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

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Peachtree City, GA 30269

Scaled data based on original data using

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

Test Report Prepared for

Cooper Lighting Solutions

Brand: McGRAW-EDISON

Report Number: P1201540

Luminaire Tested: GWC-SB1B-740-U-T4W-HSS

Issue Date: 10/30/2025

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

Scaled Data Report

**Test Information**

| | |
|---|---|
| Test Method: | LM-79-2024 |
| Report Number: | P1201540 |
| | TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2411-289-2) |
| Test Lab: | INNOVATION CENTER |
| Issue Date: | 3/14/2026 |
| Manufacturer: | COOPER LIGHTING SOLUTIONS |
| Product Line: | McGRAW-EDISON |
| Catalog Number: | GWC-SB1B-740-U-T4W-HSS |
| Description: | GALLEON WALL LUMINAIRE |
| | (1) 70 CRI, 4000K, 450mA LIGHTSQUARE WITH 26 LEDS AND TYPE IV WIDE OPTICS WITH HOUSE SIDE SHIELD |
| Light Source: | - |
| Ballast/Driver: | ELECTRONIC DRIVER |

**Summary**

| | |
|---|---|
| Lumens per Lamp: | N/A |
| Luminaire Lumens: | 4613 lumens |
| Efficiency: | N/A |
| Efficacy: | 115.9 lumens/watt |
| Luminous Opening: | Rectangular (W 0.5' x L: 0.5' x H: 0') |
| IES Classification: | Type IV - Short |
| BUG Rating: | B1 - U0 - G2 |

| | |
|---|---|
| Input Watts (W): | 39.8 |
| Input Voltage (V): | 120.0 |
| Input Current (Ain): | 0.33 |
| Voltage Rise (V): | NR |
| Power Factor: | 0.996 |
| Total Harmonic Distortion (THDi): | 5.305 |
| Frequency (hertz): | 60 |
| Stabilization Time: | NR |
| Operation Time: | NR |
| Ambient Temperature (°C): | NR |
| Test Distance: | 28.75 FT |

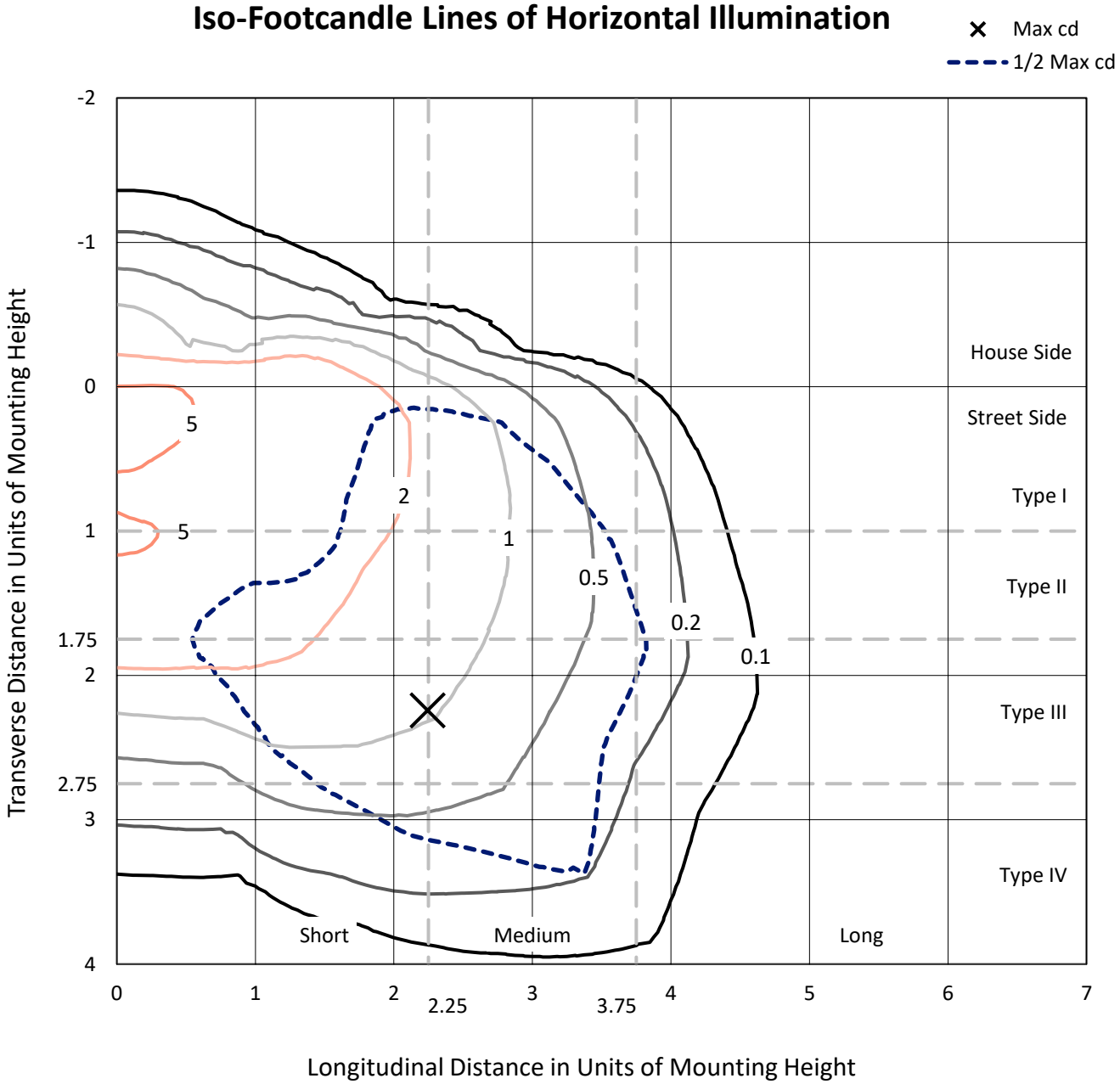


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REPORT NUMBER: P1201540
CATALOG NUMBER: GWC-SB1B-740-U-T4W-HSS

## Iso-Footcandle Lines of Horizontal Illumination



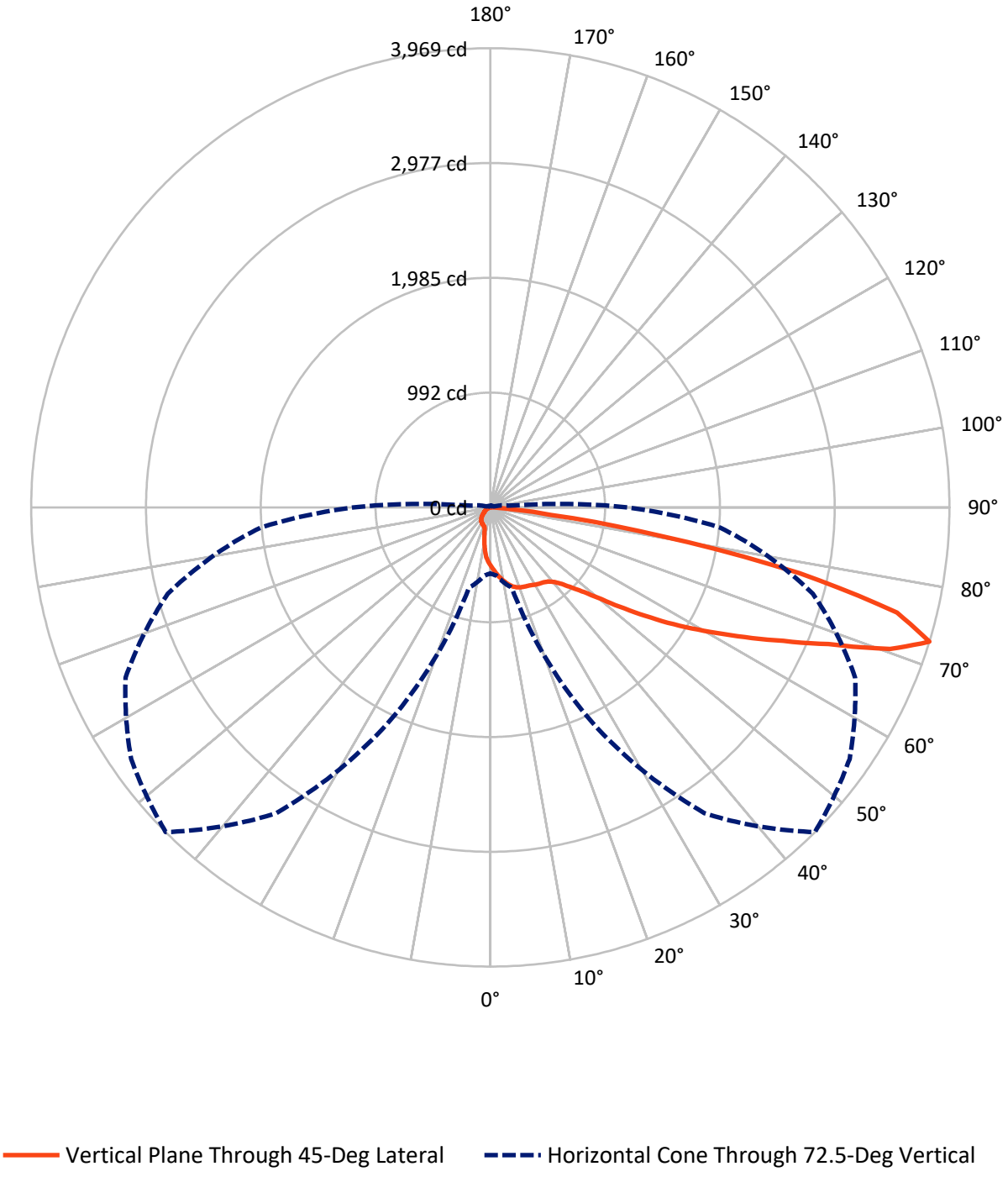

Based on 10 foot mounting height. Maximum calculated value = 8.7 fc
Type IV - Short - N/A

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## Luminous Intensity Polar Plot



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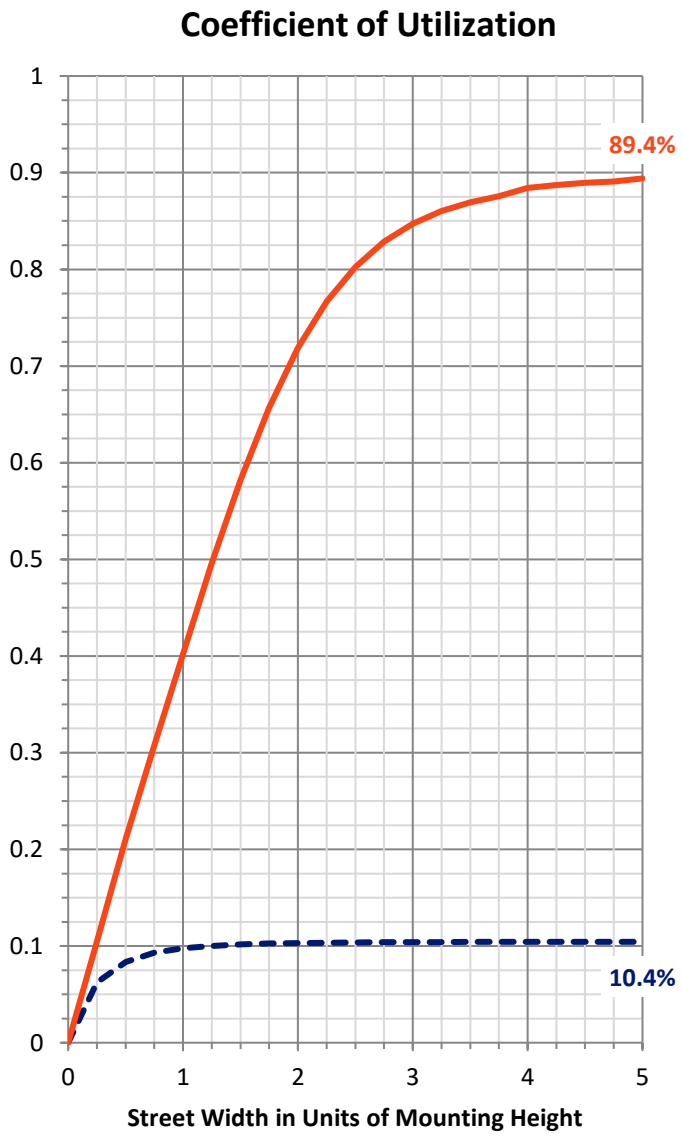
REPORT NUMBER: P1201540
CATALOG NUMBER: GWC-SB1B-740-U-T4W-HSS

**FLUX DISTRIBUTION:**

| | | Downward | Upward | Total |
|---|---|---|---|---|
| **House Side** | Lumens | 484.7 | 0.0 | 484.7 |
| | % Fixture | 10.5 | 0.0 | 10.5 |
| **Street Side** | Lumens | 4128.3 | 0.0 | 4128.3 |
| | % Fixture | 89.5 | 0.0 | 89.5 |
| **Total** | Lumens | 4613.0 | 0.0 | 4613.0 |
| | % Fixture | 100.0 | 0.0 | 100.0 |

**ZONAL LUMENS:**

| Zone | Lumens | % Fixture |
|---|---|---|
| 0°-10° | 47.6 | 1.0 |
| 10°-20° | 139.2 | 3.0 |
| 20°-30° | 228.5 | 5.0 |
| 30°-40° | 324.1 | 7.0 |
| 40°-50° | 535.7 | 11.6 |
| 50°-60° | 962.3 | 20.9 |
| 60°-70° | 1336.2 | 29.0 |
| 70°-80° | 969.3 | 21.0 |
| 80°-90° | 70.1 | 1.5 |
| 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° | 4613.0 | 100.0 |
| 0°-180° | 4613.0 | 100.0 |



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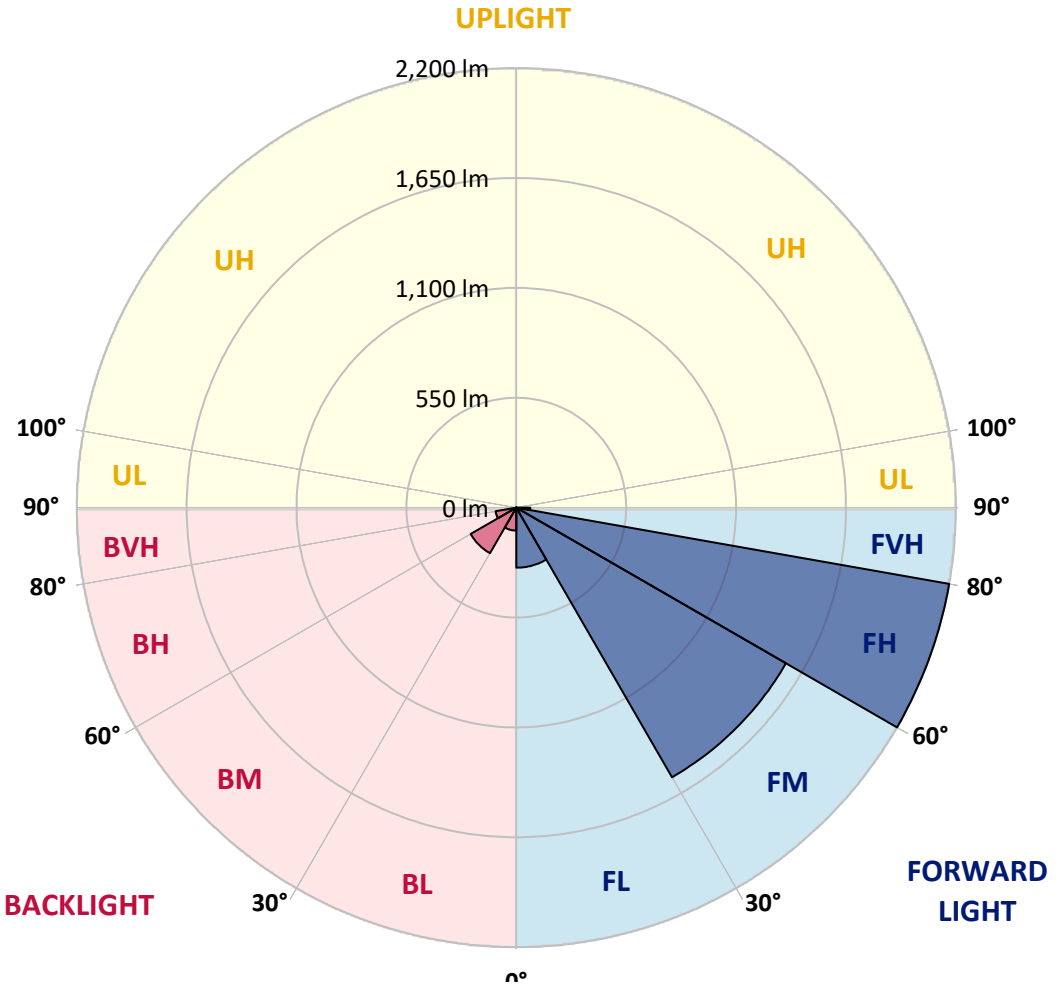
Scaled Data Report

REPORT NUMBER: P1201540
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## LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

| Zone | | Lumens | % Fixture | Zone Rating/Lumen Limit B | U | G |
|---|---|---|---|---|---|---|
| FL | (0°-30°) | 300.5 | 6.5 | | | |
| FM | (30°-60°) | 1558.5 | 33.8 | | | |
| FH | (60°-80°) | 2199.8 | 47.7 | | | G2/5000 |
| FVH | (80°-90°) | 69.5 | 1.5 | | | G1/100 |
| BL | (0°-30°) | 114.8 | 2.5 | B1/500 | | |
| BM | (30°-60°) | 263.6 | 5.7 | B1/1000 | | |
| BH | (60°-80°) | 105.7 | 2.3 | B0/110 | | G0/110 |
| BVH | (80°-90°) | 0.6 | 0.0 | | | G0/10 |
| UL | (90°-100°) | 0.0 | 0.0 | | U0/0 | |
| UH | (100°-180°) | 0.0 | 0.0 | | U0/0 | |

**BUG Rating: B1-U0-G2**
Type IV Short



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REPORT NUMBER: P1201540
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**CANDELA DISTRIBUTION (FULL):**

| | 0° | 5° | 15° | 25° | 35° | 45° | 46° | 55° | 65° | 75° | 85° |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0° | 505.4 | 505.4 | 505.4 | 505.4 | 505.4 | *505.4* | 505.4 | 505.4 | 505.4 | 505.4 | 505.4 |
| 2.5° | 552.0 | 552.9 | 552.3 | 548.5 | 542.2 | *538.7* | 536.9 | 530.6 | 526.5 | 519.2 | 511.7 |
| 5° | 602.7 | 606.4 | 604.2 | 596.7 | 584.7 | *576.2* | 573.7 | 560.8 | 549.1 | 535.6 | 519.8 |
| 7.5° | 656.5 | 658.4 | 654.3 | 644.5 | 628.5 | *614.0* | 611.8 | 593.8 | 575.3 | 554.5 | 533.1 |
| 10° | 703.1 | 705.3 | 699.0 | 684.8 | 666.6 | *648.6* | 645.5 | 625.6 | 603.6 | 578.1 | 550.7 |
| 12.5° | 742.1 | 744.3 | 736.2 | 719.2 | 699.0 | *680.4* | 677.3 | 656.5 | 632.3 | 603.9 | 569.9 |
| 15° | 771.7 | 775.8 | 764.8 | 746.6 | 724.8 | *706.3* | 704.7 | 684.2 | 660.6 | 629.1 | 592.9 |
| 17.5° | 789.1 | 793.2 | 782.8 | 760.7 | 742.1 | *726.4* | 724.5 | 707.5 | 685.5 | 655.2 | 615.3 |
| 20° | 791.9 | 795.7 | 784.7 | 765.4 | 750.0 | *737.4* | 736.5 | 724.2 | 708.1 | 679.2 | 639.5 |
| 22.5° | 783.4 | 788.1 | 778.0 | 762.6 | 751.9 | *745.3* | 744.0 | 737.1 | 728.0 | 703.4 | 662.2 |
| 25° | 774.6 | 778.4 | 770.8 | 757.3 | 751.6 | *751.0* | 751.9 | 750.6 | 748.8 | 728.0 | 688.6 |
| 27.5° | 773.9 | 778.0 | 769.5 | 756.6 | 753.5 | *760.1* | 761.0 | 767.0 | 768.6 | 750.3 | 714.1 |
| 30° | 779.3 | 782.1 | 773.9 | 760.4 | 758.8 | *773.9* | 774.3 | 785.0 | 787.5 | 769.2 | 739.3 |
| 32.5° | 790.9 | 794.1 | 785.9 | 766.1 | 763.9 | *785.0* | 785.9 | 800.1 | 804.2 | 789.4 | 765.8 |
| 35° | 818.3 | 822.1 | 812.7 | 781.8 | 773.9 | *795.4* | 798.2 | 814.9 | 823.1 | 810.8 | 793.2 |
| 37.5° | 886.7 | 875.6 | 862.7 | 813.6 | 796.9 | *811.7* | 816.5 | 836.0 | 850.5 | 836.3 | 825.9 |
| 40° | 1056.4 | 1021.7 | 981.4 | 867.8 | 837.2 | *846.7* | 850.5 | 870.0 | 889.8 | 876.0 | 870.9 |
| 42.5° | 1311.1 | 1270.2 | 1205.3 | 992.5 | 898.0 | *902.7* | 905.6 | 922.6 | 950.6 | 939.6 | 940.8 |
| 45° | 1538.1 | 1523.3 | 1457.2 | 1205.3 | 1011.7 | *988.4* | 991.8 | 1000.7 | 1041.9 | 1037.8 | 1046.0 |
| 47.5° | 1712.6 | 1704.1 | 1653.1 | 1449.7 | 1203.7 | *1093.2* | 1103.0 | 1107.1 | 1166.6 | 1181.1 | 1203.1 |
| 50° | 1846.7 | 1843.6 | 1797.9 | 1666.9 | 1454.7 | *1247.8* | 1251.3 | 1242.5 | 1331.6 | 1367.5 | 1409.4 |
| 52.5° | 1973.3 | 1984.0 | 1950.3 | 1868.7 | 1722.6 | *1450.3* | 1449.7 | 1408.1 | 1528.4 | 1582.5 | 1654.0 |
| 55° | 2087.6 | 2091.4 | 2094.8 | 2074.7 | 1992.2 | *1680.8* | 1674.8 | 1606.8 | 1756.7 | 1812.7 | 1890.2 |
| 57.5° | 2194.9 | 2196.5 | 2227.4 | 2268.6 | 2272.7 | *1928.3* | 1917.2 | 1835.7 | 2006.0 | 2046.0 | 2093.6 |
| 60° | 2267.1 | 2274.3 | 2339.5 | 2454.1 | 2504.1 | *2183.6* | 2177.6 | 2094.5 | 2259.8 | 2278.4 | 2269.6 |
| 62.5° | 2163.1 | 2207.2 | 2371.6 | 2598.9 | 2722.7 | *2466.7* | 2463.8 | 2385.8 | 2526.8 | 2511.7 | 2436.1 |
| 65° | 1751.0 | 1825.6 | 2114.7 | 2696.8 | 2937.1 | *2782.8* | 2786.9 | 2703.8 | 2801.1 | 2752.0 | 2571.5 |
| 67.5° | 1224.8 | 1303.6 | 1645.5 | 2704.7 | 3176.7 | *3154.0* | 3177.7 | 3047.3 | 3092.3 | 2982.1 | 2603.6 |
| 70° | 847.0 | 887.6 | 1110.2 | 2535.3 | 3363.4 | *3665.4* | 3664.8 | 3469.2 | 3382.0 | 3087.0 | 2439.9 |
| 72.5° | *569.6* | *590.7* | *721.0* | *2011.4* | *3226.1* | *3969.2* | *3951.0* | *3791.6* | *3479.6* | *2887.0* | *1993.4* |
| 75° | 240.2 | 255.7 | 333.8 | 1130.4 | 2552.3 | *3631.4* | 3581.9 | 3350.8 | 3091.7 | 2273.4 | 1243.7 |
| 77.5° | 76.2 | 82.8 | 131.6 | 404.6 | 1405.9 | *2729.6* | 2677.3 | 2092.6 | 2072.1 | 1140.5 | 454.7 |
| 80° | 36.2 | 42.2 | 74.0 | 162.5 | 553.2 | *1484.6* | 1477.4 | 949.3 | 891.4 | 307.9 | 91.3 |
| 82.5° | 15.7 | 18.6 | 40.9 | 86.9 | 247.5 | *529.6* | 540.3 | 323.1 | 267.3 | 116.8 | 28.0 |
| 85° | 5.0 | 6.6 | 18.9 | 40.0 | 104.5 | *131.6* | 130.0 | 76.8 | 107.7 | 63.6 | 9.8 |
| 87.5° | 0.0 | 0.0 | 6.3 | 9.1 | 10.7 | *7.6* | 8.5 | 6.6 | 29.9 | 17.6 | 3.5 |
| 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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Scaled Data Report

REPORT NUMBER: P1201540
CATALOG NUMBER: GWC-SB1B-740-U-T4W-HSS

**CANDELA DISTRIBUTION (continued):**

| | 90° | 95° | 105° | 115° | 125° | 135° | 145° | 155° | 165° | 175° | 180° |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0° | 505.4 | 505.4 | 505.4 | 505.4 | 505.4 | 505.4 | 505.4 | 505.4 | 505.4 | 505.4 | 505.4 |
| 2.5° | 507.9 | 502.8 | 494.0 | 485.8 | 478.6 | 471.4 | 467.0 | 460.7 | 460.0 | 460.0 | 461.6 |
| 5° | 511.3 | 503.2 | 487.4 | 470.7 | 451.5 | 433.3 | 415.0 | 397.4 | 391.7 | 387.6 | 389.5 |
| 7.5° | 521.4 | 508.5 | 483.6 | 451.8 | 415.3 | 375.3 | 347.3 | 317.1 | 305.4 | 299.1 | 300.1 |
| 10° | 535.9 | 518.3 | 480.5 | 424.8 | 365.6 | 311.1 | 271.1 | 238.4 | 225.8 | 220.4 | 220.4 |
| 12.5° | 552.0 | 530.2 | 474.8 | 391.1 | 311.1 | 245.9 | 206.9 | 191.8 | 189.9 | 189.9 | 189.9 |
| 15° | 571.2 | 544.7 | 465.1 | 351.4 | 254.1 | 194.6 | 180.7 | 181.4 | 183.3 | 184.5 | 184.5 |
| 17.5° | 591.0 | 560.2 | 449.6 | 307.0 | 203.7 | 175.1 | 175.4 | 176.3 | 177.9 | 179.2 | 179.2 |
| 20° | 612.4 | 575.6 | 429.2 | 259.8 | 174.8 | 169.4 | 170.3 | 171.3 | 172.5 | 173.2 | 173.5 |
| 22.5° | 635.4 | 590.1 | 404.9 | 213.5 | 165.0 | 164.7 | 165.0 | 165.9 | 167.5 | 167.5 | 168.1 |
| 25° | 660.0 | 606.1 | 377.2 | 179.8 | 160.0 | 160.0 | 160.6 | 161.2 | 162.5 | 162.5 | 162.8 |
| 27.5° | 685.2 | 620.9 | 347.9 | 162.2 | 155.5 | 155.2 | 155.2 | 156.2 | 156.8 | 157.1 | 157.4 |
| 30° | 712.9 | 638.2 | 318.6 | 158.4 | 152.1 | 150.5 | 149.6 | 150.2 | 150.8 | 151.1 | 151.8 |
| 32.5° | 741.2 | 654.9 | 292.5 | 160.0 | 148.6 | 145.8 | 142.6 | 142.0 | 142.0 | 143.3 | 144.2 |
| 35° | 772.7 | 673.2 | 272.4 | 165.3 | 146.7 | 138.9 | 133.8 | 131.0 | 131.3 | 133.2 | 134.1 |
| 37.5° | 810.5 | 695.2 | 257.6 | 170.0 | 145.5 | 131.0 | 122.8 | 119.3 | 117.1 | 119.3 | 118.7 |
| 40° | 859.9 | 727.7 | 246.9 | 173.8 | 143.9 | 121.9 | 110.8 | 105.2 | 101.1 | 102.3 | 101.7 |
| 42.5° | 932.6 | 778.7 | 242.8 | 174.1 | 140.4 | 111.1 | 98.6 | 91.0 | 85.0 | 85.3 | 84.1 |
| 45° | 1034.7 | 859.3 | 263.9 | 170.0 | 132.9 | 99.5 | 85.6 | 75.6 | 71.8 | 70.8 | 69.6 |
| 47.5° | 1174.5 | 976.7 | 312.7 | 161.5 | 121.9 | 88.2 | 73.0 | 64.5 | 61.7 | 60.1 | 59.2 |
| 50° | 1361.8 | 1127.5 | 366.8 | 152.1 | 110.8 | 77.5 | 62.7 | 57.3 | 55.4 | 53.8 | 53.5 |
| 52.5° | 1579.1 | 1280.6 | 411.2 | 142.6 | 99.8 | 68.0 | 56.0 | 52.9 | 51.3 | 50.1 | 49.7 |
| 55° | 1778.4 | 1386.1 | 408.7 | 132.6 | 89.1 | 60.5 | 51.3 | 49.4 | 47.5 | 46.3 | 45.7 |
| 57.5° | 1902.4 | 1400.9 | 336.9 | 121.5 | 76.8 | 54.5 | 46.9 | 45.7 | 43.5 | 41.9 | 41.6 |
| 60° | 1959.4 | 1316.5 | 236.2 | 107.1 | 64.5 | 48.8 | 42.2 | 41.6 | 38.7 | 36.5 | 35.9 |
| 62.5° | 1969.8 | 1159.7 | 157.4 | 89.1 | 53.8 | 43.5 | 37.5 | 36.5 | 32.7 | 29.0 | 27.1 |
| 65° | 1927.6 | 935.5 | 108.9 | 69.6 | 46.0 | 37.8 | 32.1 | 30.2 | 26.1 | 22.4 | 21.1 |
| 67.5° | 1794.1 | 656.8 | 75.9 | 50.1 | 39.0 | 29.9 | 25.5 | 24.9 | 21.7 | 18.6 | 17.6 |
| 70° | 1549.5 | 374.4 | 50.7 | 37.5 | 30.9 | 20.5 | 20.2 | 20.8 | 17.6 | 15.1 | 13.9 |
| 72.5° | *1188.0* | *171.3* | *31.5* | *27.4* | *21.1* | *13.9* | *16.1* | *16.4* | *13.5* | *11.3* | *10.1* |
| 75° | 699.3 | 73.4 | 19.8 | 17.6 | 10.7 | 9.1 | 11.7 | 12.0 | 9.1 | 7.2 | 6.3 |
| 77.5° | 238.0 | 27.7 | 12.6 | 10.4 | 5.4 | 5.0 | 7.6 | 7.6 | 5.0 | 2.8 | 2.2 |
| 80° | 54.2 | 10.4 | 6.3 | 4.1 | 2.5 | 2.2 | 2.5 | 2.2 | 1.3 | 0.3 | 0.0 |
| 82.5° | 15.4 | 4.1 | 2.5 | 1.6 | 0.9 | 0.9 | 0.3 | 0.0 | 0.0 | 0.0 | 0.0 |
| 85° | 4.4 | 1.9 | 0.6 | 0.6 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 87.5° | 1.9 | 0.3 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 90° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |


HS
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Peachtree City, GA 30269

# LM-79-2008: Approved Method: Electrical and Photometric Measurements of Solid-State Lighting Products

Report Prepared for

Cooper Lighting Solutions

McGRAW-EDISON

Report Number: SP1-1908-441-3-R4

Test Date: 10/02/2019

Luminaire Tested: SA1C-740-U-5WQ

Data in this report applies to families of products SA1C-740-U-5WQ

Data valid for all products using SA and SB light squares

Report Generated By FNC07603 / LDUCLS01DT446
Version: v6.13

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## Test Information

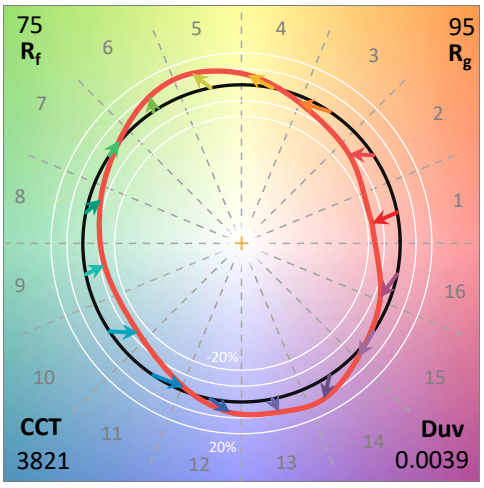
| | |
|---|---|
| Test Method: | LM-79-2008 |
| Report Number: | SP1-1908-441-3-R4 |
| Test Lab: | COOPER LIGHTING SOLUTIONS |
| Photometer: | SP1 - 76IN SPHERE |
| Measurement Geometry: | 4π |
| Issue Date: | 11/05/2024 |
| Manufacturer: | COOPER LIGHTING SOLUTIONS |
| Product Line: | McGRAW-EDISON |
| Catalog Number: | **SA1C-740-U-5WQ** |
| Description: | McGRAW EDISON ROADWAY AND AREA LUMINAIRE |

***THIS IS A REVISION OF SP1-1908-441-3-R3. TO UPDATE THE CATALOG INFORMATION.***TESTED IN SITU. ROADWAY AND AREA LUMINAIRE. (1) 70 CRI, 4000K, 1050MA LIGHTSQUARE WITH 16 LEDS AND TYPE V WIDE OPTICS.

## Spectral Parameters

| | | | | | |
|---|---|---|---|---|---|
| CCT (K): | 3821 | CRI (Ra): | 72.3 | | |
| CIE u': | 0.2264 | R1: | 68.5 | R9: | -33.5 |
| CIE v': | 0.5098 | R2: | 78.5 | R10: | 50.8 |
| Duv: | 0.0039 | R3: | 88.2 | R11: | 69.2 |
| CIE x: | 0.3918 | R4: | 72.2 | R12: | 48.9 |
| CIE y: | 0.3921 | R5: | 69.0 | R13: | 69.8 |
| CIE z: | 0.2161 | R6: | 71.0 | R14: | 93.4 |
| Peak Wavelength (nm): | 585 | R7: | 80.4 | | |
| Dominant Wavelength (nm): | 577 | R8: | 50.4 | | |
| Purity: | 35.4 | | | | |

| | |
|---|---|
| Rf: | 75.5 |
| Rg: | 94.8 |




## Test Conditions

| | |
|---|---|
| Stabilization Time: | 67M |
| Operation Time: | 12H |
| Room Temperature (°C) / RH%: | 25.0./44% |
| Sphere Temperature (°C): | 25.7 |

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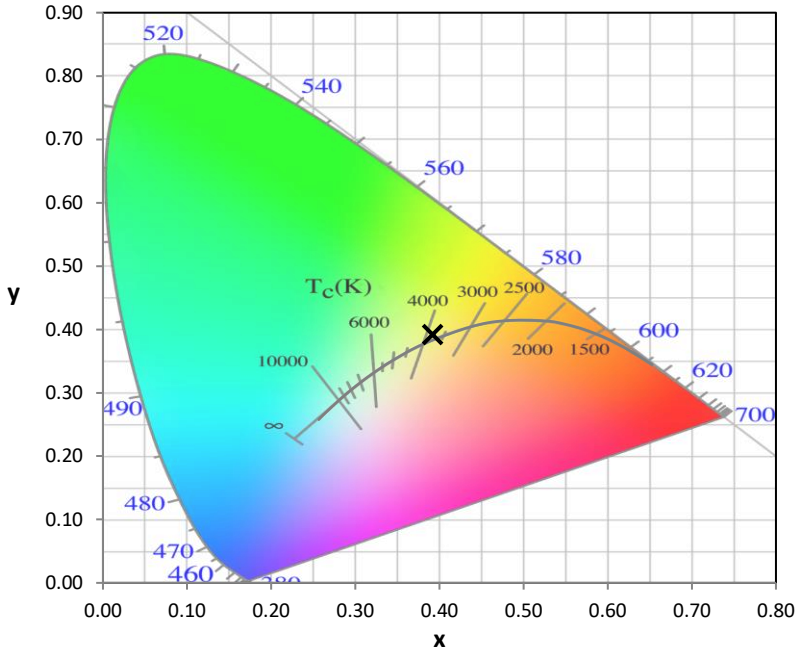
REPORT NUMBER: SP1-1908-441-3-R4

| Measurement and Test Equipment | | | |
|---|---|---|---|
| Instrument | Identification Number | Calibration Date | Calibration Due Date |
| Photometer | IN0058 | 6/28/2019 | 12/28/2019 |
| Power Meter | IN0071 | 12/5/2018 | 12/5/2019 |
| AC Power Source | IN0063 | 12/5/2018 | 12/5/2019 |
| DC Power Source | IN0208 | 12/5/2018 | 12/5/2019 |
| Sphere Thermometer | IN0085 | 12/5/2018 | 12/5/2019 |
| Room Thermometer | IN0046 | 12/5/2018 | 12/5/2019 |

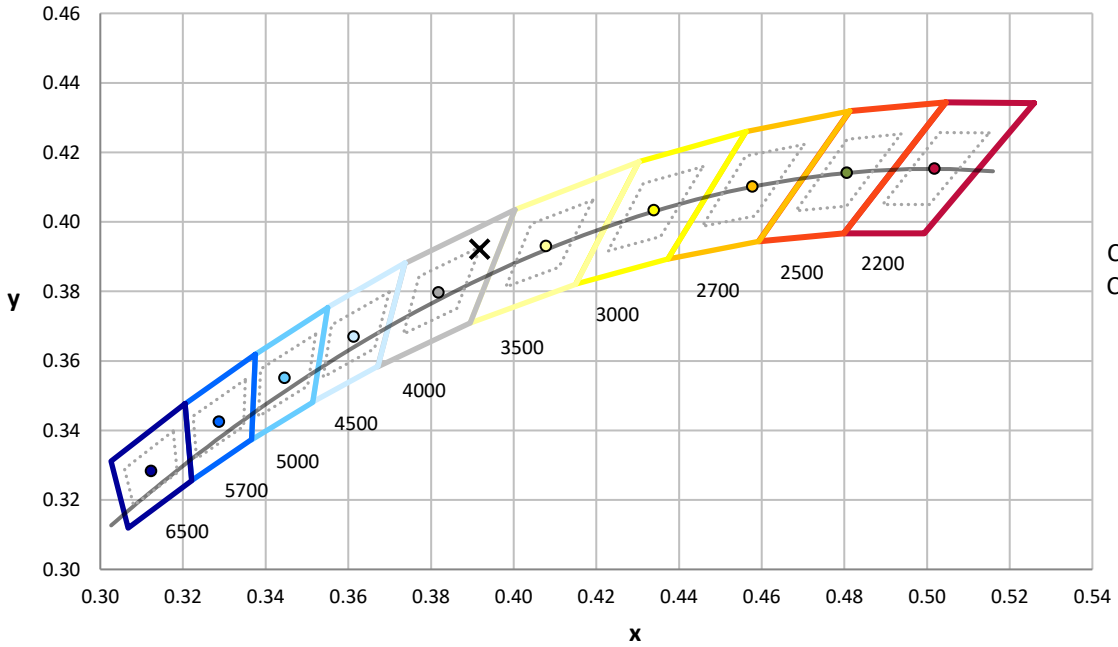
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1121 Highway 74 South
Peachtree City, GA 30269

REPORT NUMBER: SP1-1908-441-3-R4

## CIE 1931 Chromaticity Diagram




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



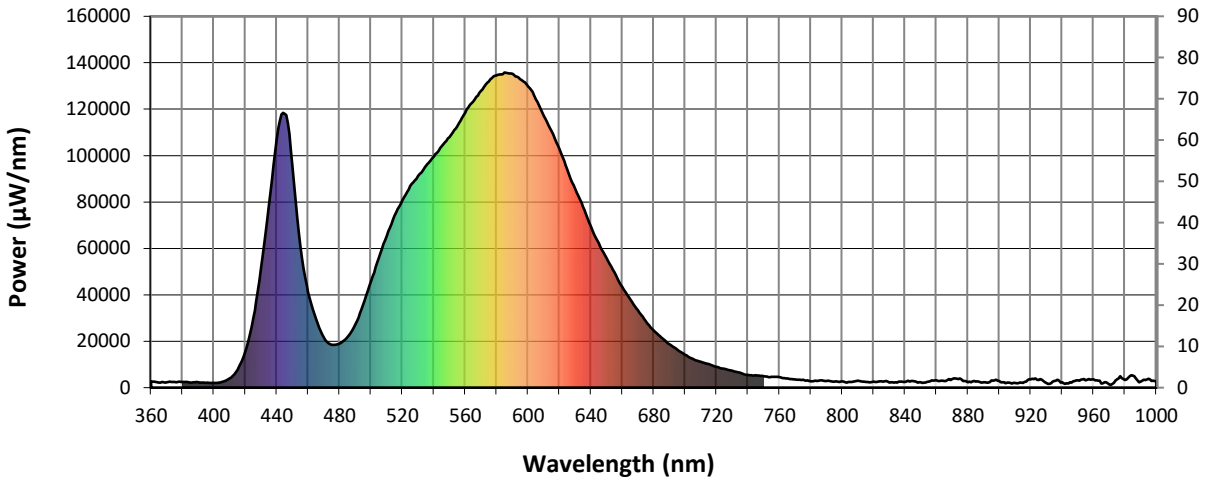

CCT = 3821K
CIE x = 0.3918
CIE y = 0.3921
Duv = 0.0039

Point lies inside the ANSI 4000K 7-step quadrangle

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## Photopic Flux vs. Wavelength



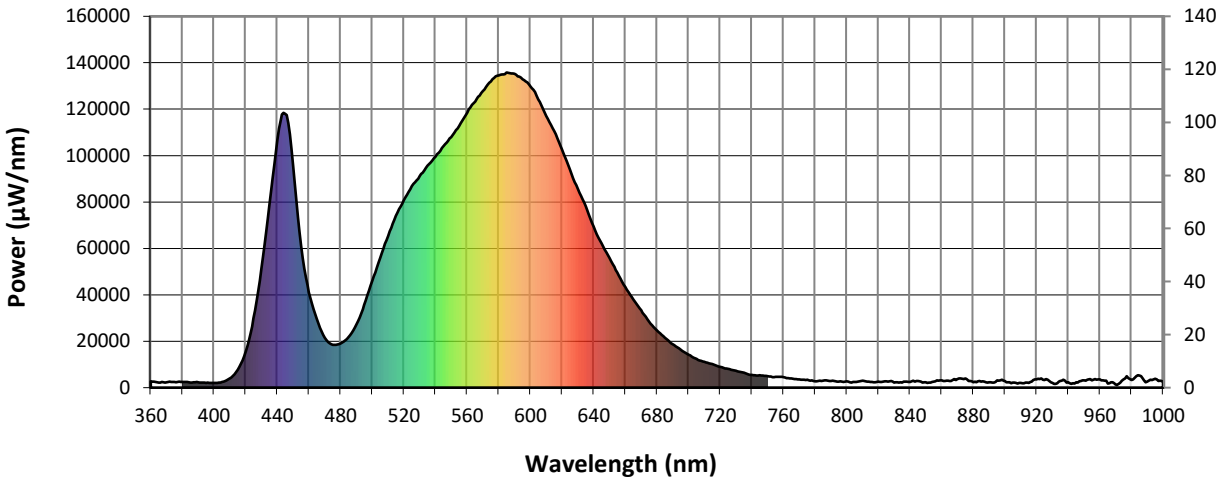

######

| λ (nm) | Power (µW/nm) | Lumens (ϕ/nm) | λ (nm) | Power (µW/nm) | Lumens (ϕ/nm) | λ (nm) | Power (µW/nm) | Lumens (ϕ/nm) | λ (nm) | Power (µW/nm) | Lumens (ϕ/nm) | λ (nm) | Power (µW/nm) | Lumens (ϕ/nm) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 360 | 2662 | NR | 490 | 27227 | NR | 620 | 102725 | NR | 750 | 4998 | NR | 880 | 2294 | NR |
| 365 | 2227 | NR | 495 | 35672 | NR | 625 | 94018 | NR | 755 | 4638 | NR | 885 | 2526 | NR |
| 370 | 2351 | NR | 500 | 45857 | NR | 630 | 85530 | NR | 760 | 4579 | NR | 890 | 2275 | NR |
| 375 | 2487 | NR | 505 | 55772 | NR | 635 | 77990 | NR | 765 | 3952 | NR | 895 | 3151 | NR |
| 380 | 2507 | NR | 510 | 65358 | NR | 640 | 69405 | NR | 770 | 3495 | NR | 900 | 2915 | NR |
| 385 | 2244 | NR | 515 | 73945 | NR | 645 | 62112 | NR | 775 | 3353 | NR | 905 | 2197 | NR |
| 390 | 2299 | NR | 520 | 80747 | NR | 650 | 55830 | NR | 780 | 2778 | NR | 910 | 2048 | NR |
| 395 | 2056 | NR | 525 | 86794 | NR | 655 | 49542 | NR | 785 | 2954 | NR | 915 | 2045 | NR |
| 400 | 2025 | NR | 530 | 91185 | NR | 660 | 43371 | NR | 790 | 2859 | NR | 920 | 3527 | NR |
| 405 | 2414 | NR | 535 | 95640 | NR | 665 | 38089 | NR | 795 | 2638 | NR | 925 | 3296 | NR |
| 410 | 3944 | NR | 540 | 99533 | NR | 670 | 33284 | NR | 800 | 2710 | NR | 930 | 2096 | NR |
| 415 | 7705 | NR | 545 | 104097 | NR | 675 | 28574 | NR | 805 | 2390 | NR | 935 | 2810 | NR |
| 420 | 15513 | NR | 550 | 107982 | NR | 680 | 24590 | NR | 810 | 2947 | NR | 940 | 2304 | NR |
| 425 | 29927 | NR | 555 | 112790 | NR | 685 | 21480 | NR | 815 | 2387 | NR | 945 | 2250 | NR |
| 430 | 51389 | NR | 560 | 118428 | NR | 690 | 18698 | NR | 820 | 2557 | NR | 950 | 3082 | NR |
| 435 | 78905 | NR | 565 | 123208 | NR | 695 | 16372 | NR | 825 | 2693 | NR | 955 | 3173 | NR |
| 440 | 106921 | NR | 570 | 127740 | NR | 700 | 14200 | NR | 830 | 2208 | NR | 960 | 3569 | NR |
| 445 | 118008 | NR | 575 | 131879 | NR | 705 | 12325 | NR | 835 | 2160 | NR | 965 | 1744 | NR |
| 450 | 95722 | NR | 580 | 134489 | NR | 710 | 11122 | NR | 840 | 2493 | NR | 970 | 1283 | NR |
| 455 | 61053 | NR | 585 | 135793 | NR | 715 | 10157 | NR | 845 | 2809 | NR | 975 | 3622 | NR |
| 460 | 41109 | NR | 590 | 135243 | NR | 720 | 8957 | NR | 850 | 2287 | NR | 980 | 3346 | NR |
| 465 | 29591 | NR | 595 | 132928 | NR | 725 | 8084 | NR | 855 | 2564 | NR | 985 | 5229 | NR |
| 470 | 21545 | NR | 600 | 129738 | NR | 730 | 7241 | NR | 860 | 3166 | NR | 990 | 2613 | NR |
| 475 | 18425 | NR | 605 | 124239 | NR | 735 | 6387 | NR | 865 | 2867 | NR | 995 | 3838 | NR |
| 480 | 19056 | NR | 610 | 116984 | NR | 740 | 5430 | NR | 870 | 3742 | NR | 1000 | 2626 | NR |
| 485 | 21740 | NR | 615 | 110543 | NR | 745 | 5284 | NR | 875 | 3912 | NR | | | |

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## Scotopic Flux vs. Wavelength



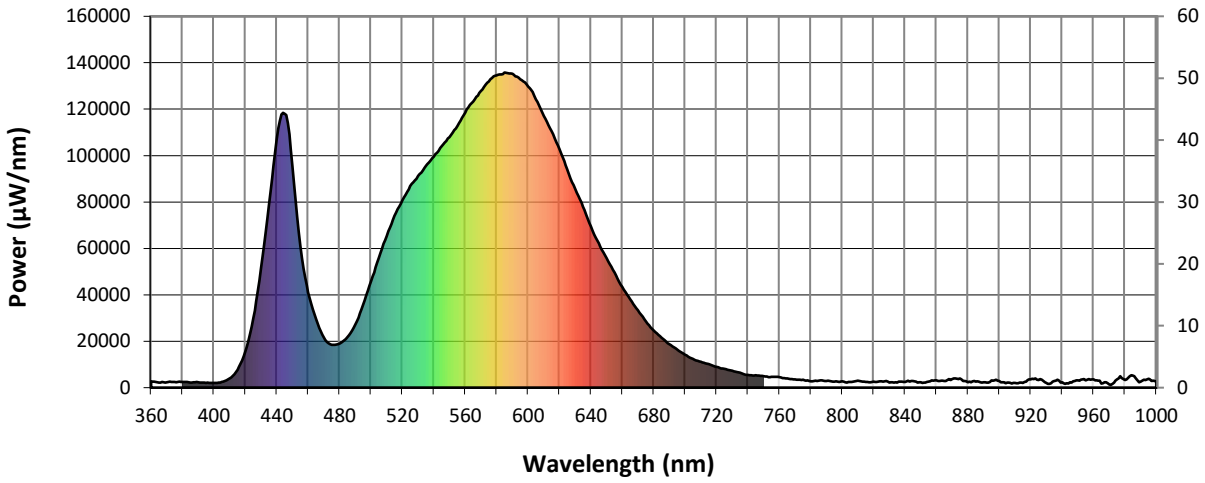

**Scotopic Lumens: 10930.8** **S/P: 1.47**

| λ (nm) | Power (µW/nm) | Lumens (ϕ/nm) | λ (nm) | Power (µW/nm) | Lumens (ϕ/nm) | λ (nm) | Power (µW/nm) | Lumens (ϕ/nm) | λ (nm) | Power (µW/nm) | Lumens (ϕ/nm) | λ (nm) | Power (µW/nm) | Lumens (ϕ/nm) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 360 | 2662 | NR | 490 | 27227 | NR | 620 | 102725 | NR | 750 | 4998 | NR | 880 | 2294 | NR |
| 365 | 2227 | NR | 495 | 35672 | NR | 625 | 94018 | NR | 755 | 4638 | NR | 885 | 2526 | NR |
| 370 | 2351 | NR | 500 | 45857 | NR | 630 | 85530 | NR | 760 | 4579 | NR | 890 | 2275 | NR |
| 375 | 2487 | NR | 505 | 55772 | NR | 635 | 77990 | NR | 765 | 3952 | NR | 895 | 3151 | NR |
| 380 | 2507 | NR | 510 | 65358 | NR | 640 | 69405 | NR | 770 | 3495 | NR | 900 | 2915 | NR |
| 385 | 2244 | NR | 515 | 73945 | NR | 645 | 62112 | NR | 775 | 3353 | NR | 905 | 2197 | NR |
| 390 | 2299 | NR | 520 | 80747 | NR | 650 | 55830 | NR | 780 | 2778 | NR | 910 | 2048 | NR |
| 395 | 2056 | NR | 525 | 86794 | NR | 655 | 49542 | NR | 785 | 2954 | NR | 915 | 2045 | NR |
| 400 | 2025 | NR | 530 | 91185 | NR | 660 | 43371 | NR | 790 | 2859 | NR | 920 | 3527 | NR |
| 405 | 2414 | NR | 535 | 95640 | NR | 665 | 38089 | NR | 795 | 2638 | NR | 925 | 3296 | NR |
| 410 | 3944 | NR | 540 | 99533 | NR | 670 | 33284 | NR | 800 | 2710 | NR | 930 | 2096 | NR |
| 415 | 7705 | NR | 545 | 104097 | NR | 675 | 28574 | NR | 805 | 2390 | NR | 935 | 2810 | NR |
| 420 | 15513 | NR | 550 | 107982 | NR | 680 | 24590 | NR | 810 | 2947 | NR | 940 | 2304 | NR |
| 425 | 29927 | NR | 555 | 112790 | NR | 685 | 21480 | NR | 815 | 2387 | NR | 945 | 2250 | NR |
| 430 | 51389 | NR | 560 | 118428 | NR | 690 | 18698 | NR | 820 | 2557 | NR | 950 | 3082 | NR |
| 435 | 78905 | NR | 565 | 123208 | NR | 695 | 16372 | NR | 825 | 2693 | NR | 955 | 3173 | NR |
| 440 | 106921 | NR | 570 | 127740 | NR | 700 | 14200 | NR | 830 | 2208 | NR | 960 | 3569 | NR |
| 445 | 118008 | NR | 575 | 131879 | NR | 705 | 12325 | NR | 835 | 2160 | NR | 965 | 1744 | NR |
| 450 | 95722 | NR | 580 | 134489 | NR | 710 | 11122 | NR | 840 | 2493 | NR | 970 | 1283 | NR |
| 455 | 61053 | NR | 585 | 135793 | NR | 715 | 10157 | NR | 845 | 2809 | NR | 975 | 3622 | NR |
| 460 | 41109 | NR | 590 | 135243 | NR | 720 | 8957 | NR | 850 | 2287 | NR | 980 | 3346 | NR |
| 465 | 29591 | NR | 595 | 132928 | NR | 725 | 8084 | NR | 855 | 2564 | NR | 985 | 5229 | NR |
| 470 | 21545 | NR | 600 | 129738 | NR | 730 | 7241 | NR | 860 | 3166 | NR | 990 | 2613 | NR |
| 475 | 18425 | NR | 605 | 124239 | NR | 735 | 6387 | NR | 865 | 2867 | NR | 995 | 3838 | NR |
| 480 | 19056 | NR | 610 | 116984 | NR | 740 | 5430 | NR | 870 | 3742 | NR | 1000 | 2626 | NR |
| 485 | 21740 | NR | 615 | 110543 | NR | 745 | 5284 | NR | 875 | 3912 | NR | | | |

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## Melanopic Flux vs. Wavelength




**Melanopic Lumens: 4115.9** **M/P: 0.55**

| λ (nm) | Power (µW/nm) | Lumens (ϕ/nm) | λ (nm) | Power (µW/nm) | Lumens (ϕ/nm) | λ (nm) | Power (µW/nm) | Lumens (ϕ/nm) | λ (nm) | Power (µW/nm) | Lumens (ϕ/nm) | λ (nm) | Power (µW/nm) | Lumens (ϕ/nm) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 360 | 2662 | NR | 490 | 27227 | NR | 620 | 102725 | NR | 750 | 4998 | NR | 880 | 2294 | NR |
| 365 | 2227 | NR | 495 | 35672 | NR | 625 | 94018 | NR | 755 | 4638 | NR | 885 | 2526 | NR |
| 370 | 2351 | NR | 500 | 45857 | NR | 630 | 85530 | NR | 760 | 4579 | NR | 890 | 2275 | NR |
| 375 | 2487 | NR | 505 | 55772 | NR | 635 | 77990 | NR | 765 | 3952 | NR | 895 | 3151 | NR |
| 380 | 2507 | NR | 510 | 65358 | NR | 640 | 69405 | NR | 770 | 3495 | NR | 900 | 2915 | NR |
| 385 | 2244 | NR | 515 | 73945 | NR | 645 | 62112 | NR | 775 | 3353 | NR | 905 | 2197 | NR |
| 390 | 2299 | NR | 520 | 80747 | NR | 650 | 55830 | NR | 780 | 2778 | NR | 910 | 2048 | NR |
| 395 | 2056 | NR | 525 | 86794 | NR | 655 | 49542 | NR | 785 | 2954 | NR | 915 | 2045 | NR |
| 400 | 2025 | NR | 530 | 91185 | NR | 660 | 43371 | NR | 790 | 2859 | NR | 920 | 3527 | NR |
| 405 | 2414 | NR | 535 | 95640 | NR | 665 | 38089 | NR | 795 | 2638 | NR | 925 | 3296 | NR |
| 410 | 3944 | NR | 540 | 99533 | NR | 670 | 33284 | NR | 800 | 2710 | NR | 930 | 2096 | NR |
| 415 | 7705 | NR | 545 | 104097 | NR | 675 | 28574 | NR | 805 | 2390 | NR | 935 | 2810 | NR |
| 420 | 15513 | NR | 550 | 107982 | NR | 680 | 24590 | NR | 810 | 2947 | NR | 940 | 2304 | NR |
| 425 | 29927 | NR | 555 | 112790 | NR | 685 | 21480 | NR | 815 | 2387 | NR | 945 | 2250 | NR |
| 430 | 51389 | NR | 560 | 118428 | NR | 690 | 18698 | NR | 820 | 2557 | NR | 950 | 3082 | NR |
| 435 | 78905 | NR | 565 | 123208 | NR | 695 | 16372 | NR | 825 | 2693 | NR | 955 | 3173 | NR |
| 440 | 106921 | NR | 570 | 127740 | NR | 700 | 14200 | NR | 830 | 2208 | NR | 960 | 3569 | NR |
| 445 | 118008 | NR | 575 | 131879 | NR | 705 | 12325 | NR | 835 | 2160 | NR | 965 | 1744 | NR |
| 450 | 95722 | NR | 580 | 134489 | NR | 710 | 11122 | NR | 840 | 2493 | NR | 970 | 1283 | NR |
| 455 | 61053 | NR | 585 | 135793 | NR | 715 | 10157 | NR | 845 | 2809 | NR | 975 | 3622 | NR |
| 460 | 41109 | NR | 590 | 135243 | NR | 720 | 8957 | NR | 850 | 2287 | NR | 980 | 3346 | NR |
| 465 | 29591 | NR | 595 | 132928 | NR | 725 | 8084 | NR | 855 | 2564 | NR | 985 | 5229 | NR |
| 470 | 21545 | NR | 600 | 129738 | NR | 730 | 7241 | NR | 860 | 3166 | NR | 990 | 2613 | NR |
| 475 | 18425 | NR | 605 | 124239 | NR | 735 | 6387 | NR | 865 | 2867 | NR | 995 | 3838 | NR |
| 480 | 19056 | NR | 610 | 116984 | NR | 740 | 5430 | NR | 870 | 3742 | NR | 1000 | 2626 | NR |
| 485 | 21740 | NR | 615 | 110543 | NR | 745 | 5284 | NR | 875 | 3912 | NR | | | |

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Peachtree City, GA 30269

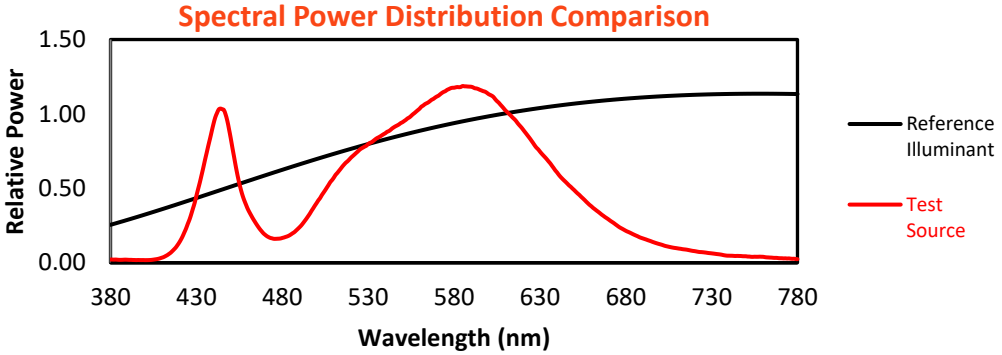
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# TM-30-18

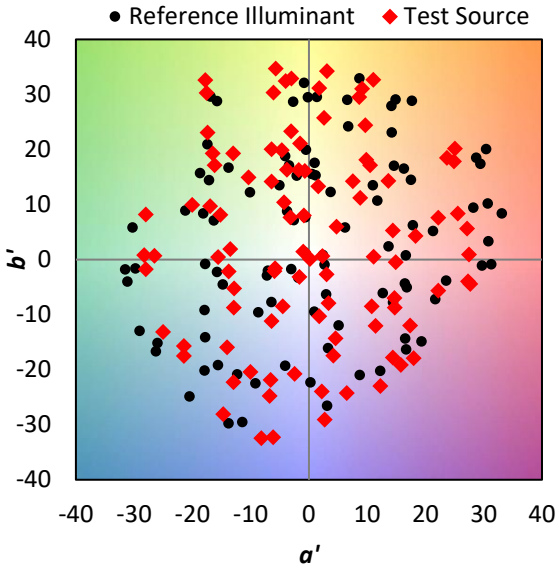
## Summary

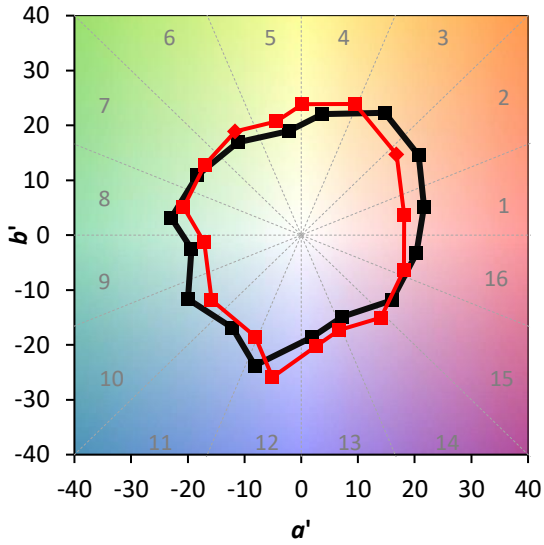
$R_f$ = 75.5
$R_g$ = 94.8
CIE $R_a$ = 72.3
$R_9$ = -33.5

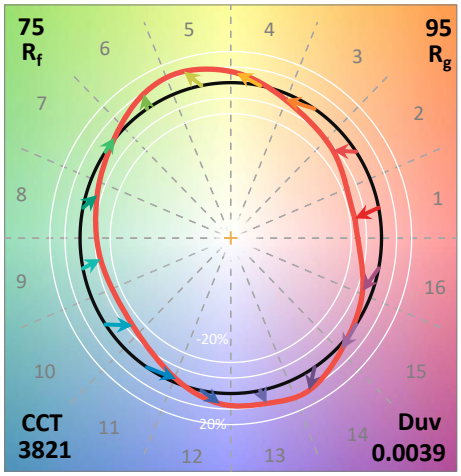
## Spectral Power Distribution Comparison

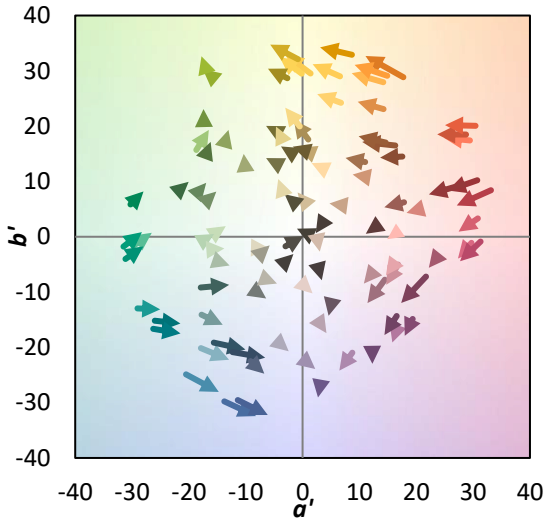



## Color Vector Graphics



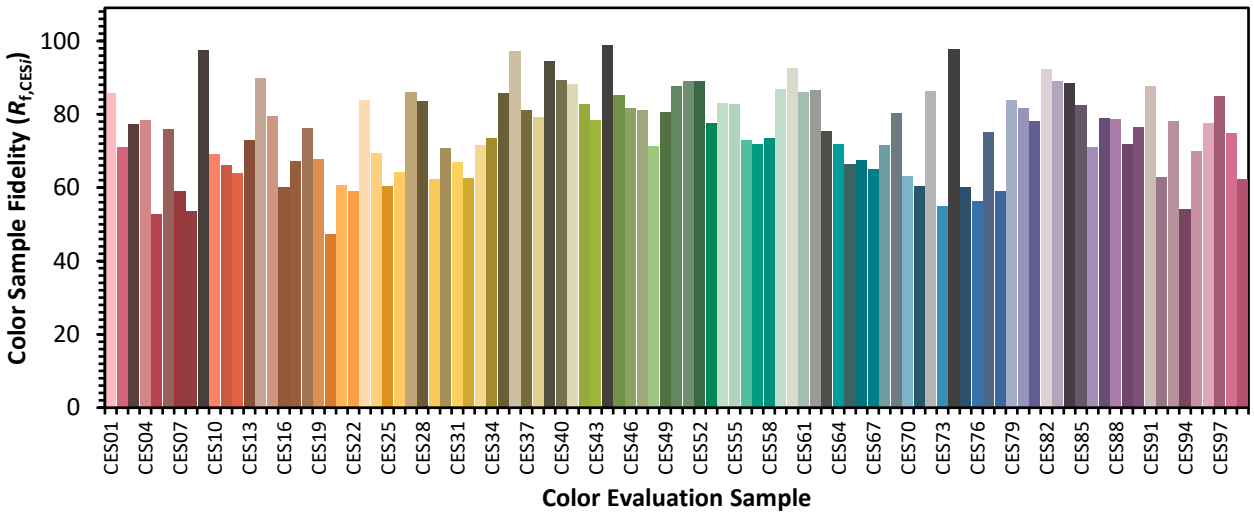
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Peachtree City, GA 30269

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

| | | | |
|---|---|---|---|
| CES01 = 85 | CES26 = 64 | CES51 = 89 | CES76 = 56 |
| CES02 = 61 | CES27 = 86 | CES52 = 89 | CES77 = 75 |
| CES03 = 30 | CES28 = 83 | CES53 = 78 | CES78 = 59 |
| CES04 = 70 | CES29 = 62 | CES54 = 83 | CES79 = 84 |
| CES05 = 47 | CES30 = 71 | CES55 = 83 | CES80 = 82 |
| CES06 = 50 | CES31 = 67 | CES56 = 73 | CES81 = 78 |
| CES07 = 40 | CES32 = 63 | CES57 = 72 | CES82 = 92 |
| CES08 = 39 | CES33 = 72 | CES58 = 73 | CES83 = 89 |
| CES09 = 29 | CES34 = 73 | CES59 = 87 | CES84 = 89 |
| CES10 = 74 | CES35 = 86 | CES60 = 92 | CES85 = 83 |
| CES11 = 57 | CES36 = 97 | CES61 = 86 | CES86 = 71 |
| CES12 = 63 | CES37 = 81 | CES62 = 87 | CES87 = 79 |
| CES13 = 42 | CES38 = 79 | CES63 = 75 | CES88 = 79 |
| CES14 = 74 | CES39 = 94 | CES64 = 72 | CES89 = 72 |
| CES15 = 71 | CES40 = 89 | CES65 = 66 | CES90 = 77 |
| CES16 = 46 | CES41 = 88 | CES66 = 67 | CES91 = 88 |
| CES17 = 49 | CES42 = 83 | CES67 = 65 | CES92 = 63 |
| CES18 = 56 | CES43 = 78 | CES68 = 71 | CES93 = 78 |
| CES19 = 72 | CES44 = 99 | CES69 = 80 | CES94 = 54 |
| CES20 = 65 | CES45 = 85 | CES70 = 63 | CES95 = 70 |
| CES21 = 86 | CES46 = 82 | CES71 = 60 | CES96 = 78 |
| CES22 = 78 | CES47 = 81 | CES72 = 86 | CES97 = 85 |
| CES23 = 92 | CES48 = 71 | CES73 = 55 | CES98 = 75 |
| CES24 = 91 | CES49 = 81 | CES74 = 98 | CES99 = 62 |
| CES25 = 72 | CES50 = 88 | CES75 = 60 | |

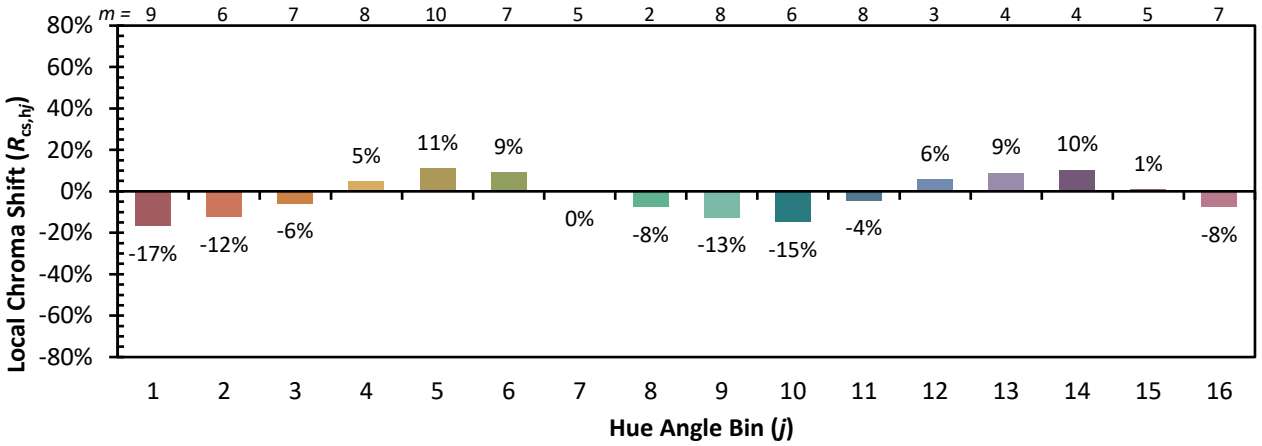


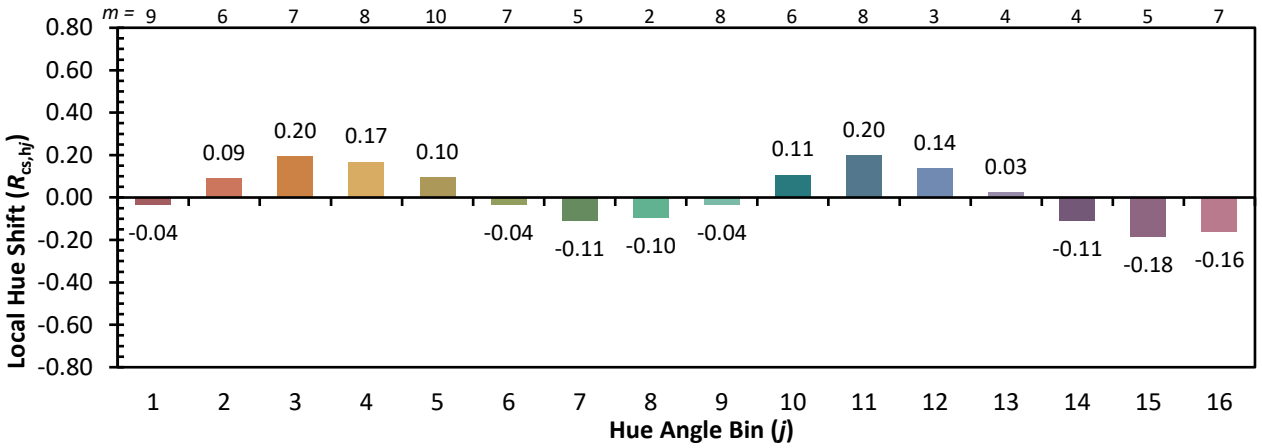
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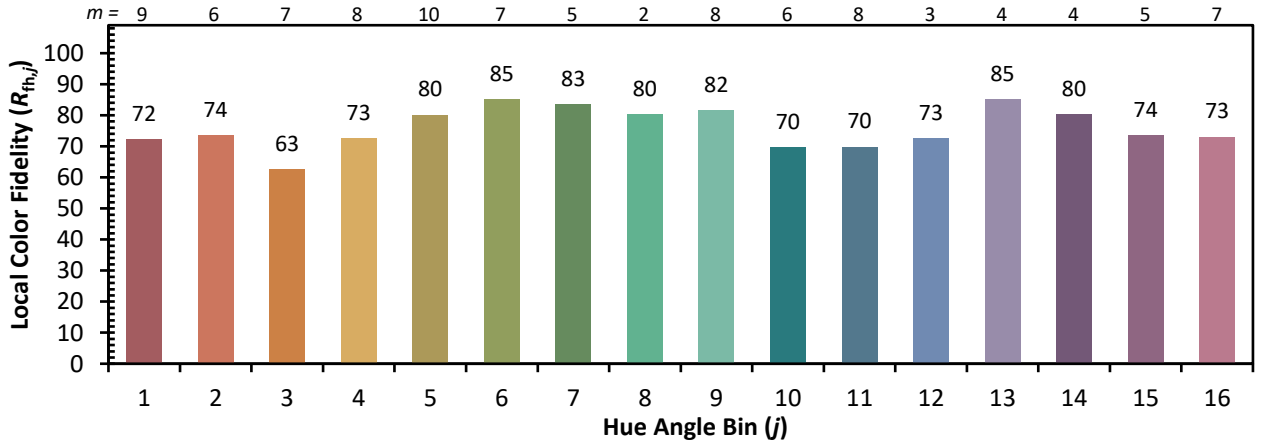
REPORT NUMBER: SP1-1908-441-3-R4

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### Color Rendition by Hue-Angle Bin



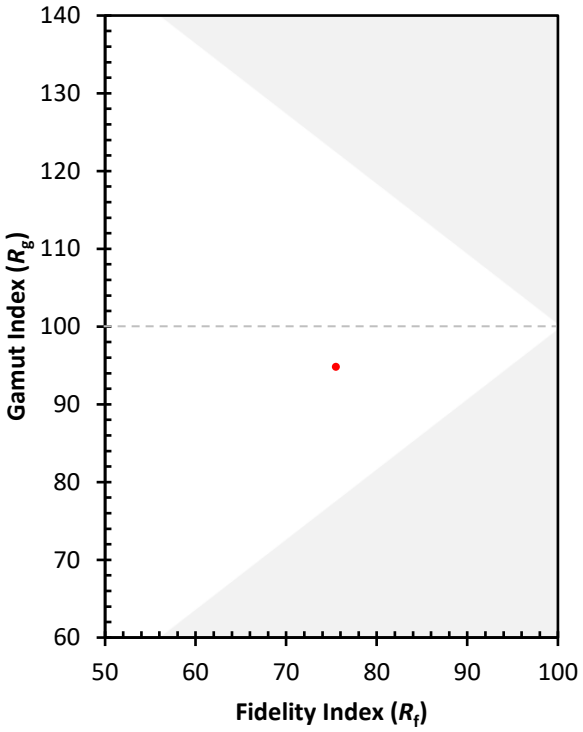



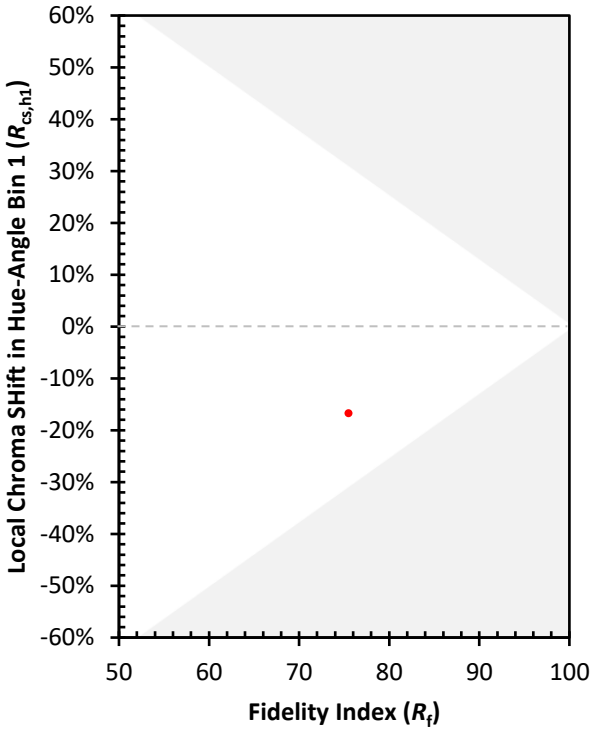
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### Measure Comparisons




(END OF REPORT)