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

Scaled data based on original data using

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

Test Report Prepared for

Cooper Lighting Solutions

(formerly Eaton)

Brand: McGRAW-EDISON

Report Number: P1357674

Luminaire Tested: **GSS-SB3D-730-U-T4FT**

Issue Date: 02/18/2026

Report Generated By 670245763

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

Scaled Data Report

**Test Information**

| | |
|---|---|
| Test Method: | LM-79-08 |
| Report Number: | P1357674 |
| Test Lab: | INNOVATION CENTER(G3) |
| Issue Date: | 02/18/2026 |
| Manufacturer: | COOPER LIGHTING SOLUTIONS (FORMERLY EATON) |
| Product Line: | McGRAW-EDISON |
| Catalog Number: | GSS-SB3D-730-U-T4FT |
| Description: | GALLEON II SLIM SITE HIGH DENSITY LED ARRAYS 3SQUARE 219W 70CRI 3000K FIXTURE w/ TYPE IV FORWARD THROW DISTRIBUTION OPTIC |
| Light Source: | (78) 3000K CCT, 70 CRI LEDS |
| Ballast/Driver: | ELECTRONIC DRIVER |

**Summary**

| | |
|---|---|
| Lumens per Lamp: | N/A |
| Luminaire Lumens: | 27054.1 lumens |
| Efficiency: | N/A |
| Efficacy: | 123.5 lumens/watt |
| Luminous Opening: | Rectangular (W 1.5' x L: 0.5' x H: 0') |
| IES Classification: | Type IV - Short |
| BUG Rating: | B3 - U0 - G4 |

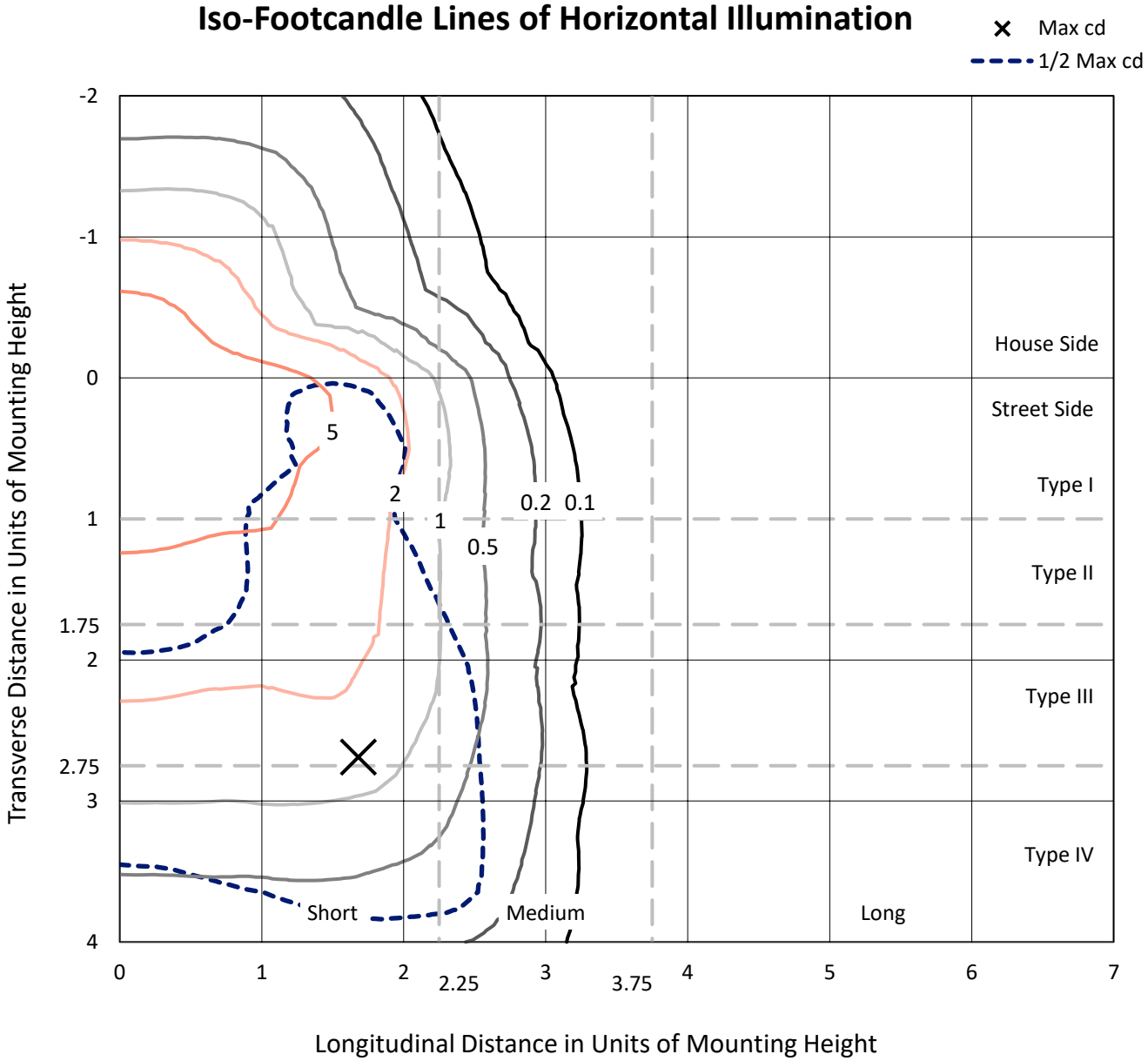
| | |
|---|---|
| Input Watts (W): | 219 |
| Input Voltage (V): | 120 |
| Input Current (Ain): | NR |
| Voltage Rise (V): | NR |
| Power Factor: | 0.98 |
| Total Harmonic Distortion (THDi): | 2.5% |
| Frequency (hertz): | 60 |
| Stabilization Time: | NR |
| Operation Time: | NR |
| Ambient Temperature (°C): | NR |
| Test Distance: | 28.75 FT |

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Scaled Data Report

REPORT NUMBER: P1357674
CATALOG NUMBER: GSS-SB3D-730-U-T4FT

## Iso-Footcandle Lines of Horizontal Illumination



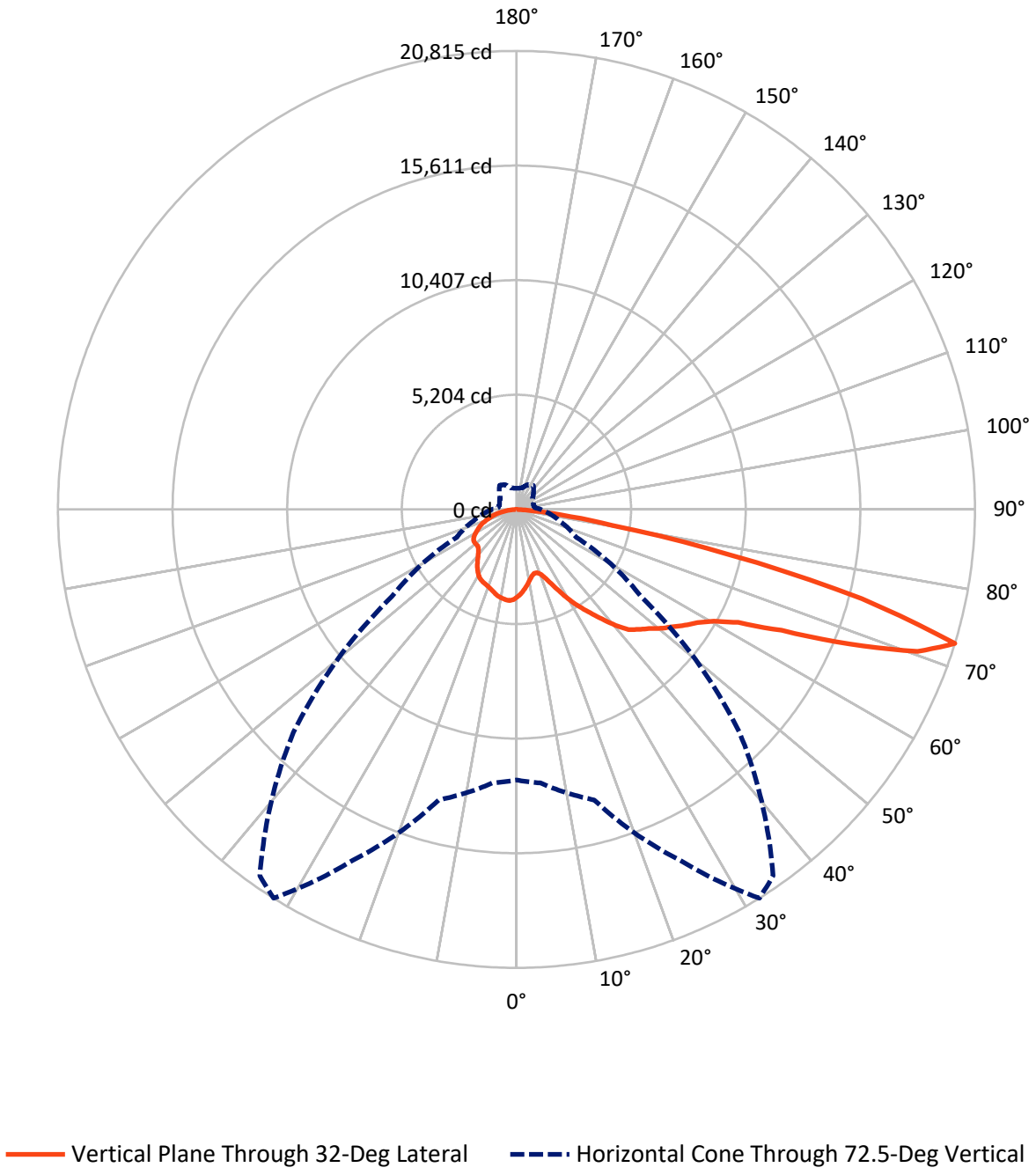

Based on 20 foot mounting height. Maximum calculated value = 10 fc
Type IV - Short - N/A

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## Luminous Intensity Polar Plot



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Scaled Data Report

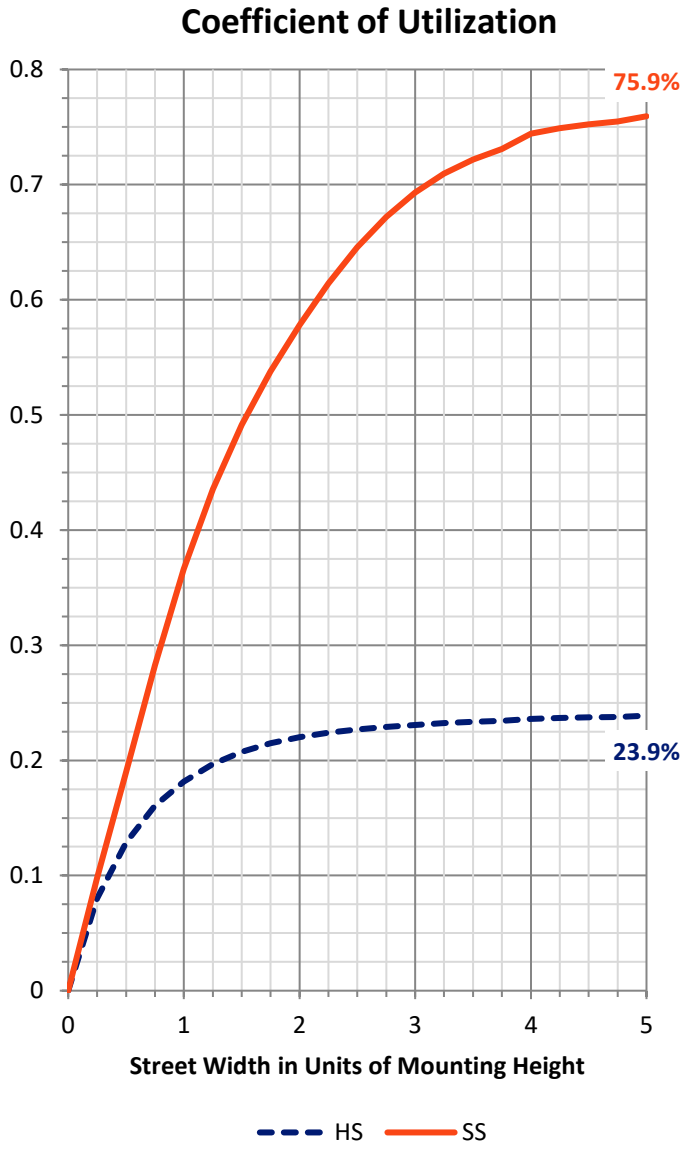
REPORT NUMBER: P1357674
CATALOG NUMBER: GSS-SB3D-730-U-T4FT

**FLUX DISTRIBUTION:**

| | | Downward | Upward | Total |
|---|---|---|---|---|
| **House Side** | Lumens | 6524.6 | 0.0 | 6524.6 |
| | % Fixture | 24.1 | 0.0 | 24.1 |
| **Street Side** | Lumens | 20529.5 | 0.0 | 20529.5 |
| | % Fixture | 75.9 | 0.0 | 75.9 |
| **Total** | Lumens | 27054.1 | 0.0 | 27054.1 |
| | % Fixture | 100.0 | 0.0 | 100.0 |

**ZONAL LUMENS:**

| Zone | Lumens | % Fixture |
|---|---|---|
| 0°-10° | 371.7 | 1.4 |
| 10°-20° | 1054.6 | 3.9 |
| 20°-30° | 1827.2 | 6.8 |
| 30°-40° | 2886.3 | 10.7 |
| 40°-50° | 4206.7 | 15.5 |
| 50°-60° | 5702.6 | 21.1 |
| 60°-70° | 6563.1 | 24.3 |
| 70°-80° | 4106.9 | 15.2 |
| 80°-90° | 335.1 | 1.2 |
| 90°-100° | 0.0 | 0.0 |
| 100°-110° | 0.0 | 0.0 |
| 110°-120° | 0.0 | 0.0 |
| 120°-130° | 0.0 | 0.0 |
| 130°-140° | 0.0 | 0.0 |
| 140°-150° | 0.0 | 0.0 |
| 150°-160° | 0.0 | 0.0 |
| 160°-170° | 0.0 | 0.0 |
| 170°-180° | 0.0 | 0.0 |
| 0°-90° | 27054.1 | 100.0 |
| 0°-180° | 27054.1 | 100.0 |



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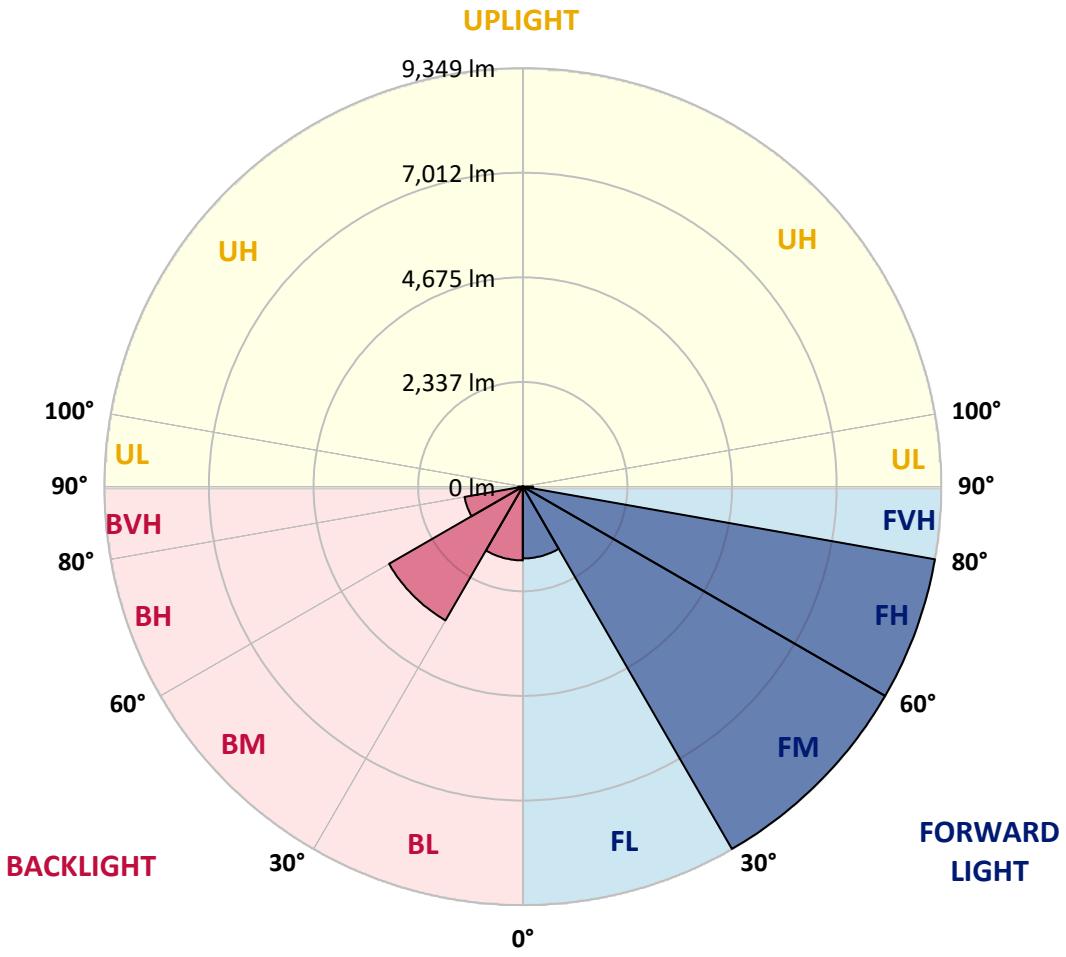
Scaled Data Report

REPORT NUMBER: P1357674
CATALOG NUMBER: GSS-SB3D-730-U-T4FT

## LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

| Zone | | Lumens | % Fixture | Zone Rating/Lumen Limit B | U | G |
|---|---|---|---|---|---|---|
| FL | (0°-30°) | 1604.9 | 5.9 | | | |
| FM | (30°-60°) | 9345.5 | 34.5 | | | |
| FH | (60°-80°) | 9349.0 | 34.6 | | | G4/12000 |
| FVH | (80°-90°) | 230.2 | 0.9 | | | G3/500 |
| BL | (0°-30°) | 1648.6 | 6.1 | B3/2500 | | |
| BM | (30°-60°) | 3450.1 | 12.8 | B3/5000 | | |
| BH | (60°-80°) | 1320.9 | 4.9 | B3/2500 | | G3/2500 |
| BVH | (80°-90°) | 104.9 | 0.4 | | | G2/225 |
| UL | (90°-100°) | 0.0 | 0.0 | | U0/0 | |
| UH | (100°-180°) | 0.0 | 0.0 | | U0/0 | |

**BUG Rating: B3-U0-G4**
Type IV Short



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Scaled Data Report

REPORT NUMBER: P1357674
CATALOG NUMBER: GSS-SB3D-730-U-T4FT

**CANDELA DISTRIBUTION (FULL):**

| | 0° | 5° | 15° | 25° | 32° | 35° | 45° | 55° | 65° | 75° | 85° |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0° | 3973.9 | 3973.9 | 3973.9 | 3973.9 | 3973.9 | 3973.9 | 3973.9 | 3973.9 | 3973.9 | 3973.9 | 3973.9 |
| 2.5° | 3805.9 | 3799.7 | 3830.8 | 3818.4 | 3843.3 | 3830.8 | 3830.8 | 3868.1 | 3899.2 | 3942.8 | 3973.9 |
| 5° | 3594.5 | 3600.7 | 3594.5 | 3656.7 | 3656.7 | 3662.9 | 3712.7 | 3812.2 | 3886.8 | 3936.5 | 3967.6 |
| 7.5° | 3320.9 | 3333.3 | 3358.2 | 3426.6 | 3470.1 | 3501.2 | 3594.5 | 3700.2 | 3824.6 | 3917.9 | 4029.8 |
| 10° | 3097.0 | 3078.3 | 3134.3 | 3208.9 | 3271.1 | 3302.2 | 3457.7 | 3625.6 | 3793.5 | 3949.0 | 4042.3 |
| 12.5° | 2935.3 | 2935.3 | 2966.4 | 3034.8 | 3103.2 | 3153.0 | 3327.1 | 3532.3 | 3756.2 | 3949.0 | 4123.1 |
| 15° | 2904.2 | 2916.6 | 2929.1 | 2954.0 | 3016.2 | 3041.0 | 3208.9 | 3463.9 | 3712.7 | 4005.0 | 4179.1 |
| 17.5° | 3009.9 | 2997.5 | 2985.1 | 2997.5 | 3022.4 | 3034.8 | 3159.2 | 3407.9 | 3687.8 | 4011.2 | 4210.2 |
| 20° | 3296.0 | 3271.1 | 3252.5 | 3159.2 | 3140.5 | 3153.0 | 3202.7 | 3389.3 | 3694.0 | 4098.2 | 4340.8 |
| 22.5° | 3694.0 | 3706.4 | 3631.8 | 3476.3 | 3401.7 | 3395.5 | 3333.3 | 3457.7 | 3731.3 | 4166.6 | 4452.7 |
| 25° | 4266.1 | 4210.2 | 4135.5 | 3949.0 | 3793.5 | 3737.5 | 3606.9 | 3600.7 | 3812.2 | 4291.0 | 4614.4 |
| 27.5° | 4844.5 | 4813.4 | 4695.2 | 4434.1 | 4259.9 | 4179.1 | 3942.8 | 3824.6 | 3930.3 | 4440.3 | 4801.0 |
| 30° | 5491.3 | 5491.3 | 5298.5 | 5006.2 | 4776.1 | 4626.8 | 4347.0 | 4123.1 | 4129.3 | 4639.3 | 5068.4 |
| 32.5° | 6156.7 | 6119.4 | 5932.8 | 5503.7 | 5273.6 | 5124.3 | 4751.2 | 4521.1 | 4446.5 | 4919.1 | 5435.3 |
| 35° | 6635.5 | 6648.0 | 6473.8 | 6094.5 | 5764.9 | 5621.9 | 5286.0 | 5024.8 | 4856.9 | 5310.9 | 5901.7 |
| 37.5° | 7070.9 | 7083.3 | 6977.6 | 6604.4 | 6312.2 | 6169.1 | 5789.8 | 5609.4 | 5354.4 | 5870.6 | 6461.4 |
| 40° | 7288.5 | 7257.4 | 7226.3 | 7089.5 | 6921.6 | 6809.7 | 6417.9 | 6181.6 | 5957.7 | 6473.8 | 7070.9 |
| 42.5° | 7450.2 | 7450.2 | 7400.5 | 7462.6 | 7462.6 | 7388.0 | 7083.3 | 6871.9 | 6648.0 | 7313.4 | 7717.6 |
| 45° | 7636.8 | 7555.9 | 7555.9 | 7611.9 | 7767.4 | 7817.1 | 7842.0 | 7643.0 | 7437.8 | 8146.7 | 8420.3 |
| 47.5° | 7829.6 | 7848.2 | 7798.5 | 7866.9 | 8084.5 | 8302.2 | 8625.6 | 8445.2 | 8221.3 | 9135.5 | 9216.4 |
| 50° | 8072.1 | 8097.0 | 8097.0 | 8246.2 | 8488.8 | 8743.7 | 9539.7 | 9353.2 | 8980.0 | 10254.9 | 10093.2 |
| 52.5° | 8134.3 | 8146.7 | 8333.3 | 8501.2 | 8855.7 | 9203.9 | 10453.9 | 10186.5 | 9788.5 | 11274.8 | 10858.1 |
| 55° | 8022.3 | 8115.6 | 8451.4 | 8774.8 | 9284.8 | 9701.4 | 11324.6 | 10988.7 | 10379.3 | 12052.2 | 11461.4 |
| 57.5° | 8277.3 | 8314.6 | 8625.6 | 8992.5 | 9701.4 | 10236.3 | 12182.8 | 11703.9 | 10789.7 | 12692.7 | 11703.9 |
| 60° | 8818.4 | 8793.5 | 9067.1 | 9477.6 | 10298.4 | 10988.7 | 13109.4 | 12313.4 | 11131.8 | 12798.4 | 11225.1 |
| 62.5° | 10031.0 | 9906.7 | 10006.2 | 10379.3 | 11299.7 | 12238.7 | 14060.9 | 12810.9 | 10920.3 | 11753.7 | 9608.2 |
| 65° | 11672.8 | 11635.5 | 11573.3 | 11965.1 | 13227.5 | 14029.8 | 15248.7 | 12705.1 | 9863.1 | 9919.1 | 7723.8 |
| 67.5° | 13140.5 | 13190.2 | 13152.9 | 14197.7 | 16318.3 | 17052.1 | 16511.1 | 11940.2 | 8171.6 | 7077.1 | 4968.9 |
| 70° | 13706.4 | 13805.9 | 14465.1 | 16455.1 | 19315.8 | 20167.8 | 17083.2 | 9993.7 | 5659.2 | 3824.6 | 2444.0 |
| 72.5° | 12288.5 | 12468.8 | 13656.6 | 17580.7 | 20814.6 | 20310.8 | 14322.1 | 6896.7 | 2985.1 | 2014.9 | 1361.9 |
| 75° | 8495.0 | 8681.5 | 10485.0 | 14744.9 | 16193.9 | 15366.8 | 8793.5 | 2972.6 | 1542.3 | 1175.4 | 839.5 |
| 77.5° | 3333.3 | 3818.4 | 5000.0 | 8227.6 | 9925.3 | 9738.7 | 4166.6 | 1026.1 | 858.2 | 715.2 | 547.3 |
| 80° | 1119.4 | 1268.6 | 1859.4 | 3246.2 | 4403.0 | 4651.7 | 1517.4 | 522.4 | 497.5 | 435.3 | 342.0 |
| 82.5° | 404.2 | 454.0 | 796.0 | 1225.1 | 2008.7 | 2021.1 | 491.3 | 279.8 | 304.7 | 261.2 | 180.3 |
| 85° | 136.8 | 149.3 | 186.6 | 379.4 | 491.3 | 528.6 | 136.8 | 105.7 | 124.4 | 111.9 | 80.8 |
| 87.5° | 12.4 | 12.4 | 12.4 | 18.7 | 18.7 | 18.7 | 18.7 | 24.9 | 24.9 | 18.7 | 18.7 |
| 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: P1357674
CATALOG NUMBER: GSS-SB3D-730-U-T4FT

**CANDELA DISTRIBUTION (continued):**

| | 90° | 95° | 105° | 115° | 125° | 135° | 145° | 155° | 165° | 175° | 180° |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0° | 3973.9 | 3973.9 | 3973.9 | 3973.9 | 3973.9 | 3973.9 | 3973.9 | 3973.9 | 3973.9 | 3973.9 | 3973.9 |
| 2.5° | 3980.1 | 3998.7 | 4011.2 | 4036.0 | 4067.1 | 4073.4 | 4098.2 | 4104.5 | 4092.0 | 4104.5 | 4092.0 |
| 5° | 4017.4 | 4048.5 | 4073.4 | 4110.7 | 4135.5 | 4166.6 | 4160.4 | 4141.8 | 4141.8 | 4110.7 | 4160.4 |
| 7.5° | 4067.1 | 4110.7 | 4129.3 | 4166.6 | 4172.9 | 4154.2 | 4129.3 | 4123.1 | 4060.9 | 4060.9 | 4073.4 |
| 10° | 4135.5 | 4172.9 | 4191.5 | 4204.0 | 4166.6 | 4135.5 | 4085.8 | 4054.7 | 4029.8 | 4005.0 | 4011.2 |
| 12.5° | 4185.3 | 4222.6 | 4222.6 | 4179.1 | 4135.5 | 4085.8 | 4042.3 | 3980.1 | 3961.4 | 3930.3 | 3930.3 |
| 15° | 4216.4 | 4278.6 | 4235.0 | 4166.6 | 4079.6 | 4011.2 | 3942.8 | 3886.8 | 3861.9 | 3855.7 | 3880.6 |
| 17.5° | 4297.2 | 4328.3 | 4222.6 | 4104.5 | 4011.2 | 3917.9 | 3843.3 | 3799.7 | 3768.6 | 3762.4 | 3812.2 |
| 20° | 4390.5 | 4365.6 | 4185.3 | 4036.0 | 3930.3 | 3805.9 | 3743.8 | 3731.3 | 3718.9 | 3756.2 | 3756.2 |
| 22.5° | 4483.8 | 4440.3 | 4148.0 | 3980.1 | 3812.2 | 3725.1 | 3669.1 | 3706.4 | 3712.7 | 3737.5 | 3762.4 |
| 25° | 4620.6 | 4514.9 | 4135.5 | 3893.0 | 3675.4 | 3613.2 | 3619.4 | 3669.1 | 3681.6 | 3681.6 | 3694.0 |
| 27.5° | 4769.9 | 4639.3 | 4141.8 | 3762.4 | 3538.5 | 3519.9 | 3563.4 | 3582.1 | 3600.7 | 3582.1 | 3588.3 |
| 30° | 4981.3 | 4769.9 | 4110.7 | 3613.2 | 3420.4 | 3451.5 | 3476.3 | 3470.1 | 3389.3 | 3370.6 | 3383.1 |
| 32.5° | 5292.3 | 4950.2 | 4085.8 | 3495.0 | 3358.2 | 3358.2 | 3333.3 | 3258.7 | 3177.8 | 3103.2 | 3128.1 |
| 35° | 5646.7 | 5174.1 | 3992.5 | 3401.7 | 3296.0 | 3271.1 | 3171.6 | 3047.2 | 2898.0 | 2810.9 | 2817.1 |
| 37.5° | 6019.9 | 5379.3 | 3893.0 | 3296.0 | 3196.5 | 3134.3 | 2991.3 | 2798.5 | 2649.2 | 2562.2 | 2549.7 |
| 40° | 6504.9 | 5609.4 | 3743.8 | 3153.0 | 3059.7 | 2960.2 | 2798.5 | 2587.0 | 2437.8 | 2369.4 | 2406.7 |
| 42.5° | 6996.2 | 5876.8 | 3569.6 | 2954.0 | 2879.3 | 2817.1 | 2636.8 | 2431.6 | 2288.5 | 2245.0 | 2269.9 |
| 45° | 7543.5 | 6150.5 | 3389.3 | 2717.6 | 2680.3 | 2667.9 | 2512.4 | 2350.7 | 2226.4 | 2164.2 | 2157.9 |
| 47.5° | 8103.2 | 6436.5 | 3140.5 | 2506.2 | 2487.5 | 2568.4 | 2450.2 | 2313.4 | 2207.7 | 2108.2 | 2102.0 |
| 50° | 8731.3 | 6716.4 | 2804.7 | 2238.8 | 2325.9 | 2512.4 | 2468.9 | 2319.6 | 2139.3 | 1983.8 | 1958.9 |
| 52.5° | 9291.0 | 6815.9 | 2450.2 | 2027.4 | 2201.5 | 2518.6 | 2487.5 | 2282.3 | 2046.0 | 1859.4 | 1834.6 |
| 55° | 9670.3 | 6648.0 | 2145.5 | 1840.8 | 2108.2 | 2475.1 | 2462.7 | 2226.4 | 1952.7 | 1753.7 | 1728.8 |
| 57.5° | 9695.2 | 6156.7 | 1853.2 | 1685.3 | 1958.9 | 2350.7 | 2388.0 | 2114.4 | 1809.7 | 1641.8 | 1623.1 |
| 60° | 9098.2 | 5348.2 | 1616.9 | 1548.5 | 1797.3 | 2189.0 | 2251.2 | 1958.9 | 1679.1 | 1498.7 | 1486.3 |
| 62.5° | 7761.1 | 4278.6 | 1393.0 | 1399.2 | 1641.8 | 1971.4 | 2089.5 | 1828.3 | 1548.5 | 1374.4 | 1355.7 |
| 65° | 6175.3 | 3271.1 | 1237.6 | 1268.6 | 1442.8 | 1759.9 | 1940.3 | 1697.8 | 1417.9 | 1250.0 | 1225.1 |
| 67.5° | 4148.0 | 2257.4 | 1069.6 | 1131.8 | 1250.0 | 1542.3 | 1791.0 | 1560.9 | 1256.2 | 1119.4 | 1100.7 |
| 70° | 1977.6 | 1312.2 | 920.4 | 995.0 | 1069.6 | 1306.0 | 1573.4 | 1368.2 | 1125.6 | 1013.7 | 1007.5 |
| 72.5° | *1100.7* | *839.5* | *796.0* | *852.0* | *895.5* | *1094.5* | *1330.8* | *1237.6* | *1007.5* | *963.9* | *957.7* |
| 75° | 702.7 | 597.0 | 634.3 | 702.7 | 727.6 | 864.4 | 1150.5 | 1107.0 | 908.0 | 932.8 | 932.8 |
| 77.5° | 435.3 | 410.4 | 485.1 | 547.3 | 565.9 | 709.0 | 945.3 | 939.0 | 758.7 | 746.3 | 659.2 |
| 80° | 279.8 | 273.6 | 348.3 | 354.5 | 385.6 | 541.0 | 752.5 | 721.4 | 572.1 | 522.4 | 491.3 |
| 82.5° | 149.3 | 155.5 | 211.4 | 223.9 | 217.7 | 329.6 | 516.2 | 509.9 | 422.9 | 366.9 | 348.3 |
| 85° | 56.0 | 56.0 | 80.8 | 99.5 | 105.7 | 167.9 | 273.6 | 279.8 | 230.1 | 174.1 | 180.3 |
| 87.5° | 12.4 | 12.4 | 12.4 | 18.7 | 18.7 | 37.3 | 49.8 | 56.0 | 62.2 | 31.1 | 18.7 |
| 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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# LM-79-2019: Approved Method: Electrical and Photometric Measurements of Solid-State Lighting Products

Report Prepared for

Cooper Lighting Solutions

McGraw-Edison

Report Number: SP1-2407-184-4

Test Date: 10/10/2024

Luminaire Tested: GSS-SB1A-730-U-5WQ

Data in this report applies to families of products including GSS-SB1A-730-U-5WQ

Report Generated By FNC07603 / LDUCLS01DT446
Version: v7.04

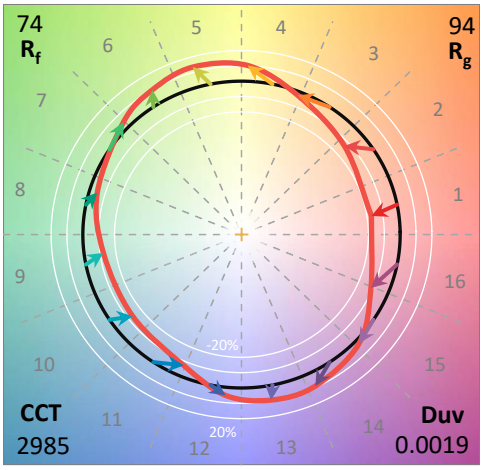
## Test Information

| | |
|---|---|
| Test Method: | LM-79-2019 |
| Report Number: | SP1-2407-184-4 |
| Test Lab: | COOPER LIGHTING SOLUTIONS |
| Photometer: | SP1 - 76IN SPHERE |
| Measurement Geometry: | 4π |
| Issue Date: | 10/15/2024 |
| Manufacturer: | COOPER LIGHTING SOLUTIONS |
| Product Line: | McGraw-Edison |
| Catalog Number: | **GSS-SB1A-730-U-5WQ** |
| Description: | GALLEON II SITE SLIM 1SQ 350MA 5WQ HIGH DENSITY LIGHTSQUARE WITH 70 CRI 3000K CCT 26 LEDS |

## Spectral Parameters

| | |
|---|---|
| CCT (K): | 2985 |
| CIE u': | 0.2504 |
| CIE v': | 0.5243 |
| Duv: | 0.0019 |
| CIE x: | 0.4408 |
| CIE y: | 0.4101 |
| CIE z: | 0.1491 |
| Peak Wavelength (nm): | 595 |
| Dominant Wavelength (nm): | 582 |
| Purity: | 55.41818 |
| Rf: | 73.8 |
| Rg: | 94.4 |

| | |
|---|---|
| CRI (Ra): | 70.8 |
| R1: | 66.3 |
| R2: | 80.6 |
| R3: | 94.5 |
| R4: | 68.2 |
| R5: | 66.5 |
| R6: | 74.7 |
| R7: | 76.2 |
| R8: | 39.6 |
| R9: | -43.2 |
| R10: | 57.6 |
| R11: | 64.8 |
| R12: | 53.5 |
| R13: | 68.7 |
| R14: | 97.0 |
| R15: | 56.4 |




## Test Conditions

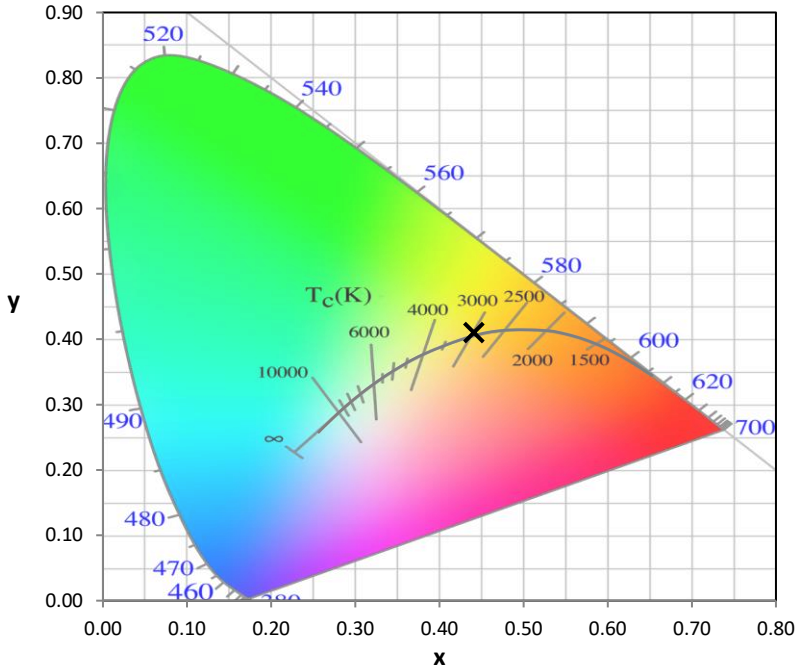
| | |
|---|---|
| Stabilization Time: | 36M |
| Operation Time: | 1H 36M |
| Sphere Temperature (°C): | 25.2 |

REPORT NUMBER: SP1-2407-184-4

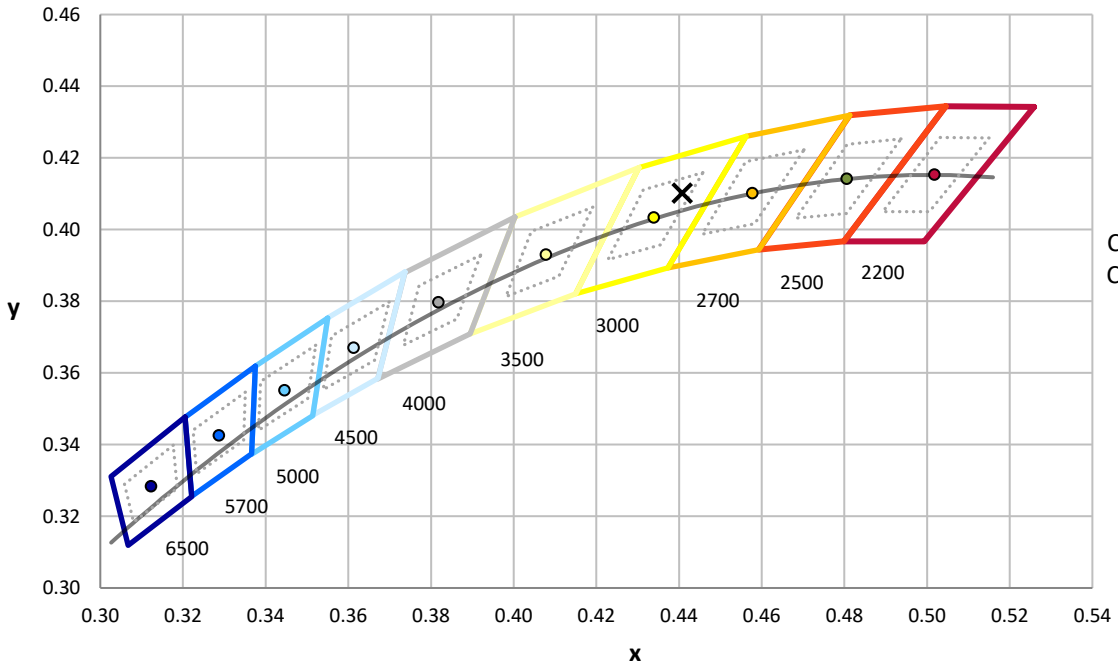
| Measurement and Test Equipment | | | |
|---|---|---|---|
| Instrument | Identification Number | Calibration Date | Calibration Due Date |
| Photometer | IN0058 | 6/18/2024 | 12/18/2024 |
| Power Meter | INXT2011004 | 2/8/2024 | 2/8/2025 |
| AC Power Source | IN0063 | 10/24/2023 | 10/24/2024 |
| DC 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: SP1-2407-184-4

## CIE 1931 Chromaticity Diagram




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

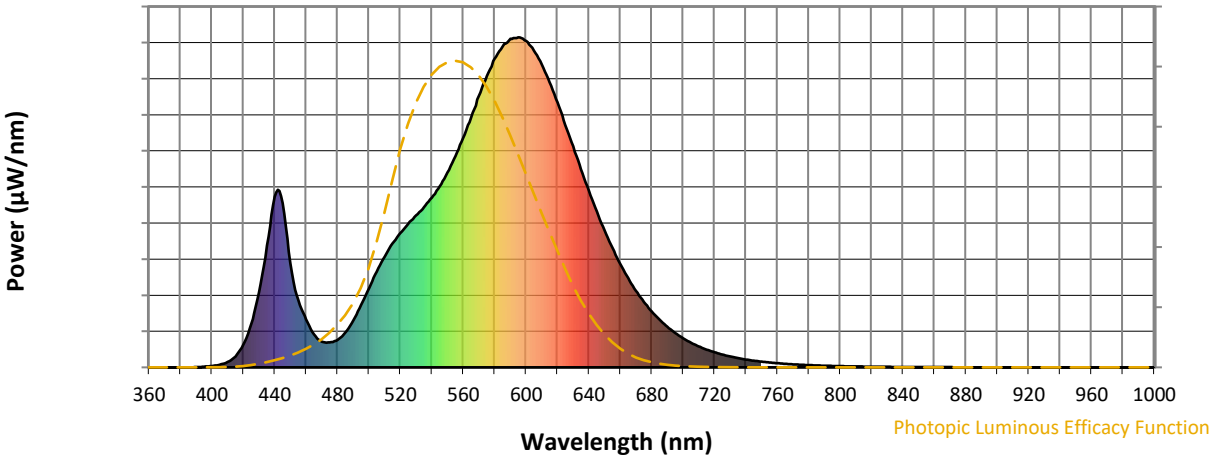



CCT = 2985K
CIE x = 0.4408
CIE y = 0.4101
Duv = 0.0019

Point lies inside the ANSI 3000K 4-step quadrangle

REPORT NUMBER: SP1-2407-184-4

## Photopic Flux vs. Wavelength

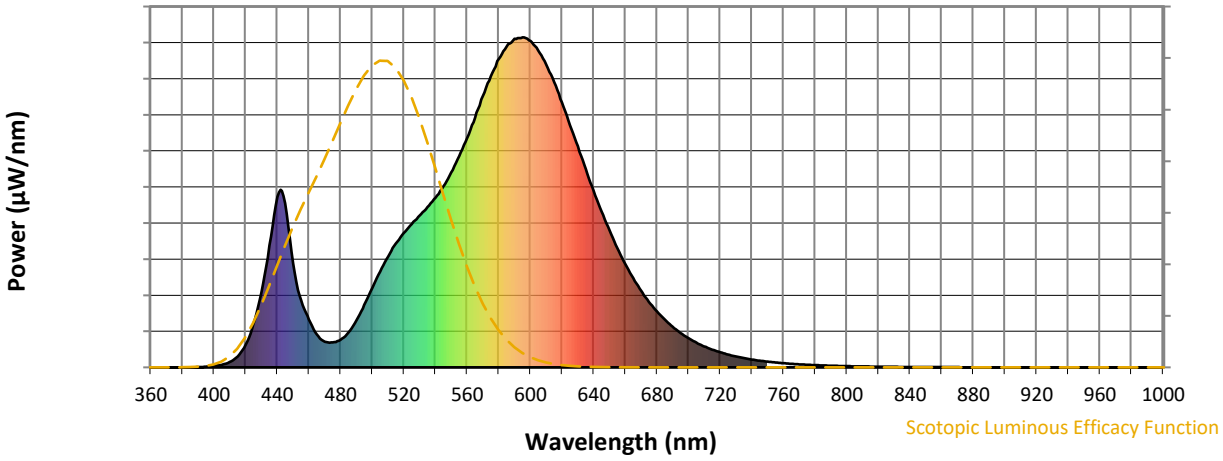



## Photopic Lumens: NR

| 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 | 142 | NR | 620 | 803 | NR | 750 | 17 | NR | 880 | 0 | NR |
| 365 | 0 | NR | 495 | 189 | NR | 625 | 734 | NR | 755 | 15 | NR | 885 | 0 | NR |
| 370 | 0 | NR | 500 | 240 | NR | 630 | 670 | NR | 760 | 13 | NR | 890 | 0 | NR |
| 375 | 0 | NR | 505 | 290 | NR | 635 | 600 | NR | 765 | 11 | NR | 895 | 0 | NR |
| 380 | 0 | NR | 510 | 335 | NR | 640 | 535 | NR | 770 | 9 | NR | 900 | 0 | NR |
| 385 | 0 | NR | 515 | 375 | NR | 645 | 473 | NR | 775 | 8 | NR | 905 | 0 | NR |
| 390 | 1 | NR | 520 | 408 | NR | 650 | 415 | NR | 780 | 7 | NR | 910 | 0 | NR |
| 395 | 2 | NR | 525 | 434 | NR | 655 | 362 | NR | 785 | 6 | NR | 915 | 0 | NR |
| 400 | 4 | NR | 530 | 461 | NR | 660 | 313 | NR | 790 | 5 | NR | 920 | 0 | NR |
| 405 | 8 | NR | 535 | 486 | NR | 665 | 271 | NR | 795 | 4 | NR | 925 | 0 | NR |
| 410 | 16 | NR | 540 | 514 | NR | 670 | 231 | NR | 800 | 4 | NR | 930 | 0 | NR |
| 415 | 33 | NR | 545 | 549 | NR | 675 | 198 | NR | 805 | 3 | NR | 935 | 0 | NR |
| 420 | 69 | NR | 550 | 591 | NR | 680 | 169 | NR | 810 | 3 | NR | 940 | 0 | NR |
| 425 | 131 | NR | 555 | 640 | NR | 685 | 144 | NR | 815 | 2 | NR | 945 | 0 | NR |
| 430 | 227 | NR | 560 | 695 | NR | 690 | 123 | NR | 820 | 2 | NR | 950 | 0 | NR |
| 435 | 369 | NR | 565 | 757 | NR | 695 | 104 | NR | 825 | 2 | NR | 955 | 0 | NR |
| 440 | 517 | NR | 570 | 822 | NR | 700 | 88 | NR | 830 | 2 | NR | 960 | 0 | NR |
| 445 | 498 | NR | 575 | 882 | NR | 705 | 75 | NR | 835 | 1 | NR | 965 | 0 | NR |
| 450 | 315 | NR | 580 | 935 | NR | 710 | 63 | NR | 840 | 1 | NR | 970 | 0 | NR |
| 455 | 204 | NR | 585 | 972 | NR | 715 | 54 | NR | 845 | 1 | NR | 975 | 0 | NR |
| 460 | 145 | NR | 590 | 996 | NR | 720 | 46 | NR | 850 | 1 | NR | 980 | 0 | NR |
| 465 | 100 | NR | 595 | 1000 | NR | 725 | 39 | NR | 855 | 1 | NR | 985 | 0 | NR |
| 470 | 78 | NR | 600 | 989 | NR | 730 | 33 | NR | 860 | 1 | NR | 990 | 0 | NR |
| 475 | 76 | NR | 605 | 960 | NR | 735 | 28 | NR | 865 | 1 | NR | 995 | 0 | NR |
| 480 | 83 | NR | 610 | 918 | NR | 740 | 24 | NR | 870 | 1 | NR | 1000 | 0 | NR |
| 485 | 105 | NR | 615 | 864 | NR | 745 | 20 | NR | 875 | 1 | NR | | | |

REPORT NUMBER: SP1-2407-184-4

## Scotopic Flux vs. Wavelength

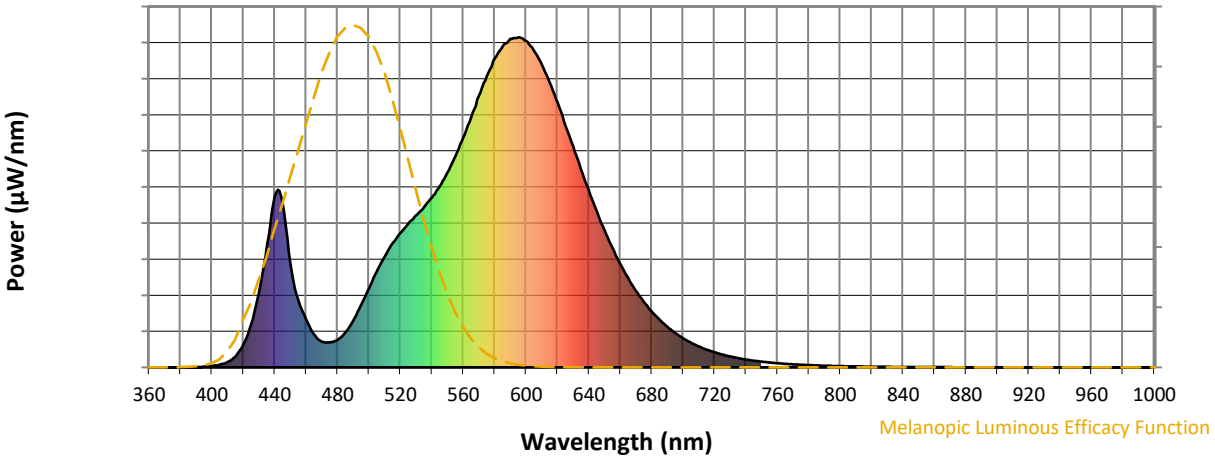



**Scotopic Lumens: NR** **S/P: 1.19**

| 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 | 142 | NR | 620 | 803 | NR | 750 | 17 | NR | 880 | 0 | NR |
| 365 | 0 | NR | 495 | 189 | NR | 625 | 734 | NR | 755 | 15 | NR | 885 | 0 | NR |
| 370 | 0 | NR | 500 | 240 | NR | 630 | 670 | NR | 760 | 13 | NR | 890 | 0 | NR |
| 375 | 0 | NR | 505 | 290 | NR | 635 | 600 | NR | 765 | 11 | NR | 895 | 0 | NR |
| 380 | 0 | NR | 510 | 335 | NR | 640 | 535 | NR | 770 | 9 | NR | 900 | 0 | NR |
| 385 | 0 | NR | 515 | 375 | NR | 645 | 473 | NR | 775 | 8 | NR | 905 | 0 | NR |
| 390 | 1 | NR | 520 | 408 | NR | 650 | 415 | NR | 780 | 7 | NR | 910 | 0 | NR |
| 395 | 2 | NR | 525 | 434 | NR | 655 | 362 | NR | 785 | 6 | NR | 915 | 0 | NR |
| 400 | 4 | NR | 530 | 461 | NR | 660 | 313 | NR | 790 | 5 | NR | 920 | 0 | NR |
| 405 | 8 | NR | 535 | 486 | NR | 665 | 271 | NR | 795 | 4 | NR | 925 | 0 | NR |
| 410 | 16 | NR | 540 | 514 | NR | 670 | 231 | NR | 800 | 4 | NR | 930 | 0 | NR |
| 415 | 33 | NR | 545 | 549 | NR | 675 | 198 | NR | 805 | 3 | NR | 935 | 0 | NR |
| 420 | 69 | NR | 550 | 591 | NR | 680 | 169 | NR | 810 | 3 | NR | 940 | 0 | NR |
| 425 | 131 | NR | 555 | 640 | NR | 685 | 144 | NR | 815 | 2 | NR | 945 | 0 | NR |
| 430 | 227 | NR | 560 | 695 | NR | 690 | 123 | NR | 820 | 2 | NR | 950 | 0 | NR |
| 435 | 369 | NR | 565 | 757 | NR | 695 | 104 | NR | 825 | 2 | NR | 955 | 0 | NR |
| 440 | 517 | NR | 570 | 822 | NR | 700 | 88 | NR | 830 | 2 | NR | 960 | 0 | NR |
| 445 | 498 | NR | 575 | 882 | NR | 705 | 75 | NR | 835 | 1 | NR | 965 | 0 | NR |
| 450 | 315 | NR | 580 | 935 | NR | 710 | 63 | NR | 840 | 1 | NR | 970 | 0 | NR |
| 455 | 204 | NR | 585 | 972 | NR | 715 | 54 | NR | 845 | 1 | NR | 975 | 0 | NR |
| 460 | 145 | NR | 590 | 996 | NR | 720 | 46 | NR | 850 | 1 | NR | 980 | 0 | NR |
| 465 | 100 | NR | 595 | 1000 | NR | 725 | 39 | NR | 855 | 1 | NR | 985 | 0 | NR |
| 470 | 78 | NR | 600 | 989 | NR | 730 | 33 | NR | 860 | 1 | NR | 990 | 0 | NR |
| 475 | 76 | NR | 605 | 960 | NR | 735 | 28 | NR | 865 | 1 | NR | 995 | 0 | NR |
| 480 | 83 | NR | 610 | 918 | NR | 740 | 24 | NR | 870 | 1 | NR | 1000 | 0 | NR |
| 485 | 105 | NR | 615 | 864 | NR | 745 | 20 | NR | 875 | 1 | NR | | | |

REPORT NUMBER: SP1-2407-184-4

## Melanopic Flux vs. Wavelength




**Melanopic Lumens: NR** **M/P: 2.13**

| 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 | 142 | NR | 620 | 803 | NR | 750 | 17 | NR | 880 | 0 | NR |
| 365 | 0 | NR | 495 | 189 | NR | 625 | 734 | NR | 755 | 15 | NR | 885 | 0 | NR |
| 370 | 0 | NR | 500 | 240 | NR | 630 | 670 | NR | 760 | 13 | NR | 890 | 0 | NR |
| 375 | 0 | NR | 505 | 290 | NR | 635 | 600 | NR | 765 | 11 | NR | 895 | 0 | NR |
| 380 | 0 | NR | 510 | 335 | NR | 640 | 535 | NR | 770 | 9 | NR | 900 | 0 | NR |
| 385 | 0 | NR | 515 | 375 | NR | 645 | 473 | NR | 775 | 8 | NR | 905 | 0 | NR |
| 390 | 1 | NR | 520 | 408 | NR | 650 | 415 | NR | 780 | 7 | NR | 910 | 0 | NR |
| 395 | 2 | NR | 525 | 434 | NR | 655 | 362 | NR | 785 | 6 | NR | 915 | 0 | NR |
| 400 | 4 | NR | 530 | 461 | NR | 660 | 313 | NR | 790 | 5 | NR | 920 | 0 | NR |
| 405 | 8 | NR | 535 | 486 | NR | 665 | 271 | NR | 795 | 4 | NR | 925 | 0 | NR |
| 410 | 16 | NR | 540 | 514 | NR | 670 | 231 | NR | 800 | 4 | NR | 930 | 0 | NR |
| 415 | 33 | NR | 545 | 549 | NR | 675 | 198 | NR | 805 | 3 | NR | 935 | 0 | NR |
| 420 | 69 | NR | 550 | 591 | NR | 680 | 169 | NR | 810 | 3 | NR | 940 | 0 | NR |
| 425 | 131 | NR | 555 | 640 | NR | 685 | 144 | NR | 815 | 2 | NR | 945 | 0 | NR |
| 430 | 227 | NR | 560 | 695 | NR | 690 | 123 | NR | 820 | 2 | NR | 950 | 0 | NR |
| 435 | 369 | NR | 565 | 757 | NR | 695 | 104 | NR | 825 | 2 | NR | 955 | 0 | NR |
| 440 | 517 | NR | 570 | 822 | NR | 700 | 88 | NR | 830 | 2 | NR | 960 | 0 | NR |
| 445 | 498 | NR | 575 | 882 | NR | 705 | 75 | NR | 835 | 1 | NR | 965 | 0 | NR |
| 450 | 315 | NR | 580 | 935 | NR | 710 | 63 | NR | 840 | 1 | NR | 970 | 0 | NR |
| 455 | 204 | NR | 585 | 972 | NR | 715 | 54 | NR | 845 | 1 | NR | 975 | 0 | NR |
| 460 | 145 | NR | 590 | 996 | NR | 720 | 46 | NR | 850 | 1 | NR | 980 | 0 | NR |
| 465 | 100 | NR | 595 | 1000 | NR | 725 | 39 | NR | 855 | 1 | NR | 985 | 0 | NR |
| 470 | 78 | NR | 600 | 989 | NR | 730 | 33 | NR | 860 | 1 | NR | 990 | 0 | NR |
| 475 | 76 | NR | 605 | 960 | NR | 735 | 28 | NR | 865 | 1 | NR | 995 | 0 | NR |
| 480 | 83 | NR | 610 | 918 | NR | 740 | 24 | NR | 870 | 1 | NR | 1000 | 0 | NR |
| 485 | 105 | NR | 615 | 864 | NR | 745 | 20 | NR | 875 | 1 | NR | | | |

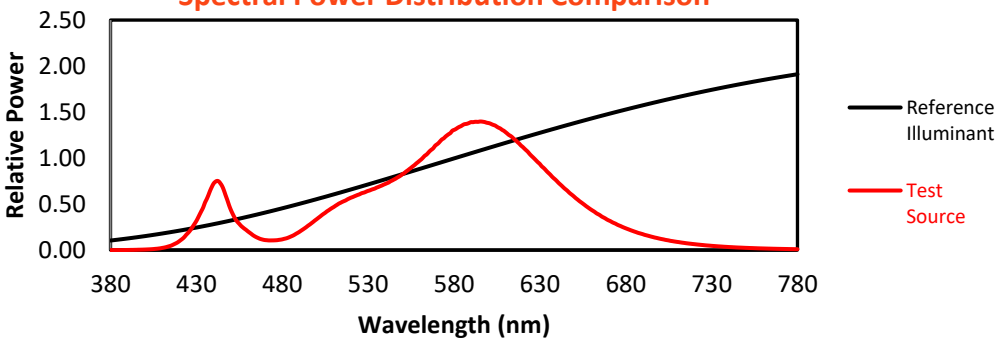
REPORT NUMBER: SP1-2407-184-4

# TM-30-18

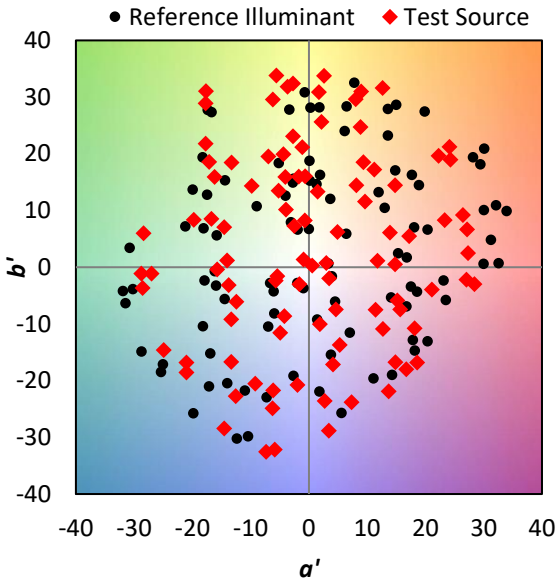
## Summary

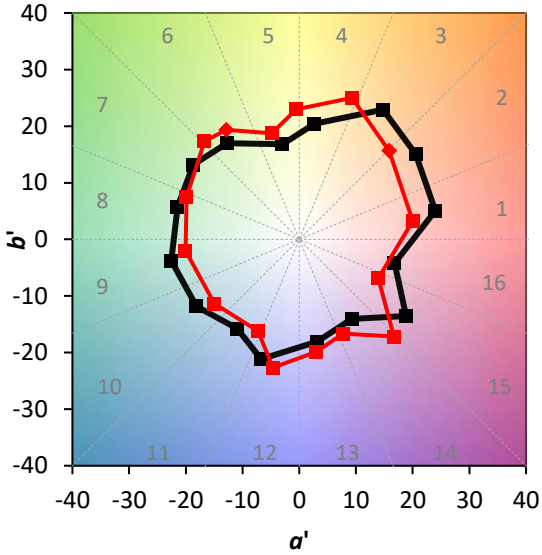
$R_f$ = 73.8
$R_g$ = 94.4
CIE $R_a$ = 70.8
$R_9$ = -43.2

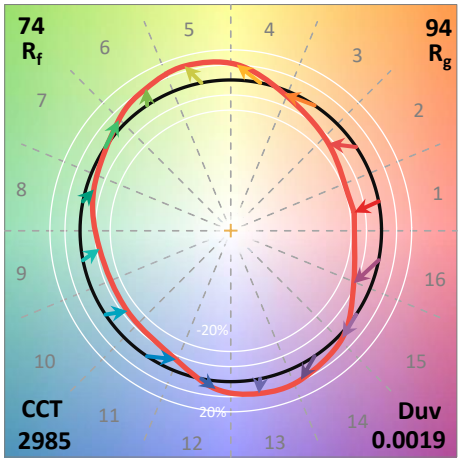
## Spectral Power Distribution Comparison

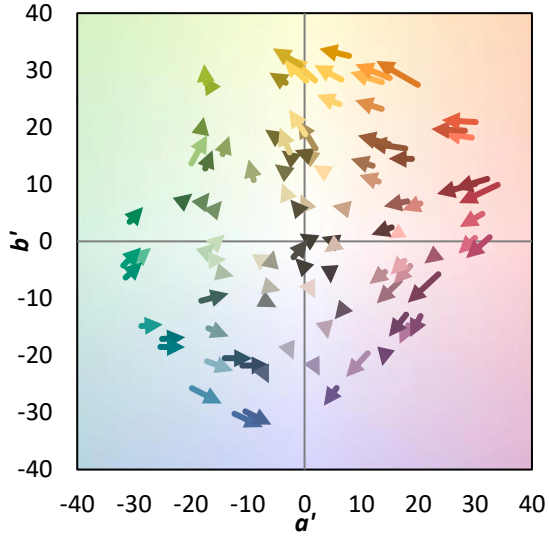



## Color Vector Graphics



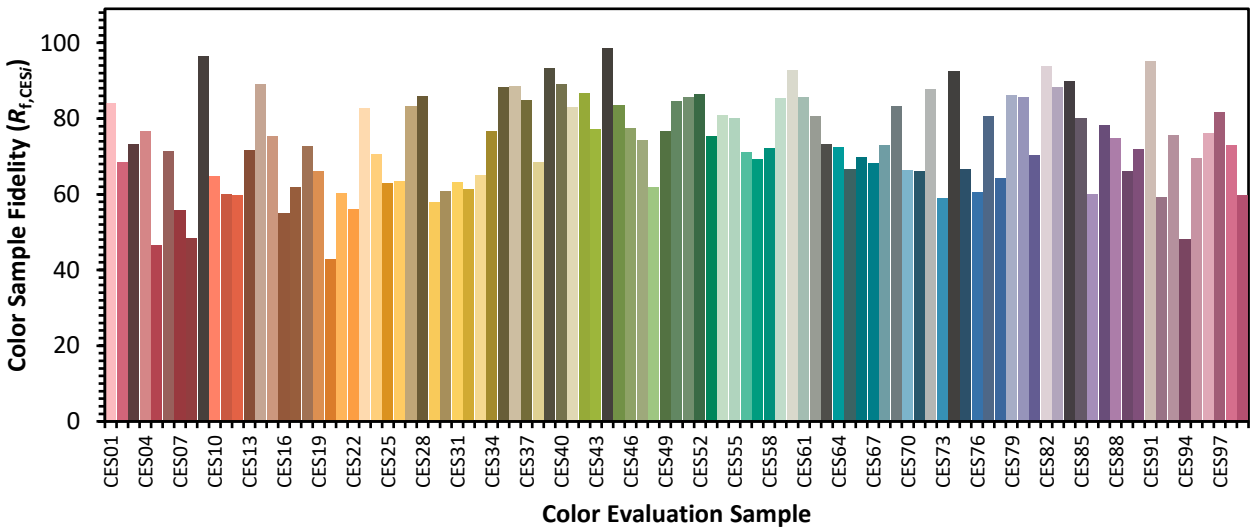



REPORT NUMBER: SP1-2407-184-4

# TM-30-18

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

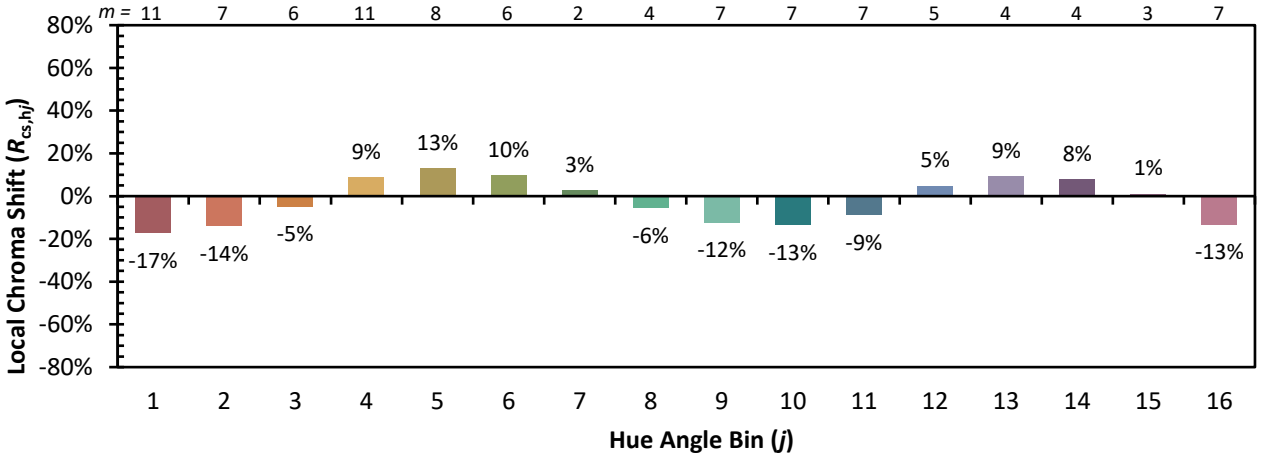
| | | | |
|---|---|---|---|
| CES01 = 86 | CES26 = 63 | CES51 = 86 | CES76 = 61 |
| CES02 = 62 | CES27 = 83 | CES52 = 86 | CES77 = 81 |
| CES03 = 31 | CES28 = 86 | CES53 = 75 | CES78 = 64 |
| CES04 = 71 | CES29 = 58 | CES54 = 81 | CES79 = 86 |
| CES05 = 49 | CES30 = 61 | CES55 = 80 | CES80 = 86 |
| CES06 = 51 | CES31 = 63 | CES56 = 71 | CES81 = 70 |
| CES07 = 41 | CES32 = 61 | CES57 = 69 | CES82 = 94 |
| CES08 = 40 | CES33 = 65 | CES58 = 72 | CES83 = 88 |
| CES09 = 29 | CES34 = 77 | CES59 = 85 | CES84 = 90 |
| CES10 = 76 | CES35 = 88 | CES60 = 93 | CES85 = 80 |
| CES11 = 59 | CES36 = 89 | CES61 = 86 | CES86 = 60 |
| CES12 = 65 | CES37 = 85 | CES62 = 81 | CES87 = 78 |
| CES13 = 43 | CES38 = 69 | CES63 = 73 | CES88 = 75 |
| CES14 = 74 | CES39 = 93 | CES64 = 72 | CES89 = 66 |
| CES15 = 71 | CES40 = 89 | CES65 = 67 | CES90 = 72 |
| CES16 = 47 | CES41 = 83 | CES66 = 70 | CES91 = 95 |
| CES17 = 50 | CES42 = 87 | CES67 = 68 | CES92 = 59 |
| CES18 = 56 | CES43 = 77 | CES68 = 73 | CES93 = 76 |
| CES19 = 73 | CES44 = 99 | CES69 = 83 | CES94 = 48 |
| CES20 = 66 | CES45 = 83 | CES70 = 66 | CES95 = 70 |
| CES21 = 87 | CES46 = 77 | CES71 = 66 | CES96 = 76 |
| CES22 = 79 | CES47 = 74 | CES72 = 88 | CES97 = 82 |
| CES23 = 92 | CES48 = 62 | CES73 = 59 | CES98 = 73 |
| CES24 = 91 | CES49 = 77 | CES74 = 93 | CES99 = 60 |
| CES25 = 73 | CES50 = 85 | CES75 = 67 | |

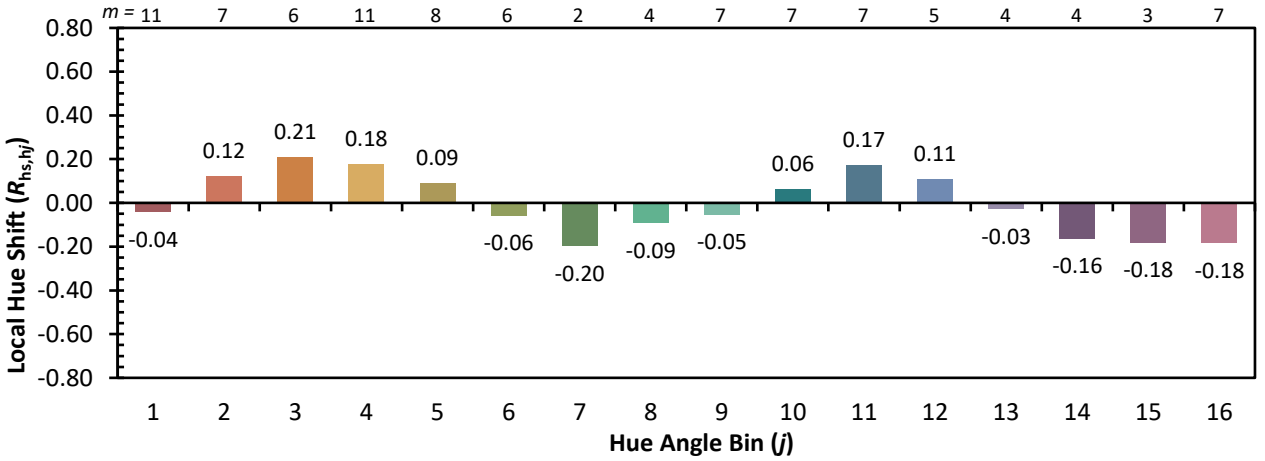


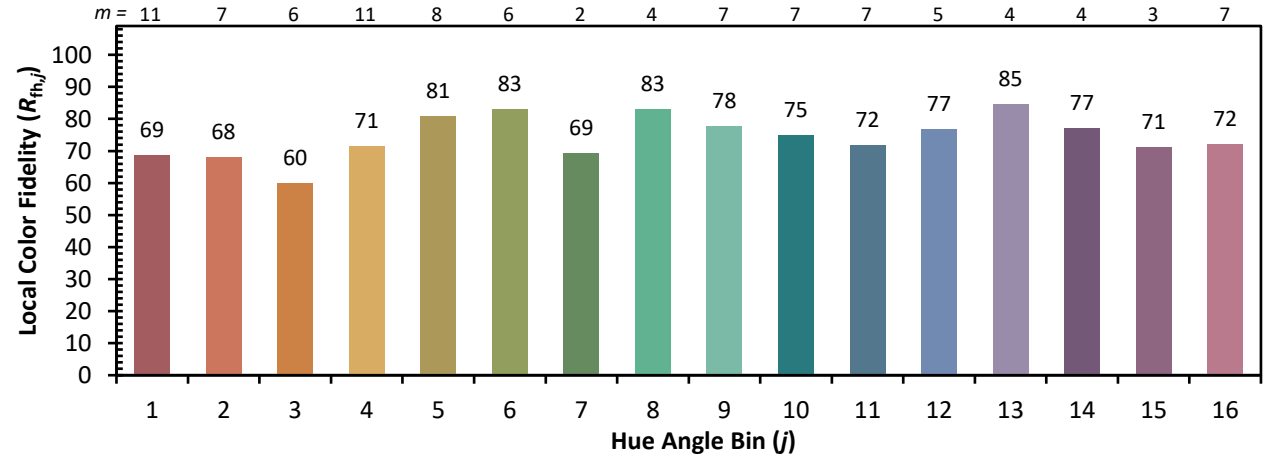
REPORT NUMBER: SP1-2407-184-4

**TM-30-18**

## Color Rendition by Hue-Angle Bin



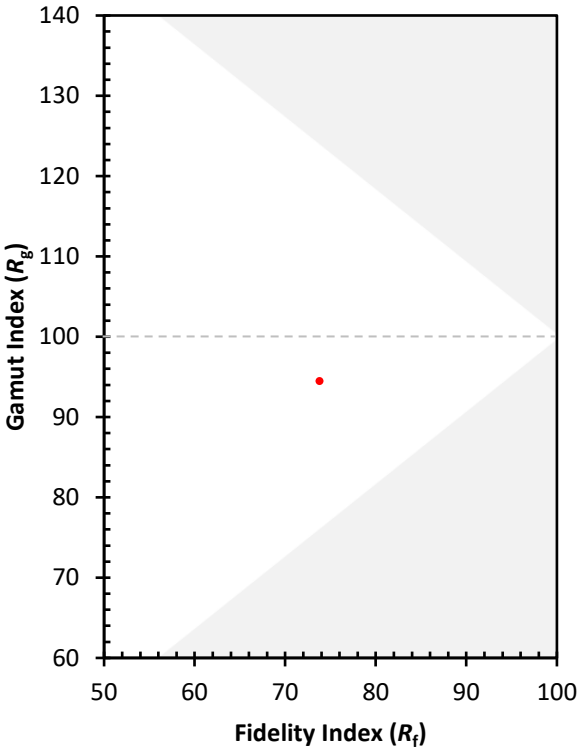



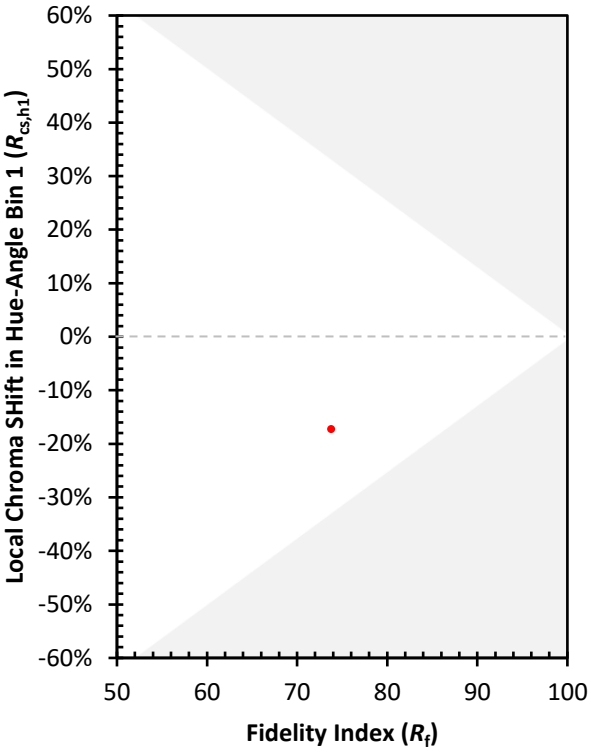



REPORT NUMBER: SP1-2407-184-4

# TM-30-18

## Measure Comparisons




(END OF REPORT)