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

Cooper Lighting Solutions Photometric Lab
1121 Highway 74 South
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: P1500909

Luminaire Tested: GSS-SB5A-935-U-T4LG

Issue Date: 07/20/2026

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: | P1500909 |
| Test Lab: | INNOVATION CENTER(G1) |
| Issue Date: | 7/20/2026 |
| Manufacturer: | COOPER LIGHTING SOLUTIONS |
| Product Line: | McGRAW-EDISON |
| Catalog Number: | GSS-SB5A-935-U-T4LG |
| Description: | GALLEON II SLIM SITE HIGH DENSITY LED ARRAYS 5SQUARE 143W 90CRI 3500K FIXTURE w/ TYPE IV LOW GLARE DISTRIBUTION FIXTURE |
| Light Source: | (130) 3500K CCT, 90 CRI LEDS |
| Ballast/Driver: | ELECTRONIC DRIVER |

**Summary**

| | |
|---|---|
| Lumens per Lamp: | N/A |
| Luminaire Lumens: | 15185.2 lumens |
| Efficiency: | N/A |
| Efficacy: | 106.2 lumens/watt |
| Luminous Opening: | Rectangular (W 1.5' x L: 1' x H: 0') |
| IES Classification: | Type III - Short |
| BUG Rating: | B3 - U0 - G2 |

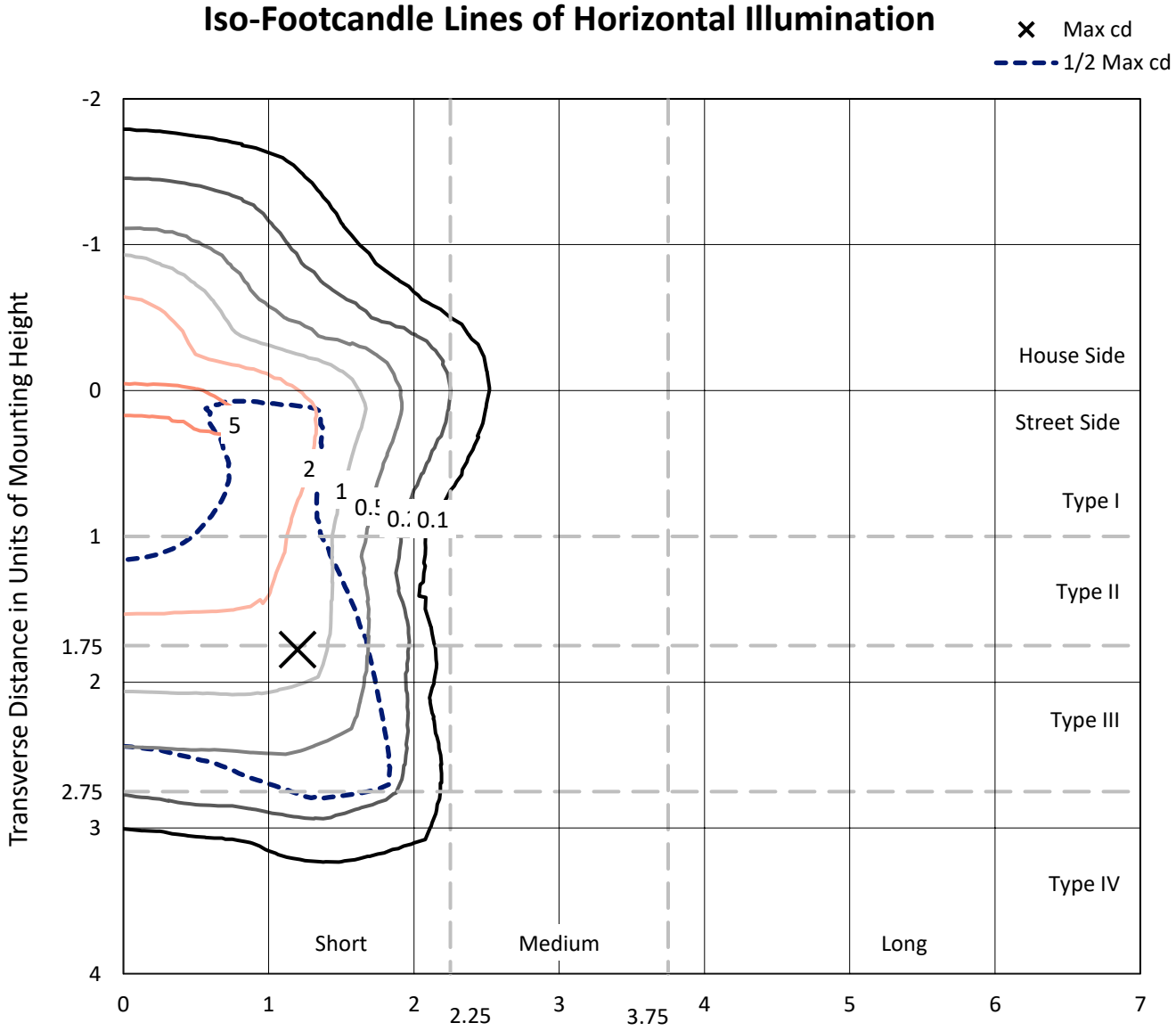
| | |
|---|---|
| Input Watts (W): | 143 |
| Input Voltage (V): | 120 |
| Input Current (Ain): | NR |
| Voltage Rise (V): | NR |
| Power Factor: | 0.98 |
| Total Harmonic Distortion (THDi): | 10.5% |
| Frequency (hertz): | 60 |
| Stabilization Time: | NR |
| Operation Time: | NR |
| Ambient Temperature (°C): | NR |
| Test Distance: | 28.75 FT |

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

Scaled Data Report

REPORT NUMBER: P1500909
CATALOG NUMBER: GSS-SB5A-935-U-T4LG

## Iso-Footcandle Lines of Horizontal Illumination



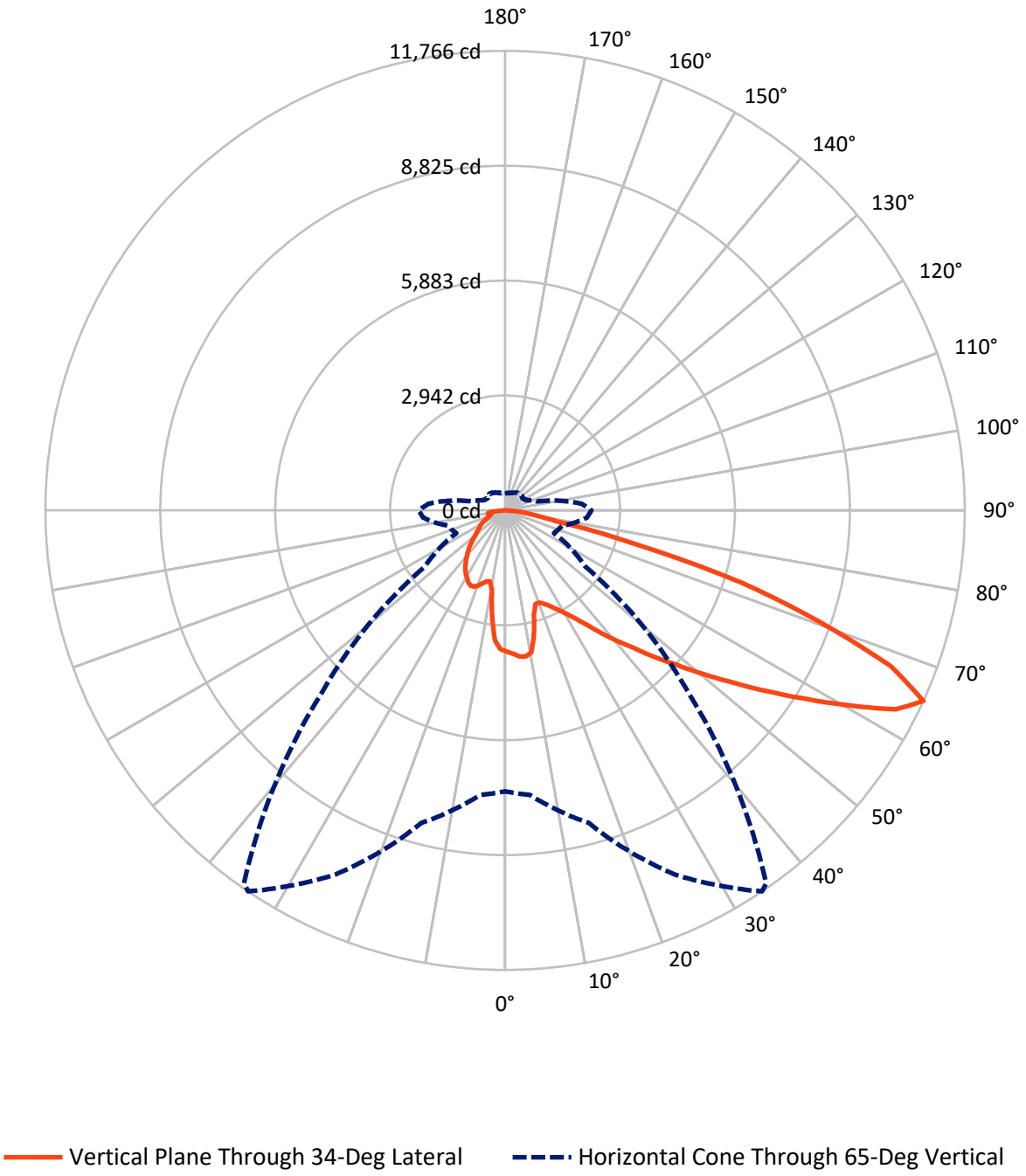

Based on 25 foot mounting height. Maximum calculated value = 6.1 fc
Type III - Short - N/A

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

Scaled Data Report

REPORT NUMBER: P1500909
CATALOG NUMBER: GSS-SB5A-935-U-T4LG

## Luminous Intensity Polar Plot



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

Scaled Data Report

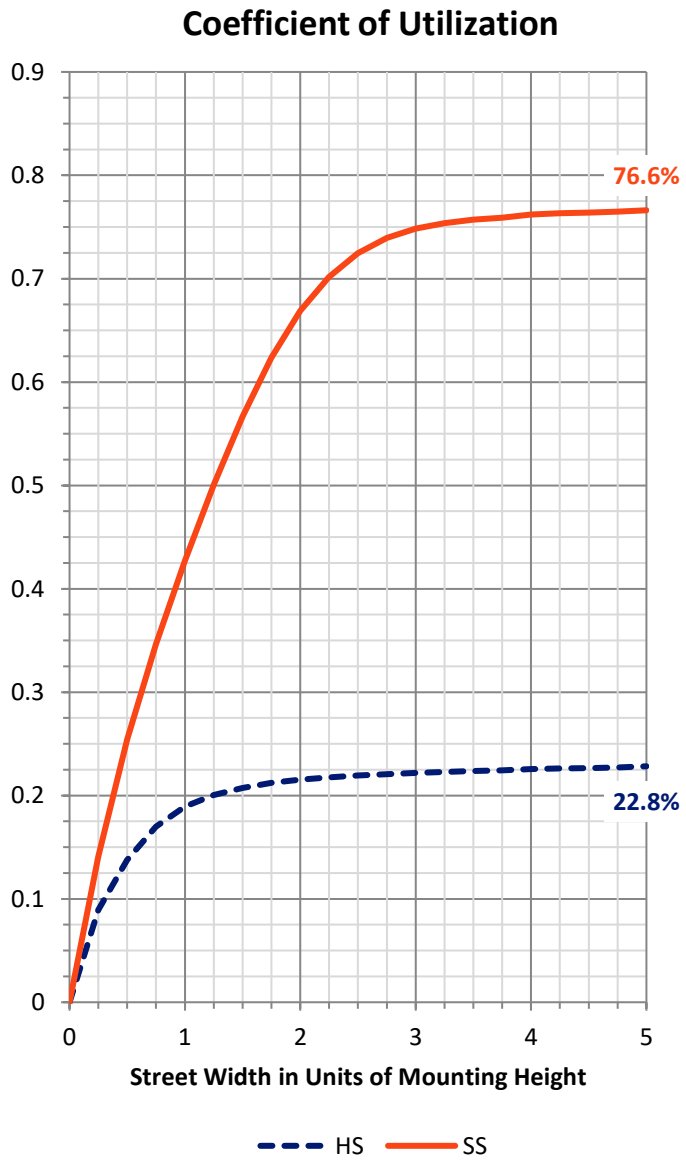
REPORT NUMBER: P1500909
CATALOG NUMBER: GSS-SB5A-935-U-T4LG

**FLUX DISTRIBUTION:**

| | | Downward | Upward | Total |
|---|---|---|---|---|
| **House Side** | Lumens | 3532.9 | 0.0 | 3532.9 |
| | % Fixture | 23.3 | 0.0 | 23.3 |
| **Street Side** | Lumens | 11652.3 | 0.0 | 11652.3 |
| | % Fixture | 76.7 | 0.0 | 76.7 |
| **Total** | Lumens | 15185.2 | 0.0 | 15185.2 |
| | % Fixture | 100.0 | 0.0 | 100.0 |

**ZONAL LUMENS:**

| Zone | Lumens | % Fixture |
|---|---|---|
| 0°-10° | 325.5 | 2.1 |
| 10°-20° | 819.2 | 5.4 |
| 20°-30° | 1357.9 | 8.9 |
| 30°-40° | 2042.2 | 13.4 |
| 40°-50° | 2861.0 | 18.8 |
| 50°-60° | 3607.3 | 23.8 |
| 60°-70° | 3102.6 | 20.4 |
| 70°-80° | 922.4 | 6.1 |
| 80°-90° | 147.2 | 1.0 |
| 90°-100° | 0.0 | 0.0 |
| 100°-110° | 0.0 | 0.0 |
| 110°-120° | 0.0 | 0.0 |
| 120°-130° | 0.0 | 0.0 |
| 130°-140° | 0.0 | 0.0 |
| 140°-150° | 0.0 | 0.0 |
| 150°-160° | 0.0 | 0.0 |
| 160°-170° | 0.0 | 0.0 |
| 170°-180° | 0.0 | 0.0 |
| 0°-90° | 15185.2 | 100.0 |
| 0°-180° | 15185.2 | 100.0 |



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

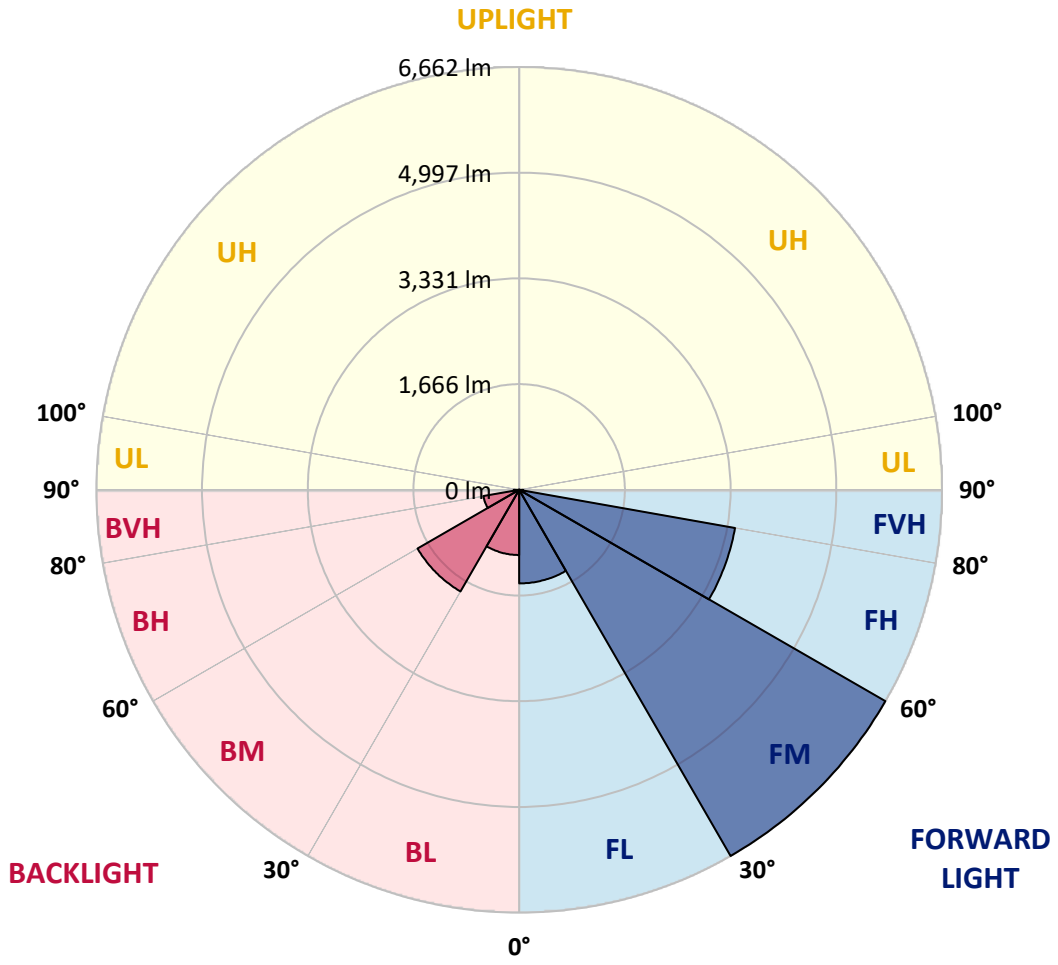
Scaled Data Report

REPORT NUMBER: P1500909
CATALOG NUMBER: GSS-SB5A-935-U-T4LG

## LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

| Zone | | Lumens | % Fixture | Zone Rating/Lumen Limit B | U | G |
|---|---|---|---|---|---|---|
| FL | (0°-30°) | 1474.6 | 9.7 | | | |
| FM | (30°-60°) | 6662.2 | 43.9 | | | |
| FH | (60°-80°) | 3453.2 | 22.7 | | | G2/5000 |
| FVH | (80°-90°) | 62.3 | 0.4 | | | G1/100 |
| BL | (0°-30°) | 1027.9 | 6.8 | B3/2500 | | |
| BM | (30°-60°) | 1848.3 | 12.2 | B2/2500 | | |
| BH | (60°-80°) | 571.8 | 3.8 | B2/1000 | | G2/1000 |
| BVH | (80°-90°) | 84.9 | 0.6 | | | 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 III Short



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

Scaled Data Report

REPORT NUMBER: P1500909
CATALOG NUMBER: GSS-SB5A-935-U-T4LG

**CANDELA DISTRIBUTION (FULL):**

| | 0° | 5° | 15° | 25° | 34° | 35° | 45° | 55° | 65° | 75° | 85° |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0° | 3610.3 | 3610.3 | 3610.3 | 3610.3 | *3610.3* | 3610.3 | 3610.3 | 3610.3 | 3610.3 | 3610.3 | 3610.3 |
| 2.5° | 3679.1 | 3699.7 | 3675.7 | 3665.4 | *3668.8* | 3672.2 | 3655.0 | 3658.5 | 3637.8 | 3637.8 | 3620.7 |
| 5° | 3758.2 | 3761.6 | 3747.9 | 3758.2 | *3754.8* | 3751.3 | 3751.3 | 3747.9 | 3703.2 | 3692.9 | 3675.7 |
| 7.5° | 3713.5 | 3727.2 | 3734.1 | 3771.9 | *3782.3* | 3802.9 | 3816.6 | 3823.5 | 3789.1 | 3761.6 | 3716.9 |
| 10° | 3304.3 | 3314.6 | 3393.7 | 3565.6 | *3696.3* | 3720.4 | 3847.6 | 3919.8 | 3895.7 | 3882.0 | 3806.3 |
| 12.5° | 2640.7 | 2657.9 | 2747.3 | 2970.8 | *3276.8* | 3342.1 | 3747.9 | 3992.0 | 4047.0 | 4050.5 | 3940.4 |
| 15° | 2355.3 | 2355.3 | 2382.8 | 2510.0 | *2757.6* | 2809.2 | 3407.5 | 4012.6 | 4208.6 | 4232.7 | 4098.6 |
| 17.5° | 2296.9 | 2293.4 | 2310.6 | 2386.3 | *2516.9* | 2547.9 | 3015.5 | 3906.0 | 4401.2 | 4442.4 | 4270.5 |
| 20° | 2293.4 | 2283.1 | 2317.5 | 2403.5 | *2516.9* | 2544.4 | 2833.3 | 3720.4 | 4552.5 | 4683.1 | 4442.4 |
| 22.5° | 2296.9 | 2296.9 | 2345.0 | 2468.8 | *2599.4* | 2623.5 | 2867.6 | 3565.6 | 4676.2 | 4934.1 | 4624.7 |
| 25° | 2334.7 | 2327.8 | 2396.6 | 2547.9 | *2726.7* | 2743.9 | 3008.6 | 3558.8 | 4782.8 | 5216.1 | 4844.7 |
| 27.5° | 2396.6 | 2400.0 | 2492.9 | 2675.1 | *2878.0* | 2912.3 | 3204.6 | 3706.6 | 4913.5 | 5525.5 | 5057.9 |
| 30° | 2527.2 | 2530.7 | 2640.7 | 2826.4 | *3060.2* | 3104.9 | 3431.5 | 3926.7 | 5099.2 | 5859.1 | 5288.3 |
| 32.5° | 2675.1 | 2692.3 | 2826.4 | 3043.0 | *3294.0* | 3318.1 | 3710.1 | 4256.8 | 5377.7 | 6192.6 | 5535.9 |
| 35° | 2922.7 | 2939.8 | 3091.1 | 3318.1 | *3596.6* | 3631.0 | 4050.5 | 4638.4 | 5718.1 | 6529.6 | 5728.4 |
| 37.5° | 3242.4 | 3256.2 | 3404.0 | 3679.1 | *3974.8* | 4009.2 | 4428.7 | 5044.2 | 6061.9 | 6797.8 | 5900.3 |
| 40° | 3624.1 | 3655.0 | 3813.2 | 4081.4 | *4380.5* | 4401.2 | 4841.3 | 5436.1 | 6433.3 | 6983.4 | 5969.1 |
| 42.5° | 4040.1 | 4071.1 | 4232.7 | 4528.4 | *4803.5* | 4865.4 | 5288.3 | 5852.2 | 6735.9 | 7066.0 | 5914.1 |
| 45° | 4573.1 | 4566.2 | 4717.5 | 5027.0 | *5350.2* | 5374.2 | 5766.2 | 6196.0 | 6918.1 | 6997.2 | 5859.1 |
| 47.5° | 5219.5 | 5226.4 | 5322.7 | 5573.7 | *5907.2* | 5962.2 | 6264.8 | 6491.7 | 7024.7 | 6942.2 | 5797.2 |
| 50° | 5948.5 | 5965.7 | 6048.2 | 6230.4 | *6588.0* | 6625.8 | 6715.2 | 6698.0 | 7090.0 | 6825.3 | 5821.2 |
| 52.5° | 6677.4 | 6687.7 | 6797.8 | 6990.3 | *7337.6* | 7365.1 | 7169.1 | 6856.2 | 6845.9 | 6354.2 | 5769.7 |
| 55° | 7275.7 | 7272.3 | 7468.2 | 7763.9 | *8186.9* | 8169.7 | 7616.1 | 6735.9 | 6082.6 | 5621.8 | 5539.3 |
| 57.5° | 7794.9 | 7815.5 | 8070.0 | 8582.3 | *9115.2* | 9101.5 | 8094.0 | 6099.8 | 4968.5 | 4755.3 | 5164.5 |
| 60° | 8262.5 | 8310.7 | 8788.6 | 9555.4 | *10143.3* | 10060.8 | 8180.0 | 5140.4 | 3864.8 | 3723.8 | 4421.8 |
| 62.5° | 8059.7 | 8149.1 | 8915.8 | 10411.5 | *11219.6* | 11037.3 | 7650.5 | 3981.7 | 2616.6 | 2489.4 | 3125.5 |
| 65° | *7193.2* | *7313.5* | *8286.6* | *10287.7* | *11766.3* | *11652.8* | *6687.7* | *2503.2* | *1378.8* | *1512.9* | *2104.3* |
| 67.5° | 6041.3 | 6185.7 | 7237.9 | 9242.5 | *10645.3* | 10401.2 | 5195.5 | 1316.9 | 643.0 | 997.1 | 1306.6 |
| 70° | 3311.2 | 3668.8 | 5233.3 | 7860.2 | *8527.3* | 8186.9 | 3005.2 | 622.4 | 467.6 | 622.4 | 780.5 |
| 72.5° | 1244.7 | 1330.7 | 2269.4 | 5284.8 | *6316.4* | 5896.9 | 1141.6 | 402.3 | 392.0 | 460.7 | 563.9 |
| 75° | 598.3 | 639.5 | 986.8 | 2403.5 | *3448.7* | 3214.9 | 560.5 | 299.1 | 337.0 | 361.0 | 409.2 |
| 77.5° | 357.6 | 385.1 | 615.5 | 1396.0 | *1358.2* | 1248.1 | 343.8 | 230.4 | 271.6 | 257.9 | 240.7 |
| 80° | 213.2 | 237.3 | 374.8 | 794.3 | *818.3* | 725.5 | 209.7 | 161.6 | 189.1 | 165.0 | 147.9 |
| 82.5° | 123.8 | 134.1 | 196.0 | 357.6 | *519.2* | 477.9 | 120.3 | 96.3 | 137.5 | 110.0 | 82.5 |
| 85° | 61.9 | 65.3 | 89.4 | 154.7 | *257.9* | 196.0 | 51.6 | 44.7 | 65.3 | 48.1 | 27.5 |
| 87.5° | 13.8 | 13.8 | 13.8 | 17.2 | *24.1* | 24.1 | 6.9 | 3.4 | 3.4 | 3.4 | 3.4 |
| 90° | 0.0 | 0.0 | 0.0 | 0.0 | *0.0* | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

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

Scaled Data Report

REPORT NUMBER: P1500909
CATALOG NUMBER: GSS-SB5A-935-U-T4LG

**CANDELA DISTRIBUTION (continued):**

| | 90° | 95° | 105° | 115° | 125° | 135° | 145° | 155° | 165° | 175° | 180° |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0° | 3610.3 | 3610.3 | 3610.3 | 3610.3 | 3610.3 | 3610.3 | 3610.3 | 3610.3 | 3610.3 | 3610.3 | 3610.3 |
| 2.5° | 3617.2 | 3624.1 | 3600.0 | 3572.5 | 3565.6 | 3545.0 | 3551.9 | 3538.1 | 3517.5 | 3520.9 | 3524.4 |
| 5° | 3651.6 | 3637.8 | 3589.7 | 3527.8 | 3472.8 | 3410.9 | 3338.7 | 3256.2 | 3197.7 | 3173.7 | 3194.3 |
| 7.5° | 3682.5 | 3668.8 | 3586.3 | 3448.7 | 3263.1 | 3005.2 | 2737.0 | 2492.9 | 2324.4 | 2262.5 | 2276.2 |
| 10° | 3768.5 | 3713.5 | 3562.2 | 3263.1 | 2819.5 | 2331.2 | 2059.6 | 1908.3 | 1856.7 | 1829.2 | 1832.7 |
| 12.5° | 3882.0 | 3806.3 | 3517.5 | 2939.8 | 2269.4 | 1959.9 | 1863.6 | 1829.2 | 1812.0 | 1805.2 | 1812.0 |
| 15° | 4019.5 | 3902.6 | 3410.9 | 2534.1 | 2014.9 | 1894.6 | 1873.9 | 1877.4 | 1877.4 | 1880.8 | 1880.8 |
| 17.5° | 4139.9 | 3957.6 | 3218.4 | 2241.8 | 1963.3 | 1929.0 | 1949.6 | 1966.8 | 1966.8 | 1970.2 | 1966.8 |
| 20° | 4249.9 | 3985.1 | 2970.8 | 2118.1 | 1973.7 | 1990.8 | 2039.0 | 2056.2 | 2059.6 | 2056.2 | 2056.2 |
| 22.5° | 4366.8 | 4002.3 | 2723.2 | 2049.3 | 1997.7 | 2049.3 | 2100.9 | 2124.9 | 2131.8 | 2135.3 | 2138.7 |
| 25° | 4480.3 | 3967.9 | 2520.4 | 1994.3 | 1987.4 | 2059.6 | 2118.1 | 2149.0 | 2155.9 | 2155.9 | 2159.3 |
| 27.5° | 4593.7 | 3957.6 | 2382.8 | 1922.1 | 1939.3 | 1997.7 | 2066.5 | 2107.8 | 2135.3 | 2138.7 | 2142.1 |
| 30° | 4724.4 | 3926.7 | 2252.2 | 1825.8 | 1832.7 | 1904.9 | 1977.1 | 2049.3 | 2104.3 | 2128.4 | 2128.4 |
| 32.5° | 4813.8 | 3895.7 | 2135.3 | 1722.6 | 1722.6 | 1798.3 | 1887.7 | 1977.1 | 2056.2 | 2104.3 | 2114.6 |
| 35° | 4899.7 | 3868.2 | 2032.1 | 1619.5 | 1622.9 | 1695.1 | 1788.0 | 1884.3 | 1984.0 | 2042.4 | 2069.9 |
| 37.5° | 4944.4 | 3840.7 | 1959.9 | 1540.4 | 1526.7 | 1602.3 | 1664.2 | 1743.3 | 1849.9 | 1946.1 | 1970.2 |
| 40° | 4954.8 | 3840.7 | 1953.0 | 1485.4 | 1426.9 | 1512.9 | 1540.4 | 1595.4 | 1691.7 | 1794.9 | 1832.7 |
| 42.5° | 4886.0 | 3802.9 | 1987.4 | 1451.0 | 1323.8 | 1385.7 | 1416.6 | 1444.1 | 1506.0 | 1592.0 | 1622.9 |
| 45° | 4803.5 | 3751.3 | 2018.4 | 1402.9 | 1196.6 | 1244.7 | 1292.8 | 1296.3 | 1323.8 | 1344.4 | 1365.1 |
| 47.5° | 4734.7 | 3696.3 | 1963.3 | 1313.5 | 1065.9 | 1100.3 | 1151.9 | 1151.9 | 1138.1 | 1096.9 | 1083.1 |
| 50° | 4789.7 | 3713.5 | 1870.5 | 1186.3 | 945.6 | 969.6 | 1024.6 | 993.7 | 962.8 | 876.8 | 866.5 |
| 52.5° | 4837.9 | 3778.8 | 1760.5 | 1062.5 | 842.4 | 866.5 | 921.5 | 873.4 | 811.5 | 742.7 | 732.4 |
| 55° | 4758.8 | 3782.3 | 1557.6 | 924.9 | 770.2 | 790.8 | 842.4 | 784.0 | 725.5 | 684.2 | 677.4 |
| 57.5° | 4521.5 | 3679.1 | 1344.4 | 818.3 | 708.3 | 728.9 | 777.1 | 718.6 | 663.6 | 660.2 | 677.4 |
| 60° | 3998.9 | 3318.1 | 1148.4 | 749.6 | 649.9 | 673.9 | 722.1 | 660.2 | 588.0 | 557.0 | 567.3 |
| 62.5° | 3018.9 | 2551.3 | 983.4 | 670.5 | 594.8 | 625.8 | 660.2 | 560.5 | 498.6 | 484.8 | 471.1 |
| 65° | *2207.5* | *1959.9* | *883.7* | *608.6* | *543.3* | *581.1* | *553.6* | *498.6* | *457.3* | *443.6* | *436.7* |
| 67.5° | 1426.9 | 1330.7 | 759.9 | 550.1 | 495.1 | 526.1 | 488.3 | 460.7 | 416.0 | 409.2 | 419.5 |
| 70° | 873.4 | 904.3 | 636.1 | 484.8 | 447.0 | 440.1 | 447.0 | 419.5 | 371.3 | 381.7 | 395.4 |
| 72.5° | 618.9 | 667.1 | 546.7 | 422.9 | 381.7 | 367.9 | 398.9 | 381.7 | 347.3 | 357.6 | 371.3 |
| 75° | 443.6 | 495.1 | 450.4 | 347.3 | 323.2 | 316.3 | 371.3 | 381.7 | 357.6 | 364.5 | 374.8 |
| 77.5° | 261.3 | 316.3 | 319.8 | 268.2 | 244.1 | 282.0 | 395.4 | 440.1 | 422.9 | 402.3 | 392.0 |
| 80° | 168.5 | 189.1 | 226.9 | 171.9 | 171.9 | 244.1 | 433.2 | 536.4 | 460.7 | 409.2 | 402.3 |
| 82.5° | 86.0 | 99.7 | 147.9 | 110.0 | 103.2 | 182.2 | 426.4 | 512.3 | 508.9 | 453.9 | 443.6 |
| 85° | 24.1 | 30.9 | 68.8 | 48.1 | 41.3 | 96.3 | 319.8 | 385.1 | 343.8 | 251.0 | 254.4 |
| 87.5° | 3.4 | 3.4 | 0.0 | 0.0 | 3.4 | 13.8 | 37.8 | 6.9 | 6.9 | 6.9 | 6.9 |
| 90° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

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

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

Report Prepared for

Cooper Lighting Solutions

(formerly Eaton)

McGRAW-EDISON

Report Number: SP1-2106-271-3

Luminaire Tested: GFLD-SA1-A-935-U-WR-X-BK

Test Date: 06/15/2021

Report Generated By FNC07603 / LDUCLS01DT446
Version: v6.09

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

## Test Information

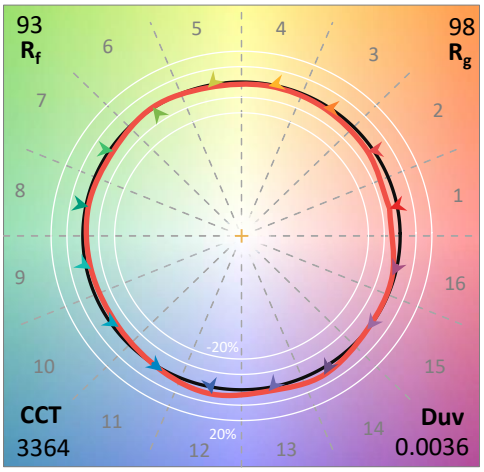
| | |
|---|---|
| Test Method: | LM-79-08 |
| Report Number: | SP1-2106-271-3 |
| Test Lab: | COOPER LIGHTING SOLUTIONS |
| Photometer: | SP1 |
| Measurement Geometry: | 4π |
| Issue Date: | 06/15/2021 |
| Manufacturer: | COOPER LIGHTING SOLUTIONS (FORMERLY EATON) |
| Product Line: | McGRAW-EDISON |
| Catalog Number: | **GFLD-SA1-A-935-U-WR-X-BK** |
| Description: | MCGRAW EDISON |

N6, BLACK

## Spectral Parameters

| | | | | | |
|---|---|---|---|---|---|
| CCT (K): | 3364 | CRI (Ra): | 92.0 | | |
| CIE u': | 0.2376 | R1: | 91.7 | R9: | 59.7 |
| CIE v': | 0.5188 | R2: | 94.0 | R10: | 85.2 |
| Duv: | 0.0036 | R3: | 95.5 | R11: | 92.8 |
| CIE x: | 0.4173 | R4: | 93.0 | R12: | 78.2 |
| CIE y: | 0.4050 | R5: | 90.9 | R13: | 92.0 |
| CIE z: | 0.1777 | R6: | 92.2 | R14: | 96.9 |
| Peak Wavelength (nm): | 622 | R7: | 94.8 | | |
| Dominant Wavelength (nm): | 580 | R8: | 84.1 | | |
| Purity: | 46.9 | | | | |

| | |
|---|---|
| Rf: | 92.6 |
| Rg: | 98.3 |




## Test Conditions

| | |
|---|---|
| Stabilization Time: | 76M |
| Operation Time: | 12H |
| Room Temperature (°C) / RH%: | 24.8/44% |
| Sphere Temperature (°C): | 24.9 |

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

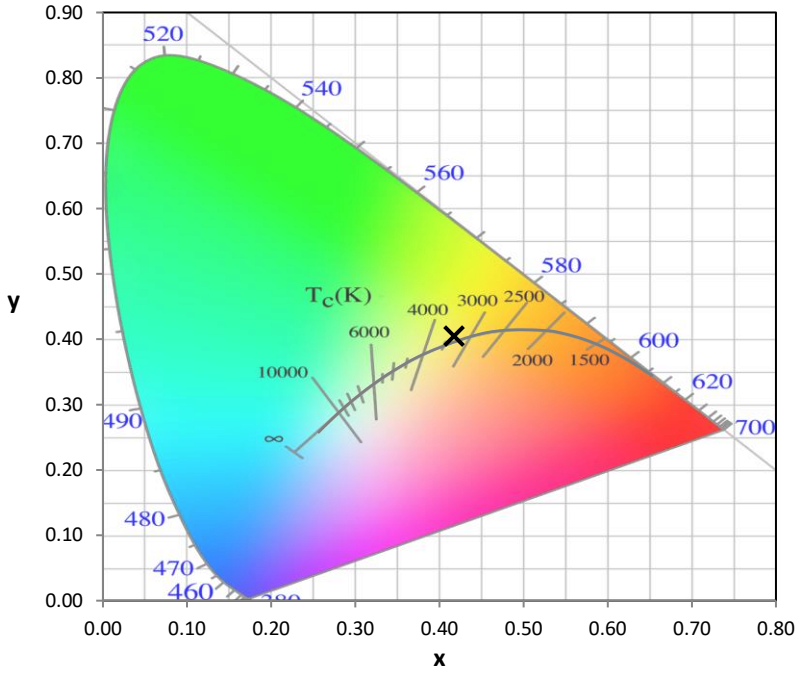
REPORT NUMBER: SP1-2106-271-3

| Measurement and Test Equipment | | | |
|---|---|---|---|
| Instrument | Identification Number | Calibration Date | Calibration Due Date |
| Photometer | 76INCH SPHERE IN0058 | 1/31/2021 | 7/31/2021 |
| Power Meter | XITRON 2801 IN0071 | 12/1/2020 | 12/1/2021 |
| AC Power Source | CHROMA 61603 IN0063 | 12/1/2020 | 12/1/2021 |
| DC Power Source | AGILENT E3634A IN0208 | 12/1/2020 | 12/1/2021 |
| Sphere Thermometer | ONSET IN0085 | 12/1/2020 | 12/1/2021 |
| Room Thermometer | ONSET IN0046 | 12/1/2020 | 12/1/2021 |

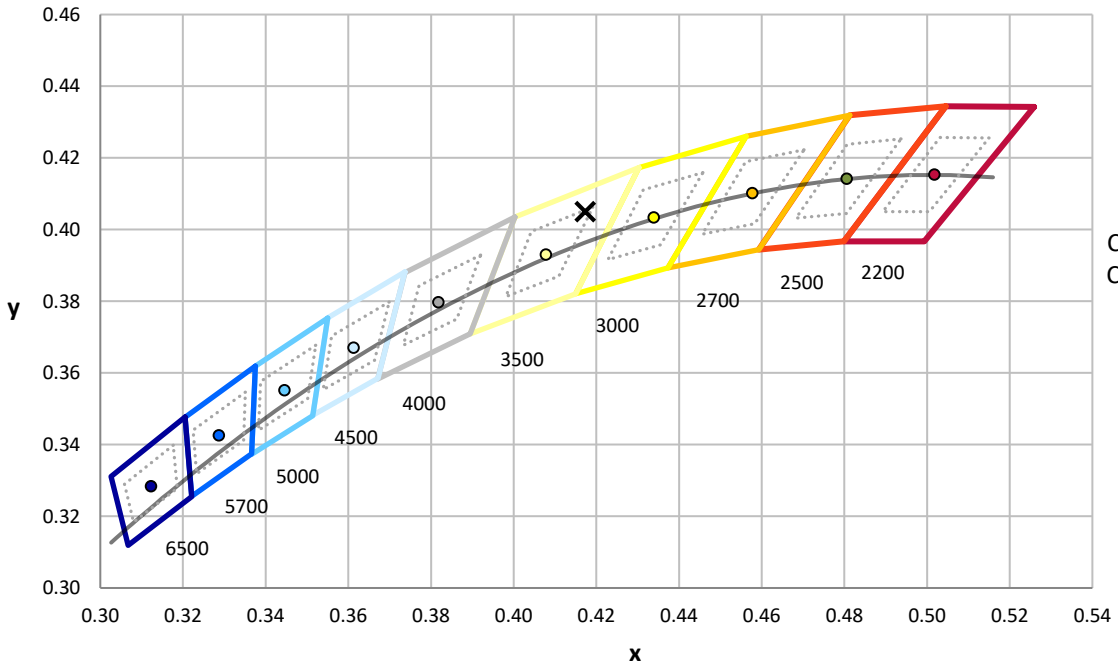
Cooper Lighting Solutions Photometric Lab
1121 Highway 74 South
Peachtree City, GA 30269

REPORT NUMBER: SP1-2106-271-3

## CIE 1931 Chromaticity Diagram




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



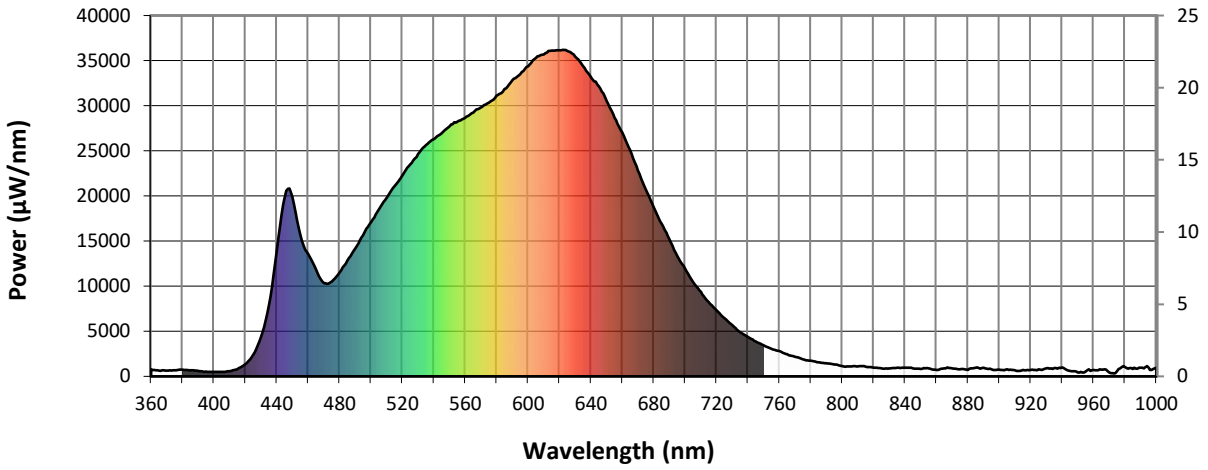

CCT = 3364K
CIE x = 0.4173
CIE y = 0.4050
Duv = 0.0036

Point lies inside the ANSI 3500K 4-step quadrangle

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

REPORT NUMBER: SP1-2106-271-3

## Photopic Flux vs. Wavelength



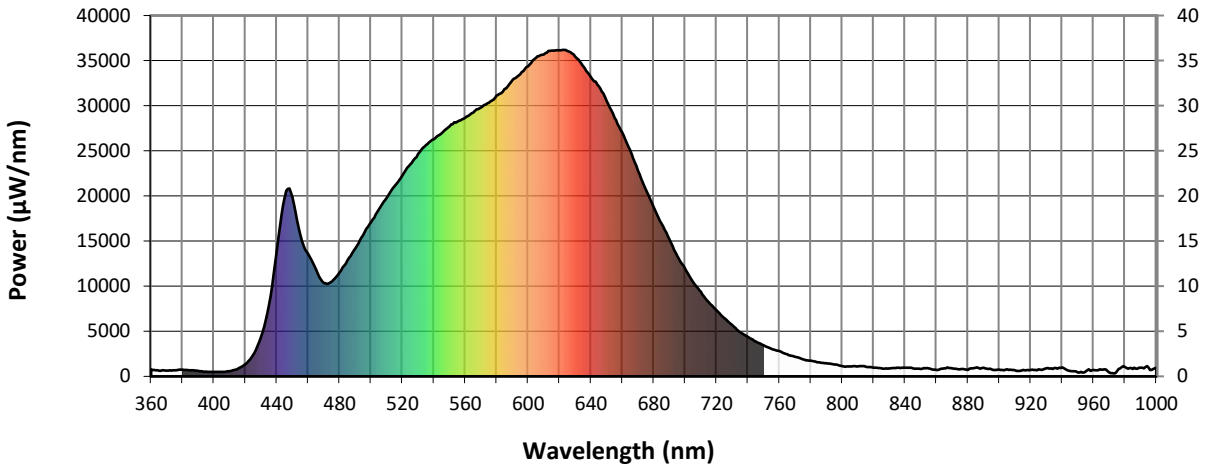

######

| 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 | 792 | NR | 490 | 14205 | NR | 620 | 36151 | NR | 750 | 3427 | NR | 880 | 712 | NR |
| 365 | 640 | NR | 495 | 15647 | NR | 625 | 36077 | NR | 755 | 3047 | NR | 885 | 942 | NR |
| 370 | 630 | NR | 500 | 17088 | NR | 630 | 35451 | NR | 760 | 2790 | NR | 890 | 952 | NR |
| 375 | 684 | NR | 505 | 18475 | NR | 635 | 34417 | NR | 765 | 2433 | NR | 895 | 764 | NR |
| 380 | 731 | NR | 510 | 19780 | NR | 640 | 33166 | NR | 770 | 2178 | NR | 900 | 743 | NR |
| 385 | 664 | NR | 515 | 21055 | NR | 645 | 32124 | NR | 775 | 1893 | NR | 905 | 776 | NR |
| 390 | 595 | NR | 520 | 22268 | NR | 650 | 30559 | NR | 780 | 1724 | NR | 910 | 659 | NR |
| 395 | 520 | NR | 525 | 23497 | NR | 655 | 28656 | NR | 785 | 1549 | NR | 915 | 701 | NR |
| 400 | 491 | NR | 530 | 24653 | NR | 660 | 27033 | NR | 790 | 1451 | NR | 920 | 728 | NR |
| 405 | 489 | NR | 535 | 25661 | NR | 665 | 25030 | NR | 795 | 1317 | NR | 925 | 793 | NR |
| 410 | 585 | NR | 540 | 26289 | NR | 670 | 22820 | NR | 800 | 1124 | NR | 930 | 877 | NR |
| 415 | 826 | NR | 545 | 26945 | NR | 675 | 20678 | NR | 805 | 1116 | NR | 935 | 923 | NR |
| 420 | 1336 | NR | 550 | 27713 | NR | 680 | 18748 | NR | 810 | 1105 | NR | 940 | 1001 | NR |
| 425 | 2406 | NR | 555 | 28230 | NR | 685 | 16904 | NR | 815 | 1073 | NR | 945 | 604 | NR |
| 430 | 4355 | NR | 560 | 28678 | NR | 690 | 15203 | NR | 820 | 977 | NR | 950 | 424 | NR |
| 435 | 7911 | NR | 565 | 29242 | NR | 695 | 13356 | NR | 825 | 882 | NR | 955 | 550 | NR |
| 440 | 13821 | NR | 570 | 29806 | NR | 700 | 11948 | NR | 830 | 875 | NR | 960 | 709 | NR |
| 445 | 19836 | NR | 575 | 30322 | NR | 705 | 10482 | NR | 835 | 944 | NR | 965 | 755 | NR |
| 450 | 19902 | NR | 580 | 31125 | NR | 710 | 9351 | NR | 840 | 956 | NR | 970 | 426 | NR |
| 455 | 15697 | NR | 585 | 31838 | NR | 715 | 8217 | NR | 845 | 875 | NR | 975 | 556 | NR |
| 460 | 13589 | NR | 590 | 32845 | NR | 720 | 7313 | NR | 850 | 801 | NR | 980 | 1040 | NR |
| 465 | 11857 | NR | 595 | 33487 | NR | 725 | 6460 | NR | 855 | 890 | NR | 985 | 833 | NR |
| 470 | 10336 | NR | 600 | 34359 | NR | 730 | 5680 | NR | 860 | 706 | NR | 990 | 964 | NR |
| 475 | 10504 | NR | 605 | 35281 | NR | 735 | 4904 | NR | 865 | 902 | NR | 995 | 953 | NR |
| 480 | 11526 | NR | 610 | 35679 | NR | 740 | 4372 | NR | 870 | 879 | NR | 1000 | 950 | NR |
| 485 | 12831 | NR | 615 | 36113 | NR | 745 | 3858 | NR | 875 | 769 | NR | | | |

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

REPORT NUMBER: SP1-2106-271-3

## Scotopic Flux vs. Wavelength



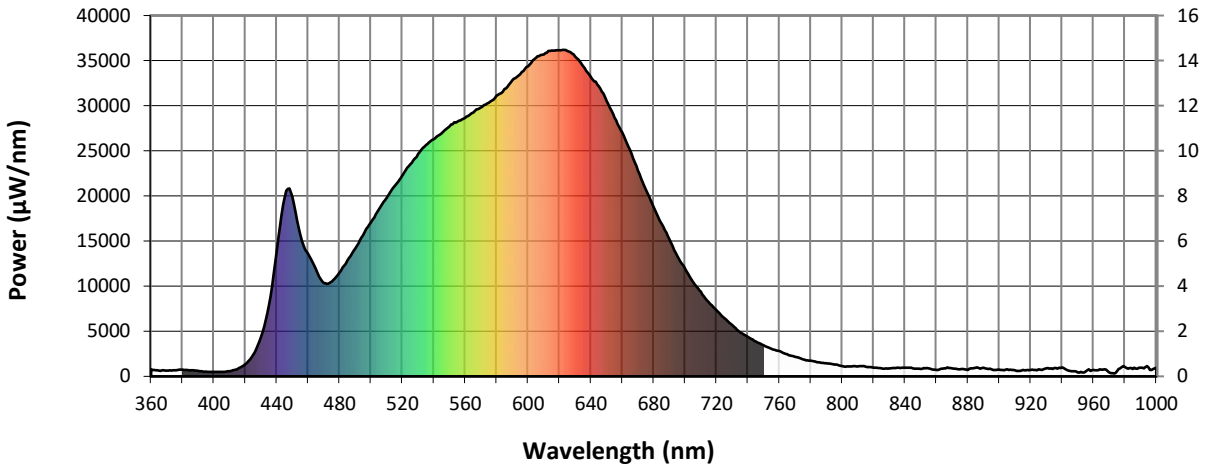

**Scotopic Lumens: 3109.5** **S/P: 1.54**

| 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 | 792 | NR | 490 | 14205 | NR | 620 | 36151 | NR | 750 | 3427 | NR | 880 | 712 | NR |
| 365 | 640 | NR | 495 | 15647 | NR | 625 | 36077 | NR | 755 | 3047 | NR | 885 | 942 | NR |
| 370 | 630 | NR | 500 | 17088 | NR | 630 | 35451 | NR | 760 | 2790 | NR | 890 | 952 | NR |
| 375 | 684 | NR | 505 | 18475 | NR | 635 | 34417 | NR | 765 | 2433 | NR | 895 | 764 | NR |
| 380 | 731 | NR | 510 | 19780 | NR | 640 | 33166 | NR | 770 | 2178 | NR | 900 | 743 | NR |
| 385 | 664 | NR | 515 | 21055 | NR | 645 | 32124 | NR | 775 | 1893 | NR | 905 | 776 | NR |
| 390 | 595 | NR | 520 | 22268 | NR | 650 | 30559 | NR | 780 | 1724 | NR | 910 | 659 | NR |
| 395 | 520 | NR | 525 | 23497 | NR | 655 | 28656 | NR | 785 | 1549 | NR | 915 | 701 | NR |
| 400 | 491 | NR | 530 | 24653 | NR | 660 | 27033 | NR | 790 | 1451 | NR | 920 | 728 | NR |
| 405 | 489 | NR | 535 | 25661 | NR | 665 | 25030 | NR | 795 | 1317 | NR | 925 | 793 | NR |
| 410 | 585 | NR | 540 | 26289 | NR | 670 | 22820 | NR | 800 | 1124 | NR | 930 | 877 | NR |
| 415 | 826 | NR | 545 | 26945 | NR | 675 | 20678 | NR | 805 | 1116 | NR | 935 | 923 | NR |
| 420 | 1336 | NR | 550 | 27713 | NR | 680 | 18748 | NR | 810 | 1105 | NR | 940 | 1001 | NR |
| 425 | 2406 | NR | 555 | 28230 | NR | 685 | 16904 | NR | 815 | 1073 | NR | 945 | 604 | NR |
| 430 | 4355 | NR | 560 | 28678 | NR | 690 | 15203 | NR | 820 | 977 | NR | 950 | 424 | NR |
| 435 | 7911 | NR | 565 | 29242 | NR | 695 | 13356 | NR | 825 | 882 | NR | 955 | 550 | NR |
| 440 | 13821 | NR | 570 | 29806 | NR | 700 | 11948 | NR | 830 | 875 | NR | 960 | 709 | NR |
| 445 | 19836 | NR | 575 | 30322 | NR | 705 | 10482 | NR | 835 | 944 | NR | 965 | 755 | NR |
| 450 | 19902 | NR | 580 | 31125 | NR | 710 | 9351 | NR | 840 | 956 | NR | 970 | 426 | NR |
| 455 | 15697 | NR | 585 | 31838 | NR | 715 | 8217 | NR | 845 | 875 | NR | 975 | 556 | NR |
| 460 | 13589 | NR | 590 | 32845 | NR | 720 | 7313 | NR | 850 | 801 | NR | 980 | 1040 | NR |
| 465 | 11857 | NR | 595 | 33487 | NR | 725 | 6460 | NR | 855 | 890 | NR | 985 | 833 | NR |
| 470 | 10336 | NR | 600 | 34359 | NR | 730 | 5680 | NR | 860 | 706 | NR | 990 | 964 | NR |
| 475 | 10504 | NR | 605 | 35281 | NR | 735 | 4904 | NR | 865 | 902 | NR | 995 | 953 | NR |
| 480 | 11526 | NR | 610 | 35679 | NR | 740 | 4372 | NR | 870 | 879 | NR | 1000 | 950 | NR |
| 485 | 12831 | NR | 615 | 36113 | NR | 745 | 3858 | NR | 875 | 769 | NR | | | |

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

REPORT NUMBER: SP1-2106-271-3

## Melanopic Flux vs. Wavelength




**Melanopic Lumens: 1210.8** **S/P: 0.6**

| 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 | 792 | NR | 490 | 14205 | NR | 620 | 36151 | NR | 750 | 3427 | NR | 880 | 712 | NR |
| 365 | 640 | NR | 495 | 15647 | NR | 625 | 36077 | NR | 755 | 3047 | NR | 885 | 942 | NR |
| 370 | 630 | NR | 500 | 17088 | NR | 630 | 35451 | NR | 760 | 2790 | NR | 890 | 952 | NR |
| 375 | 684 | NR | 505 | 18475 | NR | 635 | 34417 | NR | 765 | 2433 | NR | 895 | 764 | NR |
| 380 | 731 | NR | 510 | 19780 | NR | 640 | 33166 | NR | 770 | 2178 | NR | 900 | 743 | NR |
| 385 | 664 | NR | 515 | 21055 | NR | 645 | 32124 | NR | 775 | 1893 | NR | 905 | 776 | NR |
| 390 | 595 | NR | 520 | 22268 | NR | 650 | 30559 | NR | 780 | 1724 | NR | 910 | 659 | NR |
| 395 | 520 | NR | 525 | 23497 | NR | 655 | 28656 | NR | 785 | 1549 | NR | 915 | 701 | NR |
| 400 | 491 | NR | 530 | 24653 | NR | 660 | 27033 | NR | 790 | 1451 | NR | 920 | 728 | NR |
| 405 | 489 | NR | 535 | 25661 | NR | 665 | 25030 | NR | 795 | 1317 | NR | 925 | 793 | NR |
| 410 | 585 | NR | 540 | 26289 | NR | 670 | 22820 | NR | 800 | 1124 | NR | 930 | 877 | NR |
| 415 | 826 | NR | 545 | 26945 | NR | 675 | 20678 | NR | 805 | 1116 | NR | 935 | 923 | NR |
| 420 | 1336 | NR | 550 | 27713 | NR | 680 | 18748 | NR | 810 | 1105 | NR | 940 | 1001 | NR |
| 425 | 2406 | NR | 555 | 28230 | NR | 685 | 16904 | NR | 815 | 1073 | NR | 945 | 604 | NR |
| 430 | 4355 | NR | 560 | 28678 | NR | 690 | 15203 | NR | 820 | 977 | NR | 950 | 424 | NR |
| 435 | 7911 | NR | 565 | 29242 | NR | 695 | 13356 | NR | 825 | 882 | NR | 955 | 550 | NR |
| 440 | 13821 | NR | 570 | 29806 | NR | 700 | 11948 | NR | 830 | 875 | NR | 960 | 709 | NR |
| 445 | 19836 | NR | 575 | 30322 | NR | 705 | 10482 | NR | 835 | 944 | NR | 965 | 755 | NR |
| 450 | 19902 | NR | 580 | 31125 | NR | 710 | 9351 | NR | 840 | 956 | NR | 970 | 426 | NR |
| 455 | 15697 | NR | 585 | 31838 | NR | 715 | 8217 | NR | 845 | 875 | NR | 975 | 556 | NR |
| 460 | 13589 | NR | 590 | 32845 | NR | 720 | 7313 | NR | 850 | 801 | NR | 980 | 1040 | NR |
| 465 | 11857 | NR | 595 | 33487 | NR | 725 | 6460 | NR | 855 | 890 | NR | 985 | 833 | NR |
| 470 | 10336 | NR | 600 | 34359 | NR | 730 | 5680 | NR | 860 | 706 | NR | 990 | 964 | NR |
| 475 | 10504 | NR | 605 | 35281 | NR | 735 | 4904 | NR | 865 | 902 | NR | 995 | 953 | NR |
| 480 | 11526 | NR | 610 | 35679 | NR | 740 | 4372 | NR | 870 | 879 | NR | 1000 | 950 | NR |
| 485 | 12831 | NR | 615 | 36113 | NR | 745 | 3858 | NR | 875 | 769 | NR | | | |

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

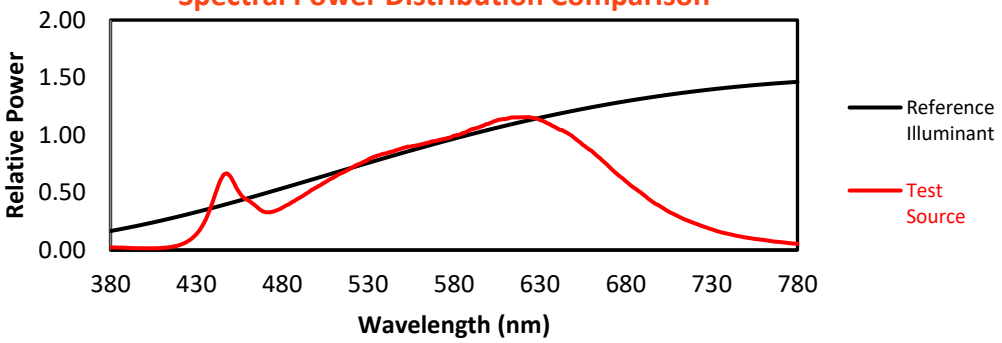
REPORT NUMBER: SP1-2106-271-3

# TM-30-18

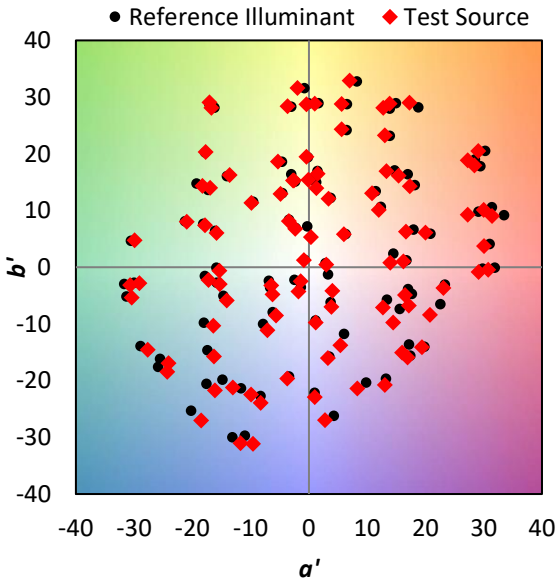
## Summary

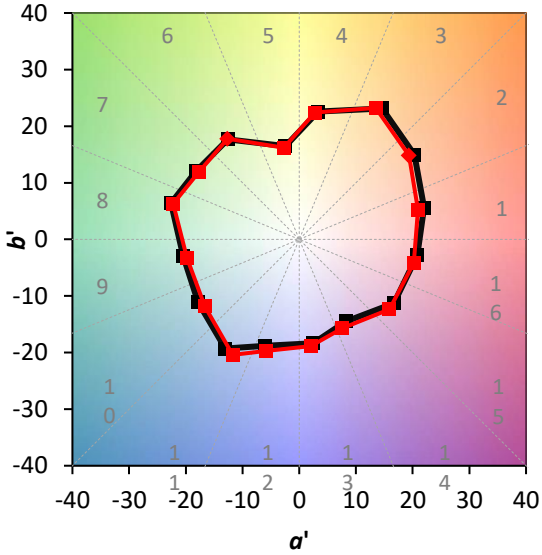
$R_f$ = 92.6
$R_g$ = 98.3
CIE $R_a$ = 92.0
$R_9$ = 59.7

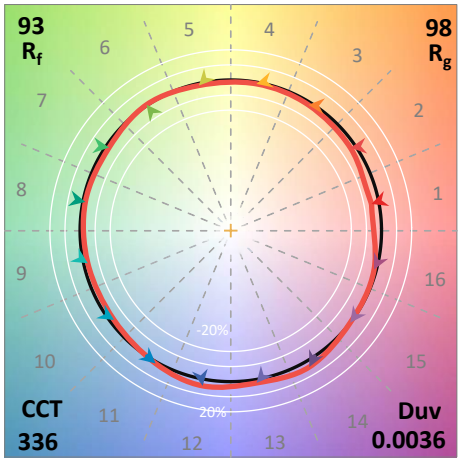
## Spectral Power Distribution Comparison

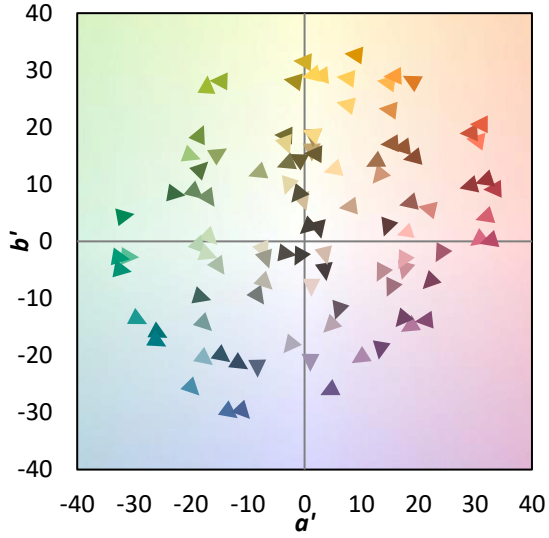



## Color Vector Graphics



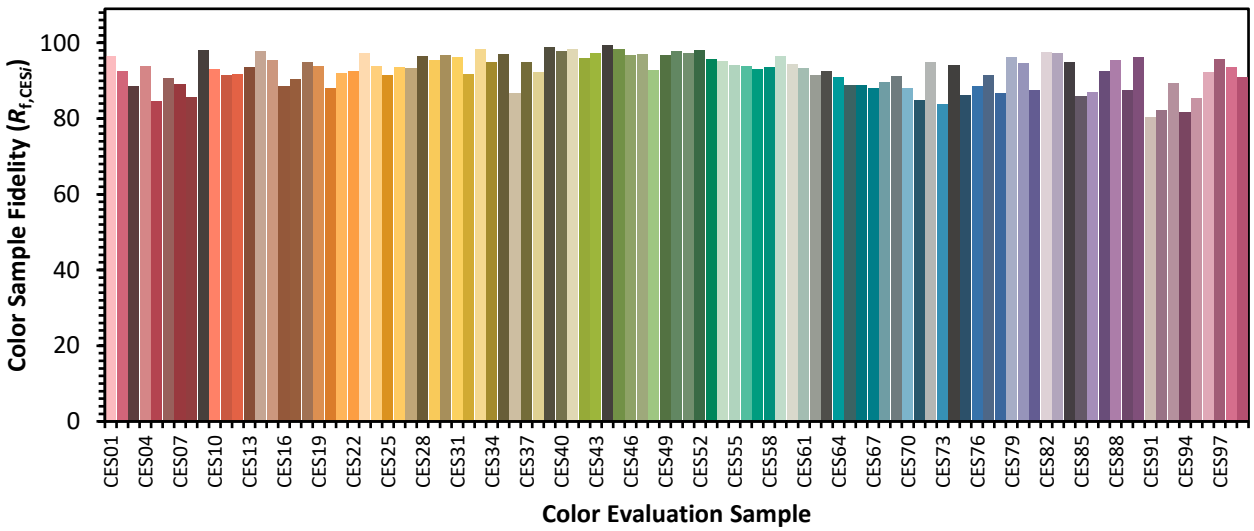
Cooper Lighting Solutions Photometric Lab
1121 Highway 74 South
Peachtree City, GA 30269

REPORT NUMBER: SP1-2106-271-3

## TM-30-18

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

| | | | |
|---|---|---|---|
| CES01 = 86 | CES26 = 94 | CES51 = 97 | CES76 = 88 |
| CES02 = 62 | CES27 = 93 | CES52 = 98 | CES77 = 91 |
| CES03 = 31 | CES28 = 96 | CES53 = 96 | CES78 = 87 |
| CES04 = 70 | CES29 = 96 | CES54 = 95 | CES79 = 96 |
| CES05 = 50 | CES30 = 97 | CES55 = 94 | CES80 = 95 |
| CES06 = 51 | CES31 = 96 | CES56 = 94 | CES81 = 88 |
| CES07 = 42 | CES32 = 92 | CES57 = 93 | CES82 = 98 |
| CES08 = 41 | CES33 = 98 | CES58 = 94 | CES83 = 97 |
| CES09 = 29 | CES34 = 95 | CES59 = 96 | CES84 = 95 |
| CES10 = 75 | CES35 = 97 | CES60 = 94 | CES85 = 86 |
| CES11 = 58 | CES36 = 87 | CES61 = 93 | CES86 = 87 |
| CES12 = 64 | CES37 = 95 | CES62 = 91 | CES87 = 92 |
| CES13 = 43 | CES38 = 92 | CES63 = 93 | CES88 = 96 |
| CES14 = 74 | CES39 = 99 | CES64 = 91 | CES89 = 87 |
| CES15 = 71 | CES40 = 98 | CES65 = 89 | CES90 = 96 |
| CES16 = 48 | CES41 = 98 | CES66 = 89 | CES91 = 80 |
| CES17 = 49 | CES42 = 96 | CES67 = 88 | CES92 = 82 |
| CES18 = 56 | CES43 = 97 | CES68 = 90 | CES93 = 89 |
| CES19 = 71 | CES44 = 99 | CES69 = 91 | CES94 = 82 |
| CES20 = 66 | CES45 = 98 | CES70 = 88 | CES95 = 85 |
| CES21 = 86 | CES46 = 97 | CES71 = 85 | CES96 = 92 |
| CES22 = 78 | CES47 = 97 | CES72 = 95 | CES97 = 96 |
| CES23 = 91 | CES48 = 93 | CES73 = 84 | CES98 = 94 |
| CES24 = 90 | CES49 = 97 | CES74 = 94 | CES99 = 91 |
| CES25 = 71 | CES50 = 98 | CES75 = 86 | |

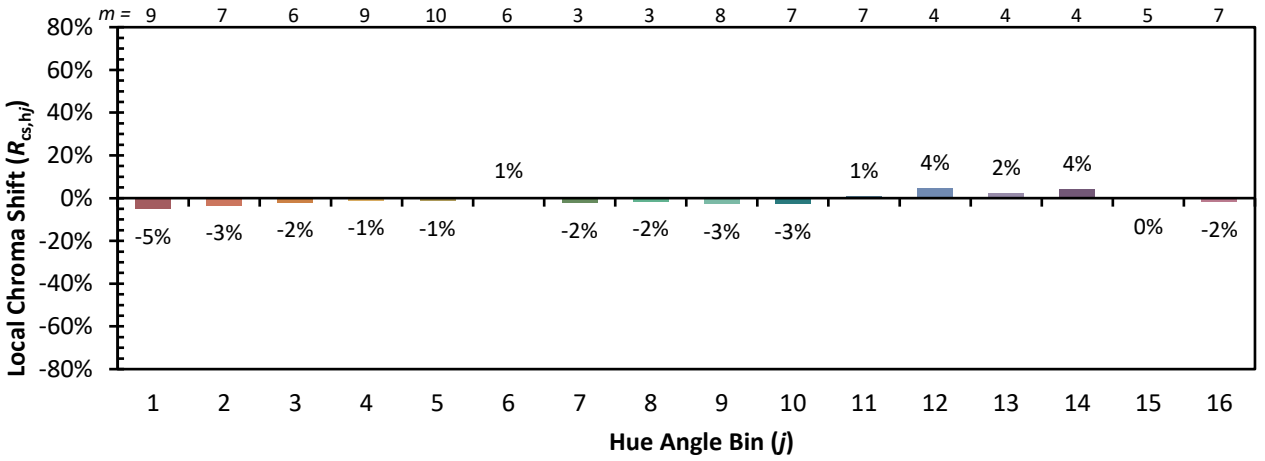


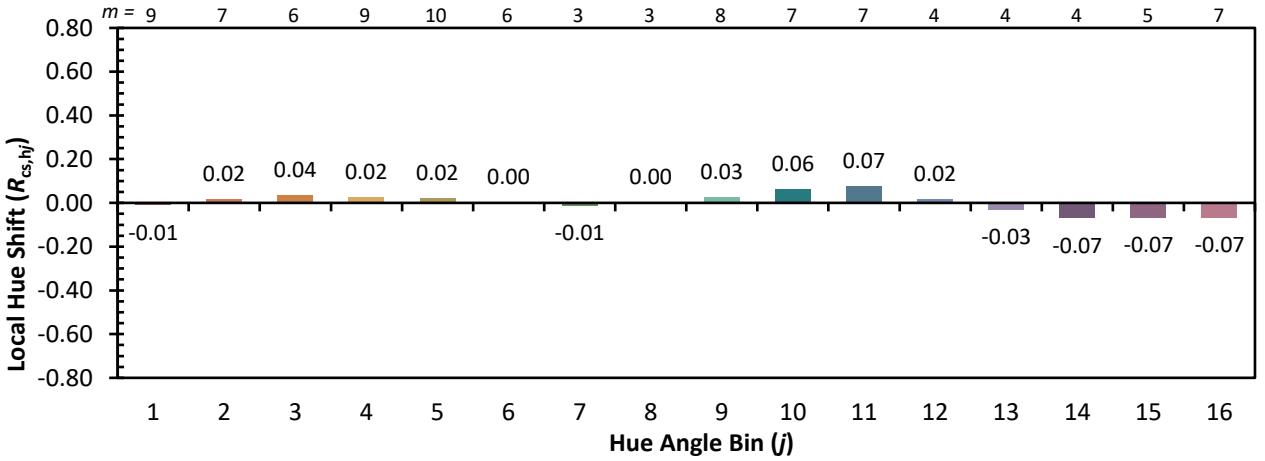
Cooper Lighting Solutions Photometric Lab
1121 Highway 74 South
Peachtree City, GA 30269

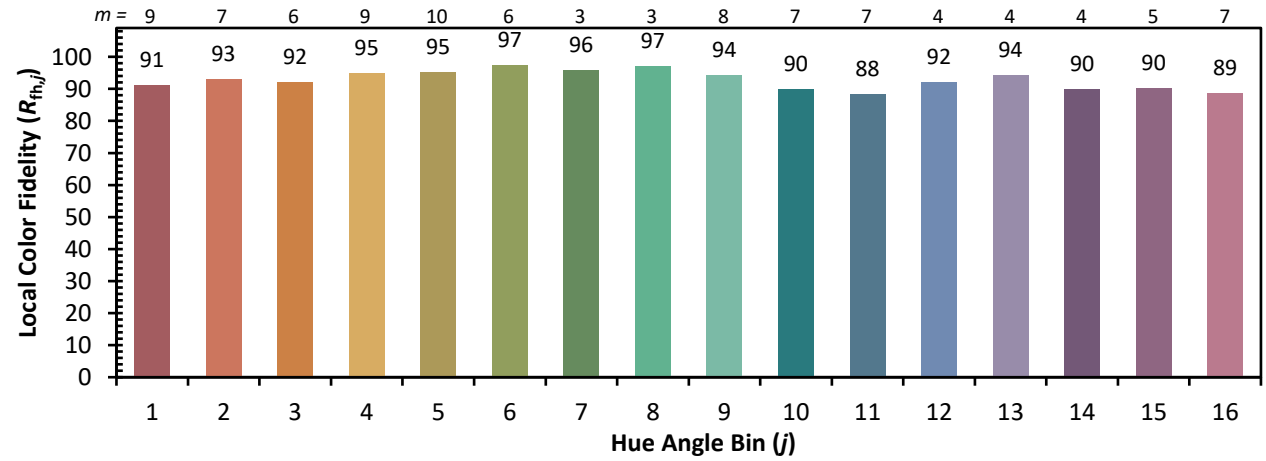
REPORT NUMBER: SP1-2106-271-3

## TM-30-18

### Color Rendition by Hue-Angle Bin



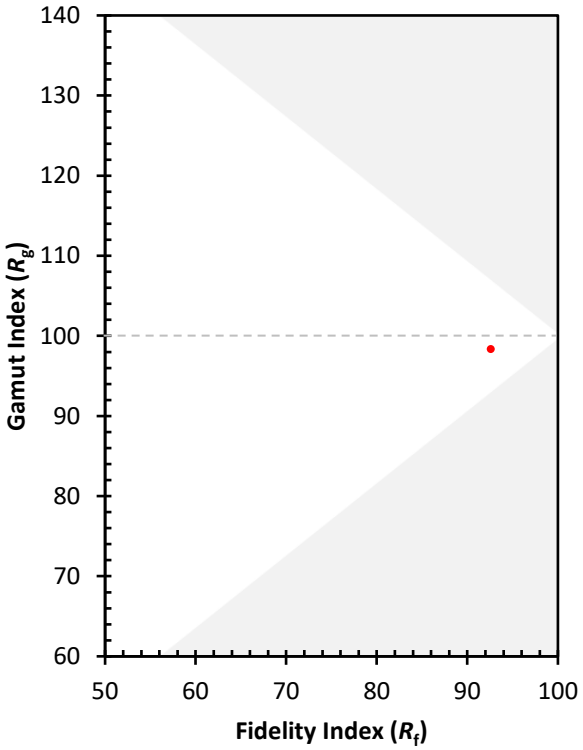



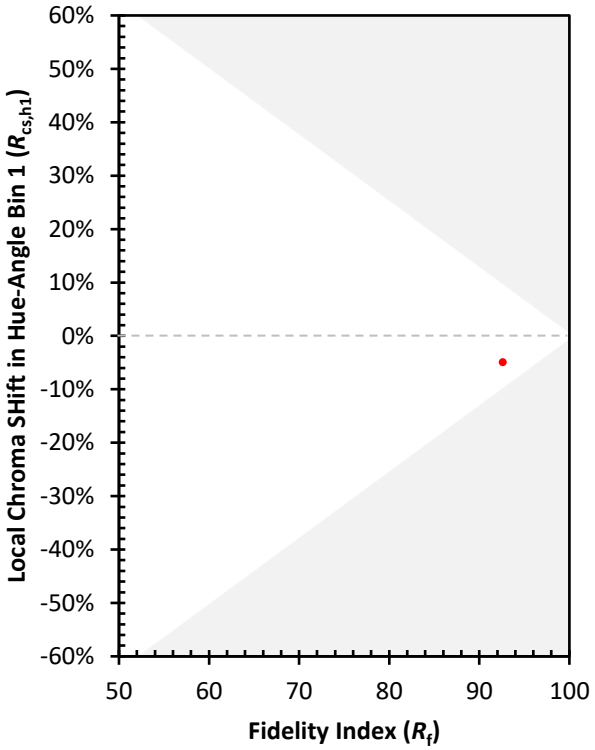
Cooper Lighting Solutions Photometric Lab
1121 Highway 74 South
Peachtree City, GA 30269

REPORT NUMBER: SP1-2106-271-3

## TM-30-18

### Measure Comparisons




(END OF REPORT)