |
| 480               | 107                                  | NR                             | 610               | 921                                  | NR                             | 740               | 30                                   | NR                             | 870               | 1                                    | NR                             | 1000              | 0                                    | NR                             |
| 485               | 104                                  | NR                             | 615               | 874                                  | NR                             | 745               | 26                                   | NR                             | 875               | 1                                    | NR                             |                   |                                      |                                |

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### Scotopic Flux vs. Wavelength



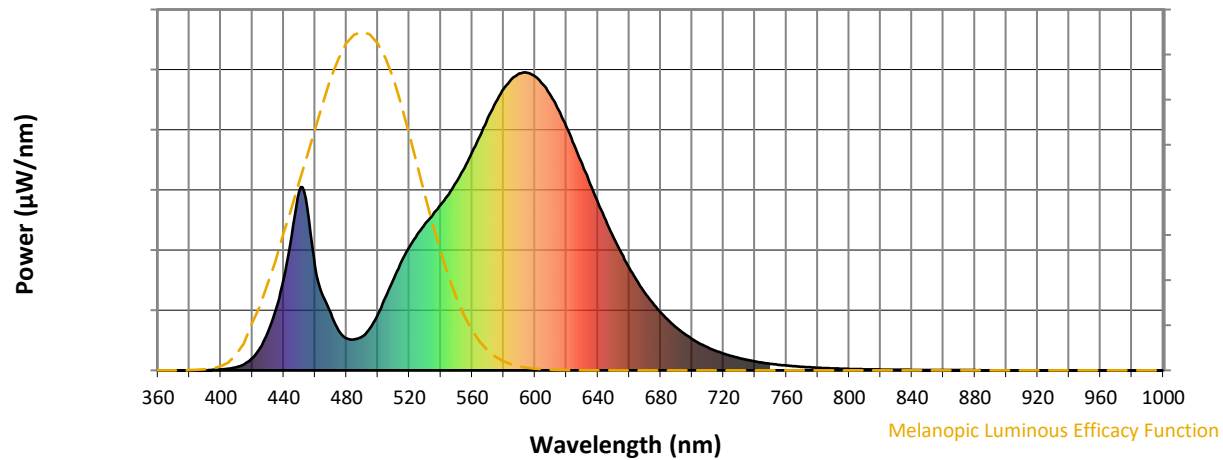
Scotopic Lumens: NR

S/P: 1.24

| 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    | 114                      | NR            | 620    | 817                      | NR            | 750    | 22                       | NR            | 880    | 1                        | NR            |
| 365    | 0                        | NR            | 495    | 141                      | NR            | 625    | 756                      | NR            | 755    | 19                       | NR            | 885    | 1                        | NR            |
| 370    | 0                        | NR            | 500    | 189                      | NR            | 630    | 693                      | NR            | 760    | 16                       | NR            | 890    | 0                        | NR            |
| 375    | 0                        | NR            | 505    | 247                      | NR            | 635    | 628                      | NR            | 765    | 14                       | NR            | 895    | 0                        | NR            |
| 380    | 0                        | NR            | 510    | 307                      | NR            | 640    | 564                      | NR            | 770    | 12                       | NR            | 900    | 0                        | NR            |
| 385    | 0                        | NR            | 515    | 366                      | NR            | 645    | 504                      | NR            | 775    | 10                       | NR            | 905    | 0                        | NR            |
| 390    | 0                        | NR            | 520    | 415                      | NR            | 650    | 446                      | NR            | 780    | 9                        | NR            | 910    | 0                        | NR            |
| 395    | 2                        | NR            | 525    | 455                      | NR            | 655    | 393                      | NR            | 785    | 8                        | NR            | 915    | 0                        | NR            |
| 400    | 3                        | NR            | 530    | 491                      | NR            | 660    | 344                      | NR            | 790    | 7                        | NR            | 920    | 0                        | NR            |
| 405    | 6                        | NR            | 535    | 523                      | NR            | 665    | 300                      | NR            | 795    | 6                        | NR            | 925    | 0                        | NR            |
| 410    | 11                       | NR            | 540    | 556                      | NR            | 670    | 260                      | NR            | 800    | 5                        | NR            | 930    | 0                        | NR            |
| 415    | 21                       | NR            | 545    | 591                      | NR            | 675    | 226                      | NR            | 805    | 4                        | NR            | 935    | 0                        | NR            |
| 420    | 41                       | NR            | 550    | 632                      | NR            | 680    | 195                      | NR            | 810    | 4                        | NR            | 940    | 0                        | NR            |
| 425    | 76                       | NR            | 555    | 679                      | NR            | 685    | 167                      | NR            | 815    | 3                        | NR            | 945    | 0                        | NR            |
| 430    | 129                      | NR            | 560    | 732                      | NR            | 690    | 144                      | NR            | 820    | 3                        | NR            | 950    | 0                        | NR            |
| 435    | 205                      | NR            | 565    | 787                      | NR            | 695    | 123                      | NR            | 825    | 2                        | NR            | 955    | 0                        | NR            |
| 440    | 307                      | NR            | 570    | 847                      | NR            | 700    | 105                      | NR            | 830    | 2                        | NR            | 960    | 0                        | NR            |
| 445    | 451                      | NR            | 575    | 900                      | NR            | 705    | 90                       | NR            | 835    | 2                        | NR            | 965    | 0                        | NR            |
| 450    | 603                      | NR            | 580    | 944                      | NR            | 710    | 77                       | NR            | 840    | 2                        | NR            | 970    | 0                        | NR            |
| 455    | 544                      | NR            | 585    | 977                      | NR            | 715    | 66                       | NR            | 845    | 1                        | NR            | 975    | 0                        | NR            |
| 460    | 348                      | NR            | 590    | 997                      | NR            | 720    | 56                       | NR            | 850    | 1                        | NR            | 980    | 0                        | NR            |
| 465    | 249                      | NR            | 595    | 998                      | NR            | 725    | 48                       | NR            | 855    | 1                        | NR            | 985    | 0                        | NR            |
| 470    | 191                      | NR            | 600    | 986                      | NR            | 730    | 41                       | NR            | 860    | 1                        | NR            | 990    | 0                        | NR            |
| 475    | 133                      | NR            | 605    | 960                      | NR            | 735    | 35                       | NR            | 865    | 1                        | NR            | 995    | 0                        | NR            |
| 480    | 107                      | NR            | 610    | 921                      | NR            | 740    | 30                       | NR            | 870    | 1                        | NR            | 1000   | 0                        | NR            |
| 485    | 104                      | NR            | 615    | 874                      | NR            | 745    | 26                       | NR            | 875    | 1                        | NR            |        |                          |               |

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### Melanopic Flux vs. Wavelength



Melanopic Lumens: NR

M/P: 2.3

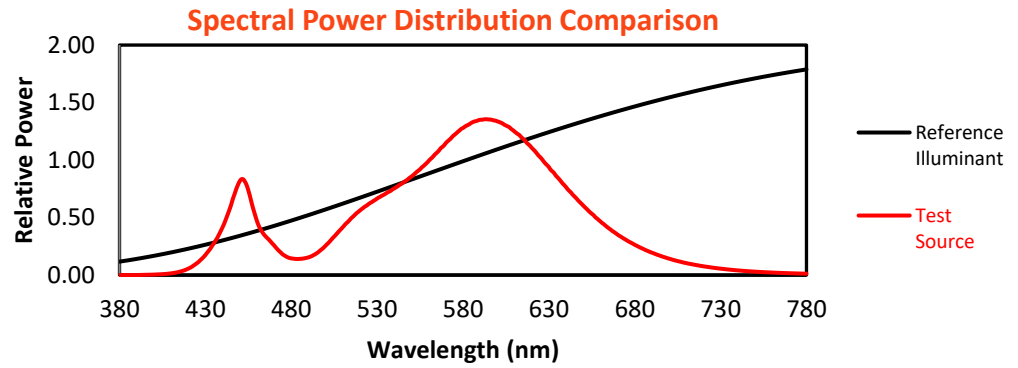
| $\lambda$<br>(nm) | Power<br>$\text{W}^{\wedge}/\text{nm}$ | Lumens<br>( $\phi/\text{nm}$ ) | $\lambda$<br>(nm) | Power<br>$\text{W}^{\wedge}/\text{nm}$ | Lumens<br>( $\phi/\text{nm}$ ) | $\lambda$<br>(nm) | Power<br>$\text{W}^{\wedge}/\text{nm}$ | Lumens<br>( $\phi/\text{nm}$ ) | $\lambda$<br>(nm) | 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               | 114                                    | NR                             | 620               | 817                                    | NR                             | 750               | 22                                     | NR                             | 880               | 1                                      | NR                             |
| 365               | 0                                      | NR                             | 495               | 141                                    | NR                             | 625               | 756                                    | NR                             | 755               | 19                                     | NR                             | 885               | 1                                      | NR                             |
| 370               | 0                                      | NR                             | 500               | 189                                    | NR                             | 630               | 693                                    | NR                             | 760               | 16                                     | NR                             | 890               | 0                                      | NR                             |
| 375               | 0                                      | NR                             | 505               | 247                                    | NR                             | 635               | 628                                    | NR                             | 765               | 14                                     | NR                             | 895               | 0                                      | NR                             |
| 380               | 0                                      | NR                             | 510               | 307                                    | NR                             | 640               | 564                                    | NR                             | 770               | 12                                     | NR                             | 900               | 0                                      | NR                             |
| 385               | 0                                      | NR                             | 515               | 366                                    | NR                             | 645               | 504                                    | NR                             | 775               | 10                                     | NR                             | 905               | 0                                      | NR                             |
| 390               | 0                                      | NR                             | 520               | 415                                    | NR                             | 650               | 446                                    | NR                             | 780               | 9                                      | NR                             | 910               | 0                                      | NR                             |
| 395               | 2                                      | NR                             | 525               | 455                                    | NR                             | 655               | 393                                    | NR                             | 785               | 8                                      | NR                             | 915               | 0                                      | NR                             |
| 400               | 3                                      | NR                             | 530               | 491                                    | NR                             | 660               | 344                                    | NR                             | 790               | 7                                      | NR                             | 920               | 0                                      | NR                             |
| 405               | 6                                      | NR                             | 535               | 523                                    | NR                             | 665               | 300                                    | NR                             | 795               | 6                                      | NR                             | 925               | 0                                      | NR                             |
| 410               | 11                                     | NR                             | 540               | 556                                    | NR                             | 670               | 260                                    | NR                             | 800               | 5                                      | NR                             | 930               | 0                                      | NR                             |
| 415               | 21                                     | NR                             | 545               | 591                                    | NR                             | 675               | 226                                    | NR                             | 805               | 4                                      | NR                             | 935               | 0                                      | NR                             |
| 420               | 41                                     | NR                             | 550               | 632                                    | NR                             | 680               | 195                                    | NR                             | 810               | 4                                      | NR                             | 940               | 0                                      | NR                             |
| 425               | 76                                     | NR                             | 555               | 679                                    | NR                             | 685               | 167                                    | NR                             | 815               | 3                                      | NR                             | 945               | 0                                      | NR                             |
| 430               | 129                                    | NR                             | 560               | 732                                    | NR                             | 690               | 144                                    | NR                             | 820               | 3                                      | NR                             | 950               | 0                                      | NR                             |
| 435               | 205                                    | NR                             | 565               | 787                                    | NR                             | 695               | 123                                    | NR                             | 825               | 2                                      | NR                             | 955               | 0                                      | NR                             |
| 440               | 307                                    | NR                             | 570               | 847                                    | NR                             | 700               | 105                                    | NR                             | 830               | 2                                      | NR                             | 960               | 0                                      | NR                             |
| 445               | 451                                    | NR                             | 575               | 900                                    | NR                             | 705               | 90                                     | NR                             | 835               | 2                                      | NR                             | 965               | 0                                      | NR                             |
| 450               | 603                                    | NR                             | 580               | 944                                    | NR                             | 710               | 77                                     | NR                             | 840               | 2                                      | NR                             | 970               | 0                                      | NR                             |
| 455               | 544                                    | NR                             | 585               | 977                                    | NR                             | 715               | 66                                     | NR                             | 845               | 1                                      | NR                             | 975               | 0                                      | NR                             |
| 460               | 348                                    | NR                             | 590               | 997                                    | NR                             | 720               | 56                                     | NR                             | 850               | 1                                      | NR                             | 980               | 0                                      | NR                             |
| 465               | 249                                    | NR                             | 595               | 998                                    | NR                             | 725               | 48                                     | NR                             | 855               | 1                                      | NR                             | 985               | 0                                      | NR                             |
| 470               | 191                                    | NR                             | 600               | 986                                    | NR                             | 730               | 41                                     | NR                             | 860               | 1                                      | NR                             | 990               | 0                                      | NR                             |
| 475               | 133                                    | NR                             | 605               | 960                                    | NR                             | 735               | 35                                     | NR                             | 865               | 1                                      | NR                             | 995               | 0                                      | NR                             |
| 480               | 107                                    | NR                             | 610               | 921                                    | NR                             | 740               | 30                                     | NR                             | 870               | 1                                      | NR                             | 1000              | 0                                      | NR                             |
| 485               | 104                                    | NR                             | 615               | 874                                    | NR                             | 745               | 26                                     | NR                             | 875               | 1                                      | NR                             |                   |                                        |                                |

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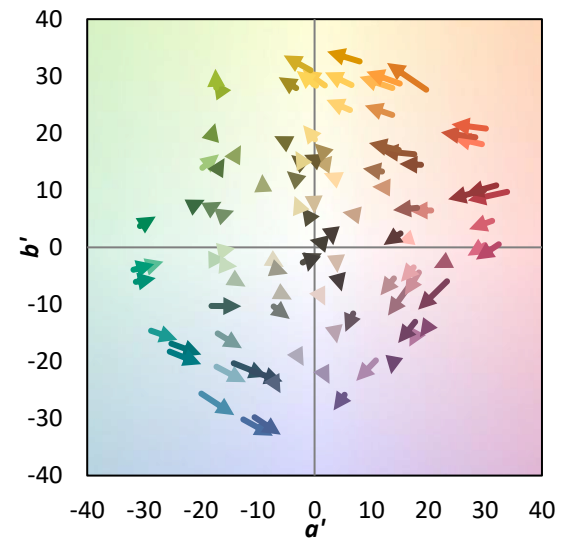
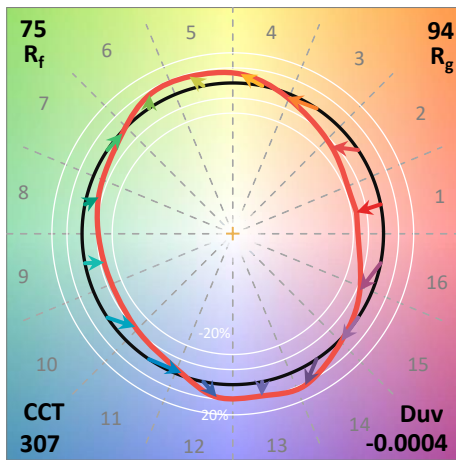
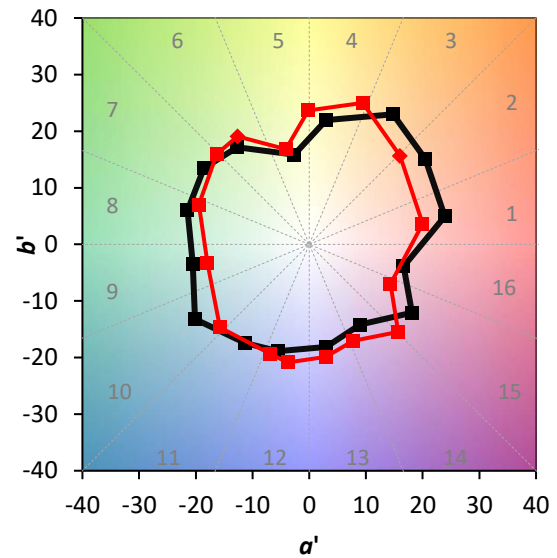
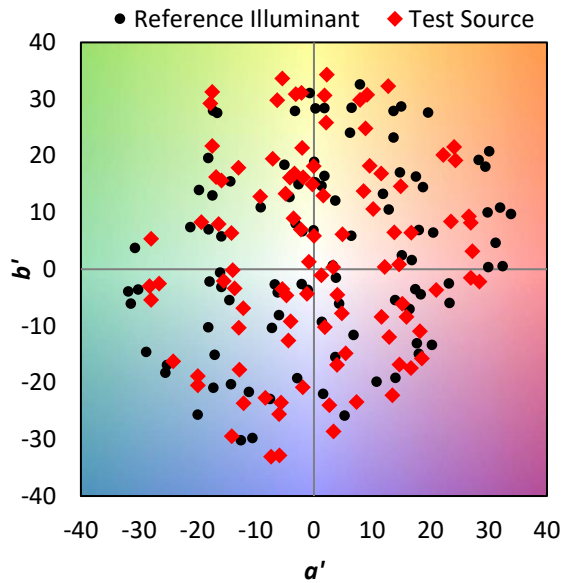
TM-30-18

### Summary

$R_f = 74.7$   
 $R_g = 94.2$   
 $\text{CIE } R_a = 71.7$   
 $R_g = -33.9$

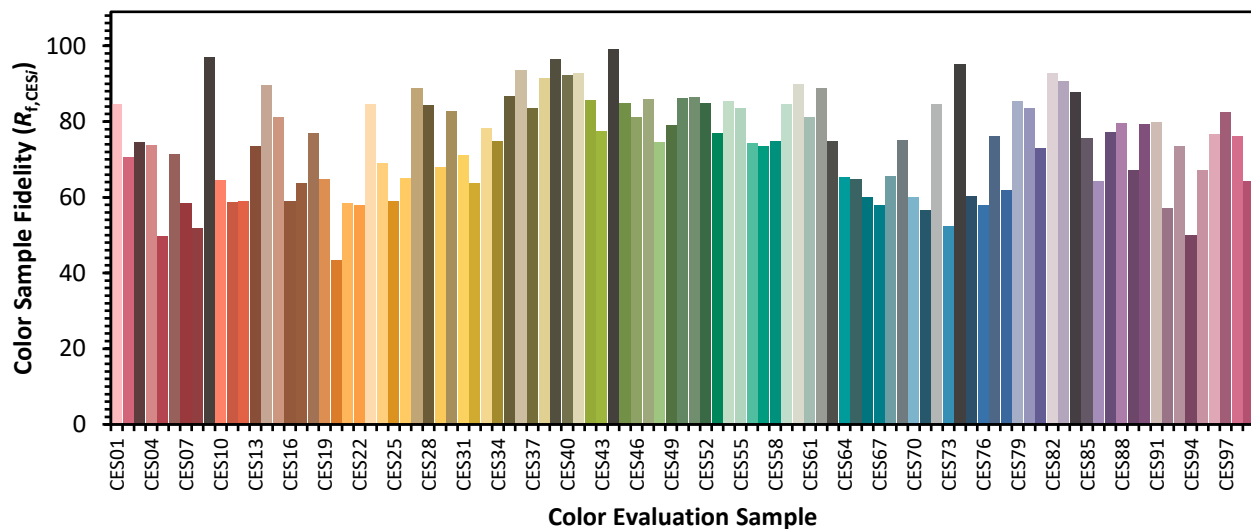


### Color Vector Graphics

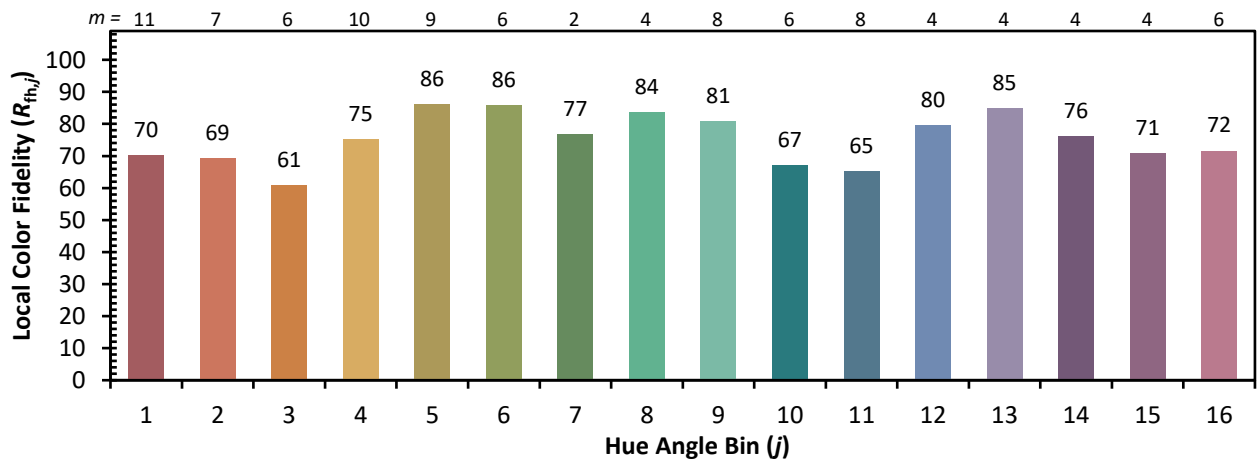
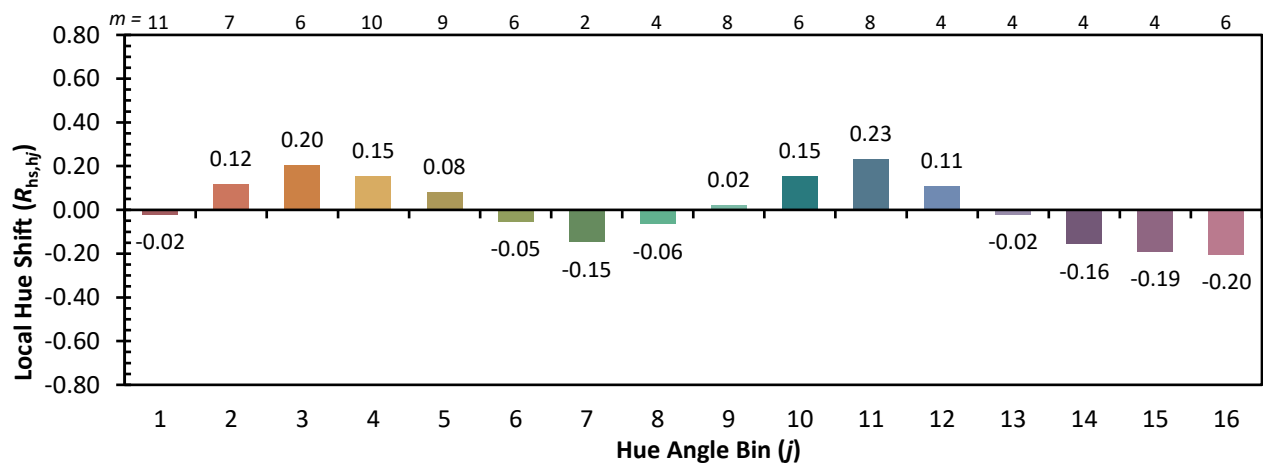
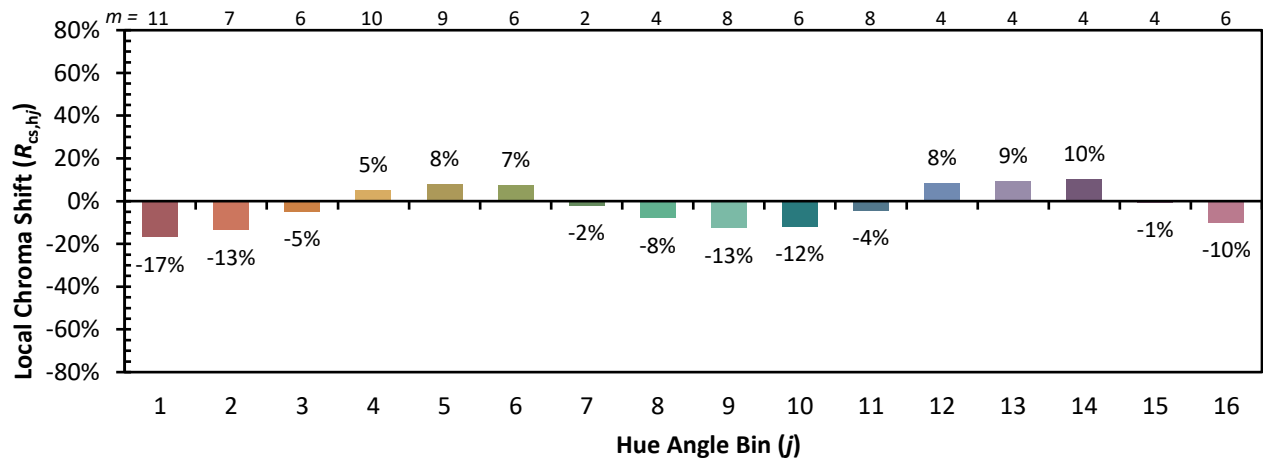


**Individual Sample Fidelity Index ( $R_{f,i}$ )**

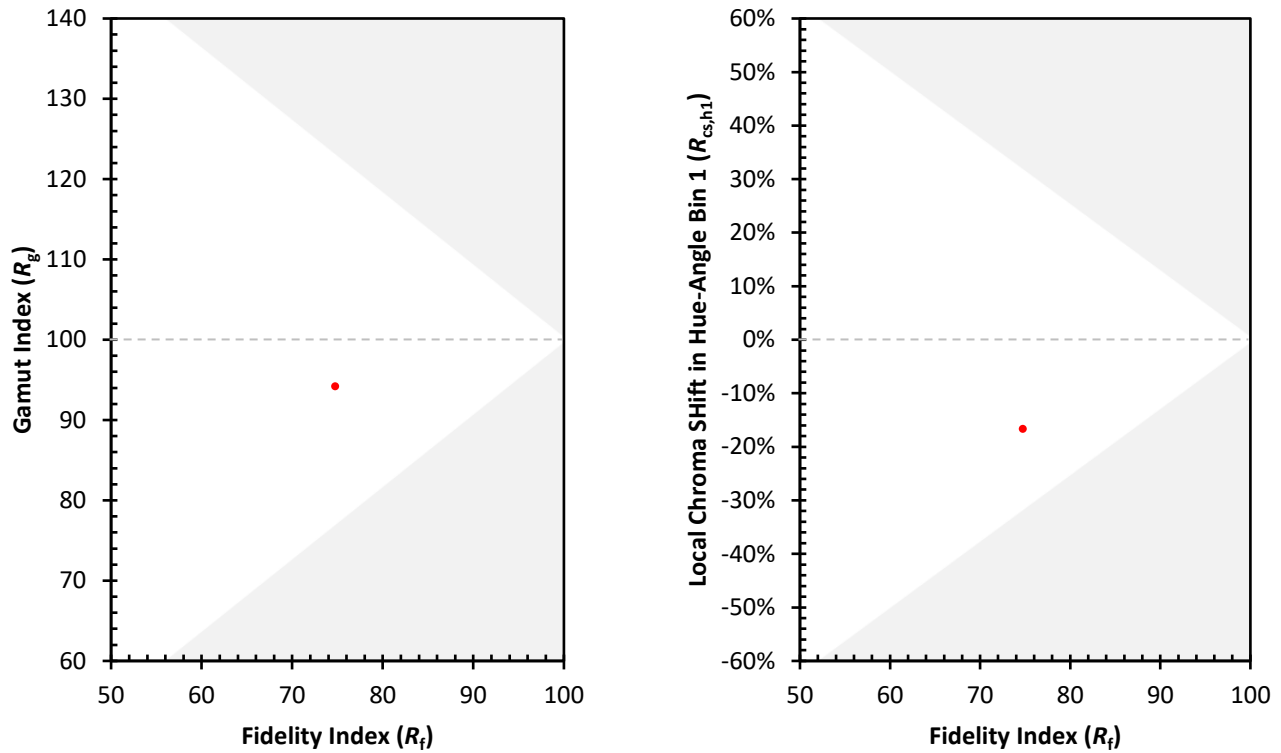
|            |            |            |            |
|------------|------------|------------|------------|
| CES01 = 86 | CES26 = 65 | CES51 = 86 | CES76 = 58 |
| CES02 = 62 | CES27 = 89 | CES52 = 85 | CES77 = 76 |
| CES03 = 31 | CES28 = 84 | CES53 = 77 | CES78 = 62 |
| CES04 = 71 | CES29 = 68 | CES54 = 85 | CES79 = 85 |
| CES05 = 49 | CES30 = 83 | CES55 = 84 | CES80 = 84 |
| CES06 = 51 | CES31 = 71 | CES56 = 74 | CES81 = 73 |
| CES07 = 41 | CES32 = 64 | CES57 = 74 | CES82 = 93 |
| CES08 = 40 | CES33 = 78 | CES58 = 75 | CES83 = 91 |
| CES09 = 29 | CES34 = 75 | CES59 = 85 | CES84 = 88 |
| CES10 = 76 | CES35 = 87 | CES60 = 90 | CES85 = 76 |
| CES11 = 59 | CES36 = 94 | CES61 = 81 | CES86 = 64 |
| CES12 = 65 | CES37 = 84 | CES62 = 89 | CES87 = 77 |
| CES13 = 43 | CES38 = 92 | CES63 = 75 | CES88 = 80 |
| CES14 = 74 | CES39 = 96 | CES64 = 65 | CES89 = 67 |
| CES15 = 71 | CES40 = 92 | CES65 = 65 | CES90 = 79 |
| CES16 = 47 | CES41 = 93 | CES66 = 60 | CES91 = 80 |
| CES17 = 50 | CES42 = 86 | CES67 = 58 | CES92 = 57 |
| CES18 = 56 | CES43 = 78 | CES68 = 66 | CES93 = 74 |
| CES19 = 73 | CES44 = 99 | CES69 = 75 | CES94 = 50 |
| CES20 = 66 | CES45 = 85 | CES70 = 60 | CES95 = 67 |
| CES21 = 87 | CES46 = 81 | CES71 = 57 | CES96 = 77 |
| CES22 = 79 | CES47 = 86 | CES72 = 85 | CES97 = 83 |
| CES23 = 92 | CES48 = 75 | CES73 = 52 | CES98 = 76 |
| CES24 = 91 | CES49 = 79 | CES74 = 95 | CES99 = 64 |
| CES25 = 73 | CES50 = 86 | CES75 = 60 |            |



Color Rendition by Hue-Angle Bin



**Measure Comparisons**



(END OF REPORT)