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: P1363055

Luminaire Tested: **GSS-SB5A-730-U-SL2-HSS**

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: | P1363055 |
| Test Lab: | INNOVATION CENTER(G1) |
| Issue Date: | 02/18/2026 |
| Manufacturer: | COOPER LIGHTING SOLUTIONS (FORMERLY EATON) |
| Product Line: | McGRAW-EDISON |
| Catalog Number: | GSS-SB5A-730-U-SL2-HSS |
| Description: | GALLEON II SLIM SITE HIGH DENSITY LED ARRAYS 5SQUARE 143W 70CRI 3000K FIXTURE w/ TYPE II SPILL CONTROL DISTRIBUTION OPTIC AND HOUSE SIDE SHIELD |
| Light Source: | (130) 3000K CCT, 70 CRI LEDS |
| Ballast/Driver: | ELECTRONIC DRIVER |

**Summary**

| | |
|---|---|
| Lumens per Lamp: | N/A |
| Luminaire Lumens: | 18019.7 lumens |
| Efficiency: | N/A |
| Efficacy: | 126.0 lumens/watt |
| Luminous Opening: | Rectangular (W 1.5' x L: 1' x H: 0') |
| IES Classification: | Type II - Medium |
| BUG Rating: | B2 - U0 - G3 |

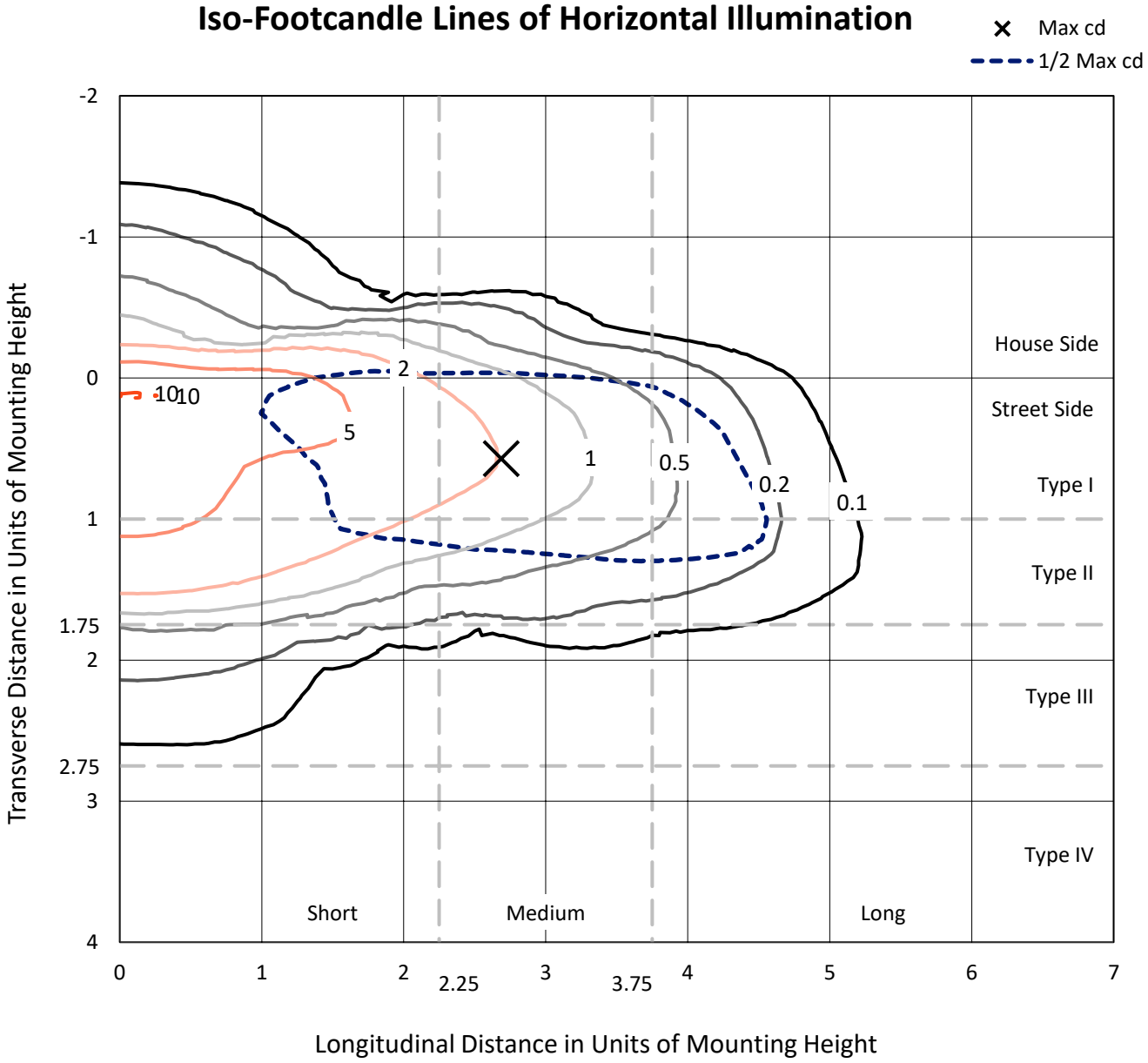
| | |
|---|---|
| Input Watts (W): | 143 |
| Input Voltage (V): | 120 |
| Input Current (Ain): | NR |
| Voltage Rise (V): | NR |
| Power Factor: | 0.98 |
| Total Harmonic Distortion (THDi): | 10.5% |
| Frequency (hertz): | 60 |
| Stabilization Time: | NR |
| Operation Time: | NR |
| Ambient Temperature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

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Scaled Data Report

REPORT NUMBER: P1363055
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## Iso-Footcandle Lines of Horizontal Illumination



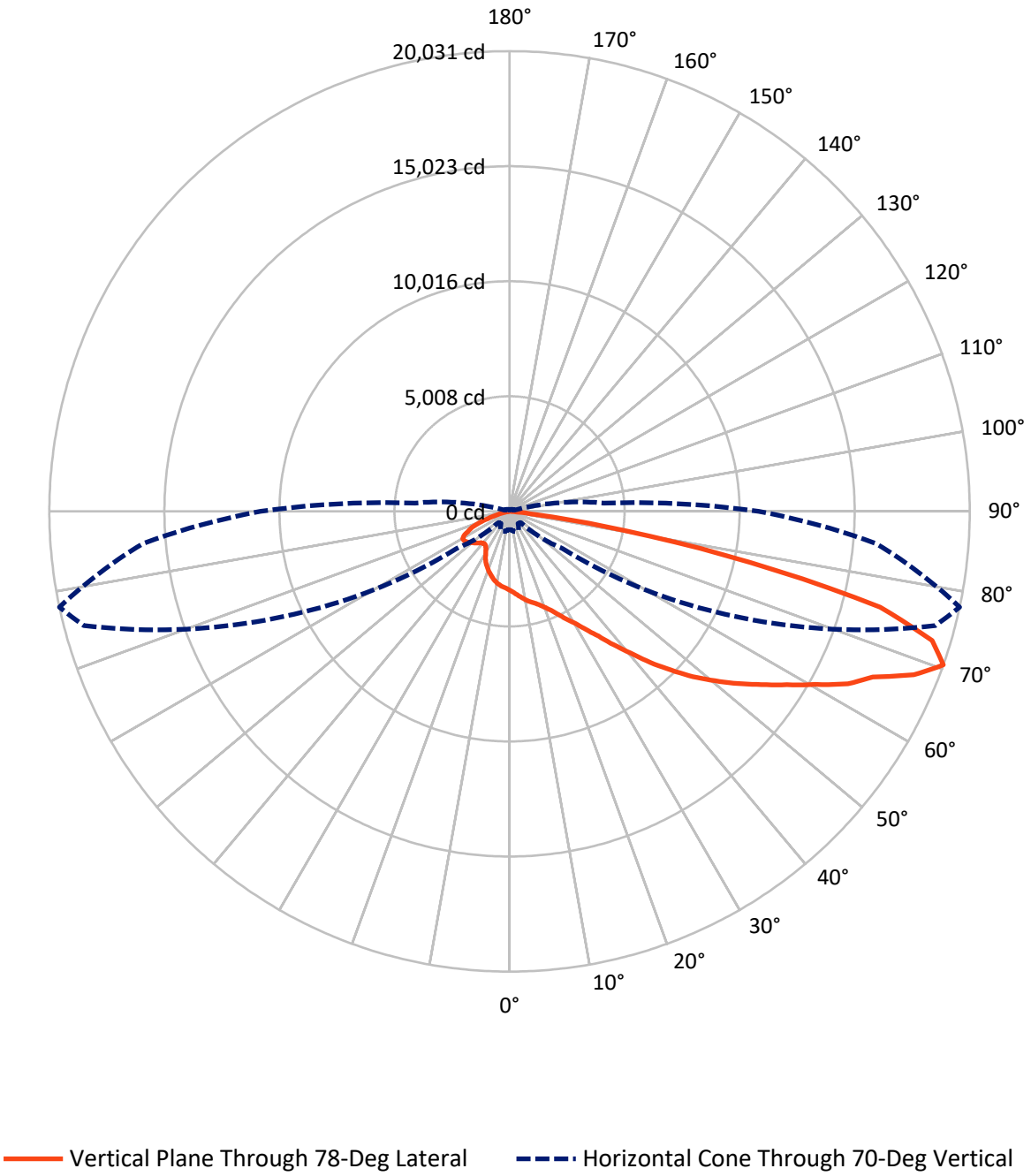

Based on 20 foot mounting height. Maximum calculated value = 10.3 fc
Type II - Medium - N/A

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## Luminous Intensity Polar Plot



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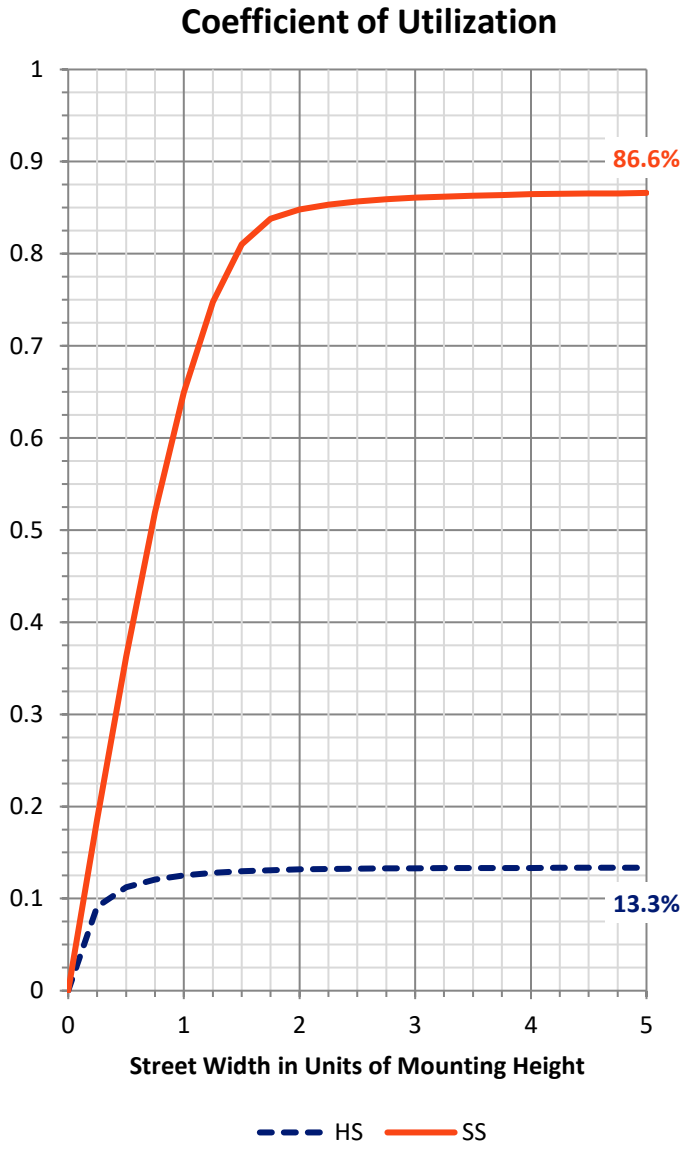
REPORT NUMBER: P1363055
CATALOG NUMBER: GSS-SB5A-730-U-SL2-HSS

**FLUX DISTRIBUTION:**

| | | Downward | Upward | Total |
|---|---|---|---|---|
| **House Side** | Lumens | 2423.7 | 0.0 | 2423.7 |
| | % Fixture | 13.5 | 0.0 | 13.5 |
| **Street Side** | Lumens | 15596.0 | 0.0 | 15596.0 |
| | % Fixture | 86.5 | 0.0 | 86.5 |
| **Total** | Lumens | 18019.7 | 0.0 | 18019.7 |
| | % Fixture | 100.0 | 0.0 | 100.0 |

**ZONAL LUMENS:**

| Zone | Lumens | % Fixture |
|---|---|---|
| 0°-10° | 314.1 | 1.7 |
| 10°-20° | 778.1 | 4.3 |
| 20°-30° | 1290.8 | 7.2 |
| 30°-40° | 2057.6 | 11.4 |
| 40°-50° | 3140.1 | 17.4 |
| 50°-60° | 4181.0 | 23.2 |
| 60°-70° | 3902.9 | 21.7 |
| 70°-80° | 2207.1 | 12.2 |
| 80°-90° | 148.0 | 0.8 |
| 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° | 18019.7 | 100.0 |
| 0°-180° | 18019.7 | 100.0 |



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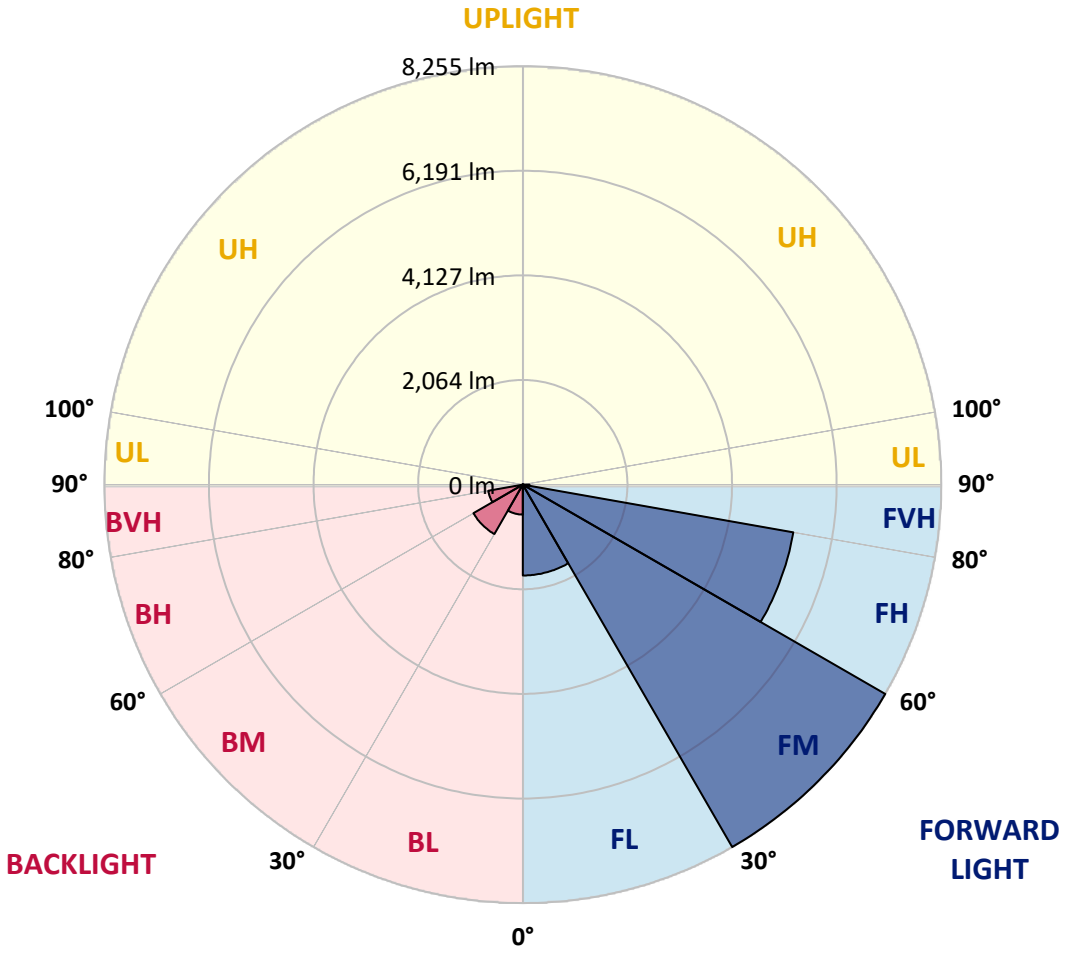
Scaled Data Report

REPORT NUMBER: P1363055
CATALOG NUMBER: GSS-SB5A-730-U-SL2-HSS

## LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

| Zone | | Lumens | % Fixture | Zone Rating/Lumen Limit B | U | G |
|---|---|---|---|---|---|---|
| FL | (0°-30°) | 1791.8 | 9.9 | | | |
| FM | (30°-60°) | 8254.5 | 45.8 | | | |
| FH | (60°-80°) | 5418.2 | 30.1 | | | G3/7500 |
| FVH | (80°-90°) | 131.5 | 0.7 | | | G2/225 |
| BL | (0°-30°) | 591.2 | 3.3 | B2/1000 | | |
| BM | (30°-60°) | 1124.2 | 6.2 | B2/2500 | | |
| BH | (60°-80°) | 691.8 | 3.8 | B2/1000 | | G2/1000 |
| BVH | (80°-90°) | 16.6 | 0.1 | | | G1/100 |
| UL | (90°-100°) | 0.0 | 0.0 | | U0/0 | |
| UH | (100°-180°) | 0.0 | 0.0 | | U0/0 | |

**BUG Rating: B2-U0-G3**
Type II Medium



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**CANDELA DISTRIBUTION (FULL):**

| | 0° | 5° | 15° | 25° | 35° | 45° | 55° | 65° | 75° | 78° | 85° |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0° | 3442.9 | 3442.9 | 3442.9 | 3442.9 | 3442.9 | 3442.9 | 3442.9 | 3442.9 | 3442.9 | *3442.9* | 3442.9 |
| 2.5° | 3877.0 | 3821.5 | 3821.5 | 3796.3 | 3771.0 | 3725.6 | 3670.1 | 3609.5 | 3559.0 | *3533.8* | 3493.4 |
| 5° | 4154.7 | 4139.5 | 4134.5 | 4094.1 | 4053.7 | 3988.1 | 3917.4 | 3801.3 | 3695.3 | *3660.0* | 3569.1 |
| 7.5° | 4144.6 | 4134.5 | 4154.7 | 4205.2 | 4240.5 | 4215.3 | 4154.7 | 4013.3 | 3846.7 | *3786.2* | 3649.9 |
| 10° | 3831.6 | 3801.3 | 3872.0 | 3983.0 | 4144.6 | 4311.2 | 4336.4 | 4200.1 | 3988.1 | *3917.4* | 3725.6 |
| 12.5° | 3548.9 | 3548.9 | 3584.2 | 3685.2 | 3887.1 | 4185.0 | 4417.2 | 4371.8 | 4129.4 | *4043.6* | 3791.2 |
| 15° | 3513.6 | 3488.3 | 3498.4 | 3543.9 | 3685.2 | 3978.0 | 4366.7 | 4503.0 | 4260.7 | *4144.6* | 3851.8 |
| 17.5° | 3675.1 | 3644.8 | 3619.6 | 3599.4 | 3619.6 | 3811.4 | 4210.2 | 4614.1 | 4417.2 | *4291.0* | 3932.6 |
| 20° | 3927.5 | 3927.5 | 3861.9 | 3781.1 | 3715.5 | 3750.8 | 4084.0 | 4684.8 | 4604.0 | *4467.7* | 4053.7 |
| 22.5° | 4291.0 | 4245.6 | 4205.2 | 4079.0 | 3917.4 | 3841.7 | 4028.5 | 4760.5 | 4861.4 | *4694.8* | 4220.3 |
| 25° | 4593.9 | 4609.0 | 4563.6 | 4407.1 | 4179.9 | 4013.3 | 4073.9 | 4790.8 | 5154.2 | *4987.6* | 4427.3 |
| 27.5° | 4937.2 | 4922.0 | 4881.6 | 4725.1 | 4462.6 | 4225.4 | 4200.1 | 4851.3 | 5492.5 | *5315.8* | 4669.6 |
| 30° | 5255.2 | 5255.2 | 5204.7 | 5028.0 | 4760.5 | 4503.0 | 4386.9 | 4952.3 | 5830.7 | *5669.2* | 4942.2 |
| 32.5° | 5608.6 | 5613.6 | 5512.7 | 5325.9 | 5053.3 | 4760.5 | 4624.2 | 5103.8 | 6249.7 | *6128.5* | 5310.7 |
| 35° | 5896.3 | 5906.4 | 5881.2 | 5679.3 | 5320.8 | 5028.0 | 4871.5 | 5341.0 | 6739.4 | *6668.7* | 5800.4 |
| 37.5° | 6118.4 | 6133.6 | 6083.1 | 5992.2 | 5659.1 | 5285.5 | 5134.0 | 5633.8 | 7330.0 | *7375.5* | 6436.5 |
| 40° | 6375.9 | 6375.9 | 6375.9 | 6239.6 | 5992.2 | 5568.2 | 5401.6 | 5997.3 | 7966.1 | *8107.4* | 7143.2 |
| 42.5° | 6603.1 | 6618.2 | 6643.5 | 6537.4 | 6310.3 | 5972.0 | 5729.7 | 6406.2 | 8677.9 | *8995.9* | 8016.6 |
| 45° | 6719.2 | 6749.5 | 6840.3 | 6794.9 | 6623.3 | 6295.1 | 6078.1 | 6805.0 | 9460.4 | *9854.1* | 8955.5 |
| 47.5° | 6789.9 | 6825.2 | 6946.4 | 7001.9 | 6931.2 | 6542.5 | 6406.2 | 7279.5 | 10207.5 | *10752.7* | 9919.8 |
| 50° | 6845.4 | 6895.9 | 7032.2 | 7138.2 | 7203.8 | 6749.5 | 6729.3 | 7764.2 | 10954.6 | *11595.8* | 10798.1 |
| 52.5° | 6683.8 | 6734.3 | 6991.8 | 7330.0 | 7385.6 | 7062.5 | 7067.5 | 8289.2 | 11711.9 | *12454.0* | 11610.9 |
| 55° | 6108.3 | 6143.7 | 6502.1 | 7183.6 | 7602.6 | 7425.9 | 7526.9 | 8970.7 | 12539.8 | *13307.1* | 12388.3 |
| 57.5° | 4346.5 | 4563.6 | 5199.7 | 6280.0 | 7335.1 | 7945.9 | 8263.9 | 9722.9 | 13504.0 | *14241.0* | 13175.9 |
| 60° | 1807.3 | 1963.8 | 2579.6 | 4482.8 | 6345.6 | 8016.6 | 9278.6 | 10959.7 | 14599.5 | *15301.2* | 14069.4 |
| 62.5° | 1176.2 | 1191.4 | 1252.0 | 1923.4 | 4028.5 | 7032.2 | 9667.3 | 12711.4 | 16144.2 | *16532.9* | 14559.1 |
| 65° | 1050.0 | 1070.2 | 1100.5 | 1196.4 | 1484.2 | 4745.3 | 8354.8 | 13302.1 | 17401.2 | *17376.0* | 14281.4 |
| 67.5° | 933.9 | 959.2 | 1014.7 | 1024.8 | 827.9 | 1746.7 | 5613.6 | 12433.8 | 18708.7 | *18981.3* | 15038.7 |
| 70° | *797.6* | *807.7* | *908.7* | *918.8* | *651.2* | *686.6* | *2827.0* | *10793.1* | *19193.3* | *20031.3* | *16007.9* |
| 72.5° | 555.3 | 585.6 | 767.3 | 807.7 | 520.0 | 444.2 | 1029.8 | 7855.0 | 17840.4 | *19233.7* | 15947.3 |
| 75° | 328.1 | 343.3 | 439.2 | 550.3 | 403.9 | 313.0 | 464.4 | 4831.1 | 15351.6 | *16659.1* | 14190.6 |
| 77.5° | 237.3 | 252.4 | 318.0 | 429.1 | 257.5 | 212.0 | 287.7 | 2524.1 | 10661.8 | *10717.4* | 8011.5 |
| 80° | 75.7 | 85.8 | 196.9 | 287.7 | 186.8 | 136.3 | 176.7 | 853.1 | 5386.5 | *5083.6* | 2448.4 |
| 82.5° | 40.4 | 40.4 | 121.2 | 151.4 | 116.1 | 85.8 | 101.0 | 353.4 | 1726.5 | *1105.6* | 388.7 |
| 85° | 20.2 | 20.2 | 50.5 | 60.6 | 45.4 | 40.4 | 50.5 | 126.2 | 181.7 | *166.6* | 111.1 |
| 87.5° | 0.0 | 0.0 | 5.0 | 5.0 | 5.0 | 10.1 | 20.2 | 35.3 | 45.4 | *45.4* | 50.5 |
| 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: P1363055
CATALOG NUMBER: GSS-SB5A-730-U-SL2-HSS

**CANDELA DISTRIBUTION (continued):**

| | 90° | 95° | 105° | 115° | 125° | 135° | 145° | 155° | 165° | 175° | 180° |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0° | 3442.9 | 3442.9 | 3442.9 | 3442.9 | 3442.9 | 3442.9 | 3442.9 | 3442.9 | 3442.9 | 3442.9 | 3442.9 |
| 2.5° | 3447.9 | 3407.6 | 3347.0 | 3276.3 | 3225.8 | 3155.1 | 3094.6 | 3069.3 | 3023.9 | 3013.8 | 3003.7 |
| 5° | 3483.3 | 3402.5 | 3266.2 | 3109.7 | 2973.4 | 2811.9 | 2680.6 | 2579.6 | 2509.0 | 2478.7 | 2463.5 |
| 7.5° | 3538.8 | 3407.6 | 3185.4 | 2928.0 | 2680.6 | 2438.3 | 2196.0 | 2009.2 | 1903.2 | 1802.2 | 1807.3 |
| 10° | 3569.1 | 3412.6 | 3079.4 | 2721.0 | 2352.5 | 1978.9 | 1615.4 | 1337.8 | 1191.4 | 1105.6 | 1085.4 |
| 12.5° | 3594.3 | 3387.4 | 2958.3 | 2463.5 | 1938.5 | 1403.4 | 1039.9 | 858.2 | 782.5 | 772.4 | 767.3 |
| 15° | 3609.5 | 3357.1 | 2806.8 | 2165.7 | 1469.0 | 949.1 | 772.4 | 721.9 | 701.7 | 696.7 | 696.7 |
| 17.5° | 3644.8 | 3321.7 | 2650.3 | 1797.2 | 1019.7 | 757.2 | 691.6 | 666.4 | 651.2 | 646.2 | 646.2 |
| 20° | 3705.4 | 3326.8 | 2488.8 | 1393.3 | 792.6 | 691.6 | 641.1 | 615.9 | 595.7 | 595.7 | 595.7 |
| 22.5° | 3806.4 | 3347.0 | 2281.8 | 1045.0 | 696.7 | 631.0 | 585.6 | 555.3 | 545.2 | 550.3 | 550.3 |
| 25° | 3942.7 | 3397.5 | 2069.8 | 807.7 | 641.1 | 570.4 | 525.0 | 499.8 | 494.7 | 499.8 | 499.8 |
| 27.5° | 4114.3 | 3453.0 | 1807.3 | 696.7 | 590.6 | 520.0 | 474.5 | 459.4 | 454.3 | 464.4 | 464.4 |
| 30° | 4301.1 | 3518.6 | 1494.3 | 641.1 | 545.2 | 479.6 | 439.2 | 424.1 | 424.1 | 439.2 | 439.2 |
| 32.5° | 4563.6 | 3624.6 | 1211.6 | 595.7 | 509.9 | 449.3 | 408.9 | 393.8 | 398.8 | 414.0 | 414.0 |
| 35° | 4917.0 | 3760.9 | 994.5 | 565.4 | 484.6 | 424.1 | 388.7 | 368.5 | 373.6 | 378.6 | 383.7 |
| 37.5° | 5376.4 | 3947.7 | 858.2 | 545.2 | 459.4 | 408.9 | 363.5 | 348.3 | 348.3 | 353.4 | 353.4 |
| 40° | 5891.3 | 4169.8 | 792.6 | 530.1 | 439.2 | 383.7 | 343.3 | 323.1 | 323.1 | 333.2 | 333.2 |
| 42.5° | 6547.5 | 4407.1 | 742.1 | 509.9 | 414.0 | 363.5 | 318.0 | 302.9 | 297.8 | 307.9 | 307.9 |
| 45° | 7304.8 | 4750.4 | 711.8 | 489.7 | 388.7 | 338.2 | 297.8 | 277.7 | 272.6 | 277.7 | 282.7 |
| 47.5° | 8072.1 | 5113.8 | 681.5 | 464.4 | 373.6 | 318.0 | 282.7 | 257.5 | 252.4 | 252.4 | 252.4 |
| 50° | 8794.0 | 5477.3 | 661.3 | 434.1 | 358.4 | 297.8 | 262.5 | 242.3 | 232.2 | 232.2 | 232.2 |
| 52.5° | 9440.2 | 5815.6 | 651.2 | 408.9 | 343.3 | 282.7 | 252.4 | 227.2 | 212.0 | 212.0 | 212.0 |
| 55° | 10056.1 | 6143.7 | 636.1 | 378.6 | 328.1 | 262.5 | 237.3 | 212.0 | 196.9 | 191.8 | 191.8 |
| 57.5° | 10677.0 | 6446.6 | 595.7 | 348.3 | 297.8 | 247.4 | 222.1 | 196.9 | 181.7 | 171.6 | 171.6 |
| 60° | 11186.9 | 6633.4 | 535.1 | 313.0 | 262.5 | 227.2 | 207.0 | 181.7 | 161.5 | 146.4 | 146.4 |
| 62.5° | 11222.2 | 6441.5 | 444.2 | 277.7 | 232.2 | 207.0 | 186.8 | 161.5 | 136.3 | 116.1 | 116.1 |
| 65° | 10621.5 | 5775.2 | 353.4 | 232.2 | 207.0 | 181.7 | 156.5 | 136.3 | 111.1 | 90.9 | 85.8 |
| 67.5° | 10757.8 | 5240.1 | 272.6 | 196.9 | 181.7 | 146.4 | 126.2 | 111.1 | 90.9 | 75.7 | 75.7 |
| 70° | *10838.5* | *4124.4* | *217.1* | *161.5* | *151.4* | *116.1* | *101.0* | *95.9* | *75.7* | *60.6* | *60.6* |
| 72.5° | 10131.8 | 2554.4 | 176.7 | 136.3 | 116.1 | 80.8 | 80.8 | 75.7 | 60.6 | 45.4 | 40.4 |
| 75° | 8935.4 | 1524.6 | 136.3 | 106.0 | 80.8 | 60.6 | 60.6 | 55.5 | 40.4 | 30.3 | 30.3 |
| 77.5° | 5401.6 | 802.7 | 106.0 | 80.8 | 55.5 | 45.4 | 40.4 | 35.3 | 25.2 | 20.2 | 15.1 |
| 80° | 1671.0 | 282.7 | 80.8 | 55.5 | 40.4 | 35.3 | 25.2 | 15.1 | 10.1 | 10.1 | 5.0 |
| 82.5° | 232.2 | 101.0 | 60.6 | 45.4 | 30.3 | 20.2 | 15.1 | 10.1 | 5.0 | 5.0 | 5.0 |
| 85° | 80.8 | 55.5 | 40.4 | 30.3 | 20.2 | 15.1 | 10.1 | 5.0 | 5.0 | 0.0 | 0.0 |
| 87.5° | 45.4 | 40.4 | 30.3 | 20.2 | 15.1 | 10.1 | 10.1 | 5.0 | 0.0 | 0.0 | 0.0 |
| 90° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

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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

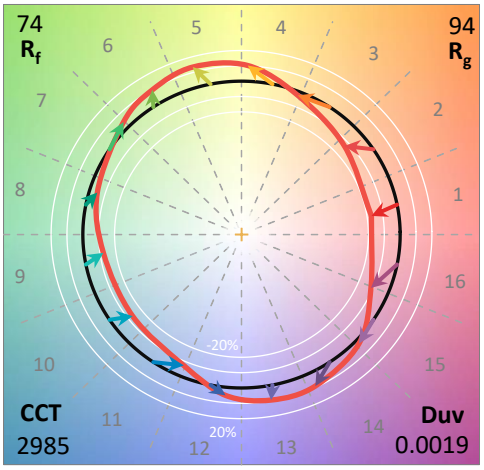
## Test Information

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

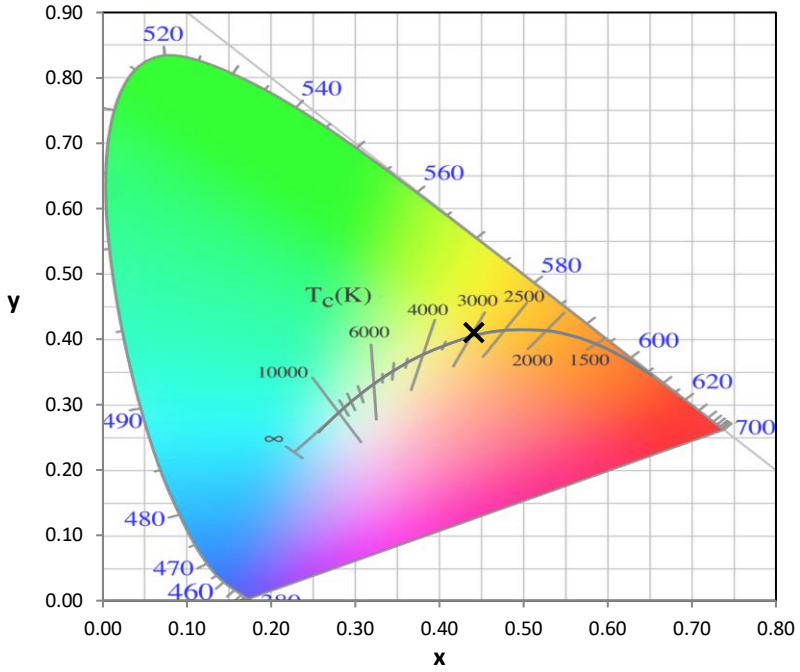
| | |
|---|---|
| Stabilization Time: | 36M |
| Operation Time: | 1H 36M |
| Sphere Temperature (°C): | 25.2 |

REPORT NUMBER: SP1-2407-184-4

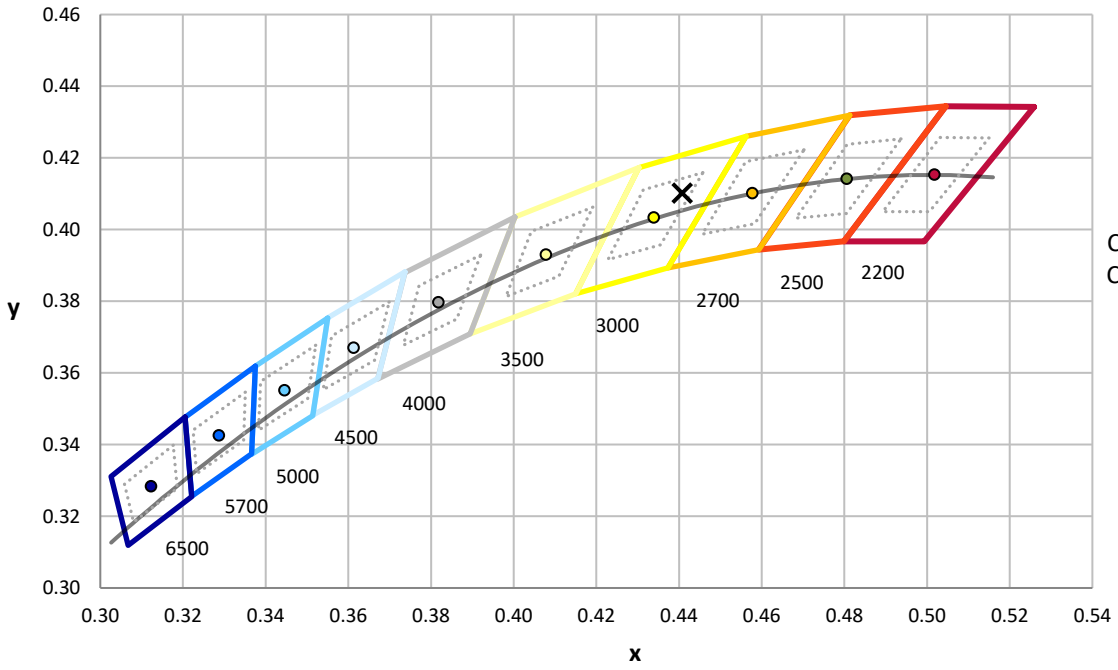
| Measurement and Test Equipment | | | |
|---|---|---|---|
| Instrument | Identification Number | Calibration Date | Calibration Due Date |
| Photometer | IN0058 | 6/18/2024 | 12/18/2024 |
| Power Meter | INXT2011004 | 2/8/2024 | 2/8/2025 |
| AC Power Source | IN0063 | 10/24/2023 | 10/24/2024 |
| DC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

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## CIE 1931 Chromaticity Diagram




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

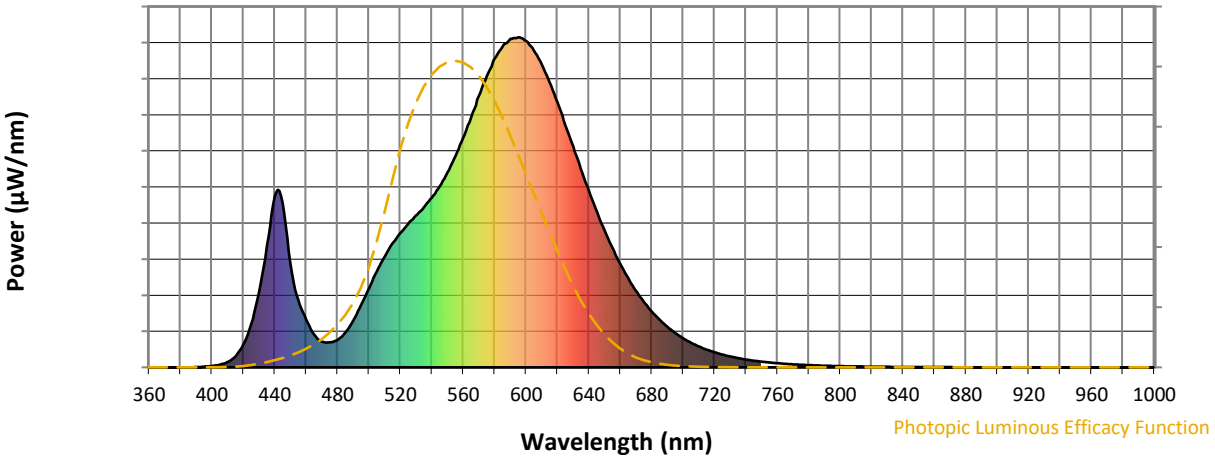



CCT = 2985K
CIE x = 0.4408
CIE y = 0.4101
Duv = 0.0019

Point lies inside the ANSI 3000K 4-step quadrangle

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## Photopic Flux vs. Wavelength

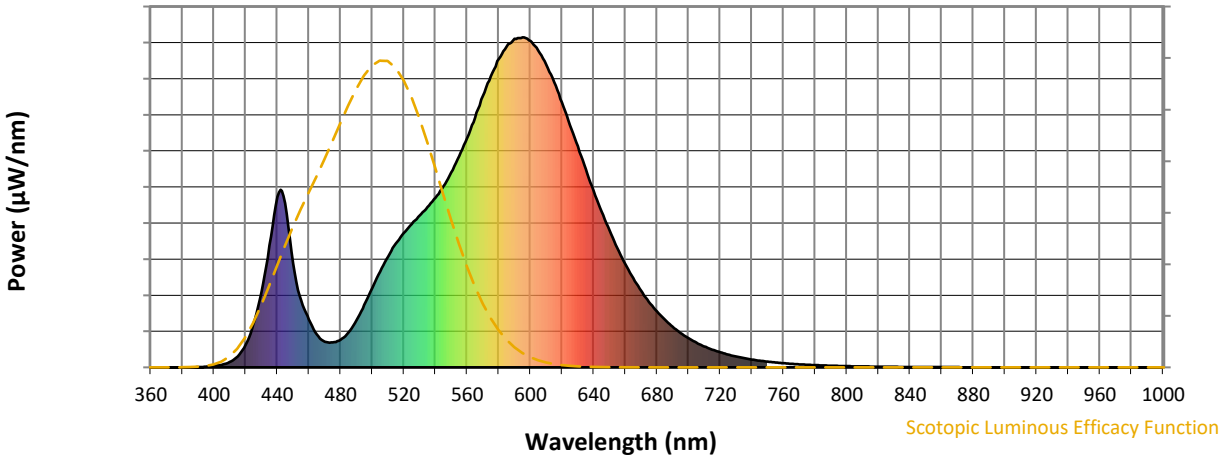



## Photopic Lumens: NR

| 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

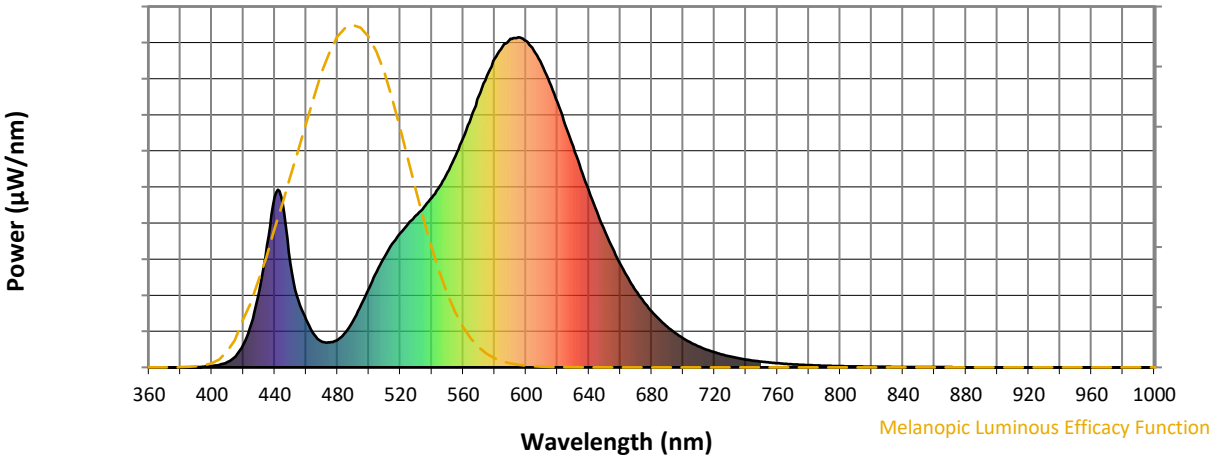



**Scotopic Lumens: NR** **S/P: 1.19**

| 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 | | | |

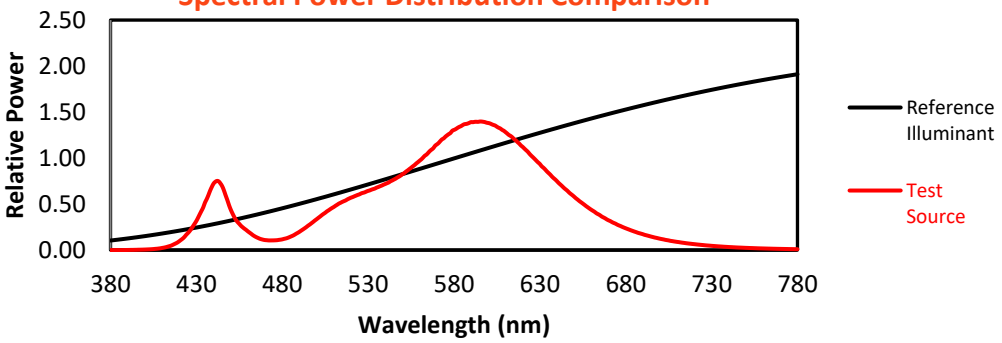
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# TM-30-18

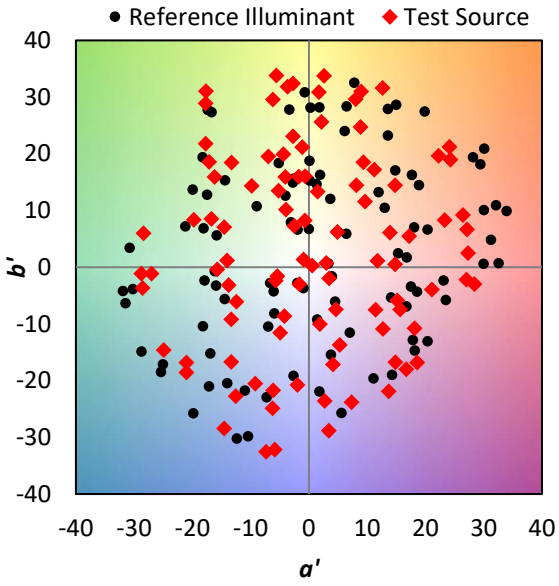
## Summary

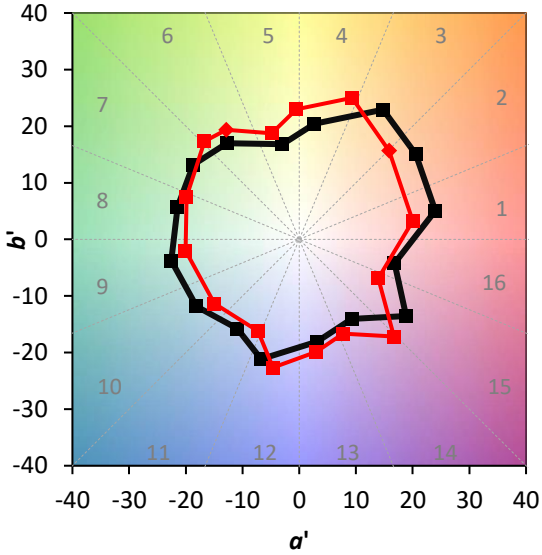
$R_f$ = 73.8
$R_g$ = 94.4
CIE $R_a$ = 70.8
$R_9$ = -43.2

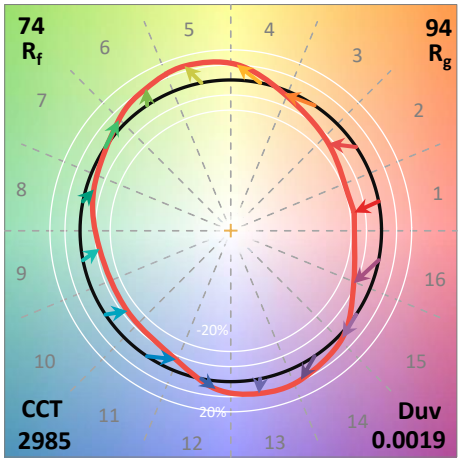
## Spectral Power Distribution Comparison

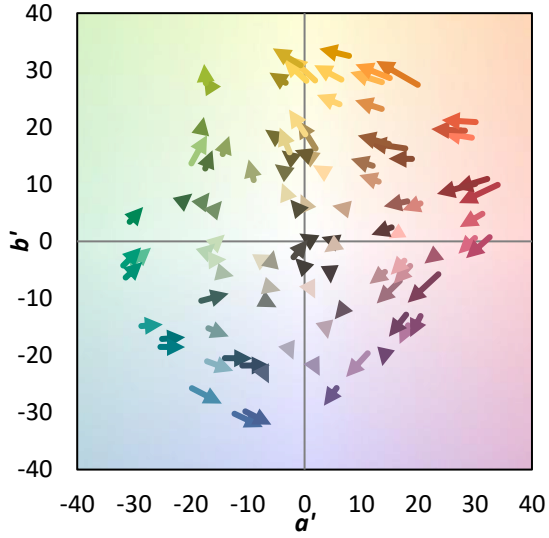



## Color Vector Graphics



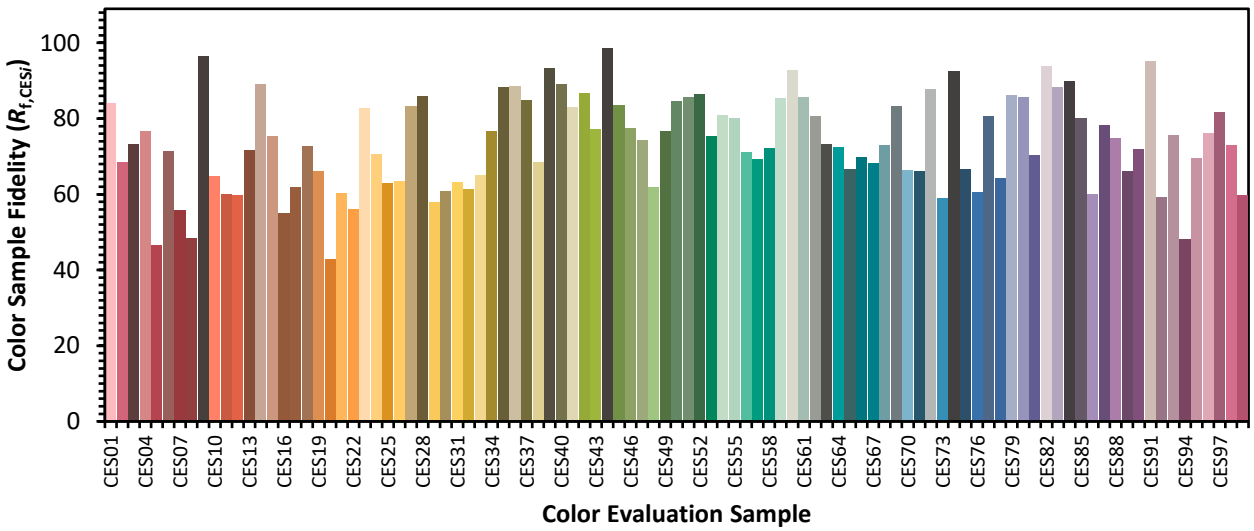



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# TM-30-18

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

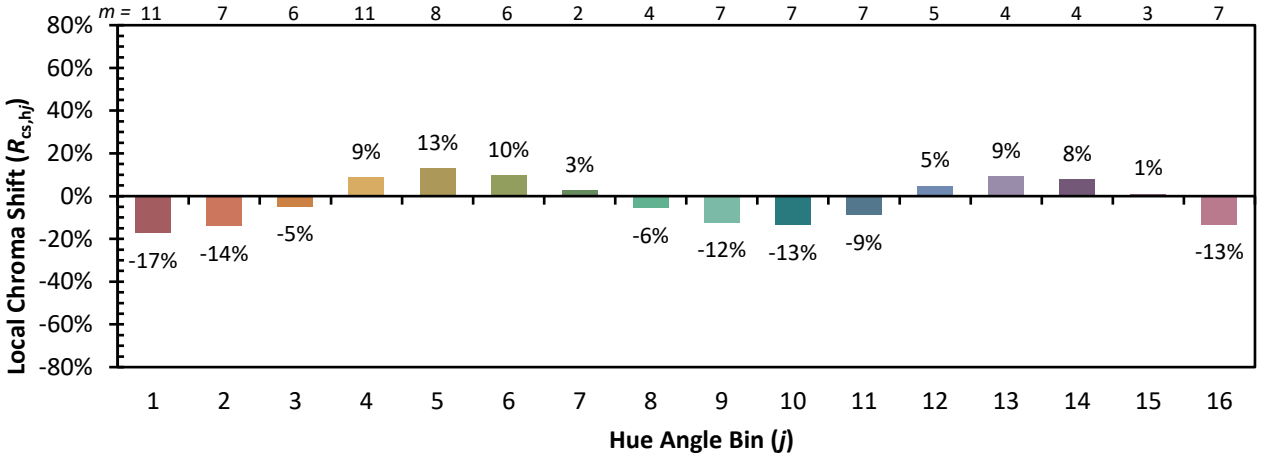
| | | | |
|---|---|---|---|
| CES01 = 86 | CES26 = 63 | CES51 = 86 | CES76 = 61 |
| CES02 = 62 | CES27 = 83 | CES52 = 86 | CES77 = 81 |
| CES03 = 31 | CES28 = 86 | CES53 = 75 | CES78 = 64 |
| CES04 = 71 | CES29 = 58 | CES54 = 81 | CES79 = 86 |
| CES05 = 49 | CES30 = 61 | CES55 = 80 | CES80 = 86 |
| CES06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

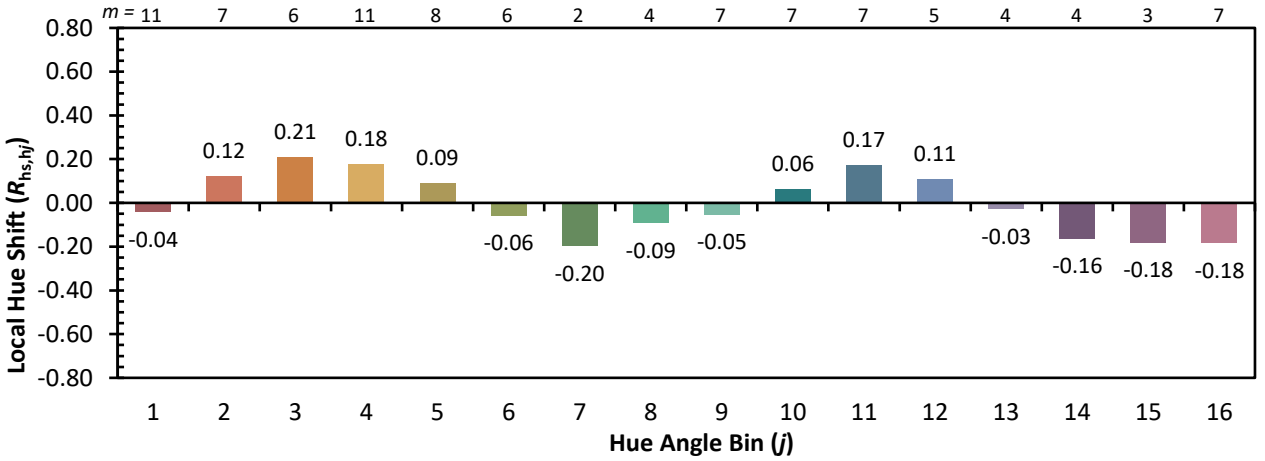


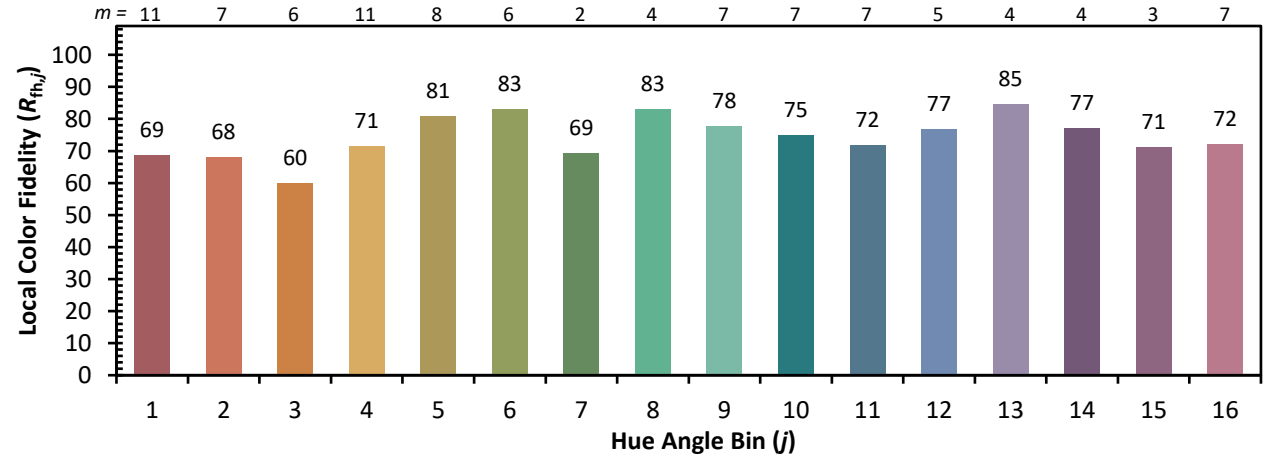
REPORT NUMBER: SP1-2407-184-4

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## Color Rendition by Hue-Angle Bin



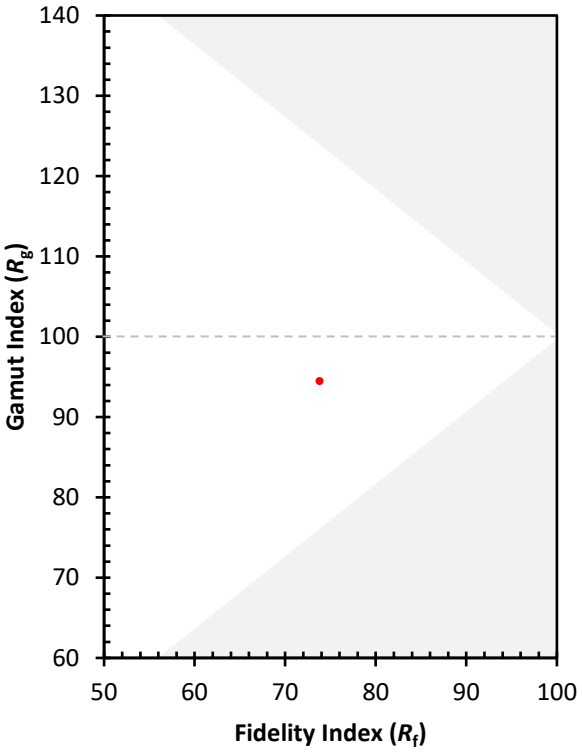



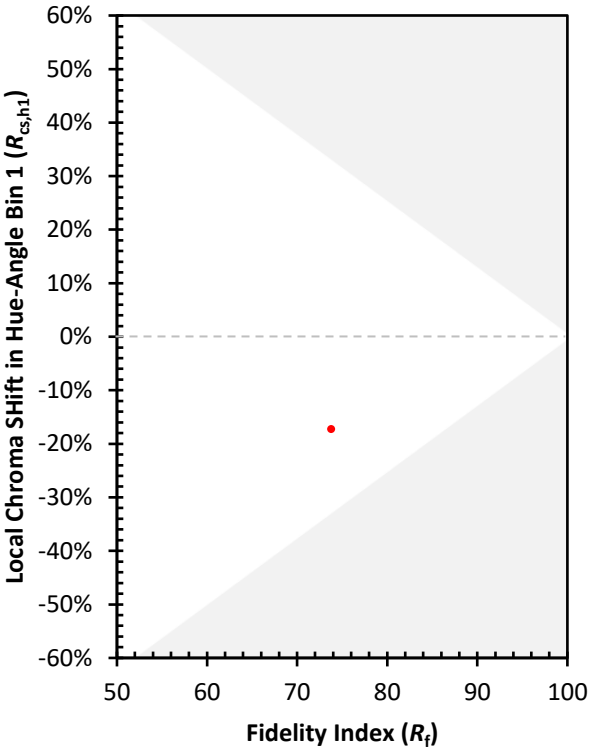



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## Measure Comparisons




(END OF REPORT)