

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



Scaled data based on original data using
LM-79-2019 Approved Method: Electrical and Photometric Measurements of Solid-
State Lighting Products

Test Report Prepared for
Cooper Lighting Solutions

Brand: METALUX

Report Number: P1436370

Luminaire Tested: EHBR1-30-UNV-M-L850

Issue Date: 3/25/2026

Test Information

Test Method: LM-79-2019
Report Number: P1436370
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2603-725-1)
Test Lab: INNOVATION CENTER
Issue Date: 3/25/2026
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: METALUX
Catalog Number: EHBR1-30-UNV-M-L850
Description: Elevate Round Highbay at, 30000 lumens, 5000K 80CRI LEDs with M lens
Light Source: -
Ballast/Driver: -

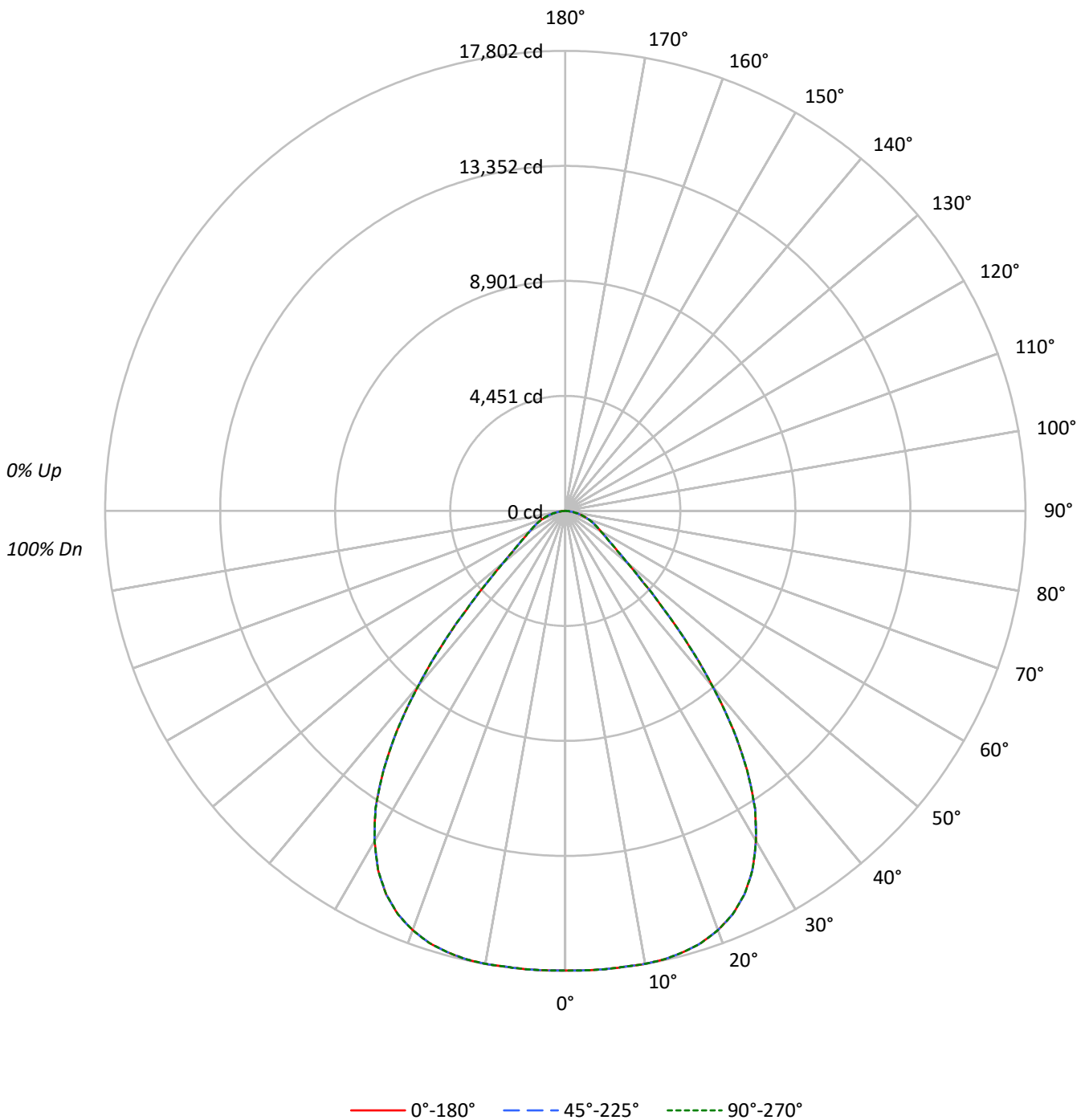
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 30102.0 lumens
Efficiency: N/A
Efficacy: 188.4 lumens/watt
Spacing Criteria (0/90/45): 1.21 / 1.21 / 1.15
Luminous Opening: Circular (Dia: 1.71' x H: 0')
CIE Type: Direct

Input Watts (W): 159.8
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT

TEST NUMBER: P1436370
CATALOG NUMBER: EHBR1-30-UNV-M-L850

Luminous Intensity Polar Plot





TEST NUMBER: P1436370
 CATALOG NUMBER: EHBR1-30-UNV-M-L850

COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

| | | | | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| RF | 20 | | | | 20 | | | | 20 | | | | 20 | | | | 20 | |
| RC | 80 | | | | 70 | | | | 50 | | | | 30 | | | | 10 | 0 |
| RW | 70 | 50 | 30 | 10 | 70 | 50 | 30 | 10 | 50 | 30 | 10 | 50 | 30 | 10 | 50 | 30 | 10 | 0 |
| RCR | | | | | | | | | | | | | | | | | | |
| 0 | 119 | 119 | 119 | 119 | 116 | 116 | 116 | 116 | 111 | 111 | 111 | 106 | 106 | 106 | 102 | 102 | 102 | 100 |
| 1 | 112 | 108 | 105 | 102 | 109 | 106 | 103 | 100 | 102 | 99 | 97 | 98 | 96 | 94 | 94 | 93 | 92 | 90 |
| 2 | 104 | 98 | 93 | 88 | 102 | 96 | 91 | 87 | 93 | 89 | 85 | 90 | 86 | 83 | 87 | 84 | 82 | 80 |
| 3 | 97 | 89 | 83 | 78 | 95 | 87 | 82 | 77 | 85 | 80 | 76 | 82 | 78 | 74 | 80 | 76 | 73 | 71 |
| 4 | 91 | 81 | 74 | 69 | 89 | 80 | 73 | 68 | 78 | 72 | 68 | 75 | 71 | 67 | 73 | 69 | 66 | 64 |
| 5 | 85 | 74 | 67 | 62 | 83 | 73 | 66 | 61 | 71 | 65 | 61 | 70 | 64 | 60 | 68 | 63 | 60 | 58 |
| 6 | 79 | 68 | 61 | 56 | 78 | 67 | 61 | 55 | 66 | 60 | 55 | 64 | 59 | 55 | 63 | 58 | 54 | 52 |
| 7 | 74 | 63 | 56 | 51 | 73 | 62 | 55 | 50 | 61 | 55 | 50 | 60 | 54 | 50 | 58 | 53 | 50 | 48 |
| 8 | 70 | 58 | 51 | 46 | 69 | 58 | 51 | 46 | 57 | 50 | 46 | 55 | 50 | 46 | 54 | 49 | 45 | 44 |
| 9 | 66 | 54 | 47 | 42 | 65 | 54 | 47 | 42 | 53 | 47 | 42 | 52 | 46 | 42 | 51 | 46 | 42 | 40 |
| 10 | 62 | 51 | 44 | 39 | 61 | 50 | 44 | 39 | 49 | 43 | 39 | 48 | 43 | 39 | 48 | 42 | 39 | 37 |

AVERAGE LUMINANCE (cd/sqm):

| | 0° | 45° | 90° |
|-----|-------|-------|-------|
| 0° | 83521 | 83521 | 83521 |
| 5° | 83921 | 83921 | 83921 |
| 10° | 84869 | 84869 | 84869 |
| 15° | 85932 | 85932 | 85932 |
| 20° | 86274 | 86274 | 86274 |
| 25° | 84885 | 84885 | 84885 |
| 30° | 80008 | 80008 | 80008 |
| 35° | 70291 | 70291 | 70291 |
| 40° | 54400 | 54400 | 54400 |
| 45° | 35939 | 35939 | 35939 |
| 50° | 22958 | 22958 | 22958 |
| 55° | 17391 | 17391 | 17391 |
| 60° | 14941 | 14941 | 14941 |
| 65° | 13955 | 13955 | 13955 |
| 70° | 13206 | 13206 | 13206 |
| 75° | 11995 | 11995 | 11995 |
| 80° | 10279 | 10279 | 10279 |
| 85° | 7021 | 7021 | 7021 |

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 35939 cd/sqm



TEST NUMBER: P1436370
 CATALOG NUMBER: EHBR1-30-UNV-M-L850

ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|---------|-----------|
| 0°-10° | 1698.7 | 5.6 |
| 10°-20° | 4988.4 | 16.6 |
| 20°-30° | 7484.9 | 24.9 |
| 30°-40° | 7530.6 | 25.0 |
| 40°-50° | 4310.7 | 14.3 |
| 50°-60° | 1971.6 | 6.5 |
| 60°-70° | 1250.9 | 4.2 |
| 70°-80° | 701.7 | 2.3 |
| 80°-90° | 164.6 | 0.5 |
| 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°-30° | 14171.9 | 47.1 |
| 0°-40° | 21702.5 | 72.1 |
| 0°-60° | 27984.8 | 93.0 |
| 0°-90° | 30102.0 | 100.0 |
| 90°-120° | 0.0 | 0.0 |
| 90°-150° | 0.0 | 0.0 |
| 90°-180° | 0.0 | 0.0 |
| 0°-180° | 30102.0 | 100.0 |

CANDELA DISTRIBUTION:

| | 0° | 22.5° | 45° | 67.5° | 90° | Flux |
|-----|-------|-------|-------|-------|-------|------|
| 0° | 17785 | 17785 | 17785 | 17785 | 17785 | |
| 5° | 17802 | 17802 | 17802 | 17802 | 17802 | 1699 |
| 15° | 17675 | 17675 | 17675 | 17675 | 17675 | 4988 |
| 25° | 16382 | 16382 | 16382 | 16382 | 16382 | 7485 |
| 35° | 12261 | 12261 | 12261 | 12261 | 12261 | 7531 |
| 45° | 5412 | 5412 | 5412 | 5412 | 5412 | 4311 |
| 55° | 2124 | 2124 | 2124 | 2124 | 2124 | 1972 |
| 65° | 1256 | 1256 | 1256 | 1256 | 1256 | 1251 |
| 75° | 661 | 661 | 661 | 661 | 661 | 702 |
| 85° | 130 | 130 | 130 | 130 | 130 | 165 |
| 90° | 0 | 0 | 0 | 0 | 0 | |



TEST NUMBER: P1436370
 CATALOG NUMBER: EHBR1-30-UNV-M-L850

CANDELA DISTRIBUTION (FULL):

| | 0° | 22.5° | 45° | 67.5° | 90° |
|-------|---------|---------|---------|---------|---------|
| 0° | 17785.1 | 17785.1 | 17785.1 | 17785.1 | 17785.1 |
| 2.5° | 17793.7 | 17793.7 | 17793.7 | 17793.7 | 17793.7 |
| 5° | 17802.4 | 17802.4 | 17802.4 | 17802.4 | 17802.4 |
| 7.5° | 17790.2 | 17790.2 | 17790.2 | 17790.2 | 17790.2 |
| 10° | 17797.7 | 17797.7 | 17797.7 | 17797.7 | 17797.7 |
| 12.5° | 17767.2 | 17767.2 | 17767.2 | 17767.2 | 17767.2 |
| 15° | 17675.1 | 17675.1 | 17675.1 | 17675.1 | 17675.1 |
| 17.5° | 17523.0 | 17523.0 | 17523.0 | 17523.0 | 17523.0 |
| 20° | 17263.5 | 17263.5 | 17263.5 | 17263.5 | 17263.5 |
| 22.5° | 16906.7 | 16906.7 | 16906.7 | 16906.7 | 16906.7 |
| 25° | 16382.1 | 16382.1 | 16382.1 | 16382.1 | 16382.1 |
| 27.5° | 15676.2 | 15676.2 | 15676.2 | 15676.2 | 15676.2 |
| 30° | 14754.6 | 14754.6 | 14754.6 | 14754.6 | 14754.6 |
| 32.5° | 13663.6 | 13663.6 | 13663.6 | 13663.6 | 13663.6 |
| 35° | 12261.1 | 12261.1 | 12261.1 | 12261.1 | 12261.1 |
| 37.5° | 10672.4 | 10672.4 | 10672.4 | 10672.4 | 10672.4 |
| 40° | 8873.9 | 8873.9 | 8873.9 | 8873.9 | 8873.9 |
| 42.5° | 7091.3 | 7091.3 | 7091.3 | 7091.3 | 7091.3 |
| 45° | 5411.5 | 5411.5 | 5411.5 | 5411.5 | 5411.5 |
| 47.5° | 4073.6 | 4073.6 | 4073.6 | 4073.6 | 4073.6 |
| 50° | 3142.4 | 3142.4 | 3142.4 | 3142.4 | 3142.4 |
| 52.5° | 2538.8 | 2538.8 | 2538.8 | 2538.8 | 2538.8 |
| 55° | 2124.1 | 2124.1 | 2124.1 | 2124.1 | 2124.1 |
| 57.5° | 1818.8 | 1818.8 | 1818.8 | 1818.8 | 1818.8 |
| 60° | 1590.8 | 1590.8 | 1590.8 | 1590.8 | 1590.8 |
| 62.5° | 1414.7 | 1414.7 | 1414.7 | 1414.7 | 1414.7 |
| 65° | 1255.9 | 1255.9 | 1255.9 | 1255.9 | 1255.9 |
| 67.5° | 1109.9 | 1109.9 | 1109.9 | 1109.9 | 1109.9 |
| 70° | 961.8 | 961.8 | 961.8 | 961.8 | 961.8 |
| 72.5° | 812.7 | 812.7 | 812.7 | 812.7 | 812.7 |
| 75° | 661.1 | 661.1 | 661.1 | 661.1 | 661.1 |
| 77.5° | 517.1 | 517.1 | 517.1 | 517.1 | 517.1 |
| 80° | 380.1 | 380.1 | 380.1 | 380.1 | 380.1 |
| 82.5° | 247.8 | 247.8 | 247.8 | 247.8 | 247.8 |
| 85° | 130.3 | 130.3 | 130.3 | 130.3 | 130.3 |
| 87.5° | 37.1 | 37.1 | 37.1 | 37.1 | 37.1 |
| 90° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |



TEST NUMBER: P1436370
 CATALOG NUMBER: EHBR1-30-UNV-M-L850

CIE UGR TABLE:

| Reflectances: | | | | | | | | | | | |
|-----------------|------|------------------|-------|-------|-------|-------|----------------|-------|-------|-------|-------|
| Ceiling | | 0.7 | 0.7 | 0.5 | 0.5 | 0.3 | 0.7 | 0.7 | 0.5 | 0.5 | 0.3 |
| Wall | | 0.5 | 0.3 | 0.5 | 0.3 | 0.3 | 0.5 | 0.3 | 0.5 | 0.3 | 0.3 |
| Reference plane | | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 |
| Room dimensions | | Viewed crosswise | | | | | Viewed endwise | | | | |
| X=2H | Y=2H | 18.73 | 20.00 | 19.09 | 20.32 | 20.63 | 18.73 | 20.00 | 19.09 | 20.32 | 20.63 |
| | 3H | 20.30 | 21.43 | 20.68 | 21.77 | 22.13 | 20.30 | 21.43 | 20.68 | 21.77 | 22.13 |
| | 4H | 20.89 | 21.94 | 21.29 | 22.29 | 22.68 | 20.89 | 21.94 | 21.29 | 22.29 | 22.68 |
| | 6H | 21.28 | 22.25 | 21.70 | 22.62 | 23.02 | 21.28 | 22.25 | 21.70 | 22.62 | 23.02 |
| | 8H | 21.38 | 22.30 | 21.82 | 22.69 | 23.10 | 21.38 | 22.30 | 21.82 | 22.69 | 23.10 |
| | 12H | 21.43 | 22.30 | 21.86 | 22.68 | 23.11 | 21.43 | 22.30 | 21.86 | 22.68 | 23.11 |
| 4H | 2H | 19.22 | 20.27 | 19.62 | 20.62 | 21.01 | 19.22 | 20.27 | 19.62 | 20.62 | 21.01 |
| | 3H | 21.02 | 21.89 | 21.44 | 22.29 | 22.69 | 21.02 | 21.89 | 21.44 | 22.29 | 22.69 |
| | 4H | 21.73 | 22.50 | 22.16 | 22.92 | 23.36 | 21.73 | 22.50 | 22.16 | 22.92 | 23.36 |
| | 6H | 22.23 | 22.90 | 22.70 | 23.35 | 23.82 | 22.23 | 22.90 | 22.70 | 23.35 | 23.82 |
| | 8H | 22.37 | 22.99 | 22.84 | 23.44 | 23.91 | 22.37 | 22.99 | 22.84 | 23.44 | 23.91 |
| | 12H | 22.43 | 22.98 | 22.92 | 23.47 | 23.94 | 22.43 | 22.98 | 22.92 | 23.47 | 23.94 |
| 8H | 4H | 21.95 | 22.57 | 22.42 | 23.02 | 23.49 | 21.95 | 22.57 | 22.42 | 23.02 | 23.49 |
| | 6H | 22.57 | 23.07 | 23.07 | 23.57 | 24.05 | 22.57 | 23.07 | 23.07 | 23.57 | 24.05 |
| | 8H | 22.76 | 23.21 | 23.28 | 23.73 | 24.22 | 22.76 | 23.21 | 23.28 | 23.73 | 24.22 |
| | 12H | 22.88 | 23.28 | 23.39 | 23.77 | 24.34 | 22.88 | 23.28 | 23.39 | 23.77 | 24.34 |
| 12H | 4H | 21.95 | 22.50 | 22.44 | 22.99 | 23.46 | 21.95 | 22.50 | 22.44 | 22.99 | 23.46 |
| | 6H | 22.59 | 23.04 | 23.11 | 23.56 | 24.05 | 22.59 | 23.04 | 23.11 | 23.56 | 24.05 |
| | 8H | 22.82 | 23.22 | 23.34 | 23.72 | 24.29 | 22.82 | 23.22 | 23.34 | 23.72 | 24.29 |

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

Metalux

Report Number: SP1-2506-472-4

Test Date: 07/31/2025

Luminaire Tested: EHBR-60-L850-N

Data in this report applies to families of products including EHBR-60-L850-N

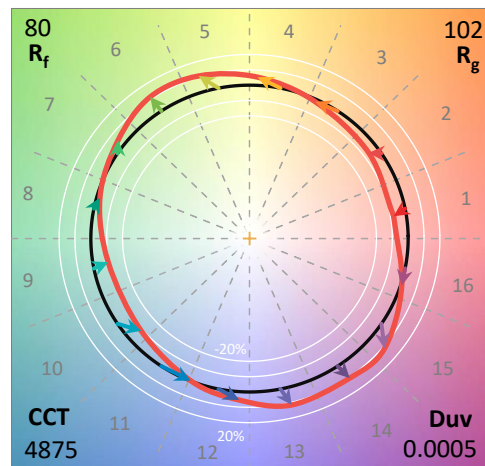
Test Information

Test Method: LM-79-2019
 Report Number: SP1-2506-472-4
 Test Lab: COOPER LIGHTING SOLUTIONS
 Photometer: SP1 - 76IN SPHERE
 Measurement Geometry: 4π
 Issue Date: 08/05/2025
 Manufacturer: COOPER LIGHTING SOLUTIONS
 Product Line: Metalux
 Catalog Number: **EHBR-60-L850-N**
 Description: Elevate Round Highbay at, 60000 lumens, 5000K 80CRI LEDs with N lens

Spectral Parameters

CCT (K): 4875
 CIE u': 0.2124
 CIE v': 0.4871
 Duv: 0.0005
 CIE x: 0.3488
 CIE y: 0.3555
 CIE z: 0.2957
 Peak Wavelength (nm): 630
 Dominant Wavelength (nm): 573
 Purity: 11.33556
 Rf: 80
 Rg: 102.3

| | | | |
|-----------|------|------|------|
| CRI (Ra): | 82.3 | | |
| R1: | 85.0 | R9: | 43.9 |
| R2: | 83.1 | R10: | 57.4 |
| R3: | 78.8 | R11: | 83.1 |
| R4: | 84.0 | R12: | 51.0 |
| R5: | 83.0 | R13: | 83.4 |
| R6: | 76.3 | R14: | 87.4 |
| R7: | 86.8 | R15: | 83.4 |
| R8: | 81.7 | | |



Test Conditions

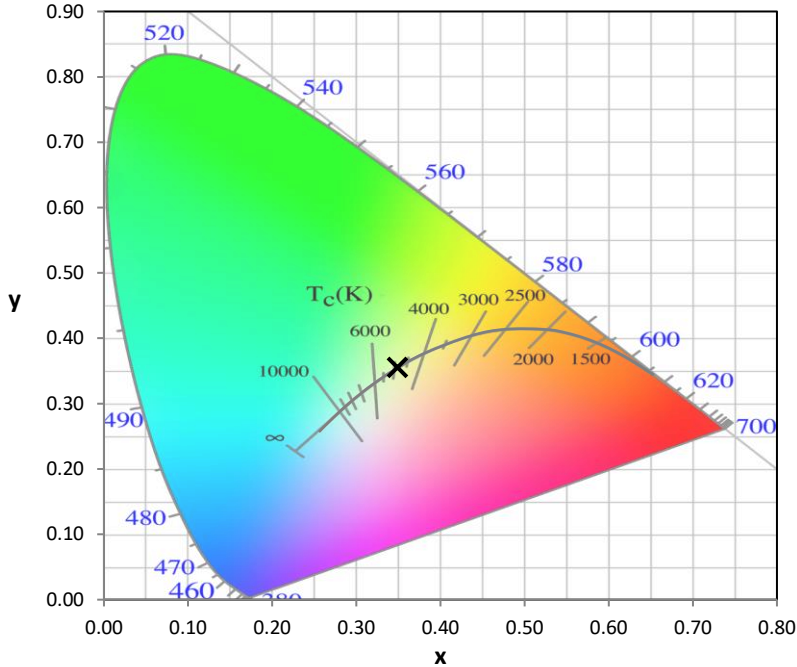
Stabilization Time: 39M
 Operation Time: 1H 39M
 Sphere Temperature (°C): 25.0

REPORT NUMBER: SP1-2506-472-4

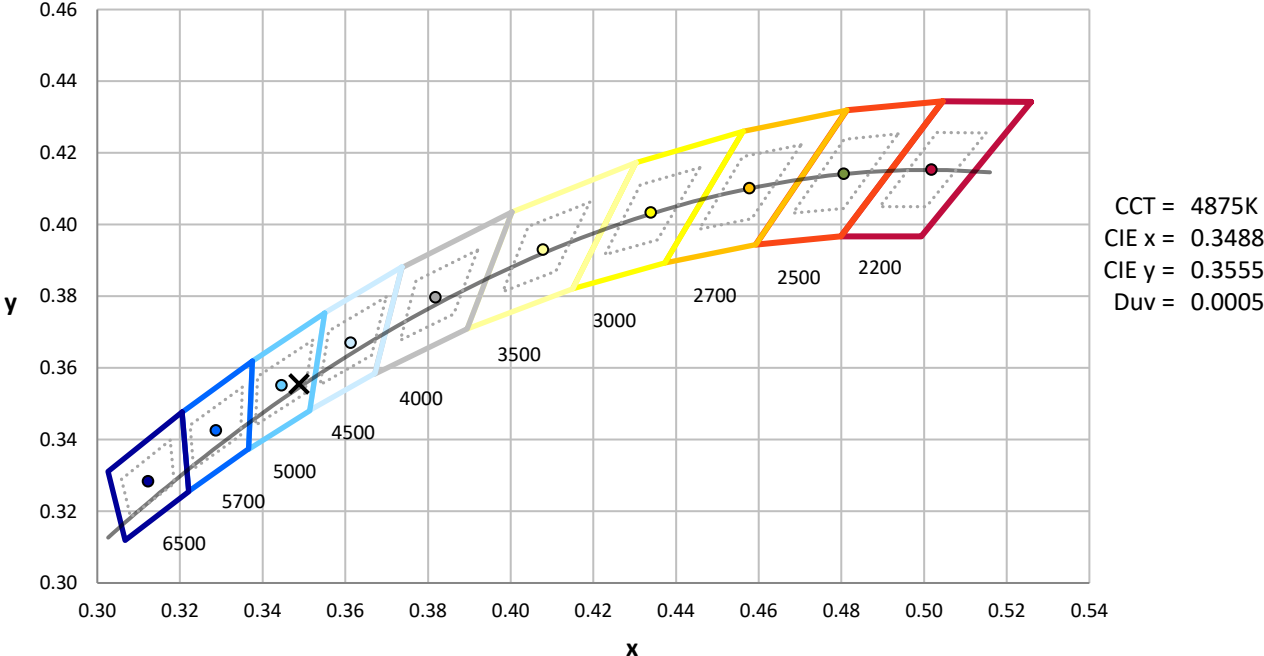
| Measurement and Test Equipment | | | |
|--------------------------------|-----------------------|------------------|----------------------|
| Instrument | Identification Number | Calibration Date | Calibration Due Date |
| Photometer | 76INCH SPHERE IN0058 | 6/16/2025 | 12/16/2025 |
| Power Meter | XITRON INXT2011004 | 1/21/2025 | 1/21/2026 |
| AC Power Source | CHROMA 61603 IN0063 | 10/22/2024 | 10/22/2025 |
| DC Power Source | AGILENT E3634A IN0208 | 10/22/2024 | 10/22/2025 |
| Sphere Thermometer | ONSET IN0085 | 10/22/2024 | 10/22/2025 |
| Room Thermometer | ONSET IN0046 | 10/22/2024 | 10/22/2025 |

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CIE 1931 Chromaticity Diagram



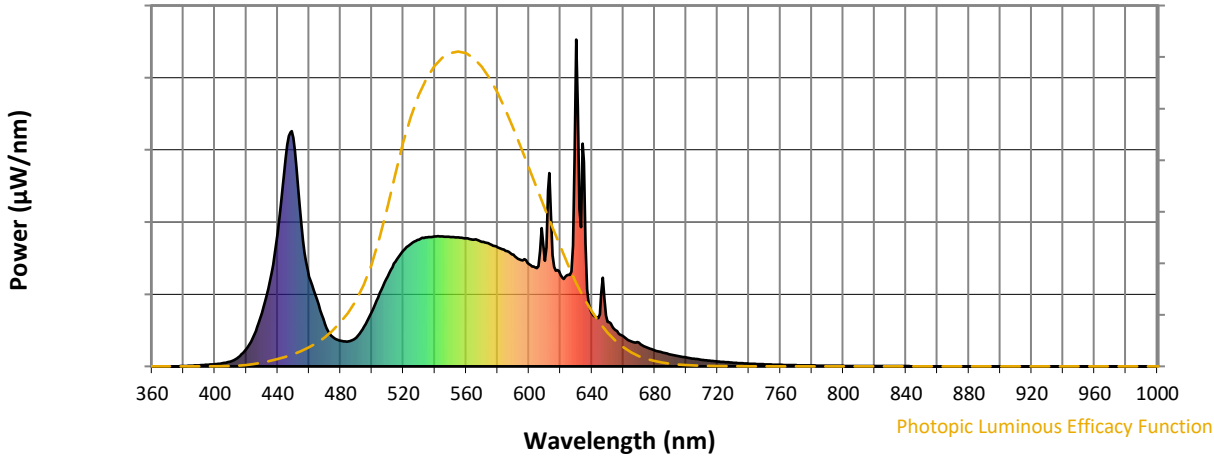
CIE 1931 Chromaticity Diagram with 2017 ANSI 7-Step and 4-Step Quadrangles



Point lies inside the ANSI 5000K 4-step quadrangle

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Photopic Flux vs. Wavelength

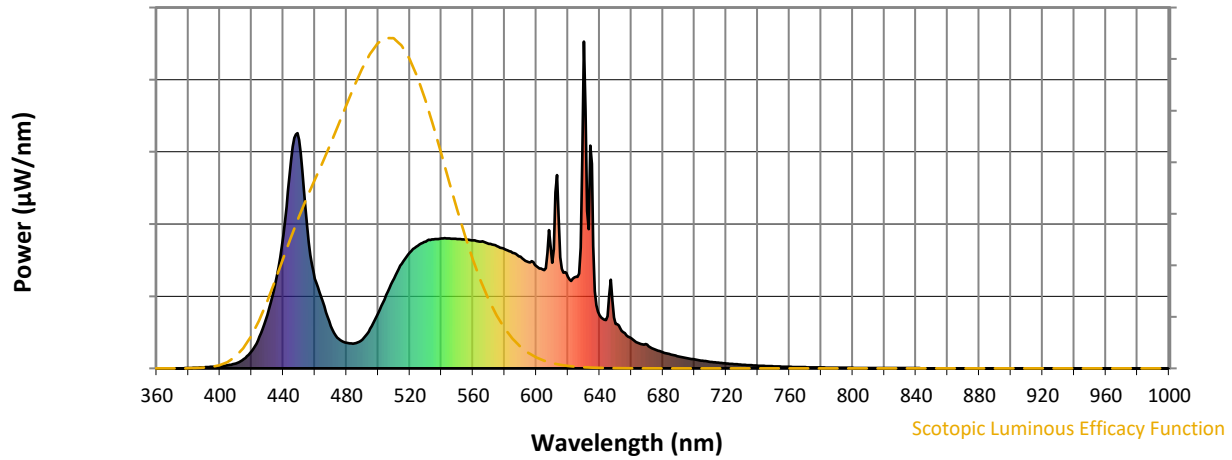


Photopic Lumens: NR

| 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 | 89 | NR | 620 | 280 | NR | 750 | 6 | NR | 880 | 0 | NR |
| 365 | 0 | NR | 495 | 121 | NR | 625 | 280 | NR | 755 | 5 | NR | 885 | 0 | NR |
| 370 | 0 | NR | 500 | 168 | NR | 630 | 1000 | NR | 760 | 5 | NR | 890 | 0 | NR |
| 375 | 0 | NR | 505 | 224 | NR | 635 | 626 | NR | 765 | 4 | NR | 895 | 0 | NR |
| 380 | 1 | NR | 510 | 275 | NR | 640 | 163 | NR | 770 | 4 | NR | 900 | 0 | NR |
| 385 | 2 | NR | 515 | 321 | NR | 645 | 160 | NR | 775 | 3 | NR | 905 | 0 | NR |
| 390 | 3 | NR | 520 | 354 | NR | 650 | 136 | NR | 780 | 3 | NR | 910 | 0 | NR |
| 395 | 5 | NR | 525 | 375 | NR | 655 | 111 | NR | 785 | 2 | NR | 915 | 0 | NR |
| 400 | 7 | NR | 530 | 388 | NR | 660 | 93 | NR | 790 | 2 | NR | 920 | 0 | NR |
| 405 | 10 | NR | 535 | 395 | NR | 665 | 76 | NR | 795 | 2 | NR | 925 | 0 | NR |
| 410 | 15 | NR | 540 | 397 | NR | 670 | 72 | NR | 800 | 2 | NR | 930 | 0 | NR |
| 415 | 28 | NR | 545 | 398 | NR | 675 | 57 | NR | 805 | 1 | NR | 935 | 0 | NR |
| 420 | 53 | NR | 550 | 396 | NR | 680 | 49 | NR | 810 | 1 | NR | 940 | 0 | NR |
| 425 | 97 | NR | 555 | 395 | NR | 685 | 42 | NR | 815 | 1 | NR | 945 | 0 | NR |
| 430 | 163 | NR | 560 | 392 | NR | 690 | 37 | NR | 820 | 1 | NR | 950 | 0 | NR |
| 435 | 261 | NR | 565 | 388 | NR | 695 | 32 | NR | 825 | 1 | NR | 955 | 0 | NR |
| 440 | 409 | NR | 570 | 381 | NR | 700 | 27 | NR | 830 | 1 | NR | 960 | 0 | NR |
| 445 | 637 | NR | 575 | 374 | NR | 705 | 23 | NR | 835 | 1 | NR | 965 | 0 | NR |
| 450 | 699 | NR | 580 | 365 | NR | 710 | 20 | NR | 840 | 1 | NR | 970 | 0 | NR |
| 455 | 436 | NR | 585 | 354 | NR | 715 | 17 | NR | 845 | 0 | NR | 975 | 0 | NR |
| 460 | 274 | NR | 590 | 342 | NR | 720 | 15 | NR | 850 | 0 | NR | 980 | 0 | NR |
| 465 | 205 | NR | 595 | 325 | NR | 725 | 13 | NR | 855 | 0 | NR | 985 | 0 | NR |
| 470 | 130 | NR | 600 | 313 | NR | 730 | 11 | NR | 860 | 0 | NR | 990 | 0 | NR |
| 475 | 90 | NR | 605 | 301 | NR | 735 | 10 | NR | 865 | 0 | NR | 995 | 0 | NR |
| 480 | 78 | NR | 610 | 323 | NR | 740 | 8 | NR | 870 | 0 | NR | 1000 | 0 | NR |
| 485 | 77 | NR | 615 | 340 | NR | 745 | 7 | NR | 875 | 0 | NR | | | |

REPORT NUMBER: SP1-2506-472-4

Scotopic Flux vs. Wavelength



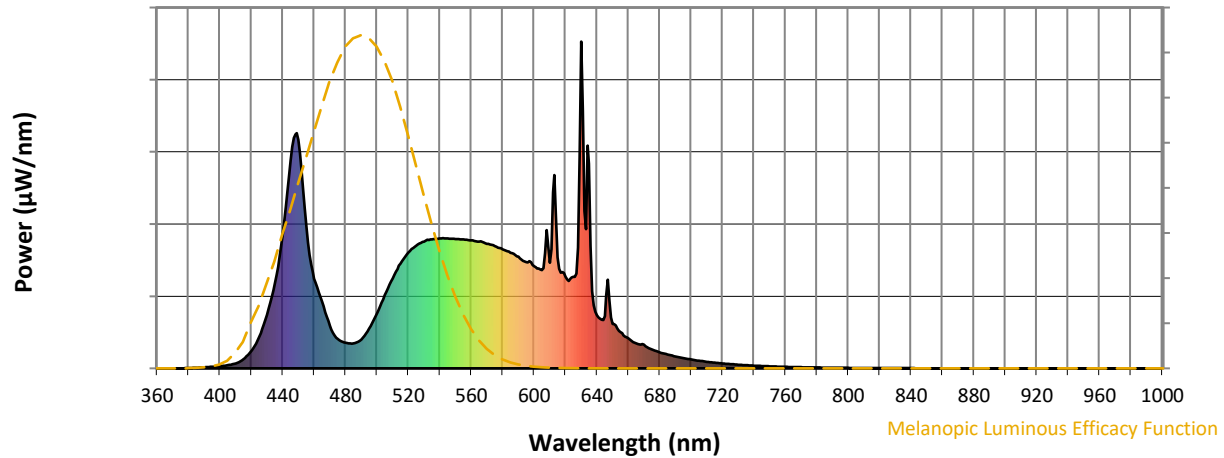
Scotopic Lumens: NR

S/P: 1.82

| 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 | 89 | NR | 620 | 280 | NR | 750 | 6 | NR | 880 | 0 | NR |
| 365 | 0 | NR | 495 | 121 | NR | 625 | 280 | NR | 755 | 5 | NR | 885 | 0 | NR |
| 370 | 0 | NR | 500 | 168 | NR | 630 | 1000 | NR | 760 | 5 | NR | 890 | 0 | NR |
| 375 | 0 | NR | 505 | 224 | NR | 635 | 626 | NR | 765 | 4 | NR | 895 | 0 | NR |
| 380 | 1 | NR | 510 | 275 | NR | 640 | 163 | NR | 770 | 4 | NR | 900 | 0 | NR |
| 385 | 2 | NR | 515 | 321 | NR | 645 | 160 | NR | 775 | 3 | NR | 905 | 0 | NR |
| 390 | 3 | NR | 520 | 354 | NR | 650 | 136 | NR | 780 | 3 | NR | 910 | 0 | NR |
| 395 | 5 | NR | 525 | 375 | NR | 655 | 111 | NR | 785 | 2 | NR | 915 | 0 | NR |
| 400 | 7 | NR | 530 | 388 | NR | 660 | 93 | NR | 790 | 2 | NR | 920 | 0 | NR |
| 405 | 10 | NR | 535 | 395 | NR | 665 | 76 | NR | 795 | 2 | NR | 925 | 0 | NR |
| 410 | 15 | NR | 540 | 397 | NR | 670 | 72 | NR | 800 | 2 | NR | 930 | 0 | NR |
| 415 | 28 | NR | 545 | 398 | NR | 675 | 57 | NR | 805 | 1 | NR | 935 | 0 | NR |
| 420 | 53 | NR | 550 | 396 | NR | 680 | 49 | NR | 810 | 1 | NR | 940 | 0 | NR |
| 425 | 97 | NR | 555 | 395 | NR | 685 | 42 | NR | 815 | 1 | NR | 945 | 0 | NR |
| 430 | 163 | NR | 560 | 392 | NR | 690 | 37 | NR | 820 | 1 | NR | 950 | 0 | NR |
| 435 | 261 | NR | 565 | 388 | NR | 695 | 32 | NR | 825 | 1 | NR | 955 | 0 | NR |
| 440 | 409 | NR | 570 | 381 | NR | 700 | 27 | NR | 830 | 1 | NR | 960 | 0 | NR |
| 445 | 637 | NR | 575 | 374 | NR | 705 | 23 | NR | 835 | 1 | NR | 965 | 0 | NR |
| 450 | 699 | NR | 580 | 365 | NR | 710 | 20 | NR | 840 | 1 | NR | 970 | 0 | NR |
| 455 | 436 | NR | 585 | 354 | NR | 715 | 17 | NR | 845 | 0 | NR | 975 | 0 | NR |
| 460 | 274 | NR | 590 | 342 | NR | 720 | 15 | NR | 850 | 0 | NR | 980 | 0 | NR |
| 465 | 205 | NR | 595 | 325 | NR | 725 | 13 | NR | 855 | 0 | NR | 985 | 0 | NR |
| 470 | 130 | NR | 600 | 313 | NR | 730 | 11 | NR | 860 | 0 | NR | 990 | 0 | NR |
| 475 | 90 | NR | 605 | 301 | NR | 735 | 10 | NR | 865 | 0 | NR | 995 | 0 | NR |
| 480 | 78 | NR | 610 | 323 | NR | 740 | 8 | NR | 870 | 0 | NR | 1000 | 0 | NR |
| 485 | 77 | NR | 615 | 340 | NR | 745 | 7 | NR | 875 | 0 | NR | | | |

REPORT NUMBER: SP1-2506-472-4

Melanopic Flux vs. Wavelength



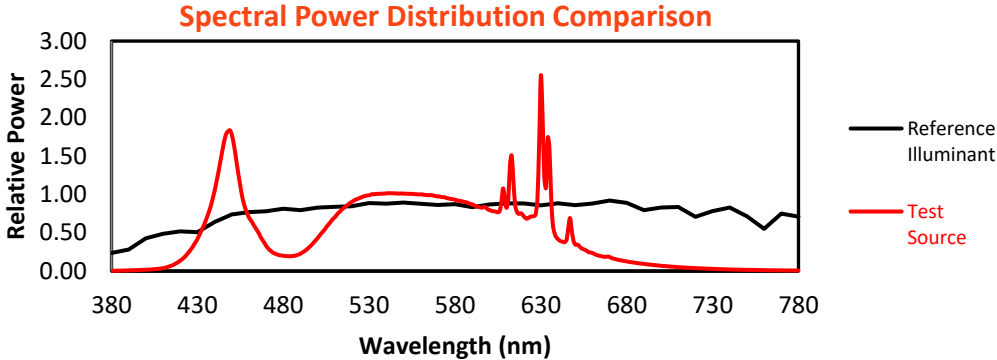
Melanopic Lumens: NR

M/P: 3.71

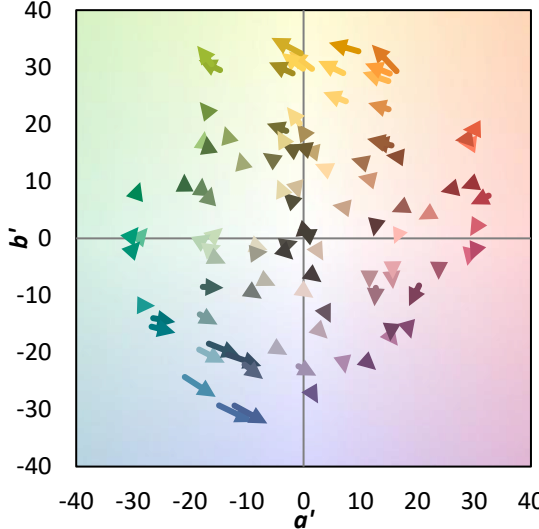
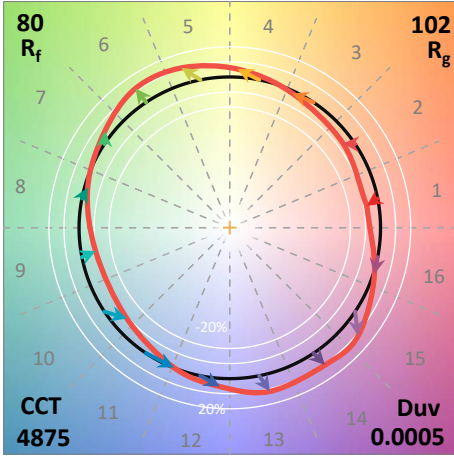
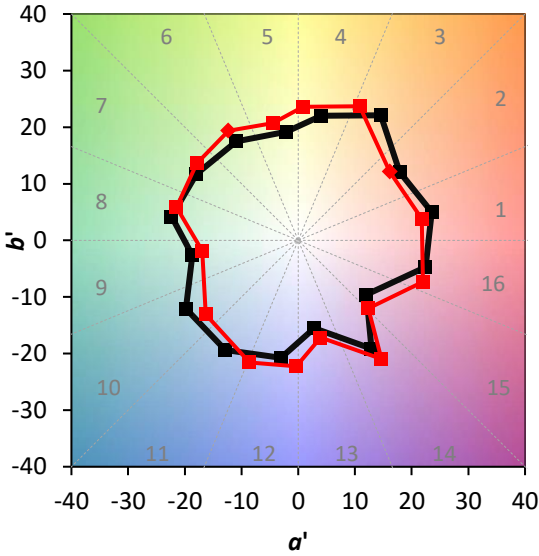
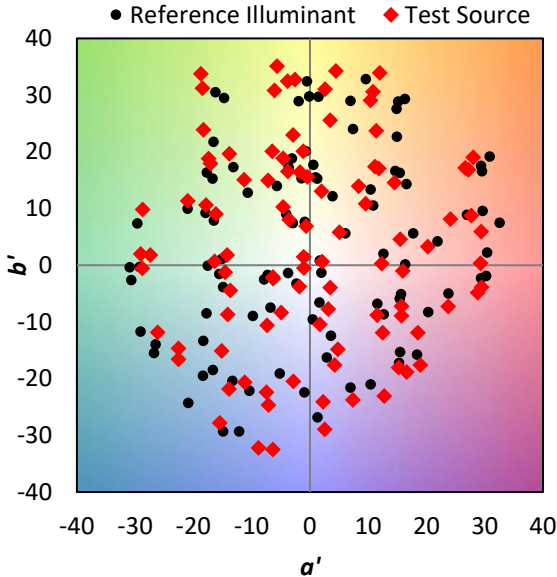
| λ (nm) | Power W [^] /nm | Lumens (ϕ /nm) | λ (nm) | Power W [^] /nm | Lumens (ϕ /nm) | λ (nm) | Power W [^] /nm | Lumens (ϕ /nm) | λ (nm) | Power W [^] /nm | Lumens (ϕ /nm) | λ (nm) | Power W [^] /nm | Lumens (ϕ /nm) |
|-------------------|-----------------------------|-------------------------|-------------------|-----------------------------|-------------------------|-------------------|-----------------------------|-------------------------|-------------------|-----------------------------|-------------------------|-------------------|-----------------------------|-------------------------|
| 360 | 0 | NR | 490 | 89 | NR | 620 | 280 | NR | 750 | 6 | NR | 880 | 0 | NR |
| 365 | 0 | NR | 495 | 121 | NR | 625 | 280 | NR | 755 | 5 | NR | 885 | 0 | NR |
| 370 | 0 | NR | 500 | 168 | NR | 630 | 1000 | NR | 760 | 5 | NR | 890 | 0 | NR |
| 375 | 0 | NR | 505 | 224 | NR | 635 | 626 | NR | 765 | 4 | NR | 895 | 0 | NR |
| 380 | 1 | NR | 510 | 275 | NR | 640 | 163 | NR | 770 | 4 | NR | 900 | 0 | NR |
| 385 | 2 | NR | 515 | 321 | NR | 645 | 160 | NR | 775 | 3 | NR | 905 | 0 | NR |
| 390 | 3 | NR | 520 | 354 | NR | 650 | 136 | NR | 780 | 3 | NR | 910 | 0 | NR |
| 395 | 5 | NR | 525 | 375 | NR | 655 | 111 | NR | 785 | 2 | NR | 915 | 0 | NR |
| 400 | 7 | NR | 530 | 388 | NR | 660 | 93 | NR | 790 | 2 | NR | 920 | 0 | NR |
| 405 | 10 | NR | 535 | 395 | NR | 665 | 76 | NR | 795 | 2 | NR | 925 | 0 | NR |
| 410 | 15 | NR | 540 | 397 | NR | 670 | 72 | NR | 800 | 2 | NR | 930 | 0 | NR |
| 415 | 28 | NR | 545 | 398 | NR | 675 | 57 | NR | 805 | 1 | NR | 935 | 0 | NR |
| 420 | 53 | NR | 550 | 396 | NR | 680 | 49 | NR | 810 | 1 | NR | 940 | 0 | NR |
| 425 | 97 | NR | 555 | 395 | NR | 685 | 42 | NR | 815 | 1 | NR | 945 | 0 | NR |
| 430 | 163 | NR | 560 | 392 | NR | 690 | 37 | NR | 820 | 1 | NR | 950 | 0 | NR |
| 435 | 261 | NR | 565 | 388 | NR | 695 | 32 | NR | 825 | 1 | NR | 955 | 0 | NR |
| 440 | 409 | NR | 570 | 381 | NR | 700 | 27 | NR | 830 | 1 | NR | 960 | 0 | NR |
| 445 | 637 | NR | 575 | 374 | NR | 705 | 23 | NR | 835 | 1 | NR | 965 | 0 | NR |
| 450 | 699 | NR | 580 | 365 | NR | 710 | 20 | NR | 840 | 1 | NR | 970 | 0 | NR |
| 455 | 436 | NR | 585 | 354 | NR | 715 | 17 | NR | 845 | 0 | NR | 975 | 0 | NR |
| 460 | 274 | NR | 590 | 342 | NR | 720 | 15 | NR | 850 | 0 | NR | 980 | 0 | NR |
| 465 | 205 | NR | 595 | 325 | NR | 725 | 13 | NR | 855 | 0 | NR | 985 | 0 | NR |
| 470 | 130 | NR | 600 | 313 | NR | 730 | 11 | NR | 860 | 0 | NR | 990 | 0 | NR |
| 475 | 90 | NR | 605 | 301 | NR | 735 | 10 | NR | 865 | 0 | NR | 995 | 0 | NR |
| 480 | 78 | NR | 610 | 323 | NR | 740 | 8 | NR | 870 | 0 | NR | 1000 | 0 | NR |
| 485 | 77 | NR | 615 | 340 | NR | 745 | 7 | NR | 875 | 0 | NR | | | |

Summary

$R_f = 80$
 $R_g = 102.3$
 $CIE R_a = 82.3$
 $R_9 = 43.9$

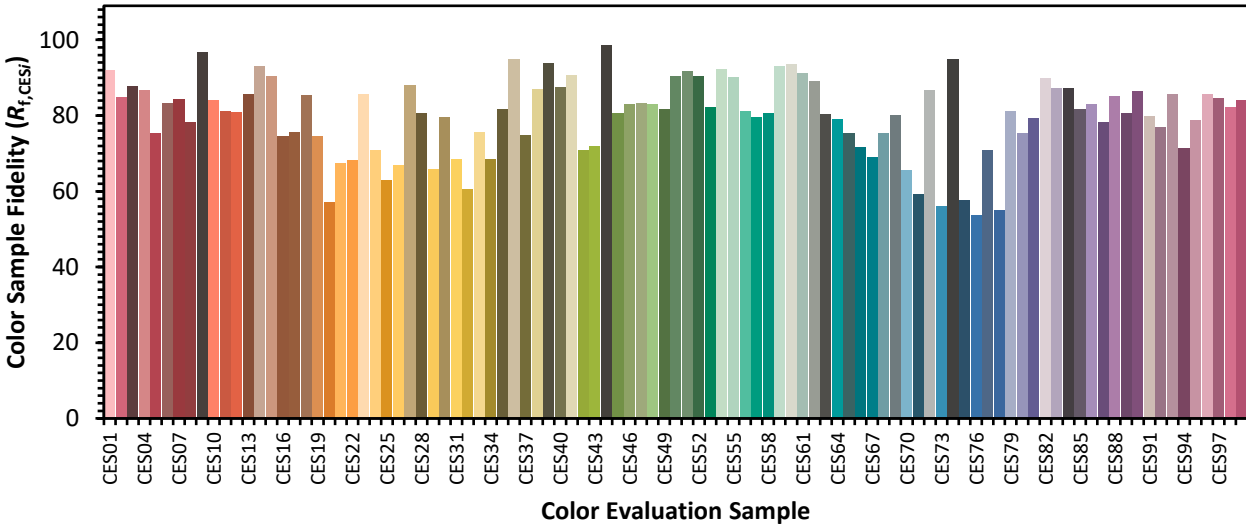


Color Vector Graphics

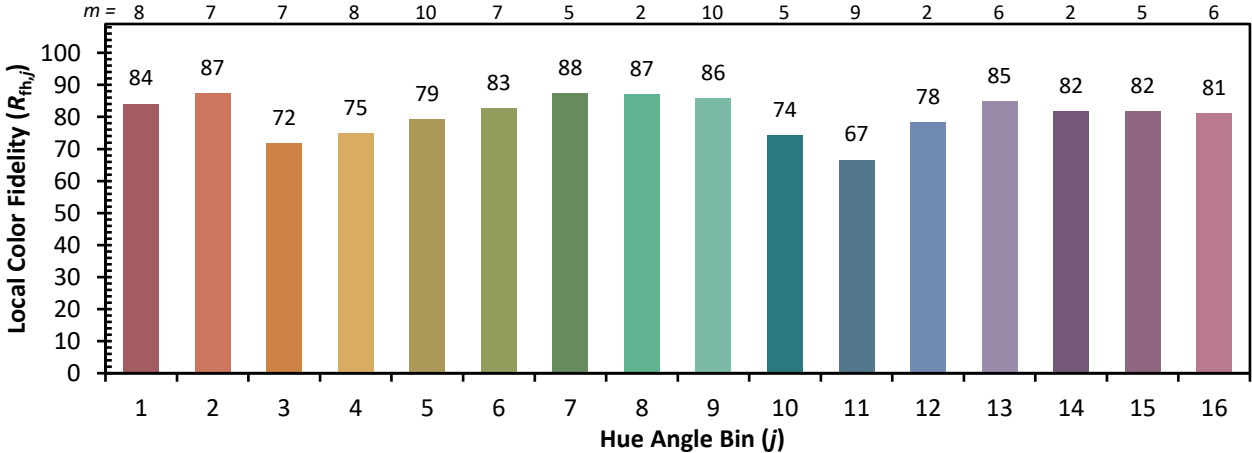
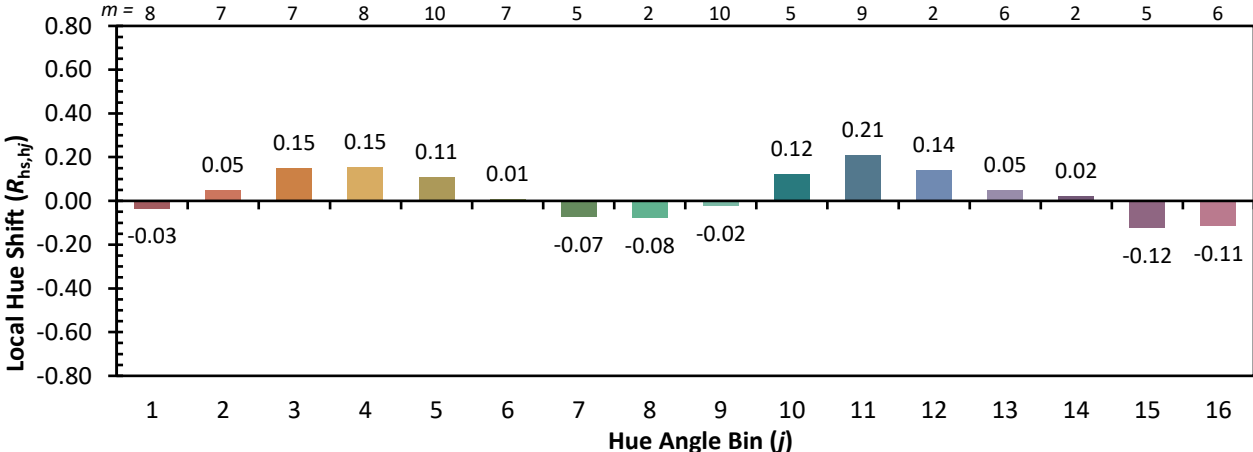
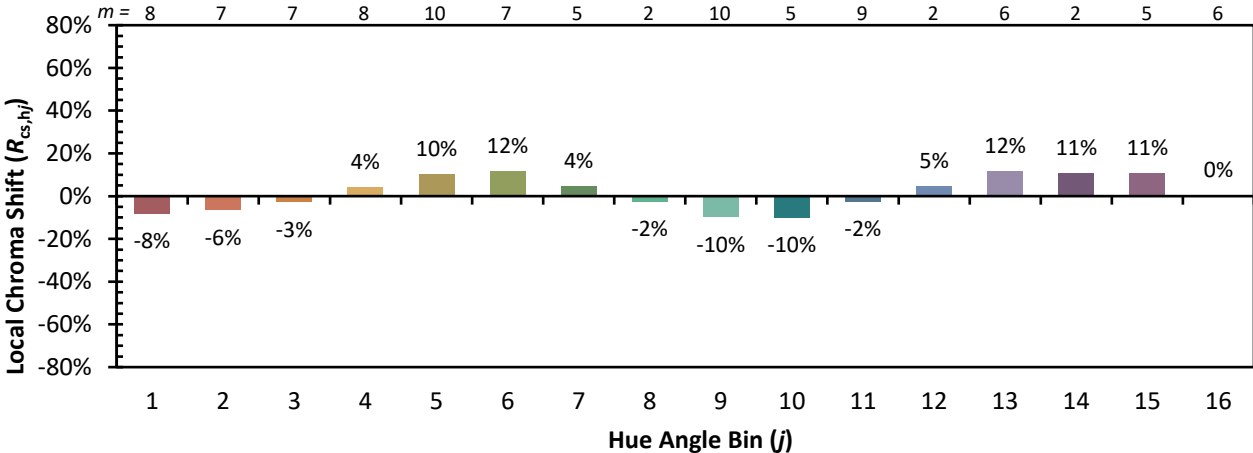


Individual Sample Fidelity Index ($R_{f,i}$)

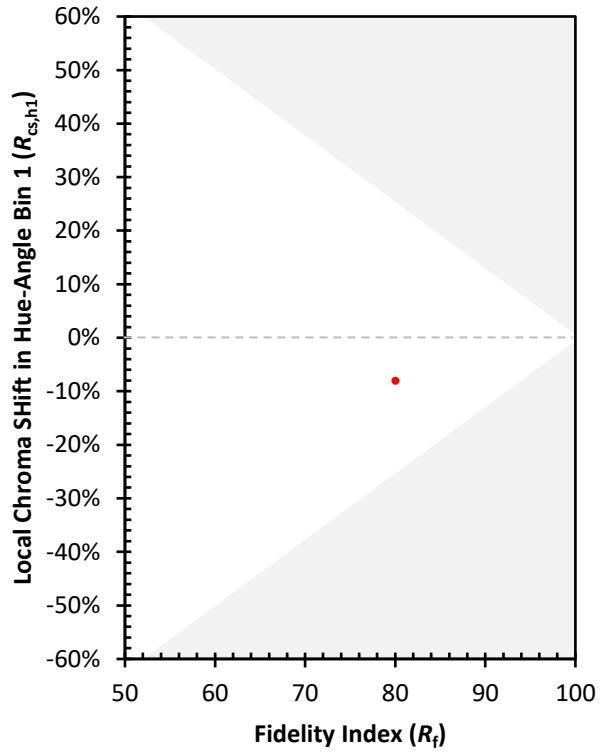
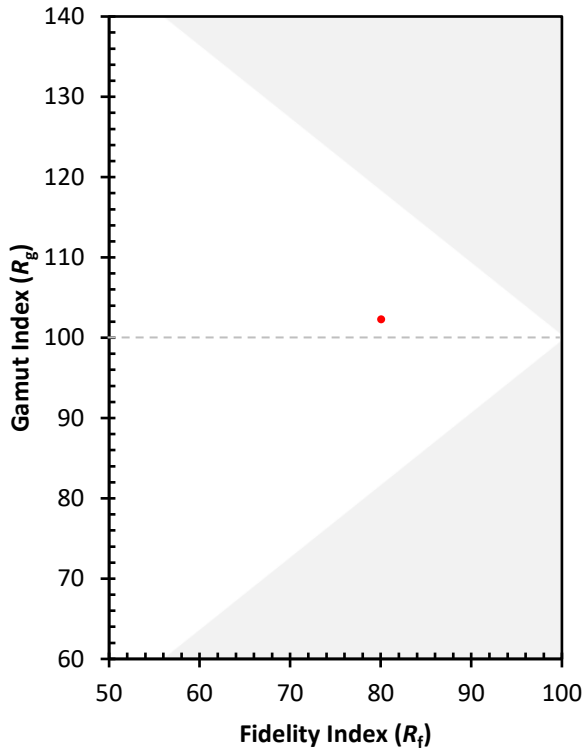
| | | | |
|------------|------------|------------|------------|
| CES01 = 85 | CES26 = 67 | CES51 = 92 | CES76 = 54 |
| CES02 = 60 | CES27 = 88 | CES52 = 91 | CES77 = 71 |
| CES03 = 31 | CES28 = 81 | CES53 = 82 | CES78 = 55 |
| CES04 = 69 | CES29 = 66 | CES54 = 92 | CES79 = 81 |
| CES05 = 47 | CES30 = 80 | CES55 = 90 | CES80 = 75 |
| CES06 = 50 | CES31 = 69 | CES56 = 81 | CES81 = 79 |
| CES07 = 40 | CES32 = 61 | CES57 = 80 | CES82 = 90 |
| CES08 = 39 | CES33 = 76 | CES58 = 81 | CES83 = 87 |
| CES09 = 29 | CES34 = 68 | CES59 = 93 | CES84 = 87 |
| CES10 = 73 | CES35 = 82 | CES60 = 94 | CES85 = 82 |
| CES11 = 56 | CES36 = 95 | CES61 = 91 | CES86 = 83 |
| CES12 = 62 | CES37 = 75 | CES62 = 89 | CES87 = 78 |
| CES13 = 42 | CES38 = 87 | CES63 = 80 | CES88 = 85 |
| CES14 = 74 | CES39 = 94 | CES64 = 79 | CES89 = 81 |
| CES15 = 71 | CES40 = 87 | CES65 = 75 | CES90 = 86 |
| CES16 = 46 | CES41 = 91 | CES66 = 72 | CES91 = 80 |
| CES17 = 48 | CES42 = 71 | CES67 = 69 | CES92 = 77 |
| CES18 = 56 | CES43 = 72 | CES68 = 75 | CES93 = 86 |
| CES19 = 70 | CES44 = 99 | CES69 = 80 | CES94 = 71 |
| CES20 = 65 | CES45 = 81 | CES70 = 66 | CES95 = 79 |
| CES21 = 85 | CES46 = 83 | CES71 = 59 | CES96 = 86 |
| CES22 = 77 | CES47 = 83 | CES72 = 87 | CES97 = 85 |
| CES23 = 91 | CES48 = 83 | CES73 = 56 | CES98 = 82 |
| CES24 = 90 | CES49 = 82 | CES74 = 95 | CES99 = 84 |
| CES25 = 71 | CES50 = 91 | CES75 = 58 | |



Color Rendition by Hue-Angle Bin



Measure Comparisons



(END OF REPORT)