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

Scaled data based on original data using

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

Test Report Prepared for

Cooper Lighting Solutions

Brand: McGRAW-EDISON

Report Number: P638975

Luminaire Tested: GWS-SA4F-830-U-SLL-W-GRSWH

Issue Date: 1/10/2023

Report Generated By 670246102 / DESKTOP-G35701P

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

Scaled Data Report

**Test Information**

| | |
|---|---|
| Test Method: | LM-79-2019 |
| Report Number: | P638975 |
| | TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2209-782-39) |
| Test Lab: | COOPER LIGHTING SOLUTIONS |
| Issue Date: | 1/10/2023 |
| Manufacturer: | COOPER LIGHTING SOLUTIONS |
| Product Line: | McGRAW-EDISON |
| Catalog Number: | GWS-SA4F-830-U-SLL-W-GRSWH |
| Description: | GALLEON WALL SLIM LUMINAIRE. (4) LIGHTSQUARES WITH 16 LEDS EACH AND SPILL LIGHT ELIMINATOR LEFT OPTICS W/ FACTORY INSTALLED GLARE SHIELD, WH |
| Light Source: | (64) 3000K CCT, 80 CRI LEDS |
| Ballast/Driver: | - |

**Summary**

| | |
|---|---|
| Lumens per Lamp: | N/A |
| Luminaire Lumens: | 21038.6 lumens |
| Efficiency: | N/A |
| Efficacy: | 93.4 lumens/watt |
| Luminous Opening: | Rectangular (W 1' x L: 1' x H: 0') |
| IES Classification: | Type III - Short |
| BUG Rating: | B3 - U0 - G3 |

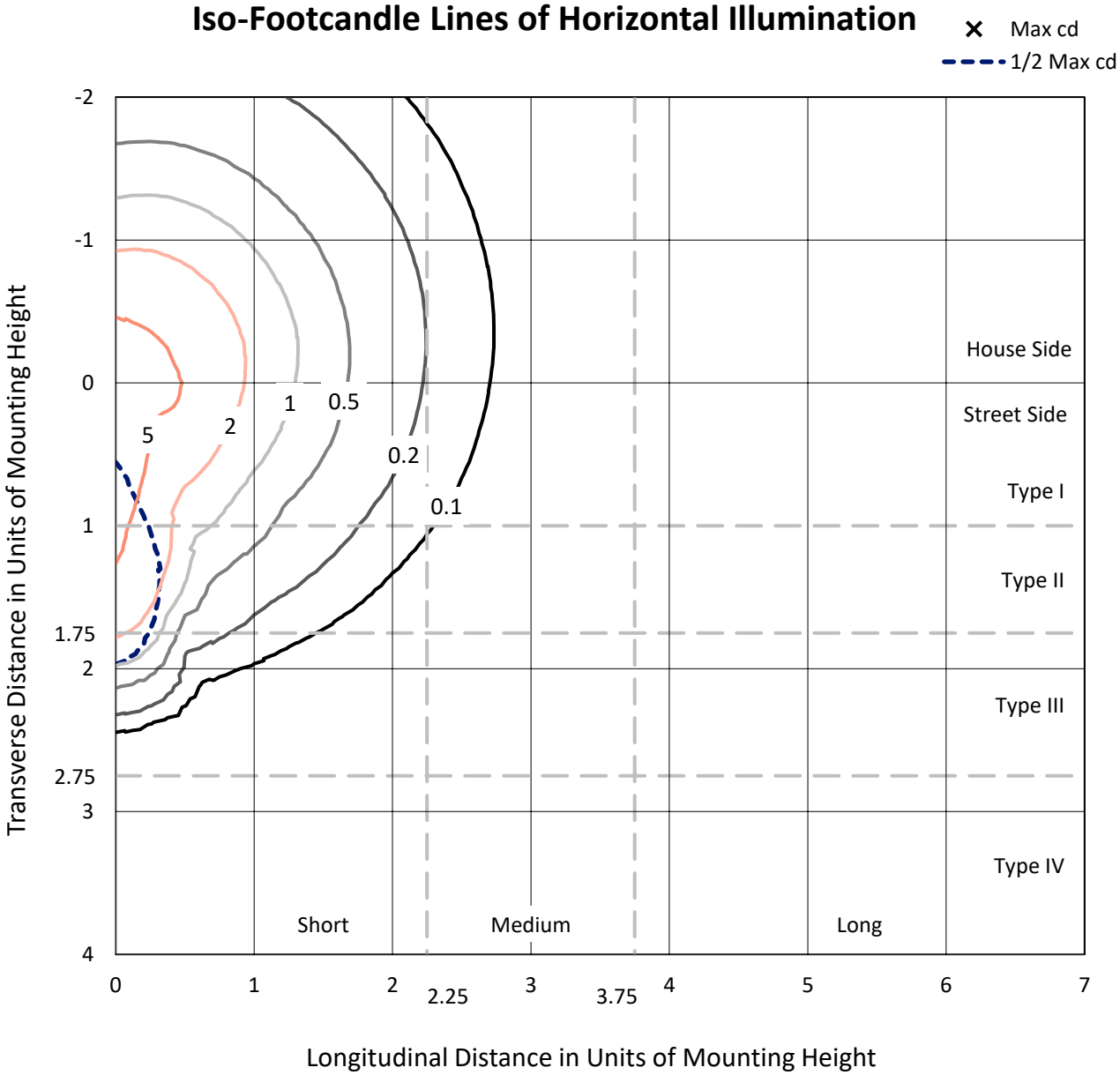
| | |
|---|---|
| Input Watts (W): | 225.3 |
| Input Voltage (V): | 120 |
| Input Current (Ain): | NR |
| Voltage Rise (V): | NR |
| Power Factor: | NR |
| Total Harmonic Distortion (THDi): | NR |
| Frequency (hertz): | 0 |
| Stabilization Time: | NR |
| Operation Time: | NR |
| Ambient Temperature (°C): | NR |
| Test Distance: | 28.75 FT |

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

Scaled Data Report

REPORT NUMBER: P638975
CATALOG NUMBER: GWS-SA4F-830-U-SLL-W-GRSWH

## Iso-Footcandle Lines of Horizontal Illumination



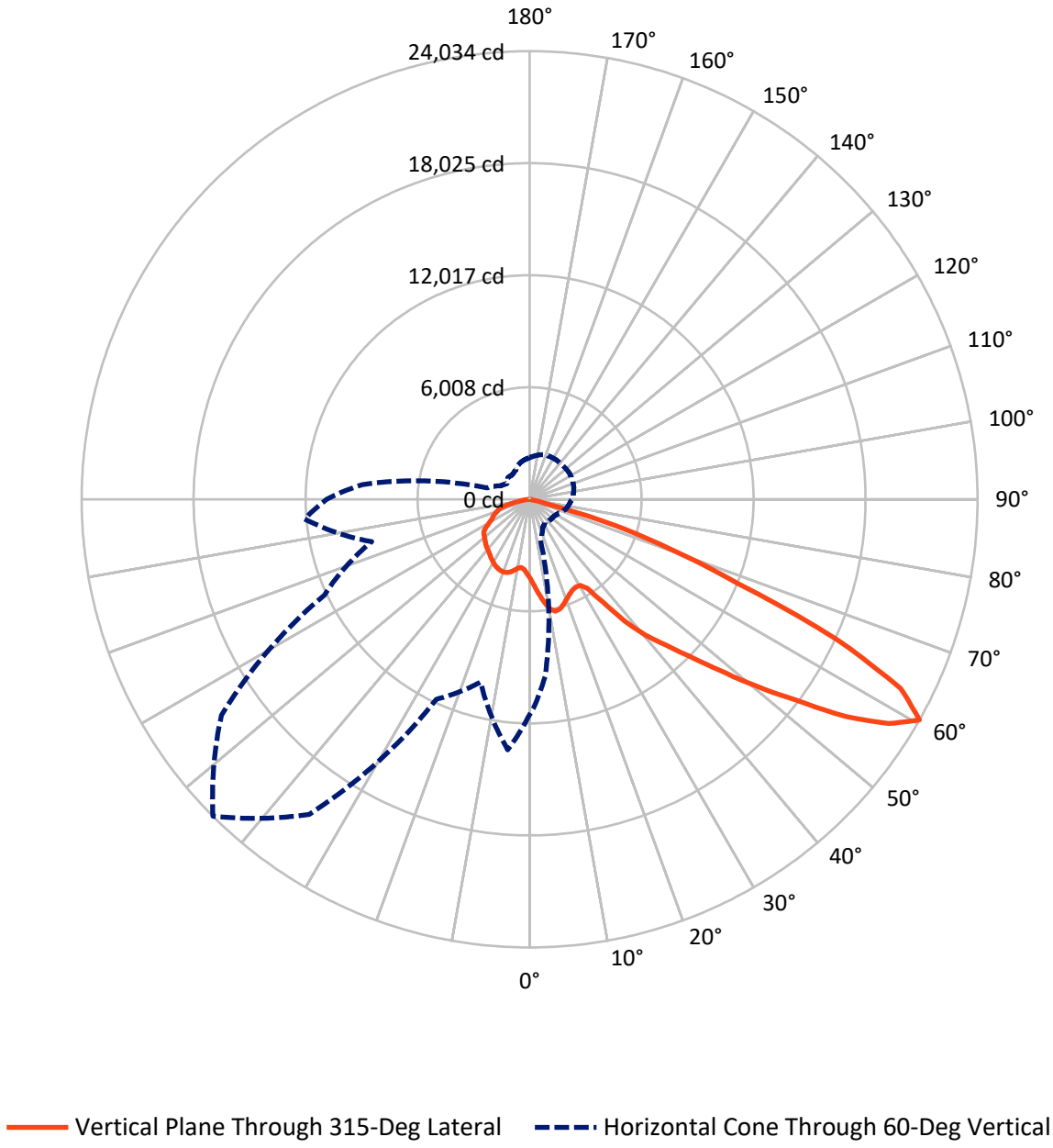

Based on 25 foot mounting height. Maximum calculated value = 8.2 fc
Type III - Short - N/A

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

Scaled Data Report

REPORT NUMBER: P638975
CATALOG NUMBER: GWS-SA4F-830-U-SLL-W-GRSWH

## Luminous Intensity Polar Plot



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

Scaled Data Report

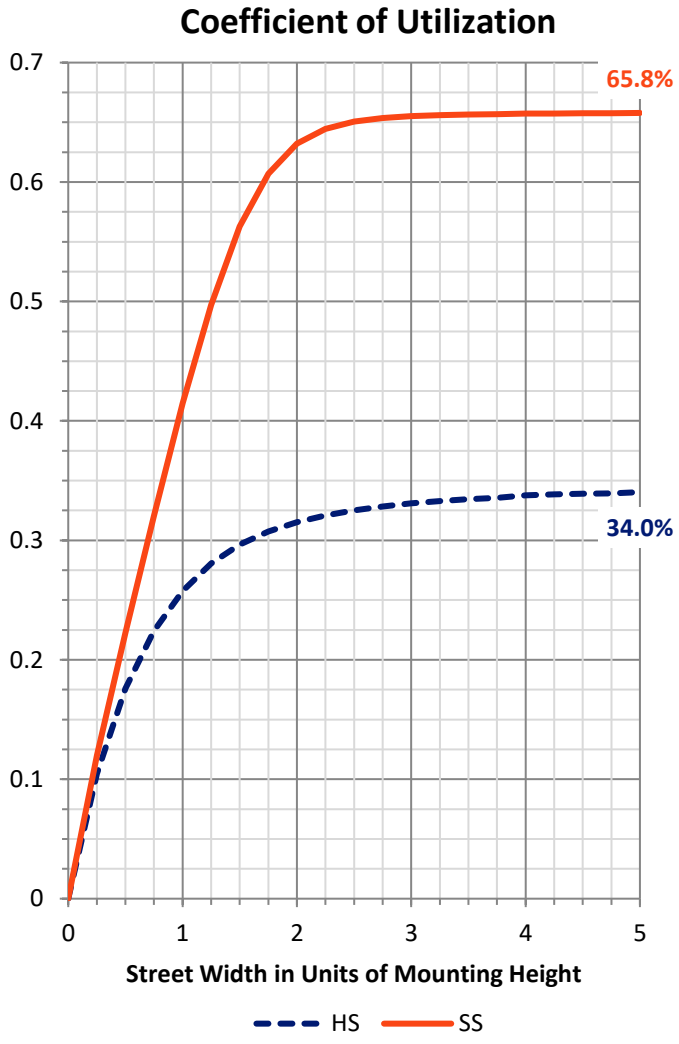
REPORT NUMBER: P638975
CATALOG NUMBER: GWS-SA4F-830-U-SLL-W-GRSWH

**FLUX DISTRIBUTION:**

| | | Downward | Upward | Total |
|---|---|---|---|---|
| **House Side** | Lumens | 7197.1 | 0.0 | 7197.1 |
| | % Fixture | 34.2 | 0.0 | 34.2 |
| **Street Side** | Lumens | 13841.5 | 0.0 | 13841.5 |
| | % Fixture | 65.8 | 0.0 | 65.8 |
| **Total** | Lumens | 21038.6 | 0.0 | 21038.6 |
| | % Fixture | 100.0 | 0.0 | 100.0 |

**ZONAL LUMENS:**

| Zone | Lumens | % Fixture |
|---|---|---|
| 0°-10° | 414.6 | 2.0 |
| 10°-20° | 1329.7 | 6.3 |
| 20°-30° | 2165.6 | 10.3 |
| 30°-40° | 3042.2 | 14.5 |
| 40°-50° | 4162.9 | 19.8 |
| 50°-60° | 5340.7 | 25.4 |
| 60°-70° | 3596.2 | 17.1 |
| 70°-80° | 899.1 | 4.3 |
| 80°-90° | 87.7 | 0.4 |
| 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° | 21038.6 | 100.0 |
| 0°-180° | 21038.6 | 100.0 |



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

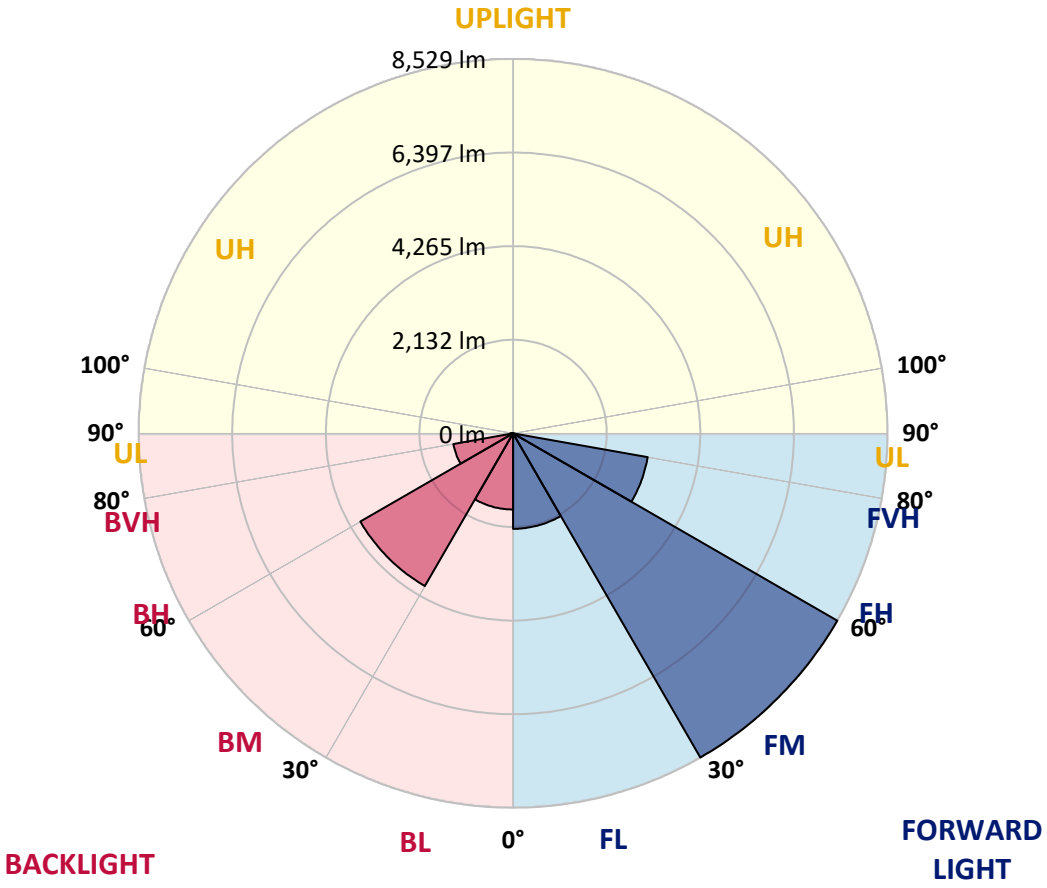
Scaled Data Report

REPORT NUMBER: P638975
CATALOG NUMBER: GWS-SA4F-830-U-SLL-W-GRSWH

## LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

| Zone | | Lumens | % Fixture | Zone Rating/Lumen Limit B | U | G |
|---|---|---|---|---|---|---|
| FL | (0°-30°) | 2174.9 | 10.3 | | | |
| FM | (30°-60°) | 8529.2 | 40.5 | | | |
| FH | (60°-80°) | 3114.6 | 14.8 | | | G2/5000 |
| FVH | (80°-90°) | 22.8 | 0.1 | | | G1/100 |
| BL | (0°-30°) | 1734.9 | 8.2 | B3/2500 | | |
| BM | (30°-60°) | 4016.6 | 19.1 | B3/5000 | | |
| BH | (60°-80°) | 1380.7 | 6.6 | B3/2500 | | G3/2500 |
| BVH | (80°-90°) | 64.9 | 0.3 | | | G1/100 |
| UL | (90°-100°) | 0.0 | 0.0 | | U0/0 | |
| UH | (100°-180°) | 0.0 | 0.0 | | U0/0 | |

**BUG Rating: B3-U0-G3**
Type III Short



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

Scaled Data Report

REPORT NUMBER: P638975
CATALOG NUMBER: GWS-SA4F-830-U-SLL-W-GRSWH

**CANDELA DISTRIBUTION (FULL):**

| | 0° | 1° | 5° | 15° | 25° | 35° | 45° | 55° | 65° | 75° | 85° |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0° | 4243.3 | 4243.3 | 4243.3 | 4243.3 | 4243.3 | 4243.3 | 4243.3 | 4243.3 | 4243.3 | 4243.3 | 4243.3 |
| 2.5° | 4489.3 | 4479.6 | 4470.0 | 4394.4 | 4375.0 | 4320.8 | 4282.0 | 4233.6 | 4163.8 | 4125.1 | 4092.1 |
| 5° | 4770.3 | 4754.8 | 4702.5 | 4547.5 | 4446.7 | 4336.3 | 4245.2 | 4144.4 | 4037.9 | 3968.1 | 3913.9 |
| 7.5° | 5035.7 | 5031.8 | 4942.7 | 4687.0 | 4524.2 | 4365.3 | 4241.3 | 4094.1 | 3941.0 | 3836.4 | 3766.6 |
| 10° | 5281.8 | 5252.7 | 5146.2 | 4812.9 | 4599.8 | 4417.6 | 4284.0 | 4121.2 | 3942.9 | 3801.5 | 3708.5 |
| 12.5° | 5498.8 | 5462.0 | 5314.7 | 4929.2 | 4665.7 | 4440.9 | 4295.6 | 4161.9 | 4043.7 | 3925.5 | 3818.9 |
| 15° | 5677.1 | 5632.5 | 5483.3 | 5037.7 | 4723.8 | 4427.3 | 4223.9 | 4119.3 | 4159.9 | 4212.3 | 4094.1 |
| 17.5° | 5843.7 | 5797.2 | 5615.1 | 5117.1 | 4741.2 | 4344.0 | 4047.6 | 4003.0 | 4208.4 | 4446.7 | 4392.5 |
| 20° | 5983.2 | 5930.9 | 5719.7 | 5155.9 | 4710.2 | 4185.1 | 3818.9 | 3896.4 | 4167.7 | 4452.5 | 4539.7 |
| 22.5° | 6134.3 | 6091.7 | 5837.9 | 5212.0 | 4671.5 | 3966.2 | 3627.1 | 3817.0 | 4097.9 | 4347.9 | 4479.6 |
| 25° | 6376.5 | 6324.2 | 6021.9 | 5310.9 | 4652.1 | 3760.8 | 3489.6 | 3739.5 | 4001.1 | 4227.8 | 4330.5 |
| 27.5° | 6727.2 | 6630.3 | 6273.8 | 5483.3 | 4673.4 | 3567.1 | 3402.4 | 3644.6 | 3888.7 | 4082.4 | 4165.8 |
| 30° | 7108.9 | 6992.7 | 6552.8 | 5661.6 | 4704.4 | 3448.9 | 3355.9 | 3536.1 | 3716.2 | 3910.0 | 4001.1 |
| 32.5° | 7560.4 | 7457.7 | 6851.2 | 5795.2 | 4638.5 | 3394.6 | 3321.0 | 3417.9 | 3561.2 | 3716.2 | 3791.8 |
| 35° | 8099.0 | 7914.9 | 7176.7 | 5903.8 | 4425.4 | 3315.2 | 3290.0 | 3288.0 | 3363.6 | 3514.7 | 3600.0 |
| 37.5° | 8678.3 | 8480.7 | 7577.8 | 6020.0 | 4094.1 | 3189.2 | 3216.4 | 3135.0 | 3204.7 | 3324.9 | 3421.7 |
| 40° | 9153.0 | 8945.7 | 7982.8 | 6178.9 | 3679.4 | 2991.6 | 3053.6 | 2966.4 | 3009.0 | 3133.0 | 3241.5 |
| 42.5° | 9618.1 | 9397.2 | 8360.6 | 6359.1 | 3278.4 | 2797.8 | 2828.8 | 2795.9 | 2809.5 | 2939.3 | 3090.4 |
| 45° | 10228.4 | 9980.4 | 8825.6 | 6487.0 | 2918.0 | 2644.8 | 2615.7 | 2559.5 | 2631.2 | 2799.8 | 2960.6 |
| 47.5° | 11247.6 | 10951.1 | 9587.1 | 6570.3 | 2656.4 | 2557.6 | 2423.9 | 2391.0 | 2480.1 | 2668.0 | 2834.7 |
| 50° | 12439.2 | 12183.4 | 10803.8 | 6566.4 | 2460.7 | 2484.0 | 2237.9 | 2208.8 | 2356.1 | 2546.0 | 2722.3 |
| 52.5° | 13415.7 | 13156.0 | 11844.3 | 6372.6 | 2299.9 | 2327.0 | 2129.4 | 2048.0 | 2249.5 | 2425.8 | 2602.1 |
| 55° | 14204.3 | 13911.7 | 12322.9 | 5562.7 | 2096.4 | 2077.1 | 2011.2 | 1862.0 | 2115.8 | 2305.7 | 2470.4 |
| 57.5° | 13779.9 | 13431.2 | 11743.6 | 4229.7 | 1887.2 | 1765.1 | 1807.7 | 1697.3 | 1933.7 | 2172.0 | 2330.9 |
| 60° | *11553.7* | *11239.8* | *9540.6* | *2251.4* | *1660.5* | *1474.5* | *1563.6* | *1581.1* | *1734.1* | *2011.2* | *2173.9* |
| 62.5° | 7936.3 | 7707.6 | 6465.6 | 1366.0 | 1309.8 | 1183.9 | 1323.4 | 1449.3 | 1563.6 | 1798.1 | 1939.5 |
| 65° | 3882.9 | 3815.1 | 3233.8 | 875.8 | 916.5 | 957.2 | 1096.7 | 1249.7 | 1418.3 | 1623.7 | 1772.9 |
| 67.5° | 1069.5 | 1077.3 | 980.4 | 684.0 | 722.7 | 835.1 | 945.5 | 1067.6 | 1236.2 | 1426.0 | 1577.2 |
| 70° | 470.8 | 478.6 | 494.1 | 527.0 | 600.6 | 703.3 | 817.7 | 943.6 | 1098.6 | 1257.5 | 1402.8 |
| 72.5° | 327.4 | 335.2 | 358.4 | 401.1 | 467.0 | 563.8 | 672.3 | 792.5 | 953.3 | 1087.0 | 1207.1 |
| 75° | 201.5 | 207.3 | 228.6 | 265.4 | 310.0 | 383.6 | 490.2 | 600.6 | 742.1 | 864.2 | 970.7 |
| 77.5° | 106.6 | 102.7 | 116.3 | 141.4 | 180.2 | 218.9 | 290.6 | 360.4 | 461.1 | 560.0 | 649.1 |
| 80° | 58.1 | 56.2 | 63.9 | 77.5 | 89.1 | 120.1 | 168.6 | 215.1 | 273.2 | 329.4 | 377.8 |
| 82.5° | 25.2 | 23.3 | 25.2 | 32.9 | 40.7 | 58.1 | 85.3 | 118.2 | 151.1 | 189.9 | 220.9 |
| 85° | 0.0 | 0.0 | 0.0 | 1.9 | 9.7 | 15.5 | 29.1 | 42.6 | 62.0 | 85.3 | 104.6 |
| 87.5° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 7.8 | 17.4 |
| 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: P638975
CATALOG NUMBER: GWS-SA4F-830-U-SLL-W-GRSWH

**CANDELA DISTRIBUTION (continued):**

| | 90° | 95° | 105° | 115° | 125° | 135° | 145° | 155° | 165° | 175° | 180° |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0° | 4243.3 | 4243.3 | 4243.3 | 4243.3 | 4243.3 | 4243.3 | 4243.3 | 4243.3 | 4243.3 | 4243.3 | 4243.3 |
| 2.5° | 4072.8 | 4024.3 | 4020.4 | 3981.7 | 3985.6 | 3987.5 | 3948.8 | 3933.3 | 3946.8 | 3962.3 | 3954.6 |
| 5° | 3894.5 | 3844.1 | 3822.8 | 3786.0 | 3782.1 | 3764.7 | 3749.2 | 3729.8 | 3743.4 | 3756.9 | 3764.7 |
| 7.5° | 3739.5 | 3706.6 | 3693.0 | 3683.3 | 3687.2 | 3679.4 | 3648.4 | 3631.0 | 3629.1 | 3634.9 | 3642.6 |
| 10° | 3689.1 | 3662.0 | 3679.4 | 3706.6 | 3725.9 | 3739.5 | 3706.6 | 3677.5 | 3650.4 | 3638.7 | 3638.7 |
| 12.5° | 3797.6 | 3762.7 | 3797.6 | 3826.7 | 3865.4 | 3875.1 | 3838.3 | 3807.3 | 3797.6 | 3809.2 | 3832.5 |
| 15° | 4037.9 | 3956.5 | 3954.6 | 3972.0 | 4003.0 | 4018.5 | 3983.6 | 3968.1 | 3968.1 | 4041.8 | 4099.9 |
| 17.5° | 4278.1 | 4144.4 | 4088.3 | 4078.6 | 4097.9 | 4103.8 | 4074.7 | 4061.1 | 4096.0 | 4239.4 | 4347.9 |
| 20° | 4446.7 | 4284.0 | 4161.9 | 4138.6 | 4144.4 | 4146.4 | 4123.1 | 4113.4 | 4163.8 | 4338.2 | 4429.3 |
| 22.5° | 4429.3 | 4309.1 | 4159.9 | 4130.9 | 4140.6 | 4136.7 | 4115.4 | 4111.5 | 4152.2 | 4303.3 | 4346.0 |
| 25° | 4309.1 | 4216.1 | 4090.2 | 4070.8 | 4086.3 | 4084.4 | 4063.1 | 4053.4 | 4070.8 | 4171.6 | 4175.4 |
| 27.5° | 4171.6 | 4090.2 | 3981.7 | 3975.9 | 4001.1 | 4014.6 | 3977.8 | 3948.8 | 3942.9 | 4010.8 | 3995.3 |
| 30° | 4006.9 | 3946.8 | 3859.6 | 3863.5 | 3910.0 | 3917.8 | 3873.2 | 3830.6 | 3818.9 | 3855.7 | 3834.4 |
| 32.5° | 3811.2 | 3791.8 | 3745.3 | 3755.0 | 3799.6 | 3815.1 | 3768.6 | 3724.0 | 3710.4 | 3722.1 | 3677.5 |
| 35° | 3644.6 | 3636.8 | 3640.7 | 3658.1 | 3696.9 | 3708.5 | 3669.7 | 3634.9 | 3615.5 | 3574.8 | 3516.7 |
| 37.5° | 3472.1 | 3493.4 | 3549.6 | 3582.6 | 3603.9 | 3600.0 | 3578.7 | 3553.5 | 3522.5 | 3446.9 | 3375.2 |
| 40° | 3311.3 | 3365.5 | 3466.3 | 3503.1 | 3510.9 | 3512.8 | 3497.3 | 3476.0 | 3437.2 | 3336.5 | 3255.1 |
| 42.5° | 3187.3 | 3247.4 | 3381.0 | 3437.2 | 3441.1 | 3445.0 | 3429.5 | 3412.0 | 3357.8 | 3224.1 | 3144.7 |
| 45° | 3057.5 | 3136.9 | 3293.9 | 3361.7 | 3357.8 | 3355.9 | 3342.3 | 3334.5 | 3270.6 | 3115.6 | 3028.4 |
| 47.5° | 2947.0 | 3040.0 | 3208.6 | 3266.7 | 3264.8 | 3262.9 | 3253.2 | 3253.2 | 3189.2 | 3020.7 | 2921.8 |
| 50° | 2838.5 | 2945.1 | 3121.4 | 3169.9 | 3173.7 | 3169.9 | 3166.0 | 3171.8 | 3096.2 | 2916.0 | 2819.2 |
| 52.5° | 2720.3 | 2840.5 | 3024.5 | 3069.1 | 3092.3 | 3102.0 | 3102.0 | 3088.5 | 2999.3 | 2811.4 | 2704.8 |
| 55° | 2590.5 | 2704.8 | 2918.0 | 2978.0 | 2997.4 | 3014.8 | 3014.8 | 2987.7 | 2904.4 | 2714.5 | 2600.2 |
| 57.5° | 2429.7 | 2530.5 | 2699.0 | 2759.1 | 2805.6 | 2817.2 | 2817.2 | 2772.7 | 2704.8 | 2522.7 | 2429.7 |
| 60° | *2255.3* | *2342.5* | *2456.8* | *2520.8* | *2555.6* | *2532.4* | *2549.8* | *2538.2* | *2484.0* | *2315.4* | *2237.9* |
| 62.5° | 2022.8 | 2111.9 | 2237.9 | 2303.8 | 2319.3 | 2296.0 | 2319.3 | 2317.3 | 2243.7 | 2092.6 | 1999.6 |
| 65° | 1856.2 | 1943.4 | 2067.4 | 2152.6 | 2177.8 | 2172.0 | 2187.5 | 2164.3 | 2073.2 | 1929.8 | 1840.7 |
| 67.5° | 1658.6 | 1751.6 | 1894.9 | 1989.9 | 2042.2 | 2048.0 | 2069.3 | 2020.9 | 1927.9 | 1770.9 | 1658.6 |
| 70° | 1470.6 | 1550.1 | 1660.5 | 1749.6 | 1823.2 | 1860.1 | 1863.9 | 1794.2 | 1677.9 | 1548.1 | 1466.7 |
| 72.5° | 1273.0 | 1354.4 | 1488.0 | 1584.9 | 1677.9 | 1720.6 | 1720.6 | 1635.3 | 1509.4 | 1366.0 | 1278.8 |
| 75° | 1032.7 | 1108.3 | 1230.4 | 1335.0 | 1441.5 | 1495.8 | 1493.9 | 1420.2 | 1280.7 | 1145.1 | 1054.0 |
| 77.5° | 699.5 | 755.6 | 833.2 | 912.6 | 928.1 | 970.7 | 992.0 | 899.0 | 821.5 | 747.9 | 666.5 |
| 80° | 406.9 | 441.8 | 484.4 | 529.0 | 538.6 | 552.2 | 517.3 | 482.5 | 441.8 | 393.3 | 356.5 |
| 82.5° | 238.3 | 261.6 | 282.9 | 317.8 | 323.6 | 327.4 | 296.4 | 280.9 | 248.0 | 218.9 | 195.7 |
| 85° | 116.3 | 124.0 | 143.4 | 160.8 | 153.1 | 149.2 | 135.6 | 120.1 | 106.6 | 94.9 | 83.3 |
| 87.5° | 23.3 | 23.3 | 34.9 | 32.9 | 27.1 | 23.3 | 13.6 | 17.4 | 3.9 | 3.9 | 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 |

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

Scaled Data Report

REPORT NUMBER: P638975
CATALOG NUMBER: GWS-SA4F-830-U-SLL-W-GRSWH

**CANDELA DISTRIBUTION (continued):**

| | 185° | 195° | 205° | 215° | 225° | 235° | 245° | 255° | 265° | 270° | 275° |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0° | 4243.3 | 4243.3 | 4243.3 | 4243.3 | 4243.3 | 4243.3 | 4243.3 | 4243.3 | 4243.3 | 4243.3 | 4243.3 |
| 2.5° | 3979.8 | 4012.7 | 4053.4 | 4107.6 | 4169.6 | 4235.5 | 4299.5 | 4347.9 | 4396.3 | 4468.0 | 4456.4 |
| 5° | 3776.3 | 3832.5 | 3896.4 | 3979.8 | 4080.5 | 4194.8 | 4322.7 | 4450.6 | 4588.1 | 4704.4 | 4754.8 |
| 7.5° | 3658.1 | 3720.1 | 3795.7 | 3904.2 | 4034.0 | 4173.5 | 4353.7 | 4561.0 | 4783.8 | 4936.9 | 5031.8 |
| 10° | 3658.1 | 3737.6 | 3836.4 | 3941.0 | 4055.3 | 4198.7 | 4421.5 | 4681.2 | 4967.9 | 5169.4 | 5279.9 |
| 12.5° | 3869.3 | 3948.8 | 3970.1 | 3966.2 | 4030.1 | 4189.0 | 4475.8 | 4807.1 | 5150.0 | 5363.2 | 5498.8 |
| 15° | 4198.7 | 4225.8 | 4065.0 | 3917.8 | 3927.4 | 4119.3 | 4501.0 | 4907.8 | 5307.0 | 5562.7 | 5710.0 |
| 17.5° | 4419.6 | 4347.9 | 4061.1 | 3803.4 | 3749.2 | 4001.1 | 4501.0 | 5004.7 | 5473.6 | 5762.3 | 5899.9 |
| 20° | 4437.0 | 4258.8 | 3962.3 | 3693.0 | 3553.5 | 3844.1 | 4470.0 | 5078.4 | 5634.4 | 5954.1 | 6101.4 |
| 22.5° | 4284.0 | 4107.6 | 3857.7 | 3598.1 | 3392.7 | 3654.2 | 4419.6 | 5134.5 | 5772.0 | 6134.3 | 6316.5 |
| 25° | 4109.6 | 3962.3 | 3751.1 | 3501.2 | 3282.2 | 3462.4 | 4373.1 | 5229.5 | 5963.8 | 6378.5 | 6562.5 |
| 27.5° | 3939.1 | 3815.1 | 3623.2 | 3419.8 | 3220.2 | 3295.8 | 4344.0 | 5369.0 | 6192.4 | 6725.3 | 6884.2 |
| 30° | 3772.4 | 3660.1 | 3485.7 | 3342.3 | 3187.3 | 3187.3 | 4318.8 | 5529.8 | 6494.7 | 7114.7 | 7273.6 |
| 32.5° | 3603.9 | 3497.3 | 3355.9 | 3266.7 | 3167.9 | 3144.7 | 4249.1 | 5680.9 | 6806.7 | 7541.0 | 7703.7 |
| 35° | 3446.9 | 3340.4 | 3231.9 | 3195.0 | 3158.2 | 3111.7 | 4076.6 | 5799.1 | 7110.9 | 8038.9 | 8178.5 |
| 37.5° | 3299.7 | 3197.0 | 3115.6 | 3105.9 | 3109.8 | 3022.6 | 3805.4 | 5897.9 | 7490.6 | 8548.5 | 8622.2 |
| 40° | 3171.8 | 3057.5 | 2993.5 | 2991.6 | 3011.0 | 2879.2 | 3462.4 | 6039.4 | 7924.6 | 8980.6 | 8949.6 |
| 42.5° | 3057.5 | 2937.3 | 2859.8 | 2877.3 | 2865.7 | 2735.8 | 3127.2 | 6169.2 | 8302.5 | 9385.6 | 9323.6 |
| 45° | 2945.1 | 2828.8 | 2720.3 | 2745.5 | 2732.0 | 2646.7 | 2842.4 | 6264.1 | 8721.0 | 9871.9 | 9879.6 |
| 47.5° | 2836.6 | 2722.3 | 2613.8 | 2582.8 | 2580.8 | 2619.6 | 2623.5 | 6295.1 | 9403.0 | 10654.7 | 10478.3 |
| 50° | 2735.8 | 2621.5 | 2509.1 | 2404.5 | 2445.2 | 2565.3 | 2460.7 | 6271.9 | 10424.1 | 11518.8 | 11026.7 |
| 52.5° | 2631.2 | 2522.7 | 2398.7 | 2210.8 | 2317.3 | 2435.5 | 2315.4 | 6188.6 | 11048.0 | 12282.2 | 11987.7 |
| 55° | 2511.1 | 2408.4 | 2239.8 | 2011.2 | 2141.0 | 2166.2 | 2166.2 | 5382.5 | 11313.4 | 13037.9 | 13220.0 |
| 57.5° | 2350.3 | 2214.6 | 1947.3 | 1763.2 | 1879.4 | 1782.6 | 2007.3 | 3766.6 | 10875.5 | 12799.5 | 13506.7 |
| 60° | *2168.1* | *2022.8* | *1739.9* | *1608.2* | *1643.1* | *1472.5* | *1710.9* | *2361.9* | *9013.5* | *10891.0* | *12115.6* |
| 62.5° | 1927.9 | 1794.2 | 1559.7 | 1457.0 | 1385.4 | 1201.3 | 1377.6 | 1493.9 | 6178.9 | 8087.4 | 8922.5 |
| 65° | 1767.1 | 1619.8 | 1410.5 | 1274.9 | 1127.7 | 966.8 | 914.5 | 980.4 | 3322.9 | 4526.1 | 5090.0 |
| 67.5° | 1577.2 | 1431.9 | 1234.2 | 1063.7 | 945.5 | 829.3 | 738.2 | 715.0 | 1139.3 | 1507.4 | 1631.4 |
| 70° | 1397.0 | 1257.5 | 1092.8 | 933.9 | 815.7 | 701.4 | 612.3 | 548.3 | 527.0 | 523.1 | 515.4 |
| 72.5° | 1212.9 | 1083.1 | 945.5 | 798.3 | 668.5 | 563.8 | 484.4 | 410.8 | 379.8 | 370.1 | 360.4 |
| 75° | 994.0 | 891.3 | 753.7 | 594.8 | 490.2 | 393.3 | 331.3 | 282.9 | 255.8 | 246.1 | 234.4 |
| 77.5° | 639.4 | 592.9 | 472.8 | 383.6 | 296.4 | 234.4 | 201.5 | 170.5 | 153.1 | 149.2 | 139.5 |
| 80° | 341.0 | 317.8 | 261.6 | 220.9 | 176.3 | 143.4 | 125.9 | 108.5 | 98.8 | 94.9 | 91.1 |
| 82.5° | 189.9 | 172.4 | 145.3 | 127.9 | 102.7 | 87.2 | 77.5 | 69.8 | 63.9 | 62.0 | 60.1 |
| 85° | 85.3 | 73.6 | 58.1 | 54.3 | 48.4 | 44.6 | 42.6 | 38.8 | 36.8 | 34.9 | 32.9 |
| 87.5° | 3.9 | 7.8 | 9.7 | 7.8 | 7.8 | 11.6 | 13.6 | 13.6 | 11.6 | 11.6 | 9.7 |
| 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: P638975
CATALOG NUMBER: GWS-SA4F-830-U-SLL-W-GRSWH

**CANDELA DISTRIBUTION (continued):**

| | 285° | 295° | 305° | 315° | 325° | 335° | 345° | 355° | 359° | 360° |
|---|---|---|---|---|---|---|---|---|---|---|
| 0° | 4243.3 | 4243.3 | 4243.3 | *4243.3* | 4243.3 | 4243.3 | 4243.3 | 4243.3 | 4243.3 | 4243.3 |
| 2.5° | 4528.1 | 4586.2 | 4592.0 | *4611.4* | 4586.2 | 4580.4 | 4539.7 | 4516.5 | 4495.1 | 4489.3 |
| 5° | 4880.7 | 4997.0 | 5043.5 | *5076.4* | 5045.4 | 5029.9 | 4940.8 | 4847.8 | 4795.5 | 4770.3 |
| 7.5° | 5243.0 | 5417.4 | 5508.5 | *5549.2* | 5553.1 | 5483.3 | 5330.2 | 5155.9 | 5068.7 | 5035.7 |
| 10° | 5566.6 | 5781.7 | 5901.8 | *5979.3* | 5952.2 | 5866.9 | 5657.7 | 5421.3 | 5310.9 | 5281.8 |
| 12.5° | 5806.9 | 6012.3 | 6105.3 | *6155.6* | 6153.7 | 6107.2 | 5909.6 | 5653.8 | 5527.9 | 5498.8 |
| 15° | 5961.9 | 6083.9 | 6089.8 | *6101.4* | 6134.3 | 6196.3 | 6093.6 | 5857.3 | 5717.7 | 5677.1 |
| 17.5° | 6083.9 | 6035.5 | 5944.4 | *5913.4* | 5987.1 | 6159.5 | 6221.5 | 6029.7 | 5878.6 | 5843.7 |
| 20° | 6161.4 | 5917.3 | 5756.5 | *5696.4* | 5781.7 | 6062.6 | 6299.0 | 6184.7 | 6027.8 | 5983.2 |
| 22.5° | 6221.5 | 5806.9 | 5547.2 | *5506.6* | 5595.7 | 5958.0 | 6378.5 | 6368.8 | 6196.3 | 6134.3 |
| 25° | 6316.5 | 5733.2 | 5400.0 | *5370.9* | 5454.2 | 5907.6 | 6485.0 | 6618.7 | 6465.6 | 6376.5 |
| 27.5° | 6465.6 | 5725.5 | 5324.4 | *5314.7* | 5429.1 | 5952.2 | 6638.1 | 6984.9 | 6793.1 | 6727.2 |
| 30° | 6673.0 | 5799.1 | 5341.9 | *5361.2* | 5500.7 | 6113.0 | 6876.4 | 7403.4 | 7211.6 | 7108.9 |
| 32.5° | 6971.4 | 5996.8 | 5607.3 | *5690.6* | 5793.3 | 6370.7 | 7225.2 | 7856.8 | 7711.5 | 7560.4 |
| 35° | 7364.7 | 6539.3 | 6392.0 | *6746.6* | 6649.7 | 6934.5 | 7645.6 | 8407.1 | 8230.8 | 8099.0 |
| 37.5° | 7889.8 | 7651.4 | 7787.1 | *8275.3* | 8040.9 | 8000.2 | 8159.1 | 8907.0 | 8810.1 | 8678.3 |
| 40° | 8626.0 | 8674.5 | 8924.4 | *9565.7* | 9226.7 | 8965.1 | 8788.8 | 9282.9 | 9315.8 | 9153.0 |
| 42.5° | 9114.3 | 9337.1 | 9939.7 | *10668.2* | 10201.3 | 9575.4 | 9315.8 | 9763.4 | 9765.3 | 9618.1 |
| 45° | 9296.4 | 9879.6 | 11139.0 | *11978.0* | 11197.2 | 9924.2 | 9606.4 | 10416.3 | 10397.0 | 10228.4 |
| 47.5° | 9230.5 | 10336.9 | 12384.9 | *13667.6* | 12476.0 | 10172.2 | 9565.7 | 11346.4 | 11503.3 | 11247.6 |
| 50° | 9093.0 | 10796.1 | 13840.0 | *15736.9* | 14045.4 | 10435.7 | 9503.7 | 12377.1 | 12636.8 | 12439.2 |
| 52.5° | 9232.5 | 11307.6 | 15560.6 | *17876.0* | 16014.0 | 10856.2 | 9922.3 | 13700.5 | 13654.0 | 13415.7 |
| 55° | 9674.2 | 11912.1 | 17651.2 | *20563.4* | 18176.3 | 11567.2 | 10997.6 | 14961.9 | 14489.1 | 14204.3 |
| 57.5° | 9652.9 | 12344.2 | 19484.1 | *22688.9* | 20057.6 | 12150.5 | 11371.6 | 15095.5 | 14140.3 | 13779.9 |
| 60° | *8761.7* | *12146.6* | *20181.7* | *24033.5* | *20625.4* | *11828.8* | *10141.2* | *13483.5* | *11931.5* | *11553.7* |
| 62.5° | 6539.3 | 10778.7 | 18829.2 | *22349.8* | 19019.1 | 10216.8 | 7626.2 | 9678.1 | 8573.7 | 7936.3 |
| 65° | 4183.2 | 8432.3 | 15829.9 | *18106.5* | 15676.8 | 7814.2 | 4541.6 | 5188.8 | 4065.0 | 3882.9 |
| 67.5° | 1780.6 | 5952.2 | 12305.5 | *12102.0* | 11728.1 | 5062.9 | 1753.5 | 1460.9 | 1088.9 | 1069.5 |
| 70° | 589.0 | 4049.5 | 7585.6 | *8071.9* | 7004.3 | 3487.6 | 579.3 | 490.2 | 488.3 | 470.8 |
| 72.5° | 385.6 | 2173.9 | 4270.4 | *4754.8* | 4506.8 | 2007.3 | 350.7 | 327.4 | 335.2 | 327.4 |
| 75° | 230.6 | 472.8 | 718.8 | *933.9* | 718.8 | 337.1 | 211.2 | 207.3 | 211.2 | 201.5 |
| 77.5° | 135.6 | 131.8 | 127.9 | *127.9* | 125.9 | 116.3 | 106.6 | 102.7 | 104.6 | 106.6 |
| 80° | 87.2 | 83.3 | 79.4 | *77.5* | 67.8 | 63.9 | 60.1 | 56.2 | 56.2 | 58.1 |
| 82.5° | 56.2 | 52.3 | 48.4 | *42.6* | 34.9 | 29.1 | 27.1 | 23.3 | 23.3 | 25.2 |
| 85° | 29.1 | 23.3 | 17.4 | *13.6* | 7.8 | 3.9 | 0.0 | 0.0 | 0.0 | 0.0 |
| 87.5° | 5.8 | 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 |

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

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

Report Prepared for

Cooper Lighting Solutions

MCGRAW EDISON

Report Number: SP1-2408-195-9

Test Date: 08/07/2024

Luminaire Tested: GALN-SB1A-830-U-5WQ

Data in this report applies to families of products including GALN-SB1A-830-U-5WQ.

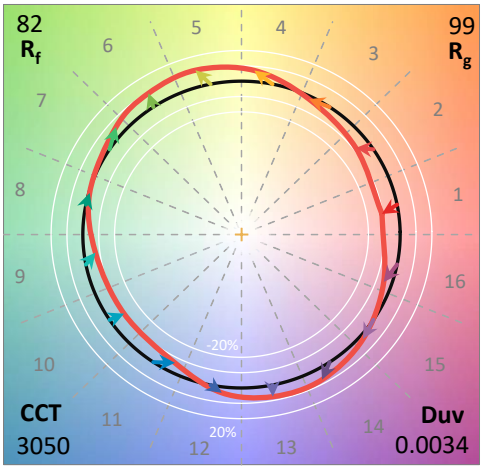
Report Generated By FNC07603 / LDUCLS01DT446
Version: v7.04

## Test Information

| | |
|---|---|
| Test Method: | LM-79-2019 |
| Report Number: | SP1-2408-195-9 |
| Test Lab: | COOPER LIGHTING SOLUTIONS |
| Photometer: | SP1 - 76IN SPHERE |
| Measurement Geometry: | 4π |
| Issue Date: | 08/07/2024 |
| Manufacturer: | COOPER LIGHTING SOLUTIONS |
| Product Line: | MCGRAW EDISON |
| Catalog Number: | **GALN-SB1A-830-U-5WQ** |
| Description: | GALLEON AREA AND ROADWAY LUMINAIRE. (1) 80 CRI, 3000K, 350MA HIGH DENSITY LIGHTSQUARE WITH 26 LEDS AND TYPE V WIDE OPTICS |

## Spectral Parameters

| | | | | | |
|---|---|---|---|---|---|
| CCT (K): | 3050 | CRI (Ra): | 81.0 | | |
| CIE u': | 0.2476 | R1: | 79.6 | R9: | 7.1 |
| CIE v': | 0.5251 | R2: | 85.6 | R10: | 67.0 |
| Duv: | 0.0034 | R3: | 92.0 | R11: | 82.7 |
| CIE x: | 0.4383 | R4: | 82.6 | R12: | 63.2 |
| CIE y: | 0.4131 | R5: | 78.9 | R13: | 80.3 |
| CIE z: | 0.1487 | R6: | 81.7 | R14: | 95.0 |
| Peak Wavelength (nm): | 603 | R7: | 85.2 | R15: | 71.7 |
| Dominant Wavelength (nm): | 581 | R8: | 62.0 | | |
| Purity: | 55.55201 | | | | |
| Rf: | 81.5 | | | | |
| Rg: | 99.2 | | | | |




## Test Conditions

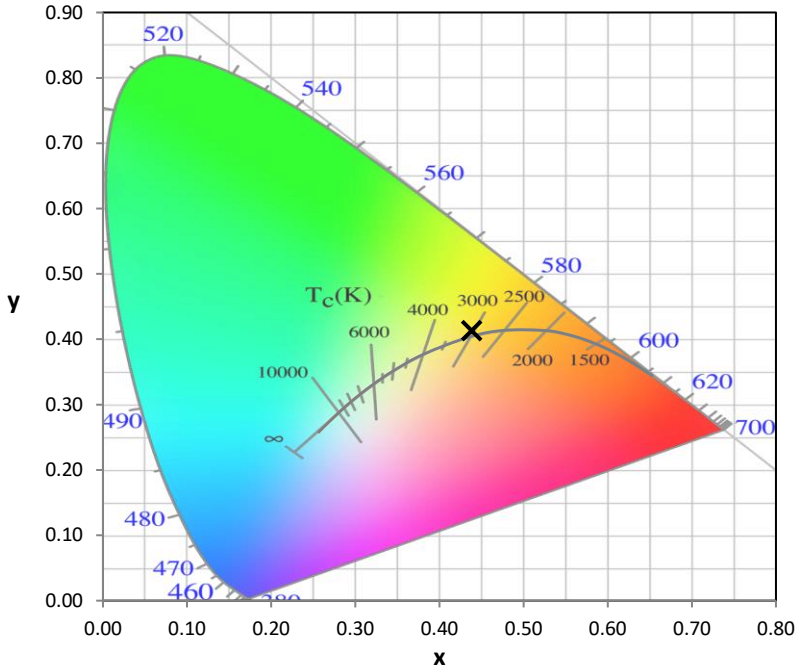
| | |
|---|---|
| Stabilization Time: | 20M |
| Operation Time: | 1H 20M |
| Sphere Temperature (°C): | 24.2 |

REPORT NUMBER: SP1-2408-195-9

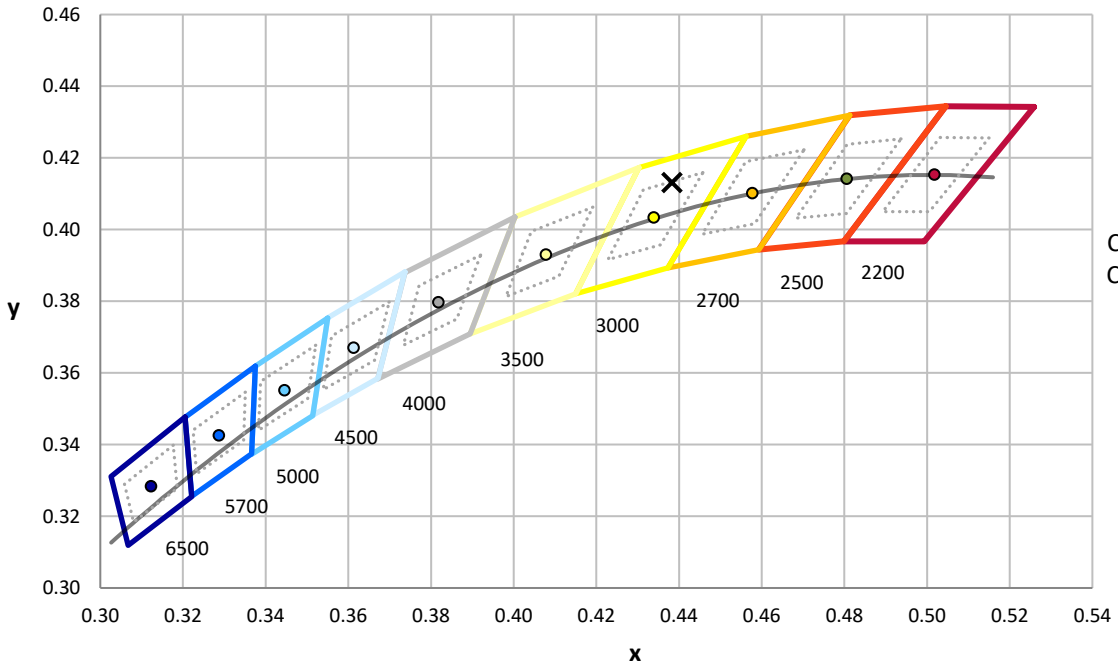
| Measurement and Test Equipment | | | |
|---|---|---|---|
| Instrument | Identification Number | Calibration Date | Calibration Due Date |
| Photometer | IN0058 | 6/18/2024 | 12/18/2024 |
| Power Meter | INXT2011004 | 2/8/2024 | 2/8/2025 |
| AC Power Source | IN0063 | 10/24/2023 | 10/24/2024 |
| DC Power Source | IN0208 | 10/24/2023 | 10/24/2024 |
| Sphere Thermometer | IN0085 | 10/24/2023 | 10/24/2024 |
| Room Thermometer | IN0046 | 10/24/2023 | 10/24/2024 |

REPORT NUMBER: SP1-2408-195-9

## CIE 1931 Chromaticity Diagram




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

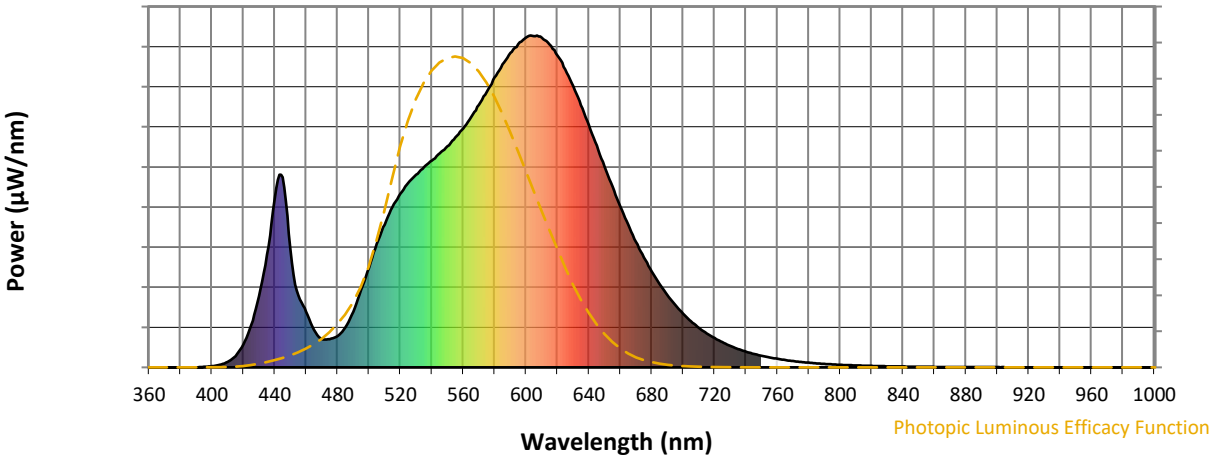



CCT = 3050K
CIE x = 0.4383
CIE y = 0.4131
Duv = 0.0034

Point lies inside the ANSI 3000K 4-step quadrangle

REPORT NUMBER: SP1-2408-195-9

## Photopic Flux vs. Wavelength

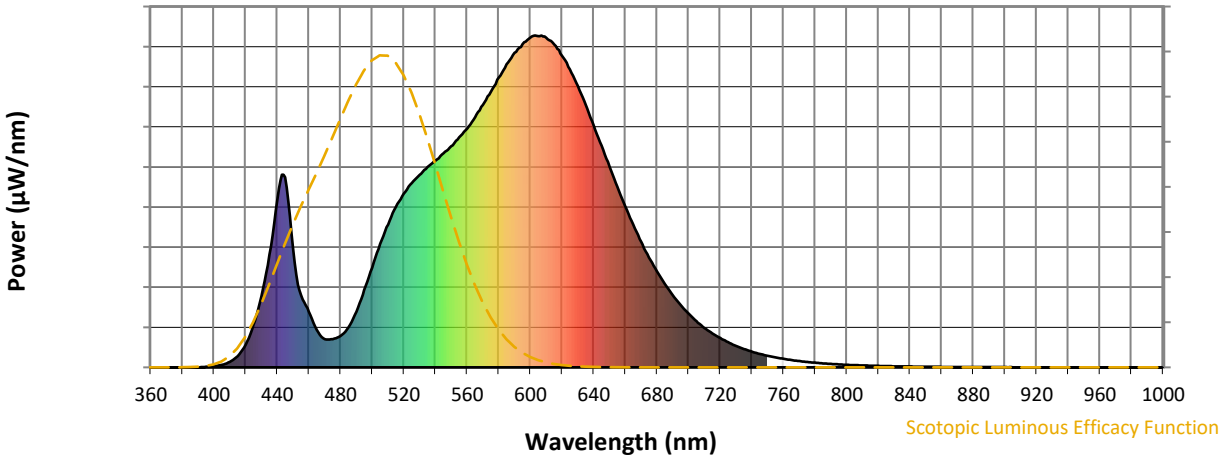



## Photopic Lumens: NR

| λ (nm) | Power W^/nm | Lumens (ϕ/nm) | λ (nm) | Power W^/nm | Lumens (ϕ/nm) | λ (nm) | Power W^/nm | Lumens (ϕ/nm) | λ (nm) | Power W^/nm | Lumens (ϕ/nm) | λ (nm) | Power W^/nm | Lumens (ϕ/nm) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 360 | 0 | NR | 490 | 168 | NR | 620 | 940 | NR | 750 | 35 | NR | 880 | 1 | NR |
| 365 | 0 | NR | 495 | 233 | NR | 625 | 897 | NR | 755 | 30 | NR | 885 | 1 | NR |
| 370 | 0 | NR | 500 | 300 | NR | 630 | 847 | NR | 760 | 26 | NR | 890 | 1 | NR |
| 375 | 0 | NR | 505 | 372 | NR | 635 | 790 | NR | 765 | 22 | NR | 895 | 1 | NR |
| 380 | 0 | NR | 510 | 430 | NR | 640 | 730 | NR | 770 | 19 | NR | 900 | 1 | NR |
| 385 | 0 | NR | 515 | 483 | NR | 645 | 668 | NR | 775 | 16 | NR | 905 | 1 | NR |
| 390 | 0 | NR | 520 | 524 | NR | 650 | 605 | NR | 780 | 14 | NR | 910 | 0 | NR |
| 395 | 2 | NR | 525 | 555 | NR | 655 | 545 | NR | 785 | 12 | NR | 915 | 0 | NR |
| 400 | 4 | NR | 530 | 581 | NR | 660 | 485 | NR | 790 | 10 | NR | 920 | 0 | NR |
| 405 | 7 | NR | 535 | 604 | NR | 665 | 430 | NR | 795 | 9 | NR | 925 | 0 | NR |
| 410 | 17 | NR | 540 | 623 | NR | 670 | 378 | NR | 800 | 8 | NR | 930 | 0 | NR |
| 415 | 34 | NR | 545 | 645 | NR | 675 | 331 | NR | 805 | 7 | NR | 935 | 0 | NR |
| 420 | 68 | NR | 550 | 667 | NR | 680 | 290 | NR | 810 | 6 | NR | 940 | 0 | NR |
| 425 | 128 | NR | 555 | 693 | NR | 685 | 251 | NR | 815 | 5 | NR | 945 | 0 | NR |
| 430 | 214 | NR | 560 | 719 | NR | 690 | 218 | NR | 820 | 4 | NR | 950 | 0 | NR |
| 435 | 339 | NR | 565 | 754 | NR | 695 | 188 | NR | 825 | 4 | NR | 955 | 0 | NR |
| 440 | 507 | NR | 570 | 791 | NR | 700 | 162 | NR | 830 | 3 | NR | 960 | 0 | NR |
| 445 | 573 | NR | 575 | 830 | NR | 705 | 139 | NR | 835 | 3 | NR | 965 | 0 | NR |
| 450 | 356 | NR | 580 | 873 | NR | 710 | 119 | NR | 840 | 3 | NR | 970 | 0 | NR |
| 455 | 217 | NR | 585 | 913 | NR | 715 | 102 | NR | 845 | 2 | NR | 975 | 0 | NR |
| 460 | 168 | NR | 590 | 948 | NR | 720 | 88 | NR | 850 | 2 | NR | 980 | 0 | NR |
| 465 | 113 | NR | 595 | 974 | NR | 725 | 76 | NR | 855 | 2 | NR | 985 | 0 | NR |
| 470 | 85 | NR | 600 | 994 | NR | 730 | 65 | NR | 860 | 1 | NR | 990 | 0 | NR |
| 475 | 85 | NR | 605 | 998 | NR | 735 | 55 | NR | 865 | 1 | NR | 995 | 0 | NR |
| 480 | 94 | NR | 610 | 994 | NR | 740 | 47 | NR | 870 | 1 | NR | 1000 | 0 | NR |
| 485 | 120 | NR | 615 | 973 | NR | 745 | 41 | NR | 875 | 1 | NR | | | |

REPORT NUMBER: SP1-2408-195-9

## Scotopic Flux vs. Wavelength

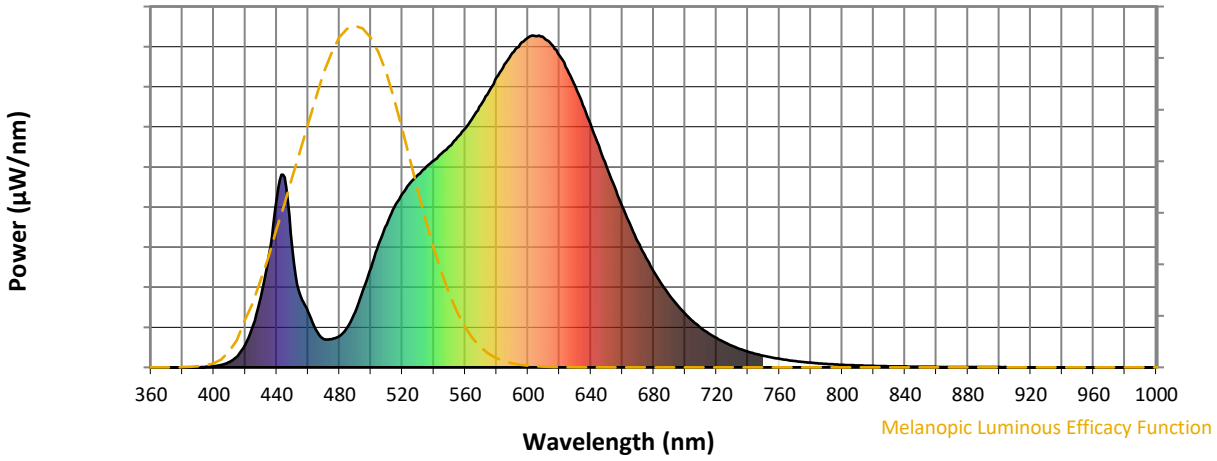



**Scotopic Lumens: NR** **S/P: 1.27**

| λ (nm) | Power W^/nm | Lumens (ϕ/nm) | λ (nm) | Power W^/nm | Lumens (ϕ/nm) | λ (nm) | Power W^/nm | Lumens (ϕ/nm) | λ (nm) | Power W^/nm | Lumens (ϕ/nm) | λ (nm) | Power W^/nm | Lumens (ϕ/nm) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 360 | 0 | NR | 490 | 168 | NR | 620 | 940 | NR | 750 | 35 | NR | 880 | 1 | NR |
| 365 | 0 | NR | 495 | 233 | NR | 625 | 897 | NR | 755 | 30 | NR | 885 | 1 | NR |
| 370 | 0 | NR | 500 | 300 | NR | 630 | 847 | NR | 760 | 26 | NR | 890 | 1 | NR |
| 375 | 0 | NR | 505 | 372 | NR | 635 | 790 | NR | 765 | 22 | NR | 895 | 1 | NR |
| 380 | 0 | NR | 510 | 430 | NR | 640 | 730 | NR | 770 | 19 | NR | 900 | 1 | NR |
| 385 | 0 | NR | 515 | 483 | NR | 645 | 668 | NR | 775 | 16 | NR | 905 | 1 | NR |
| 390 | 0 | NR | 520 | 524 | NR | 650 | 605 | NR | 780 | 14 | NR | 910 | 0 | NR |
| 395 | 2 | NR | 525 | 555 | NR | 655 | 545 | NR | 785 | 12 | NR | 915 | 0 | NR |
| 400 | 4 | NR | 530 | 581 | NR | 660 | 485 | NR | 790 | 10 | NR | 920 | 0 | NR |
| 405 | 7 | NR | 535 | 604 | NR | 665 | 430 | NR | 795 | 9 | NR | 925 | 0 | NR |
| 410 | 17 | NR | 540 | 623 | NR | 670 | 378 | NR | 800 | 8 | NR | 930 | 0 | NR |
| 415 | 34 | NR | 545 | 645 | NR | 675 | 331 | NR | 805 | 7 | NR | 935 | 0 | NR |
| 420 | 68 | NR | 550 | 667 | NR | 680 | 290 | NR | 810 | 6 | NR | 940 | 0 | NR |
| 425 | 128 | NR | 555 | 693 | NR | 685 | 251 | NR | 815 | 5 | NR | 945 | 0 | NR |
| 430 | 214 | NR | 560 | 719 | NR | 690 | 218 | NR | 820 | 4 | NR | 950 | 0 | NR |
| 435 | 339 | NR | 565 | 754 | NR | 695 | 188 | NR | 825 | 4 | NR | 955 | 0 | NR |
| 440 | 507 | NR | 570 | 791 | NR | 700 | 162 | NR | 830 | 3 | NR | 960 | 0 | NR |
| 445 | 573 | NR | 575 | 830 | NR | 705 | 139 | NR | 835 | 3 | NR | 965 | 0 | NR |
| 450 | 356 | NR | 580 | 873 | NR | 710 | 119 | NR | 840 | 3 | NR | 970 | 0 | NR |
| 455 | 217 | NR | 585 | 913 | NR | 715 | 102 | NR | 845 | 2 | NR | 975 | 0 | NR |
| 460 | 168 | NR | 590 | 948 | NR | 720 | 88 | NR | 850 | 2 | NR | 980 | 0 | NR |
| 465 | 113 | NR | 595 | 974 | NR | 725 | 76 | NR | 855 | 2 | NR | 985 | 0 | NR |
| 470 | 85 | NR | 600 | 994 | NR | 730 | 65 | NR | 860 | 1 | NR | 990 | 0 | NR |
| 475 | 85 | NR | 605 | 998 | NR | 735 | 55 | NR | 865 | 1 | NR | 995 | 0 | NR |
| 480 | 94 | NR | 610 | 994 | NR | 740 | 47 | NR | 870 | 1 | NR | 1000 | 0 | NR |
| 485 | 120 | NR | 615 | 973 | NR | 745 | 41 | NR | 875 | 1 | NR | | | |

REPORT NUMBER: SP1-2408-195-9

## Melanopic Flux vs. Wavelength




**Melanopic Lumens: NR** **M/P: 2.32**

| λ (nm) | Power W^/nm | Lumens (ϕ/nm) | λ (nm) | Power W^/nm | Lumens (ϕ/nm) | λ (nm) | Power W^/nm | Lumens (ϕ/nm) | λ (nm) | Power W^/nm | Lumens (ϕ/nm) | λ (nm) | Power W^/nm | Lumens (ϕ/nm) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 360 | 0 | NR | 490 | 168 | NR | 620 | 940 | NR | 750 | 35 | NR | 880 | 1 | NR |
| 365 | 0 | NR | 495 | 233 | NR | 625 | 897 | NR | 755 | 30 | NR | 885 | 1 | NR |
| 370 | 0 | NR | 500 | 300 | NR | 630 | 847 | NR | 760 | 26 | NR | 890 | 1 | NR |
| 375 | 0 | NR | 505 | 372 | NR | 635 | 790 | NR | 765 | 22 | NR | 895 | 1 | NR |
| 380 | 0 | NR | 510 | 430 | NR | 640 | 730 | NR | 770 | 19 | NR | 900 | 1 | NR |
| 385 | 0 | NR | 515 | 483 | NR | 645 | 668 | NR | 775 | 16 | NR | 905 | 1 | NR |
| 390 | 0 | NR | 520 | 524 | NR | 650 | 605 | NR | 780 | 14 | NR | 910 | 0 | NR |
| 395 | 2 | NR | 525 | 555 | NR | 655 | 545 | NR | 785 | 12 | NR | 915 | 0 | NR |
| 400 | 4 | NR | 530 | 581 | NR | 660 | 485 | NR | 790 | 10 | NR | 920 | 0 | NR |
| 405 | 7 | NR | 535 | 604 | NR | 665 | 430 | NR | 795 | 9 | NR | 925 | 0 | NR |
| 410 | 17 | NR | 540 | 623 | NR | 670 | 378 | NR | 800 | 8 | NR | 930 | 0 | NR |
| 415 | 34 | NR | 545 | 645 | NR | 675 | 331 | NR | 805 | 7 | NR | 935 | 0 | NR |
| 420 | 68 | NR | 550 | 667 | NR | 680 | 290 | NR | 810 | 6 | NR | 940 | 0 | NR |
| 425 | 128 | NR | 555 | 693 | NR | 685 | 251 | NR | 815 | 5 | NR | 945 | 0 | NR |
| 430 | 214 | NR | 560 | 719 | NR | 690 | 218 | NR | 820 | 4 | NR | 950 | 0 | NR |
| 435 | 339 | NR | 565 | 754 | NR | 695 | 188 | NR | 825 | 4 | NR | 955 | 0 | NR |
| 440 | 507 | NR | 570 | 791 | NR | 700 | 162 | NR | 830 | 3 | NR | 960 | 0 | NR |
| 445 | 573 | NR | 575 | 830 | NR | 705 | 139 | NR | 835 | 3 | NR | 965 | 0 | NR |
| 450 | 356 | NR | 580 | 873 | NR | 710 | 119 | NR | 840 | 3 | NR | 970 | 0 | NR |
| 455 | 217 | NR | 585 | 913 | NR | 715 | 102 | NR | 845 | 2 | NR | 975 | 0 | NR |
| 460 | 168 | NR | 590 | 948 | NR | 720 | 88 | NR | 850 | 2 | NR | 980 | 0 | NR |
| 465 | 113 | NR | 595 | 974 | NR | 725 | 76 | NR | 855 | 2 | NR | 985 | 0 | NR |
| 470 | 85 | NR | 600 | 994 | NR | 730 | 65 | NR | 860 | 1 | NR | 990 | 0 | NR |
| 475 | 85 | NR | 605 | 998 | NR | 735 | 55 | NR | 865 | 1 | NR | 995 | 0 | NR |
| 480 | 94 | NR | 610 | 994 | NR | 740 | 47 | NR | 870 | 1 | NR | 1000 | 0 | NR |
| 485 | 120 | NR | 615 | 973 | NR | 745 | 41 | NR | 875 | 1 | NR | | | |

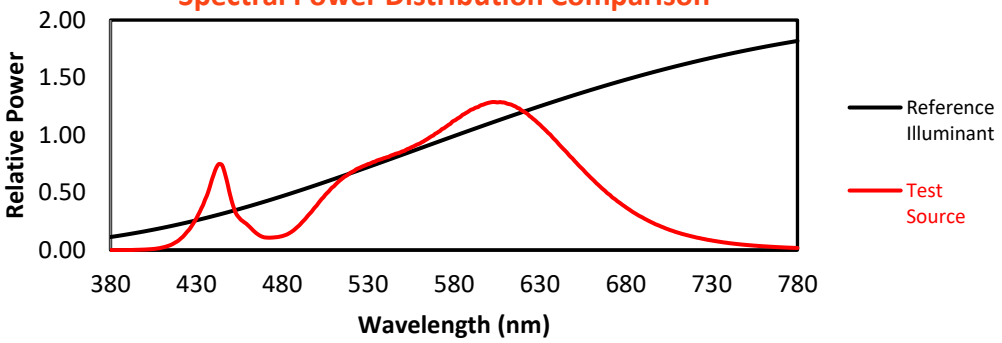
REPORT NUMBER: SP1-2408-195-9

# TM-30-18

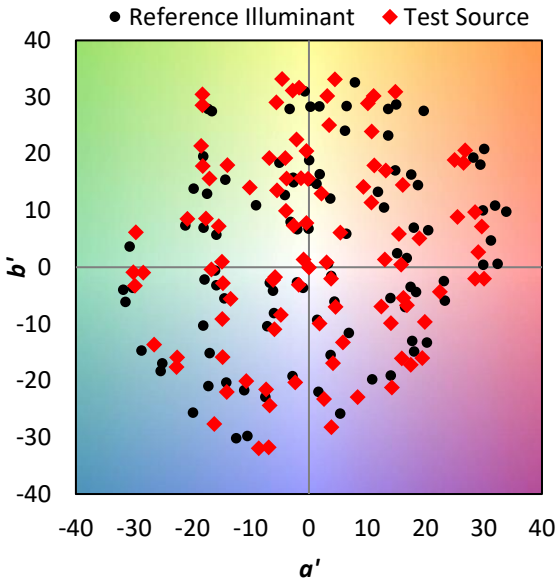
## Summary

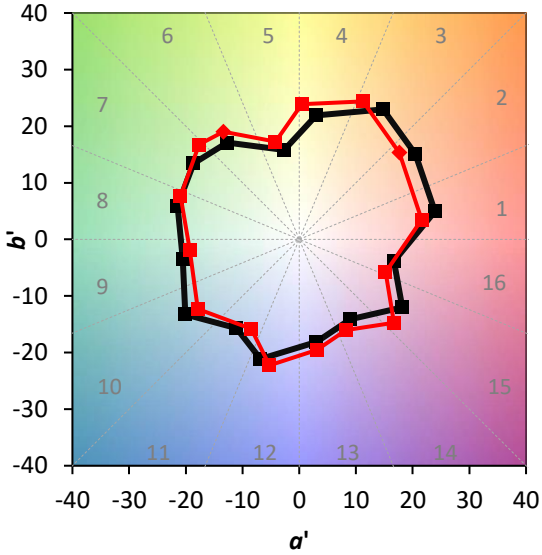
$R_f$ = 81.5
$R_g$ = 99.2
CIE $R_a$ = 81.0
$R_9$ = 7.1

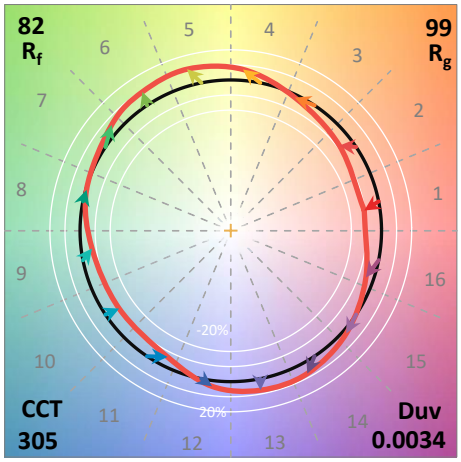
## Spectral Power Distribution Comparison

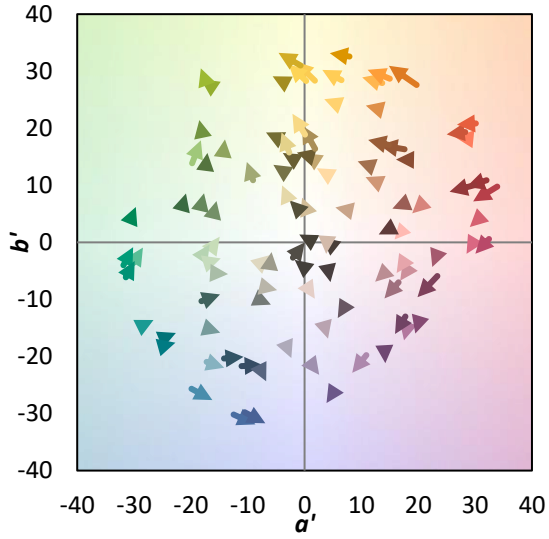



## Color Vector Graphics



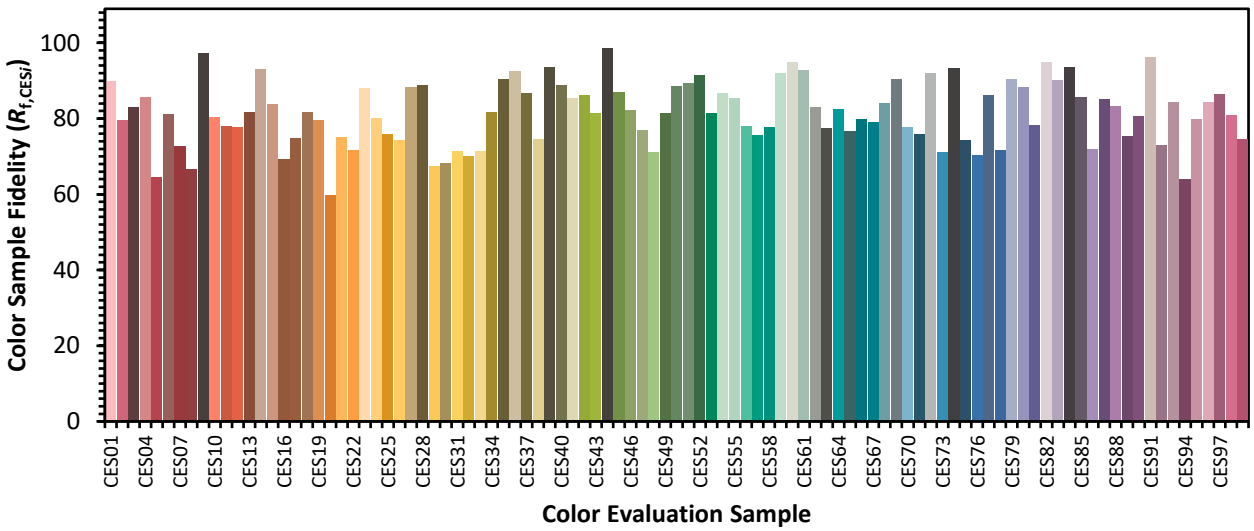



REPORT NUMBER: SP1-2408-195-9

# TM-30-18

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

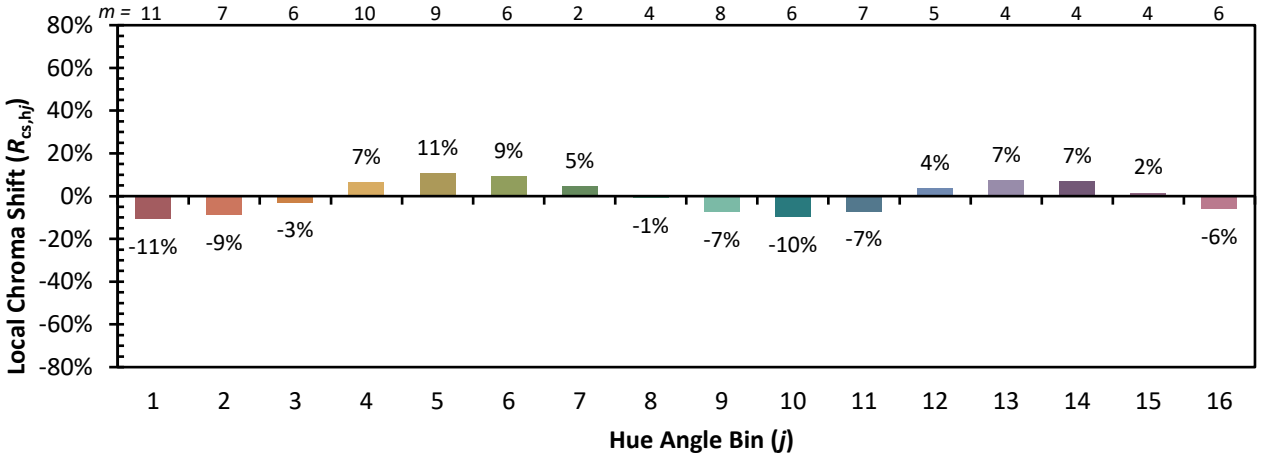
| | | | |
|---|---|---|---|
| CES01 = 86 | CES26 = 74 | CES51 = 89 | CES76 = 70 |
| CES02 = 63 | CES27 = 88 | CES52 = 92 | CES77 = 86 |
| CES03 = 31 | CES28 = 89 | CES53 = 81 | CES78 = 72 |
| CES04 = 70 | CES29 = 67 | CES54 = 87 | CES79 = 90 |
| CES05 = 50 | CES30 = 68 | CES55 = 85 | CES80 = 88 |
| CES06 = 51 | CES31 = 71 | CES56 = 78 | CES81 = 78 |
| CES07 = 42 | CES32 = 70 | CES57 = 76 | CES82 = 95 |
| CES08 = 41 | CES33 = 71 | CES58 = 78 | CES83 = 90 |
| CES09 = 29 | CES34 = 82 | CES59 = 92 | CES84 = 94 |
| CES10 = 76 | CES35 = 90 | CES60 = 95 | CES85 = 86 |
| CES11 = 59 | CES36 = 93 | CES61 = 93 | CES86 = 72 |
| CES12 = 65 | CES37 = 87 | CES62 = 83 | CES87 = 85 |
| CES13 = 43 | CES38 = 75 | CES63 = 77 | CES88 = 83 |
| CES14 = 74 | CES39 = 94 | CES64 = 83 | CES89 = 75 |
| CES15 = 71 | CES40 = 89 | CES65 = 77 | CES90 = 81 |
| CES16 = 47 | CES41 = 85 | CES66 = 80 | CES91 = 96 |
| CES17 = 50 | CES42 = 86 | CES67 = 79 | CES92 = 73 |
| CES18 = 56 | CES43 = 81 | CES68 = 84 | CES93 = 84 |
| CES19 = 72 | CES44 = 99 | CES69 = 91 | CES94 = 64 |
| CES20 = 66 | CES45 = 87 | CES70 = 78 | CES95 = 80 |
| CES21 = 87 | CES46 = 82 | CES71 = 76 | CES96 = 84 |
| CES22 = 79 | CES47 = 77 | CES72 = 92 | CES97 = 87 |
| CES23 = 92 | CES48 = 71 | CES73 = 71 | CES98 = 81 |
| CES24 = 91 | CES49 = 81 | CES74 = 93 | CES99 = 74 |
| CES25 = 72 | CES50 = 89 | CES75 = 74 | |

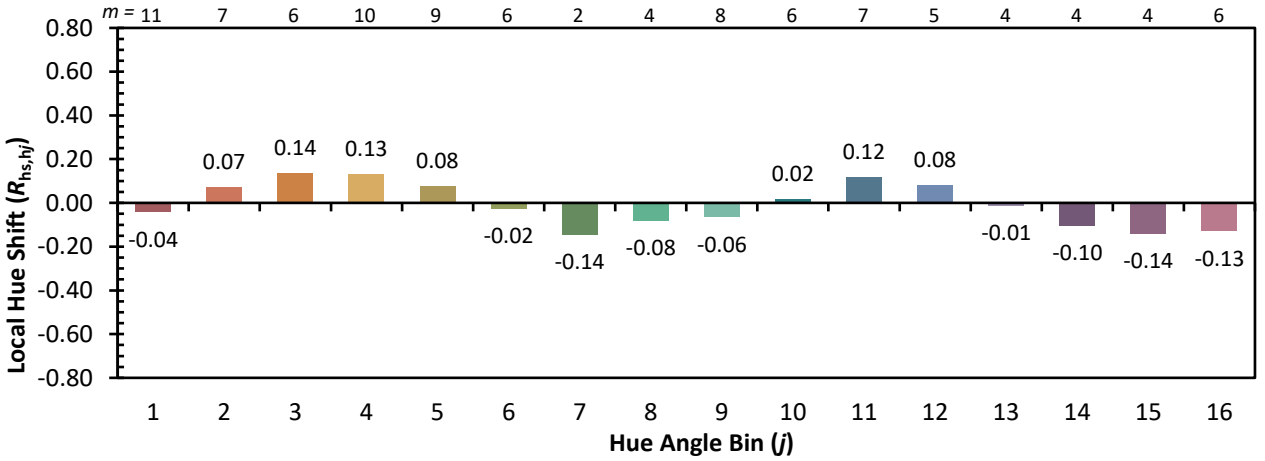


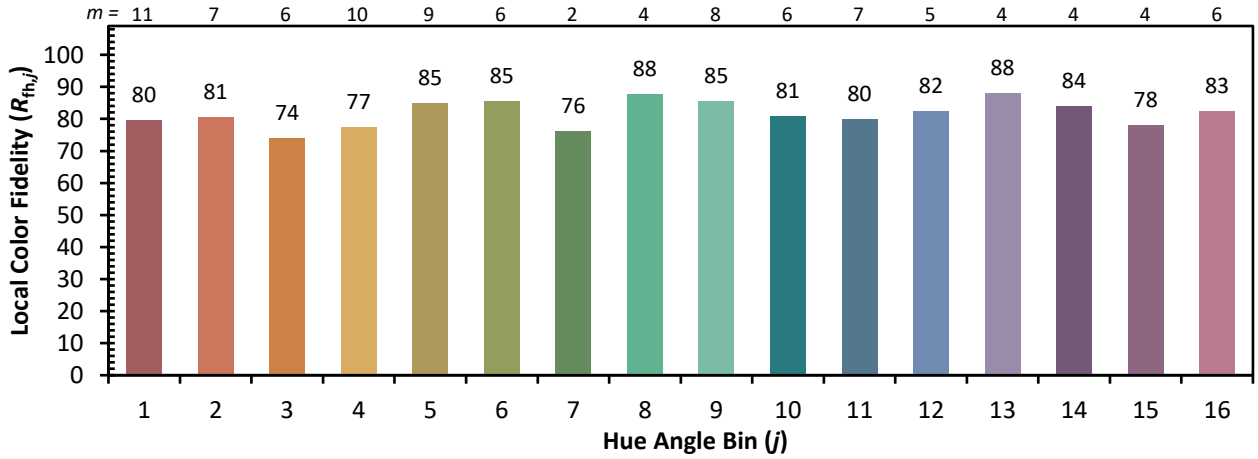
REPORT NUMBER: SP1-2408-195-9

**TM-30-18**

## Color Rendition by Hue-Angle Bin



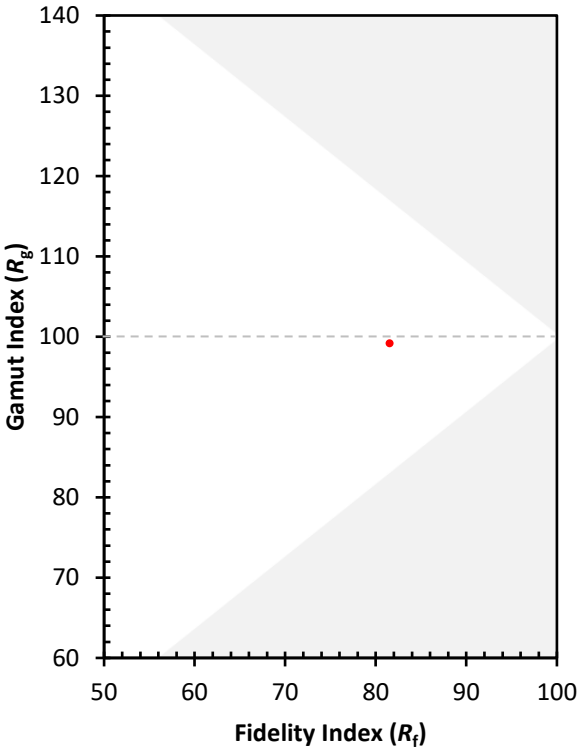



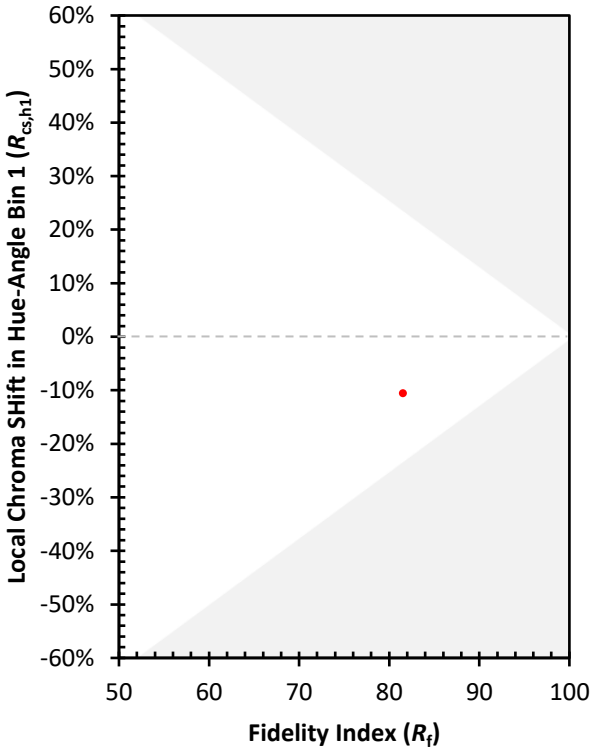



REPORT NUMBER: SP1-2408-195-9

# TM-30-18

## Measure Comparisons




(END OF REPORT)