

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: P976484

Luminaire Tested: 24SR-LD2-48-S-UNV-L935-CD1-U

Issue Date: 03/18/2025

Test Information

Test Method: LM-79-2019
Report Number: P976484
Test Lab: INNOVATION CENTER(P3)
Issue Date: 03/18/2025
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: METALUX
Catalog Number: 24SR-LD2-48-S-UNV-L935-CD1-U
Description: METALUX SKYRIDGE 2x4 4800LM PACKAGE 90CRI 3500K STANDARD TROFFER
Light Source: 3500K CCT, 90+ CRI LEDS
Ballast/Driver: -

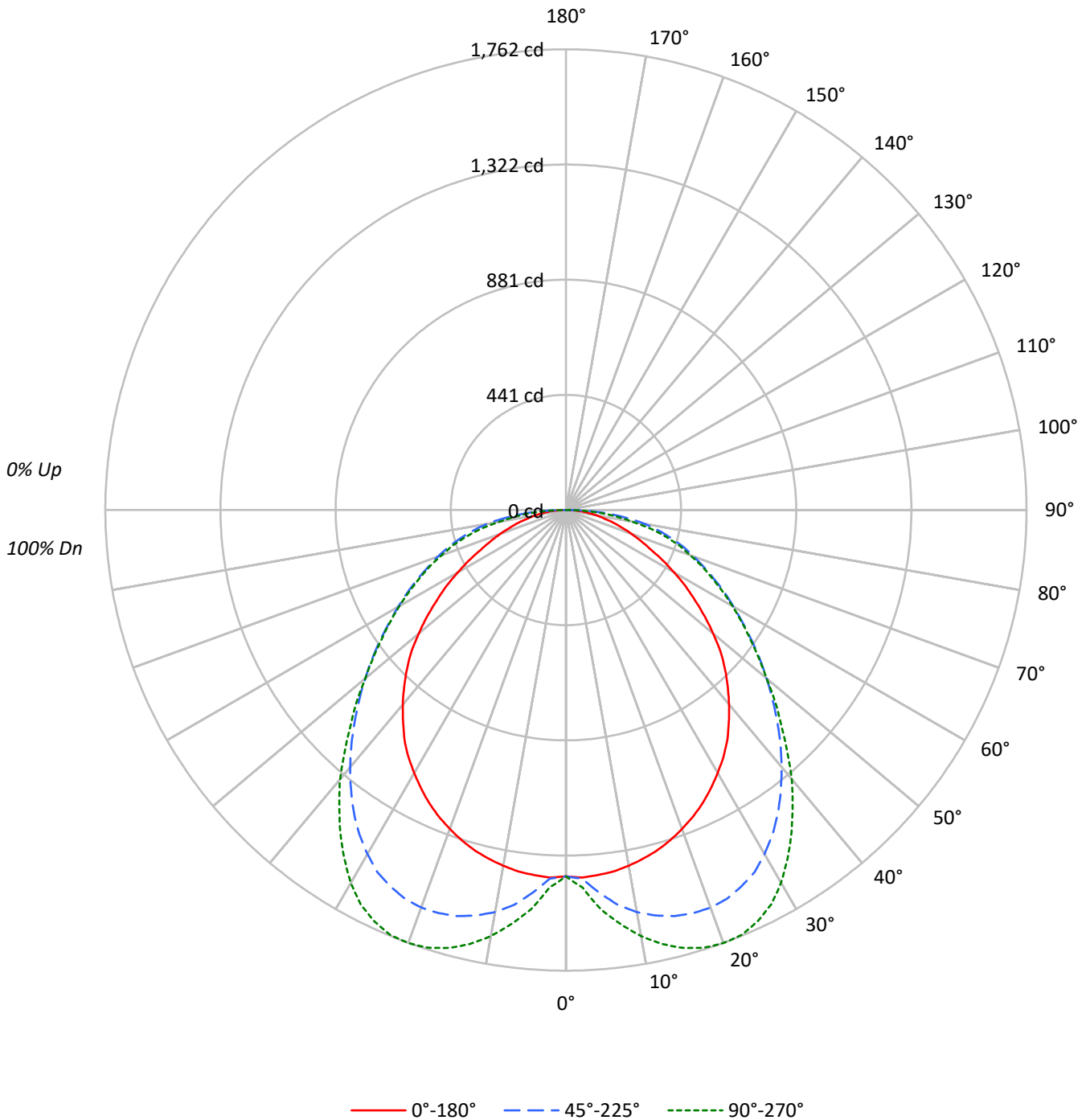
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4825.5 lumens
Efficiency: N/A
Efficacy: 138.7 lumens/watt
Spacing Criteria (0/90/45): 1.23 / 1.55 / 1.51
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 34.8
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: P976484
CATALOG NUMBER: 24SR-LD2-48-S-UNV-L935-CD1-U

Luminous Intensity Polar Plot





TEST NUMBER: P976484
 CATALOG NUMBER: 24SR-LD2-48-S-UNV-L935-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 | 100 | 100 | 100 | 100 |
| 1 | 108 | 103 | 99 | 94 | 105 | 101 | 97 | 93 | 96 | 93 | 90 | 93 | 90 | 87 | 89 | 87 | 85 | 82 | 82 | 82 | 82 |
| 2 | 98 | 90 | 82 | 77 | 95 | 88 | 81 | 76 | 84 | 79 | 74 | 81 | 76 | 72 | 78 | 74 | 71 | 68 | 68 | 68 | 68 |
| 3 | 89 | 79 | 70 | 64 | 87 | 77 | 69 | 63 | 74 | 67 | 62 | 71 | 65 | 61 | 69 | 64 | 60 | 57 | 57 | 57 | 57 |
| 4 | 82 | 70 | 61 | 54 | 79 | 68 | 60 | 53 | 66 | 58 | 53 | 63 | 57 | 52 | 61 | 56 | 51 | 49 | 49 | 49 | 49 |
| 5 | 75 | 62 | 53 | 46 | 73 | 61 | 52 | 46 | 59 | 51 | 46 | 57 | 50 | 45 | 55 | 49 | 45 | 42 | 42 | 42 | 42 |
| 6 | 69 | 56 | 47 | 40 | 68 | 55 | 46 | 40 | 53 | 46 | 40 | 52 | 45 | 39 | 50 | 44 | 39 | 37 | 37 | 37 | 37 |
| 7 | 64 | 51 | 42 | 36 | 63 | 50 | 42 | 36 | 48 | 41 | 35 | 47 | 40 | 35 | 46 | 39 | 35 | 33 | 33 | 33 | 33 |
| 8 | 60 | 46 | 38 | 32 | 58 | 46 | 37 | 32 | 44 | 37 | 31 | 43 | 36 | 31 | 42 | 36 | 31 | 29 | 29 | 29 | 29 |
| 9 | 56 | 42 | 34 | 29 | 55 | 42 | 34 | 29 | 41 | 33 | 28 | 40 | 33 | 28 | 39 | 33 | 28 | 26 | 26 | 26 | 26 |
| 10 | 53 | 39 | 31 | 26 | 51 | 39 | 31 | 26 | 38 | 31 | 26 | 37 | 30 | 26 | 36 | 30 | 25 | 24 | 24 | 24 | 24 |

AVERAGE LUMINANCE (cd/sqm):

| | 0° | 45° | 90° |
|-----|------|------|------|
| 0° | 1885 | 1885 | 1885 |
| 5° | 1893 | 1984 | 2071 |
| 10° | 1887 | 2133 | 2261 |
| 15° | 1877 | 2240 | 2416 |
| 20° | 1859 | 2317 | 2523 |
| 25° | 1837 | 2358 | 2577 |
| 30° | 1803 | 2360 | 2558 |
| 35° | 1767 | 2323 | 2472 |
| 40° | 1705 | 2255 | 2362 |
| 45° | 1638 | 2174 | 2217 |
| 50° | 1538 | 2098 | 2098 |
| 55° | 1415 | 2032 | 2019 |
| 60° | 1287 | 1992 | 1981 |
| 65° | 1145 | 1992 | 1965 |
| 70° | 1053 | 2049 | 1988 |
| 75° | 979 | 2171 | 2060 |
| 80° | 921 | 2369 | 2008 |
| 85° | 897 | 2558 | 2098 |

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 22.5°
 Vertical Angle: 87.5°
 Luminance: 3189 cd/sqm



TEST NUMBER: P976484
 CATALOG NUMBER: 24SR-LD2-48-S-UNV-L935-CD1-U

ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 142.7 | 3.0 |
| 10°-20° | 448.4 | 9.3 |
| 20°-30° | 714.2 | 14.8 |
| 30°-40° | 851.6 | 17.6 |
| 40°-50° | 839.0 | 17.4 |
| 50°-60° | 724.6 | 15.0 |
| 60°-70° | 565.5 | 11.7 |
| 70°-80° | 387.5 | 8.0 |
| 80°-90° | 152.1 | 3.2 |
| 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° | 1305.3 | 27.1 |
| 0°-40° | 2157.0 | 44.7 |
| 0°-60° | 3720.5 | 77.1 |
| 0°-90° | 4825.5 | 100.0 |
| 90°-120° | 0.0 | 0.0 |
| 90°-150° | 0.0 | 0.0 |
| 90°-180° | 0.0 | 0.0 |
| 0°-180° | 4825.5 | 100.0 |

CANDELA DISTRIBUTION:

| | 0° | 22.5° | 45° | 67.5° | 90° | Flux |
|-----|------|-------|------|-------|------|------|
| 0° | 1401 | 1401 | 1401 | 1401 | 1401 | |
| 5° | 1401 | 1427 | 1469 | 1525 | 1533 | 133 |
| 15° | 1348 | 1491 | 1608 | 1709 | 1734 | 380 |
| 25° | 1237 | 1432 | 1588 | 1709 | 1736 | 569 |
| 35° | 1076 | 1258 | 1414 | 1495 | 1505 | 671 |
| 45° | 861 | 1018 | 1142 | 1175 | 1165 | 662 |
| 55° | 603 | 764 | 866 | 869 | 861 | 541 |
| 65° | 360 | 538 | 626 | 623 | 617 | 361 |
| 75° | 188 | 365 | 418 | 401 | 396 | 200 |
| 85° | 58 | 176 | 166 | 142 | 136 | 64 |
| 90° | 0 | 0 | 0 | 0 | 0 | |



TEST NUMBER: P976484

CATALOG NUMBER: 24SR-LD2-48-S-UNV-L935-CD1-U

CANDELA DISTRIBUTION (FULL):

| | 0° | 22.5° | 45° | 67.5° | 90° |
|-------|--------|--------|--------|--------|--------|
| 0° | 1401.3 | 1401.3 | 1401.3 | 1401.3 | 1401.3 |
| 2.5° | 1407.0 | 1408.5 | 1411.3 | 1439.6 | 1445.3 |
| 5° | 1401.3 | 1426.8 | 1469.3 | 1524.6 | 1533.1 |
| 7.5° | 1394.3 | 1451.0 | 1523.1 | 1582.5 | 1596.7 |
| 10° | 1381.5 | 1474.9 | 1561.4 | 1636.5 | 1654.8 |
| 12.5° | 1366.0 | 1487.8 | 1588.2 | 1676.1 | 1700.1 |
| 15° | 1347.5 | 1490.6 | 1608.0 | 1708.6 | 1734.1 |
| 17.5° | 1324.9 | 1486.3 | 1616.5 | 1727.1 | 1755.4 |
| 20° | 1298.1 | 1474.9 | 1618.0 | 1734.1 | 1762.4 |
| 22.5° | 1269.8 | 1458.0 | 1609.5 | 1728.4 | 1758.2 |
| 25° | 1237.1 | 1432.5 | 1588.2 | 1708.6 | 1735.6 |
| 27.5° | 1200.3 | 1397.2 | 1561.4 | 1674.6 | 1700.1 |
| 30° | 1160.7 | 1356.0 | 1518.9 | 1625.2 | 1646.3 |
| 32.5° | 1121.1 | 1310.7 | 1470.8 | 1565.5 | 1578.4 |
| 35° | 1075.8 | 1258.5 | 1414.2 | 1494.8 | 1504.8 |
| 37.5° | 1023.5 | 1206.0 | 1350.4 | 1421.2 | 1424.0 |
| 40° | 971.0 | 1142.4 | 1283.9 | 1336.2 | 1344.7 |
| 42.5° | 915.9 | 1080.1 | 1214.5 | 1258.5 | 1252.8 |
| 45° | 860.6 | 1017.8 | 1142.4 | 1174.9 | 1165.0 |
| 47.5° | 802.7 | 954.0 | 1071.6 | 1092.8 | 1085.8 |
| 50° | 734.7 | 890.4 | 1002.2 | 1013.5 | 1002.2 |
| 52.5° | 669.6 | 829.5 | 934.2 | 939.9 | 930.1 |
| 55° | 603.0 | 764.4 | 866.3 | 869.1 | 860.6 |
| 57.5° | 542.2 | 703.6 | 801.2 | 801.2 | 797.0 |
| 60° | 478.4 | 642.6 | 740.4 | 737.6 | 736.1 |
| 62.5° | 417.7 | 588.8 | 683.8 | 679.4 | 675.3 |
| 65° | 359.5 | 537.9 | 625.6 | 622.8 | 617.2 |
| 67.5° | 311.4 | 489.8 | 571.9 | 567.7 | 564.9 |
| 70° | 267.6 | 447.3 | 520.9 | 509.6 | 505.4 |
| 72.5° | 225.1 | 404.8 | 471.4 | 454.5 | 455.8 |
| 75° | 188.3 | 365.2 | 417.7 | 400.7 | 396.3 |
| 77.5° | 151.5 | 324.2 | 365.2 | 338.4 | 332.7 |
| 80° | 118.9 | 280.3 | 305.7 | 271.8 | 259.1 |
| 82.5° | 87.8 | 232.1 | 237.8 | 205.3 | 196.8 |
| 85° | 58.1 | 175.5 | 165.7 | 141.5 | 135.9 |
| 87.5° | 31.1 | 103.4 | 89.3 | 72.3 | 67.9 |
| 90° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |



TEST NUMBER: P976484
 CATALOG NUMBER: 24SR-LD2-48-S-UNV-L935-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 | 13.4 | 15.0 | 13.8 | 15.4 | 15.7 | 14.6 | 16.2 | 15.0 | 16.6 | 16.9 |
| | 3H | 14.9 | 16.4 | 15.3 | 16.8 | 17.1 | 16.7 | 18.2 | 17.0 | 18.5 | 18.8 |
| | 4H | 15.6 | 17.0 | 16.0 | 17.3 | 17.7 | 17.6 | 19.0 | 18.0 | 19.3 | 19.7 |
| | 6H | 16.0 | 17.4 | 16.5 | 17.7 | 18.1 | 18.3 | 19.6 | 18.7 | 20.0 | 20.4 |
| | 8H | 16.2 | 17.5 | 16.6 | 17.9 | 18.2 | 18.6 | 19.9 | 19.0 | 20.3 | 20.7 |
| | 12H | 16.3 | 17.5 | 16.8 | 17.9 | 18.3 | 18.8 | 20.0 | 19.3 | 20.4 | 20.8 |
| 4H | 2H | 14.4 | 15.8 | 14.8 | 16.2 | 16.5 | 15.3 | 16.7 | 15.7 | 17.1 | 17.4 |
| | 3H | 16.4 | 17.6 | 16.8 | 18.0 | 18.4 | 17.6 | 18.8 | 18.0 | 19.2 | 19.6 |
| | 4H | 17.3 | 18.4 | 17.7 | 18.8 | 19.2 | 18.7 | 19.8 | 19.1 | 20.2 | 20.6 |
| | 6H | 18.0 | 19.0 | 18.5 | 19.4 | 19.9 | 19.6 | 20.6 | 20.1 | 21.0 | 21.5 |
| | 8H | 18.3 | 19.2 | 18.7 | 19.6 | 20.1 | 20.0 | 20.9 | 20.4 | 21.3 | 21.8 |
| | 12H | 18.5 | 19.3 | 18.9 | 19.7 | 20.2 | 20.2 | 21.1 | 20.7 | 21.5 | 22.0 |
| 8H | 4H | 18.0 | 18.9 | 18.5 | 19.3 | 19.8 | 19.2 | 20.1 | 19.6 | 20.5 | 21.0 |
| | 6H | 19.1 | 19.8 | 19.6 | 20.3 | 20.8 | 20.3 | 21.0 | 20.7 | 21.5 | 22.0 |
| | 8H | 19.5 | 20.2 | 20.0 | 20.7 | 21.2 | 20.7 | 21.4 | 21.2 | 21.9 | 22.4 |
| | 12H | 19.9 | 20.5 | 20.4 | 21.0 | 21.6 | 21.1 | 21.7 | 21.6 | 22.2 | 22.8 |
| 12H | 4H | 18.1 | 18.9 | 18.6 | 19.4 | 19.9 | 19.2 | 20.0 | 19.7 | 20.5 | 21.0 |
| | 6H | 19.3 | 20.0 | 19.8 | 20.4 | 21.0 | 20.4 | 21.1 | 20.9 | 21.5 | 22.1 |
| | 8H | 19.9 | 20.5 | 20.4 | 21.0 | 21.5 | 20.9 | 21.5 | 21.4 | 22.0 | 22.6 |

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

Report Prepared for

Cooper Lighting Solutions

Metalux

Report Number: SP1-2506-457-6

Test Date: 07/01/2025

Luminaire Tested: 24SR-LD2-64-C-UNV-L935-CD1-U

Data in this report applies to families of products including 24SR-LD2-64-C-UNV-L935-CD1-U

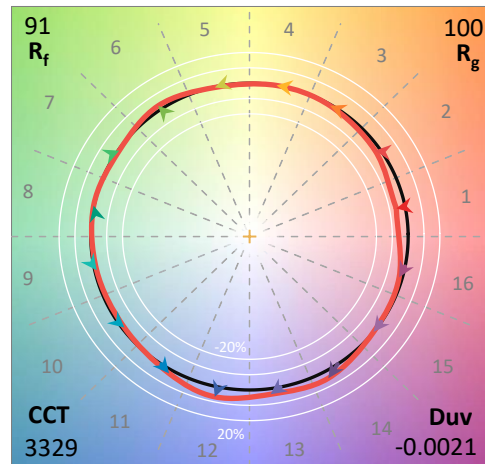
Test Information

Test Method: LM-79-2019
 Report Number: SP1-2506-457-6
 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-L935-CD1-U**
 Description: 2X4 SKYRIDGE 6400LM Fixture with new LTN chip

Spectral Parameters

CCT (K): 3329
 CIE u': 0.2411
 CIE v': 0.5118
 Duv: -0.0021
 CIE x: 0.4128
 CIE y: 0.3894
 CIE z: 0.1979
 Peak Wavelength (nm): 630
 Dominant Wavelength (nm): 582
 Purity: 40.74075
 Rf: 91.4
 Rg: 100.2

| | | | |
|-----------|------|------|------|
| CRI (Ra): | 93.9 | | |
| R1: | 95.4 | R9: | 60.5 |
| R2: | 97.4 | R10: | 92.5 |
| R3: | 97.7 | R11: | 95.9 |
| R4: | 94.9 | R12: | 82.0 |
| R5: | 95.1 | R13: | 96.0 |
| R6: | 95.7 | R14: | 98.0 |
| R7: | 91.7 | R15: | 91.5 |
| R8: | 83.2 | | |



Test Conditions

Stabilization Time: 48M
 Operation Time: 1H 48M
 Sphere Temperature (°C): 24.0

REPORT NUMBER: SP1-2506-457-6

| 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: SP1-2506-457-6

CIE 1931 Chromaticity Diagram



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



Point lies inside the ANSI 3500K 7-step quadrangle

REPORT NUMBER: SP1-2506-457-6

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 | 143 | NR | 620 | 358 | NR | 750 | 9 | NR | 880 | 0 | NR |
| 365 | 0 | NR | 495 | 166 | NR | 625 | 357 | NR | 755 | 7 | NR | 885 | 0 | NR |
| 370 | 0 | NR | 500 | 191 | NR | 630 | 1000 | NR | 760 | 6 | NR | 890 | 0 | NR |
| 375 | 0 | NR | 505 | 210 | NR | 635 | 705 | NR | 765 | 5 | NR | 895 | 0 | NR |
| 380 | 0 | NR | 510 | 223 | NR | 640 | 239 | NR | 770 | 5 | NR | 900 | 0 | NR |
| 385 | 0 | NR | 515 | 233 | NR | 645 | 226 | NR | 775 | 4 | NR | 905 | 0 | NR |
| 390 | 1 | NR | 520 | 240 | NR | 650 | 201 | NR | 780 | 3 | NR | 910 | 0 | NR |
| 395 | 2 | NR | 525 | 246 | NR | 655 | 170 | NR | 785 | 3 | NR | 915 | 0 | NR |
| 400 | 3 | NR | 530 | 251 | NR | 660 | 145 | NR | 790 | 2 | NR | 920 | 0 | NR |
| 405 | 4 | NR | 535 | 260 | NR | 665 | 123 | NR | 795 | 2 | NR | 925 | 0 | NR |
| 410 | 6 | NR | 540 | 267 | NR | 670 | 113 | NR | 800 | 2 | NR | 930 | 0 | NR |
| 415 | 9 | NR | 545 | 276 | NR | 675 | 93 | NR | 805 | 2 | NR | 935 | 0 | NR |
| 420 | 16 | NR | 550 | 284 | NR | 680 | 80 | NR | 810 | 1 | NR | 940 | 0 | NR |
| 425 | 28 | NR | 555 | 294 | NR | 685 | 69 | NR | 815 | 1 | NR | 945 | 0 | NR |
| 430 | 46 | NR | 560 | 303 | NR | 690 | 59 | NR | 820 | 1 | NR | 950 | 0 | NR |
| 435 | 75 | NR | 565 | 313 | NR | 695 | 51 | NR | 825 | 1 | NR | 955 | 0 | NR |
| 440 | 120 | NR | 570 | 319 | NR | 700 | 43 | NR | 830 | 1 | NR | 960 | 0 | NR |
| 445 | 203 | NR | 575 | 327 | NR | 705 | 37 | NR | 835 | 1 | NR | 965 | 0 | NR |
| 450 | 311 | NR | 580 | 336 | NR | 710 | 31 | NR | 840 | 1 | NR | 970 | 0 | NR |
| 455 | 290 | NR | 585 | 344 | NR | 715 | 26 | NR | 845 | 1 | NR | 975 | 0 | NR |
| 460 | 197 | NR | 590 | 349 | NR | 720 | 22 | NR | 850 | 0 | NR | 980 | 0 | NR |
| 465 | 163 | NR | 595 | 350 | NR | 725 | 18 | NR | 855 | 0 | NR | 985 | 0 | NR |
| 470 | 135 | NR | 600 | 355 | NR | 730 | 15 | NR | 860 | 0 | NR | 990 | 0 | NR |
| 475 | 110 | NR | 605 | 357 | NR | 735 | 13 | NR | 865 | 0 | NR | 995 | 0 | NR |
| 480 | 108 | NR | 610 | 391 | NR | 740 | 11 | NR | 870 | 0 | NR | 1000 | 0 | NR |
| 485 | 123 | NR | 615 | 421 | NR | 745 | 10 | NR | 875 | 0 | NR | | | |

REPORT NUMBER: SP1-2506-457-6

Scotopic Flux vs. Wavelength



Scotopic Lumens: NR

S/P: 1.57

| 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 | 143 | NR | 620 | 358 | NR | 750 | 9 | NR | 880 | 0 | NR |
| 365 | 0 | NR | 495 | 166 | NR | 625 | 357 | NR | 755 | 7 | NR | 885 | 0 | NR |
| 370 | 0 | NR | 500 | 191 | NR | 630 | 1000 | NR | 760 | 6 | NR | 890 | 0 | NR |
| 375 | 0 | NR | 505 | 210 | NR | 635 | 705 | NR | 765 | 5 | NR | 895 | 0 | NR |
| 380 | 0 | NR | 510 | 223 | NR | 640 | 239 | NR | 770 | 5 | NR | 900 | 0 | NR |
| 385 | 0 | NR | 515 | 233 | NR | 645 | 226 | NR | 775 | 4 | NR | 905 | 0 | NR |
| 390 | 1 | NR | 520 | 240 | NR | 650 | 201 | NR | 780 | 3 | NR | 910 | 0 | NR |
| 395 | 2 | NR | 525 | 246 | NR | 655 | 170 | NR | 785 | 3 | NR | 915 | 0 | NR |
| 400 | 3 | NR | 530 | 251 | NR | 660 | 145 | NR | 790 | 2 | NR | 920 | 0 | NR |
| 405 | 4 | NR | 535 | 260 | NR | 665 | 123 | NR | 795 | 2 | NR | 925 | 0 | NR |
| 410 | 6 | NR | 540 | 267 | NR | 670 | 113 | NR | 800 | 2 | NR | 930 | 0 | NR |
| 415 | 9 | NR | 545 | 276 | NR | 675 | 93 | NR | 805 | 2 | NR | 935 | 0 | NR |
| 420 | 16 | NR | 550 | 284 | NR | 680 | 80 | NR | 810 | 1 | NR | 940 | 0 | NR |
| 425 | 28 | NR | 555 | 294 | NR | 685 | 69 | NR | 815 | 1 | NR | 945 | 0 | NR |
| 430 | 46 | NR | 560 | 303 | NR | 690 | 59 | NR | 820 | 1 | NR | 950 | 0 | NR |
| 435 | 75 | NR | 565 | 313 | NR | 695 | 51 | NR | 825 | 1 | NR | 955 | 0 | NR |
| 440 | 120 | NR | 570 | 319 | NR | 700 | 43 | NR | 830 | 1 | NR | 960 | 0 | NR |
| 445 | 203 | NR | 575 | 327 | NR | 705 | 37 | NR | 835 | 1 | NR | 965 | 0 | NR |
| 450 | 311 | NR | 580 | 336 | NR | 710 | 31 | NR | 840 | 1 | NR | 970 | 0 | NR |
| 455 | 290 | NR | 585 | 344 | NR | 715 | 26 | NR | 845 | 1 | NR | 975 | 0 | NR |
| 460 | 197 | NR | 590 | 349 | NR | 720 | 22 | NR | 850 | 0 | NR | 980 | 0 | NR |
| 465 | 163 | NR | 595 | 350 | NR | 725 | 18 | NR | 855 | 0 | NR | 985 | 0 | NR |
| 470 | 135 | NR | 600 | 355 | NR | 730 | 15 | NR | 860 | 0 | NR | 990 | 0 | NR |
| 475 | 110 | NR | 605 | 357 | NR | 735 | 13 | NR | 865 | 0 | NR | 995 | 0 | NR |
| 480 | 108 | NR | 610 | 391 | NR | 740 | 11 | NR | 870 | 0 | NR | 1000 | 0 | NR |
| 485 | 123 | NR | 615 | 421 | NR | 745 | 10 | NR | 875 | 0 | NR | | | |

REPORT NUMBER: SP1-2506-457-6

Melanopic Flux vs. Wavelength



Melanopic Lumens: NR

M/P: 3.17

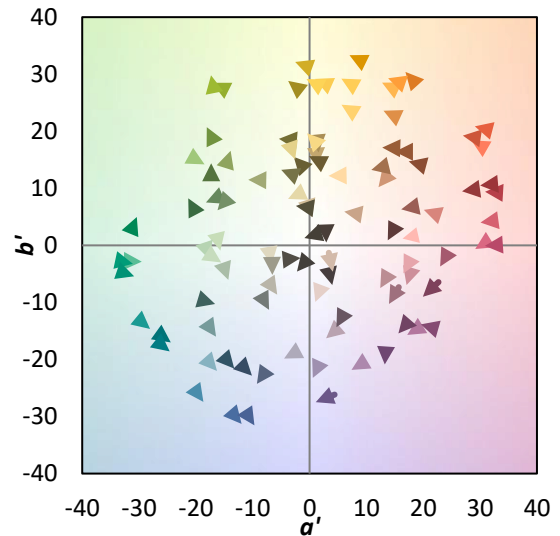
| λ (nm) | Power W [^] /nm | Lumens (φ/nm) | λ (nm) | Power W [^] /nm | Lumens (φ/nm) | λ (nm) | Power W [^] /nm | Lumens (φ/nm) | λ (nm) | Power W [^] /nm | Lumens (φ/nm) | λ (nm) | Power W [^] /nm | Lumens (φ/nm) |
|--------|--------------------------|---------------|--------|--------------------------|---------------|--------|--------------------------|---------------|--------|--------------------------|---------------|--------|--------------------------|---------------|
| 360 | 0 | NR | 490 | 143 | NR | 620 | 358 | NR | 750 | 9 | NR | 880 | 0 | NR |
| 365 | 0 | NR | 495 | 166 | NR | 625 | 357 | NR | 755 | 7 | NR | 885 | 0 | NR |
| 370 | 0 | NR | 500 | 191 | NR | 630 | 1000 | NR | 760 | 6 | NR | 890 | 0 | NR |
| 375 | 0 | NR | 505 | 210 | NR | 635 | 705 | NR | 765 | 5 | NR | 895 | 0 | NR |
| 380 | 0 | NR | 510 | 223 | NR | 640 | 239 | NR | 770 | 5 | NR | 900 | 0 | NR |
| 385 | 0 | NR | 515 | 233 | NR | 645 | 226 | NR | 775 | 4 | NR | 905 | 0 | NR |
| 390 | 1 | NR | 520 | 240 | NR | 650 | 201 | NR | 780 | 3 | NR | 910 | 0 | NR |
| 395 | 2 | NR | 525 | 246 | NR | 655 | 170 | NR | 785 | 3 | NR | 915 | 0 | NR |
| 400 | 3 | NR | 530 | 251 | NR | 660 | 145 | NR | 790 | 2 | NR | 920 | 0 | NR |
| 405 | 4 | NR | 535 | 260 | NR | 665 | 123 | NR | 795 | 2 | NR | 925 | 0 | NR |
| 410 | 6 | NR | 540 | 267 | NR | 670 | 113 | NR | 800 | 2 | NR | 930 | 0 | NR |
| 415 | 9 | NR | 545 | 276 | NR | 675 | 93 | NR | 805 | 2 | NR | 935 | 0 | NR |
| 420 | 16 | NR | 550 | 284 | NR | 680 | 80 | NR | 810 | 1 | NR | 940 | 0 | NR |
| 425 | 28 | NR | 555 | 294 | NR | 685 | 69 | NR | 815 | 1 | NR | 945 | 0 | NR |
| 430 | 46 | NR | 560 | 303 | NR | 690 | 59 | NR | 820 | 1 | NR | 950 | 0 | NR |
| 435 | 75 | NR | 565 | 313 | NR | 695 | 51 | NR | 825 | 1 | NR | 955 | 0 | NR |
| 440 | 120 | NR | 570 | 319 | NR | 700 | 43 | NR | 830 | 1 | NR | 960 | 0 | NR |
| 445 | 203 | NR | 575 | 327 | NR | 705 | 37 | NR | 835 | 1 | NR | 965 | 0 | NR |
| 450 | 311 | NR | 580 | 336 | NR | 710 | 31 | NR | 840 | 1 | NR | 970 | 0 | NR |
| 455 | 290 | NR | 585 | 344 | NR | 715 | 26 | NR | 845 | 1 | NR | 975 | 0 | NR |
| 460 | 197 | NR | 590 | 349 | NR | 720 | 22 | NR | 850 | 0 | NR | 980 | 0 | NR |
| 465 | 163 | NR | 595 | 350 | NR | 725 | 18 | NR | 855 | 0 | NR | 985 | 0 | NR |
| 470 | 135 | NR | 600 | 355 | NR | 730 | 15 | NR | 860 | 0 | NR | 990 | 0 | NR |
| 475 | 110 | NR | 605 | 357 | NR | 735 | 13 | NR | 865 | 0 | NR | 995 | 0 | NR |
| 480 | 108 | NR | 610 | 391 | NR | 740 | 11 | NR | 870 | 0 | NR | 1000 | 0 | NR |
| 485 | 123 | NR | 615 | 421 | NR | 745 | 10 | NR | 875 | 0 | NR | | | |

Summary

$R_f = 91.4$
 $R_g = 100.2$
 $CIE R_a = 93.9$
 $R_9 = 60.5$

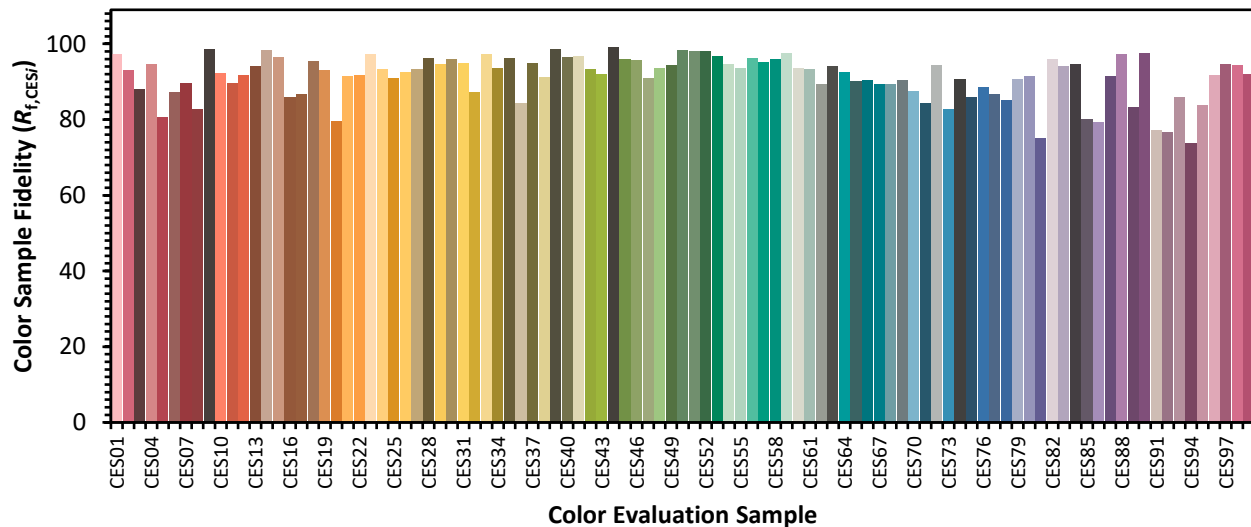


Color Vector Graphics

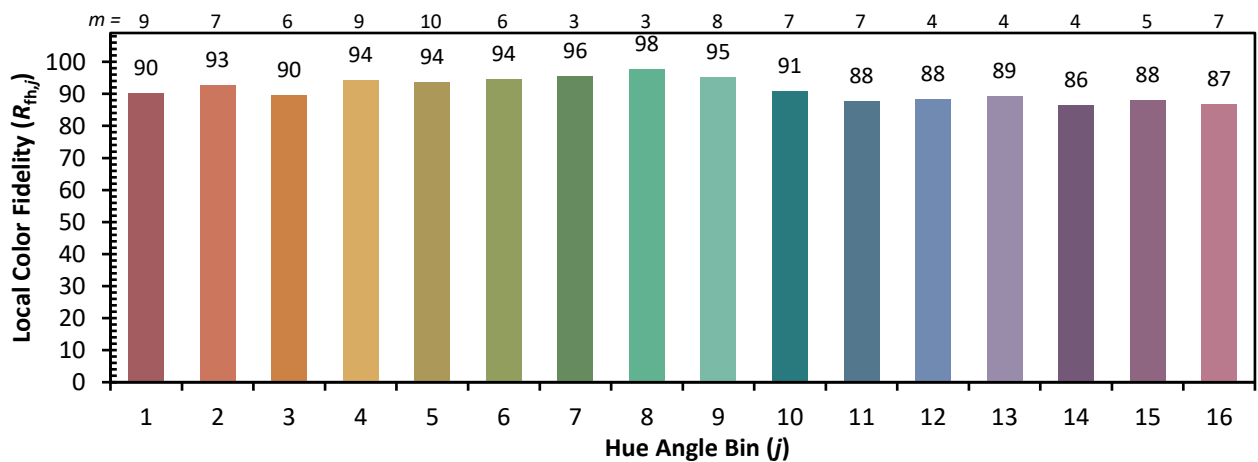


Individual Sample Fidelity Index ($R_{f,i}$)

| | | | |
|------------|------------|------------|------------|
| CES01 = 86 | CES26 = 93 | CES51 = 98 | CES76 = 88 |
| CES02 = 63 | CES27 = 93 | CES52 = 98 | CES77 = 87 |
| CES03 = 31 | CES28 = 96 | CES53 = 97 | CES78 = 85 |
| CES04 = 70 | CES29 = 95 | CES54 = 95 | CES79 = 91 |
| CES05 = 50 | CES30 = 96 | CES55 = 94 | CES80 = 92 |
| CES06 = 51 | CES31 = 95 | CES56 = 96 | CES81 = 75 |
| CES07 = 43 | CES32 = 87 | CES57 = 95 | CES82 = 96 |
| CES08 = 42 | CES33 = 97 | CES58 = 96 | CES83 = 94 |
| CES09 = 29 | CES34 = 94 | CES59 = 98 | CES84 = 95 |
| CES10 = 75 | CES35 = 96 | CES60 = 94 | CES85 = 80 |
| CES11 = 58 | CES36 = 84 | CES61 = 93 | CES86 = 79 |
| CES12 = 64 | CES37 = 95 | CES62 = 89 | CES87 = 91 |
| CES13 = 44 | CES38 = 91 | CES63 = 94 | CES88 = 97 |
| CES14 = 74 | CES39 = 99 | CES64 = 92 | CES89 = 83 |
| CES15 = 72 | CES40 = 97 | CES65 = 90 | CES90 = 98 |
| CES16 = 48 | CES41 = 97 | CES66 = 90 | CES91 = 77 |
| CES17 = 49 | CES42 = 93 | CES67 = 89 | CES92 = 77 |
| CES18 = 56 | CES43 = 92 | CES68 = 89 | CES93 = 86 |
| CES19 = 71 | CES44 = 99 | CES69 = 91 | CES94 = 74 |
| CES20 = 67 | CES45 = 96 | CES70 = 88 | CES95 = 84 |
| CES21 = 86 | CES46 = 96 | CES71 = 84 | CES96 = 92 |
| CES22 = 78 | CES47 = 91 | CES72 = 94 | CES97 = 95 |
| CES23 = 91 | CES48 = 94 | CES73 = 83 | CES98 = 94 |
| CES24 = 90 | CES49 = 94 | CES74 = 91 | CES99 = 92 |
| CES25 = 71 | CES50 = 98 | CES75 = 86 | |



Color Rendition by Hue-Angle Bin



Measure Comparisons



(END OF REPORT)