

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: P976490

Luminaire Tested: 24SR-LD2-34-S-UNV-L940-CD1-U

Issue Date: 03/18/2025

Test Information

Test Method: LM-79-2019
Report Number: P976490
Test Lab: INNOVATION CENTER(P3)
Issue Date: 03/18/2025
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: METALUX
Catalog Number: 24SR-LD2-34-S-UNV-L940-CD1-U
Description: METALUX SKYRIDGE 2x4 3400LM PACKAGE 90CRI 4000K STANDARD TROFFER
Light Source: 4000K CCT, 90+ CRI LEDS
Ballast/Driver: -

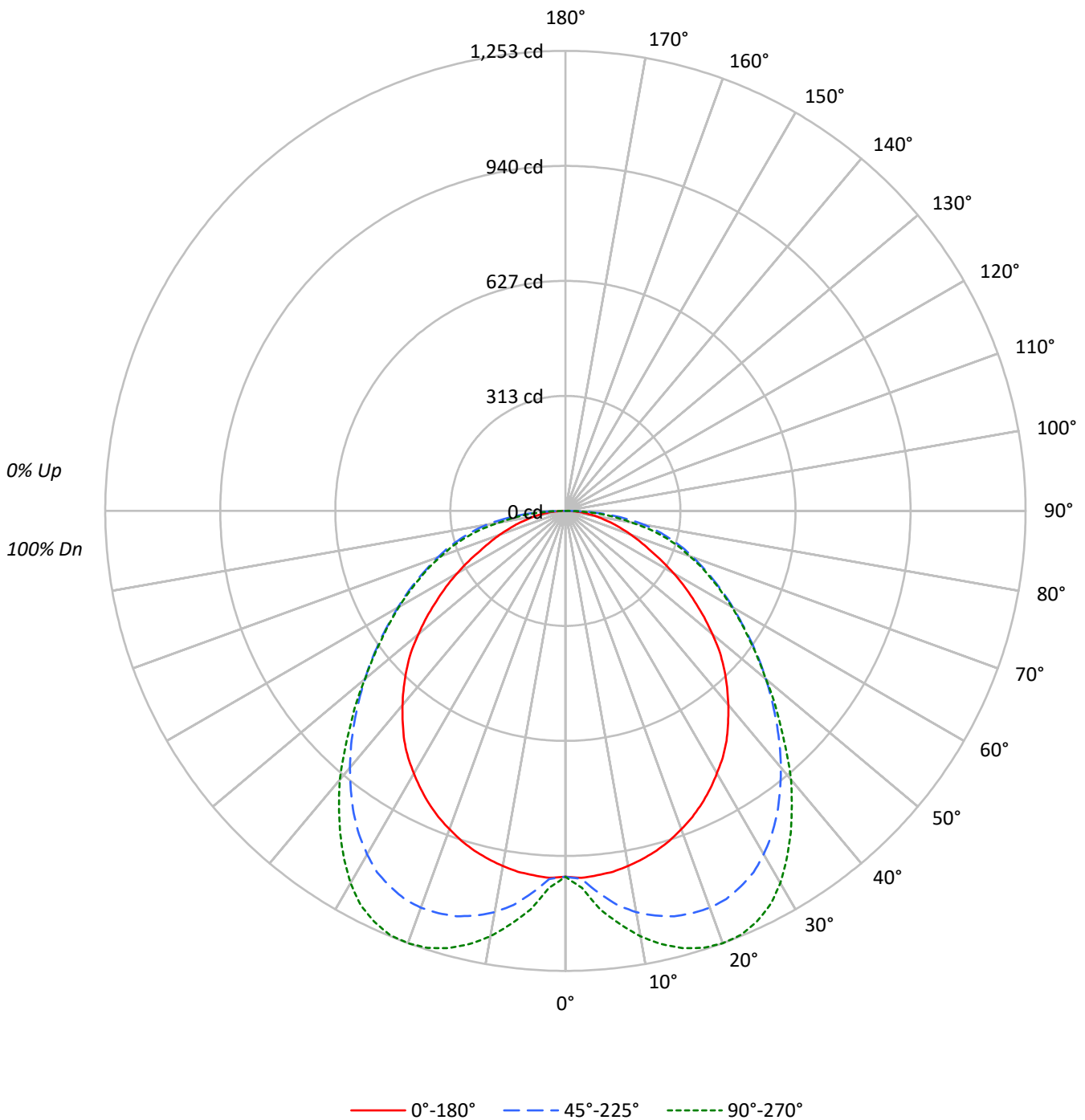
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 3430.7 lumens
Efficiency: N/A
Efficacy: 147.2 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): 23.3
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: P976490
CATALOG NUMBER: 24SR-LD2-34-S-UNV-L940-CD1-U

Luminous Intensity Polar Plot





TEST NUMBER: P976490

CATALOG NUMBER: 24SR-LD2-34-S-UNV-L940-CD1-U

COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

| | | | | | | | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| RF | 20 | | | | 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° | 1341 | 1341 | 1341 |
| 5° | 1346 | 1411 | 1472 |
| 10° | 1342 | 1517 | 1607 |
| 15° | 1334 | 1592 | 1717 |
| 20° | 1321 | 1647 | 1794 |
| 25° | 1306 | 1676 | 1832 |
| 30° | 1282 | 1678 | 1818 |
| 35° | 1256 | 1651 | 1757 |
| 40° | 1212 | 1603 | 1679 |
| 45° | 1164 | 1545 | 1576 |
| 50° | 1093 | 1491 | 1491 |
| 55° | 1006 | 1445 | 1435 |
| 60° | 915 | 1417 | 1408 |
| 65° | 814 | 1416 | 1397 |
| 70° | 749 | 1457 | 1413 |
| 75° | 696 | 1543 | 1465 |
| 80° | 655 | 1684 | 1427 |
| 85° | 638 | 1819 | 1491 |

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 22.5°
 Vertical Angle: 87.5°
 Luminance: 2267 cd/sqm



TEST NUMBER: P976490
 CATALOG NUMBER: 24SR-LD2-34-S-UNV-L940-CD1-U

ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 101.5 | 3.0 |
| 10°-20° | 318.8 | 9.3 |
| 20°-30° | 507.7 | 14.8 |
| 30°-40° | 605.5 | 17.6 |
| 40°-50° | 596.5 | 17.4 |
| 50°-60° | 515.1 | 15.0 |
| 60°-70° | 402.0 | 11.7 |
| 70°-80° | 275.5 | 8.0 |
| 80°-90° | 108.1 | 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° | 928.0 | 27.1 |
| 0°-40° | 1533.5 | 44.7 |
| 0°-60° | 2645.0 | 77.1 |
| 0°-90° | 3430.7 | 100.0 |
| 90°-120° | 0.0 | 0.0 |
| 90°-150° | 0.0 | 0.0 |
| 90°-180° | 0.0 | 0.0 |
| 0°-180° | 3430.7 | 100.0 |

CANDELA DISTRIBUTION:

| | 0° | 22.5° | 45° | 67.5° | 90° | Flux |
|-----|-----|-------|------|-------|------|------|
| 0° | 996 | 996 | 996 | 996 | 996 | |
| 5° | 996 | 1014 | 1045 | 1084 | 1090 | 95 |
| 15° | 958 | 1060 | 1143 | 1215 | 1233 | 270 |
| 25° | 880 | 1018 | 1129 | 1215 | 1234 | 405 |
| 35° | 765 | 895 | 1005 | 1063 | 1070 | 477 |
| 45° | 612 | 724 | 812 | 835 | 828 | 471 |
| 55° | 429 | 543 | 616 | 618 | 612 | 385 |
| 65° | 256 | 382 | 445 | 443 | 439 | 257 |
| 75° | 134 | 260 | 297 | 285 | 282 | 142 |
| 85° | 41 | 125 | 118 | 101 | 97 | 46 |
| 90° | 0 | 0 | 0 | 0 | 0 | |



TEST NUMBER: P976490
 CATALOG NUMBER: 24SR-LD2-34-S-UNV-L940-CD1-U

CANDELA DISTRIBUTION (FULL):

| | 0° | 22.5° | 45° | 67.5° | 90° |
|-------|--------|--------|--------|--------|--------|
| 0° | 996.3 | 996.3 | 996.3 | 996.3 | 996.3 |
| 2.5° | 1000.3 | 1001.4 | 1003.4 | 1023.5 | 1027.5 |
| 5° | 996.3 | 1014.4 | 1044.6 | 1083.9 | 1089.9 |
| 7.5° | 991.3 | 1031.5 | 1082.8 | 1125.1 | 1135.1 |
| 10° | 982.2 | 1048.6 | 1110.0 | 1163.4 | 1176.5 |
| 12.5° | 971.2 | 1057.7 | 1129.1 | 1191.6 | 1208.7 |
| 15° | 958.0 | 1059.7 | 1143.2 | 1214.7 | 1232.8 |
| 17.5° | 941.9 | 1056.6 | 1149.2 | 1227.8 | 1248.0 |
| 20° | 922.9 | 1048.6 | 1150.3 | 1232.8 | 1252.9 |
| 22.5° | 902.7 | 1036.5 | 1144.3 | 1228.8 | 1250.0 |
| 25° | 879.5 | 1018.4 | 1129.1 | 1214.7 | 1233.9 |
| 27.5° | 853.4 | 993.3 | 1110.0 | 1190.5 | 1208.7 |
| 30° | 825.2 | 964.1 | 1079.9 | 1155.4 | 1170.4 |
| 32.5° | 797.0 | 931.9 | 1045.6 | 1113.0 | 1122.1 |
| 35° | 764.8 | 894.7 | 1005.4 | 1062.7 | 1069.8 |
| 37.5° | 727.6 | 857.4 | 960.0 | 1010.4 | 1012.4 |
| 40° | 690.3 | 812.2 | 912.8 | 950.0 | 956.0 |
| 42.5° | 651.2 | 767.9 | 863.4 | 894.7 | 890.7 |
| 45° | 611.8 | 723.6 | 812.2 | 835.3 | 828.3 |
| 47.5° | 570.6 | 678.3 | 761.9 | 776.9 | 771.9 |
| 50° | 522.3 | 633.0 | 712.5 | 720.5 | 712.5 |
| 52.5° | 476.1 | 589.7 | 664.2 | 668.2 | 661.2 |
| 55° | 428.7 | 543.4 | 615.9 | 617.9 | 611.8 |
| 57.5° | 385.5 | 500.2 | 569.6 | 569.6 | 566.6 |
| 60° | 340.1 | 456.9 | 526.4 | 524.4 | 523.3 |
| 62.5° | 296.9 | 418.6 | 486.1 | 483.0 | 480.1 |
| 65° | 255.6 | 382.4 | 444.8 | 442.8 | 438.8 |
| 67.5° | 221.4 | 348.2 | 406.6 | 403.6 | 401.6 |
| 70° | 190.3 | 318.0 | 370.3 | 362.3 | 359.3 |
| 72.5° | 160.1 | 287.8 | 335.2 | 323.1 | 324.0 |
| 75° | 133.9 | 259.6 | 296.9 | 284.9 | 281.8 |
| 77.5° | 107.7 | 230.5 | 259.6 | 240.6 | 236.5 |
| 80° | 84.5 | 199.3 | 217.4 | 193.2 | 184.2 |
| 82.5° | 62.4 | 165.0 | 169.1 | 146.0 | 139.9 |
| 85° | 41.3 | 124.8 | 117.8 | 100.6 | 96.6 |
| 87.5° | 22.1 | 73.5 | 63.5 | 51.4 | 48.3 |
| 90° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |



TEST NUMBER: P976490
 CATALOG NUMBER: 24SR-LD2-34-S-UNV-L940-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 | 12.2 | 13.9 | 12.6 | 14.2 | 14.5 | 13.4 | 15.1 | 13.8 | 15.4 | 15.7 |
| | 3H | 13.8 | 15.3 | 14.1 | 15.6 | 15.9 | 15.5 | 17.0 | 15.9 | 17.3 | 17.7 |
| | 4H | 14.4 | 15.8 | 14.8 | 16.1 | 16.5 | 16.4 | 17.8 | 16.8 | 18.2 | 18.5 |
| | 6H | 14.9 | 16.2 | 15.3 | 16.5 | 16.9 | 17.1 | 18.5 | 17.6 | 18.8 | 19.2 |
| | 8H | 15.0 | 16.3 | 15.4 | 16.7 | 17.1 | 17.4 | 18.7 | 17.8 | 19.1 | 19.5 |
| | 12H | 15.1 | 16.3 | 15.6 | 16.7 | 17.2 | 17.6 | 18.9 | 18.1 | 19.2 | 19.7 |
| 4H | 2H | 13.2 | 14.6 | 13.6 | 15.0 | 15.4 | 14.1 | 15.5 | 14.5 | 15.9 | 16.2 |
| | 3H | 15.2 | 16.4 | 15.6 | 16.8 | 17.2 | 16.4 | 17.6 | 16.9 | 18.0 | 18.4 |
| | 4H | 16.1 | 17.2 | 16.5 | 17.6 | 18.0 | 17.5 | 18.6 | 17.9 | 19.0 | 19.4 |
| | 6H | 16.8 | 17.8 | 17.3 | 18.2 | 18.7 | 18.4 | 19.4 | 18.9 | 19.8 | 20.3 |
| | 8H | 17.1 | 18.0 | 17.5 | 18.4 | 18.9 | 18.8 | 19.7 | 19.2 | 20.1 | 20.6 |
| | 12H | 17.3 | 18.1 | 17.8 | 18.6 | 19.0 | 19.1 | 19.9 | 19.5 | 20.3 | 20.8 |
| 8H | 4H | 16.8 | 17.7 | 17.3 | 18.1 | 18.6 | 18.0 | 18.9 | 18.4 | 19.3 | 19.8 |
| | 6H | 17.9 | 18.6 | 18.4 | 19.1 | 19.6 | 19.1 | 19.8 | 19.6 | 20.3 | 20.8 |
| | 8H | 18.3 | 19.0 | 18.9 | 19.5 | 20.0 | 19.5 | 20.2 | 20.0 | 20.7 | 21.2 |
| | 12H | 18.7 | 19.3 | 19.2 | 19.8 | 20.4 | 19.9 | 20.5 | 20.4 | 21.0 | 21.6 |
| 12H | 4H | 16.9 | 17.7 | 17.4 | 18.2 | 18.7 | 18.1 | 18.9 | 18.5 | 19.3 | 19.8 |
| | 6H | 18.1 | 18.8 | 18.6 | 19.2 | 19.8 | 19.2 | 19.9 | 19.7 | 20.4 | 20.9 |
| | 8H | 18.7 | 19.3 | 19.2 | 19.8 | 20.3 | 19.7 | 20.3 | 20.2 | 20.8 | 21.4 |

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

Report Prepared for

Cooper Lighting Solutions

Metalux

Report Number: SP1-2506-457-7

Test Date: 07/02/2025

Luminaire Tested: 24SR-LD2-64-C-UNV-L940-CD1-U

Data in this report applies to families of products including 24SR-LD2-64-C-UNV-L940-CD1-U

Test Information

Test Method: LM-79-2019
 Report Number: SP1-2506-457-7
 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-L940-CD1-U**
 Description: 2X4 SKYRIDGE 6400LM Fixture with new LTN chip

Spectral Parameters

CCT (K): 3850
 CIE u': 0.2283
 CIE v': 0.5037
 Duv: -0.0006
 CIE x: 0.3868
 CIE y: 0.3794
 CIE z: 0.2338
 Peak Wavelength (nm): 630
 Dominant Wavelength (nm): 579
 Purity: 29.94798
 Rf: 91.3
 Rg: 99.8

CRI (Ra): 94.0
 R1: 95.3
 R2: 96.3
 R3: 95.7
 R4: 95.2
 R5: 94.4
 R6: 94.3
 R7: 94.1
 R8: 86.7
 R9: 65.3
 R10: 89.6
 R11: 95.5
 R12: 76.1
 R13: 95.5
 R14: 96.8
 R15: 92.3



Test Conditions

Stabilization Time: 38M
 Operation Time: 1H 38M
 Sphere Temperature (°C): 24.4

REPORT NUMBER: SP1-2506-457-7

| 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: SP1-2506-457-7

CIE 1931 Chromaticity Diagram



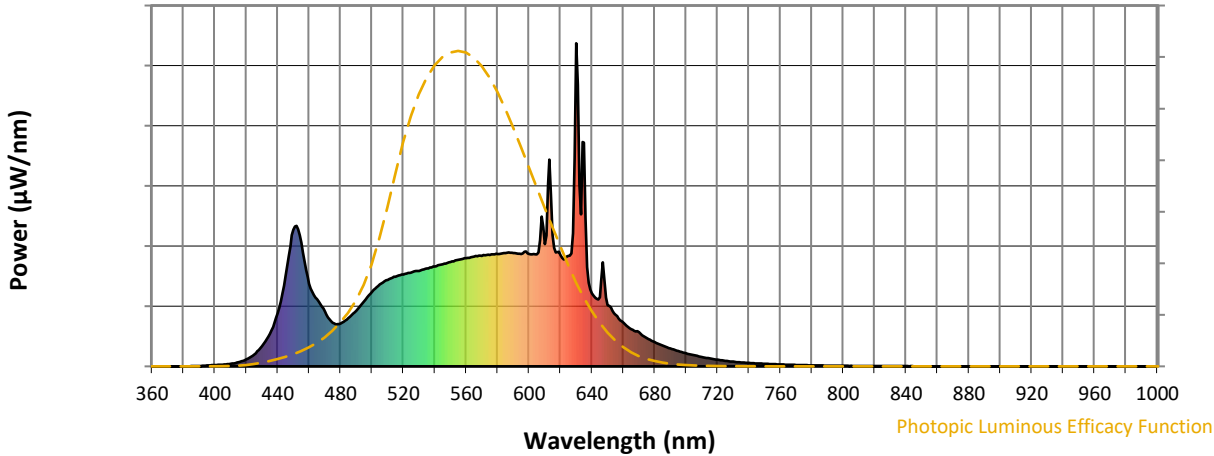
CIE 1931 Chromaticity Diagram with 2017 ANSI 7-Step and 4-Step Quadrangles



Point lies inside the ANSI 4000K 4-step quadrangle

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Photopic Flux vs. Wavelength

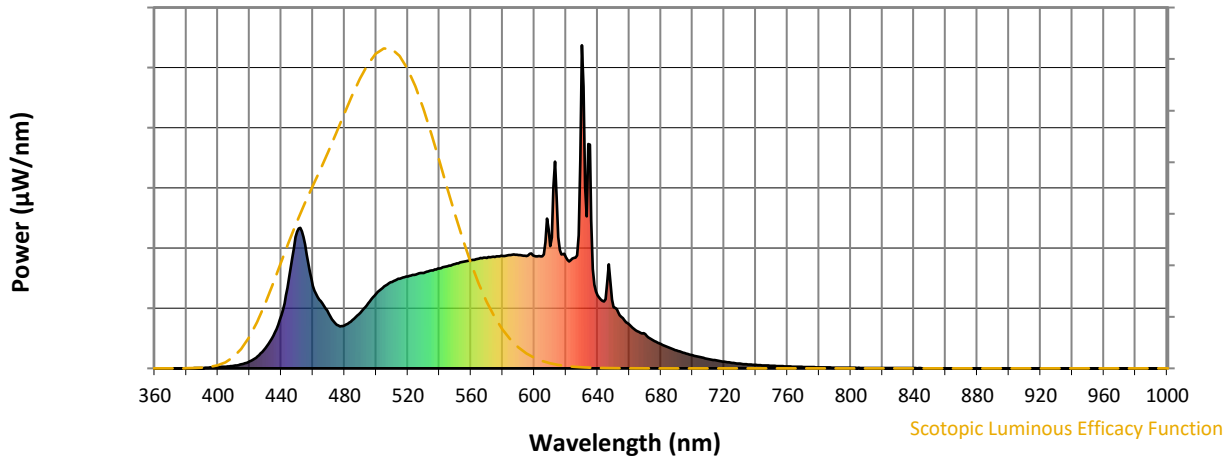


Photopic Lumens: NR

| 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 | 173 | NR | 620 | 343 | NR | 750 | 8 | NR | 880 | 0 | NR |
| 365 | 0 | NR | 495 | 201 | NR | 625 | 342 | NR | 755 | 7 | NR | 885 | 0 | NR |
| 370 | 0 | NR | 500 | 231 | NR | 630 | 1000 | NR | 760 | 6 | NR | 890 | 0 | NR |
| 375 | 0 | NR | 505 | 253 | NR | 635 | 692 | NR | 765 | 5 | NR | 895 | 0 | NR |
| 380 | 0 | NR | 510 | 268 | NR | 640 | 226 | NR | 770 | 4 | NR | 900 | 0 | NR |
| 385 | 1 | NR | 515 | 277 | NR | 645 | 214 | NR | 775 | 4 | NR | 905 | 0 | NR |
| 390 | 1 | NR | 520 | 284 | NR | 650 | 190 | NR | 780 | 3 | NR | 910 | 0 | NR |
| 395 | 3 | NR | 525 | 290 | NR | 655 | 160 | NR | 785 | 3 | NR | 915 | 0 | NR |
| 400 | 4 | NR | 530 | 296 | NR | 660 | 136 | NR | 790 | 2 | NR | 920 | 0 | NR |
| 405 | 5 | NR | 535 | 303 | NR | 665 | 115 | NR | 795 | 2 | NR | 925 | 0 | NR |
| 410 | 8 | NR | 540 | 310 | NR | 670 | 106 | NR | 800 | 2 | NR | 930 | 0 | NR |
| 415 | 13 | NR | 545 | 316 | NR | 675 | 87 | NR | 805 | 2 | NR | 935 | 0 | NR |
| 420 | 22 | NR | 550 | 323 | NR | 680 | 75 | NR | 810 | 1 | NR | 940 | 0 | NR |
| 425 | 37 | NR | 555 | 330 | NR | 685 | 64 | NR | 815 | 1 | NR | 945 | 0 | NR |
| 430 | 62 | NR | 560 | 335 | NR | 690 | 55 | NR | 820 | 1 | NR | 950 | 0 | NR |
| 435 | 102 | NR | 565 | 340 | NR | 695 | 47 | NR | 825 | 1 | NR | 955 | 0 | NR |
| 440 | 164 | NR | 570 | 342 | NR | 700 | 40 | NR | 830 | 1 | NR | 960 | 0 | NR |
| 445 | 281 | NR | 575 | 345 | NR | 705 | 34 | NR | 835 | 1 | NR | 965 | 0 | NR |
| 450 | 423 | NR | 580 | 348 | NR | 710 | 29 | NR | 840 | 1 | NR | 970 | 0 | NR |
| 455 | 384 | NR | 585 | 350 | NR | 715 | 25 | NR | 845 | 1 | NR | 975 | 0 | NR |
| 460 | 256 | NR | 590 | 351 | NR | 720 | 21 | NR | 850 | 0 | NR | 980 | 0 | NR |
| 465 | 208 | NR | 595 | 348 | NR | 725 | 17 | NR | 855 | 0 | NR | 985 | 0 | NR |
| 470 | 169 | NR | 600 | 348 | NR | 730 | 14 | NR | 860 | 0 | NR | 990 | 0 | NR |
| 475 | 135 | NR | 605 | 347 | NR | 735 | 12 | NR | 865 | 0 | NR | 995 | 0 | NR |
| 480 | 133 | NR | 610 | 379 | NR | 740 | 11 | NR | 870 | 0 | NR | 1000 | 0 | NR |
| 485 | 149 | NR | 615 | 406 | NR | 745 | 9 | NR | 875 | 0 | NR | | | |

REPORT NUMBER: SP1-2506-457-7

Scotopic Flux vs. Wavelength



Scotopic Lumens: NR

S/P: 1.74

| 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 | 173 | NR | 620 | 343 | NR | 750 | 8 | NR | 880 | 0 | NR |
| 365 | 0 | NR | 495 | 201 | NR | 625 | 342 | NR | 755 | 7 | NR | 885 | 0 | NR |
| 370 | 0 | NR | 500 | 231 | NR | 630 | 1000 | NR | 760 | 6 | NR | 890 | 0 | NR |
| 375 | 0 | NR | 505 | 253 | NR | 635 | 692 | NR | 765 | 5 | NR | 895 | 0 | NR |
| 380 | 0 | NR | 510 | 268 | NR | 640 | 226 | NR | 770 | 4 | NR | 900 | 0 | NR |
| 385 | 1 | NR | 515 | 277 | NR | 645 | 214 | NR | 775 | 4 | NR | 905 | 0 | NR |
| 390 | 1 | NR | 520 | 284 | NR | 650 | 190 | NR | 780 | 3 | NR | 910 | 0 | NR |
| 395 | 3 | NR | 525 | 290 | NR | 655 | 160 | NR | 785 | 3 | NR | 915 | 0 | NR |
| 400 | 4 | NR | 530 | 296 | NR | 660 | 136 | NR | 790 | 2 | NR | 920 | 0 | NR |
| 405 | 5 | NR | 535 | 303 | NR | 665 | 115 | NR | 795 | 2 | NR | 925 | 0 | NR |
| 410 | 8 | NR | 540 | 310 | NR | 670 | 106 | NR | 800 | 2 | NR | 930 | 0 | NR |
| 415 | 13 | NR | 545 | 316 | NR | 675 | 87 | NR | 805 | 2 | NR | 935 | 0 | NR |
| 420 | 22 | NR | 550 | 323 | NR | 680 | 75 | NR | 810 | 1 | NR | 940 | 0 | NR |
| 425 | 37 | NR | 555 | 330 | NR | 685 | 64 | NR | 815 | 1 | NR | 945 | 0 | NR |
| 430 | 62 | NR | 560 | 335 | NR | 690 | 55 | NR | 820 | 1 | NR | 950 | 0 | NR |
| 435 | 102 | NR | 565 | 340 | NR | 695 | 47 | NR | 825 | 1 | NR | 955 | 0 | NR |
| 440 | 164 | NR | 570 | 342 | NR | 700 | 40 | NR | 830 | 1 | NR | 960 | 0 | NR |
| 445 | 281 | NR | 575 | 345 | NR | 705 | 34 | NR | 835 | 1 | NR | 965 | 0 | NR |
| 450 | 423 | NR | 580 | 348 | NR | 710 | 29 | NR | 840 | 1 | NR | 970 | 0 | NR |
| 455 | 384 | NR | 585 | 350 | NR | 715 | 25 | NR | 845 | 1 | NR | 975 | 0 | NR |
| 460 | 256 | NR | 590 | 351 | NR | 720 | 21 | NR | 850 | 0 | NR | 980 | 0 | NR |
| 465 | 208 | NR | 595 | 348 | NR | 725 | 17 | NR | 855 | 0 | NR | 985 | 0 | NR |
| 470 | 169 | NR | 600 | 348 | NR | 730 | 14 | NR | 860 | 0 | NR | 990 | 0 | NR |
| 475 | 135 | NR | 605 | 347 | NR | 735 | 12 | NR | 865 | 0 | NR | 995 | 0 | NR |
| 480 | 133 | NR | 610 | 379 | NR | 740 | 11 | NR | 870 | 0 | NR | 1000 | 0 | NR |
| 485 | 149 | NR | 615 | 406 | NR | 745 | 9 | NR | 875 | 0 | NR | | | |

REPORT NUMBER: SP1-2506-457-7

Melanopic Flux vs. Wavelength



Melanopic Lumens: NR

M/P: 3.6

| 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 | 173 | NR | 620 | 343 | NR | 750 | 8 | NR | 880 | 0 | NR |
| 365 | 0 | NR | 495 | 201 | NR | 625 | 342 | NR | 755 | 7 | NR | 885 | 0 | NR |
| 370 | 0 | NR | 500 | 231 | NR | 630 | 1000 | NR | 760 | 6 | NR | 890 | 0 | NR |
| 375 | 0 | NR | 505 | 253 | NR | 635 | 692 | NR | 765 | 5 | NR | 895 | 0 | NR |
| 380 | 0 | NR | 510 | 268 | NR | 640 | 226 | NR | 770 | 4 | NR | 900 | 0 | NR |
| 385 | 1 | NR | 515 | 277 | NR | 645 | 214 | NR | 775 | 4 | NR | 905 | 0 | NR |
| 390 | 1 | NR | 520 | 284 | NR | 650 | 190 | NR | 780 | 3 | NR | 910 | 0 | NR |
| 395 | 3 | NR | 525 | 290 | NR | 655 | 160 | NR | 785 | 3 | NR | 915 | 0 | NR |
| 400 | 4 | NR | 530 | 296 | NR | 660 | 136 | NR | 790 | 2 | NR | 920 | 0 | NR |
| 405 | 5 | NR | 535 | 303 | NR | 665 | 115 | NR | 795 | 2 | NR | 925 | 0 | NR |
| 410 | 8 | NR | 540 | 310 | NR | 670 | 106 | NR | 800 | 2 | NR | 930 | 0 | NR |
| 415 | 13 | NR | 545 | 316 | NR | 675 | 87 | NR | 805 | 2 | NR | 935 | 0 | NR |
| 420 | 22 | NR | 550 | 323 | NR | 680 | 75 | NR | 810 | 1 | NR | 940 | 0 | NR |
| 425 | 37 | NR | 555 | 330 | NR | 685 | 64 | NR | 815 | 1 | NR | 945 | 0 | NR |
| 430 | 62 | NR | 560 | 335 | NR | 690 | 55 | NR | 820 | 1 | NR | 950 | 0 | NR |
| 435 | 102 | NR | 565 | 340 | NR | 695 | 47 | NR | 825 | 1 | NR | 955 | 0 | NR |
| 440 | 164 | NR | 570 | 342 | NR | 700 | 40 | NR | 830 | 1 | NR | 960 | 0 | NR |
| 445 | 281 | NR | 575 | 345 | NR | 705 | 34 | NR | 835 | 1 | NR | 965 | 0 | NR |
| 450 | 423 | NR | 580 | 348 | NR | 710 | 29 | NR | 840 | 1 | NR | 970 | 0 | NR |
| 455 | 384 | NR | 585 | 350 | NR | 715 | 25 | NR | 845 | 1 | NR | 975 | 0 | NR |
| 460 | 256 | NR | 590 | 351 | NR | 720 | 21 | NR | 850 | 0 | NR | 980 | 0 | NR |
| 465 | 208 | NR | 595 | 348 | NR | 725 | 17 | NR | 855 | 0 | NR | 985 | 0 | NR |
| 470 | 169 | NR | 600 | 348 | NR | 730 | 14 | NR | 860 | 0 | NR | 990 | 0 | NR |
| 475 | 135 | NR | 605 | 347 | NR | 735 | 12 | NR | 865 | 0 | NR | 995 | 0 | NR |
| 480 | 133 | NR | 610 | 379 | NR | 740 | 11 | NR | 870 | 0 | NR | 1000 | 0 | NR |
| 485 | 149 | NR | 615 | 406 | NR | 745 | 9 | NR | 875 | 0 | NR | | | |

Summary

$R_f = 91.3$
 $R_g = 99.8$
 $CIE R_a = 94.0$
 $R_9 = 65.3$



Color Vector Graphics

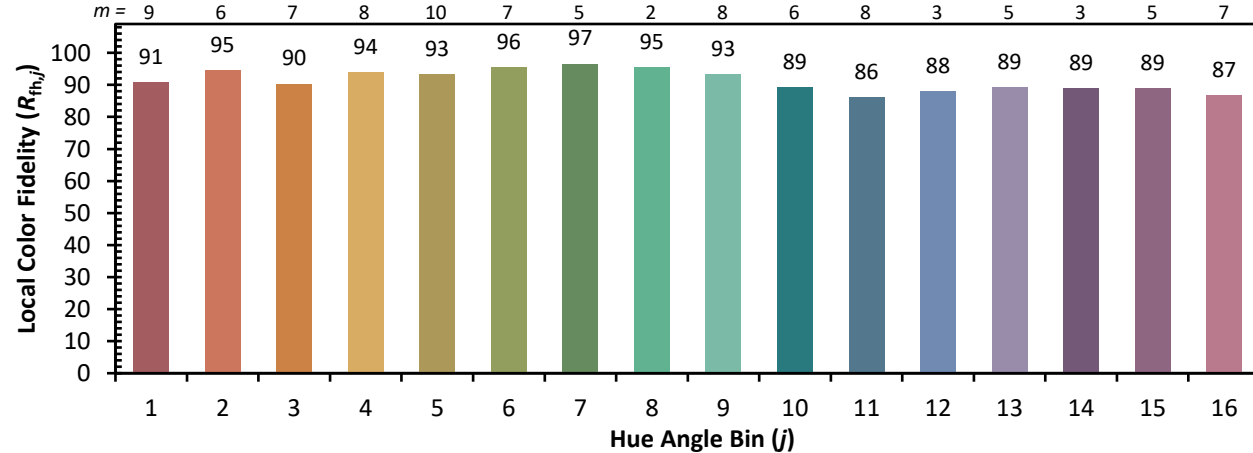


Individual Sample Fidelity Index ($R_{f,i}$)

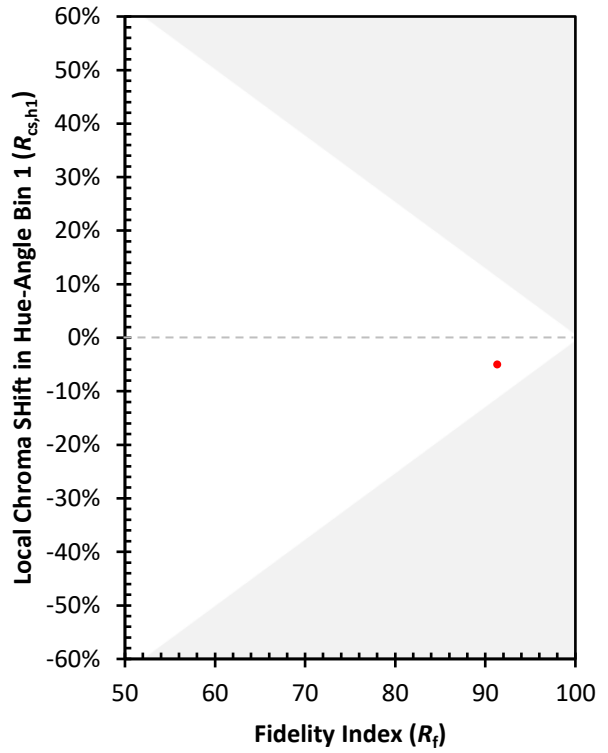
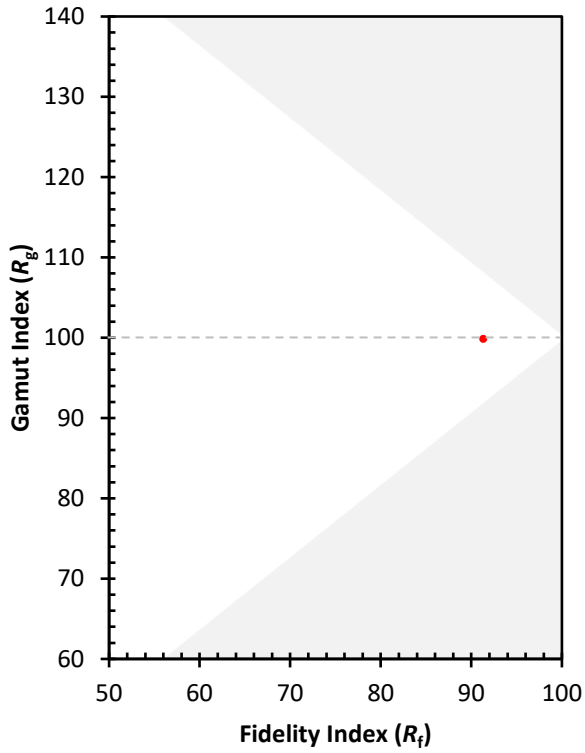
| | | | |
|------------|------------|------------|------------|
| CES01 = 86 | CES26 = 93 | CES51 = 98 | CES76 = 87 |
| CES02 = 62 | CES27 = 91 | CES52 = 99 | CES77 = 88 |
| CES03 = 31 | CES28 = 96 | CES53 = 97 | CES78 = 83 |
| CES04 = 69 | CES29 = 96 | CES54 = 94 | CES79 = 93 |
| CES05 = 49 | CES30 = 93 | CES55 = 92 | CES80 = 92 |
| CES06 = 50 | CES31 = 96 | CES56 = 95 | CES81 = 79 |
| CES07 = 42 | CES32 = 88 | CES57 = 94 | CES82 = 96 |
| CES08 = 41 | CES33 = 99 | CES58 = 95 | CES83 = 95 |
| CES09 = 29 | CES34 = 93 | CES59 = 97 | CES84 = 94 |
| CES10 = 74 | CES35 = 96 | CES60 = 93 | CES85 = 81 |
| CES11 = 57 | CES36 = 81 | CES61 = 92 | CES86 = 83 |
| CES12 = 63 | CES37 = 94 | CES62 = 87 | CES87 = 92 |
| CES13 = 43 | CES38 = 88 | CES63 = 93 | CES88 = 98 |
| CES14 = 74 | CES39 = 99 | CES64 = 91 | CES89 = 85 |
| CES15 = 71 | CES40 = 97 | CES65 = 89 | CES90 = 97 |
| CES16 = 47 | CES41 = 97 | CES66 = 88 | CES91 = 73 |
| CES17 = 49 | CES42 = 93 | CES67 = 87 | CES92 = 77 |
| CES18 = 56 | CES43 = 93 | CES68 = 88 | CES93 = 86 |
| CES19 = 71 | CES44 = 99 | CES69 = 89 | CES94 = 76 |
| CES20 = 66 | CES45 = 96 | CES70 = 86 | CES95 = 83 |
| CES21 = 85 | CES46 = 97 | CES71 = 81 | CES96 = 92 |
| CES22 = 78 | CES47 = 93 | CES72 = 94 | CES97 = 95 |
| CES23 = 91 | CES48 = 92 | CES73 = 80 | CES98 = 95 |
| CES24 = 90 | CES49 = 96 | CES74 = 91 | CES99 = 93 |
| CES25 = 71 | CES50 = 98 | CES75 = 83 | |



Color Rendition by Hue-Angle Bin



Measure Comparisons



(END OF REPORT)