

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: P976883

Luminaire Tested: 24SR-LD2-C-39-UNV-L840-CD1-PL-U

Issue Date: 03/18/2025

Test Information

Test Method: LM-79-2019
Report Number: P976883
Test Lab: INNOVATION CENTER(P3)
Issue Date: 03/18/2025
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: METALUX
Catalog Number: 24SR-LD2-C-39-UNV-L840-CD1-PL-U
Description: METALUX SKYRIDGE 2x4 3900LM PACKAGE 80CRI 4000K TROFFER with Pearl SKYTRIM
Light Source: 4000K CCT, 80+ CRI LEDS
Ballast/Driver: -

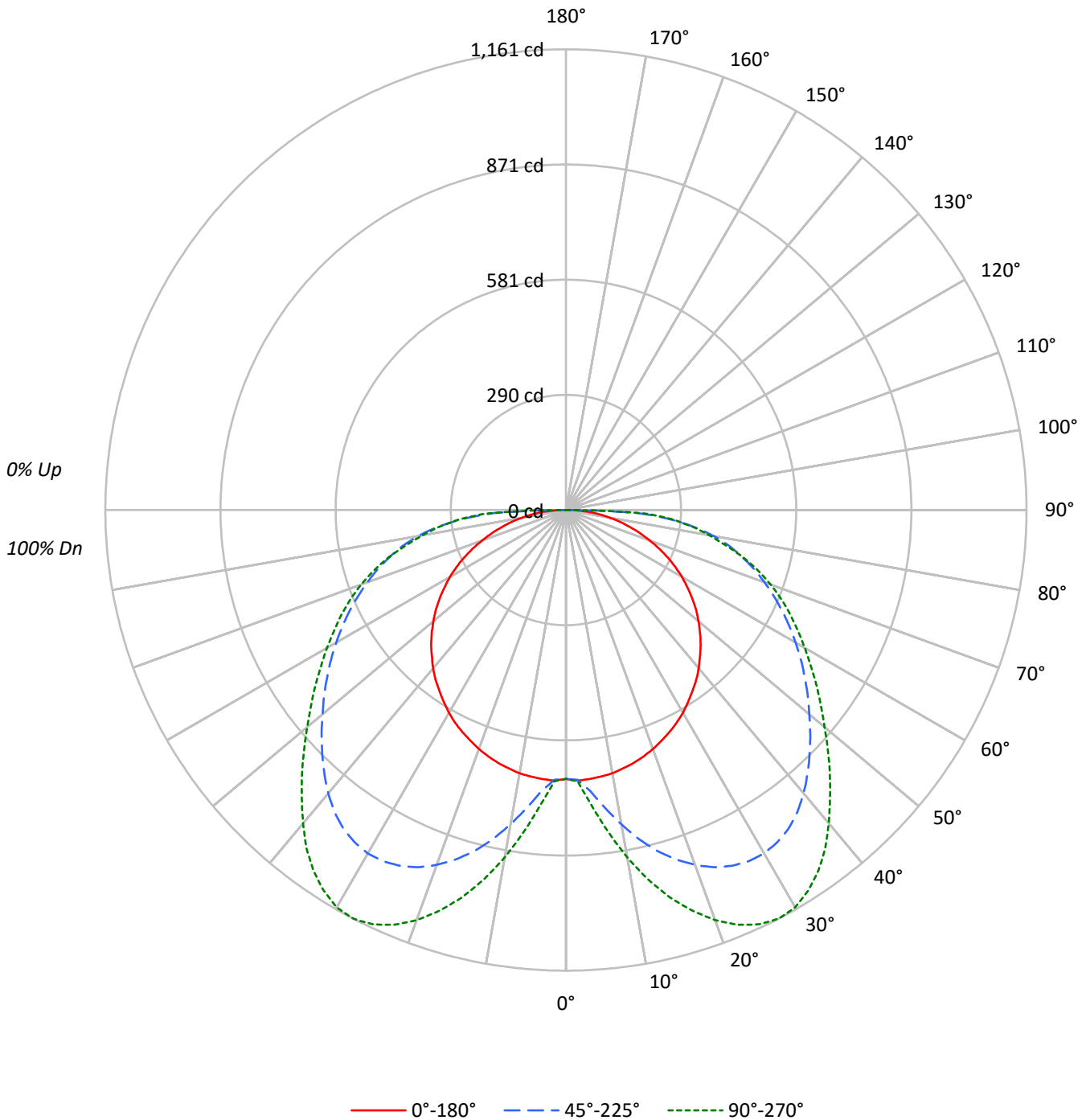
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 3736.0 lumens
Efficiency: N/A
Efficacy: 134.9 lumens/watt
Spacing Criteria (0/90/45): 1.29 / 1.98 / 1.87
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: P976883
CATALOG NUMBER: 24SR-LD2-C-39-UNV-L840-CD1-PL-U

Luminous Intensity Polar Plot





TEST NUMBER: P976883

CATALOG NUMBER: 24SR-LD2-C-39-UNV-L840-CD1-PL-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 | 106 | 100 | 95 | 90 | 103 | 98 | 93 | 88 | 93 | 89 | 85 | 89 | 86 | 83 | 86 | 83 | 80 | 78 | 78 | 78 | 78 |
| 2 | 95 | 85 | 77 | 70 | 92 | 83 | 76 | 70 | 80 | 73 | 68 | 76 | 71 | 66 | 73 | 69 | 65 | 62 | 62 | 62 | 62 |
| 3 | 86 | 74 | 64 | 57 | 83 | 72 | 63 | 56 | 69 | 61 | 55 | 66 | 60 | 54 | 63 | 58 | 53 | 51 | 51 | 51 | 51 |
| 4 | 78 | 64 | 55 | 47 | 75 | 63 | 54 | 47 | 60 | 52 | 46 | 58 | 51 | 45 | 56 | 50 | 45 | 42 | 42 | 42 | 42 |
| 5 | 71 | 57 | 47 | 40 | 69 | 56 | 47 | 40 | 54 | 45 | 39 | 52 | 44 | 39 | 50 | 43 | 38 | 36 | 36 | 36 | 36 |
| 6 | 65 | 51 | 41 | 34 | 63 | 50 | 41 | 34 | 48 | 40 | 34 | 46 | 39 | 33 | 45 | 38 | 33 | 31 | 31 | 31 | 31 |
| 7 | 60 | 46 | 36 | 30 | 59 | 45 | 36 | 30 | 43 | 35 | 29 | 42 | 35 | 29 | 40 | 34 | 29 | 27 | 27 | 27 | 27 |
| 8 | 56 | 42 | 32 | 26 | 54 | 41 | 32 | 26 | 39 | 32 | 26 | 38 | 31 | 26 | 37 | 30 | 26 | 23 | 23 | 23 | 23 |
| 9 | 52 | 38 | 29 | 23 | 51 | 37 | 29 | 23 | 36 | 28 | 23 | 35 | 28 | 23 | 34 | 27 | 23 | 21 | 21 | 21 | 21 |
| 10 | 49 | 35 | 26 | 21 | 48 | 34 | 26 | 21 | 33 | 26 | 21 | 32 | 25 | 21 | 31 | 25 | 20 | 19 | 19 | 19 | 19 |

AVERAGE LUMINANCE (cd/sqm):

| | 0° | 45° | 90° |
|-----|-----|------|------|
| 0° | 912 | 912 | 912 |
| 5° | 919 | 960 | 1010 |
| 10° | 920 | 1098 | 1214 |
| 15° | 919 | 1239 | 1407 |
| 20° | 918 | 1363 | 1575 |
| 25° | 917 | 1469 | 1710 |
| 30° | 916 | 1552 | 1796 |
| 35° | 914 | 1609 | 1822 |
| 40° | 915 | 1637 | 1810 |
| 45° | 914 | 1653 | 1790 |
| 50° | 913 | 1676 | 1782 |
| 55° | 912 | 1723 | 1809 |
| 60° | 908 | 1799 | 1871 |
| 65° | 901 | 1915 | 1988 |
| 70° | 884 | 2095 | 2161 |
| 75° | 871 | 2394 | 2410 |
| 80° | 879 | 2935 | 2842 |
| 85° | 959 | 4065 | 4140 |

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 90°
 Vertical Angle: 87.5°
 Luminance: 6178 cd/sqm



TEST NUMBER: P976883
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ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 70.5 | 1.9 |
| 10°-20° | 244.7 | 6.5 |
| 20°-30° | 433.7 | 11.6 |
| 30°-40° | 570.8 | 15.3 |
| 40°-50° | 619.0 | 16.6 |
| 50°-60° | 602.5 | 16.1 |
| 60°-70° | 541.3 | 14.5 |
| 70°-80° | 428.8 | 11.5 |
| 80°-90° | 224.7 | 6.0 |
| 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° | 748.9 | 20.0 |
| 0°-40° | 1319.7 | 35.3 |
| 0°-60° | 2541.1 | 68.0 |
| 0°-90° | 3736.0 | 100.0 |
| 90°-120° | 0.0 | 0.0 |
| 90°-150° | 0.0 | 0.0 |
| 90°-180° | 0.0 | 0.0 |
| 0°-180° | 3736.0 | 100.0 |

CANDELA DISTRIBUTION:

| | 0° | 22.5° | 45° | 67.5° | 90° | Flux |
|-----|-----|-------|-----|-------|------|------|
| 0° | 678 | 678 | 678 | 678 | 678 | |
| 5° | 681 | 680 | 711 | 738 | 748 | 65 |
| 15° | 660 | 746 | 890 | 979 | 1010 | 186 |
| 25° | 617 | 786 | 989 | 1109 | 1152 | 285 |
| 35° | 556 | 766 | 979 | 1079 | 1110 | 348 |
| 45° | 480 | 695 | 869 | 926 | 941 | 370 |
| 55° | 389 | 604 | 735 | 760 | 771 | 347 |
| 65° | 283 | 506 | 602 | 613 | 624 | 280 |
| 75° | 168 | 381 | 460 | 461 | 464 | 178 |
| 85° | 62 | 202 | 263 | 264 | 268 | 66 |
| 90° | 0 | 0 | 0 | 0 | 0 | |



TEST NUMBER: P976883

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CANDELA DISTRIBUTION (FULL):

| | 0° | 5° | 10° | 15° | 20° | 25° | 30° | 35° | 40° | 45° | 50° |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|--------|
| 0° | 677.5 | 677.5 | 677.5 | 677.5 | 677.5 | 677.5 | 677.5 | 677.5 | 677.5 | 677.5 | 677.5 |
| 2.5° | 682.4 | 681.5 | 680.6 | 679.5 | 678.6 | 677.5 | 677.5 | 677.5 | 678.6 | 680.6 | 683.5 |
| 5° | 680.6 | 679.5 | 678.6 | 678.6 | 679.5 | 681.5 | 687.5 | 694.4 | 701.3 | 711.1 | 722.0 |
| 7.5° | 677.5 | 676.6 | 676.6 | 678.6 | 686.4 | 698.2 | 712.0 | 726.9 | 741.6 | 757.4 | 772.3 |
| 10° | 673.7 | 672.6 | 673.7 | 682.4 | 700.2 | 720.0 | 740.7 | 761.4 | 781.2 | 803.9 | 824.6 |
| 12.5° | 666.8 | 666.8 | 671.7 | 689.3 | 715.1 | 741.6 | 768.3 | 795.9 | 821.5 | 849.1 | 872.9 |
| 15° | 659.9 | 659.9 | 670.6 | 697.3 | 729.8 | 761.4 | 795.0 | 827.5 | 858.0 | 889.6 | 917.2 |
| 17.5° | 651.0 | 651.0 | 669.7 | 703.3 | 740.7 | 779.2 | 817.7 | 854.2 | 888.7 | 923.2 | 952.8 |
| 20° | 641.0 | 643.0 | 667.7 | 708.2 | 750.5 | 793.9 | 835.3 | 875.8 | 914.3 | 951.7 | 984.2 |
| 22.5° | 629.2 | 633.2 | 664.8 | 710.2 | 758.5 | 803.9 | 849.1 | 892.5 | 933.0 | 974.4 | 1006.9 |
| 25° | 617.4 | 623.4 | 660.8 | 710.2 | 761.4 | 810.8 | 858.0 | 903.4 | 946.8 | 989.3 | 1024.7 |
| 27.5° | 604.5 | 612.5 | 654.8 | 707.1 | 762.3 | 812.6 | 862.0 | 909.4 | 954.8 | 998.0 | 1034.5 |
| 30° | 589.8 | 599.6 | 646.1 | 701.3 | 758.5 | 809.7 | 861.1 | 910.3 | 955.7 | 999.1 | 1034.5 |
| 32.5° | 573.1 | 585.8 | 635.2 | 692.4 | 750.5 | 802.8 | 854.2 | 903.4 | 949.7 | 992.2 | 1025.8 |
| 35° | 556.2 | 572.0 | 623.4 | 681.5 | 739.6 | 791.9 | 843.3 | 893.6 | 939.0 | 979.3 | 1008.9 |
| 37.5° | 539.5 | 556.2 | 608.5 | 666.8 | 724.9 | 777.2 | 829.5 | 877.8 | 921.2 | 958.6 | 985.3 |
| 40° | 520.8 | 539.5 | 591.8 | 651.0 | 708.2 | 760.5 | 811.7 | 858.0 | 897.6 | 932.1 | 956.6 |
| 42.5° | 500.1 | 520.8 | 574.0 | 633.2 | 689.3 | 740.7 | 789.9 | 833.3 | 870.9 | 901.4 | 922.1 |
| 45° | 480.3 | 502.1 | 555.3 | 614.5 | 669.7 | 720.0 | 767.4 | 807.7 | 841.3 | 868.9 | 886.7 |
| 47.5° | 458.7 | 481.2 | 536.6 | 593.8 | 647.9 | 697.3 | 742.7 | 779.2 | 811.7 | 835.3 | 851.1 |
| 50° | 436.0 | 460.5 | 515.9 | 573.1 | 626.3 | 674.6 | 718.0 | 751.6 | 781.2 | 800.8 | 815.7 |
| 52.5° | 413.3 | 438.9 | 494.1 | 551.3 | 604.5 | 651.0 | 692.4 | 724.9 | 750.5 | 768.3 | 781.2 |
| 55° | 388.6 | 417.1 | 472.5 | 529.7 | 580.9 | 627.2 | 666.8 | 696.4 | 720.0 | 734.7 | 746.7 |
| 57.5° | 363.0 | 393.5 | 450.7 | 507.9 | 559.3 | 603.6 | 641.0 | 668.6 | 689.3 | 702.2 | 711.1 |
| 60° | 337.4 | 369.9 | 427.1 | 484.3 | 534.6 | 578.9 | 614.5 | 640.1 | 658.8 | 668.6 | 675.5 |
| 62.5° | 310.7 | 345.2 | 403.3 | 460.5 | 511.9 | 553.3 | 586.9 | 610.5 | 627.2 | 635.2 | 642.1 |
| 65° | 283.1 | 319.6 | 378.8 | 436.0 | 487.2 | 525.7 | 558.2 | 580.0 | 594.7 | 601.6 | 605.6 |
| 67.5° | 254.4 | 292.9 | 353.0 | 410.2 | 459.6 | 497.0 | 527.7 | 549.3 | 561.1 | 567.1 | 570.0 |
| 70° | 224.8 | 265.3 | 325.4 | 382.6 | 430.0 | 465.6 | 495.2 | 514.8 | 526.6 | 532.6 | 533.5 |
| 72.5° | 197.2 | 236.8 | 297.8 | 353.0 | 398.4 | 432.9 | 460.5 | 481.2 | 493.2 | 498.1 | 498.1 |
| 75° | 167.6 | 207.2 | 267.3 | 320.5 | 363.9 | 397.5 | 425.1 | 444.9 | 455.6 | 460.5 | 460.5 |
| 77.5° | 142.0 | 178.5 | 234.8 | 286.0 | 326.5 | 359.0 | 385.7 | 406.4 | 418.2 | 423.1 | 423.1 |
| 80° | 113.5 | 148.9 | 201.2 | 248.6 | 286.0 | 315.6 | 343.2 | 365.0 | 376.8 | 378.8 | 375.7 |
| 82.5° | 87.7 | 120.4 | 164.7 | 207.2 | 241.7 | 269.3 | 296.9 | 314.7 | 323.4 | 325.4 | 324.5 |
| 85° | 62.1 | 88.8 | 126.2 | 160.7 | 189.4 | 215.0 | 234.8 | 251.5 | 260.4 | 263.3 | 265.3 |
| 87.5° | 36.5 | 51.2 | 75.0 | 101.5 | 123.3 | 140.0 | 151.8 | 166.7 | 175.6 | 181.4 | 187.4 |
| 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: P976883

CATALOG NUMBER: 24SR-LD2-C-39-UNV-L840-CD1-PL-U

CANDELA DISTRIBUTION (continued):

| | 55° | 60° | 65° | 70° | 75° | 80° | 85° | 90° |
|-------|--------|--------|--------|--------|--------|--------|--------|--------|
| 0° | 677.5 | 677.5 | 677.5 | 677.5 | 677.5 | 677.5 | 677.5 | 677.5 |
| 2.5° | 682.4 | 683.5 | 684.4 | 684.4 | 684.4 | 685.5 | 684.4 | 684.4 |
| 5° | 725.8 | 731.8 | 736.7 | 739.6 | 742.7 | 747.6 | 746.7 | 747.6 |
| 7.5° | 780.1 | 789.9 | 800.8 | 806.8 | 810.8 | 816.6 | 818.6 | 818.6 |
| 10° | 836.4 | 850.2 | 862.9 | 871.8 | 877.8 | 886.7 | 887.6 | 888.7 |
| 12.5° | 889.6 | 906.3 | 921.2 | 931.0 | 939.9 | 947.7 | 951.7 | 952.8 |
| 15° | 935.0 | 955.7 | 972.4 | 985.3 | 994.2 | 1003.1 | 1008.0 | 1010.0 |
| 17.5° | 975.5 | 997.1 | 1015.8 | 1030.7 | 1041.4 | 1050.3 | 1056.3 | 1058.3 |
| 20° | 1006.9 | 1030.7 | 1051.4 | 1067.2 | 1079.9 | 1089.9 | 1097.7 | 1099.7 |
| 22.5° | 1032.7 | 1057.2 | 1079.0 | 1096.8 | 1109.5 | 1121.3 | 1128.2 | 1131.3 |
| 25° | 1051.4 | 1077.9 | 1100.6 | 1117.5 | 1131.3 | 1142.0 | 1148.9 | 1152.0 |
| 27.5° | 1062.3 | 1088.8 | 1110.6 | 1127.3 | 1141.1 | 1150.9 | 1157.8 | 1160.9 |
| 30° | 1062.3 | 1087.9 | 1109.5 | 1125.3 | 1138.2 | 1148.0 | 1152.9 | 1156.0 |
| 32.5° | 1051.4 | 1076.1 | 1095.7 | 1109.5 | 1121.3 | 1131.3 | 1135.1 | 1137.1 |
| 35° | 1033.6 | 1055.4 | 1073.0 | 1084.8 | 1094.8 | 1103.7 | 1107.5 | 1109.5 |
| 37.5° | 1008.0 | 1027.6 | 1041.4 | 1052.3 | 1060.3 | 1069.2 | 1072.1 | 1074.1 |
| 40° | 975.5 | 994.2 | 1004.0 | 1013.8 | 1020.7 | 1028.7 | 1030.7 | 1030.7 |
| 42.5° | 939.9 | 955.7 | 965.5 | 972.4 | 977.3 | 982.4 | 985.3 | 985.3 |
| 45° | 902.5 | 916.3 | 923.2 | 929.0 | 933.9 | 937.9 | 940.8 | 940.8 |
| 47.5° | 864.9 | 875.8 | 881.8 | 885.6 | 889.6 | 893.6 | 895.6 | 895.6 |
| 50° | 827.5 | 835.3 | 840.2 | 843.3 | 847.3 | 850.2 | 852.2 | 851.1 |
| 52.5° | 789.9 | 795.9 | 799.9 | 802.8 | 804.8 | 807.7 | 808.8 | 809.7 |
| 55° | 752.5 | 756.5 | 759.4 | 761.4 | 765.4 | 768.3 | 769.2 | 771.2 |
| 57.5° | 716.0 | 718.0 | 722.0 | 722.9 | 726.9 | 729.8 | 730.9 | 731.8 |
| 60° | 678.6 | 680.6 | 683.5 | 685.5 | 690.4 | 692.4 | 693.3 | 695.3 |
| 62.5° | 642.1 | 643.0 | 647.0 | 651.0 | 654.8 | 656.8 | 657.9 | 658.8 |
| 65° | 605.6 | 608.5 | 611.4 | 614.5 | 618.3 | 621.4 | 622.3 | 624.3 |
| 67.5° | 570.0 | 572.0 | 576.0 | 578.9 | 581.8 | 584.9 | 586.9 | 587.8 |
| 70° | 533.5 | 535.5 | 538.6 | 540.4 | 543.5 | 546.4 | 549.3 | 549.3 |
| 72.5° | 498.1 | 498.1 | 500.1 | 502.1 | 505.0 | 507.0 | 507.9 | 507.9 |
| 75° | 459.6 | 458.7 | 460.5 | 461.6 | 461.6 | 461.6 | 462.5 | 463.6 |
| 77.5° | 418.2 | 414.2 | 412.2 | 412.2 | 413.3 | 411.3 | 412.2 | 413.3 |
| 80° | 370.8 | 366.8 | 365.9 | 365.9 | 366.8 | 365.9 | 366.8 | 366.8 |
| 82.5° | 320.5 | 320.5 | 317.6 | 318.5 | 319.6 | 317.6 | 319.6 | 321.6 |
| 85° | 262.4 | 263.3 | 262.4 | 265.3 | 265.3 | 265.3 | 266.2 | 268.2 |
| 87.5° | 188.3 | 194.3 | 192.3 | 196.3 | 195.2 | 196.3 | 197.2 | 200.3 |
| 90° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |



TEST NUMBER: P976883
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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 | 12.6 | 14.4 | 13.0 | 14.7 | 15.0 | 14.6 | 16.4 | 15.0 | 16.7 | 17.0 |
| | 3H | 14.6 | 16.2 | 15.0 | 16.6 | 16.9 | 17.2 | 18.8 | 17.6 | 19.2 | 19.5 |
| | 4H | 15.4 | 16.9 | 15.8 | 17.3 | 17.6 | 18.4 | 20.0 | 18.8 | 20.3 | 20.7 |
| | 6H | 16.0 | 17.4 | 16.4 | 17.8 | 18.2 | 19.6 | 21.1 | 20.0 | 21.4 | 21.8 |
| | 8H | 16.2 | 17.6 | 16.6 | 18.0 | 18.3 | 20.2 | 21.6 | 20.6 | 22.0 | 22.4 |
| | 12H | 16.4 | 17.7 | 16.8 | 18.1 | 18.5 | 20.8 | 22.1 | 21.2 | 22.5 | 22.9 |
| 4H | 2H | 14.0 | 15.6 | 14.4 | 15.9 | 16.3 | 15.4 | 17.0 | 15.8 | 17.3 | 17.7 |
| | 3H | 16.5 | 17.9 | 16.9 | 18.2 | 18.6 | 18.3 | 19.6 | 18.7 | 20.0 | 20.4 |
| | 4H | 17.6 | 18.8 | 18.0 | 19.2 | 19.7 | 19.7 | 20.9 | 20.1 | 21.3 | 21.7 |
| | 6H | 18.5 | 19.6 | 19.0 | 20.0 | 20.5 | 21.0 | 22.1 | 21.5 | 22.6 | 23.0 |
| | 8H | 18.8 | 19.8 | 19.3 | 20.3 | 20.7 | 21.7 | 22.7 | 22.2 | 23.2 | 23.6 |
| | 12H | 19.1 | 20.0 | 19.6 | 20.5 | 20.9 | 22.4 | 23.3 | 22.9 | 23.8 | 24.3 |
| 8H | 4H | 18.7 | 19.7 | 19.1 | 20.1 | 20.6 | 20.2 | 21.3 | 20.7 | 21.7 | 22.2 |
| | 6H | 20.0 | 20.8 | 20.5 | 21.3 | 21.8 | 21.8 | 22.7 | 22.3 | 23.2 | 23.7 |
| | 8H | 20.5 | 21.3 | 21.0 | 21.8 | 22.3 | 22.7 | 23.4 | 23.2 | 23.9 | 24.4 |
| | 12H | 21.0 | 21.7 | 21.5 | 22.2 | 22.7 | 23.5 | 24.2 | 24.0 | 24.7 | 25.3 |
| 12H | 4H | 18.9 | 19.8 | 19.3 | 20.3 | 20.7 | 20.4 | 21.3 | 20.8 | 21.8 | 22.2 |
| | 6H | 20.4 | 21.1 | 20.9 | 21.6 | 22.1 | 22.1 | 22.8 | 22.6 | 23.3 | 23.8 |
| | 8H | 21.1 | 21.8 | 21.6 | 22.3 | 22.8 | 23.0 | 23.7 | 23.5 | 24.2 | 24.7 |

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

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| 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

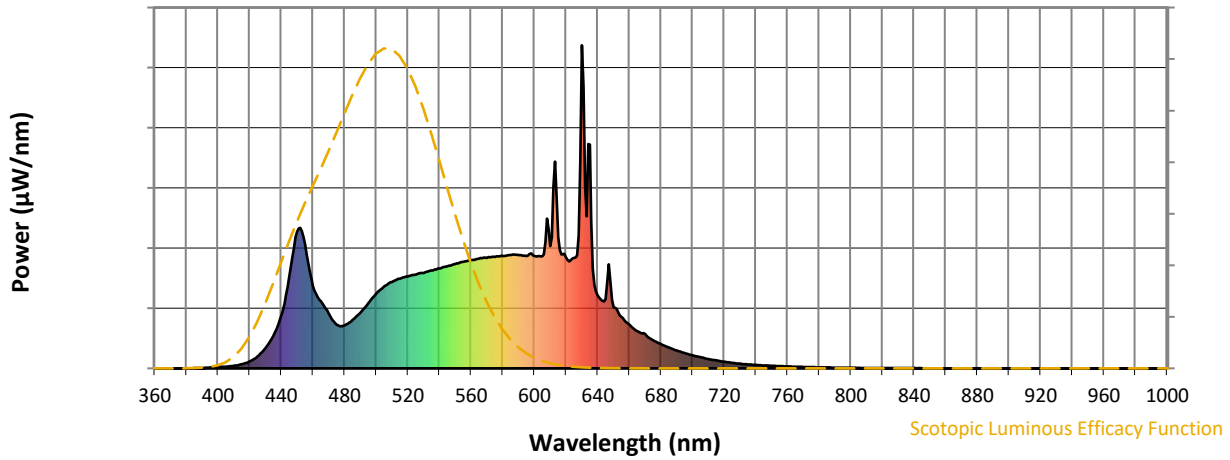


Photopic Lumens: NR

| 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 | | | |

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

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

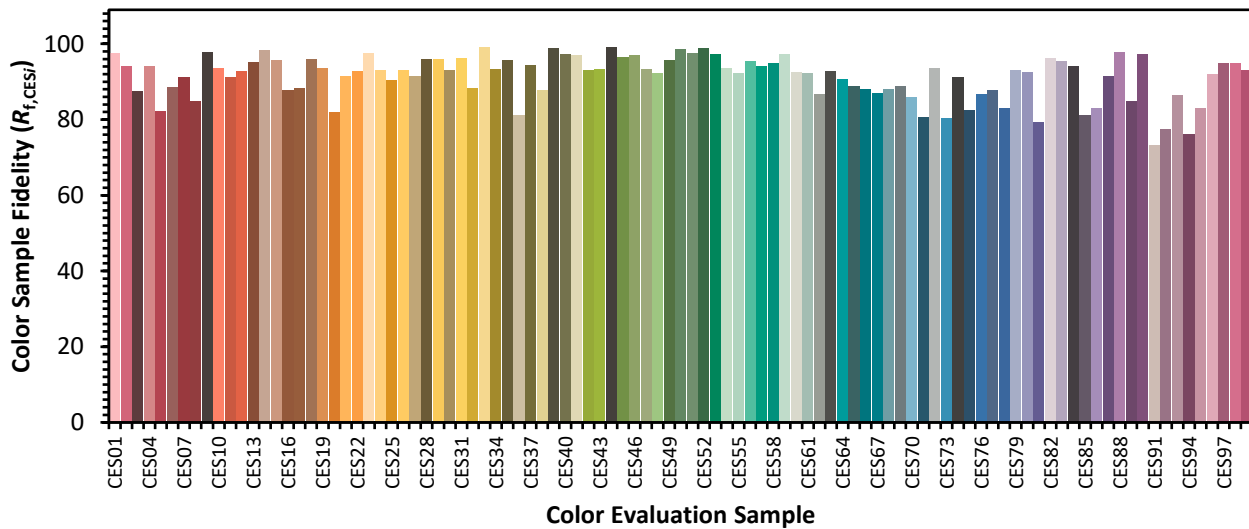


Color Vector Graphics



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)