

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: P976230

Luminaire Tested: 12SR-LD2-12-S-UNV-L950-CD1-U

Issue Date: 03/18/2025

Test Information

Test Method: LM-79-2019
Report Number: P976230
Test Lab: INNOVATION CENTER(P3)
Issue Date: 03/18/2025
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: METALUX
Catalog Number: 12SR-LD2-12-S-UNV-L950-CD1-U
Description: METALUX SKYRIDGE 1x2 1200LM PACKAGE 90CRI 5000K STANDARD TROFFER
Light Source: 5000K CCT, 90+ CRI LEDS
Ballast/Driver: -

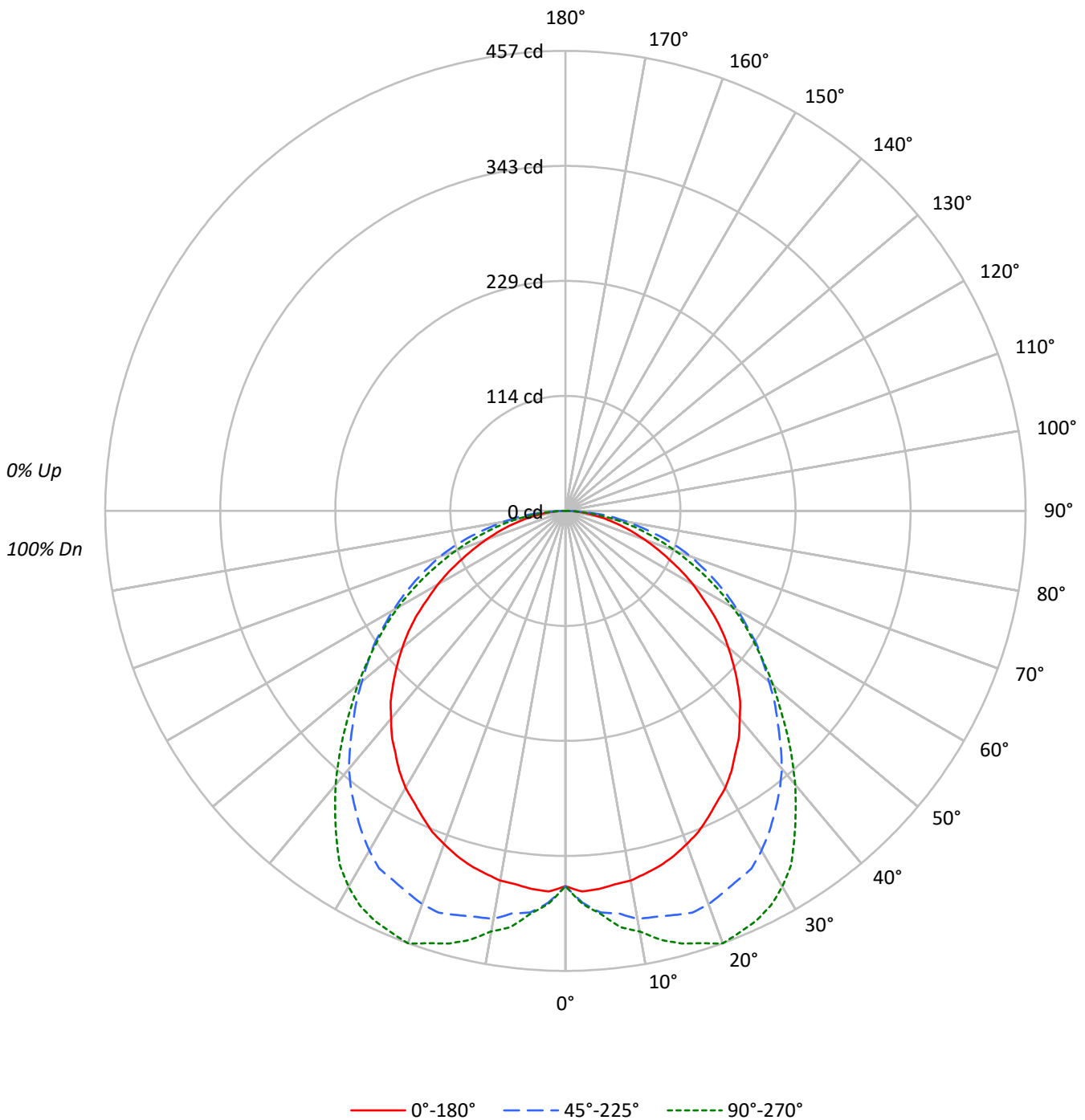
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 1242.4 lumens
Efficiency: N/A
Efficacy: 139.6 lumens/watt
Spacing Criteria (0/90/45): 1.26 / 1.54 / 1.5
Luminous Opening: Rectangular (W 1' x L: 2' x H: 0')
CIE Type: Direct

Input Watts (W): 8.9
Input Voltage (V): 120
Input Current (A_{in}): 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: 28.75 FT

TEST NUMBER: P976230
CATALOG NUMBER: 12SR-LD2-12-S-UNV-L950-CD1-U

Luminous Intensity Polar Plot





TEST NUMBER: P976230

CATALOG NUMBER: 12SR-LD2-12-S-UNV-L950-CD1-U

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 | 50 | 30 | 10 | 0 |
| RCR | | | | | | | | | | | | | | | | | | | | | |
| 0 | 119 | 119 | 119 | 119 | 116 | 116 | 116 | 116 | 111 | 111 | 111 | 106 | 106 | 106 | 102 | 102 | 102 | 102 | 102 | 102 | 100 |
| 1 | 108 | 104 | 99 | 95 | 106 | 101 | 97 | 94 | 97 | 94 | 91 | 93 | 90 | 88 | 90 | 87 | 85 | 85 | 85 | 85 | 83 |
| 2 | 99 | 90 | 83 | 77 | 96 | 88 | 82 | 76 | 85 | 79 | 75 | 81 | 77 | 73 | 78 | 75 | 71 | 71 | 71 | 71 | 69 |
| 3 | 90 | 79 | 71 | 64 | 87 | 78 | 70 | 64 | 75 | 68 | 63 | 72 | 66 | 61 | 69 | 64 | 60 | 60 | 60 | 60 | 58 |
| 4 | 82 | 70 | 61 | 54 | 80 | 69 | 60 | 54 | 66 | 59 | 53 | 64 | 58 | 53 | 62 | 56 | 52 | 52 | 52 | 52 | 50 |
| 5 | 76 | 63 | 54 | 47 | 73 | 61 | 53 | 47 | 59 | 52 | 46 | 57 | 51 | 46 | 55 | 50 | 45 | 45 | 45 | 45 | 43 |
| 6 | 70 | 56 | 47 | 41 | 68 | 55 | 47 | 41 | 54 | 46 | 40 | 52 | 45 | 40 | 50 | 44 | 40 | 40 | 40 | 40 | 37 |
| 7 | 65 | 51 | 42 | 36 | 63 | 50 | 42 | 36 | 49 | 41 | 36 | 47 | 40 | 35 | 46 | 40 | 35 | 35 | 35 | 35 | 33 |
| 8 | 60 | 47 | 38 | 32 | 59 | 46 | 38 | 32 | 45 | 37 | 32 | 43 | 37 | 32 | 42 | 36 | 31 | 31 | 31 | 31 | 29 |
| 9 | 56 | 43 | 34 | 29 | 55 | 42 | 34 | 29 | 41 | 34 | 29 | 40 | 33 | 28 | 39 | 33 | 28 | 28 | 28 | 28 | 26 |
| 10 | 53 | 39 | 31 | 26 | 51 | 39 | 31 | 26 | 38 | 31 | 26 | 37 | 30 | 26 | 36 | 30 | 26 | 26 | 26 | 26 | 24 |

AVERAGE LUMINANCE (cd/sqm):

| | 0° | 45° | 90° |
|-----|------|------|------|
| 0° | 2007 | 2007 | 2007 |
| 5° | 2037 | 2164 | 2171 |
| 10° | 2038 | 2249 | 2318 |
| 15° | 2032 | 2316 | 2478 |
| 20° | 2017 | 2381 | 2619 |
| 25° | 1993 | 2404 | 2666 |
| 30° | 1974 | 2421 | 2678 |
| 35° | 1933 | 2386 | 2604 |
| 40° | 1891 | 2349 | 2493 |
| 45° | 1840 | 2270 | 2366 |
| 50° | 1769 | 2210 | 2254 |
| 55° | 1685 | 2178 | 2152 |
| 60° | 1577 | 2126 | 2067 |
| 65° | 1443 | 2092 | 1952 |
| 70° | 1325 | 2087 | 1825 |
| 75° | 1206 | 2011 | 1695 |
| 80° | 1069 | 1925 | 1587 |
| 85° | 1025 | 1871 | 1365 |

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 90°
 Vertical Angle: 45°
 Luminance: 2366 cd/sqm



TEST NUMBER: P976230
 CATALOG NUMBER: 12SR-LD2-12-S-UNV-L950-CD1-U

ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 37.9 | 3.1 |
| 10°-20° | 116.2 | 9.4 |
| 20°-30° | 183.6 | 14.8 |
| 30°-40° | 220.8 | 17.8 |
| 40°-50° | 220.9 | 17.8 |
| 50°-60° | 194.3 | 15.6 |
| 60°-70° | 148.5 | 12.0 |
| 70°-80° | 90.9 | 7.3 |
| 80°-90° | 29.3 | 2.4 |
| 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° | 337.7 | 27.2 |
| 0°-40° | 558.5 | 45.0 |
| 0°-60° | 973.7 | 78.4 |
| 0°-90° | 1242.4 | 100.0 |
| 90°-120° | 0.0 | 0.0 |
| 90°-150° | 0.0 | 0.0 |
| 90°-180° | 0.0 | 0.0 |
| 0°-180° | 1242.4 | 100.0 |

CANDELA DISTRIBUTION:

| | 0° | 22.5° | 45° | 67.5° | 90° | Flux |
|-----|-----|-------|-----|-------|-----|------|
| 0° | 373 | 373 | 373 | 373 | 373 | |
| 5° | 377 | 385 | 400 | 402 | 402 | 36 |
| 15° | 365 | 385 | 416 | 436 | 445 | 103 |
| 25° | 336 | 359 | 405 | 436 | 449 | 155 |
| 35° | 294 | 316 | 363 | 390 | 396 | 184 |
| 45° | 242 | 258 | 298 | 309 | 311 | 186 |
| 55° | 180 | 203 | 232 | 231 | 229 | 160 |
| 65° | 113 | 145 | 164 | 156 | 153 | 113 |
| 75° | 58 | 92 | 97 | 86 | 82 | 62 |
| 85° | 17 | 33 | 30 | 24 | 22 | 18 |
| 90° | 0 | 0 | 0 | 0 | 0 | |



TEST NUMBER: P976230
 CATALOG NUMBER: 12SR-LD2-12-S-UNV-L950-CD1-U

CANDELA DISTRIBUTION (FULL):

| | 0° | 22.5° | 45° | 67.5° | 90° |
|-------|-------|-------|-------|-------|-------|
| 0° | 372.9 | 372.9 | 372.9 | 372.9 | 372.9 |
| 2.5° | 378.4 | 377.1 | 389.5 | 390.9 | 390.9 |
| 5° | 377.1 | 385.4 | 400.5 | 401.9 | 401.9 |
| 7.5° | 374.3 | 390.9 | 403.2 | 413.0 | 417.1 |
| 10° | 372.9 | 392.3 | 411.6 | 418.5 | 424.1 |
| 12.5° | 368.8 | 389.5 | 413.0 | 428.2 | 436.4 |
| 15° | 364.7 | 385.4 | 415.7 | 436.4 | 444.8 |
| 17.5° | 359.1 | 382.5 | 418.5 | 440.7 | 450.3 |
| 20° | 352.2 | 378.4 | 415.7 | 443.3 | 457.2 |
| 22.5° | 345.2 | 368.8 | 410.2 | 441.9 | 453.0 |
| 25° | 335.6 | 359.1 | 404.8 | 436.4 | 448.9 |
| 27.5° | 326.0 | 349.5 | 400.5 | 430.9 | 441.9 |
| 30° | 317.6 | 339.7 | 389.5 | 418.5 | 430.9 |
| 32.5° | 306.7 | 328.8 | 377.1 | 406.1 | 417.1 |
| 35° | 294.2 | 316.3 | 363.2 | 389.5 | 396.4 |
| 37.5° | 283.1 | 302.4 | 349.5 | 370.2 | 375.7 |
| 40° | 269.2 | 287.2 | 334.3 | 349.5 | 354.9 |
| 42.5° | 256.9 | 274.8 | 316.3 | 332.9 | 332.9 |
| 45° | 241.7 | 258.3 | 298.3 | 309.4 | 310.8 |
| 47.5° | 226.4 | 245.8 | 281.7 | 288.7 | 288.7 |
| 50° | 211.3 | 232.1 | 263.9 | 269.2 | 269.2 |
| 52.5° | 196.1 | 216.8 | 247.3 | 250.0 | 248.7 |
| 55° | 179.6 | 203.0 | 232.1 | 230.7 | 229.3 |
| 57.5° | 161.6 | 187.9 | 214.1 | 211.3 | 211.3 |
| 60° | 146.5 | 174.0 | 197.5 | 193.4 | 192.0 |
| 62.5° | 129.9 | 158.8 | 180.9 | 175.4 | 172.7 |
| 65° | 113.3 | 145.0 | 164.3 | 156.1 | 153.3 |
| 67.5° | 98.1 | 132.6 | 147.7 | 136.8 | 134.0 |
| 70° | 84.2 | 118.8 | 132.6 | 118.8 | 116.0 |
| 72.5° | 70.5 | 104.9 | 114.7 | 102.2 | 98.1 |
| 75° | 58.0 | 92.4 | 96.7 | 85.6 | 81.5 |
| 77.5° | 45.7 | 78.7 | 78.7 | 67.6 | 66.4 |
| 80° | 34.5 | 64.9 | 62.1 | 52.5 | 51.2 |
| 82.5° | 24.8 | 48.3 | 46.9 | 38.7 | 36.0 |
| 85° | 16.6 | 33.2 | 30.3 | 23.5 | 22.1 |
| 87.5° | 8.4 | 16.6 | 13.8 | 9.6 | 9.6 |
| 90° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |



TEST NUMBER: P976230
 CATALOG NUMBER: 12SR-LD2-12-S-UNV-L950-CD1-U

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 | 13.9 | 15.5 | 14.2 | 15.8 | 16.2 | 14.9 | 16.5 | 15.2 | 16.8 | 17.1 |
| | 3H | 15.6 | 17.1 | 16.0 | 17.4 | 17.8 | 16.6 | 18.1 | 17.0 | 18.4 | 18.8 |
| | 4H | 16.2 | 17.6 | 16.6 | 18.0 | 18.3 | 17.3 | 18.7 | 17.7 | 19.0 | 19.4 |
| | 6H | 16.7 | 18.0 | 17.1 | 18.3 | 18.7 | 17.8 | 19.1 | 18.2 | 19.4 | 19.8 |
| | 8H | 16.8 | 18.1 | 17.2 | 18.4 | 18.8 | 17.9 | 19.2 | 18.4 | 19.6 | 20.0 |
| | 12H | 16.9 | 18.1 | 17.3 | 18.5 | 18.9 | 18.1 | 19.3 | 18.5 | 19.6 | 20.1 |
| 4H | 2H | 14.8 | 16.2 | 15.2 | 16.6 | 17.0 | 15.6 | 17.0 | 16.0 | 17.3 | 17.7 |
| | 3H | 16.9 | 18.0 | 17.3 | 18.4 | 18.8 | 17.6 | 18.7 | 18.0 | 19.1 | 19.5 |
| | 4H | 17.7 | 18.8 | 18.1 | 19.2 | 19.6 | 18.3 | 19.4 | 18.8 | 19.8 | 20.3 |
| | 6H | 18.4 | 19.3 | 18.8 | 19.8 | 20.2 | 19.0 | 19.9 | 19.4 | 20.3 | 20.8 |
| | 8H | 18.6 | 19.5 | 19.0 | 19.9 | 20.4 | 19.2 | 20.1 | 19.7 | 20.5 | 21.0 |
| | 12H | 18.7 | 19.5 | 19.2 | 20.0 | 20.5 | 19.4 | 20.1 | 19.8 | 20.6 | 21.1 |
| 8H | 4H | 18.2 | 19.1 | 18.7 | 19.5 | 20.0 | 18.7 | 19.6 | 19.2 | 20.1 | 20.5 |
| | 6H | 19.1 | 19.9 | 19.6 | 20.3 | 20.8 | 19.5 | 20.3 | 20.0 | 20.7 | 21.2 |
| | 8H | 19.5 | 20.1 | 20.0 | 20.6 | 21.1 | 19.8 | 20.5 | 20.3 | 21.0 | 21.5 |
| | 12H | 19.8 | 20.3 | 20.3 | 20.8 | 21.4 | 20.1 | 20.6 | 20.6 | 21.1 | 21.7 |
| 12H | 4H | 18.3 | 19.1 | 18.8 | 19.5 | 20.0 | 18.8 | 19.6 | 19.3 | 20.1 | 20.5 |
| | 6H | 19.3 | 19.9 | 19.8 | 20.4 | 20.9 | 19.6 | 20.3 | 20.2 | 20.8 | 21.3 |
| | 8H | 19.7 | 20.3 | 20.2 | 20.8 | 21.3 | 20.0 | 20.6 | 20.5 | 21.1 | 21.6 |

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

Report Prepared for

Cooper Lighting Solutions

Metalux

Report Number: SP1-2506-457-8

Test Date: 07/02/2025

Luminaire Tested: 24SR-LD2-64-C-UNV-L950-CD1-U

Data in this report applies to families of products including 24SR-LD2-64-C-UNV-L950-CD1-U

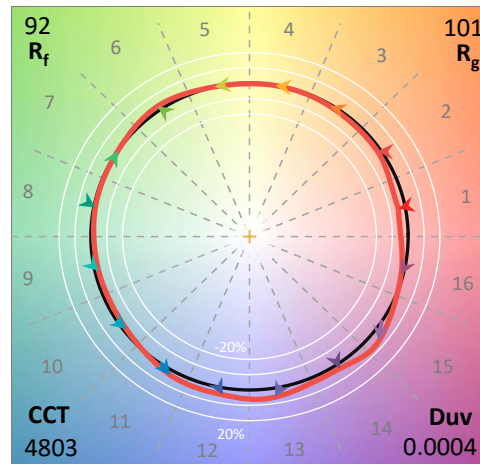
Test Information

Test Method: LM-79-2019
 Report Number: SP1-2506-457-8
 Test Lab: COOPER LIGHTING SOLUTIONS
 Photometer: SP1 - 76IN SPHERE
 Measurement Geometry: 4π
 Issue Date: 07/02/2025
 Manufacturer: COOPER LIGHTING SOLUTIONS
 Product Line: Metalux
 Catalog Number: **24SR-LD2-64-C-UNV-L950-CD1-U**
 Description: 2X4 SKYRIDGE 6400LM Fixture with new LTN chip

Spectral Parameters

CCT (K): 4803
 CIE u': 0.2133
 CIE v': 0.4881
 Duv: 0.0004
 CIE x: 0.3510
 CIE y: 0.3570
 CIE z: 0.2921
 Peak Wavelength (nm): 630
 Dominant Wavelength (nm): 574
 Purity: 12.41797
 Rf: 91.5
 Rg: 100.9

| | | | |
|-----------|------|------|------|
| CRI (Ra): | 94.6 | | |
| R1: | 95.9 | R9: | 74.3 |
| R2: | 96.0 | R10: | 88.6 |
| R3: | 94.0 | R11: | 95.2 |
| R4: | 95.8 | R12: | 71.3 |
| R5: | 94.6 | R13: | 96.0 |
| R6: | 92.9 | R14: | 96.1 |
| R7: | 96.3 | R15: | 94.1 |
| R8: | 91.2 | | |



Test Conditions

Stabilization Time: 43M
 Operation Time: 1H 43M
 Sphere Temperature (°C): 24.9

REPORT NUMBER: SP1-2506-457-8

| 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 |

REPORT NUMBER: SP1-2506-457-8

CIE 1931 Chromaticity Diagram



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



CCT = 4803K
 CIE x = 0.3510
 CIE y = 0.3570
 Duv = 0.0004

Point lies inside the ANSI 5000K 7-step quadrangle

REPORT NUMBER: SP1-2506-457-8

Photopic Flux vs. Wavelength

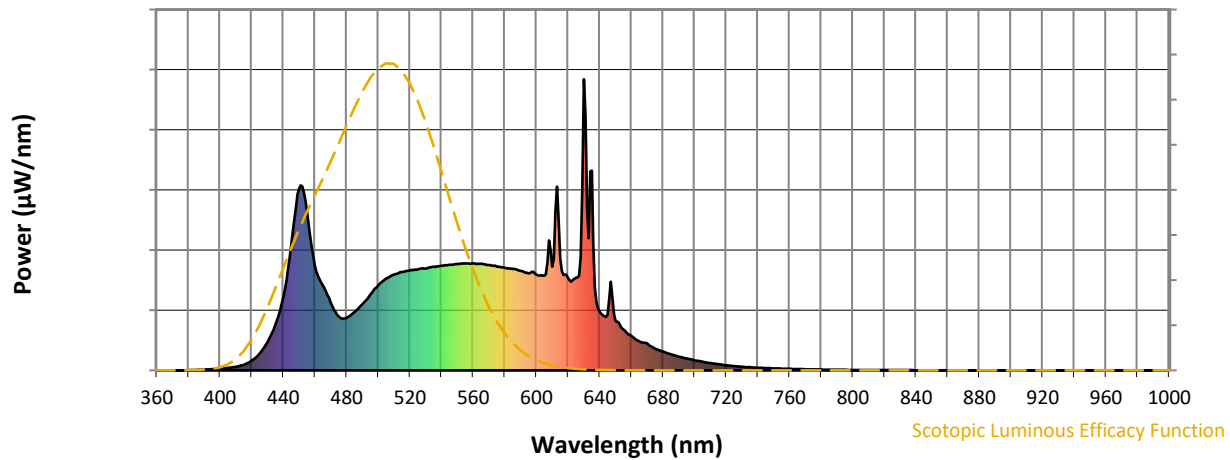


Photopic Lumens: NR

| 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 | 227 | NR | 620 | 318 | NR | 750 | 7 | NR | 880 | 0 | NR |
| 365 | 0 | NR | 495 | 259 | NR | 625 | 318 | NR | 755 | 6 | NR | 885 | 0 | NR |
| 370 | 0 | NR | 500 | 292 | NR | 630 | 1000 | NR | 760 | 5 | NR | 890 | 0 | NR |
| 375 | 0 | NR | 505 | 315 | NR | 635 | 686 | NR | 765 | 4 | NR | 895 | 0 | NR |
| 380 | 0 | NR | 510 | 329 | NR | 640 | 202 | NR | 770 | 4 | NR | 900 | 0 | NR |
| 385 | 1 | NR | 515 | 338 | NR | 645 | 192 | NR | 775 | 3 | NR | 905 | 0 | NR |
| 390 | 3 | NR | 520 | 343 | NR | 650 | 169 | NR | 780 | 3 | NR | 910 | 0 | NR |
| 395 | 5 | NR | 525 | 347 | NR | 655 | 141 | NR | 785 | 2 | NR | 915 | 0 | NR |
| 400 | 6 | NR | 530 | 350 | NR | 660 | 119 | NR | 790 | 2 | NR | 920 | 0 | NR |
| 405 | 9 | NR | 535 | 356 | NR | 665 | 100 | NR | 795 | 2 | NR | 925 | 0 | NR |
| 410 | 12 | NR | 540 | 359 | NR | 670 | 92 | NR | 800 | 2 | NR | 930 | 0 | NR |
| 415 | 19 | NR | 545 | 363 | NR | 675 | 75 | NR | 805 | 1 | NR | 935 | 0 | NR |
| 420 | 34 | NR | 550 | 365 | NR | 680 | 64 | NR | 810 | 1 | NR | 940 | 0 | NR |
| 425 | 57 | NR | 555 | 368 | NR | 685 | 55 | NR | 815 | 1 | NR | 945 | 0 | NR |
| 430 | 96 | NR | 560 | 367 | NR | 690 | 47 | NR | 820 | 1 | NR | 950 | 0 | NR |
| 435 | 157 | NR | 565 | 366 | NR | 695 | 41 | NR | 825 | 1 | NR | 955 | 0 | NR |
| 440 | 252 | NR | 570 | 361 | NR | 700 | 34 | NR | 830 | 1 | NR | 960 | 0 | NR |
| 445 | 427 | NR | 575 | 356 | NR | 705 | 30 | NR | 835 | 1 | NR | 965 | 0 | NR |
| 450 | 625 | NR | 580 | 352 | NR | 710 | 25 | NR | 840 | 1 | NR | 970 | 0 | NR |
| 455 | 544 | NR | 585 | 348 | NR | 715 | 21 | NR | 845 | 0 | NR | 975 | 0 | NR |
| 460 | 360 | NR | 590 | 342 | NR | 720 | 18 | NR | 850 | 0 | NR | 980 | 0 | NR |
| 465 | 292 | NR | 595 | 333 | NR | 725 | 15 | NR | 855 | 0 | NR | 985 | 0 | NR |
| 470 | 232 | NR | 600 | 329 | NR | 730 | 12 | NR | 860 | 0 | NR | 990 | 0 | NR |
| 475 | 184 | NR | 605 | 325 | NR | 735 | 11 | NR | 865 | 0 | NR | 995 | 0 | NR |
| 480 | 180 | NR | 610 | 357 | NR | 740 | 9 | NR | 870 | 0 | NR | 1000 | 0 | NR |
| 485 | 201 | NR | 615 | 384 | NR | 745 | 8 | NR | 875 | 0 | NR | | | |

REPORT NUMBER: SP1-2506-457-8

Scotopic Flux vs. Wavelength



Scotopic Lumens: NR

S/P: 2.02

| 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 | 227 | NR | 620 | 318 | NR | 750 | 7 | NR | 880 | 0 | NR |
| 365 | 0 | NR | 495 | 259 | NR | 625 | 318 | NR | 755 | 6 | NR | 885 | 0 | NR |
| 370 | 0 | NR | 500 | 292 | NR | 630 | 1000 | NR | 760 | 5 | NR | 890 | 0 | NR |
| 375 | 0 | NR | 505 | 315 | NR | 635 | 686 | NR | 765 | 4 | NR | 895 | 0 | NR |
| 380 | 0 | NR | 510 | 329 | NR | 640 | 202 | NR | 770 | 4 | NR | 900 | 0 | NR |
| 385 | 1 | NR | 515 | 338 | NR | 645 | 192 | NR | 775 | 3 | NR | 905 | 0 | NR |
| 390 | 3 | NR | 520 | 343 | NR | 650 | 169 | NR | 780 | 3 | NR | 910 | 0 | NR |
| 395 | 5 | NR | 525 | 347 | NR | 655 | 141 | NR | 785 | 2 | NR | 915 | 0 | NR |
| 400 | 6 | NR | 530 | 350 | NR | 660 | 119 | NR | 790 | 2 | NR | 920 | 0 | NR |
| 405 | 9 | NR | 535 | 356 | NR | 665 | 100 | NR | 795 | 2 | NR | 925 | 0 | NR |
| 410 | 12 | NR | 540 | 359 | NR | 670 | 92 | NR | 800 | 2 | NR | 930 | 0 | NR |
| 415 | 19 | NR | 545 | 363 | NR | 675 | 75 | NR | 805 | 1 | NR | 935 | 0 | NR |
| 420 | 34 | NR | 550 | 365 | NR | 680 | 64 | NR | 810 | 1 | NR | 940 | 0 | NR |
| 425 | 57 | NR | 555 | 368 | NR | 685 | 55 | NR | 815 | 1 | NR | 945 | 0 | NR |
| 430 | 96 | NR | 560 | 367 | NR | 690 | 47 | NR | 820 | 1 | NR | 950 | 0 | NR |
| 435 | 157 | NR | 565 | 366 | NR | 695 | 41 | NR | 825 | 1 | NR | 955 | 0 | NR |
| 440 | 252 | NR | 570 | 361 | NR | 700 | 34 | NR | 830 | 1 | NR | 960 | 0 | NR |
| 445 | 427 | NR | 575 | 356 | NR | 705 | 30 | NR | 835 | 1 | NR | 965 | 0 | NR |
| 450 | 625 | NR | 580 | 352 | NR | 710 | 25 | NR | 840 | 1 | NR | 970 | 0 | NR |
| 455 | 544 | NR | 585 | 348 | NR | 715 | 21 | NR | 845 | 0 | NR | 975 | 0 | NR |
| 460 | 360 | NR | 590 | 342 | NR | 720 | 18 | NR | 850 | 0 | NR | 980 | 0 | NR |
| 465 | 292 | NR | 595 | 333 | NR | 725 | 15 | NR | 855 | 0 | NR | 985 | 0 | NR |
| 470 | 232 | NR | 600 | 329 | NR | 730 | 12 | NR | 860 | 0 | NR | 990 | 0 | NR |
| 475 | 184 | NR | 605 | 325 | NR | 735 | 11 | NR | 865 | 0 | NR | 995 | 0 | NR |
| 480 | 180 | NR | 610 | 357 | NR | 740 | 9 | NR | 870 | 0 | NR | 1000 | 0 | NR |
| 485 | 201 | NR | 615 | 384 | NR | 745 | 8 | NR | 875 | 0 | NR | | | |

REPORT NUMBER: SP1-2506-457-8

Melanopic Flux vs. Wavelength



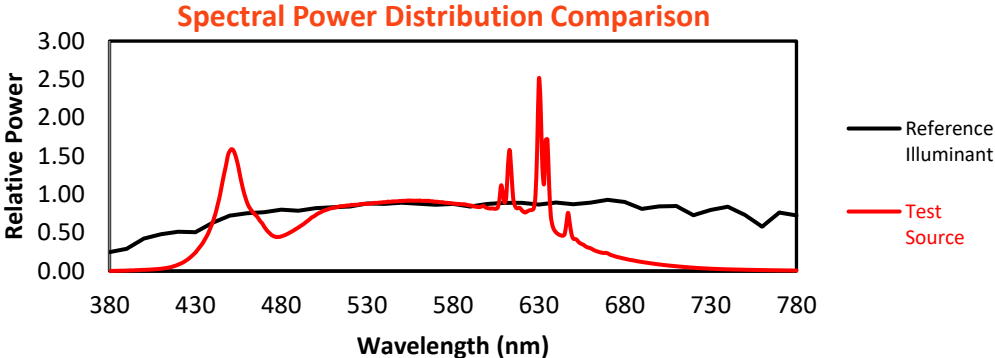
Melanopic Lumens: NR

M/P: 4.33

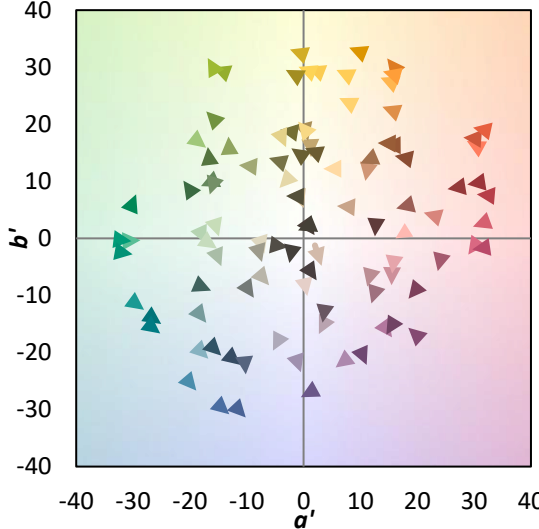
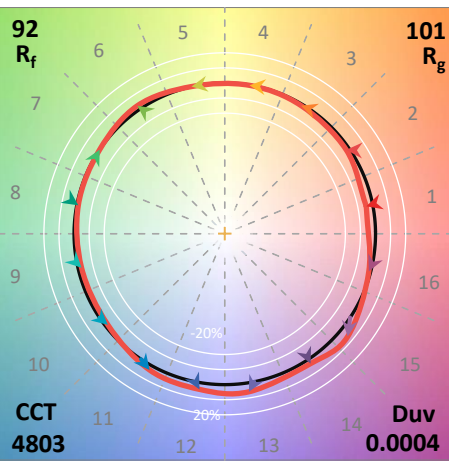
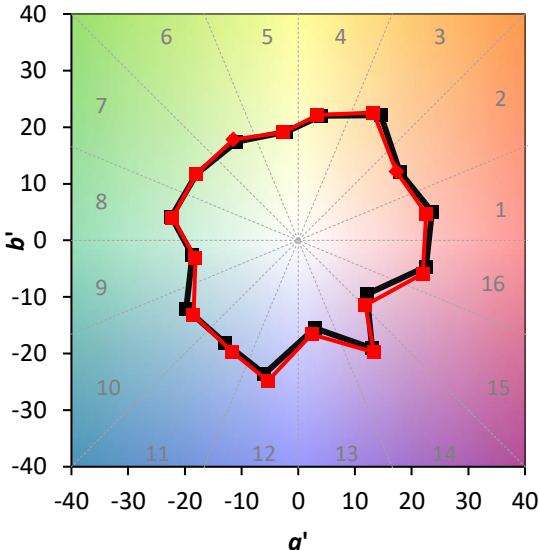
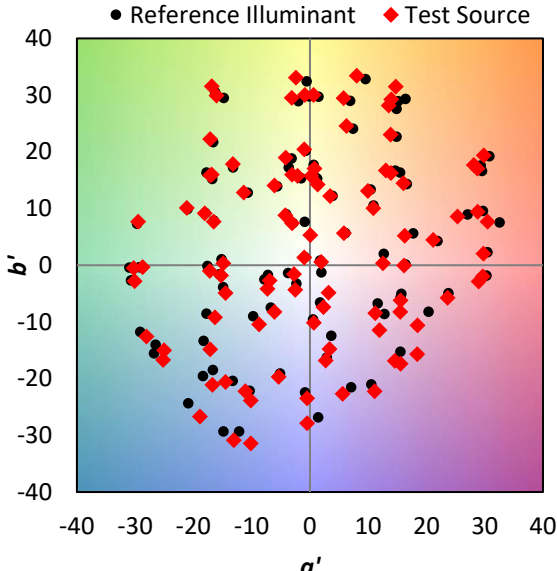
| λ (nm) | Power W [^] /nm | Lumens (φ/nm) | λ (nm) | Power W [^] /nm | Lumens (φ/nm) | λ (nm) | Power W [^] /nm | Lumens (φ/nm) | λ (nm) | Power W [^] /nm | Lumens (φ/nm) | λ (nm) | Power W [^] /nm | Lumens (φ/nm) |
|--------|--------------------------|---------------|--------|--------------------------|---------------|--------|--------------------------|---------------|--------|--------------------------|---------------|--------|--------------------------|---------------|
| 360 | 0 | NR | 490 | 227 | NR | 620 | 318 | NR | 750 | 7 | NR | 880 | 0 | NR |
| 365 | 0 | NR | 495 | 259 | NR | 625 | 318 | NR | 755 | 6 | NR | 885 | 0 | NR |
| 370 | 0 | NR | 500 | 292 | NR | 630 | 1000 | NR | 760 | 5 | NR | 890 | 0 | NR |
| 375 | 0 | NR | 505 | 315 | NR | 635 | 686 | NR | 765 | 4 | NR | 895 | 0 | NR |
| 380 | 0 | NR | 510 | 329 | NR | 640 | 202 | NR | 770 | 4 | NR | 900 | 0 | NR |
| 385 | 1 | NR | 515 | 338 | NR | 645 | 192 | NR | 775 | 3 | NR | 905 | 0 | NR |
| 390 | 3 | NR | 520 | 343 | NR | 650 | 169 | NR | 780 | 3 | NR | 910 | 0 | NR |
| 395 | 5 | NR | 525 | 347 | NR | 655 | 141 | NR | 785 | 2 | NR | 915 | 0 | NR |
| 400 | 6 | NR | 530 | 350 | NR | 660 | 119 | NR | 790 | 2 | NR | 920 | 0 | NR |
| 405 | 9 | NR | 535 | 356 | NR | 665 | 100 | NR | 795 | 2 | NR | 925 | 0 | NR |
| 410 | 12 | NR | 540 | 359 | NR | 670 | 92 | NR | 800 | 2 | NR | 930 | 0 | NR |
| 415 | 19 | NR | 545 | 363 | NR | 675 | 75 | NR | 805 | 1 | NR | 935 | 0 | NR |
| 420 | 34 | NR | 550 | 365 | NR | 680 | 64 | NR | 810 | 1 | NR | 940 | 0 | NR |
| 425 | 57 | NR | 555 | 368 | NR | 685 | 55 | NR | 815 | 1 | NR | 945 | 0 | NR |
| 430 | 96 | NR | 560 | 367 | NR | 690 | 47 | NR | 820 | 1 | NR | 950 | 0 | NR |
| 435 | 157 | NR | 565 | 366 | NR | 695 | 41 | NR | 825 | 1 | NR | 955 | 0 | NR |
| 440 | 252 | NR | 570 | 361 | NR | 700 | 34 | NR | 830 | 1 | NR | 960 | 0 | NR |
| 445 | 427 | NR | 575 | 356 | NR | 705 | 30 | NR | 835 | 1 | NR | 965 | 0 | NR |
| 450 | 625 | NR | 580 | 352 | NR | 710 | 25 | NR | 840 | 1 | NR | 970 | 0 | NR |
| 455 | 544 | NR | 585 | 348 | NR | 715 | 21 | NR | 845 | 0 | NR | 975 | 0 | NR |
| 460 | 360 | NR | 590 | 342 | NR | 720 | 18 | NR | 850 | 0 | NR | 980 | 0 | NR |
| 465 | 292 | NR | 595 | 333 | NR | 725 | 15 | NR | 855 | 0 | NR | 985 | 0 | NR |
| 470 | 232 | NR | 600 | 329 | NR | 730 | 12 | NR | 860 | 0 | NR | 990 | 0 | NR |
| 475 | 184 | NR | 605 | 325 | NR | 735 | 11 | NR | 865 | 0 | NR | 995 | 0 | NR |
| 480 | 180 | NR | 610 | 357 | NR | 740 | 9 | NR | 870 | 0 | NR | 1000 | 0 | NR |
| 485 | 201 | NR | 615 | 384 | NR | 745 | 8 | NR | 875 | 0 | NR | | | |

Summary

$R_f = 91.5$
 $R_g = 100.9$
 $CIE R_a = 94.6$
 $R_9 = 74.3$

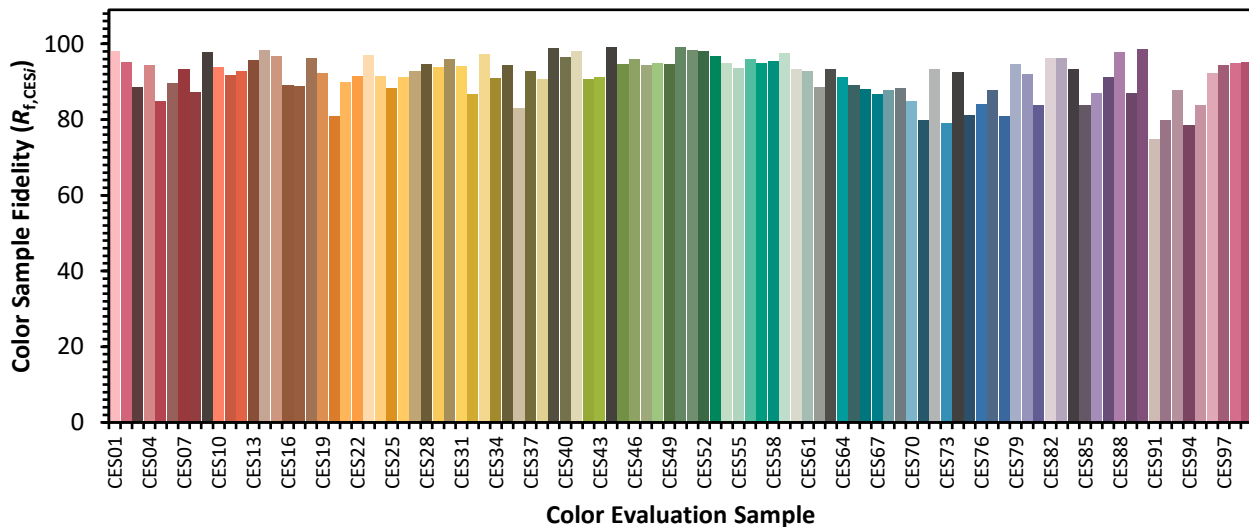


Color Vector Graphics

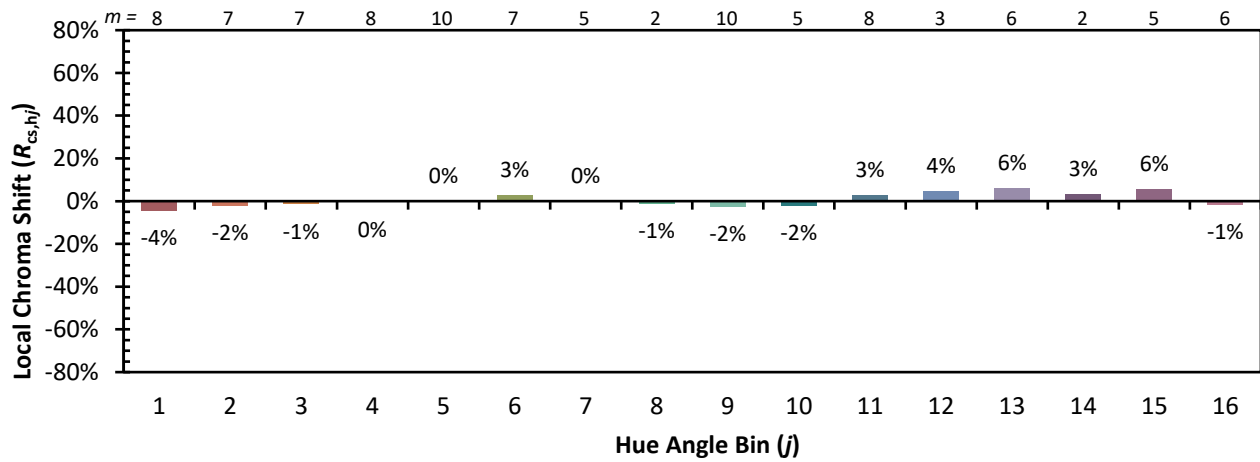


Individual Sample Fidelity Index ($R_{f,i}$)

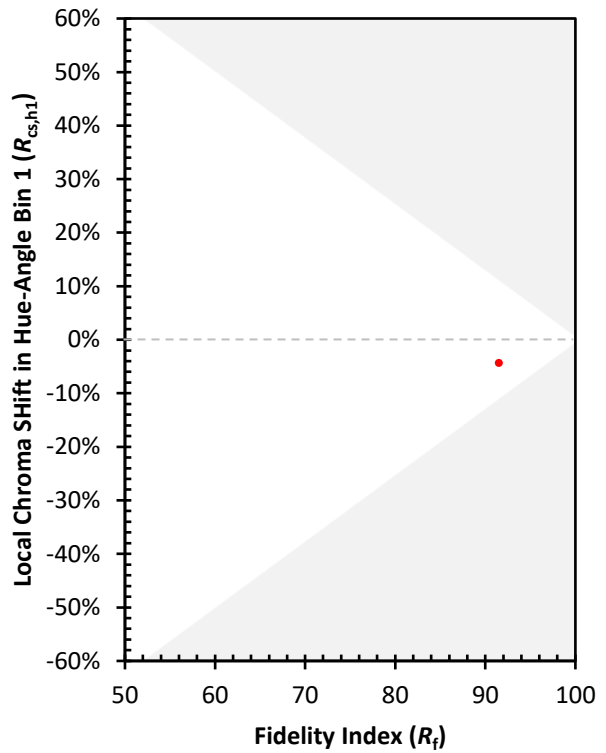
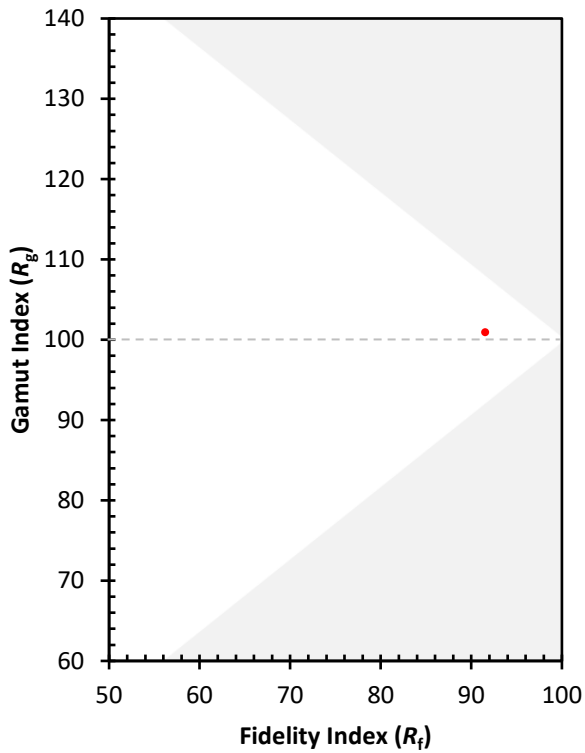
| | | | |
|------------|------------|------------|------------|
| CES01 = 85 | CES26 = 91 | CES51 = 98 | CES76 = 84 |
| CES02 = 61 | CES27 = 93 | CES52 = 98 | CES77 = 88 |
| CES03 = 31 | CES28 = 95 | CES53 = 97 | CES78 = 81 |
| CES04 = 69 | CES29 = 94 | CES54 = 95 | CES79 = 95 |
| CES05 = 48 | CES30 = 96 | CES55 = 94 | CES80 = 92 |
| CES06 = 50 | CES31 = 94 | CES56 = 96 | CES81 = 84 |
| CES07 = 41 | CES32 = 87 | CES57 = 95 | CES82 = 96 |
| CES08 = 40 | CES33 = 97 | CES58 = 95 | CES83 = 96 |
| CES09 = 29 | CES34 = 91 | CES59 = 98 | CES84 = 93 |
| CES10 = 73 | CES35 = 94 | CES60 = 93 | CES85 = 84 |
| CES11 = 56 | CES36 = 83 | CES61 = 93 | CES86 = 87 |
| CES12 = 62 | CES37 = 93 | CES62 = 89 | CES87 = 91 |
| CES13 = 43 | CES38 = 91 | CES63 = 93 | CES88 = 98 |
| CES14 = 74 | CES39 = 99 | CES64 = 91 | CES89 = 87 |
| CES15 = 71 | CES40 = 97 | CES65 = 89 | CES90 = 99 |
| CES16 = 47 | CES41 = 98 | CES66 = 88 | CES91 = 75 |
| CES17 = 48 | CES42 = 91 | CES67 = 87 | CES92 = 80 |
| CES18 = 56 | CES43 = 91 | CES68 = 88 | CES93 = 88 |
| CES19 = 70 | CES44 = 99 | CES69 = 88 | CES94 = 79 |
| CES20 = 65 | CES45 = 95 | CES70 = 85 | CES95 = 84 |
| CES21 = 85 | CES46 = 96 | CES71 = 80 | CES96 = 92 |
| CES22 = 77 | CES47 = 94 | CES72 = 93 | CES97 = 94 |
| CES23 = 91 | CES48 = 95 | CES73 = 79 | CES98 = 95 |
| CES24 = 90 | CES49 = 95 | CES74 = 93 | CES99 = 95 |
| CES25 = 70 | CES50 = 99 | CES75 = 81 | |



Color Rendition by Hue-Angle Bin



Measure Comparisons



(END OF REPORT)