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: P1358442

Luminaire Tested: **GSS-SB3D-730-U-SL4**

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: | P1358442 |
| 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-SL4 |
| Description: | GALLEON II SLIM SITE HIGH DENSITY LED ARRAYS 3SQUARE 219W 70CRI 3000K FIXTURE w/ TYPE IV SPILL CONTROL DISTRIBUTION OPTIC |
| Light Source: | (78) 3000K CCT, 70 CRI LEDS |
| Ballast/Driver: | ELECTRONIC DRIVER |

**Summary**

| | |
|---|---|
| Lumens per Lamp: | N/A |
| Luminaire Lumens: | 27421.9 lumens |
| Efficiency: | N/A |
| Efficacy: | 125.2 lumens/watt |
| Luminous Opening: | Rectangular (W 1.5' x L: 0.5' x H: 0') |
| IES Classification: | Type IV - Short |
| BUG Rating: | B4 - U0 - G4 |

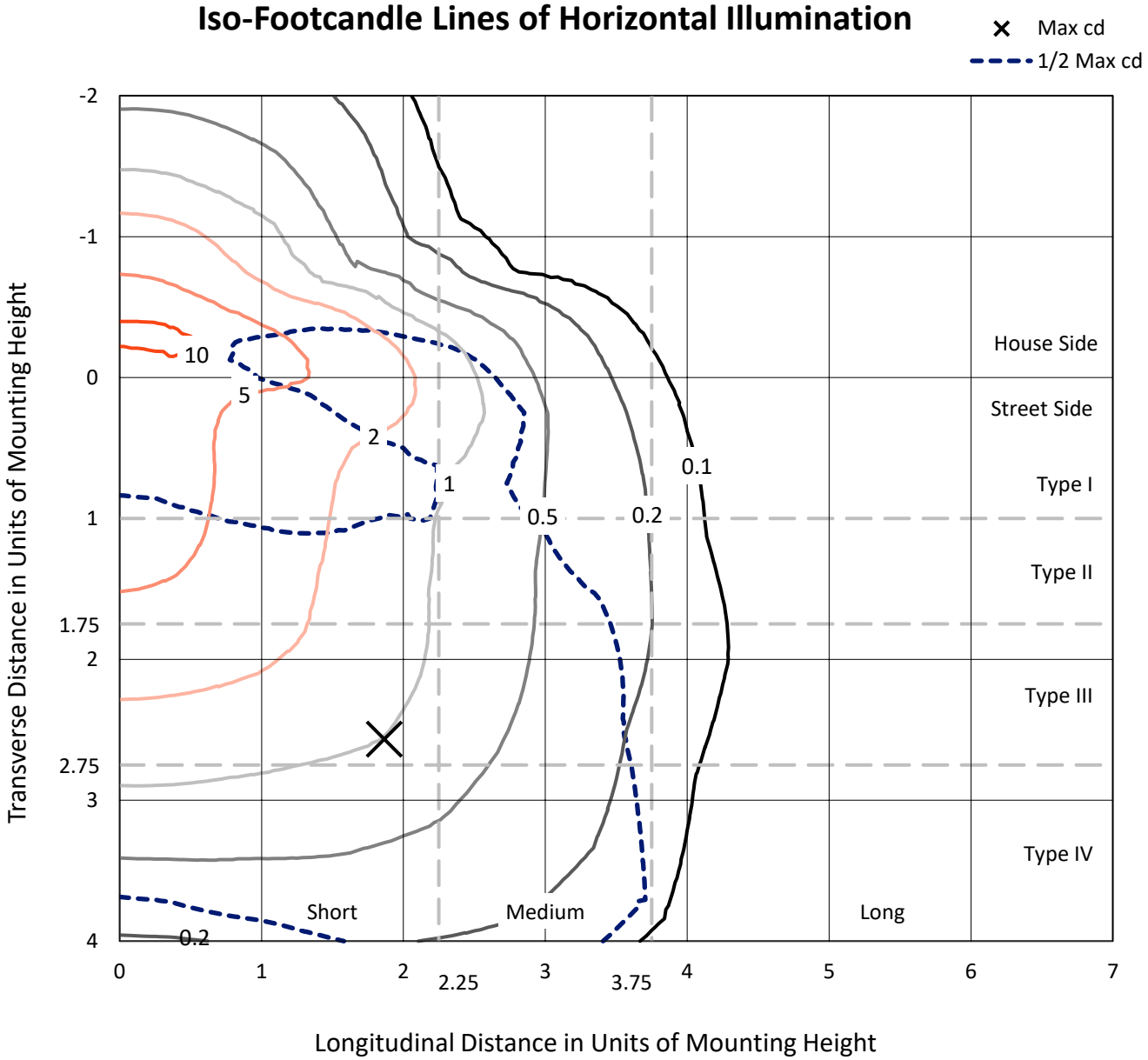
| | |
|---|---|
| Input Watts (W): | 219 |
| Input Voltage (V): | 120 |
| Input Current (Ain): | NR |
| Voltage Rise (V): | NR |
| Power Factor: | 0.98 |
| Total Harmonic Distortion (THDi): | 2.5% |
| Frequency (hertz): | 60 |
| Stabilization Time: | NR |
| Operation Time: | NR |
| Ambient Temperature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

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Scaled Data Report

REPORT NUMBER: P1358442
CATALOG NUMBER: GSS-SB3D-730-U-SL4

## Iso-Footcandle Lines of Horizontal Illumination



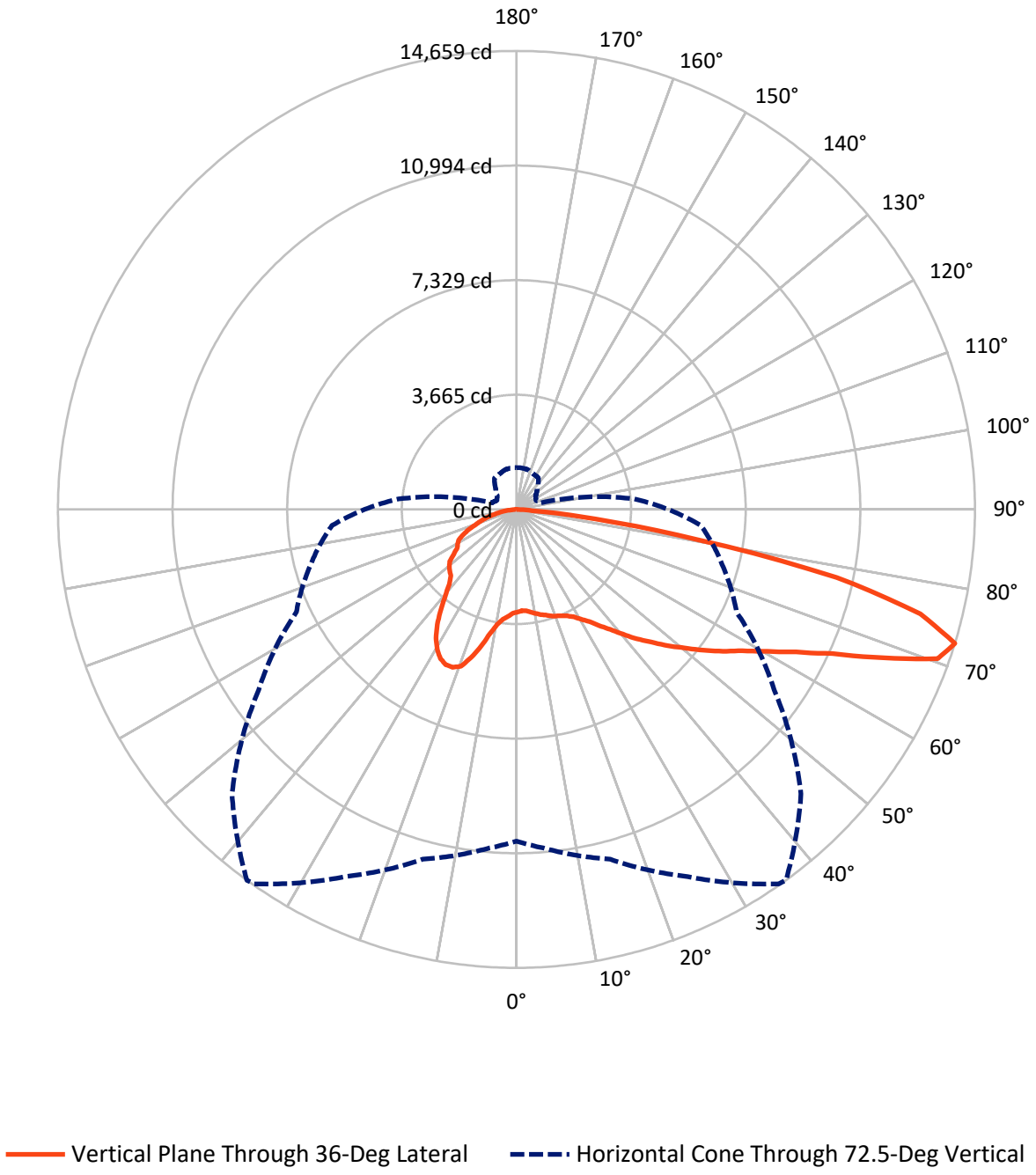

Based on 20 foot mounting height. Maximum calculated value = 11 fc
Type IV - Short - N/A

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## Luminous Intensity Polar Plot



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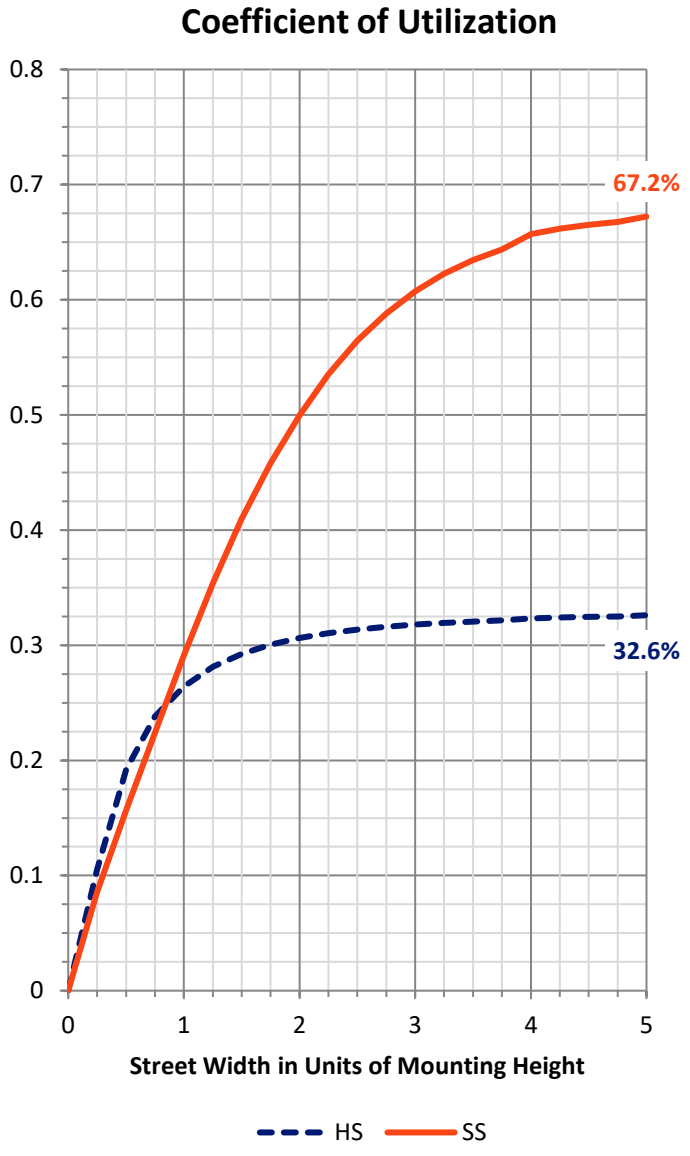
REPORT NUMBER: P1358442
CATALOG NUMBER: GSS-SB3D-730-U-SL4

**FLUX DISTRIBUTION:**

| | | Downward | Upward | Total |
|---|---|---|---|---|
| **House Side** | Lumens | 9024.3 | 0.0 | 9024.3 |
| | % Fixture | 32.9 | 0.0 | 32.9 |
| **Street Side** | Lumens | 18397.6 | 0.0 | 18397.6 |
| | % Fixture | 67.1 | 0.0 | 67.1 |
| **Total** | Lumens | 27421.9 | 0.0 | 27421.9 |
| | % Fixture | 100.0 | 0.0 | 100.0 |

**ZONAL LUMENS:**

| Zone | Lumens | % Fixture |
|---|---|---|
| 0°-10° | 325.1 | 1.2 |
| 10°-20° | 1120.7 | 4.1 |
| 20°-30° | 2127.9 | 7.8 |
| 30°-40° | 3107.1 | 11.3 |
| 40°-50° | 4132.7 | 15.1 |
| 50°-60° | 5298.7 | 19.3 |
| 60°-70° | 6232.9 | 22.7 |
| 70°-80° | 4669.0 | 17.0 |
| 80°-90° | 407.6 | 1.5 |
| 90°-100° | 0.0 | 0.0 |
| 100°-110° | 0.0 | 0.0 |
| 110°-120° | 0.0 | 0.0 |
| 120°-130° | 0.0 | 0.0 |
| 130°-140° | 0.0 | 0.0 |
| 140°-150° | 0.0 | 0.0 |
| 150°-160° | 0.0 | 0.0 |
| 160°-170° | 0.0 | 0.0 |
| 170°-180° | 0.0 | 0.0 |
| 0°-90° | 27421.9 | 100.0 |
| 0°-180° | 27421.9 | 100.0 |



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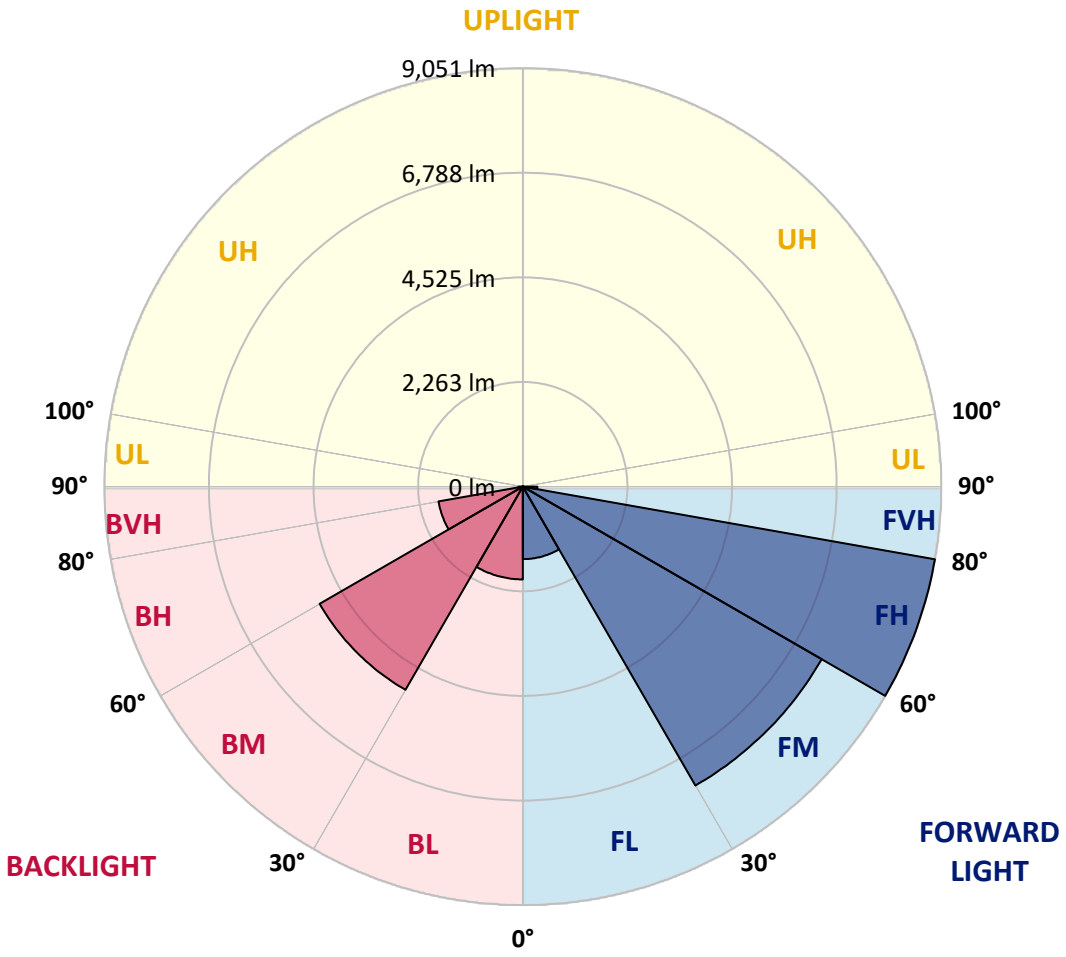
Scaled Data Report

REPORT NUMBER: P1358442
CATALOG NUMBER: GSS-SB3D-730-U-SL4

## LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

| Zone | | Lumens | % Fixture | Zone Rating/Lumen Limit B | U | G |
|---|---|---|---|---|---|---|
| FL | (0°-30°) | 1567.7 | 5.7 | | | |
| FM | (30°-60°) | 7465.2 | 27.2 | | | |
| FH | (60°-80°) | 9050.8 | 33.0 | | | G4/12000 |
| FVH | (80°-90°) | 314.0 | 1.1 | | | G3/500 |
| BL | (0°-30°) | 2006.0 | 7.3 | B3/2500 | | |
| BM | (30°-60°) | 5073.4 | 18.5 | B4/8500 | | |
| BH | (60°-80°) | 1851.2 | 6.8 | B3/2500 | | G3/2500 |
| BVH | (80°-90°) | 93.6 | 0.3 | | | G1/100 |
| UL | (90°-100°) | 0.0 | 0.0 | | U0/0 | |
| UH | (100°-180°) | 0.0 | 0.0 | | U0/0 | |

**BUG Rating: B4-U0-G4**
Type IV Short



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REPORT NUMBER: P1358442
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**CANDELA DISTRIBUTION (FULL):**

| | 0° | 5° | 15° | 25° | 35° | 36° | 45° | 55° | 65° | 75° | 85° |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0° | 3283.8 | 3283.8 | 3283.8 | 3283.8 | 3283.8 | 3283.8 | 3283.8 | 3283.8 | 3283.8 | 3283.8 | 3283.8 |
| 2.5° | 3258.9 | 3240.2 | 3252.7 | 3240.2 | 3240.2 | 3240.2 | 3252.7 | 3252.7 | 3271.3 | 3271.3 | 3271.3 |
| 5° | 3283.8 | 3277.6 | 3283.8 | 3277.6 | 3258.9 | 3258.9 | 3271.3 | 3258.9 | 3290.0 | 3277.6 | 3296.2 |
| 7.5° | 3352.2 | 3339.7 | 3339.7 | 3321.1 | 3327.3 | 3314.9 | 3327.3 | 3308.7 | 3327.3 | 3314.9 | 3314.9 |
| 10° | 3433.0 | 3414.4 | 3420.6 | 3395.7 | 3377.1 | 3383.3 | 3395.7 | 3377.1 | 3383.3 | 3389.5 | 3389.5 |
| 12.5° | 3501.4 | 3489.0 | 3489.0 | 3439.3 | 3451.7 | 3451.7 | 3464.1 | 3445.5 | 3457.9 | 3451.7 | 3476.6 |
| 15° | 3588.5 | 3569.9 | 3557.4 | 3520.1 | 3513.9 | 3507.7 | 3526.3 | 3507.7 | 3538.8 | 3532.5 | 3563.6 |
| 17.5° | 3669.4 | 3650.7 | 3638.3 | 3576.1 | 3563.6 | 3582.3 | 3588.5 | 3576.1 | 3607.2 | 3619.6 | 3681.8 |
| 20° | 3744.0 | 3750.2 | 3706.7 | 3632.1 | 3632.1 | 3638.3 | 3638.3 | 3638.3 | 3688.0 | 3706.7 | 3775.1 |
| 22.5° | 3874.6 | 3862.2 | 3818.6 | 3731.6 | 3694.2 | 3694.2 | 3750.2 | 3712.9 | 3744.0 | 3787.5 | 3905.7 |
| 25° | 4042.5 | 4017.6 | 3943.0 | 3831.1 | 3768.9 | 3775.1 | 3793.8 | 3768.9 | 3806.2 | 3855.9 | 4036.3 |
| 27.5° | 4341.0 | 4310.0 | 4179.3 | 3955.5 | 3880.8 | 3887.0 | 3893.3 | 3824.8 | 3818.6 | 3899.5 | 4148.3 |
| 30° | 4776.4 | 4739.1 | 4540.1 | 4260.2 | 4061.2 | 4073.6 | 4005.2 | 3880.8 | 3837.3 | 3924.4 | 4278.9 |
| 32.5° | 5249.1 | 5199.3 | 5000.3 | 4602.3 | 4334.8 | 4272.6 | 4142.0 | 3924.4 | 3855.9 | 3949.2 | 4397.0 |
| 35° | 5815.0 | 5771.5 | 5528.9 | 4969.2 | 4602.3 | 4564.9 | 4303.7 | 4017.6 | 3905.7 | 3967.9 | 4509.0 |
| 37.5° | 6617.3 | 6505.4 | 6213.0 | 5441.9 | 4925.7 | 4869.7 | 4515.2 | 4148.3 | 3911.9 | 3955.5 | 4664.5 |
| 40° | 7307.6 | 7195.7 | 6878.5 | 6038.9 | 5336.1 | 5249.1 | 4826.2 | 4303.7 | 3974.1 | 3980.3 | 4863.5 |
| 42.5° | 8029.1 | 7923.3 | 7581.3 | 6542.7 | 5703.1 | 5659.5 | 5099.8 | 4490.3 | 4055.0 | 4048.7 | 5087.4 |
| 45° | 8787.8 | 8794.0 | 8265.4 | 7145.9 | 6138.4 | 6051.3 | 5435.6 | 4739.1 | 4204.2 | 4129.6 | 5454.3 |
| 47.5° | 9857.5 | 9739.4 | 9092.6 | 7724.3 | 6623.5 | 6511.6 | 5790.1 | 5000.3 | 4428.1 | 4316.2 | 5864.8 |
| 50° | 10722.0 | 10634.9 | 9851.3 | 8389.8 | 7077.5 | 6959.4 | 6206.8 | 5286.4 | 4627.1 | 4577.4 | 6412.1 |
| 52.5° | 11443.5 | 11294.2 | 10572.8 | 9017.9 | 7587.5 | 7481.8 | 6548.9 | 5566.2 | 4907.0 | 4882.1 | 7052.6 |
| 55° | 11841.5 | 11686.0 | 11070.3 | 9602.5 | 8165.9 | 8004.2 | 6934.5 | 5902.1 | 5242.8 | 5255.3 | 7767.9 |
| 57.5° | 12152.4 | 11990.7 | 11387.5 | 10044.1 | 8738.1 | 8520.4 | 7357.4 | 6269.0 | 5640.9 | 5759.0 | 8744.3 |
| 60° | 12264.4 | 12102.7 | 11654.9 | 10628.7 | 9353.8 | 9217.0 | 7836.3 | 6723.0 | 6101.1 | 6349.9 | 9695.8 |
| 62.5° | 12426.1 | 12463.4 | 12146.2 | 11343.9 | 10156.1 | 10037.9 | 8452.0 | 7282.8 | 6667.1 | 6866.1 | 10031.7 |
| 65° | 12556.7 | 12538.0 | 12575.4 | 12332.8 | 11275.5 | 11107.6 | 9366.2 | 8010.4 | 7046.4 | 7040.2 | 9863.8 |
| 67.5° | 12252.0 | 12270.6 | 12469.6 | 13066.7 | 12830.3 | 12668.6 | 10547.9 | 8682.1 | 7226.8 | 7369.8 | 9328.9 |
| 70° | 12021.8 | 12077.8 | 12345.2 | 13091.6 | 14273.2 | 14291.9 | 12196.0 | 9254.3 | 7743.0 | 7369.8 | 7836.3 |
| 72.5° | 10603.9 | 10889.9 | 11580.3 | 12954.7 | 14615.3 | 14658.8 | 12861.4 | 10056.6 | 7761.6 | 6810.1 | 5920.7 |
| 75° | 7021.6 | 7245.4 | 9086.4 | 11623.8 | 13402.5 | 13334.1 | 11909.9 | 9671.0 | 7264.1 | 5553.8 | 3768.9 |
| 77.5° | 2071.0 | 2493.9 | 4254.0 | 7208.1 | 10031.7 | 10467.0 | 9770.5 | 6617.3 | 5385.9 | 2605.9 | 1343.4 |
| 80° | 590.8 | 659.2 | 1187.9 | 2531.2 | 5417.0 | 5883.4 | 6070.0 | 3165.6 | 1598.4 | 690.3 | 447.8 |
| 82.5° | 286.1 | 298.5 | 429.1 | 709.0 | 2319.8 | 2537.5 | 2127.0 | 957.8 | 429.1 | 248.8 | 174.1 |
| 85° | 49.8 | 62.2 | 105.7 | 211.5 | 416.7 | 503.8 | 472.7 | 192.8 | 130.6 | 111.9 | 80.9 |
| 87.5° | 12.4 | 12.4 | 18.7 | 18.7 | 24.9 | 24.9 | 24.9 | 31.1 | 31.1 | 31.1 | 31.1 |
| 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: P1358442
CATALOG NUMBER: GSS-SB3D-730-U-SL4

**CANDELA DISTRIBUTION (continued):**

| | 90° | 95° | 105° | 115° | 125° | 135° | 145° | 155° | 165° | 175° | 180° |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0° | 3283.8 | 3283.8 | 3283.8 | 3283.8 | 3283.8 | 3283.8 | 3283.8 | 3283.8 | 3283.8 | 3283.8 | 3283.8 |
| 2.5° | 3302.4 | 3302.4 | 3327.3 | 3339.7 | 3339.7 | 3321.1 | 3321.1 | 3377.1 | 3352.2 | 3364.6 | 3358.4 |
| 5° | 3308.7 | 3333.5 | 3333.5 | 3370.8 | 3389.5 | 3420.6 | 3433.0 | 3457.9 | 3482.8 | 3482.8 | 3476.6 |
| 7.5° | 3346.0 | 3364.6 | 3395.7 | 3420.6 | 3470.4 | 3520.1 | 3538.8 | 3613.4 | 3625.8 | 3656.9 | 3644.5 |
| 10° | 3401.9 | 3433.0 | 3482.8 | 3551.2 | 3613.4 | 3694.2 | 3731.6 | 3812.4 | 3855.9 | 3905.7 | 3874.6 |
| 12.5° | 3489.0 | 3526.3 | 3607.2 | 3700.5 | 3837.3 | 3961.7 | 4061.2 | 4142.0 | 4204.2 | 4260.2 | 4241.5 |
| 15° | 3582.3 | 3656.9 | 3762.7 | 3930.6 | 4173.1 | 4397.0 | 4527.6 | 4664.5 | 4695.5 | 4745.3 | 4739.1 |
| 17.5° | 3744.0 | 3793.8 | 4005.2 | 4341.0 | 4658.2 | 4851.0 | 4963.0 | 5031.4 | 5012.7 | 5031.4 | 5018.9 |
| 20° | 3874.6 | 3999.0 | 4378.4 | 4869.7 | 5180.7 | 5305.0 | 5317.5 | 5255.3 | 5124.7 | 5099.8 | 5050.0 |
| 22.5° | 4067.4 | 4254.0 | 4863.5 | 5373.4 | 5622.2 | 5609.8 | 5429.4 | 5242.8 | 5074.9 | 5006.5 | 4981.6 |
| 25° | 4254.0 | 4589.8 | 5373.4 | 5852.3 | 5920.7 | 5703.1 | 5429.4 | 5186.9 | 4963.0 | 4894.6 | 4838.6 |
| 27.5° | 4490.3 | 4975.4 | 5951.8 | 6256.6 | 6051.3 | 5715.5 | 5311.3 | 5037.6 | 4826.2 | 4714.2 | 4689.3 |
| 30° | 4732.9 | 5423.2 | 6436.9 | 6449.4 | 6088.7 | 5584.9 | 5093.6 | 4851.0 | 4608.5 | 4496.5 | 4502.7 |
| 32.5° | 5062.5 | 5914.5 | 6847.4 | 6592.4 | 5982.9 | 5323.7 | 4801.3 | 4540.1 | 4328.6 | 4272.6 | 4260.2 |
| 35° | 5385.9 | 6468.0 | 7177.0 | 6604.9 | 5734.2 | 4956.8 | 4415.7 | 4123.4 | 3992.8 | 3936.8 | 3961.7 |
| 37.5° | 5846.1 | 7034.0 | 7369.8 | 6486.7 | 5373.4 | 4465.4 | 3961.7 | 3731.6 | 3632.1 | 3613.4 | 3638.3 |
| 40° | 6349.9 | 7556.4 | 7494.2 | 6349.9 | 4882.1 | 3943.0 | 3526.3 | 3383.3 | 3321.1 | 3333.5 | 3377.1 |
| 42.5° | 6890.9 | 7985.5 | 7587.5 | 6038.9 | 4303.7 | 3464.1 | 3178.0 | 3115.9 | 3209.1 | 3265.1 | 3302.4 |
| 45° | 7469.3 | 8377.4 | 7618.6 | 5597.3 | 3762.7 | 3097.2 | 2979.0 | 3097.2 | 3240.2 | 3265.1 | 3283.8 |
| 47.5° | 8041.5 | 8719.4 | 7618.6 | 5012.7 | 3246.5 | 2854.6 | 2916.8 | 3072.3 | 3184.3 | 3140.7 | 3146.9 |
| 50° | 8588.8 | 8993.1 | 7599.9 | 4334.8 | 2885.7 | 2730.3 | 2836.0 | 2935.5 | 2885.7 | 2761.4 | 2773.8 |
| 52.5° | 9086.4 | 9235.6 | 7469.3 | 3638.3 | 2587.2 | 2699.2 | 2705.4 | 2581.0 | 2469.0 | 2406.9 | 2419.3 |
| 55° | 9639.9 | 9459.5 | 7083.7 | 3016.3 | 2394.4 | 2618.3 | 2444.2 | 2282.5 | 2338.4 | 2319.8 | 2313.6 |
| 57.5° | 10218.3 | 9720.7 | 6555.1 | 2481.5 | 2214.1 | 2425.5 | 2232.7 | 2220.3 | 2214.1 | 2189.2 | 2158.1 |
| 60° | 10715.8 | 9932.2 | 5765.3 | 1952.9 | 1946.6 | 2133.2 | 2189.2 | 2158.1 | 2127.0 | 2077.2 | 2052.4 |
| 62.5° | 10429.7 | 9403.5 | 4608.5 | 1579.7 | 1673.0 | 1903.1 | 2108.3 | 2046.1 | 2052.4 | 2008.8 | 1990.2 |
| 65° | 9621.2 | 8358.7 | 3140.7 | 1318.5 | 1411.8 | 1697.9 | 1915.5 | 1859.6 | 1828.5 | 1816.0 | 1803.6 |
| 67.5° | 8576.4 | 7239.2 | 2071.0 | 1044.8 | 1181.7 | 1486.4 | 1691.6 | 1623.2 | 1666.8 | 1666.8 | 1660.5 |
| 70° | 6747.9 | 5535.1 | 1306.0 | 852.0 | 939.1 | 1231.4 | 1405.6 | 1436.7 | 1498.8 | 1505.1 | 1498.8 |
| 72.5° | *4851.0* | *3787.5* | *814.7* | *684.1* | *746.3* | *939.1* | *1225.2* | *1256.3* | *1324.7* | *1337.1* | *1337.1* |
| 75° | 2860.9 | 2133.2 | 547.3 | 547.3 | 578.4 | 765.0 | 1013.7 | 1113.2 | 1144.3 | 1156.8 | 1144.3 |
| 77.5° | 1150.6 | 820.9 | 360.7 | 404.3 | 447.8 | 615.7 | 777.4 | 901.8 | 889.4 | 883.1 | 852.0 |
| 80° | 410.5 | 354.5 | 248.8 | 267.4 | 323.4 | 460.2 | 578.4 | 615.7 | 653.0 | 634.4 | 615.7 |
| 82.5° | 167.9 | 161.7 | 155.5 | 174.1 | 192.8 | 279.9 | 404.3 | 404.3 | 410.5 | 404.3 | 398.0 |
| 85° | 62.2 | 62.2 | 74.6 | 87.1 | 105.7 | 130.6 | 180.4 | 230.1 | 192.8 | 136.8 | 143.0 |
| 87.5° | 31.1 | 31.1 | 24.9 | 24.9 | 31.1 | 43.5 | 43.5 | 56.0 | 56.0 | 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

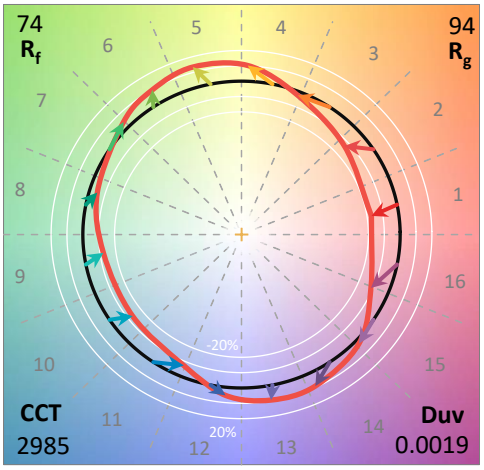
## Test Information

| | |
|---|---|
| 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

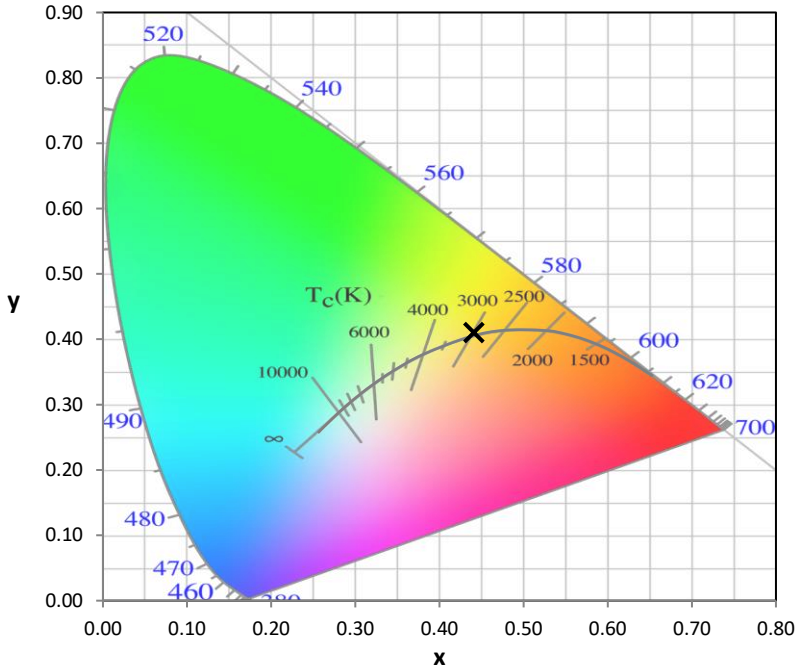
| | |
|---|---|
| Stabilization Time: | 36M |
| Operation Time: | 1H 36M |
| Sphere Temperature (°C): | 25.2 |

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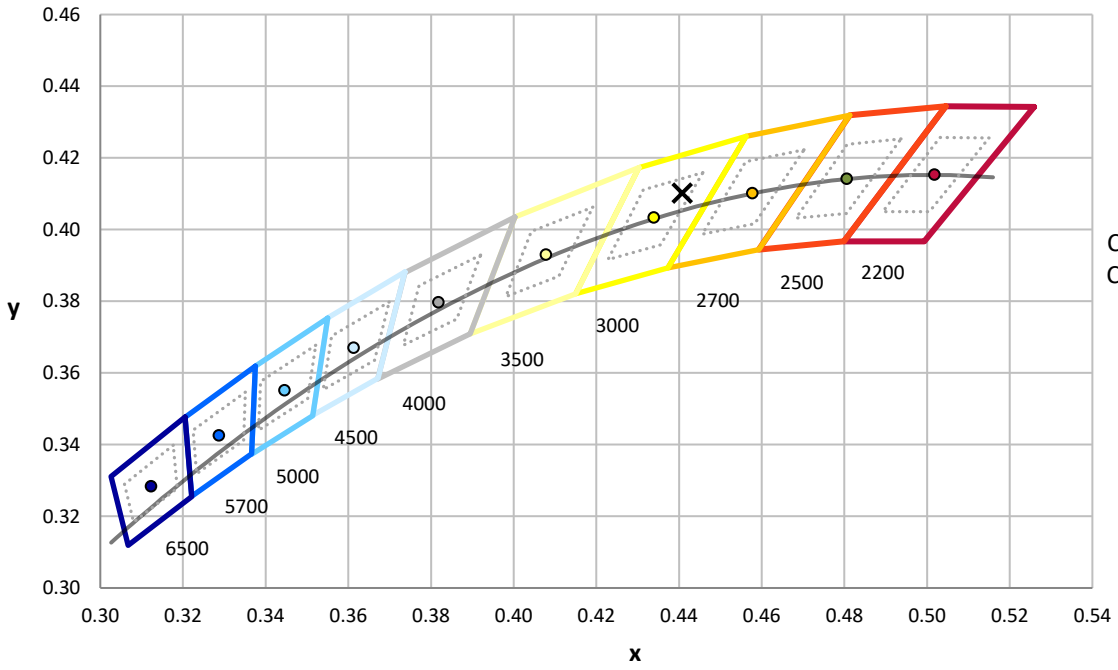
| Measurement and Test Equipment | | | |
|---|---|---|---|
| Instrument | Identification Number | Calibration Date | Calibration Due Date |
| Photometer | IN0058 | 6/18/2024 | 12/18/2024 |
| Power Meter | INXT2011004 | 2/8/2024 | 2/8/2025 |
| AC Power Source | IN0063 | 10/24/2023 | 10/24/2024 |
| DC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

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## CIE 1931 Chromaticity Diagram




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

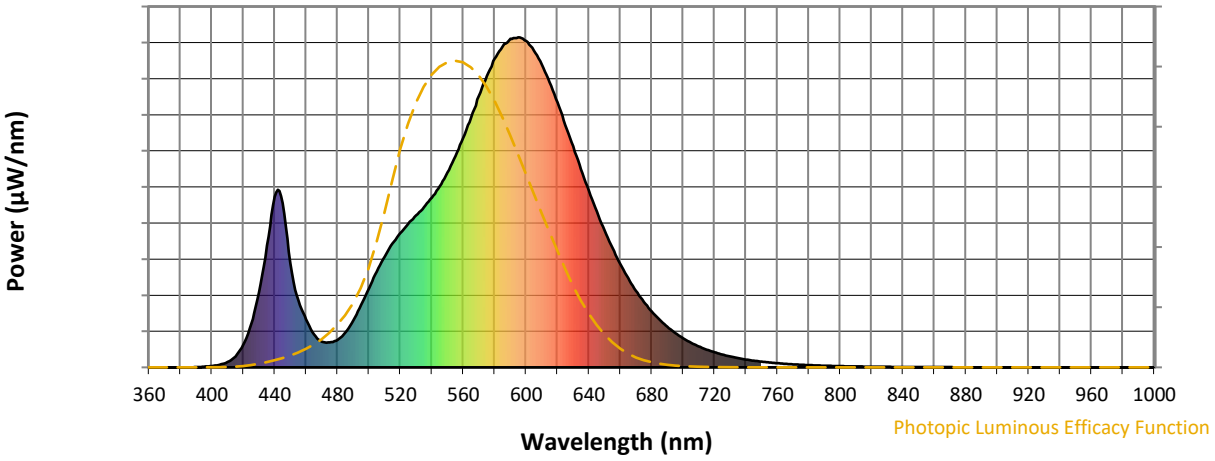



CCT = 2985K
CIE x = 0.4408
CIE y = 0.4101
Duv = 0.0019

Point lies inside the ANSI 3000K 4-step quadrangle

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## Photopic Flux vs. Wavelength

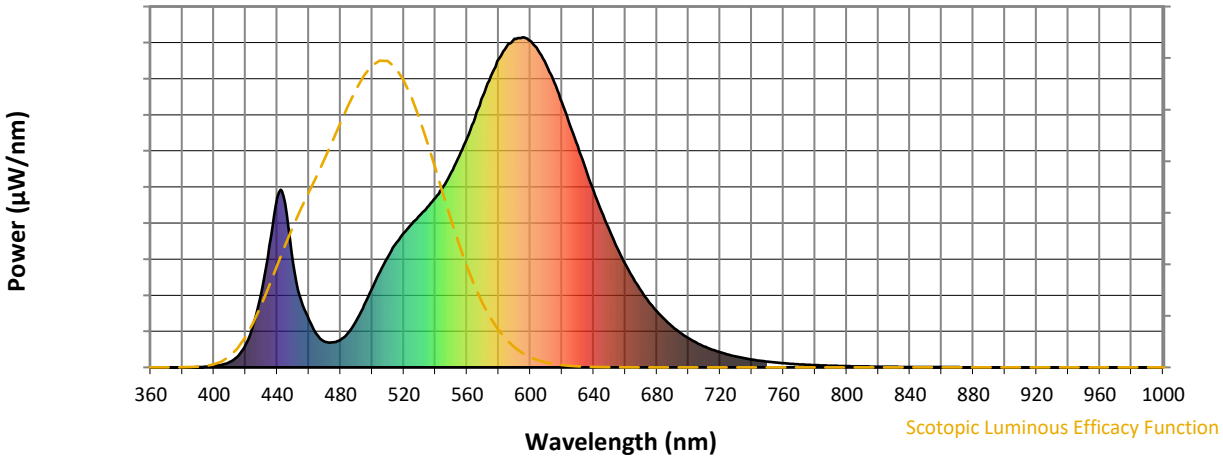



## Photopic Lumens: NR

| 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 | | | |

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## Scotopic Flux vs. Wavelength

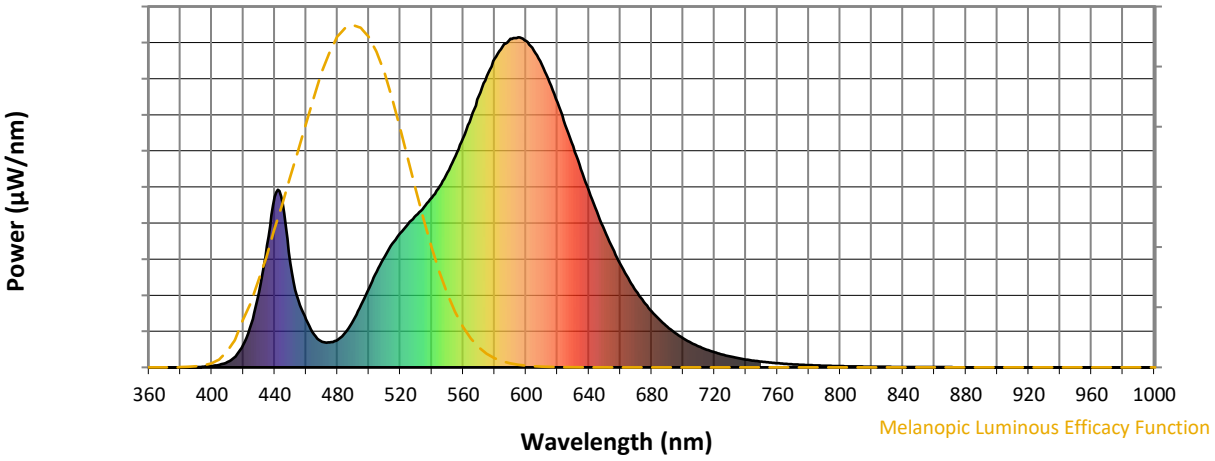



**Scotopic Lumens: NR** **S/P: 1.19**

| 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 | | | |

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## 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 | | | |

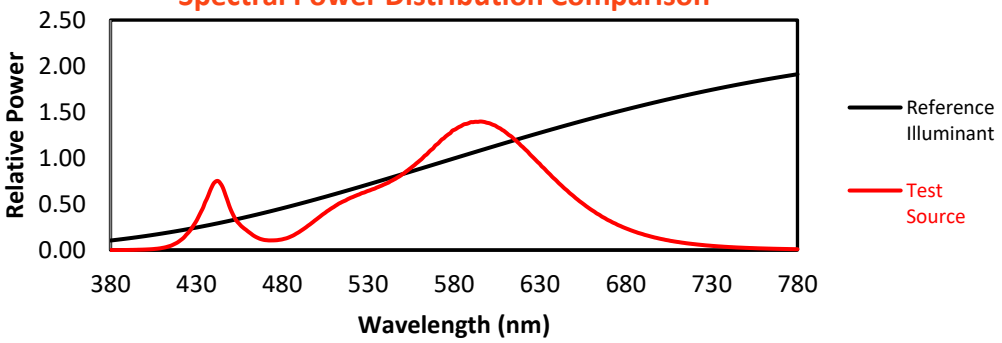
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# TM-30-18

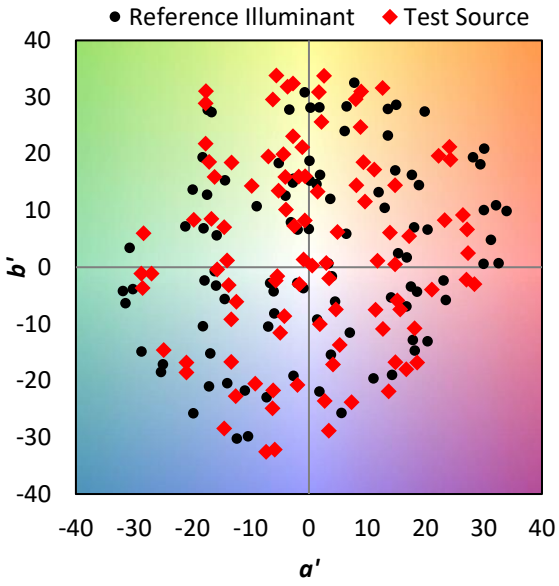
## Summary

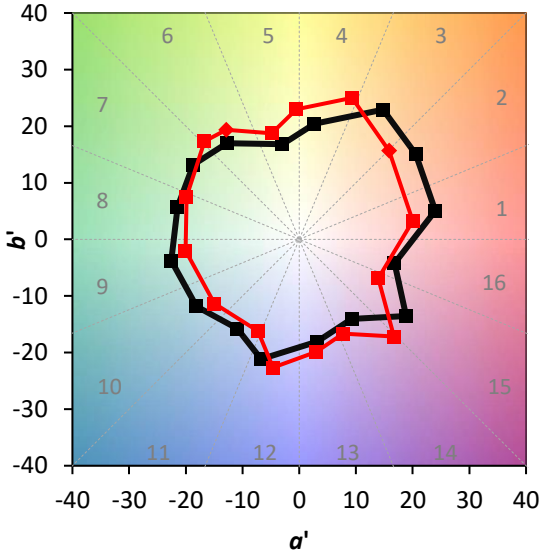
$R_f$ = 73.8
$R_g$ = 94.4
CIE $R_a$ = 70.8
$R_9$ = -43.2

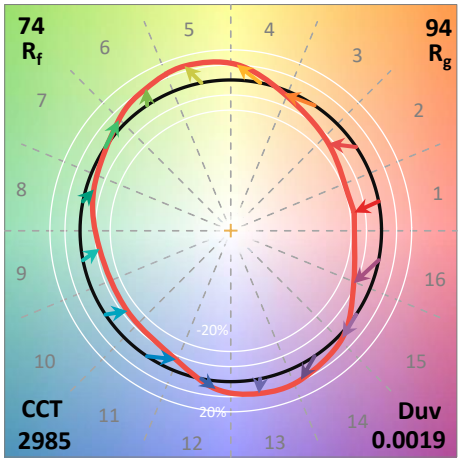
## Spectral Power Distribution Comparison

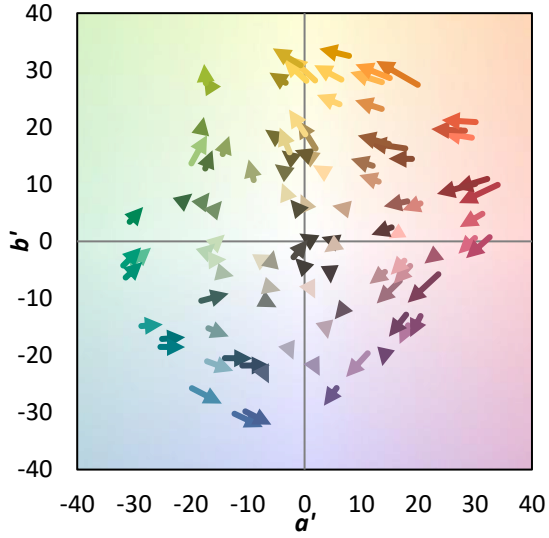



## Color Vector Graphics



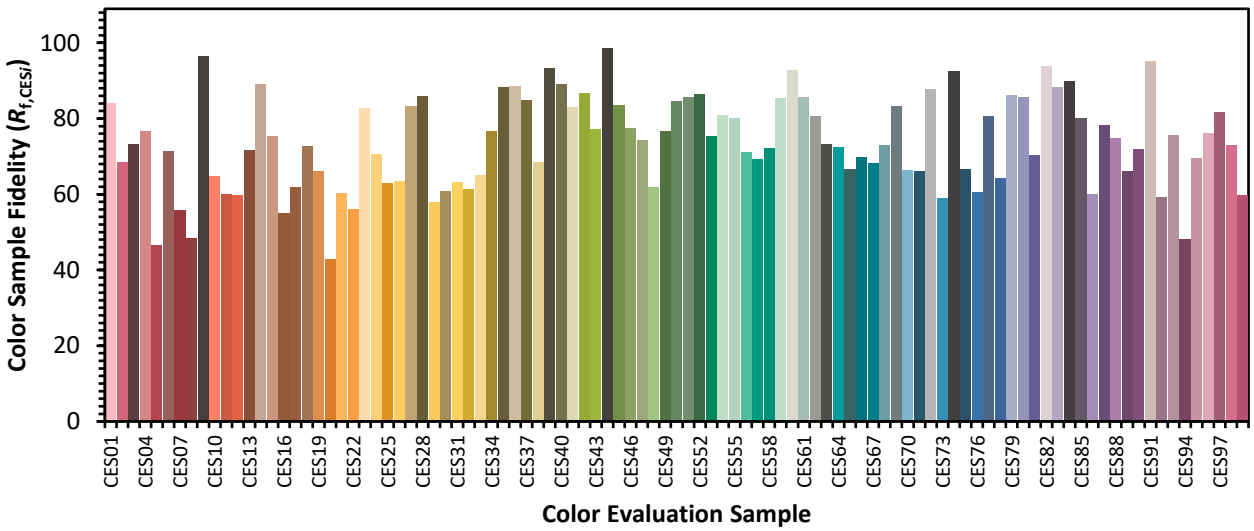



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**Individual Sample Fidelity Index ($R_{f,i}$)**

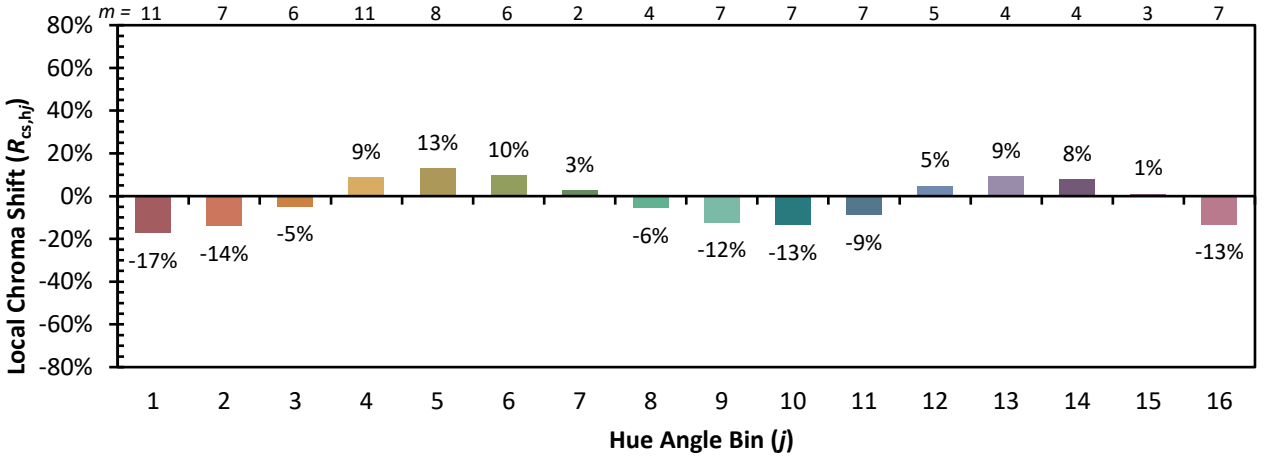
| | | | |
|---|---|---|---|
| CES01 = 86 | CES26 = 63 | CES51 = 86 | CES76 = 61 |
| CES02 = 62 | CES27 = 83 | CES52 = 86 | CES77 = 81 |
| CES03 = 31 | CES28 = 86 | CES53 = 75 | CES78 = 64 |
| CES04 = 71 | CES29 = 58 | CES54 = 81 | CES79 = 86 |
| CES05 = 49 | CES30 = 61 | CES55 = 80 | CES80 = 86 |
| CES06 = 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 | |

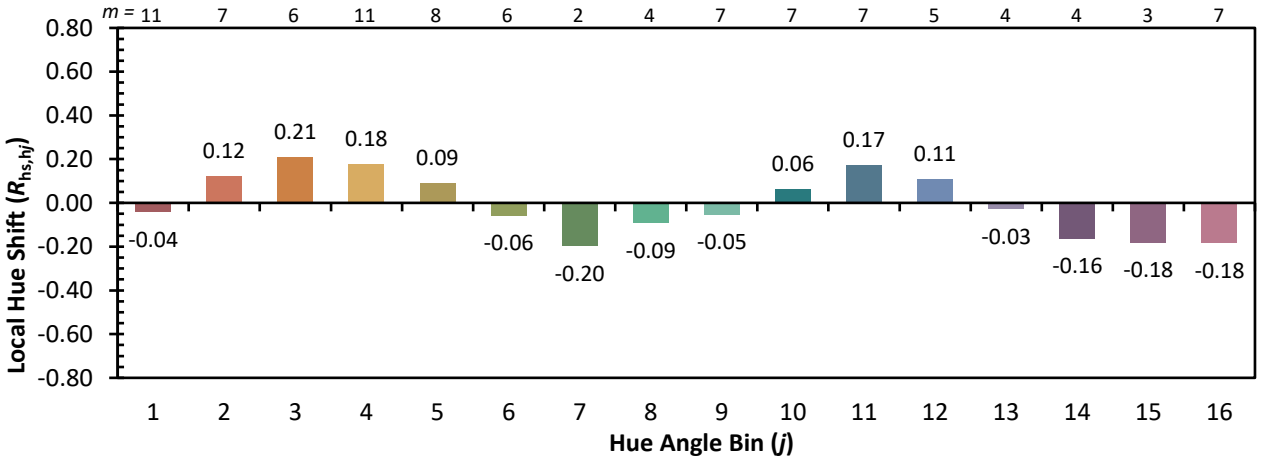


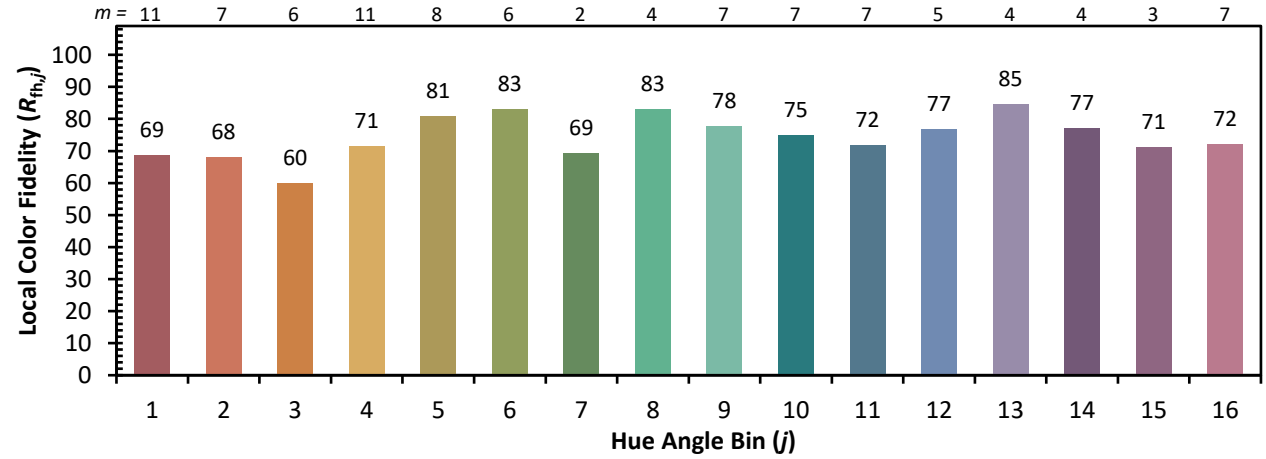
REPORT NUMBER: SP1-2407-184-4

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## Color Rendition by Hue-Angle Bin



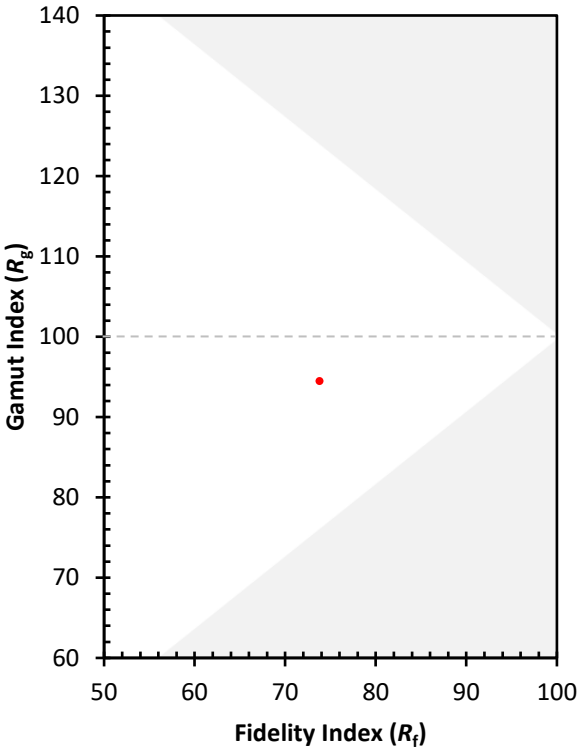



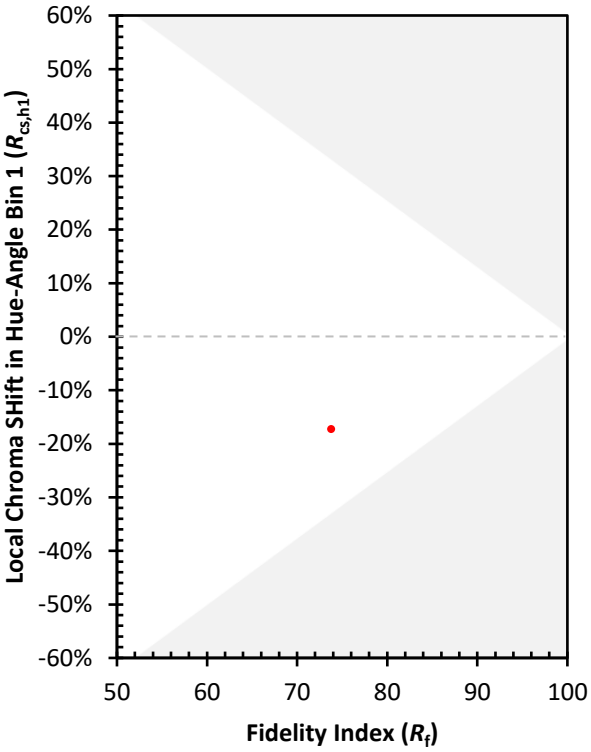



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## Measure Comparisons




(END OF REPORT)