

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: P976979

Luminaire Tested: 24SR-LD2-C-39-UNV-L940-CD1-SO-U

Issue Date: 03/18/2025

Test Information

Test Method: LM-79-2019
Report Number: P976979
Test Lab: INNOVATION CENTER(P3)
Issue Date: 03/18/2025
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: METALUX
Catalog Number: 24SR-LD2-C-39-UNV-L940-CD1-SO-U
Description: METALUX SKYRIDGE 2x4 3900LM PACKAGE 90CRI 4000K TROFFER with Storaro Orange SKYTR
Light Source: 4000K CCT, 90+ CRI LEDS
Ballast/Driver: -

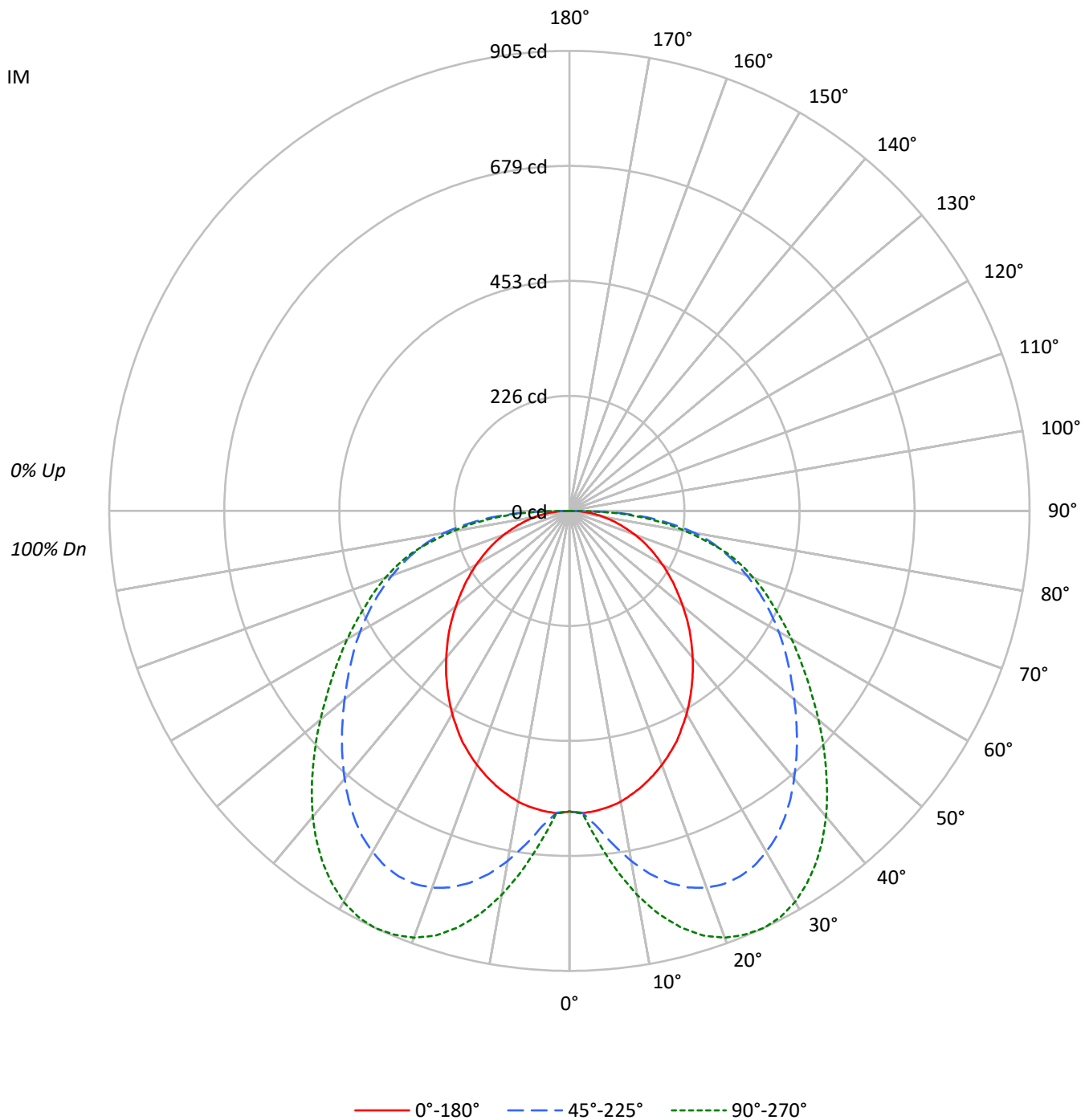
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 2733.0 lumens
Efficiency: N/A
Efficacy: 98.7 lumens/watt
Spacing Criteria (0/90/45): 1.17 / 1.85 / 1.72
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 27.7
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: P976979
CATALOG NUMBER: 24SR-LD2-C-39-UNV-L940-CD1-SO-U

Luminous Intensity Polar Plot





TEST NUMBER: P976979

CATALOG NUMBER: 24SR-LD2-C-39-UNV-L940-CD1-SO-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 | 107 | 101 | 96 | 91 | 104 | 99 | 94 | 90 | 94 | 90 | 87 | 90 | 87 | 84 | 87 | 84 | 82 | 87 | 84 | 82 | 79 |
| 2 | 96 | 87 | 79 | 72 | 93 | 85 | 77 | 71 | 81 | 75 | 70 | 78 | 73 | 68 | 74 | 70 | 66 | 74 | 70 | 66 | 64 |
| 3 | 87 | 75 | 66 | 59 | 84 | 74 | 65 | 58 | 70 | 63 | 57 | 68 | 61 | 56 | 65 | 60 | 55 | 65 | 60 | 55 | 53 |
| 4 | 79 | 66 | 56 | 49 | 77 | 65 | 56 | 49 | 62 | 54 | 48 | 60 | 53 | 47 | 57 | 52 | 47 | 57 | 52 | 47 | 44 |
| 5 | 72 | 59 | 49 | 42 | 70 | 57 | 48 | 42 | 55 | 47 | 41 | 53 | 46 | 41 | 51 | 45 | 40 | 51 | 45 | 40 | 38 |
| 6 | 67 | 53 | 43 | 36 | 65 | 52 | 43 | 36 | 50 | 42 | 36 | 48 | 41 | 35 | 46 | 40 | 35 | 46 | 40 | 35 | 33 |
| 7 | 62 | 47 | 38 | 32 | 60 | 47 | 38 | 32 | 45 | 37 | 31 | 43 | 36 | 31 | 42 | 36 | 31 | 42 | 36 | 31 | 29 |
| 8 | 57 | 43 | 34 | 28 | 56 | 42 | 34 | 28 | 41 | 33 | 28 | 40 | 33 | 28 | 39 | 32 | 27 | 39 | 32 | 27 | 25 |
| 9 | 53 | 39 | 31 | 25 | 52 | 39 | 31 | 25 | 38 | 30 | 25 | 37 | 30 | 25 | 35 | 29 | 24 | 35 | 29 | 24 | 23 |
| 10 | 50 | 36 | 28 | 23 | 49 | 36 | 28 | 22 | 35 | 27 | 22 | 34 | 27 | 22 | 33 | 27 | 22 | 33 | 27 | 22 | 20 |

AVERAGE LUMINANCE (cd/sqm):

| | 0° | 45° | 90° |
|-----|-----|------|------|
| 0° | 796 | 796 | 796 |
| 5° | 800 | 842 | 884 |
| 10° | 794 | 955 | 1048 |
| 15° | 779 | 1055 | 1182 |
| 20° | 762 | 1130 | 1279 |
| 25° | 742 | 1178 | 1344 |
| 30° | 716 | 1203 | 1380 |
| 35° | 689 | 1212 | 1389 |
| 40° | 662 | 1208 | 1379 |
| 45° | 636 | 1204 | 1357 |
| 50° | 609 | 1208 | 1339 |
| 55° | 587 | 1232 | 1334 |
| 60° | 569 | 1279 | 1358 |
| 65° | 553 | 1351 | 1410 |
| 70° | 539 | 1461 | 1516 |
| 75° | 526 | 1640 | 1670 |
| 80° | 527 | 1939 | 1815 |
| 85° | 584 | 2436 | 2201 |

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 45°
 Vertical Angle: 87.5°
 Luminance: 3091 cd/sqm



TEST NUMBER: P976979
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ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 61.4 | 2.2 |
| 10°-20° | 206.6 | 7.6 |
| 20°-30° | 346.0 | 12.7 |
| 30°-40° | 433.3 | 15.9 |
| 40°-50° | 454.5 | 16.6 |
| 50°-60° | 429.5 | 15.7 |
| 60°-70° | 375.9 | 13.8 |
| 70°-80° | 290.3 | 10.6 |
| 80°-90° | 135.5 | 5.0 |
| 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° | 614.0 | 22.5 |
| 0°-40° | 1047.2 | 38.3 |
| 0°-60° | 1931.2 | 70.7 |
| 0°-90° | 2733.0 | 100.0 |
| 90°-120° | 0.0 | 0.0 |
| 90°-150° | 0.0 | 0.0 |
| 90°-180° | 0.0 | 0.0 |
| 0°-180° | 2733.0 | 100.0 |

CANDELA DISTRIBUTION:

| | 0° | 22.5° | 45° | 67.5° | 90° | Flux |
|-----|-----|-------|-----|-------|-----|------|
| 0° | 591 | 591 | 591 | 591 | 591 | |
| 5° | 592 | 592 | 624 | 647 | 655 | 56 |
| 15° | 559 | 638 | 758 | 826 | 848 | 157 |
| 25° | 500 | 641 | 794 | 874 | 905 | 230 |
| 35° | 420 | 586 | 738 | 817 | 846 | 262 |
| 45° | 334 | 497 | 633 | 694 | 713 | 258 |
| 55° | 250 | 413 | 525 | 559 | 569 | 224 |
| 65° | 174 | 338 | 424 | 436 | 443 | 172 |
| 75° | 101 | 253 | 316 | 318 | 321 | 107 |
| 85° | 38 | 133 | 158 | 146 | 143 | 40 |
| 90° | 0 | 0 | 0 | 0 | 0 | |



TEST NUMBER: P976979

CATALOG NUMBER: 24SR-LD2-C-39-UNV-L940-CD1-SO-U

CANDELA DISTRIBUTION (FULL):

| | 0° | 5° | 10° | 15° | 20° | 25° | 30° | 35° | 40° | 45° | 50° |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 0° | 591.3 | 591.3 | 591.3 | 591.3 | 591.3 | 591.3 | 591.3 | 591.3 | 591.3 | 591.3 | 591.3 |
| 2.5° | 595.2 | 594.3 | 593.3 | 591.3 | 590.5 | 590.5 | 590.5 | 590.5 | 591.3 | 594.3 | 596.0 |
| 5° | 592.4 | 592.4 | 590.5 | 589.4 | 590.5 | 593.3 | 598.0 | 605.6 | 613.1 | 623.5 | 632.0 |
| 7.5° | 587.7 | 586.6 | 585.8 | 586.6 | 595.2 | 607.5 | 619.7 | 633.9 | 647.1 | 662.3 | 674.5 |
| 10° | 581.0 | 580.0 | 581.0 | 588.5 | 605.6 | 625.4 | 643.3 | 661.3 | 679.2 | 699.0 | 716.0 |
| 12.5° | 570.6 | 570.6 | 574.3 | 591.3 | 615.0 | 639.5 | 663.2 | 685.8 | 708.5 | 731.2 | 751.0 |
| 15° | 559.3 | 560.2 | 569.6 | 594.3 | 623.5 | 651.9 | 679.2 | 705.7 | 732.2 | 757.6 | 779.3 |
| 17.5° | 546.1 | 547.9 | 564.0 | 594.3 | 627.3 | 660.4 | 691.5 | 720.7 | 749.1 | 776.6 | 799.2 |
| 20° | 531.9 | 533.8 | 557.4 | 592.4 | 629.2 | 665.1 | 698.1 | 730.3 | 760.5 | 788.9 | 812.4 |
| 22.5° | 515.8 | 518.6 | 548.9 | 586.6 | 627.3 | 666.0 | 700.0 | 733.1 | 764.2 | 794.5 | 818.1 |
| 25° | 499.7 | 503.5 | 538.5 | 579.1 | 621.6 | 661.3 | 697.2 | 730.3 | 763.3 | 793.6 | 817.1 |
| 27.5° | 479.9 | 486.5 | 526.1 | 567.7 | 613.1 | 652.7 | 688.7 | 723.7 | 756.7 | 787.0 | 810.5 |
| 30° | 461.1 | 469.6 | 511.1 | 554.5 | 600.9 | 640.5 | 676.4 | 711.3 | 744.4 | 774.6 | 798.3 |
| 32.5° | 440.2 | 450.6 | 494.1 | 539.5 | 584.7 | 623.5 | 660.4 | 695.3 | 728.4 | 758.6 | 781.3 |
| 35° | 419.5 | 431.7 | 476.2 | 522.4 | 566.8 | 605.6 | 641.4 | 676.4 | 708.5 | 737.8 | 759.5 |
| 37.5° | 398.6 | 411.9 | 456.3 | 503.5 | 546.1 | 583.8 | 619.7 | 653.8 | 686.8 | 714.1 | 735.9 |
| 40° | 376.9 | 392.0 | 436.4 | 481.8 | 524.4 | 561.1 | 597.1 | 630.1 | 661.3 | 687.7 | 708.5 |
| 42.5° | 355.2 | 372.2 | 416.6 | 461.1 | 501.6 | 537.6 | 573.4 | 605.6 | 634.8 | 660.4 | 680.2 |
| 45° | 334.4 | 351.5 | 394.8 | 439.3 | 479.0 | 514.8 | 549.8 | 581.0 | 609.3 | 632.9 | 651.9 |
| 47.5° | 312.7 | 331.6 | 375.0 | 418.5 | 456.3 | 492.2 | 526.1 | 555.5 | 582.8 | 604.6 | 622.6 |
| 50° | 291.0 | 311.7 | 354.3 | 396.7 | 435.5 | 470.5 | 503.5 | 531.9 | 557.4 | 577.2 | 594.3 |
| 52.5° | 270.1 | 291.9 | 335.3 | 376.9 | 414.8 | 449.7 | 481.8 | 509.2 | 532.9 | 550.8 | 565.9 |
| 55° | 250.3 | 273.0 | 316.5 | 357.1 | 395.8 | 429.8 | 460.0 | 486.5 | 508.2 | 525.2 | 538.5 |
| 57.5° | 230.5 | 255.1 | 298.5 | 340.0 | 376.9 | 411.0 | 440.2 | 464.7 | 484.6 | 500.7 | 512.0 |
| 60° | 211.6 | 237.1 | 281.6 | 322.1 | 359.0 | 392.0 | 420.4 | 443.0 | 461.9 | 475.2 | 483.7 |
| 62.5° | 191.8 | 219.1 | 263.5 | 305.1 | 341.9 | 373.2 | 400.5 | 422.3 | 438.3 | 449.7 | 457.2 |
| 65° | 173.8 | 201.2 | 246.6 | 288.2 | 323.1 | 353.3 | 378.8 | 399.7 | 414.8 | 424.2 | 428.9 |
| 67.5° | 155.8 | 184.2 | 229.6 | 270.1 | 304.2 | 333.4 | 357.1 | 376.9 | 390.1 | 397.7 | 401.4 |
| 70° | 137.0 | 167.2 | 211.6 | 251.3 | 284.4 | 311.7 | 335.3 | 352.4 | 364.7 | 371.3 | 373.2 |
| 72.5° | 118.1 | 149.2 | 193.7 | 232.4 | 263.5 | 290.1 | 311.7 | 327.8 | 339.1 | 343.8 | 344.9 |
| 75° | 101.1 | 130.4 | 173.8 | 210.6 | 240.9 | 265.4 | 287.2 | 302.3 | 310.8 | 315.5 | 316.5 |
| 77.5° | 84.0 | 112.4 | 153.9 | 188.9 | 215.3 | 239.0 | 259.8 | 273.9 | 282.5 | 286.3 | 286.3 |
| 80° | 68.0 | 94.4 | 132.2 | 163.5 | 188.9 | 210.6 | 229.6 | 243.7 | 251.3 | 250.3 | 246.6 |
| 82.5° | 52.9 | 77.4 | 109.6 | 137.0 | 159.7 | 179.5 | 198.4 | 206.9 | 209.7 | 206.9 | 204.0 |
| 85° | 37.8 | 57.6 | 83.1 | 105.8 | 125.6 | 140.7 | 153.0 | 159.7 | 160.5 | 157.8 | 155.0 |
| 87.5° | 21.7 | 32.2 | 47.3 | 64.2 | 74.6 | 84.0 | 94.4 | 98.3 | 98.3 | 100.2 | 94.4 |
| 90° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |



TEST NUMBER: P976979

CATALOG NUMBER: 24SR-LD2-C-39-UNV-L940-CD1-SO-U

CANDELA DISTRIBUTION (continued):

| | 55° | 60° | 65° | 70° | 75° | 80° | 85° | 90° |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 0° | 591.3 | 591.3 | 591.3 | 591.3 | 591.3 | 591.3 | 591.3 | 591.3 |
| 2.5° | 595.2 | 596.0 | 596.0 | 598.0 | 599.0 | 599.0 | 598.0 | 596.0 |
| 5° | 634.8 | 640.5 | 644.2 | 649.9 | 652.7 | 655.7 | 656.6 | 654.6 |
| 7.5° | 681.1 | 689.6 | 697.2 | 705.7 | 709.4 | 712.4 | 716.0 | 713.2 |
| 10° | 725.6 | 736.9 | 746.3 | 755.7 | 761.4 | 765.2 | 768.0 | 767.1 |
| 12.5° | 763.3 | 776.6 | 787.0 | 796.4 | 803.9 | 809.6 | 812.4 | 812.4 |
| 15° | 792.6 | 807.7 | 820.9 | 831.3 | 838.8 | 844.6 | 848.4 | 848.4 |
| 17.5° | 815.3 | 830.3 | 844.6 | 855.0 | 862.5 | 870.1 | 873.8 | 875.7 |
| 20° | 828.5 | 844.6 | 858.7 | 870.1 | 878.6 | 887.0 | 890.8 | 893.6 |
| 22.5° | 835.2 | 851.2 | 866.3 | 878.6 | 888.0 | 895.5 | 900.2 | 902.1 |
| 25° | 835.2 | 852.1 | 868.2 | 880.4 | 889.9 | 898.5 | 903.2 | 905.1 |
| 27.5° | 829.4 | 847.4 | 863.5 | 874.8 | 885.2 | 893.6 | 898.5 | 900.2 |
| 30° | 818.1 | 836.0 | 852.1 | 863.5 | 873.8 | 881.4 | 886.1 | 888.0 |
| 32.5° | 800.2 | 819.0 | 834.1 | 845.5 | 855.9 | 863.5 | 868.2 | 869.1 |
| 35° | 779.3 | 797.3 | 811.5 | 822.8 | 833.2 | 839.9 | 843.7 | 845.5 |
| 37.5° | 753.9 | 770.8 | 785.1 | 795.5 | 804.9 | 812.4 | 816.2 | 817.1 |
| 40° | 726.5 | 742.5 | 754.8 | 764.2 | 773.8 | 780.4 | 784.1 | 785.1 |
| 42.5° | 697.2 | 712.4 | 723.7 | 732.2 | 740.6 | 746.3 | 749.1 | 750.1 |
| 45° | 667.0 | 680.2 | 690.6 | 698.1 | 705.7 | 710.5 | 713.2 | 713.2 |
| 47.5° | 636.7 | 649.1 | 657.4 | 663.2 | 669.8 | 674.5 | 677.4 | 676.4 |
| 50° | 606.5 | 616.9 | 623.5 | 629.2 | 634.8 | 637.6 | 640.5 | 639.5 |
| 52.5° | 576.2 | 585.8 | 589.4 | 594.3 | 599.0 | 601.8 | 604.6 | 602.7 |
| 55° | 547.0 | 553.6 | 557.4 | 561.1 | 564.9 | 567.7 | 569.6 | 568.7 |
| 57.5° | 518.6 | 523.3 | 526.1 | 529.9 | 532.9 | 534.7 | 536.6 | 535.7 |
| 60° | 488.4 | 492.2 | 494.1 | 497.9 | 500.7 | 502.6 | 504.5 | 504.5 |
| 62.5° | 460.0 | 463.0 | 463.8 | 467.7 | 469.6 | 471.3 | 474.3 | 473.3 |
| 65° | 429.8 | 432.7 | 434.6 | 437.4 | 439.3 | 441.2 | 444.0 | 443.0 |
| 67.5° | 401.4 | 404.4 | 405.2 | 408.2 | 411.0 | 413.8 | 414.8 | 414.8 |
| 70° | 373.2 | 375.0 | 376.0 | 379.8 | 380.7 | 383.5 | 385.4 | 385.4 |
| 72.5° | 344.9 | 345.8 | 347.7 | 350.5 | 352.4 | 354.3 | 356.2 | 355.2 |
| 75° | 314.6 | 316.5 | 317.4 | 319.3 | 319.3 | 321.2 | 321.2 | 321.2 |
| 77.5° | 283.5 | 280.5 | 279.7 | 278.6 | 277.7 | 277.7 | 277.7 | 276.7 |
| 80° | 240.9 | 238.1 | 237.1 | 235.3 | 235.3 | 235.3 | 235.3 | 234.3 |
| 82.5° | 199.3 | 195.5 | 193.7 | 192.7 | 191.8 | 191.8 | 191.8 | 190.8 |
| 85° | 151.1 | 147.3 | 146.4 | 145.4 | 145.4 | 144.5 | 143.6 | 142.6 |
| 87.5° | 93.6 | 90.6 | 89.7 | 87.8 | 88.9 | 86.9 | 86.9 | 86.9 |
| 90° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |



TEST NUMBER: P976979
 CATALOG NUMBER: 24SR-LD2-C-39-UNV-L940-CD1-SO-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 | 11.0 | 12.8 | 11.4 | 13.1 | 13.4 | 13.6 | 15.3 | 14.0 | 15.7 | 16.0 |
| | 3H | 12.9 | 14.5 | 13.3 | 14.8 | 15.2 | 16.1 | 17.6 | 16.4 | 18.0 | 18.3 |
| | 4H | 13.6 | 15.1 | 14.0 | 15.5 | 15.8 | 17.2 | 18.7 | 17.6 | 19.1 | 19.4 |
| | 6H | 14.2 | 15.6 | 14.6 | 15.9 | 16.3 | 18.2 | 19.6 | 18.6 | 20.0 | 20.4 |
| | 8H | 14.4 | 15.7 | 14.8 | 16.1 | 16.5 | 18.7 | 20.0 | 19.1 | 20.4 | 20.8 |
| | 12H | 14.5 | 15.8 | 15.0 | 16.2 | 16.6 | 19.1 | 20.4 | 19.5 | 20.8 | 21.2 |
| 4H | 2H | 12.6 | 14.1 | 12.9 | 14.4 | 14.8 | 14.3 | 15.8 | 14.7 | 16.2 | 16.6 |
| | 3H | 14.9 | 16.2 | 15.3 | 16.6 | 17.0 | 17.1 | 18.3 | 17.5 | 18.7 | 19.1 |
| | 4H | 16.0 | 17.1 | 16.4 | 17.6 | 18.0 | 18.4 | 19.6 | 18.8 | 20.0 | 20.4 |
| | 6H | 16.8 | 17.9 | 17.3 | 18.3 | 18.7 | 19.6 | 20.6 | 20.1 | 21.1 | 21.5 |
| | 8H | 17.1 | 18.1 | 17.6 | 18.5 | 19.0 | 20.1 | 21.1 | 20.6 | 21.6 | 22.0 |
| | 12H | 17.4 | 18.2 | 17.8 | 18.7 | 19.2 | 20.6 | 21.5 | 21.1 | 22.0 | 22.4 |
| 8H | 4H | 17.0 | 18.0 | 17.5 | 18.5 | 18.9 | 18.9 | 19.9 | 19.4 | 20.3 | 20.8 |
| | 6H | 18.3 | 19.1 | 18.8 | 19.6 | 20.1 | 20.3 | 21.2 | 20.8 | 21.6 | 22.1 |
| | 8H | 18.9 | 19.6 | 19.4 | 20.1 | 20.6 | 21.0 | 21.7 | 21.5 | 22.2 | 22.7 |
| | 12H | 19.3 | 20.0 | 19.8 | 20.5 | 21.0 | 21.6 | 22.3 | 22.1 | 22.8 | 23.3 |
| 12H | 4H | 17.2 | 18.1 | 17.7 | 18.6 | 19.1 | 19.0 | 19.9 | 19.5 | 20.4 | 20.8 |
| | 6H | 18.7 | 19.4 | 19.2 | 19.9 | 20.4 | 20.5 | 21.3 | 21.0 | 21.7 | 22.3 |
| | 8H | 19.4 | 20.1 | 19.9 | 20.5 | 21.1 | 21.3 | 21.9 | 21.8 | 22.4 | 23.0 |

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 |

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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 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 | | | |

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Scotopic Flux vs. Wavelength



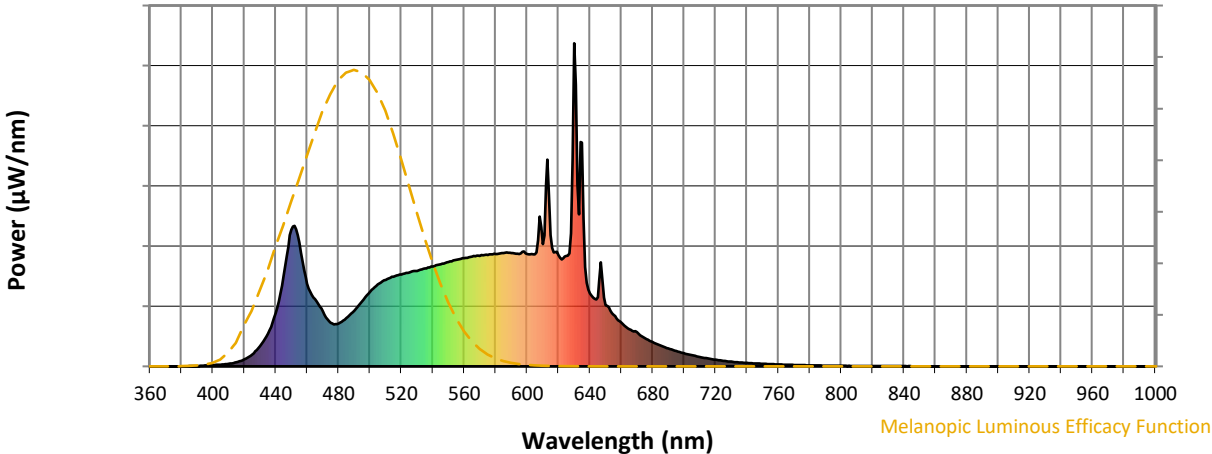
Scotopic Lumens: NR

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

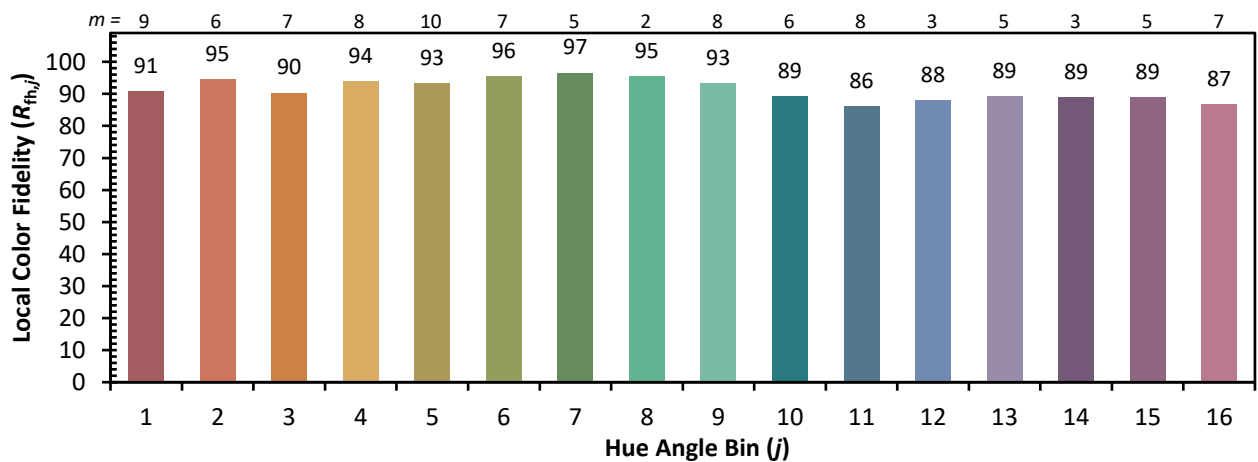
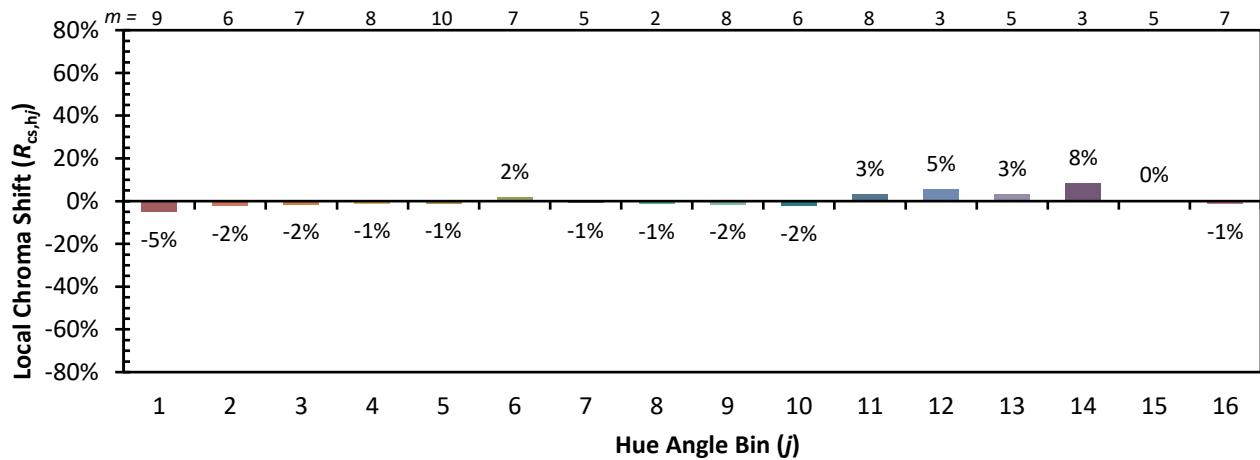


Individual Sample Fidelity Index ($R_{f,i}$)

| | | | |
|------------|------------|------------|------------|
| 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)