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: P1362235

Luminaire Tested: **GSS-SB4A-722-U-RW**

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: | P1362235 |
| Test Lab: | INNOVATION CENTER(G1) |
| Issue Date: | 02/18/2026 |
| Manufacturer: | COOPER LIGHTING SOLUTIONS (FORMERLY EATON) |
| Product Line: | McGRAW-EDISON |
| Catalog Number: | GSS-SB4A-722-U-RW |
| Description: | GALLEON II SLIM SITE HIGH DENSITY LED ARRAYS 4SQUARE 114W 70CRI 2200K FIXTURE w/ RECTANGULAR WIDE DISTRIBUTION OPTIC |
| Light Source: | (104) 2200K CCT, 70 CRI LEDS |
| Ballast/Driver: | ELECTRONIC DRIVER |

**Summary**

| | |
|---|---|
| Lumens per Lamp: | N/A |
| Luminaire Lumens: | 14587.9 lumens |
| Efficiency: | N/A |
| Efficacy: | 128.0 lumens/watt |
| Luminous Opening: | Rectangular (W 1.5' x L: 1' x H: 0') |
| IES Classification: | Type III - Short |
| BUG Rating: | B3 - U0 - G3 |

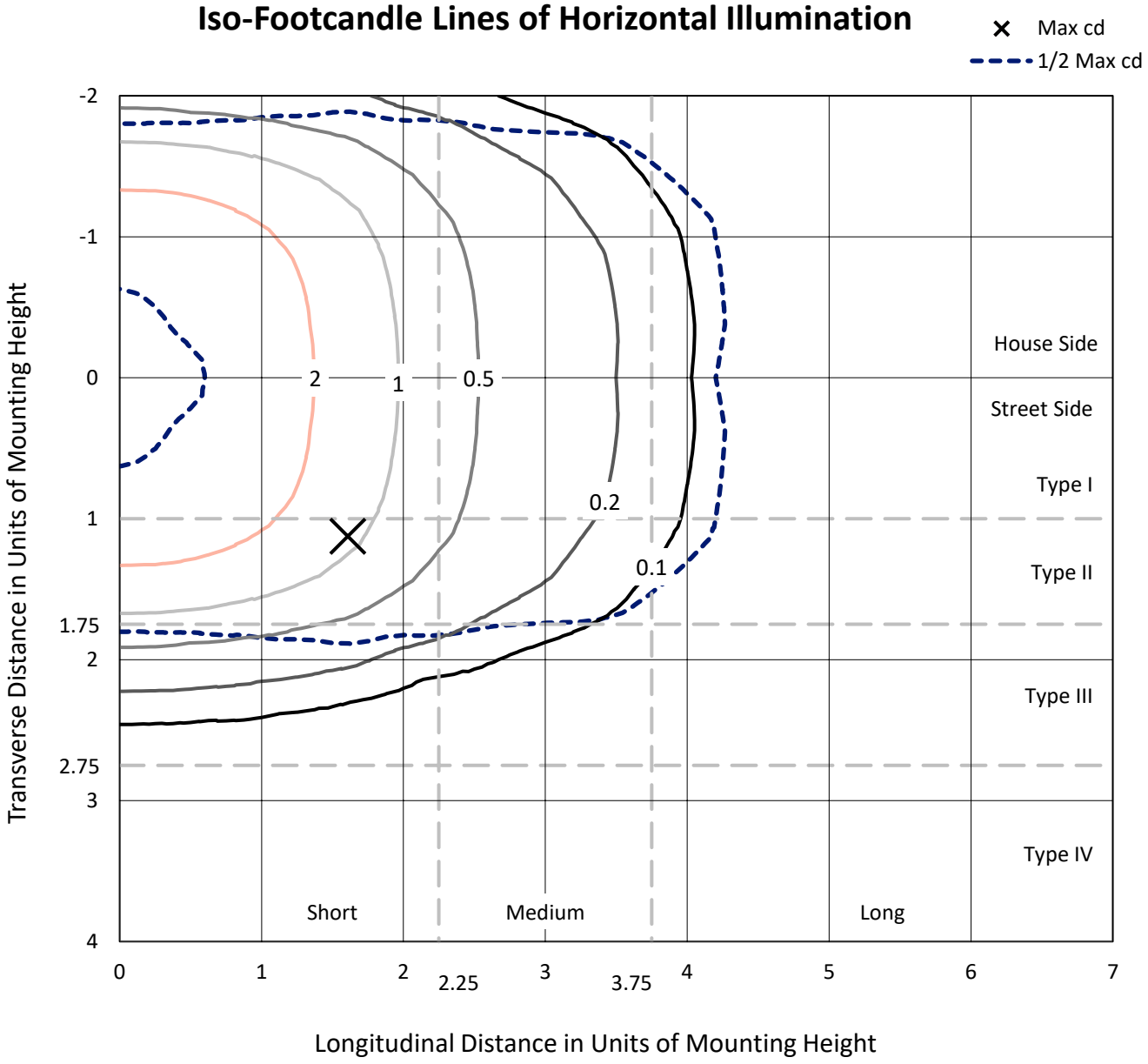
| | |
|---|---|
| Input Watts (W): | 114 |
| Input Voltage (V): | 120 |
| Input Current (Ain): | NR |
| Voltage Rise (V): | NR |
| Power Factor: | 0.98 |
| Total Harmonic Distortion (THDi): | 8.2% |
| Frequency (hertz): | 60 |
| Stabilization Time: | NR |
| Operation Time: | NR |
| Ambient Temperature (°C): | NR |
| Test Distance: | 28.75 FT |

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Scaled Data Report

REPORT NUMBER: P1362235
CATALOG NUMBER: GSS-SB4A-722-U-RW

## Iso-Footcandle Lines of Horizontal Illumination



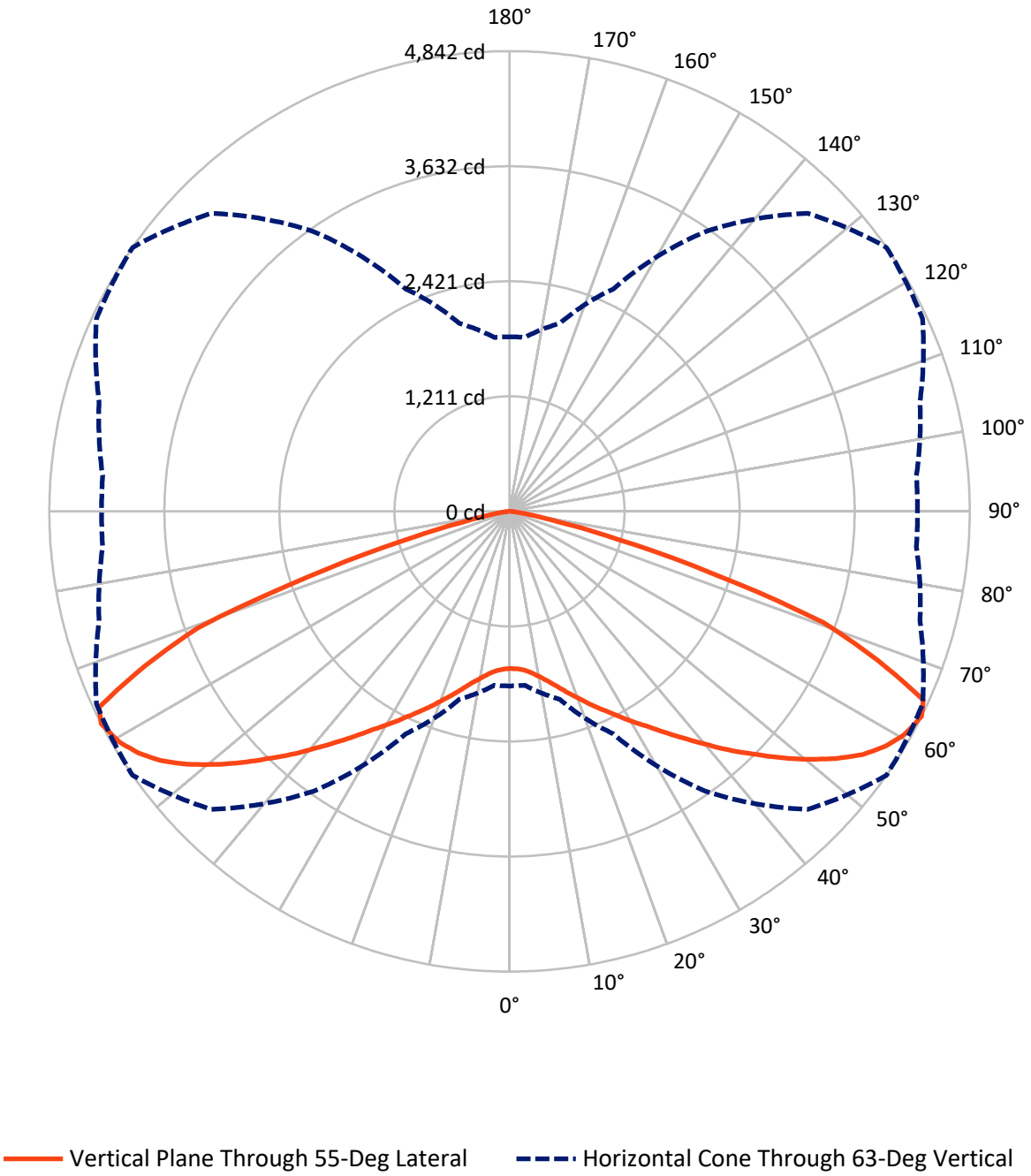

Based on 20 foot mounting height. Maximum calculated value = 4.5 fc
Type III - Short - N/A

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REPORT NUMBER: P1362235
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## Luminous Intensity Polar Plot



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Scaled Data Report

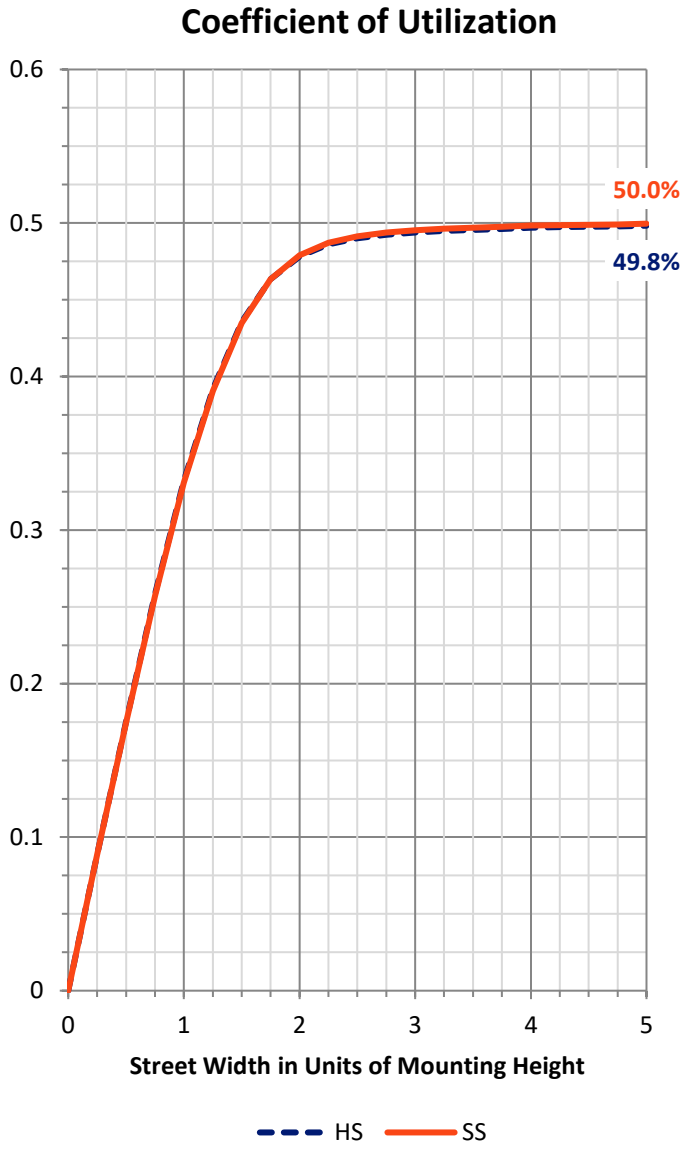
REPORT NUMBER: P1362235
CATALOG NUMBER: GSS-SB4A-722-U-RW

**FLUX DISTRIBUTION:**

| | | Downward | Upward | Total |
|---|---|---|---|---|
| **House Side** | Lumens | 7294.0 | 0.0 | 7294.0 |
| | % Fixture | 50.0 | 0.0 | 50.0 |
| **Street Side** | Lumens | 7294.0 | 0.0 | 7294.0 |
| | % Fixture | 50.0 | 0.0 | 50.0 |
| **Total** | Lumens | 14587.9 | 0.0 | 14587.9 |
| | % Fixture | 100.0 | 0.0 | 100.0 |

**ZONAL LUMENS:**

| Zone | Lumens | % Fixture |
|---|---|---|
| 0°-10° | 161.2 | 1.1 |
| 10°-20° | 532.7 | 3.7 |
| 20°-30° | 1030.6 | 7.1 |
| 30°-40° | 1745.0 | 12.0 |
| 40°-50° | 2752.6 | 18.9 |
| 50°-60° | 3660.8 | 25.1 |
| 60°-70° | 3202.7 | 22.0 |
| 70°-80° | 1422.1 | 9.7 |
| 80°-90° | 80.3 | 0.6 |
| 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° | 14587.9 | 100.0 |
| 0°-180° | 14587.9 | 100.0 |



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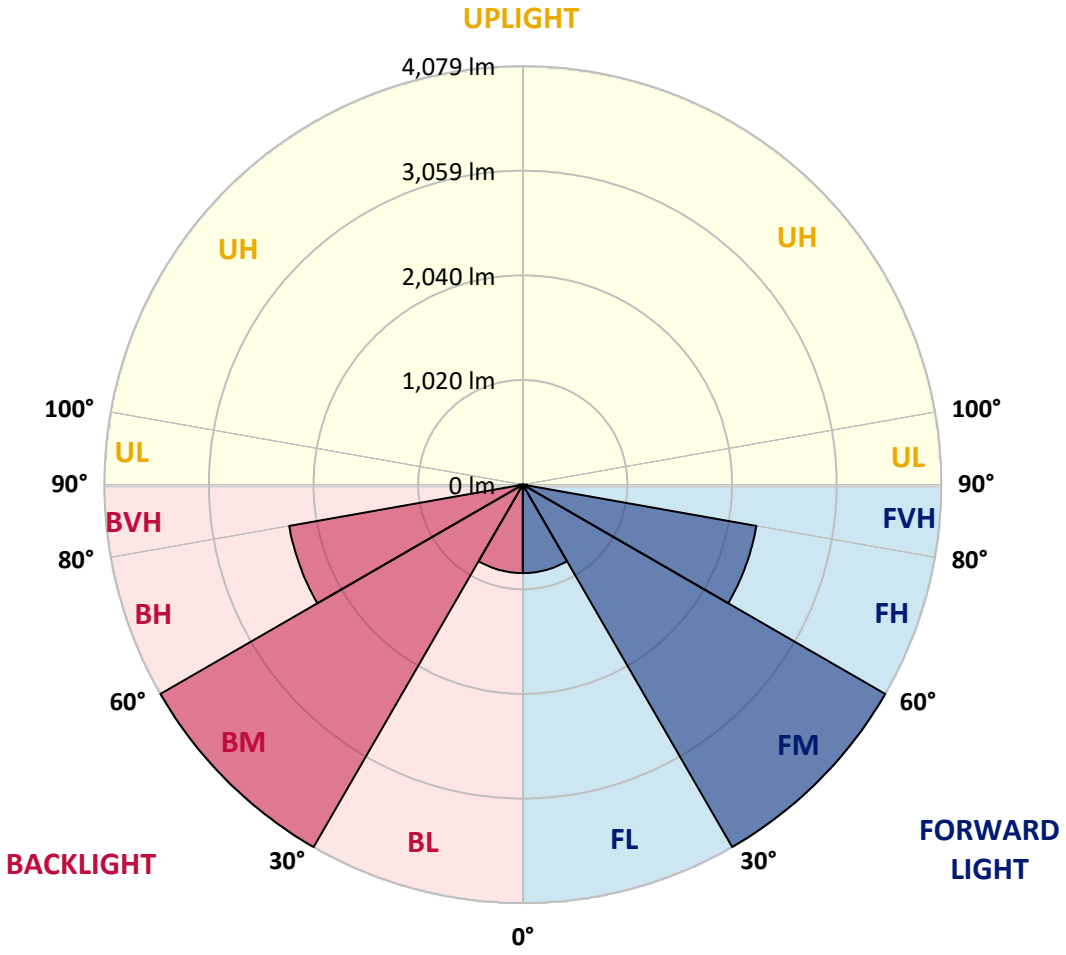
Scaled Data Report

REPORT NUMBER: P1362235
CATALOG NUMBER: GSS-SB4A-722-U-RW

## LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

| Zone | | Lumens | % Fixture | Zone Rating/Lumen Limit B | U | G |
|---|---|---|---|---|---|---|
| FL | (0°-30°) | 862.3 | 5.9 | | | |
| FM | (30°-60°) | 4079.2 | 28.0 | | | |
| FH | (60°-80°) | 2312.4 | 15.9 | | | G2/5000 |
| FVH | (80°-90°) | 40.2 | 0.3 | | | G1/100 |
| BL | (0°-30°) | 862.3 | 5.9 | B2/1000 | | |
| BM | (30°-60°) | 4079.2 | 28.0 | B3/5000 | | |
| BH | (60°-80°) | 2312.4 | 15.9 | B3/2500 | | G3/2500 |
| BVH | (80°-90°) | 40.2 | 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



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Peachtree City, GA 30269

Scaled Data Report

REPORT NUMBER: P1362235
CATALOG NUMBER: GSS-SB4A-722-U-RW

**CANDELA DISTRIBUTION (FULL):**

| | 0° | 5° | 15° | 25° | 35° | 45° | 55° | 65° | 75° | 85° | 90° |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0° | 1653.1 | 1653.1 | 1653.1 | 1653.1 | 1653.1 | 1653.1 | *1653.1* | 1653.1 | 1653.1 | 1653.1 | 1653.1 |
| 2.5° | 1653.1 | 1643.0 | 1639.7 | 1646.4 | 1646.4 | 1653.1 | *1659.7* | 1656.4 | 1666.4 | 1666.4 | 1659.7 |
| 5° | 1636.4 | 1629.7 | 1629.7 | 1639.7 | 1649.7 | 1666.4 | *1679.8* | 1683.1 | 1699.8 | 1699.8 | 1703.2 |
| 7.5° | 1626.4 | 1623.0 | 1626.4 | 1639.7 | 1663.1 | 1689.8 | *1716.5* | 1733.2 | 1759.9 | 1766.6 | 1773.3 |
| 10° | 1643.0 | 1633.0 | 1646.4 | 1666.4 | 1696.5 | 1733.2 | *1773.3* | 1800.0 | 1830.1 | 1846.8 | 1850.1 |
| 12.5° | 1673.1 | 1666.4 | 1683.1 | 1716.5 | 1756.6 | 1800.0 | *1836.7* | 1870.1 | 1903.5 | 1926.9 | 1930.2 |
| 15° | 1689.8 | 1686.5 | 1723.2 | 1773.3 | 1833.4 | 1880.2 | *1916.9* | 1943.6 | 1977.0 | 2003.7 | 2013.7 |
| 17.5° | 1726.5 | 1726.5 | 1776.6 | 1843.4 | 1920.2 | 1973.7 | *2010.4* | 2023.8 | 2040.5 | 2063.8 | 2083.9 |
| 20° | 1790.0 | 1793.3 | 1846.8 | 1930.2 | 2017.1 | 2080.5 | *2103.9* | 2103.9 | 2100.6 | 2120.6 | 2130.6 |
| 22.5° | 1880.2 | 1880.2 | 1950.3 | 2033.8 | 2123.9 | 2197.4 | *2214.1* | 2184.1 | 2164.0 | 2177.4 | 2184.1 |
| 25° | 1997.0 | 1993.7 | 2067.2 | 2157.3 | 2247.5 | 2321.0 | *2321.0* | 2274.2 | 2230.8 | 2237.5 | 2247.5 |
| 27.5° | 2120.6 | 2127.3 | 2204.1 | 2290.9 | 2384.4 | 2451.2 | *2437.9* | 2374.4 | 2307.6 | 2297.6 | 2307.6 |
| 30° | 2267.5 | 2270.9 | 2347.7 | 2444.5 | 2528.0 | 2584.8 | *2571.4* | 2484.6 | 2394.4 | 2367.7 | 2377.7 |
| 32.5° | 2441.2 | 2441.2 | 2518.0 | 2604.8 | 2688.3 | 2741.8 | *2705.0* | 2608.2 | 2491.3 | 2464.6 | 2471.3 |
| 35° | 2634.9 | 2644.9 | 2718.4 | 2795.2 | 2868.7 | 2912.1 | *2868.7* | 2748.4 | 2611.5 | 2581.5 | 2584.8 |
| 37.5° | 2855.3 | 2865.3 | 2935.4 | 3008.9 | 3069.0 | 3102.4 | *3042.3* | 2905.4 | 2748.4 | 2711.7 | 2718.4 |
| 40° | 3085.7 | 3095.7 | 3175.9 | 3239.3 | 3296.1 | 3316.2 | *3236.0* | 3085.7 | 2912.1 | 2878.7 | 2878.7 |
| 42.5° | 3306.1 | 3316.2 | 3393.0 | 3483.1 | 3533.2 | 3539.9 | *3443.1* | 3272.7 | 3092.4 | 3052.3 | 3065.7 |
| 45° | 3489.8 | 3489.8 | 3593.3 | 3700.2 | 3780.3 | 3783.7 | *3650.1* | 3466.4 | 3272.7 | 3232.7 | 3246.0 |
| 47.5° | 3616.7 | 3623.4 | 3743.6 | 3883.9 | 3990.7 | 4020.8 | *3877.2* | 3686.8 | 3469.8 | 3419.7 | 3439.7 |
| 50° | 3696.9 | 3706.9 | 3837.1 | 4010.8 | 4171.1 | 4241.2 | *4100.9* | 3890.6 | 3676.8 | 3623.4 | 3640.1 |
| 52.5° | 3723.6 | 3723.6 | 3870.5 | 4074.2 | 4288.0 | 4421.5 | *4318.0* | 4094.3 | 3877.2 | 3813.7 | 3833.8 |
| 55° | 3616.7 | 3633.4 | 3803.7 | 4060.9 | 4334.7 | 4545.1 | *4515.0* | 4284.6 | 4064.2 | 3997.4 | 4037.5 |
| 57.5° | 3339.5 | 3372.9 | 3576.6 | 3920.6 | 4311.3 | 4625.2 | *4662.0* | 4465.0 | 4241.2 | 4181.1 | 4204.5 |
| 60° | 2711.7 | 2725.1 | 3015.6 | 3576.6 | 4134.3 | 4625.2 | *4772.2* | 4638.6 | 4414.9 | 4354.7 | 4374.8 |
| 62.5° | 1940.3 | 1967.0 | 2174.0 | 2771.8 | 3753.6 | 4495.0 | *4829.0* | 4782.2 | 4498.3 | 4358.1 | 4358.1 |
| 63° | *1836.7* | *1836.7* | *2047.1* | *2581.5* | *3593.3* | *4434.9* | *4842.3* | *4795.6* | *4471.6* | *4298.0* | *4291.3* |
| 65° | 1325.8 | 1335.8 | 1532.8 | 1960.3 | 2828.6 | 4124.3 | *4785.5* | 4628.6 | 4231.2 | 4054.2 | 4054.2 |
| 67.5° | 771.4 | 778.1 | 895.0 | 1259.0 | 1910.2 | 3279.4 | *4171.1* | 4391.5 | 4211.1 | 4067.5 | 4074.2 |
| 70° | 497.6 | 504.3 | 561.0 | 708.0 | 1138.8 | 1866.8 | *3503.2* | 4257.9 | 4161.1 | 3954.0 | 3947.3 |
| 72.5° | 344.0 | 344.0 | 370.7 | 450.8 | 587.8 | 1018.6 | *2224.1* | 3760.3 | 4201.1 | 4084.2 | 4074.2 |
| 75° | 223.7 | 247.1 | 267.2 | 303.9 | 337.3 | 487.6 | *1172.2* | 2858.6 | 3823.8 | 3863.8 | 3713.6 |
| 77.5° | 157.0 | 157.0 | 203.7 | 213.7 | 213.7 | 290.5 | *521.0* | 1335.8 | 2047.1 | 1913.6 | 1699.8 |
| 80° | 123.6 | 116.9 | 123.6 | 150.3 | 153.6 | 163.6 | *213.7* | 350.7 | 698.0 | 340.6 | 250.5 |
| 82.5° | 80.1 | 76.8 | 80.1 | 96.8 | 90.2 | 83.5 | *90.2* | 153.6 | 193.7 | 110.2 | 100.2 |
| 85° | 23.4 | 26.7 | 33.4 | 36.7 | 36.7 | 36.7 | *43.4* | 60.1 | 66.8 | 50.1 | 46.8 |
| 87.5° | 6.7 | 10.0 | 10.0 | 10.0 | 13.4 | 13.4 | *20.0* | 23.4 | 26.7 | 26.7 | 26.7 |
| 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

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

Report Prepared for

Cooper Lighting Solutions

McGraw-Edison

Report Number: SP1-2407-184-2

Test Date: 10/09/2024

Luminaire Tested: GSS-SB1A-722-U-5WQ

Data in this report applies to families of products including GSS-SB1A-722-U-5WQ

Report Generated By FNC07603 / LDUCLS01DT446
Version: v7.04

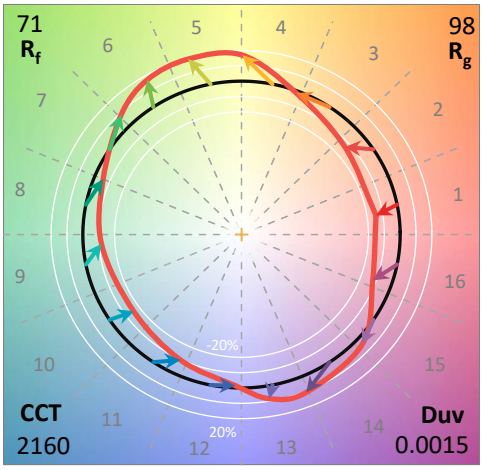
## Test Information

| | |
|---|---|
| Test Method: | LM-79-2019 |
| Report Number: | SP1-2407-184-2 |
| 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-722-U-5WQ** |
| Description: | GALLEON II SITE SLIM 1SQ 350MA 5WQ HIGH DENSITY LIGHTSQUARE WITH 70 CRI 2200K CCT 26 LEDS |

## Spectral Parameters

| | |
|---|---|
| CCT (K): | 2160 |
| CIE u': | 0.2927 |
| CIE v': | 0.5388 |
| Duv: | 0.0015 |
| CIE x: | 0.5130 |
| CIE y: | 0.4197 |
| CIE z: | 0.0674 |
| Peak Wavelength (nm): | 609 |
| Dominant Wavelength (nm): | 587 |
| Purity: | 79.96089 |
| Rf: | 70.6 |
| Rg: | 97.6 |

| | |
|---|---|
| CRI (Ra): | 71.9 |
| R1: | 68.7 |
| R2: | 82.6 |
| R3: | 95.5 |
| R4: | 66.4 |
| R5: | 65.4 |
| R6: | 75.9 |
| R7: | 77.2 |
| R8: | 43.5 |
| R9: | -17.8 |
| R10: | 60.5 |
| R11: | 60.2 |
| R12: | 48.2 |
| R13: | 70.7 |
| R14: | 96.8 |
| R15: | 61.8 |




## Test Conditions

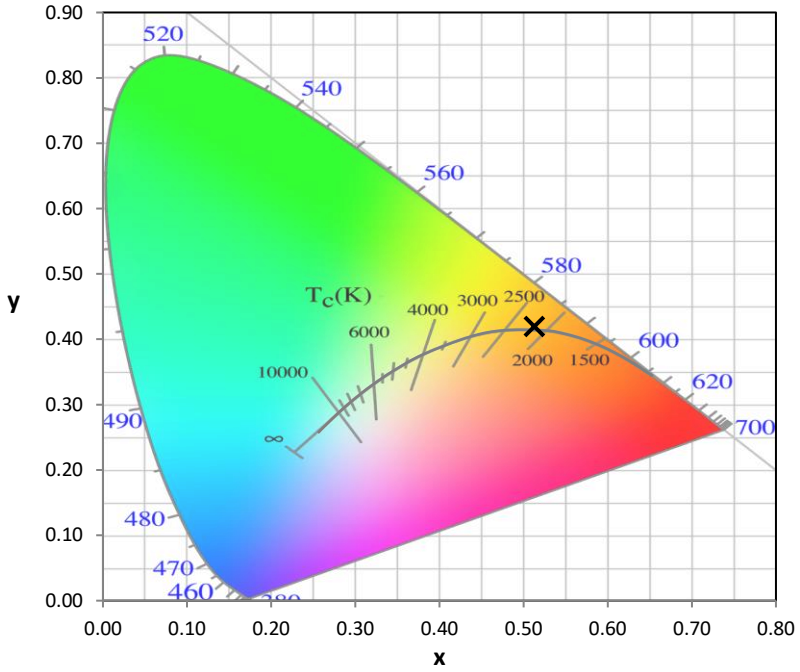
| | |
|---|---|
| Stabilization Time: | 21M |
| Operation Time: | 1H 21M |
| Sphere Temperature (°C): | 25.2 |

REPORT NUMBER: SP1-2407-184-2

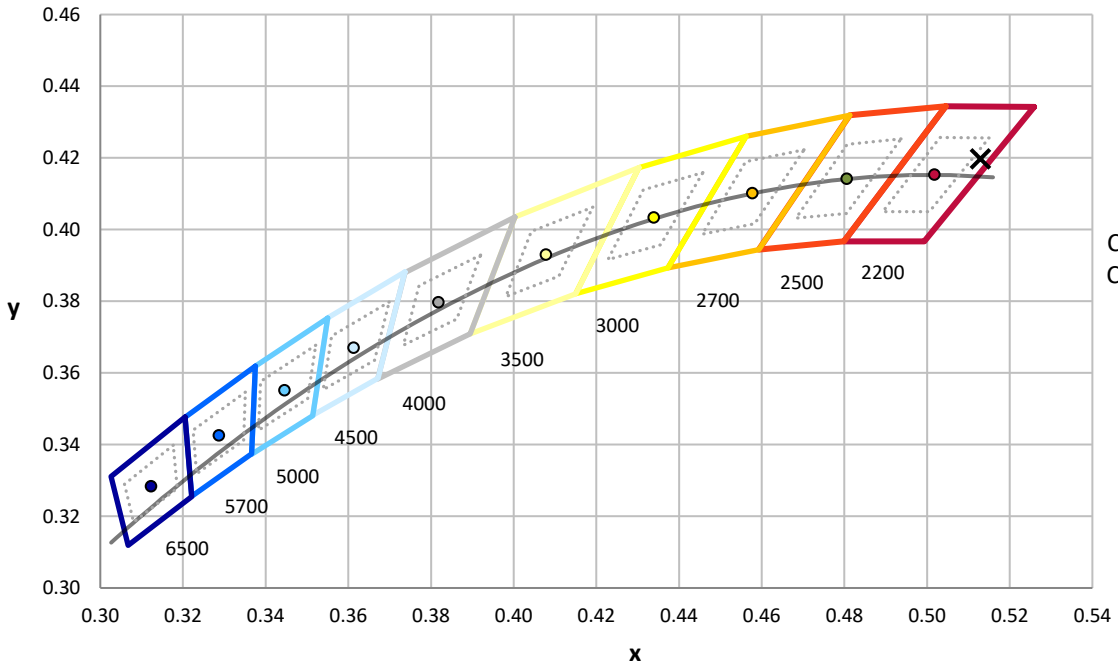
| Measurement and Test Equipment | | | |
|---|---|---|---|
| Instrument | Identification Number | Calibration Date | Calibration Due Date |
| Photometer | IN0058 | 6/18/2024 | 12/18/2024 |
| Power Meter | INXT2011004 | 2/8/2024 | 2/8/2025 |
| AC Power Source | IN0063 | 10/24/2023 | 10/24/2024 |
| DC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

## CIE 1931 Chromaticity Diagram




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

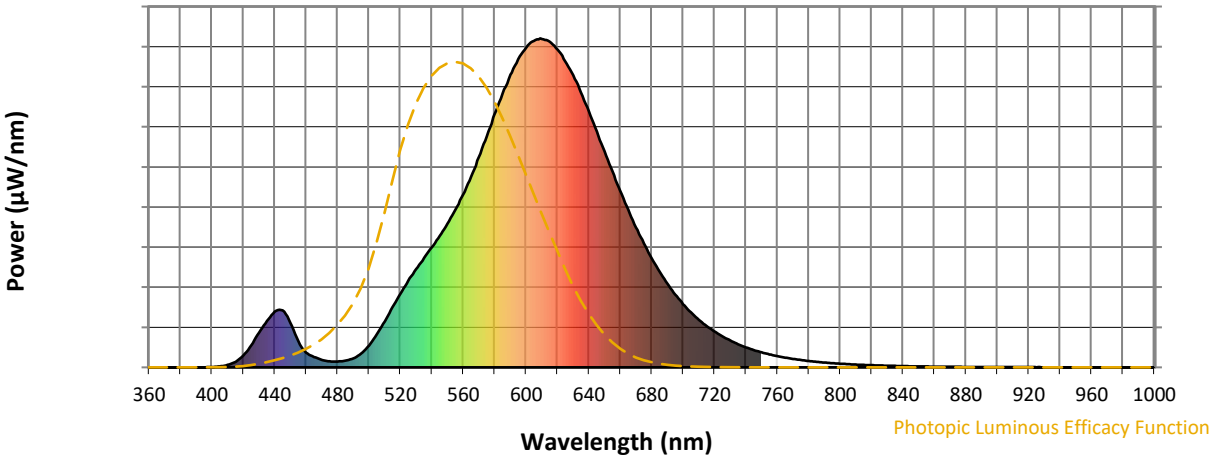



CCT = 2160K
CIE x = 0.5130
CIE y = 0.4197
Duv = 0.0015

Point lies inside the ANSI 2200K 7-step quadrangle

REPORT NUMBER: SP1-2407-184-2

## Photopic Flux vs. Wavelength

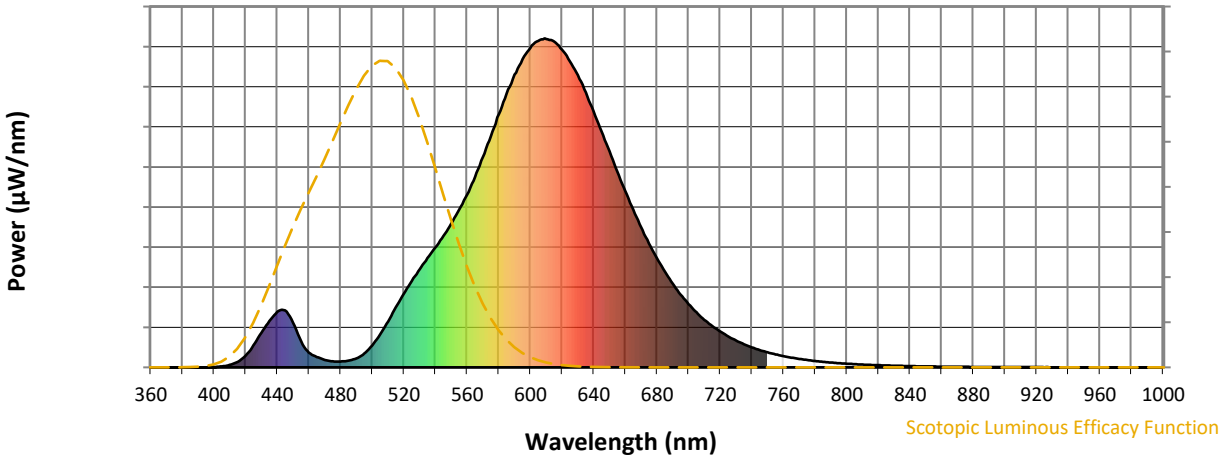



## Photopic Lumens: NR

| 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 | 27 | NR | 620 | 966 | NR | 750 | 46 | NR | 880 | 1 | NR |
| 365 | 0 | NR | 495 | 42 | NR | 625 | 930 | NR | 755 | 39 | NR | 885 | 1 | NR |
| 370 | 0 | NR | 500 | 67 | NR | 630 | 888 | NR | 760 | 34 | NR | 890 | 1 | NR |
| 375 | 0 | NR | 505 | 101 | NR | 635 | 835 | NR | 765 | 30 | NR | 895 | 1 | NR |
| 380 | 0 | NR | 510 | 139 | NR | 640 | 778 | NR | 770 | 26 | NR | 900 | 1 | NR |
| 385 | 0 | NR | 515 | 183 | NR | 645 | 717 | NR | 775 | 22 | NR | 905 | 1 | NR |
| 390 | 0 | NR | 520 | 224 | NR | 650 | 656 | NR | 780 | 19 | NR | 910 | 1 | NR |
| 395 | 0 | NR | 525 | 262 | NR | 655 | 595 | NR | 785 | 17 | NR | 915 | 1 | NR |
| 400 | 1 | NR | 530 | 299 | NR | 660 | 536 | NR | 790 | 15 | NR | 920 | 1 | NR |
| 405 | 3 | NR | 535 | 332 | NR | 665 | 480 | NR | 795 | 13 | NR | 925 | 1 | NR |
| 410 | 7 | NR | 540 | 365 | NR | 670 | 425 | NR | 800 | 11 | NR | 930 | 1 | NR |
| 415 | 17 | NR | 545 | 400 | NR | 675 | 376 | NR | 805 | 10 | NR | 935 | 0 | NR |
| 420 | 36 | NR | 550 | 437 | NR | 680 | 332 | NR | 810 | 8 | NR | 940 | 0 | NR |
| 425 | 67 | NR | 555 | 479 | NR | 685 | 291 | NR | 815 | 8 | NR | 945 | 0 | NR |
| 430 | 105 | NR | 560 | 525 | NR | 690 | 255 | NR | 820 | 7 | NR | 950 | 0 | NR |
| 435 | 141 | NR | 565 | 579 | NR | 695 | 221 | NR | 825 | 6 | NR | 955 | 0 | NR |
| 440 | 169 | NR | 570 | 639 | NR | 700 | 192 | NR | 830 | 5 | NR | 960 | 0 | NR |
| 445 | 173 | NR | 575 | 703 | NR | 705 | 167 | NR | 835 | 4 | NR | 965 | 0 | NR |
| 450 | 136 | NR | 580 | 769 | NR | 710 | 144 | NR | 840 | 4 | NR | 970 | 0 | NR |
| 455 | 80 | NR | 585 | 832 | NR | 715 | 125 | NR | 845 | 3 | NR | 975 | 0 | NR |
| 460 | 45 | NR | 590 | 890 | NR | 720 | 109 | NR | 850 | 3 | NR | 980 | 0 | NR |
| 465 | 32 | NR | 595 | 937 | NR | 725 | 94 | NR | 855 | 3 | NR | 985 | 0 | NR |
| 470 | 23 | NR | 600 | 972 | NR | 730 | 81 | NR | 860 | 2 | NR | 990 | 0 | NR |
| 475 | 18 | NR | 605 | 992 | NR | 735 | 70 | NR | 865 | 2 | NR | 995 | 0 | NR |
| 480 | 18 | NR | 610 | 998 | NR | 740 | 61 | NR | 870 | 2 | NR | 1000 | 0 | NR |
| 485 | 20 | NR | 615 | 990 | NR | 745 | 53 | NR | 875 | 2 | NR | | | |

REPORT NUMBER: SP1-2407-184-2

## Scotopic Flux vs. Wavelength

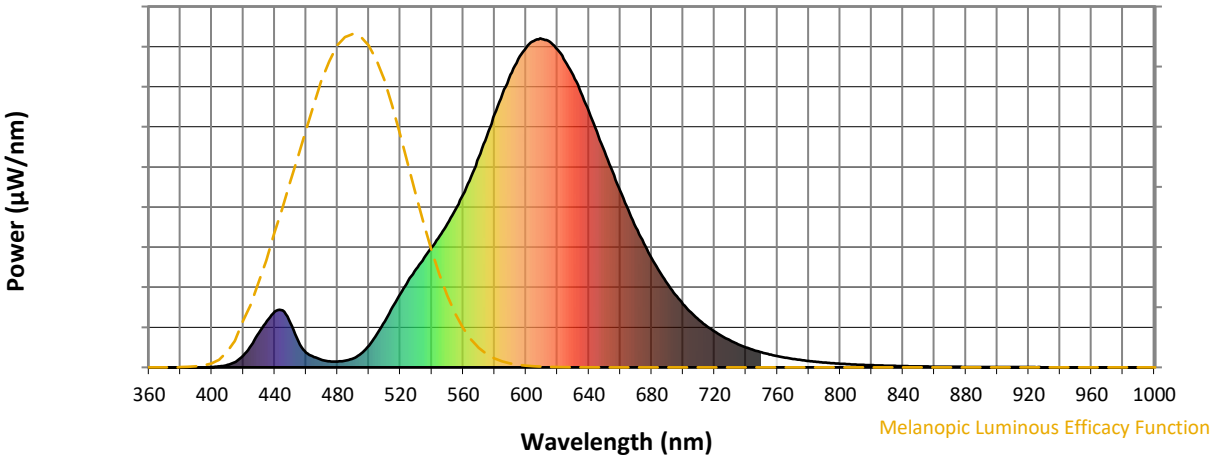



**Scotopic Lumens: NR** **S/P: 0.8**

| 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 | 27 | NR | 620 | 966 | NR | 750 | 46 | NR | 880 | 1 | NR |
| 365 | 0 | NR | 495 | 42 | NR | 625 | 930 | NR | 755 | 39 | NR | 885 | 1 | NR |
| 370 | 0 | NR | 500 | 67 | NR | 630 | 888 | NR | 760 | 34 | NR | 890 | 1 | NR |
| 375 | 0 | NR | 505 | 101 | NR | 635 | 835 | NR | 765 | 30 | NR | 895 | 1 | NR |
| 380 | 0 | NR | 510 | 139 | NR | 640 | 778 | NR | 770 | 26 | NR | 900 | 1 | NR |
| 385 | 0 | NR | 515 | 183 | NR | 645 | 717 | NR | 775 | 22 | NR | 905 | 1 | NR |
| 390 | 0 | NR | 520 | 224 | NR | 650 | 656 | NR | 780 | 19 | NR | 910 | 1 | NR |
| 395 | 0 | NR | 525 | 262 | NR | 655 | 595 | NR | 785 | 17 | NR | 915 | 1 | NR |
| 400 | 1 | NR | 530 | 299 | NR | 660 | 536 | NR | 790 | 15 | NR | 920 | 1 | NR |
| 405 | 3 | NR | 535 | 332 | NR | 665 | 480 | NR | 795 | 13 | NR | 925 | 1 | NR |
| 410 | 7 | NR | 540 | 365 | NR | 670 | 425 | NR | 800 | 11 | NR | 930 | 1 | NR |
| 415 | 17 | NR | 545 | 400 | NR | 675 | 376 | NR | 805 | 10 | NR | 935 | 0 | NR |
| 420 | 36 | NR | 550 | 437 | NR | 680 | 332 | NR | 810 | 8 | NR | 940 | 0 | NR |
| 425 | 67 | NR | 555 | 479 | NR | 685 | 291 | NR | 815 | 8 | NR | 945 | 0 | NR |
| 430 | 105 | NR | 560 | 525 | NR | 690 | 255 | NR | 820 | 7 | NR | 950 | 0 | NR |
| 435 | 141 | NR | 565 | 579 | NR | 695 | 221 | NR | 825 | 6 | NR | 955 | 0 | NR |
| 440 | 169 | NR | 570 | 639 | NR | 700 | 192 | NR | 830 | 5 | NR | 960 | 0 | NR |
| 445 | 173 | NR | 575 | 703 | NR | 705 | 167 | NR | 835 | 4 | NR | 965 | 0 | NR |
| 450 | 136 | NR | 580 | 769 | NR | 710 | 144 | NR | 840 | 4 | NR | 970 | 0 | NR |
| 455 | 80 | NR | 585 | 832 | NR | 715 | 125 | NR | 845 | 3 | NR | 975 | 0 | NR |
| 460 | 45 | NR | 590 | 890 | NR | 720 | 109 | NR | 850 | 3 | NR | 980 | 0 | NR |
| 465 | 32 | NR | 595 | 937 | NR | 725 | 94 | NR | 855 | 3 | NR | 985 | 0 | NR |
| 470 | 23 | NR | 600 | 972 | NR | 730 | 81 | NR | 860 | 2 | NR | 990 | 0 | NR |
| 475 | 18 | NR | 605 | 992 | NR | 735 | 70 | NR | 865 | 2 | NR | 995 | 0 | NR |
| 480 | 18 | NR | 610 | 998 | NR | 740 | 61 | NR | 870 | 2 | NR | 1000 | 0 | NR |
| 485 | 20 | NR | 615 | 990 | NR | 745 | 53 | NR | 875 | 2 | NR | | | |

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## Melanopic Flux vs. Wavelength




**Melanopic Lumens: NR** **M/P: 1.21**

| 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 | 27 | NR | 620 | 966 | NR | 750 | 46 | NR | 880 | 1 | NR |
| 365 | 0 | NR | 495 | 42 | NR | 625 | 930 | NR | 755 | 39 | NR | 885 | 1 | NR |
| 370 | 0 | NR | 500 | 67 | NR | 630 | 888 | NR | 760 | 34 | NR | 890 | 1 | NR |
| 375 | 0 | NR | 505 | 101 | NR | 635 | 835 | NR | 765 | 30 | NR | 895 | 1 | NR |
| 380 | 0 | NR | 510 | 139 | NR | 640 | 778 | NR | 770 | 26 | NR | 900 | 1 | NR |
| 385 | 0 | NR | 515 | 183 | NR | 645 | 717 | NR | 775 | 22 | NR | 905 | 1 | NR |
| 390 | 0 | NR | 520 | 224 | NR | 650 | 656 | NR | 780 | 19 | NR | 910 | 1 | NR |
| 395 | 0 | NR | 525 | 262 | NR | 655 | 595 | NR | 785 | 17 | NR | 915 | 1 | NR |
| 400 | 1 | NR | 530 | 299 | NR | 660 | 536 | NR | 790 | 15 | NR | 920 | 1 | NR |
| 405 | 3 | NR | 535 | 332 | NR | 665 | 480 | NR | 795 | 13 | NR | 925 | 1 | NR |
| 410 | 7 | NR | 540 | 365 | NR | 670 | 425 | NR | 800 | 11 | NR | 930 | 1 | NR |
| 415 | 17 | NR | 545 | 400 | NR | 675 | 376 | NR | 805 | 10 | NR | 935 | 0 | NR |
| 420 | 36 | NR | 550 | 437 | NR | 680 | 332 | NR | 810 | 8 | NR | 940 | 0 | NR |
| 425 | 67 | NR | 555 | 479 | NR | 685 | 291 | NR | 815 | 8 | NR | 945 | 0 | NR |
| 430 | 105 | NR | 560 | 525 | NR | 690 | 255 | NR | 820 | 7 | NR | 950 | 0 | NR |
| 435 | 141 | NR | 565 | 579 | NR | 695 | 221 | NR | 825 | 6 | NR | 955 | 0 | NR |
| 440 | 169 | NR | 570 | 639 | NR | 700 | 192 | NR | 830 | 5 | NR | 960 | 0 | NR |
| 445 | 173 | NR | 575 | 703 | NR | 705 | 167 | NR | 835 | 4 | NR | 965 | 0 | NR |
| 450 | 136 | NR | 580 | 769 | NR | 710 | 144 | NR | 840 | 4 | NR | 970 | 0 | NR |
| 455 | 80 | NR | 585 | 832 | NR | 715 | 125 | NR | 845 | 3 | NR | 975 | 0 | NR |
| 460 | 45 | NR | 590 | 890 | NR | 720 | 109 | NR | 850 | 3 | NR | 980 | 0 | NR |
| 465 | 32 | NR | 595 | 937 | NR | 725 | 94 | NR | 855 | 3 | NR | 985 | 0 | NR |
| 470 | 23 | NR | 600 | 972 | NR | 730 | 81 | NR | 860 | 2 | NR | 990 | 0 | NR |
| 475 | 18 | NR | 605 | 992 | NR | 735 | 70 | NR | 865 | 2 | NR | 995 | 0 | NR |
| 480 | 18 | NR | 610 | 998 | NR | 740 | 61 | NR | 870 | 2 | NR | 1000 | 0 | NR |
| 485 | 20 | NR | 615 | 990 | NR | 745 | 53 | NR | 875 | 2 | NR | | | |

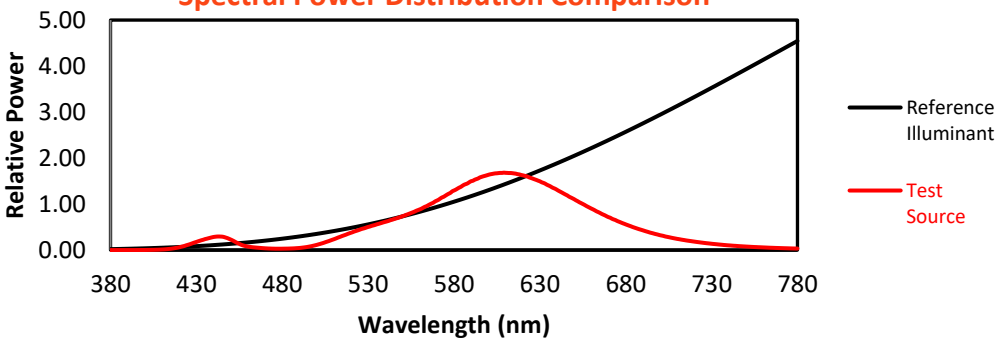
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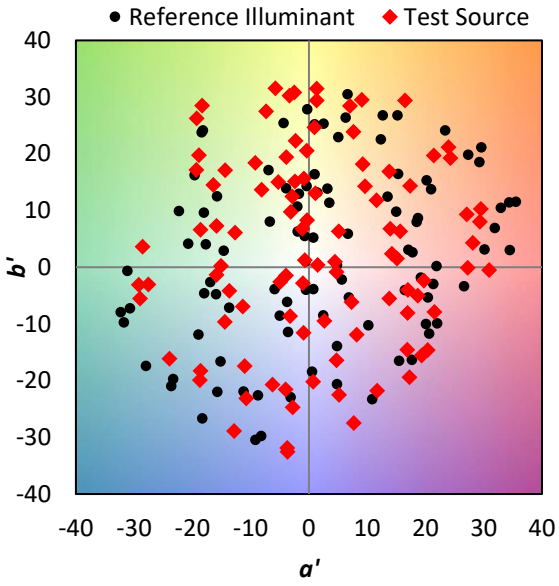
## Summary

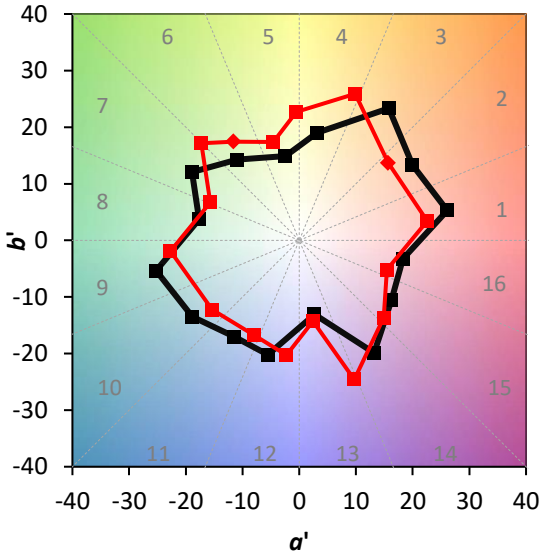
$R_f$ = 70.6
$R_g$ = 97.6
CIE $R_a$ = 71.9
$R_9$ = -17.8

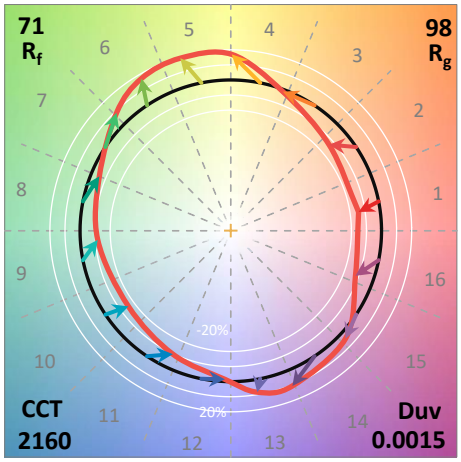
## Spectral Power Distribution Comparison

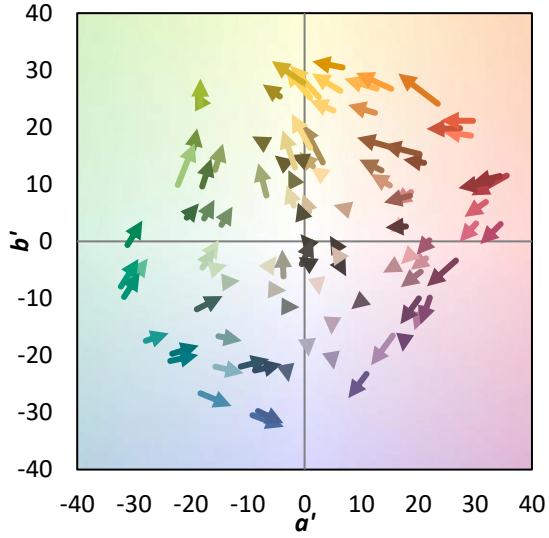



## Color Vector Graphics



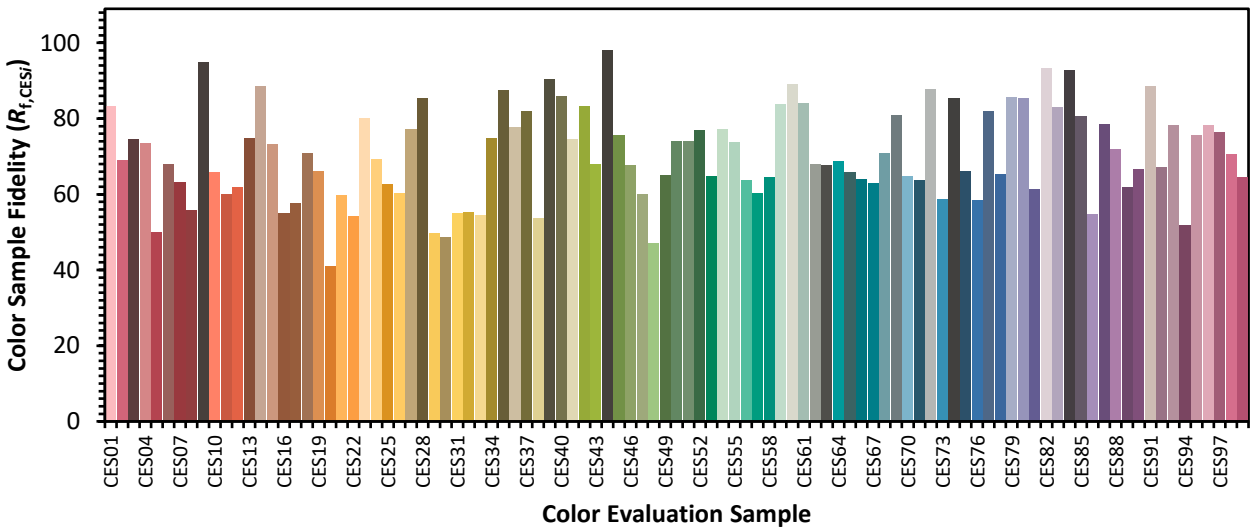



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**Individual Sample Fidelity Index ($R_{f,i}$)**

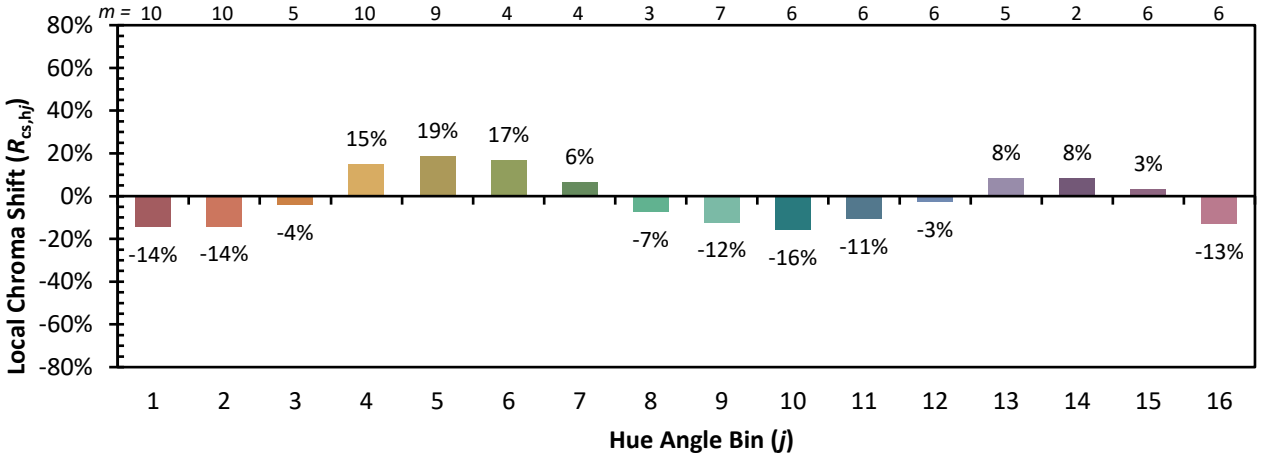
| | | | |
|---|---|---|---|
| CES01 = 87 | CES26 = 60 | CES51 = 74 | CES76 = 58 |
| CES02 = 65 | CES27 = 77 | CES52 = 77 | CES77 = 82 |
| CES03 = 32 | CES28 = 85 | CES53 = 65 | CES78 = 65 |
| CES04 = 72 | CES29 = 50 | CES54 = 77 | CES79 = 86 |
| CES05 = 52 | CES30 = 49 | CES55 = 74 | CES80 = 85 |
| CES06 = 53 | CES31 = 55 | CES56 = 64 | CES81 = 61 |
| CES07 = 44 | CES32 = 55 | CES57 = 60 | CES82 = 93 |
| CES08 = 43 | CES33 = 55 | CES58 = 64 | CES83 = 83 |
| CES09 = 29 | CES34 = 75 | CES59 = 84 | CES84 = 93 |
| CES10 = 79 | CES35 = 88 | CES60 = 89 | CES85 = 81 |
| CES11 = 62 | CES36 = 78 | CES61 = 84 | CES86 = 55 |
| CES12 = 68 | CES37 = 82 | CES62 = 68 | CES87 = 79 |
| CES13 = 45 | CES38 = 54 | CES63 = 68 | CES88 = 72 |
| CES14 = 75 | CES39 = 90 | CES64 = 69 | CES89 = 62 |
| CES15 = 72 | CES40 = 86 | CES65 = 66 | CES90 = 67 |
| CES16 = 49 | CES41 = 75 | CES66 = 64 | CES91 = 89 |
| CES17 = 51 | CES42 = 83 | CES67 = 63 | CES92 = 67 |
| CES18 = 57 | CES43 = 68 | CES68 = 71 | CES93 = 78 |
| CES19 = 74 | CES44 = 98 | CES69 = 81 | CES94 = 52 |
| CES20 = 68 | CES45 = 76 | CES70 = 65 | CES95 = 76 |
| CES21 = 89 | CES46 = 68 | CES71 = 64 | CES96 = 78 |
| CES22 = 81 | CES47 = 60 | CES72 = 88 | CES97 = 76 |
| CES23 = 92 | CES48 = 47 | CES73 = 59 | CES98 = 71 |
| CES24 = 92 | CES49 = 65 | CES74 = 85 | CES99 = 65 |
| CES25 = 74 | CES50 = 74 | CES75 = 66 | |

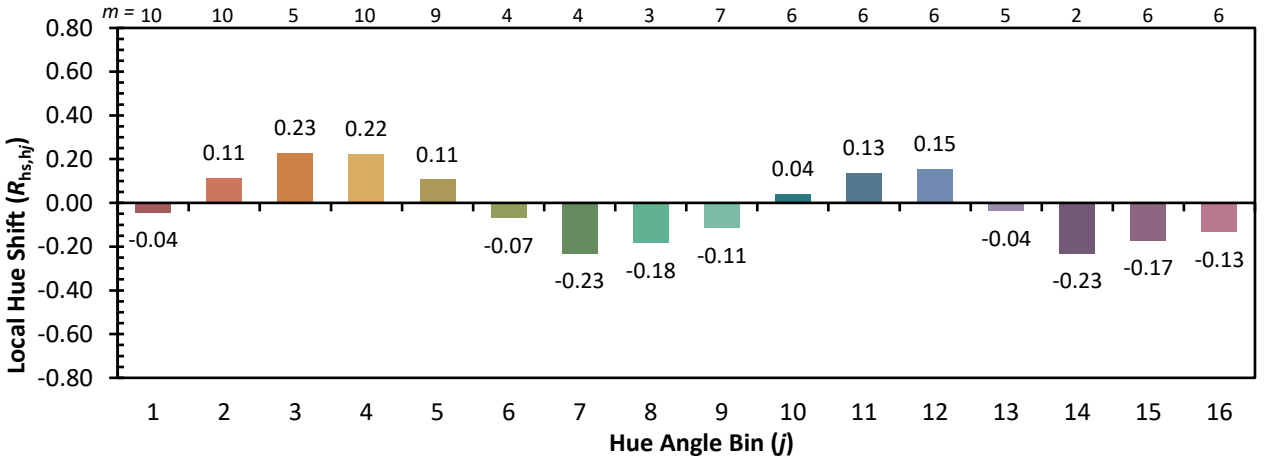


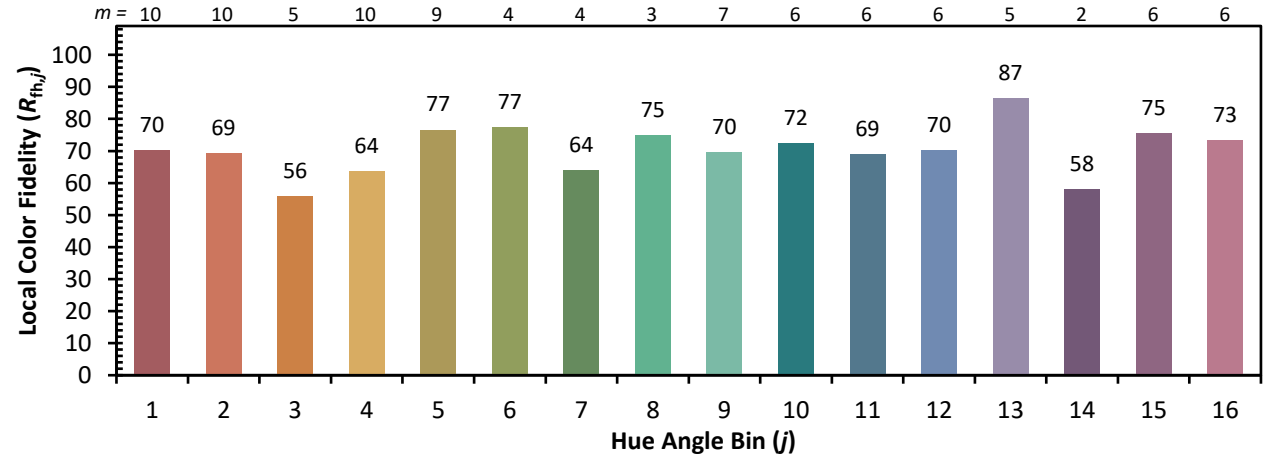
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## Color Rendition by Hue-Angle Bin



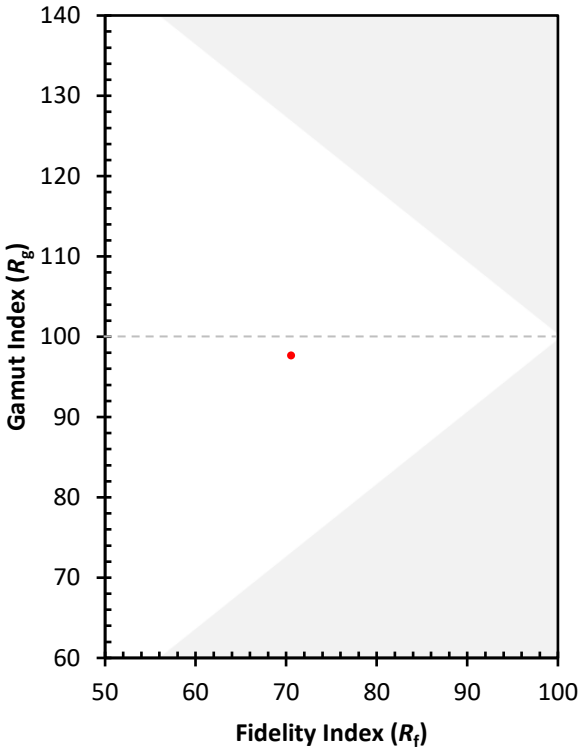



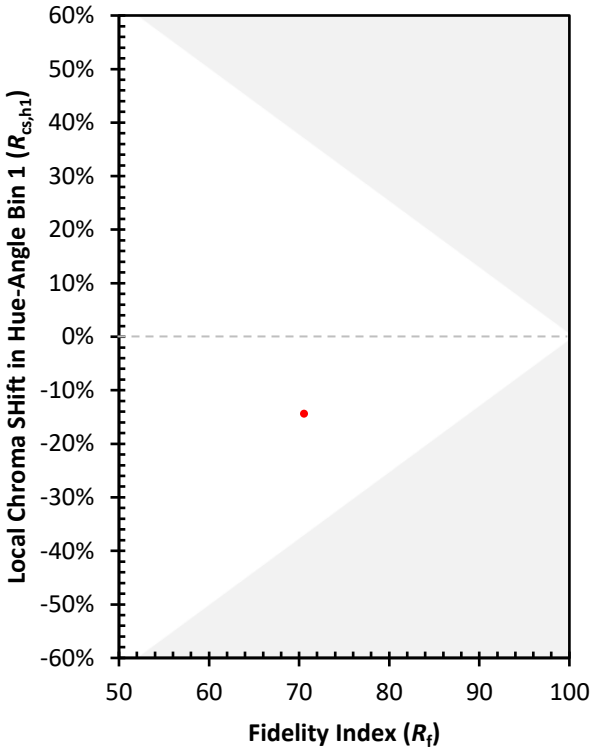



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## Measure Comparisons




(END OF REPORT)