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: P1203812

Luminaire Tested: GWC-SB2D-760-U-SL2-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: | P1203812 |
| | TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2411-289-11) |
| Test Lab: | INNOVATION CENTER |
| Issue Date: | 3/14/2026 |
| Manufacturer: | COOPER LIGHTING SOLUTIONS |
| Product Line: | McGRAW-EDISON |
| Catalog Number: | GWC-SB2D-760-U-SL2-HSS |
| Description: | GALLEON WALL LUMINAIRE |
| | (2) 70 CRI, 5700K, 900mA LIGHTSQUARES WITH 26 LEDS EACH AND TYPE II SPILL LIGHT ELIMINATOR OPTICS WITH HOUSE SIDE SHIELD |
| Light Source: | - |
| Ballast/Driver: | ELECTRONIC DRIVER |

**Summary**

| | |
|---|---|
| Lumens per Lamp: | N/A |
| Luminaire Lumens: | 17447 lumens |
| Efficiency: | N/A |
| Efficacy: | 118.2 lumens/watt |
| Luminous Opening: | Rectangular (W 1' x L: 0.5' x H: 0') |
| IES Classification: | Type II - Medium |
| BUG Rating: | B1 - U0 - G3 |

| | |
|---|---|
| Input Watts (W): | 147.6 |
| Input Voltage (V): | 120.0 |
| Input Current (Ain): | 1.234 |
| Voltage Rise (V): | NR |
| Power Factor: | 0.999 |
| Total Harmonic Distortion (THDi): | 3.108 |
| Frequency (hertz): | 60 |
| Stabilization Time: | NR |
| Operation Time: | NR |
| Ambient Temperature (°C): | NR |
| Test Distance: | 28.75 FT |

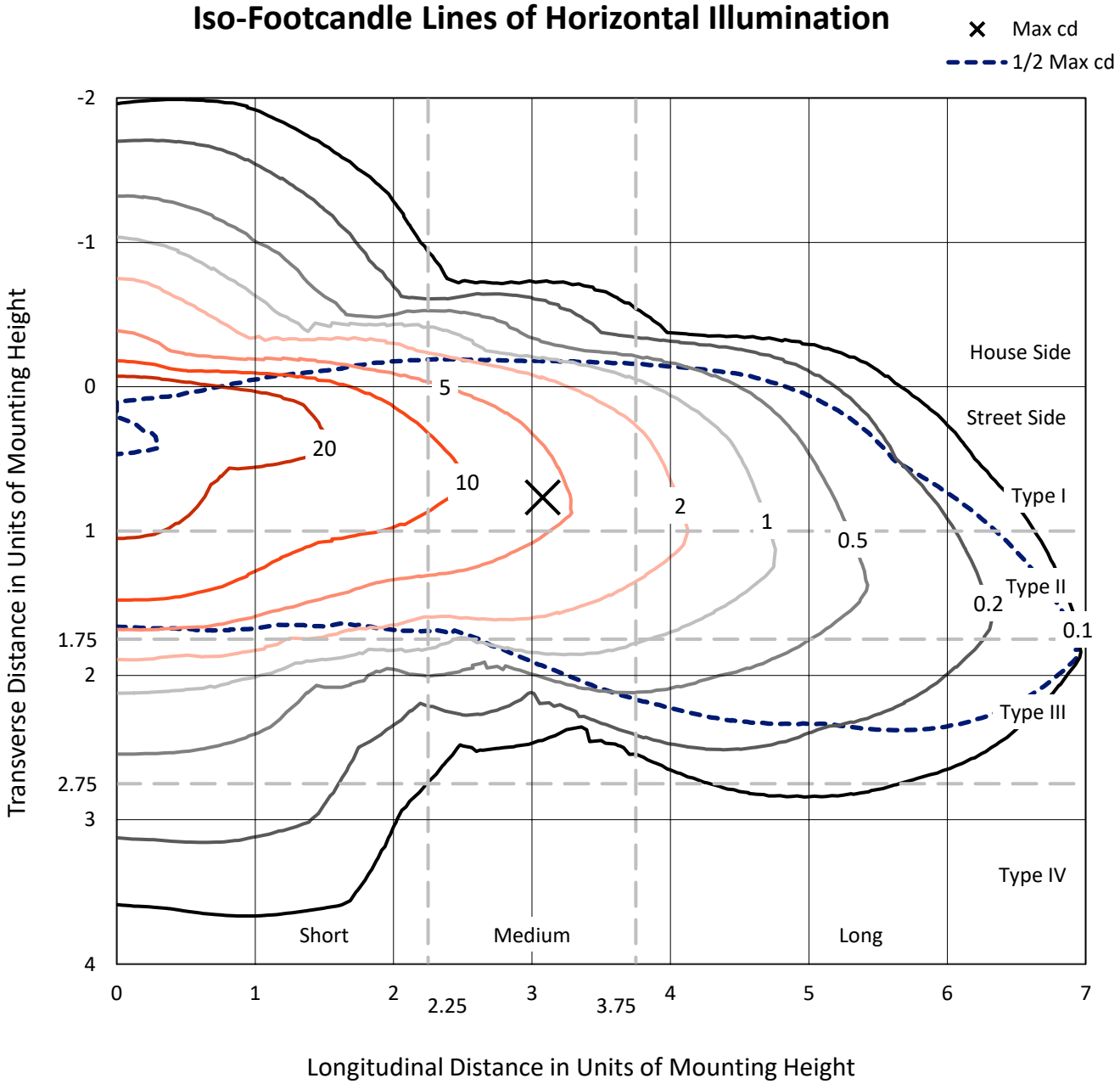


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REPORT NUMBER: P1203812
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## Iso-Footcandle Lines of Horizontal Illumination



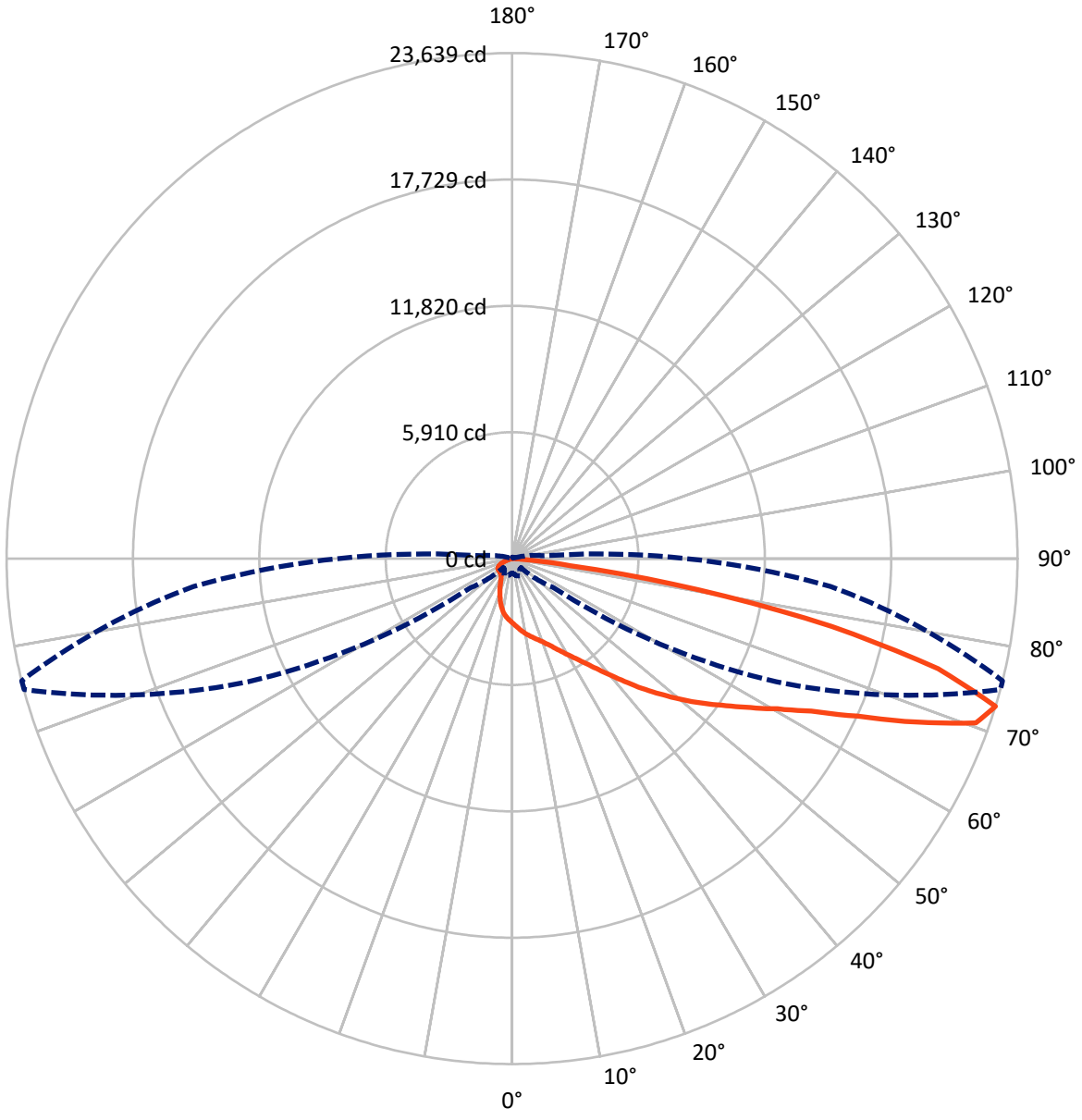

Based on 10 foot mounting height. Maximum calculated value = 26 fc
Type II - Medium - N/A

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## Luminous Intensity Polar Plot



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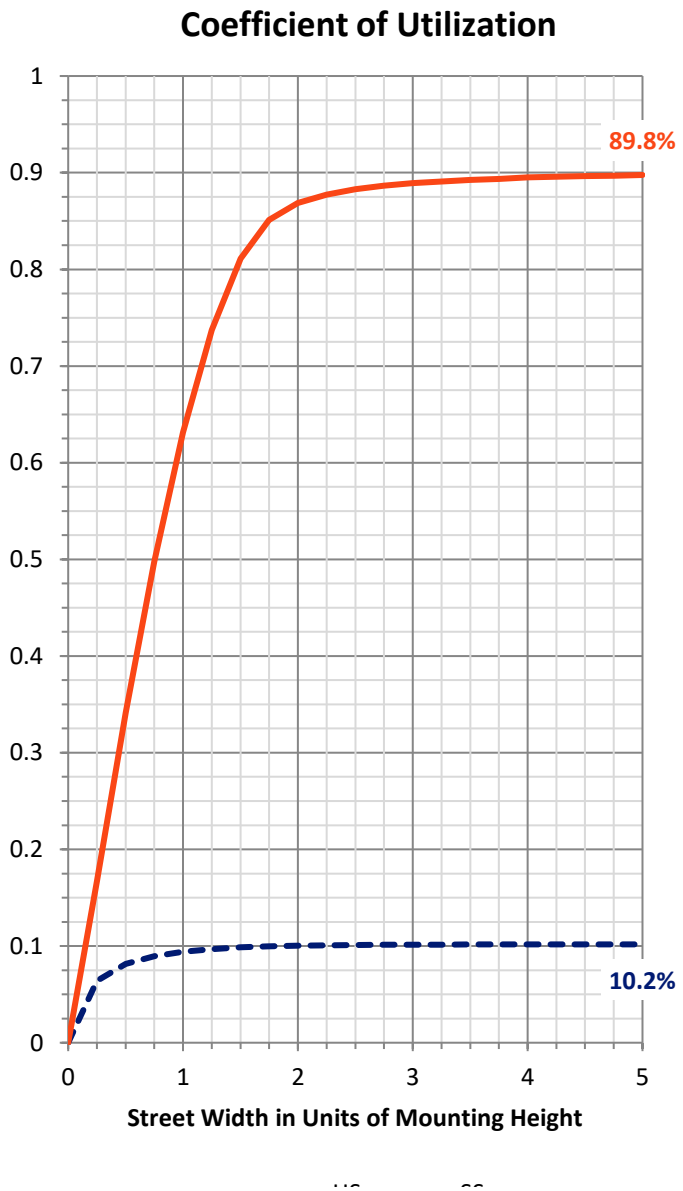
REPORT NUMBER: P1203812
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**FLUX DISTRIBUTION:**

| | | Downward | Upward | Total |
|---|---|---|---|---|
| **House Side** | Lumens | 1785.7 | 0.0 | 1785.7 |
| | % Fixture | 10.2 | 0.0 | 10.2 |
| **Street Side** | Lumens | 15661.3 | 0.0 | 15661.3 |
| | % Fixture | 89.8 | 0.0 | 89.8 |
| **Total** | Lumens | 17447.0 | 0.0 | 17447.0 |
| | % Fixture | 100.0 | 0.0 | 100.0 |

**ZONAL LUMENS:**

| Zone | Lumens | % Fixture |
|---|---|---|
| 0°-10° | 274.2 | 1.6 |
| 10°-20° | 735.2 | 4.2 |
| 20°-30° | 1163.7 | 6.7 |
| 30°-40° | 1800.4 | 10.3 |
| 40°-50° | 2734.5 | 15.7 |
| 50°-60° | 3769.8 | 21.6 |
| 60°-70° | 3982.6 | 22.8 |
| 70°-80° | 2732.2 | 15.7 |
| 80°-90° | 254.3 | 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° | 17447.0 | 100.0 |
| 0°-180° | 17447.0 | 100.0 |



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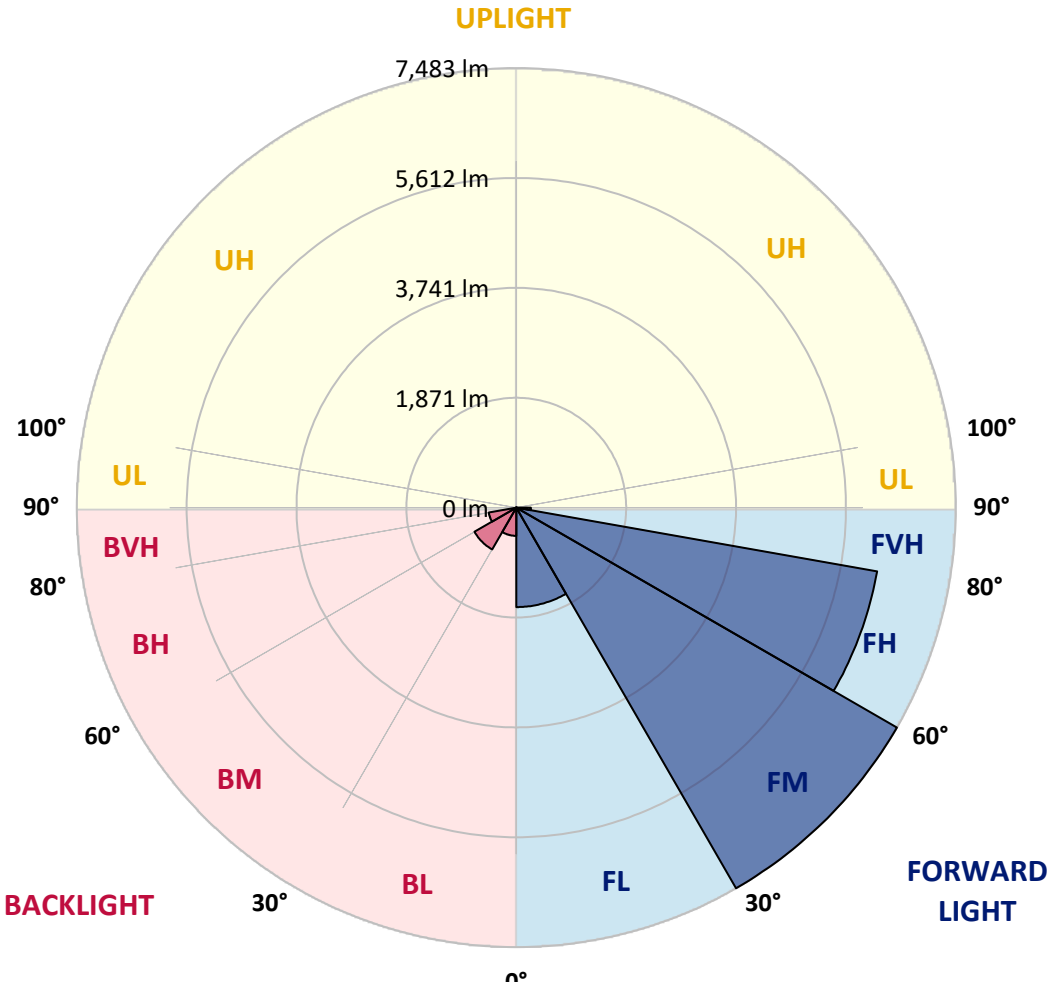
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## LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

| Zone | | Lumens | % Fixture | Zone Rating/Lumen Limit B | U | G |
|---|---|---|---|---|---|---|
| FL | (0°-30°) | 1693.2 | 9.7 | | | |
| FM | (30°-60°) | 7482.6 | 42.9 | | | |
| FH | (60°-80°) | 6238.1 | 35.8 | | | G3/7500 |
| FVH | (80°-90°) | 247.4 | 1.4 | | | G3/500 |
| BL | (0°-30°) | 480.0 | 2.8 | B1/500 | | |
| BM | (30°-60°) | 822.1 | 4.7 | B1/1000 | | |
| BH | (60°-80°) | 476.7 | 2.7 | B1/500 | | G1/500 |
| BVH | (80°-90°) | 6.9 | 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-G3**
Type II Medium



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**CANDELA DISTRIBUTION (FULL):**

| | 0° | 5° | 15° | 25° | 35° | 45° | 55° | 65° | 75° | 76° | 85° |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0° | 3015.0 | 3015.0 | 3015.0 | 3015.0 | 3015.0 | 3015.0 | 3015.0 | 3015.0 | 3015.0 | *3015.0* | 3015.0 |
| 2.5° | 3505.0 | 3458.6 | 3467.7 | 3421.3 | 3399.8 | 3347.7 | 3293.4 | 3222.1 | 3142.9 | *3142.9* | 3065.9 |
| 5° | 3874.0 | 3844.6 | 3844.6 | 3790.2 | 3748.4 | 3666.9 | 3569.6 | 3443.9 | 3294.5 | *3279.8* | 3133.8 |
| 7.5° | 4100.3 | 4082.2 | 4093.6 | 4061.9 | 4027.9 | 3943.0 | 3827.6 | 3663.5 | 3451.9 | *3433.7* | 3214.2 |
| 10° | 4144.5 | 4143.4 | 4175.0 | 4184.1 | 4206.7 | 4163.7 | 4060.7 | 3871.7 | 3606.9 | *3580.9* | 3283.2 |
| 12.5° | 3973.6 | 3952.1 | 4030.2 | 4121.8 | 4250.9 | 4308.6 | 4255.4 | 4061.9 | 3748.4 | *3712.2* | 3347.7 |
| 15° | 3692.9 | 3697.4 | 3772.1 | 3913.6 | 4128.6 | 4334.6 | 4403.7 | 4247.5 | 3892.1 | *3849.1* | 3408.8 |
| 17.5° | 3532.2 | 3515.2 | 3579.7 | 3706.5 | 3944.2 | 4235.0 | 4472.7 | 4420.6 | 4044.9 | *3996.2* | 3471.1 |
| 20° | 3513.0 | 3511.8 | 3526.5 | 3584.3 | 3765.3 | 4092.4 | 4464.8 | 4589.3 | 4224.8 | *4168.3* | 3560.5 |
| 22.5° | 3646.5 | 3644.2 | 3631.8 | 3620.5 | 3670.3 | 3953.2 | 4430.8 | 4750.0 | 4439.9 | *4378.8* | 3687.3 |
| 25° | 3851.4 | 3848.0 | 3828.7 | 3759.7 | 3711.0 | 3878.5 | 4399.1 | 4899.4 | 4694.5 | *4626.6* | 3841.2 |
| 27.5° | 4101.5 | 4099.2 | 4064.1 | 3960.0 | 3834.4 | 3885.3 | 4383.3 | 5053.3 | 4988.8 | *4922.0* | 4018.9 |
| 30° | 4408.2 | 4403.7 | 4331.2 | 4184.1 | 4020.0 | 3992.8 | 4404.8 | 5226.4 | 5295.5 | *5244.5* | 4223.7 |
| 32.5° | 4793.0 | 4780.5 | 4685.5 | 4463.6 | 4233.9 | 4136.6 | 4445.5 | 5404.1 | 5658.8 | *5611.2* | 4497.6 |
| 35° | 5090.6 | 5071.4 | 5015.9 | 4820.1 | 4481.7 | 4313.1 | 4540.6 | 5614.6 | 6095.6 | *6053.8* | 4847.3 |
| 37.5° | 5346.4 | 5327.2 | 5281.9 | 5121.2 | 4837.1 | 4538.3 | 4693.4 | 5895.3 | 6611.7 | *6591.3* | 5274.0 |
| 40° | 5622.6 | 5590.9 | 5569.4 | 5397.3 | 5140.4 | 4863.1 | 4911.8 | 6223.5 | 7205.9 | *7208.1* | 5786.7 |
| 42.5° | 5835.3 | 5822.9 | 5825.1 | 5692.7 | 5433.6 | 5247.9 | 5201.5 | 6593.6 | 7917.8 | *7939.3* | 6403.5 |
| 45° | 6017.5 | 6007.4 | 6049.2 | 5956.4 | 5728.9 | 5500.3 | 5541.1 | 7012.3 | 8696.4 | *8740.5* | 7093.8 |
| 47.5° | 6157.9 | 6169.2 | 6229.2 | 6169.2 | 6035.6 | 5678.0 | 5842.1 | 7463.9 | 9514.7 | *9520.3* | 7806.8 |
| 50° | 6298.2 | 6302.7 | 6402.3 | 6372.9 | 6318.6 | 5903.2 | 6119.4 | 7968.7 | 10377.1 | *10387.2* | 8473.4 |
| 52.5° | 6342.4 | 6335.6 | 6494.0 | 6566.4 | 6568.7 | 6181.6 | 6478.2 | 8518.7 | 11222.5 | *11255.3* | 9159.3 |
| 55° | 6116.0 | 6135.2 | 6391.0 | 6685.3 | 6801.8 | 6566.4 | 6962.6 | 9214.7 | 12123.4 | *12136.9* | 9838.3 |
| 57.5° | 5009.1 | 5115.5 | 5681.4 | 6363.9 | 6952.4 | 7117.6 | 7658.6 | 10028.5 | 13163.4 | *13151.0* | 10526.4 |
| 60° | 3039.9 | 3166.6 | 3843.4 | 5337.4 | 6461.2 | 7671.0 | 8684.0 | 11289.2 | 14299.7 | *14264.6* | 11222.5 |
| 62.5° | 1699.9 | 1738.4 | 1954.5 | 3194.9 | 4914.1 | 7319.1 | 9685.6 | 12908.8 | 15825.3 | *15706.5* | 11907.2 |
| 65° | 1252.9 | 1265.3 | 1316.2 | 1565.2 | 2415.2 | 5629.3 | 9466.0 | 14845.2 | 17968.9 | *17757.2* | 12727.7 |
| 67.5° | 1088.7 | 1101.2 | 1151.0 | 1184.9 | 1078.6 | 2957.3 | 7798.9 | 15919.3 | 20690.7 | *20413.5* | 13838.0 |
| 70° | 916.7 | 923.5 | 1003.9 | 1026.5 | 771.9 | 1125.0 | 5010.3 | 15587.7 | 23210.0 | *23012.0* | 15029.7 |
| 72.5° | *683.6* | *710.7* | *827.3* | *881.6* | *619.1* | *597.6* | *2358.6* | *13628.6* | *23636.7* | *23639.0* | *14949.3* |
| 75° | 464.0 | 488.9 | 622.5 | 725.5 | 477.6 | 418.7 | 951.8 | 10176.7 | 20582.1 | *20582.1* | 13104.6 |
| 77.5° | 316.9 | 337.3 | 433.5 | 569.3 | 362.2 | 287.5 | 493.4 | 6458.9 | 14766.0 | *15285.5* | 9340.4 |
| 80° | 140.3 | 152.8 | 279.5 | 413.1 | 275.0 | 185.6 | 279.5 | 3536.7 | 8929.5 | *8819.8* | 3661.2 |
| 82.5° | 69.0 | 79.2 | 178.8 | 258.0 | 177.7 | 114.3 | 147.1 | 1681.8 | 2893.9 | *2750.2* | 571.5 |
| 85° | 13.6 | 18.1 | 96.2 | 109.8 | 82.6 | 50.9 | 55.5 | 517.2 | 348.6 | *398.4* | 121.1 |
| 87.5° | 0.0 | 0.0 | 29.4 | 20.4 | 9.1 | 11.3 | 11.3 | 46.4 | 27.2 | *31.7* | 31.7 |
| 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: P1203812
CATALOG NUMBER: GWC-SB2D-760-U-SL2-HSS

**CANDELA DISTRIBUTION (continued):**

| | 90° | 95° | 105° | 115° | 125° | 135° | 145° | 155° | 165° | 175° | 180° |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0° | 3015.0 | 3015.0 | 3015.0 | 3015.0 | 3015.0 | 3015.0 | 3015.0 | 3015.0 | 3015.0 | 3015.0 | 3015.0 |
| 2.5° | 3025.2 | 2983.3 | 2891.6 | 2801.1 | 2708.3 | 2623.4 | 2564.6 | 2505.7 | 2469.5 | 2453.6 | 2455.9 |
| 5° | 3048.9 | 2964.1 | 2771.7 | 2570.2 | 2371.0 | 2176.4 | 2030.4 | 1893.4 | 1850.4 | 1779.1 | 1783.6 |
| 7.5° | 3086.3 | 2948.2 | 2644.9 | 2305.4 | 1981.7 | 1696.5 | 1490.5 | 1326.4 | 1260.8 | 1197.4 | 1196.3 |
| 10° | 3111.2 | 2918.8 | 2477.4 | 2023.6 | 1585.6 | 1265.3 | 1068.4 | 949.5 | 906.5 | 868.1 | 866.9 |
| 12.5° | 3121.4 | 2864.5 | 2285.0 | 1707.8 | 1233.6 | 964.3 | 846.6 | 791.1 | 776.4 | 762.8 | 762.8 |
| 15° | 3130.4 | 2811.3 | 2070.0 | 1403.4 | 974.4 | 806.9 | 760.5 | 742.4 | 732.2 | 723.2 | 723.2 |
| 17.5° | 3138.4 | 2743.4 | 1824.4 | 1140.8 | 822.8 | 743.6 | 720.9 | 701.7 | 693.8 | 683.6 | 683.6 |
| 20° | 3165.5 | 2677.7 | 1604.8 | 941.6 | 740.2 | 698.3 | 673.4 | 653.0 | 646.2 | 639.4 | 640.6 |
| 22.5° | 3216.4 | 2624.5 | 1392.1 | 806.9 | 690.4 | 651.9 | 620.2 | 597.6 | 593.0 | 588.5 | 585.1 |
| 25° | 3277.6 | 2558.9 | 1191.7 | 719.8 | 641.7 | 598.7 | 563.6 | 544.4 | 539.8 | 541.0 | 538.7 |
| 27.5° | 3355.7 | 2486.5 | 1019.7 | 664.3 | 598.7 | 548.9 | 509.3 | 494.6 | 496.8 | 501.4 | 499.1 |
| 30° | 3441.7 | 2419.7 | 885.0 | 625.9 | 560.2 | 504.8 | 465.2 | 455.0 | 462.9 | 469.7 | 467.4 |
| 32.5° | 3569.6 | 2360.8 | 791.1 | 595.3 | 526.3 | 468.5 | 436.9 | 424.4 | 433.5 | 442.5 | 440.3 |
| 35° | 3743.8 | 2331.4 | 737.9 | 569.3 | 496.8 | 440.3 | 408.6 | 399.5 | 408.6 | 410.8 | 409.7 |
| 37.5° | 3957.7 | 2329.2 | 715.3 | 547.8 | 469.7 | 416.5 | 381.4 | 378.0 | 384.8 | 385.9 | 383.7 |
| 40° | 4233.9 | 2343.9 | 698.3 | 531.9 | 441.4 | 389.3 | 356.5 | 353.1 | 355.4 | 363.3 | 362.2 |
| 42.5° | 4583.6 | 2405.0 | 674.5 | 511.6 | 410.8 | 362.2 | 336.1 | 328.2 | 327.1 | 336.1 | 335.0 |
| 45° | 5022.7 | 2539.7 | 642.8 | 478.7 | 383.7 | 339.5 | 313.5 | 304.4 | 301.0 | 303.3 | 306.7 |
| 47.5° | 5501.5 | 2704.9 | 611.1 | 448.2 | 364.4 | 321.4 | 295.4 | 284.1 | 278.4 | 278.4 | 278.4 |
| 50° | 5965.5 | 2891.6 | 589.6 | 416.5 | 350.8 | 304.4 | 276.1 | 264.8 | 255.8 | 253.5 | 252.4 |
| 52.5° | 6425.0 | 3075.0 | 572.7 | 384.8 | 335.0 | 282.9 | 258.0 | 245.6 | 235.4 | 230.9 | 228.6 |
| 55° | 6843.7 | 3249.3 | 543.2 | 354.2 | 314.6 | 260.3 | 239.9 | 227.5 | 215.0 | 207.1 | 203.7 |
| 57.5° | 7245.5 | 3394.1 | 488.9 | 322.5 | 282.9 | 238.8 | 220.7 | 207.1 | 192.4 | 182.2 | 177.7 |
| 60° | 7611.0 | 3468.8 | 421.0 | 288.6 | 251.2 | 216.2 | 199.2 | 186.7 | 167.5 | 150.5 | 146.0 |
| 62.5° | 7889.5 | 3439.4 | 347.4 | 250.1 | 218.4 | 195.8 | 174.3 | 161.8 | 139.2 | 118.8 | 110.9 |
| 65° | 8174.7 | 3278.7 | 277.3 | 209.4 | 191.3 | 168.6 | 146.0 | 133.5 | 107.5 | 86.0 | 80.4 |
| 67.5° | 8544.7 | 2935.8 | 218.4 | 174.3 | 165.2 | 133.5 | 114.3 | 106.4 | 88.3 | 67.9 | 63.4 |
| 70° | 8782.4 | 2280.5 | 169.8 | 141.5 | 135.8 | 97.3 | 88.3 | 87.1 | 70.2 | 52.1 | 46.4 |
| 72.5° | *8130.5* | *1495.0* | *130.2* | *107.5* | *97.3* | *63.4* | *67.9* | *67.9* | *50.9* | *35.1* | *30.6* |
| 75° | 6787.1 | 874.8 | 93.9 | 77.0 | 55.5 | 40.7 | 46.4 | 46.4 | 31.7 | 17.0 | 13.6 |
| 77.5° | 4847.3 | 466.3 | 62.2 | 47.5 | 28.3 | 18.1 | 24.9 | 23.8 | 10.2 | 1.1 | 0.0 |
| 80° | 1853.8 | 160.7 | 29.4 | 19.2 | 7.9 | 3.4 | 2.3 | 1.1 | 1.1 | 0.0 | 0.0 |
| 82.5° | 282.9 | 41.9 | 5.7 | 4.5 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 85° | 50.9 | 5.7 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 87.5° | 11.3 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 90° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |


HS
SS

0

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Report Generated By FNC07603 / LDUCLS01DT446
Version: v6.13

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## Test Information

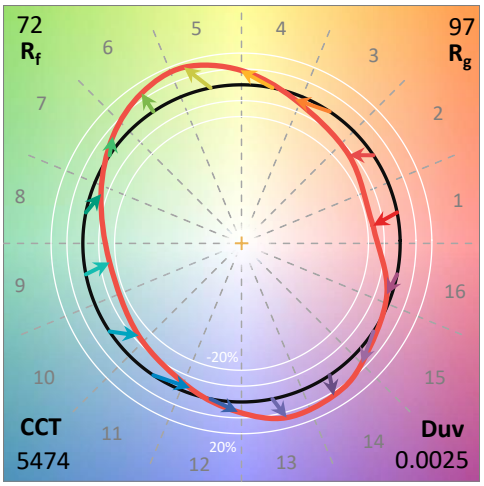
| | |
|---|---|
| Test Method: | LM-79-2008 |
| Report Number: | SP1-1908-441-9-R4 |
| Test Lab: | COOPER LIGHTING SOLUTIONS |
| Photometer: | SP1 - 76IN SPHERE |
| Measurement Geometry: | 4π |
| Issue Date: | 10/28/2024 |
| Manufacturer: | COOPER LIGHTING SOLUTIONS |
| Product Line: | McGRAW-EDISON |
| Catalog Number: | **SA1C-760-U-5WQ** |
| Description: | McGRAW EDISON ROADWAY AND AREA LUMINAIRE |

***THIS IS A REVISION OF SP1-1908-441-4-R3. TO UPDATE THE CATALOG INFORMATION.***TESTED IN SITU. ROADWAY AND AREA LUMINAIRE. (1) 70 CRI, 5000K, 1050MA LIGHTSQUARE WITH 16 LEDS AND TYPE V WIDE OPTICS.

## Spectral Parameters

| | | | | | |
|---|---|---|---|---|---|
| CCT (K): | 5474 | CRI (Ra): | 71.7 | | |
| CIE u': | 0.2052 | R1: | 70.6 | R9: | -27.1 |
| CIE v': | 0.4804 | R2: | 74.6 | R10: | 40.8 |
| Duv: | 0.0025 | R3: | 78.3 | R11: | 74.6 |
| CIE x: | 0.3330 | R4: | 73.8 | R12: | 50.4 |
| CIE y: | 0.3466 | R5: | 72.4 | R13: | 70.0 |
| CIE z: | 0.3204 | R6: | 67.5 | R14: | 87.8 |
| Peak Wavelength (nm): | 442 | R7: | 77.5 | | |
| Dominant Wavelength (nm): | 554 | R8: | 58.9 | | |
| Purity: | 4.1 | | | | |

| | |
|---|---|
| Rf: | 72.1 |
| Rg: | 97.2 |




## Test Conditions

| | |
|---|---|
| Stabilization Time: | 240M |
| Operation Time: | 12H |
| Room Temperature (°C) / RH%: | 24.6/31% |
| Sphere Temperature (°C): | 25.9 |

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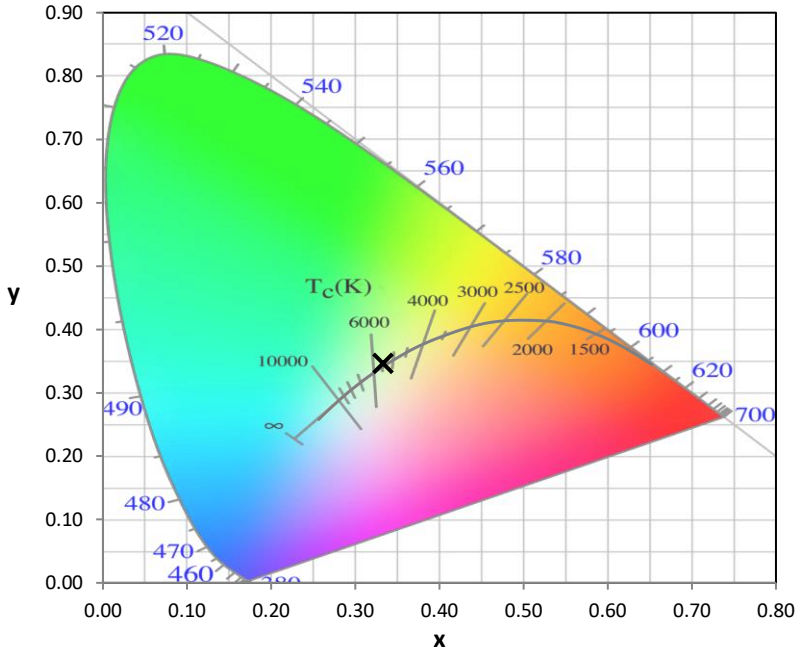
REPORT NUMBER: SP1-1908-441-9-R4

| 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 |

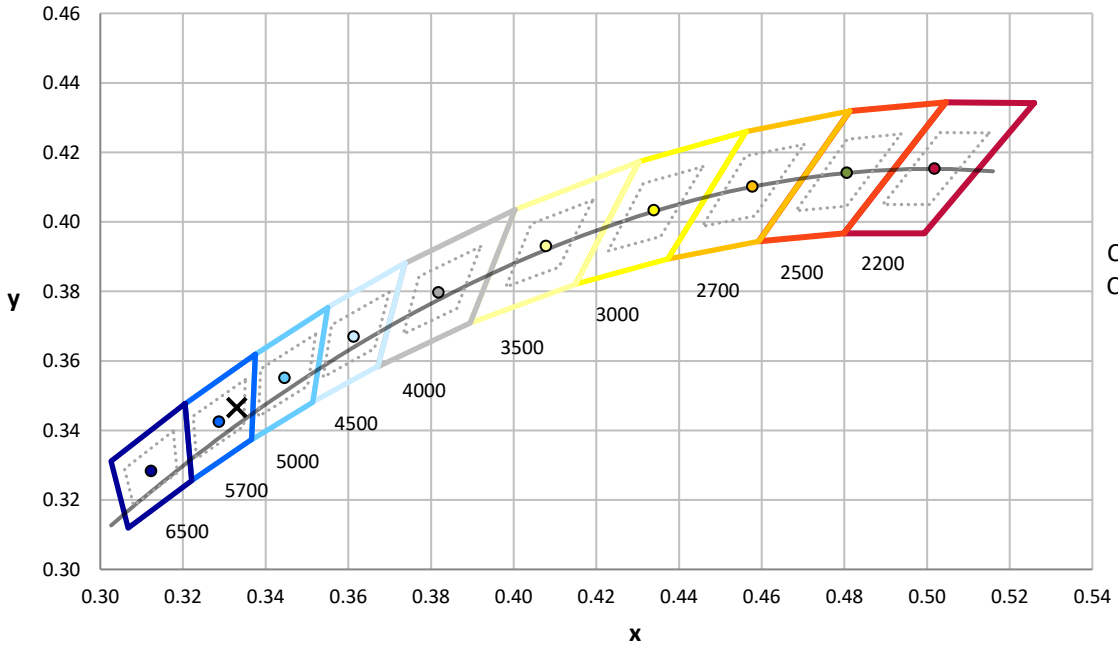
Cooper Lighting Solutions Photometric Lab
1121 Highway 74 South
Peachtree City, GA 30269

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## CIE 1931 Chromaticity Diagram




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



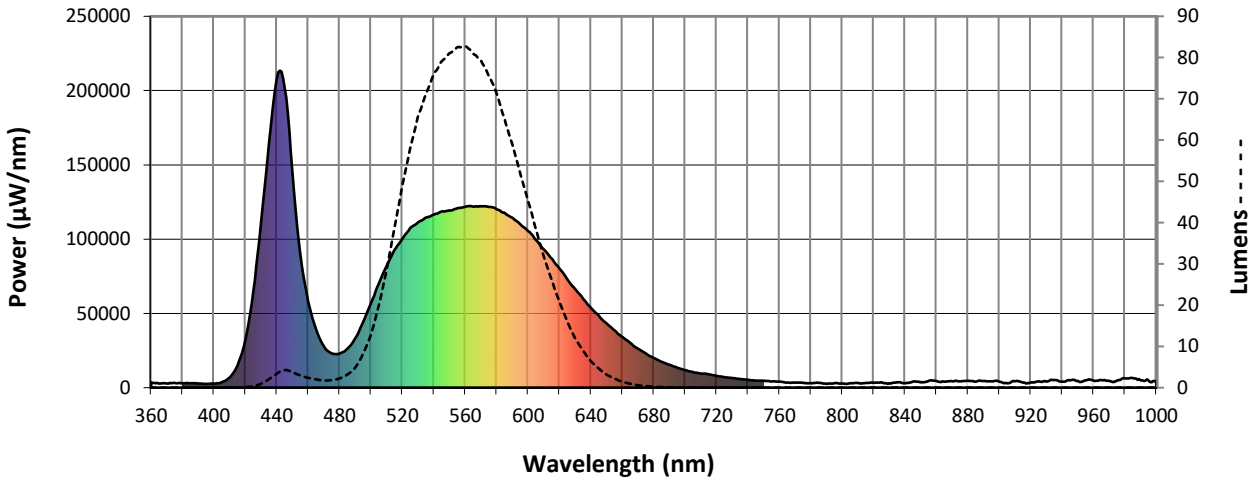

CCT = 5474K
CIE x = 0.3330
CIE y = 0.3466
Duv = 0.0025

Point lies inside the ANSI 5700K 4-step quadrangle

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## Photopic Flux vs. Wavelength



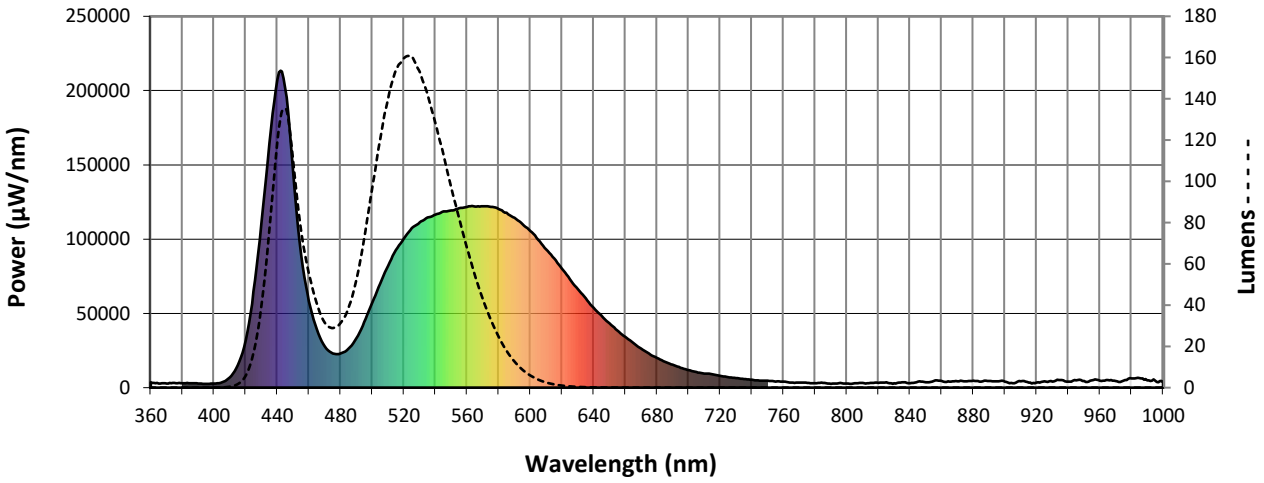

**Photopic Lumens: 7459.9**

| 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 | 3540 | 0.0 | 490 | 33363 | 4.7 | 620 | 80193 | 20.9 | 750 | 4663 | 0.0 | 880 | 4678 | 0.0 |
| 365 | 2862 | 0.0 | 495 | 44177 | 8.0 | 625 | 73091 | 16.1 | 755 | 4147 | 0.0 | 885 | 4128 | 0.0 |
| 370 | 2865 | 0.0 | 500 | 57019 | 12.6 | 630 | 66269 | 12.0 | 760 | 4040 | 0.0 | 890 | 4504 | 0.0 |
| 375 | 3254 | 0.0 | 505 | 70030 | 19.6 | 635 | 60012 | 9.0 | 765 | 3474 | 0.0 | 895 | 4371 | 0.0 |
| 380 | 3076 | 0.0 | 510 | 81972 | 28.2 | 640 | 53914 | 6.4 | 770 | 3469 | 0.0 | 900 | 4082 | 0.0 |
| 385 | 2904 | 0.0 | 515 | 92590 | 38.4 | 645 | 48385 | 4.7 | 775 | 3181 | 0.0 | 905 | 2982 | 0.0 |
| 390 | 2689 | 0.0 | 520 | 100305 | 48.6 | 650 | 43219 | 3.2 | 780 | 2969 | 0.0 | 910 | 4351 | 0.0 |
| 395 | 2619 | 0.0 | 525 | 107452 | 57.7 | 655 | 38562 | 2.2 | 785 | 3132 | 0.0 | 915 | 3365 | 0.0 |
| 400 | 2679 | 0.0 | 530 | 111373 | 65.6 | 660 | 34110 | 1.4 | 790 | 2507 | 0.0 | 920 | 3430 | 0.0 |
| 405 | 3515 | 0.0 | 535 | 114505 | 71.0 | 665 | 30085 | 1.0 | 795 | 2968 | 0.0 | 925 | 4264 | 0.0 |
| 410 | 6934 | 0.0 | 540 | 116408 | 75.8 | 670 | 26205 | 0.6 | 800 | 2758 | 0.0 | 930 | 4095 | 0.0 |
| 415 | 14943 | 0.0 | 545 | 118700 | 79.0 | 675 | 22906 | 0.4 | 805 | 2872 | 0.0 | 935 | 5048 | 0.0 |
| 420 | 31939 | 0.1 | 550 | 119209 | 81.0 | 680 | 20058 | 0.2 | 810 | 3094 | 0.0 | 940 | 4074 | 0.0 |
| 425 | 64701 | 0.3 | 555 | 120742 | 82.5 | 685 | 17413 | 0.1 | 815 | 3222 | 0.0 | 945 | 4949 | 0.0 |
| 430 | 110939 | 0.9 | 560 | 121594 | 82.6 | 690 | 15447 | 0.1 | 820 | 3238 | 0.0 | 950 | 4387 | 0.0 |
| 435 | 164597 | 1.9 | 565 | 121913 | 81.1 | 695 | 13398 | 0.1 | 825 | 3524 | 0.0 | 955 | 4978 | 0.0 |
| 440 | 207696 | 3.3 | 570 | 122147 | 79.4 | 700 | 11777 | 0.0 | 830 | 2921 | 0.0 | 960 | 4706 | 0.0 |
| 445 | 201830 | 4.2 | 575 | 121605 | 75.7 | 705 | 10412 | 0.0 | 835 | 3595 | 0.0 | 965 | 5083 | 0.0 |
| 450 | 145410 | 3.8 | 580 | 120248 | 71.5 | 710 | 9544 | 0.0 | 840 | 3016 | 0.0 | 970 | 4522 | 0.0 |
| 455 | 89594 | 3.0 | 585 | 117717 | 65.4 | 715 | 8940 | 0.0 | 845 | 4032 | 0.0 | 975 | 4740 | 0.0 |
| 460 | 58321 | 2.4 | 590 | 114359 | 59.1 | 720 | 7897 | 0.0 | 850 | 3579 | 0.0 | 980 | 6122 | 0.0 |
| 465 | 39318 | 2.0 | 595 | 109974 | 52.1 | 725 | 7045 | 0.0 | 855 | 4571 | 0.0 | 985 | 6450 | 0.0 |
| 470 | 27693 | 1.7 | 600 | 105269 | 45.4 | 730 | 6483 | 0.0 | 860 | 4485 | 0.0 | 990 | 4875 | 0.0 |
| 475 | 23081 | 1.8 | 605 | 99453 | 38.5 | 735 | 5838 | 0.0 | 865 | 3978 | 0.0 | 995 | 4764 | 0.0 |
| 480 | 23002 | 2.2 | 610 | 92921 | 31.9 | 740 | 5261 | 0.0 | 870 | 4298 | 0.0 | 1000 | 3640 | 0.0 |
| 485 | 26201 | 3.1 | 615 | 86989 | 26.3 | 745 | 4760 | 0.0 | 875 | 4356 | 0.0 | | | |

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## Scotopic Flux vs. Wavelength



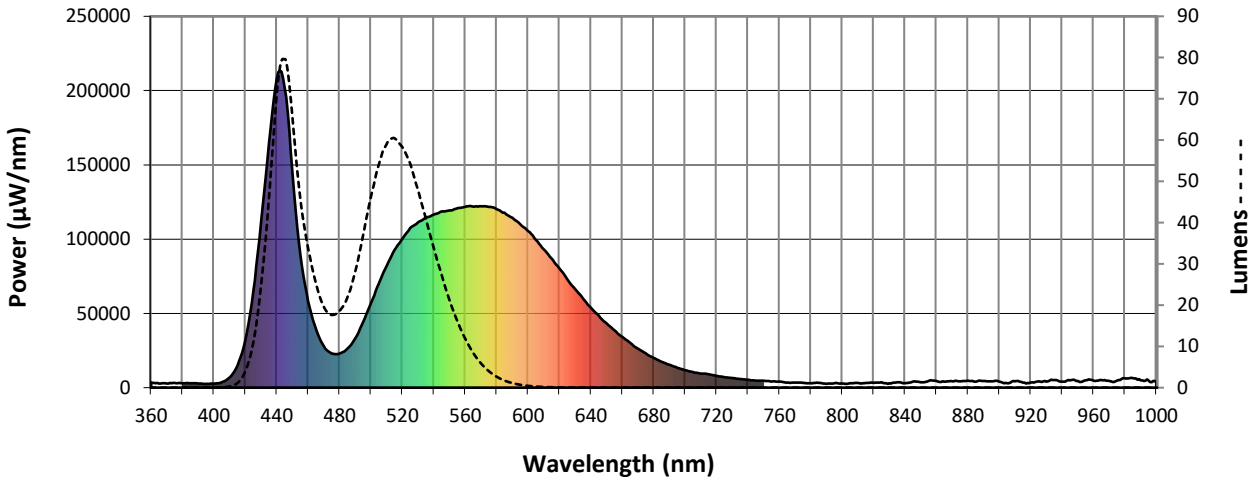

**Scotopic Lumens: 13759.3** **S/P: 1.85**

| 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 | 3540 | 0.0 | 490 | 33363 | 27.8 | 620 | 80193 | 0.1 | 750 | 4663 | 0.0 | 880 | 4678 | 0.0 |
| 365 | 2862 | 0.0 | 495 | 44177 | 36.5 | 625 | 73091 | 0.0 | 755 | 4147 | 0.0 | 885 | 4128 | 0.0 |
| 370 | 2865 | 0.0 | 500 | 57019 | 45.8 | 630 | 66269 | 0.0 | 760 | 4040 | 0.0 | 890 | 4504 | 0.0 |
| 375 | 3254 | 0.0 | 505 | 70030 | 53.7 | 635 | 60012 | 0.0 | 765 | 3474 | 0.0 | 895 | 4371 | 0.0 |
| 380 | 3076 | 0.0 | 510 | 81972 | 58.9 | 640 | 53914 | 0.0 | 770 | 3469 | 0.0 | 900 | 4082 | 0.0 |
| 385 | 2904 | 0.0 | 515 | 92590 | 60.5 | 645 | 48385 | 0.0 | 775 | 3181 | 0.0 | 905 | 2982 | 0.0 |
| 390 | 2689 | 0.0 | 520 | 100305 | 58.4 | 650 | 43219 | 0.0 | 780 | 2969 | 0.0 | 910 | 4351 | 0.0 |
| 395 | 2619 | 0.0 | 525 | 107452 | 54.5 | 655 | 38562 | 0.0 | 785 | 3132 | 0.0 | 915 | 3365 | 0.0 |
| 400 | 2679 | 0.0 | 530 | 111373 | 48.1 | 660 | 34110 | 0.0 | 790 | 2507 | 0.0 | 920 | 3430 | 0.0 |
| 405 | 3515 | 0.1 | 535 | 114505 | 41.2 | 665 | 30085 | 0.0 | 795 | 2968 | 0.0 | 925 | 4264 | 0.0 |
| 410 | 6934 | 0.3 | 540 | 116408 | 34.1 | 670 | 26205 | 0.0 | 800 | 2758 | 0.0 | 930 | 4095 | 0.0 |
| 415 | 14943 | 1.0 | 545 | 118700 | 27.6 | 675 | 22906 | 0.0 | 805 | 2872 | 0.0 | 935 | 5048 | 0.0 |
| 420 | 31939 | 3.6 | 550 | 119209 | 21.4 | 680 | 20058 | 0.0 | 810 | 3094 | 0.0 | 940 | 4074 | 0.0 |
| 425 | 64701 | 10.1 | 555 | 120742 | 16.3 | 685 | 17413 | 0.0 | 815 | 3222 | 0.0 | 945 | 4949 | 0.0 |
| 430 | 110939 | 23.4 | 560 | 121594 | 12.0 | 690 | 15447 | 0.0 | 820 | 3238 | 0.0 | 950 | 4387 | 0.0 |
| 435 | 164597 | 43.9 | 565 | 121913 | 8.6 | 695 | 13398 | 0.0 | 825 | 3524 | 0.0 | 955 | 4978 | 0.0 |
| 440 | 207696 | 69.4 | 570 | 122147 | 6.0 | 700 | 11777 | 0.0 | 830 | 2921 | 0.0 | 960 | 4706 | 0.0 |
| 445 | 201830 | 79.6 | 575 | 121605 | 4.0 | 705 | 10412 | 0.0 | 835 | 3595 | 0.0 | 965 | 5083 | 0.0 |
| 450 | 145410 | 67.0 | 580 | 120248 | 2.7 | 710 | 9544 | 0.0 | 840 | 3016 | 0.0 | 970 | 4522 | 0.0 |
| 455 | 89594 | 46.9 | 585 | 117717 | 1.7 | 715 | 8940 | 0.0 | 845 | 4032 | 0.0 | 975 | 4740 | 0.0 |
| 460 | 58321 | 34.4 | 590 | 114359 | 1.1 | 720 | 7897 | 0.0 | 850 | 3579 | 0.0 | 980 | 6122 | 0.0 |
| 465 | 39318 | 25.7 | 595 | 109974 | 0.7 | 725 | 7045 | 0.0 | 855 | 4571 | 0.0 | 985 | 6450 | 0.0 |
| 470 | 27693 | 19.8 | 600 | 105269 | 0.4 | 730 | 6483 | 0.0 | 860 | 4485 | 0.0 | 990 | 4875 | 0.0 |
| 475 | 23081 | 17.6 | 605 | 99453 | 0.3 | 735 | 5838 | 0.0 | 865 | 3978 | 0.0 | 995 | 4764 | 0.0 |
| 480 | 23002 | 18.5 | 610 | 92921 | 0.2 | 740 | 5261 | 0.0 | 870 | 4298 | 0.0 | 1000 | 3640 | 0.0 |
| 485 | 26201 | 21.6 | 615 | 86989 | 0.1 | 745 | 4760 | 0.0 | 875 | 4356 | 0.0 | | | |

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## Melanopic Flux vs. Wavelength




**Melanopic Lumens: 5527.6** **M/P: 0.74**

| 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 | 3540 | 0.0 | 490 | 33363 | 51.4 | 620 | 80193 | 1.0 | 750 | 4663 | 0.0 | 880 | 4678 | 0.0 |
| 365 | 2862 | 0.0 | 495 | 44177 | 71.4 | 625 | 73091 | 0.6 | 755 | 4147 | 0.0 | 885 | 4128 | 0.0 |
| 370 | 2865 | 0.0 | 500 | 57019 | 95.4 | 630 | 66269 | 0.4 | 760 | 4040 | 0.0 | 890 | 4504 | 0.0 |
| 375 | 3254 | 0.0 | 505 | 70030 | 119.1 | 635 | 60012 | 0.2 | 765 | 3474 | 0.0 | 895 | 4371 | 0.0 |
| 380 | 3076 | 0.0 | 510 | 81972 | 138.9 | 640 | 53914 | 0.1 | 770 | 3469 | 0.0 | 900 | 4082 | 0.0 |
| 385 | 2904 | 0.0 | 515 | 92590 | 153.5 | 645 | 48385 | 0.1 | 775 | 3181 | 0.0 | 905 | 2982 | 0.0 |
| 390 | 2689 | 0.0 | 520 | 100305 | 159.4 | 650 | 43219 | 0.0 | 780 | 2969 | 0.0 | 910 | 4351 | 0.0 |
| 395 | 2619 | 0.0 | 525 | 107452 | 160.7 | 655 | 38562 | 0.0 | 785 | 3132 | 0.0 | 915 | 3365 | 0.0 |
| 400 | 2679 | 0.0 | 530 | 111373 | 153.5 | 660 | 34110 | 0.0 | 790 | 2507 | 0.0 | 920 | 3430 | 0.0 |
| 405 | 3515 | 0.1 | 535 | 114505 | 142.7 | 665 | 30085 | 0.0 | 795 | 2968 | 0.0 | 925 | 4264 | 0.0 |
| 410 | 6934 | 0.4 | 540 | 116408 | 128.6 | 670 | 26205 | 0.0 | 800 | 2758 | 0.0 | 930 | 4095 | 0.0 |
| 415 | 14943 | 1.5 | 545 | 118700 | 113.8 | 675 | 22906 | 0.0 | 805 | 2872 | 0.0 | 935 | 5048 | 0.0 |
| 420 | 31939 | 5.3 | 550 | 119209 | 97.5 | 680 | 20058 | 0.0 | 810 | 3094 | 0.0 | 940 | 4074 | 0.0 |
| 425 | 64701 | 15.8 | 555 | 120742 | 82.5 | 685 | 17413 | 0.0 | 815 | 3222 | 0.0 | 945 | 4949 | 0.0 |
| 430 | 110939 | 37.8 | 560 | 121594 | 68.0 | 690 | 15447 | 0.0 | 820 | 3238 | 0.0 | 950 | 4387 | 0.0 |
| 435 | 164597 | 73.6 | 565 | 121913 | 54.7 | 695 | 13398 | 0.0 | 825 | 3524 | 0.0 | 955 | 4978 | 0.0 |
| 440 | 207696 | 116.1 | 570 | 122147 | 43.1 | 700 | 11777 | 0.0 | 830 | 2921 | 0.0 | 960 | 4706 | 0.0 |
| 445 | 201830 | 135.1 | 575 | 121605 | 33.1 | 705 | 10412 | 0.0 | 835 | 3595 | 0.0 | 965 | 5083 | 0.0 |
| 450 | 145410 | 112.7 | 580 | 120248 | 24.8 | 710 | 9544 | 0.0 | 840 | 3016 | 0.0 | 970 | 4522 | 0.0 |
| 455 | 89594 | 78.3 | 585 | 117717 | 18.0 | 715 | 8940 | 0.0 | 845 | 4032 | 0.0 | 975 | 4740 | 0.0 |
| 460 | 58321 | 56.3 | 590 | 114359 | 12.7 | 720 | 7897 | 0.0 | 850 | 3579 | 0.0 | 980 | 6122 | 0.0 |
| 465 | 39318 | 41.5 | 595 | 109974 | 8.8 | 725 | 7045 | 0.0 | 855 | 4571 | 0.0 | 985 | 6450 | 0.0 |
| 470 | 27693 | 31.9 | 600 | 105269 | 5.9 | 730 | 6483 | 0.0 | 860 | 4485 | 0.0 | 990 | 4875 | 0.0 |
| 475 | 23081 | 28.9 | 605 | 99453 | 3.9 | 735 | 5838 | 0.0 | 865 | 3978 | 0.0 | 995 | 4764 | 0.0 |
| 480 | 23002 | 31.1 | 610 | 92921 | 2.5 | 740 | 5261 | 0.0 | 870 | 4298 | 0.0 | 1000 | 3640 | 0.0 |
| 485 | 26201 | 38.0 | 615 | 86989 | 1.6 | 745 | 4760 | 0.0 | 875 | 4356 | 0.0 | | | |

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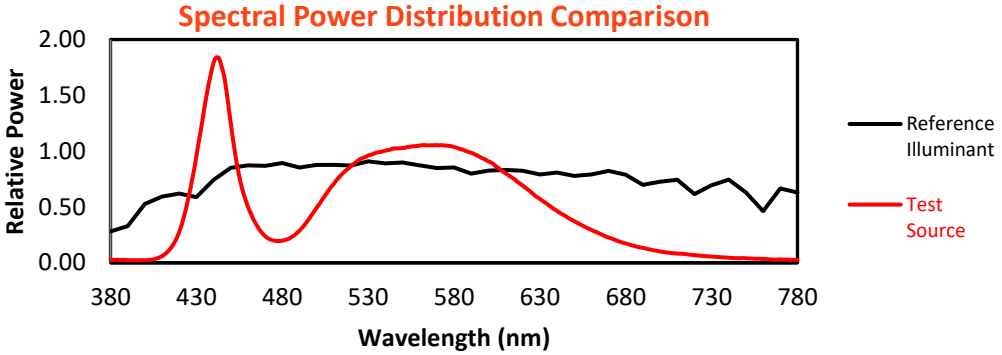
REPORT NUMBER: SP1-1908-441-9-R4

# TM-30-18

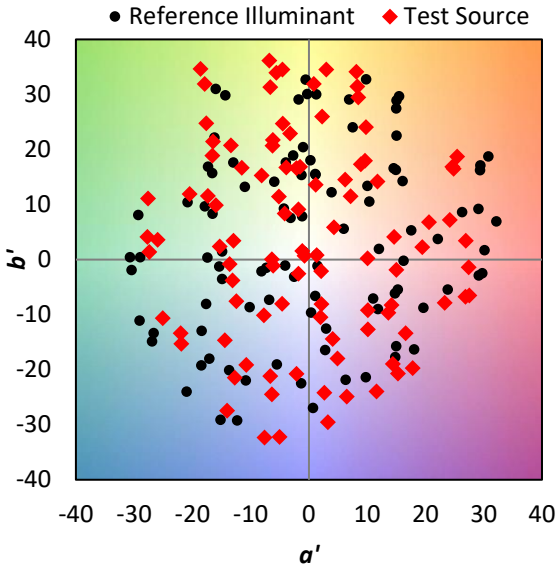
## Summary

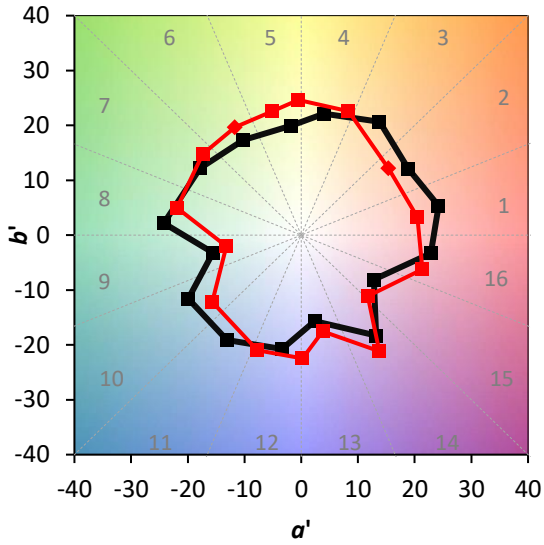
$R_f$ = 72.1
$R_g$ = 97.2
CIE $R_a$ = 71.7
$R_9$ = -27.1

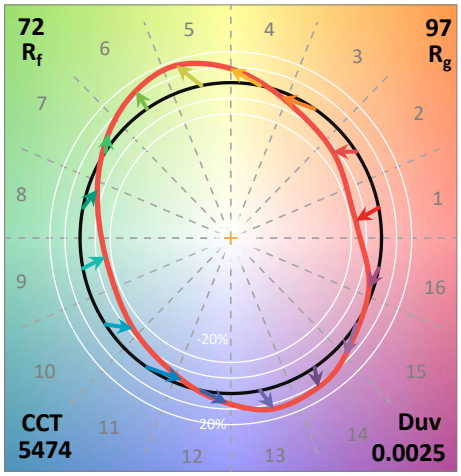
## Spectral Power Distribution Comparison

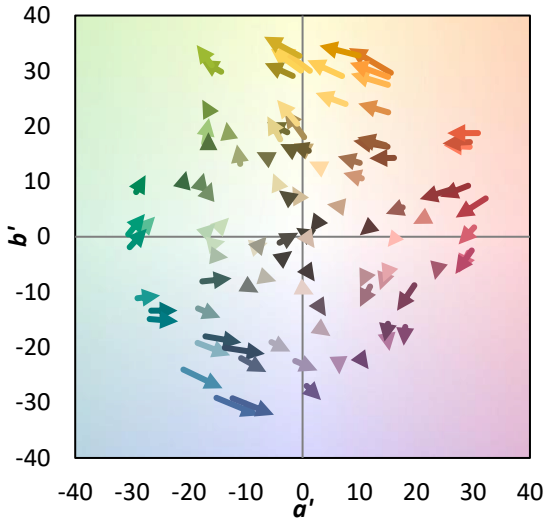



## Color Vector Graphics



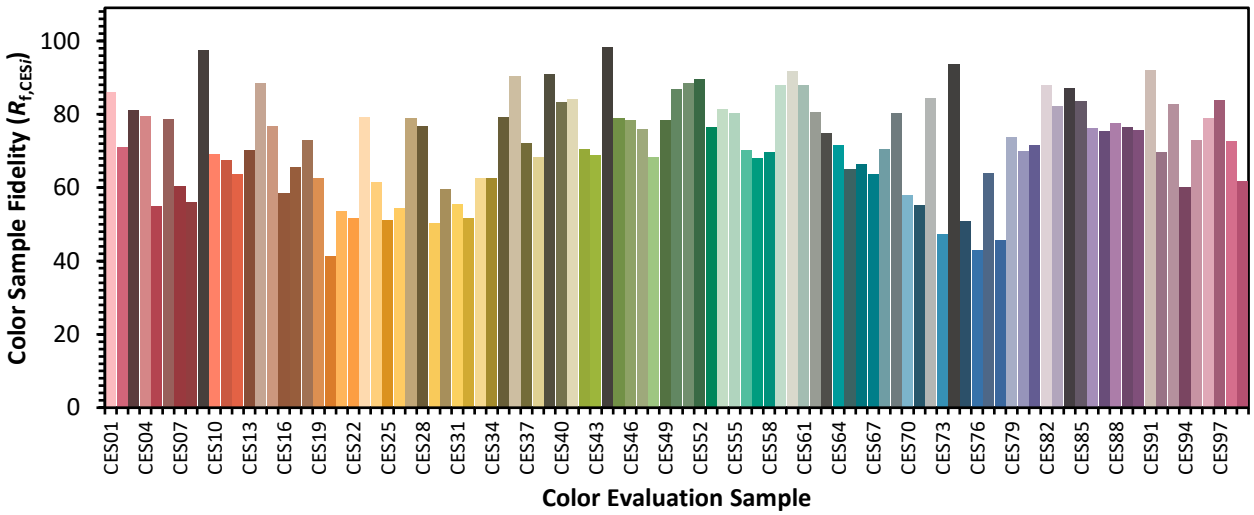
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Peachtree City, GA 30269

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

| | | | |
|---|---|---|---|
| CES01 = 85 | CES26 = 54 | CES51 = 88 | CES76 = 43 |
| CES02 = 59 | CES27 = 79 | CES52 = 90 | CES77 = 64 |
| CES03 = 30 | CES28 = 77 | CES53 = 77 | CES78 = 46 |
| CES04 = 69 | CES29 = 50 | CES54 = 81 | CES79 = 74 |
| CES05 = 46 | CES30 = 59 | CES55 = 80 | CES80 = 70 |
| CES06 = 50 | CES31 = 55 | CES56 = 70 | CES81 = 71 |
| CES07 = 38 | CES32 = 52 | CES57 = 68 | CES82 = 88 |
| CES08 = 38 | CES33 = 63 | CES58 = 70 | CES83 = 82 |
| CES09 = 29 | CES34 = 63 | CES59 = 88 | CES84 = 87 |
| CES10 = 72 | CES35 = 79 | CES60 = 92 | CES85 = 84 |
| CES11 = 55 | CES36 = 90 | CES61 = 88 | CES86 = 76 |
| CES12 = 61 | CES37 = 72 | CES62 = 81 | CES87 = 75 |
| CES13 = 41 | CES38 = 68 | CES63 = 75 | CES88 = 77 |
| CES14 = 74 | CES39 = 91 | CES64 = 72 | CES89 = 76 |
| CES15 = 70 | CES40 = 83 | CES65 = 65 | CES90 = 76 |
| CES16 = 46 | CES41 = 84 | CES66 = 66 | CES91 = 92 |
| CES17 = 48 | CES42 = 70 | CES67 = 64 | CES92 = 70 |
| CES18 = 55 | CES43 = 69 | CES68 = 71 | CES93 = 83 |
| CES19 = 70 | CES44 = 98 | CES69 = 80 | CES94 = 60 |
| CES20 = 64 | CES45 = 79 | CES70 = 58 | CES95 = 73 |
| CES21 = 85 | CES46 = 78 | CES71 = 55 | CES96 = 79 |
| CES22 = 77 | CES47 = 76 | CES72 = 84 | CES97 = 84 |
| CES23 = 91 | CES48 = 68 | CES73 = 47 | CES98 = 73 |
| CES24 = 90 | CES49 = 78 | CES74 = 94 | CES99 = 62 |
| CES25 = 71 | CES50 = 87 | CES75 = 51 | |

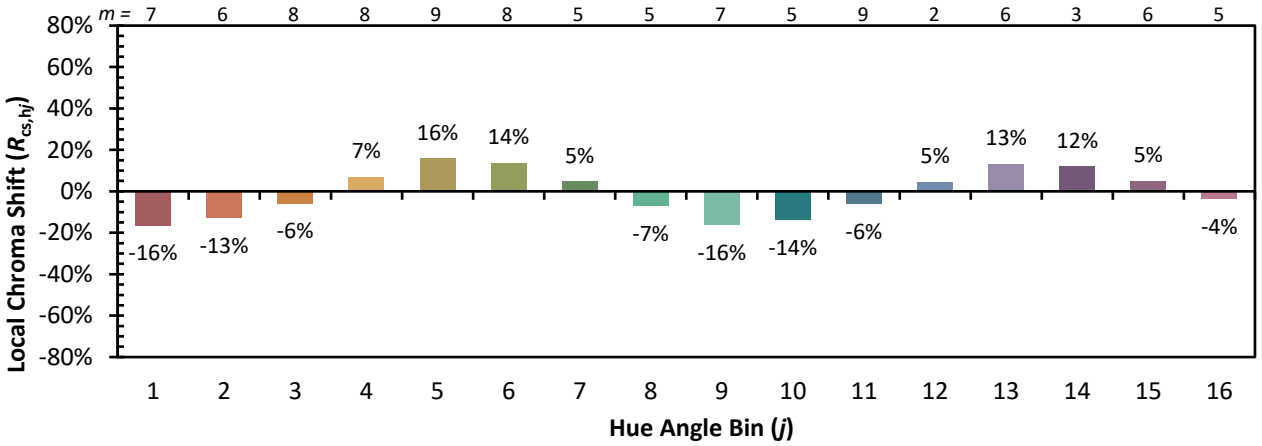


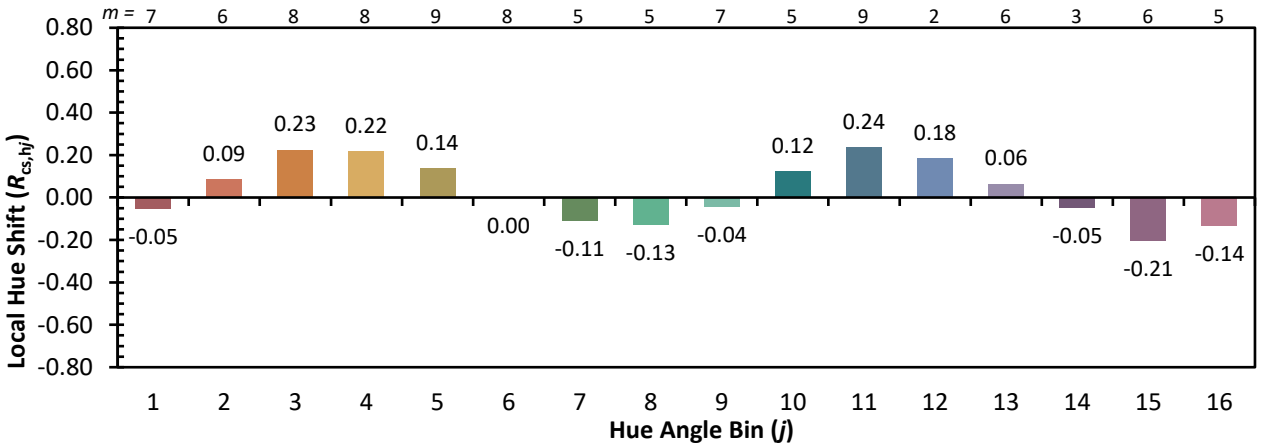
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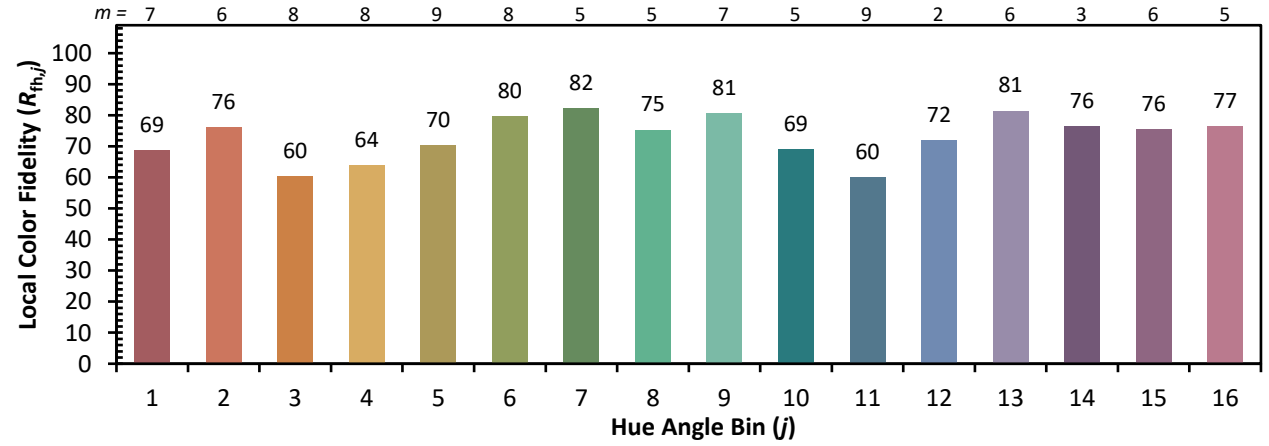
REPORT NUMBER: SP1-1908-441-9-R4

**TM-30-18**

## Color Rendition by Hue-Angle Bin



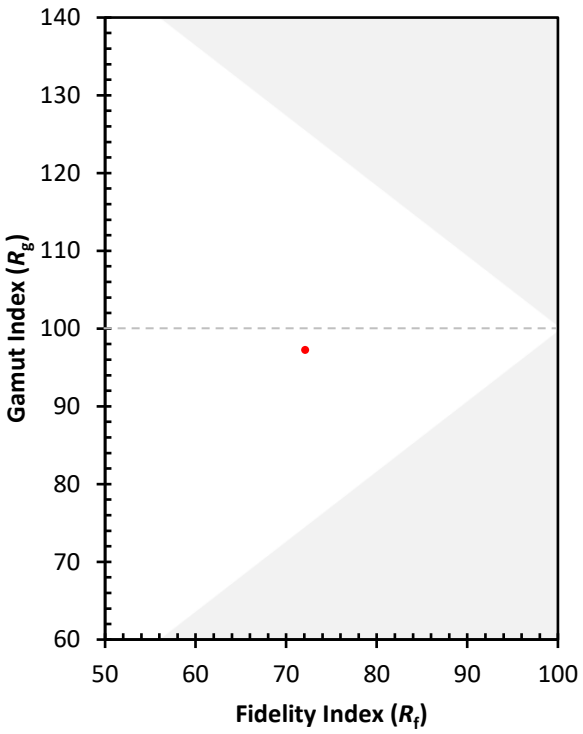



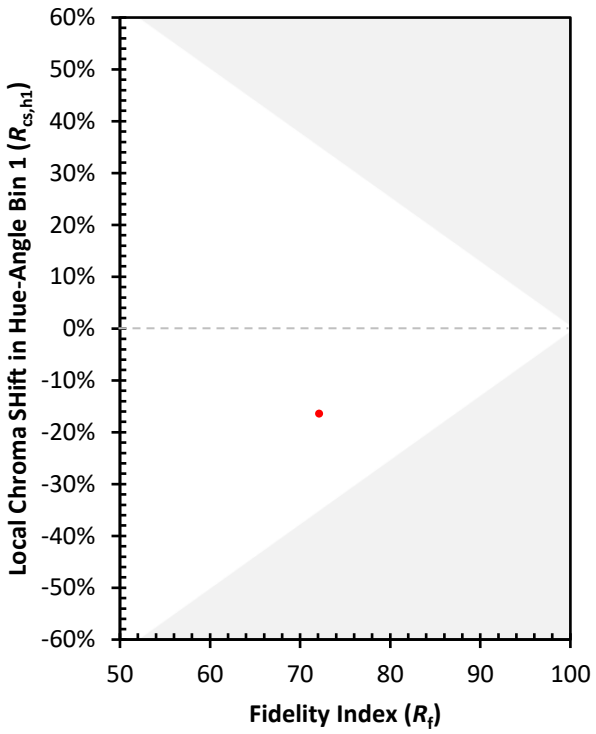
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### Measure Comparisons




(END OF REPORT)