

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: P976951

Luminaire Tested: 24SR-LD2-C-64-UNV-L840-CD1-SO-U

Issue Date: 03/18/2025

**Test Information**

Test Method: LM-79-2019  
Report Number: P976951  
Test Lab: INNOVATION CENTER(P3)  
Issue Date: 03/18/2025  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: METALUX  
Catalog Number: 24SR-LD2-C-64-UNV-L840-CD1-SO-U  
Description: METALUX SKYRIDGE 2x4 6400LM PACKAGE 80CRI 4000K TROFFER with Storaro Orange SKYTR  
Light Source: 4000K CCT, 80+ CRI LEDS  
Ballast/Driver: -

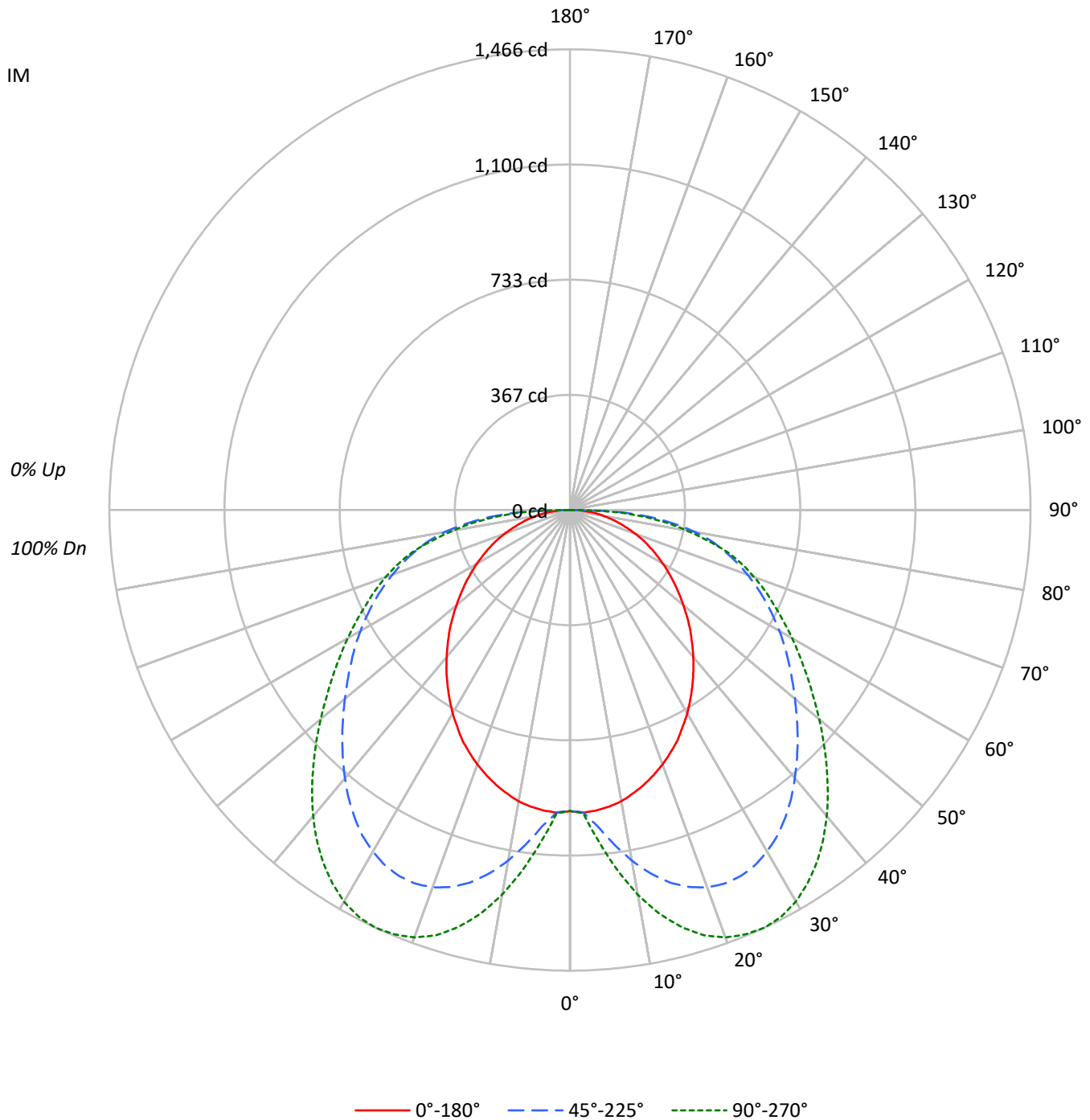
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 4427.0 lumens  
Efficiency: N/A  
Efficacy: 93.0 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): 47.6  
Input Voltage (V): 120  
Input Current (A<sub>in</sub>): 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: P976951  
CATALOG NUMBER: 24SR-LD2-C-64-UNV-L840-CD1-SO-U

### Luminous Intensity Polar Plot





TEST NUMBER: P976951

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**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°  | 1289 | 1289 | 1289 |
| 5°  | 1296 | 1364 | 1432 |
| 10° | 1286 | 1547 | 1698 |
| 15° | 1262 | 1709 | 1914 |
| 20° | 1234 | 1830 | 2073 |
| 25° | 1202 | 1908 | 2177 |
| 30° | 1160 | 1950 | 2235 |
| 35° | 1116 | 1963 | 2249 |
| 40° | 1072 | 1957 | 2234 |
| 45° | 1031 | 1951 | 2198 |
| 50° | 987  | 1957 | 2168 |
| 55° | 951  | 1996 | 2161 |
| 60° | 922  | 2071 | 2199 |
| 65° | 896  | 2188 | 2285 |
| 70° | 873  | 2366 | 2456 |
| 75° | 851  | 2657 | 2705 |
| 80° | 854  | 3141 | 2941 |
| 85° | 945  | 3944 | 3566 |

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 45°  
 Vertical Angle: 87.5°  
 Luminance: 5006 cd/sqm



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**ZONAL LUMENS:**

| Zone      | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10°    | 99.4   | 2.2       |
| 10°-20°   | 334.7  | 7.6       |
| 20°-30°   | 560.5  | 12.7      |
| 30°-40°   | 701.8  | 15.9      |
| 40°-50°   | 736.2  | 16.6      |
| 50°-60°   | 695.7  | 15.7      |
| 60°-70°   | 609.0  | 13.8      |
| 70°-80°   | 470.3  | 10.6      |
| 80°-90°   | 219.4  | 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°    | 994.6  | 22.5      |
| 0°-40°    | 1696.4 | 38.3      |
| 0°-60°    | 3128.3 | 70.7      |
| 0°-90°    | 4427.0 | 100.0     |
| 90°-120°  | 0.0    | 0.0       |
| 90°-150°  | 0.0    | 0.0       |
| 90°-180°  | 0.0    | 0.0       |
| 0°-180°   | 4427.0 | 100.0     |

**CANDELA DISTRIBUTION:**

|     | 0°  | 22.5° | 45°  | 67.5° | 90°  | Flux |
|-----|-----|-------|------|-------|------|------|
| 0°  | 958 | 958   | 958  | 958   | 958  |      |
| 5°  | 960 | 959   | 1010 | 1048  | 1060 | 91   |
| 15° | 906 | 1033  | 1227 | 1338  | 1374 | 255  |
| 25° | 809 | 1039  | 1286 | 1416  | 1466 | 372  |
| 35° | 680 | 950   | 1195 | 1324  | 1370 | 425  |
| 45° | 542 | 805   | 1025 | 1125  | 1155 | 418  |
| 55° | 405 | 669   | 851  | 906   | 921  | 363  |
| 65° | 282 | 548   | 687  | 706   | 718  | 279  |
| 75° | 164 | 410   | 511  | 516   | 520  | 173  |
| 85° | 61  | 216   | 256  | 236   | 231  | 65   |
| 90° | 0   | 0     | 0    | 0     | 0    |      |



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**CANDELA DISTRIBUTION (FULL):**

|       | 0°    | 5°    | 10°   | 15°   | 20°    | 25°    | 30°    | 35°    | 40°    | 45°    | 50°    |
|-------|-------|-------|-------|-------|--------|--------|--------|--------|--------|--------|--------|
| 0°    | 957.9 | 957.9 | 957.9 | 957.9 | 957.9  | 957.9  | 957.9  | 957.9  | 957.9  | 957.9  | 957.9  |
| 2.5°  | 964.1 | 962.6 | 961.0 | 957.9 | 956.4  | 956.4  | 956.4  | 956.4  | 957.9  | 962.6  | 965.5  |
| 5°    | 959.5 | 959.5 | 956.4 | 954.8 | 956.4  | 961.0  | 968.6  | 980.9  | 993.1  | 1010.0 | 1023.8 |
| 7.5°  | 951.9 | 950.3 | 948.8 | 950.3 | 964.1  | 984.0  | 1003.8 | 1026.9 | 1048.3 | 1072.8 | 1092.5 |
| 10°   | 941.2 | 939.6 | 941.2 | 953.3 | 980.9  | 1013.1 | 1042.1 | 1071.1 | 1100.2 | 1132.3 | 1159.9 |
| 12.5° | 924.3 | 924.3 | 930.3 | 957.9 | 996.2  | 1035.9 | 1074.2 | 1110.9 | 1147.7 | 1184.4 | 1216.5 |
| 15°   | 906.0 | 907.4 | 922.7 | 962.6 | 1010.0 | 1055.9 | 1100.2 | 1143.2 | 1186.0 | 1227.2 | 1262.4 |
| 17.5° | 884.6 | 887.5 | 913.6 | 962.6 | 1016.2 | 1069.7 | 1120.1 | 1167.5 | 1213.4 | 1257.9 | 1294.5 |
| 20°   | 861.5 | 864.6 | 902.9 | 959.5 | 1019.2 | 1077.3 | 1130.8 | 1182.9 | 1231.9 | 1277.9 | 1316.0 |
| 22.5° | 835.6 | 840.1 | 889.1 | 950.3 | 1016.2 | 1078.7 | 1133.9 | 1187.5 | 1237.9 | 1286.9 | 1325.2 |
| 25°   | 809.4 | 815.6 | 872.2 | 938.1 | 1006.9 | 1071.1 | 1129.4 | 1182.9 | 1236.5 | 1285.5 | 1323.6 |
| 27.5° | 777.3 | 788.0 | 852.2 | 919.6 | 993.1  | 1057.3 | 1115.6 | 1172.2 | 1225.8 | 1274.8 | 1312.9 |
| 30°   | 746.8 | 760.6 | 828.0 | 898.2 | 973.3  | 1037.6 | 1095.6 | 1152.3 | 1205.8 | 1254.8 | 1293.1 |
| 32.5° | 713.1 | 729.9 | 800.4 | 873.9 | 947.2  | 1010.0 | 1069.7 | 1126.3 | 1179.8 | 1228.9 | 1265.5 |
| 35°   | 679.5 | 699.3 | 771.3 | 846.3 | 918.1  | 980.9  | 1039.0 | 1095.6 | 1147.7 | 1195.1 | 1230.3 |
| 37.5° | 645.7 | 667.1 | 739.2 | 815.6 | 884.6  | 945.7  | 1003.8 | 1059.0 | 1112.5 | 1156.8 | 1192.0 |
| 40°   | 610.5 | 635.0 | 706.9 | 780.4 | 849.4  | 908.9  | 967.1  | 1020.7 | 1071.1 | 1114.0 | 1147.7 |
| 42.5° | 575.3 | 602.9 | 674.8 | 746.8 | 812.5  | 870.8  | 928.8  | 980.9  | 1028.3 | 1069.7 | 1101.8 |
| 45°   | 541.7 | 569.3 | 639.5 | 711.6 | 775.9  | 833.9  | 890.5  | 941.2  | 986.9  | 1025.2 | 1055.9 |
| 47.5° | 506.5 | 537.2 | 607.4 | 677.8 | 739.2  | 797.3  | 852.2  | 899.8  | 944.1  | 979.3  | 1008.5 |
| 50°   | 471.3 | 504.9 | 573.9 | 642.6 | 705.4  | 762.1  | 815.6  | 861.5  | 902.9  | 935.0  | 962.6  |
| 52.5° | 437.6 | 472.8 | 543.2 | 610.5 | 671.9  | 728.5  | 780.4  | 824.9  | 863.2  | 892.2  | 916.7  |
| 55°   | 405.4 | 442.3 | 512.7 | 578.4 | 641.2  | 696.2  | 745.2  | 788.0  | 823.2  | 850.8  | 872.2  |
| 57.5° | 373.3 | 413.3 | 483.5 | 550.8 | 610.5  | 665.7  | 713.1  | 752.8  | 784.9  | 811.1  | 829.4  |
| 60°   | 342.8 | 384.0 | 456.1 | 521.8 | 581.5  | 635.0  | 680.9  | 717.6  | 748.3  | 769.7  | 783.5  |
| 62.5° | 310.7 | 355.0 | 426.8 | 494.2 | 553.9  | 604.5  | 648.8  | 684.0  | 710.0  | 728.5  | 740.6  |
| 65°   | 281.5 | 326.0 | 399.5 | 466.8 | 523.4  | 572.2  | 613.6  | 647.4  | 671.9  | 687.1  | 694.7  |
| 67.5° | 252.4 | 298.4 | 371.9 | 437.6 | 492.7  | 540.1  | 578.4  | 610.5  | 631.9  | 644.3  | 650.3  |
| 70°   | 222.0 | 270.8 | 342.8 | 407.1 | 460.6  | 504.9  | 543.2  | 570.8  | 590.7  | 601.5  | 604.5  |
| 72.5° | 191.3 | 241.7 | 313.8 | 376.4 | 426.8  | 469.9  | 504.9  | 531.0  | 549.4  | 557.0  | 558.6  |
| 75°   | 163.7 | 211.3 | 281.5 | 341.2 | 390.2  | 429.9  | 465.1  | 489.6  | 503.4  | 511.1  | 512.7  |
| 77.5° | 136.1 | 182.0 | 249.4 | 306.0 | 348.8  | 387.1  | 420.9  | 443.7  | 457.5  | 463.7  | 463.7  |
| 80°   | 110.2 | 153.0 | 214.1 | 264.8 | 306.0  | 341.2  | 371.9  | 394.7  | 407.1  | 405.4  | 399.5  |
| 82.5° | 85.7  | 125.4 | 177.5 | 222.0 | 258.6  | 290.7  | 321.4  | 335.2  | 339.7  | 335.2  | 330.5  |
| 85°   | 61.2  | 93.3  | 134.7 | 171.3 | 203.4  | 227.9  | 247.9  | 258.6  | 260.1  | 255.5  | 251.0  |
| 87.5° | 35.2  | 52.1  | 76.6  | 104.0 | 120.9  | 136.1  | 153.0  | 159.2  | 159.2  | 162.3  | 153.0  |
| 90°   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    |



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**CANDELA DISTRIBUTION (continued):**

|       | 55°    | 60°    | 65°    | 70°    | 75°    | 80°    | 85°    | 90°    |
|-------|--------|--------|--------|--------|--------|--------|--------|--------|
| 0°    | 957.9  | 957.9  | 957.9  | 957.9  | 957.9  | 957.9  | 957.9  | 957.9  |
| 2.5°  | 964.1  | 965.5  | 965.5  | 968.6  | 970.2  | 970.2  | 968.6  | 965.5  |
| 5°    | 1028.3 | 1037.6 | 1043.5 | 1052.8 | 1057.3 | 1062.1 | 1063.5 | 1060.4 |
| 7.5°  | 1103.2 | 1117.0 | 1129.4 | 1143.2 | 1149.2 | 1153.9 | 1159.9 | 1155.3 |
| 10°   | 1175.3 | 1193.6 | 1208.9 | 1224.1 | 1233.4 | 1239.6 | 1244.1 | 1242.6 |
| 12.5° | 1236.5 | 1257.9 | 1274.8 | 1290.0 | 1302.2 | 1311.4 | 1316.0 | 1316.0 |
| 15°   | 1283.8 | 1308.3 | 1329.7 | 1346.6 | 1358.8 | 1368.0 | 1374.2 | 1374.2 |
| 17.5° | 1320.7 | 1345.0 | 1368.0 | 1384.9 | 1397.1 | 1409.4 | 1415.4 | 1418.5 |
| 20°   | 1342.1 | 1368.0 | 1390.9 | 1409.4 | 1423.2 | 1436.8 | 1443.0 | 1447.5 |
| 22.5° | 1352.8 | 1378.8 | 1403.3 | 1423.2 | 1438.5 | 1450.6 | 1458.2 | 1461.3 |
| 25°   | 1352.8 | 1380.2 | 1406.3 | 1426.1 | 1441.6 | 1455.4 | 1463.0 | 1466.1 |
| 27.5° | 1343.5 | 1372.6 | 1398.7 | 1417.1 | 1433.9 | 1447.5 | 1455.4 | 1458.2 |
| 30°   | 1325.2 | 1354.3 | 1380.2 | 1398.7 | 1415.4 | 1427.8 | 1435.4 | 1438.5 |
| 32.5° | 1296.2 | 1326.7 | 1351.2 | 1369.5 | 1386.4 | 1398.7 | 1406.3 | 1407.8 |
| 35°   | 1262.4 | 1291.4 | 1314.5 | 1332.8 | 1349.7 | 1360.4 | 1366.6 | 1369.5 |
| 37.5° | 1221.2 | 1248.6 | 1271.7 | 1288.6 | 1303.8 | 1316.0 | 1322.1 | 1323.6 |
| 40°   | 1176.8 | 1202.7 | 1222.7 | 1237.9 | 1253.4 | 1264.1 | 1270.0 | 1271.7 |
| 42.5° | 1129.4 | 1153.9 | 1172.2 | 1186.0 | 1199.6 | 1208.9 | 1213.4 | 1215.1 |
| 45°   | 1080.4 | 1101.8 | 1118.7 | 1130.8 | 1143.2 | 1150.8 | 1155.3 | 1155.3 |
| 47.5° | 1031.4 | 1051.4 | 1065.0 | 1074.2 | 1084.9 | 1092.5 | 1097.3 | 1095.6 |
| 50°   | 982.4  | 999.3  | 1010.0 | 1019.2 | 1028.3 | 1032.8 | 1037.6 | 1035.9 |
| 52.5° | 933.4  | 948.8  | 954.8  | 962.6  | 970.2  | 974.8  | 979.3  | 976.2  |
| 55°   | 886.0  | 896.7  | 902.9  | 908.9  | 915.1  | 919.6  | 922.7  | 921.2  |
| 57.5° | 840.1  | 847.7  | 852.2  | 858.4  | 863.2  | 866.0  | 869.1  | 867.7  |
| 60°   | 791.1  | 797.3  | 800.4  | 806.5  | 811.1  | 814.2  | 817.2  | 817.2  |
| 62.5° | 745.2  | 749.9  | 751.4  | 757.5  | 760.6  | 763.5  | 768.2  | 766.6  |
| 65°   | 696.2  | 700.9  | 704.0  | 708.5  | 711.6  | 714.7  | 719.2  | 717.6  |
| 67.5° | 650.3  | 655.0  | 656.4  | 661.2  | 665.7  | 670.2  | 671.9  | 671.9  |
| 70°   | 604.5  | 607.4  | 609.1  | 615.3  | 616.7  | 621.2  | 624.3  | 624.3  |
| 72.5° | 558.6  | 560.1  | 563.2  | 567.7  | 570.8  | 573.9  | 577.0  | 575.3  |
| 75°   | 509.6  | 512.7  | 514.1  | 517.2  | 517.2  | 520.3  | 520.3  | 520.3  |
| 77.5° | 459.2  | 454.4  | 453.0  | 451.3  | 449.9  | 449.9  | 449.9  | 448.3  |
| 80°   | 390.2  | 385.7  | 384.0  | 381.1  | 381.1  | 381.1  | 381.1  | 379.5  |
| 82.5° | 322.9  | 316.7  | 313.8  | 312.2  | 310.7  | 310.7  | 310.7  | 309.1  |
| 85°   | 244.8  | 238.6  | 237.2  | 235.6  | 235.6  | 234.1  | 232.7  | 231.0  |
| 87.5° | 151.5  | 146.8  | 145.4  | 142.3  | 143.9  | 140.8  | 140.8  | 140.8  |
| 90°   | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    |



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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 | 12.7             | 14.4 | 13.1 | 14.7 | 15.1 | 15.3           | 17.0 | 15.6 | 17.3 | 17.6 |
|                 | 3H   | 14.6             | 16.2 | 14.9 | 16.5 | 16.8 | 17.7           | 19.3 | 18.1 | 19.6 | 20.0 |
|                 | 4H   | 15.3             | 16.8 | 15.7 | 17.1 | 17.5 | 18.9           | 20.4 | 19.3 | 20.7 | 21.1 |
|                 | 6H   | 15.8             | 17.2 | 16.2 | 17.6 | 18.0 | 19.9           | 21.3 | 20.3 | 21.7 | 22.1 |
|                 | 8H   | 16.0             | 17.4 | 16.5 | 17.8 | 18.2 | 20.4           | 21.7 | 20.8 | 22.1 | 22.5 |
|                 | 12H  | 16.2             | 17.5 | 16.6 | 17.9 | 18.3 | 20.8           | 22.0 | 21.2 | 22.4 | 22.9 |
| 4H              | 2H   | 14.2             | 15.7 | 14.6 | 16.1 | 16.5 | 16.0           | 17.5 | 16.4 | 17.9 | 18.2 |
|                 | 3H   | 16.6             | 17.9 | 17.0 | 18.3 | 18.7 | 18.7           | 20.0 | 19.1 | 20.4 | 20.8 |
|                 | 4H   | 17.6             | 18.8 | 18.1 | 19.2 | 19.7 | 20.1           | 21.2 | 20.5 | 21.7 | 22.1 |
|                 | 6H   | 18.5             | 19.5 | 18.9 | 20.0 | 20.4 | 21.3           | 22.3 | 21.7 | 22.8 | 23.2 |
|                 | 8H   | 18.8             | 19.8 | 19.3 | 20.2 | 20.7 | 21.8           | 22.8 | 22.3 | 23.2 | 23.7 |
|                 | 12H  | 19.0             | 19.9 | 19.5 | 20.4 | 20.9 | 22.3           | 23.2 | 22.8 | 23.7 | 24.1 |
| 8H              | 4H   | 18.7             | 19.7 | 19.2 | 20.1 | 20.6 | 20.6           | 21.6 | 21.0 | 22.0 | 22.5 |
|                 | 6H   | 20.0             | 20.8 | 20.5 | 21.3 | 21.8 | 22.0           | 22.8 | 22.5 | 23.3 | 23.8 |
|                 | 8H   | 20.5             | 21.3 | 21.0 | 21.8 | 22.3 | 22.7           | 23.4 | 23.2 | 23.9 | 24.4 |
|                 | 12H  | 21.0             | 21.6 | 21.5 | 22.1 | 22.7 | 23.3           | 24.0 | 23.8 | 24.5 | 25.0 |
| 12H             | 4H   | 18.9             | 19.8 | 19.4 | 20.3 | 20.7 | 20.7           | 21.6 | 21.2 | 22.1 | 22.5 |
|                 | 6H   | 20.3             | 21.1 | 20.9 | 21.6 | 22.1 | 22.2           | 23.0 | 22.7 | 23.4 | 23.9 |
|                 | 8H   | 21.1             | 21.7 | 21.6 | 22.2 | 22.8 | 22.9           | 23.6 | 23.5 | 24.1 | 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:  $4\pi$   
 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 | R9:  | 65.3 |
| R2:       | 96.3 | R10: | 89.6 |
| R3:       | 95.7 | R11: | 95.5 |
| R4:       | 95.2 | R12: | 76.1 |
| R5:       | 94.4 | R13: | 95.5 |
| R6:       | 94.3 | R14: | 96.8 |
| R7:       | 94.1 | R15: | 92.3 |
| R8:       | 86.7 |      |      |



**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

REPORT NUMBER: SP1-2506-457-7

**Photopic Flux vs. Wavelength**



**Photopic Lumens: NR**

| λ (nm) | Power W <sup>^</sup> /nm | Lumens (φ/nm) | λ (nm) | Power W <sup>^</sup> /nm | Lumens (φ/nm) | λ (nm) | Power W <sup>^</sup> /nm | Lumens (φ/nm) | λ (nm) | Power W <sup>^</sup> /nm | Lumens (φ/nm) | λ (nm) | Power W <sup>^</sup> /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 <sup>^</sup> /nm | Lumens (φ/nm) | λ (nm) | Power W <sup>^</sup> /nm | Lumens (φ/nm) | λ (nm) | Power W <sup>^</sup> /nm | Lumens (φ/nm) | λ (nm) | Power W <sup>^</sup> /nm | Lumens (φ/nm) | λ (nm) | Power W <sup>^</sup> /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

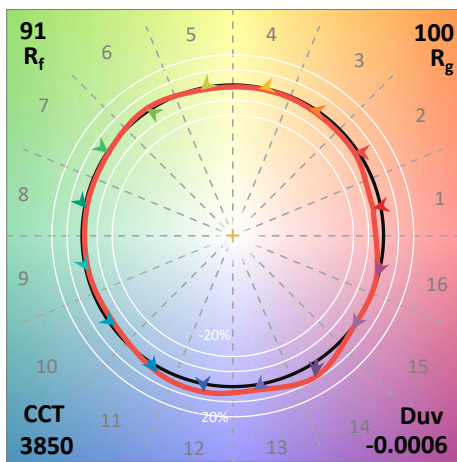
| λ (nm) | Power W <sup>^</sup> /nm | Lumens (φ/nm) | λ (nm) | Power W <sup>^</sup> /nm | Lumens (φ/nm) | λ (nm) | Power W <sup>^</sup> /nm | Lumens (φ/nm) | λ (nm) | Power W <sup>^</sup> /nm | Lumens (φ/nm) | λ (nm) | Power W <sup>^</sup> /nm | Lumens (φ/nm) |
|--------|--------------------------|---------------|--------|--------------------------|---------------|--------|--------------------------|---------------|--------|--------------------------|---------------|--------|--------------------------|---------------|
| 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**

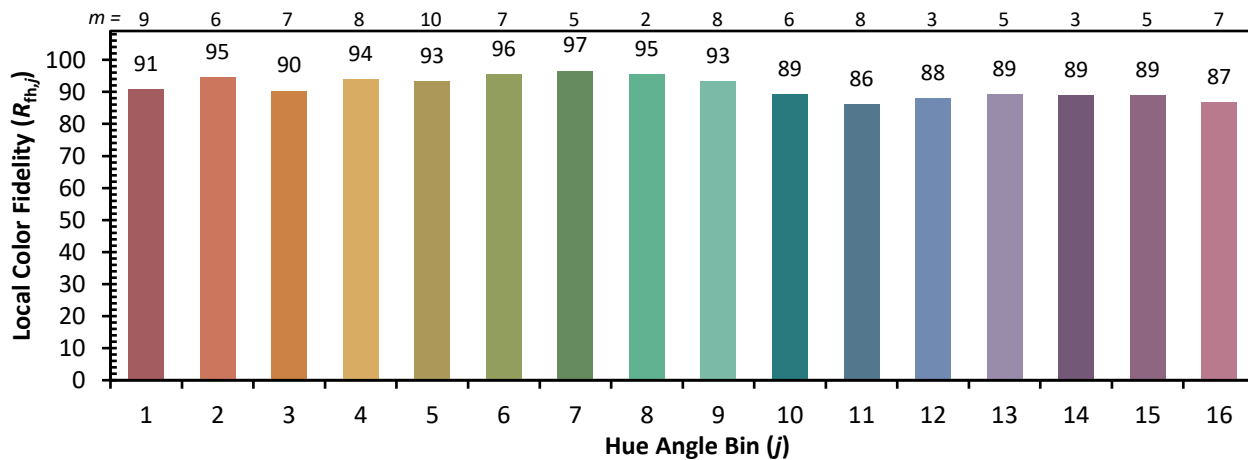


**Individual Sample Fidelity Index ( $R_{f,i}$ )**

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