

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: P981649

Luminaire Tested: 4PWM-2060C5-850-HIGH

Issue Date: 01/28/2026

Test Information

Test Method: LM-79-2019
Report Number: P981649
Test Lab: INNOVATION CENTER(P3)
Issue Date: 01/28/2026
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: METALUX
Catalog Number: 4PWM-2060C5-850-HIGH
Description: METALUX 8.75 INCH PROWRAP 80CRI 5000K FIXTURE HIGH OUTPUT SETTING
Light Source: 5000K CCT, 80+ CRI LEDS
Ballast/Driver: -

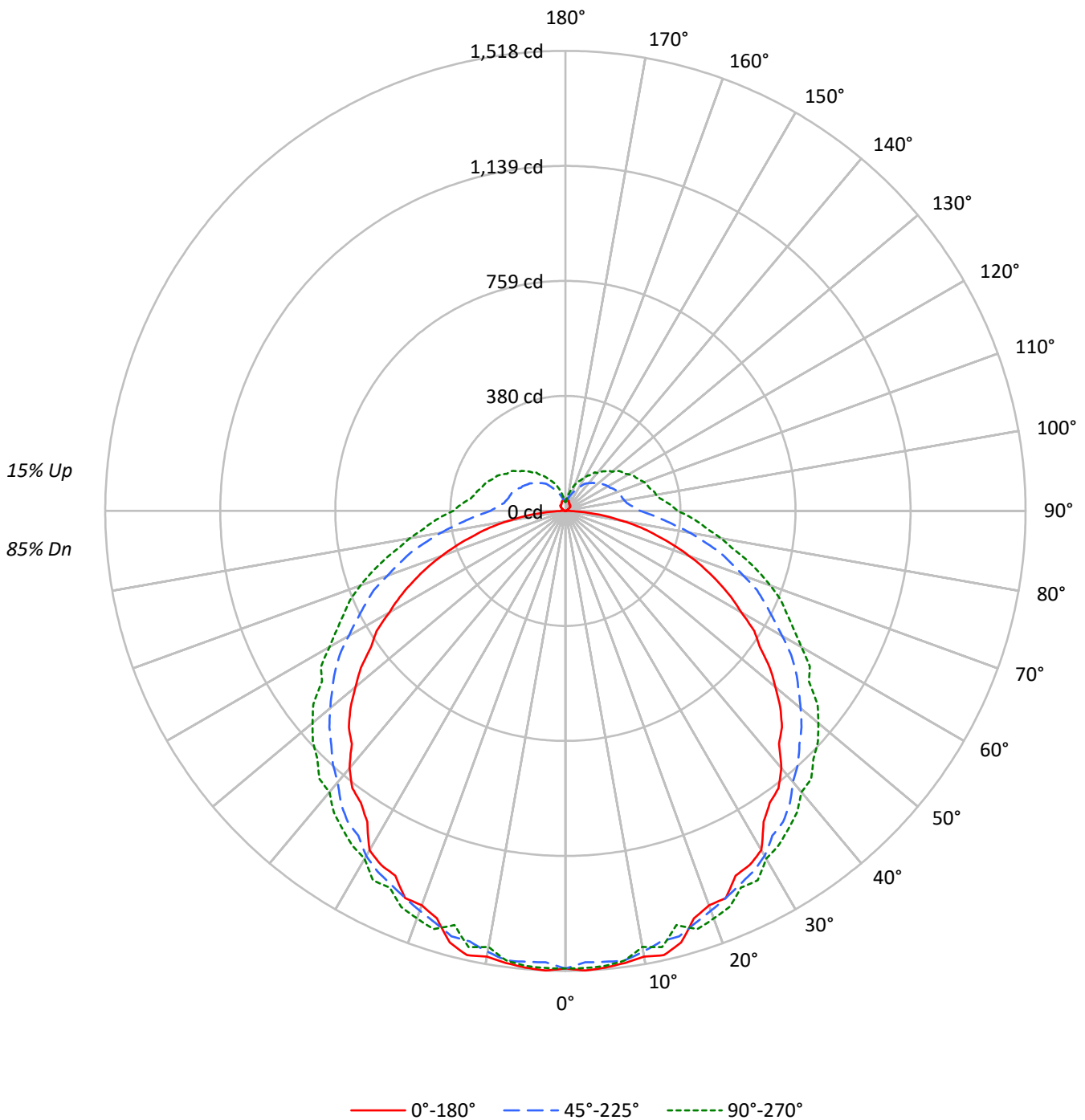
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 6063.9 lumens
Efficiency: N/A
Efficacy: 126.1 lumens/watt
Spacing Criteria (0/90/45): 1.25 / 1.32 / 1.44
Luminous Opening: Rectangular w/ Sides (W: 0.73' x L: 3.76' x H: 0.19')
CIE Type: Semi-Direct

Input Watts (W): 48.1
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: P981649
CATALOG NUMBER: 4PWM-2060C5-850-HIGH

Luminous Intensity Polar Plot





TEST NUMBER: P981649

CATALOG NUMBER: 4PWM-2060C5-850-HIGH

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 | 116 | 116 | 116 | 116 | 111 | 111 | 111 | 111 | 103 | 103 | 103 | 96 | 96 | 96 | 89 | 89 | 89 | 89 | 89 | 89 | 85 |
| 1 | 103 | 98 | 93 | 88 | 99 | 94 | 90 | 85 | 87 | 83 | 80 | 81 | 78 | 75 | 75 | 72 | 70 | 75 | 72 | 70 | 67 |
| 2 | 93 | 84 | 77 | 70 | 89 | 81 | 74 | 68 | 75 | 69 | 64 | 69 | 65 | 61 | 64 | 61 | 57 | 64 | 61 | 57 | 54 |
| 3 | 84 | 73 | 64 | 57 | 81 | 70 | 62 | 56 | 65 | 59 | 53 | 61 | 55 | 50 | 56 | 52 | 48 | 56 | 52 | 48 | 45 |
| 4 | 77 | 64 | 55 | 48 | 73 | 62 | 54 | 47 | 58 | 50 | 45 | 54 | 47 | 43 | 50 | 45 | 40 | 50 | 45 | 40 | 38 |
| 5 | 71 | 57 | 48 | 41 | 67 | 55 | 47 | 40 | 51 | 44 | 38 | 48 | 42 | 37 | 45 | 39 | 35 | 45 | 39 | 35 | 32 |
| 6 | 65 | 51 | 42 | 35 | 62 | 50 | 41 | 35 | 46 | 39 | 33 | 43 | 37 | 32 | 40 | 35 | 30 | 40 | 35 | 30 | 28 |
| 7 | 60 | 46 | 37 | 31 | 57 | 45 | 36 | 30 | 42 | 35 | 29 | 39 | 33 | 28 | 37 | 31 | 27 | 37 | 31 | 27 | 25 |
| 8 | 56 | 42 | 33 | 27 | 53 | 41 | 33 | 27 | 38 | 31 | 26 | 36 | 30 | 25 | 34 | 28 | 24 | 34 | 28 | 24 | 22 |
| 9 | 52 | 39 | 30 | 25 | 50 | 37 | 29 | 24 | 35 | 28 | 23 | 33 | 27 | 22 | 31 | 26 | 21 | 31 | 26 | 21 | 19 |
| 10 | 49 | 35 | 27 | 22 | 47 | 34 | 27 | 22 | 32 | 26 | 21 | 31 | 24 | 20 | 29 | 23 | 19 | 29 | 23 | 19 | 18 |

AVERAGE LUMINANCE (cd/sqm):

| | 0° | 45° | 90° |
|-----|------|------|------|
| 0° | 5921 | 5921 | 5921 |
| 5° | 5929 | 5770 | 5803 |
| 10° | 5896 | 5666 | 5566 |
| 15° | 5908 | 5575 | 5374 |
| 20° | 5677 | 5431 | 5462 |
| 25° | 5615 | 5346 | 5299 |
| 30° | 5689 | 5290 | 5226 |
| 35° | 5440 | 5203 | 5201 |
| 40° | 5444 | 5057 | 5101 |
| 45° | 5336 | 4975 | 5105 |
| 50° | 5208 | 4910 | 5087 |
| 55° | 4992 | 4848 | 4904 |
| 60° | 4843 | 4707 | 4879 |
| 65° | 4667 | 4610 | 4826 |
| 70° | 4382 | 4488 | 4837 |
| 75° | 3955 | 4411 | 4769 |
| 80° | 3394 | 4235 | 4793 |
| 85° | 2336 | 4144 | 5060 |

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 90°
 Vertical Angle: 90°
 Luminance: 5638 cd/sqm



TEST NUMBER: P981649
 CATALOG NUMBER: 4PWM-2060C5-850-HIGH

ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 143.4 | 2.4 |
| 10°-20° | 410.5 | 6.8 |
| 20°-30° | 632.5 | 10.4 |
| 30°-40° | 779.7 | 12.9 |
| 40°-50° | 842.0 | 13.9 |
| 50°-60° | 814.5 | 13.4 |
| 60°-70° | 703.0 | 11.6 |
| 70°-80° | 525.4 | 8.7 |
| 80°-90° | 327.9 | 5.4 |
| 90°-100° | 215.7 | 3.6 |
| 100°-110° | 182.6 | 3.0 |
| 110°-120° | 156.1 | 2.6 |
| 120°-130° | 124.8 | 2.1 |
| 130°-140° | 92.4 | 1.5 |
| 140°-150° | 61.0 | 1.0 |
| 150°-160° | 34.0 | 0.6 |
| 160°-170° | 14.8 | 0.2 |
| 170°-180° | 3.5 | 0.1 |
| 0°-30° | 1186.4 | 19.6 |
| 0°-40° | 1966.2 | 32.4 |
| 0°-60° | 3622.7 | 59.7 |
| 0°-90° | 5178.9 | 85.4 |
| 90°-120° | 554.4 | 9.1 |
| 90°-150° | 832.7 | 13.7 |
| 90°-180° | 885.0 | 14.6 |
| 0°-180° | 6063.9 | 100.0 |

CANDELA DISTRIBUTION:

| | 0° | 22.5° | 45° | 67.5° | 90° | Flux |
|------|------|-------|------|-------|------|------|
| 0° | 1510 | 1510 | 1510 | 1510 | 1510 | |
| 5° | 1513 | 1524 | 1494 | 1507 | 1507 | 144 |
| 15° | 1475 | 1456 | 1453 | 1464 | 1415 | 411 |
| 25° | 1328 | 1360 | 1360 | 1420 | 1371 | 619 |
| 35° | 1176 | 1206 | 1252 | 1298 | 1282 | 744 |
| 45° | 1010 | 1029 | 1092 | 1157 | 1157 | 776 |
| 55° | 782 | 834 | 929 | 991 | 980 | 706 |
| 65° | 557 | 625 | 728 | 815 | 806 | 550 |
| 75° | 310 | 402 | 527 | 603 | 616 | 330 |
| 85° | 82 | 187 | 320 | 418 | 443 | 90 |
| 90° | 0 | 114 | 247 | 350 | 369 | 4 |
| 95° | 0 | 92 | 214 | 312 | 334 | 1 |
| 105° | 3 | 90 | 190 | 263 | 288 | 3 |
| 115° | 8 | 84 | 174 | 236 | 258 | 7 |
| 125° | 14 | 79 | 152 | 204 | 225 | 13 |
| 135° | 22 | 73 | 130 | 171 | 185 | 17 |
| 145° | 24 | 57 | 109 | 136 | 144 | 16 |
| 155° | 30 | 46 | 76 | 100 | 109 | 13 |
| 165° | 35 | 38 | 49 | 62 | 71 | 10 |
| 175° | 38 | 38 | 35 | 30 | 38 | 3 |
| 180° | 30 | 30 | 30 | 30 | 30 | |



TEST NUMBER: P981649

CATALOG NUMBER: 4PWM-2060C5-850-HIGH

CANDELA DISTRIBUTION (FULL):

| | 0° | 22.5° | 45° | 67.5° | 90° |
|--------|--------|--------|--------|--------|--------|
| 0° | 1509.9 | 1509.9 | 1509.9 | 1509.9 | 1509.9 |
| 2.5° | 1518.0 | 1526.2 | 1490.9 | 1509.9 | 1509.9 |
| 5° | 1512.6 | 1523.5 | 1493.6 | 1507.2 | 1507.2 |
| 7.5° | 1504.5 | 1490.9 | 1496.3 | 1523.5 | 1496.3 |
| 10° | 1493.6 | 1488.2 | 1477.3 | 1512.6 | 1461.0 |
| 12.5° | 1501.7 | 1458.3 | 1455.6 | 1490.9 | 1474.6 |
| 15° | 1474.6 | 1455.6 | 1452.9 | 1463.7 | 1414.8 |
| 17.5° | 1409.4 | 1420.3 | 1425.7 | 1447.4 | 1447.4 |
| 20° | 1385.0 | 1406.7 | 1404.0 | 1431.1 | 1431.1 |
| 22.5° | 1382.3 | 1379.5 | 1382.3 | 1414.8 | 1414.8 |
| 25° | 1327.9 | 1360.5 | 1360.5 | 1420.3 | 1371.4 |
| 27.5° | 1317.1 | 1327.9 | 1341.5 | 1379.5 | 1374.1 |
| 30° | 1292.6 | 1279.1 | 1314.4 | 1347.0 | 1325.2 |
| 32.5° | 1216.6 | 1235.6 | 1270.9 | 1325.2 | 1308.9 |
| 35° | 1175.9 | 1205.7 | 1251.9 | 1298.1 | 1281.8 |
| 37.5° | 1154.1 | 1167.7 | 1216.6 | 1273.6 | 1254.6 |
| 40° | 1108.0 | 1118.8 | 1167.7 | 1224.7 | 1211.2 |
| 42.5° | 1042.8 | 1080.8 | 1135.1 | 1192.2 | 1200.3 |
| 45° | 1010.2 | 1029.2 | 1091.7 | 1156.9 | 1156.9 |
| 47.5° | 961.3 | 969.5 | 1056.4 | 1121.6 | 1129.7 |
| 50° | 904.3 | 934.2 | 1012.9 | 1080.8 | 1089.0 |
| 52.5° | 850.0 | 874.4 | 969.5 | 1034.7 | 1048.2 |
| 55° | 782.1 | 833.7 | 928.7 | 991.2 | 980.3 |
| 57.5° | 738.7 | 774.0 | 882.6 | 955.9 | 955.9 |
| 60° | 670.8 | 727.8 | 825.6 | 904.3 | 898.9 |
| 62.5° | 616.4 | 668.0 | 774.0 | 860.9 | 850.0 |
| 65° | 556.7 | 624.6 | 727.8 | 814.7 | 806.5 |
| 67.5° | 497.0 | 562.1 | 684.3 | 757.7 | 768.5 |
| 70° | 434.5 | 510.5 | 624.6 | 706.1 | 719.6 |
| 72.5° | 372.0 | 450.8 | 573.0 | 659.9 | 668.0 |
| 75° | 309.6 | 401.9 | 526.8 | 602.9 | 616.4 |
| 77.5° | 255.3 | 344.9 | 467.1 | 545.8 | 562.1 |
| 80° | 192.8 | 287.9 | 418.2 | 505.1 | 521.4 |
| 82.5° | 135.8 | 239.0 | 363.9 | 450.8 | 475.2 |
| 85° | 81.5 | 187.4 | 320.4 | 418.2 | 442.6 |
| 87.5° | 32.6 | 143.9 | 282.4 | 385.6 | 407.3 |
| 90° | 0.0 | 114.1 | 247.1 | 350.3 | 369.3 |
| 92.5° | 0.0 | 97.8 | 230.8 | 323.2 | 353.0 |
| 95° | 0.0 | 92.3 | 214.5 | 312.3 | 334.0 |
| 97.5° | 0.0 | 89.6 | 203.7 | 290.6 | 315.0 |
| 100° | 2.7 | 89.6 | 198.2 | 277.0 | 304.2 |
| 102.5° | 2.7 | 89.6 | 192.8 | 271.6 | 298.7 |
| 105° | 2.7 | 89.6 | 190.1 | 263.4 | 287.9 |
| 107.5° | 2.7 | 86.9 | 187.4 | 258.0 | 282.4 |
| 110° | 5.4 | 89.6 | 184.7 | 252.6 | 277.0 |



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CATALOG NUMBER: 4PWM-2060C5-850-HIGH

CANDELA DISTRIBUTION (continued):

| | 0° | 22.5° | 45° | 67.5° | 90° |
|--------|------|-------|-------|-------|-------|
| 112.5° | 5.4 | 86.9 | 179.2 | 244.4 | 266.1 |
| 115° | 8.1 | 84.2 | 173.8 | 236.3 | 258.0 |
| 117.5° | 8.1 | 84.2 | 165.7 | 230.8 | 252.6 |
| 120° | 10.9 | 81.5 | 162.9 | 220.0 | 241.7 |
| 122.5° | 13.6 | 84.2 | 157.5 | 211.8 | 228.1 |
| 125° | 13.6 | 78.8 | 152.1 | 203.7 | 225.4 |
| 127.5° | 16.3 | 78.8 | 149.4 | 195.5 | 217.3 |
| 130° | 19.0 | 76.0 | 141.2 | 190.1 | 201.0 |
| 132.5° | 21.7 | 73.3 | 135.8 | 179.2 | 195.5 |
| 135° | 21.7 | 73.3 | 130.4 | 171.1 | 184.7 |
| 137.5° | 24.4 | 67.9 | 124.9 | 162.9 | 176.5 |
| 140° | 24.4 | 65.2 | 119.5 | 152.1 | 162.9 |
| 142.5° | 24.4 | 62.5 | 114.1 | 146.6 | 160.2 |
| 145° | 24.4 | 57.0 | 108.6 | 135.8 | 143.9 |
| 147.5° | 24.4 | 54.3 | 97.8 | 127.6 | 138.5 |
| 150° | 27.2 | 51.6 | 89.6 | 119.5 | 127.6 |
| 152.5° | 27.2 | 48.9 | 81.5 | 108.6 | 116.8 |
| 155° | 29.9 | 46.2 | 76.0 | 100.5 | 108.6 |
| 157.5° | 29.9 | 43.5 | 65.2 | 95.0 | 100.5 |
| 160° | 32.6 | 40.7 | 59.7 | 84.2 | 92.3 |
| 162.5° | 35.3 | 40.7 | 54.3 | 73.3 | 81.5 |
| 165° | 35.3 | 38.0 | 48.9 | 62.5 | 70.6 |
| 167.5° | 35.3 | 38.0 | 43.5 | 51.6 | 62.5 |
| 170° | 35.3 | 38.0 | 38.0 | 43.5 | 51.6 |
| 172.5° | 35.3 | 35.3 | 38.0 | 35.3 | 43.5 |
| 175° | 38.0 | 38.0 | 35.3 | 29.9 | 38.0 |
| 177.5° | 38.0 | 35.3 | 32.6 | 27.2 | 29.9 |
| 180° | 29.9 | 29.9 | 29.9 | 29.9 | 29.9 |



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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 | 15.5 | 16.9 | 16.0 | 17.5 | 18.1 | 17.6 | 19.0 | 18.1 | 19.5 | 20.2 |
| | 3H | 17.2 | 18.5 | 17.8 | 19.1 | 19.8 | 20.0 | 21.3 | 20.6 | 21.9 | 22.6 |
| | 4H | 17.8 | 19.0 | 18.4 | 19.6 | 20.3 | 21.2 | 22.4 | 21.8 | 23.0 | 23.7 |
| | 6H | 18.2 | 19.3 | 18.8 | 20.0 | 20.7 | 22.3 | 23.5 | 22.9 | 24.1 | 24.8 |
| | 8H | 18.3 | 19.4 | 18.9 | 20.0 | 20.8 | 22.9 | 24.0 | 23.5 | 24.6 | 25.4 |
| | 12H | 18.4 | 19.4 | 19.0 | 20.0 | 20.8 | 23.5 | 24.6 | 24.2 | 25.2 | 26.0 |
| 4H | 2H | 16.5 | 17.7 | 17.1 | 18.3 | 19.0 | 18.0 | 19.3 | 18.7 | 19.9 | 20.6 |
| | 3H | 18.4 | 19.5 | 19.0 | 20.1 | 20.8 | 20.7 | 21.8 | 21.4 | 22.4 | 23.2 |
| | 4H | 19.2 | 20.1 | 19.8 | 20.8 | 21.5 | 22.1 | 23.0 | 22.7 | 23.7 | 24.4 |
| | 6H | 19.7 | 20.5 | 20.3 | 21.2 | 22.0 | 23.4 | 24.3 | 24.1 | 25.0 | 25.7 |
| | 8H | 19.8 | 20.6 | 20.5 | 21.3 | 22.1 | 24.1 | 24.9 | 24.8 | 25.6 | 26.4 |
| | 12H | 19.9 | 20.7 | 20.6 | 21.4 | 22.1 | 24.9 | 25.6 | 25.6 | 26.3 | 27.1 |
| 8H | 4H | 19.9 | 20.7 | 20.5 | 21.3 | 22.1 | 22.4 | 23.1 | 23.0 | 23.8 | 24.6 |
| | 6H | 20.6 | 21.3 | 21.3 | 22.0 | 22.8 | 23.9 | 24.6 | 24.6 | 25.3 | 26.1 |
| | 8H | 20.9 | 21.5 | 21.6 | 22.2 | 23.0 | 24.7 | 25.3 | 25.4 | 26.0 | 26.8 |
| | 12H | 21.0 | 21.6 | 21.7 | 22.3 | 23.1 | 25.7 | 26.2 | 26.4 | 26.9 | 27.8 |
| 12H | 4H | 20.1 | 20.8 | 20.7 | 21.5 | 22.3 | 22.4 | 23.1 | 23.0 | 23.8 | 24.6 |
| | 6H | 20.9 | 21.5 | 21.6 | 22.2 | 23.0 | 23.9 | 24.6 | 24.7 | 25.2 | 26.1 |
| | 8H | 21.2 | 21.8 | 21.9 | 22.5 | 23.3 | 24.8 | 25.4 | 25.5 | 26.1 | 26.9 |

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

Report Prepared for

Cooper Lighting Solutions

Metalux

Report Number: SP3-2511-615-15

Test Date: 01/15/2026

Luminaire Tested: PW-S-6K-850-2nd

Data in this report applies to families of products including PW-S-6K*

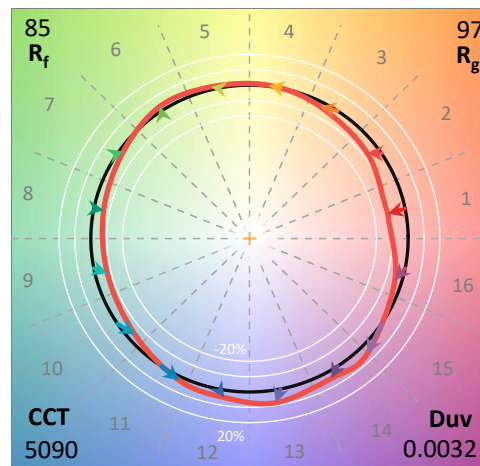
Test Information

Test Method: LM-79-2019
 Report Number: SP3-2511-615-15
 Test Lab: COOPER LIGHTING SOLUTIONS
 Photometer: SP3 - 3M SPHERE
 Measurement Geometry: 4π
 Issue Date: 01/20/2026
 Manufacturer: COOPER LIGHTING SOLUTIONS
 Product Line: Metalux
 Catalog Number: **PW-S-6K-850-2nd**
 Description: 8.75" Wrap 5 CCT 5 lumen select @6000lms (switch) @5000K 2nd Round

Spectral Parameters

CCT (K): 5090
 CIE u': 0.2083
 CIE v': 0.4867
 Duv: 0.0032
 CIE x: 0.3431
 CIE y: 0.3563
 CIE z: 0.3006
 Peak Wavelength (nm): 450
 Dominant Wavelength (nm): 568
 Purity: 9.863329
 Rf: 84.8
 Rg: 96.7

| | | | |
|-----------|------|------|------|
| CRI (Ra): | 84.2 | | |
| R1: | 82.7 | R9: | 12.9 |
| R2: | 88.6 | R10: | 73.0 |
| R3: | 92.8 | R11: | 84.5 |
| R4: | 84.6 | R12: | 62.9 |
| R5: | 83.4 | R13: | 84.2 |
| R6: | 84.2 | R14: | 96.2 |
| R7: | 87.9 | R15: | 77.0 |
| R8: | 69.4 | | |



Test Conditions

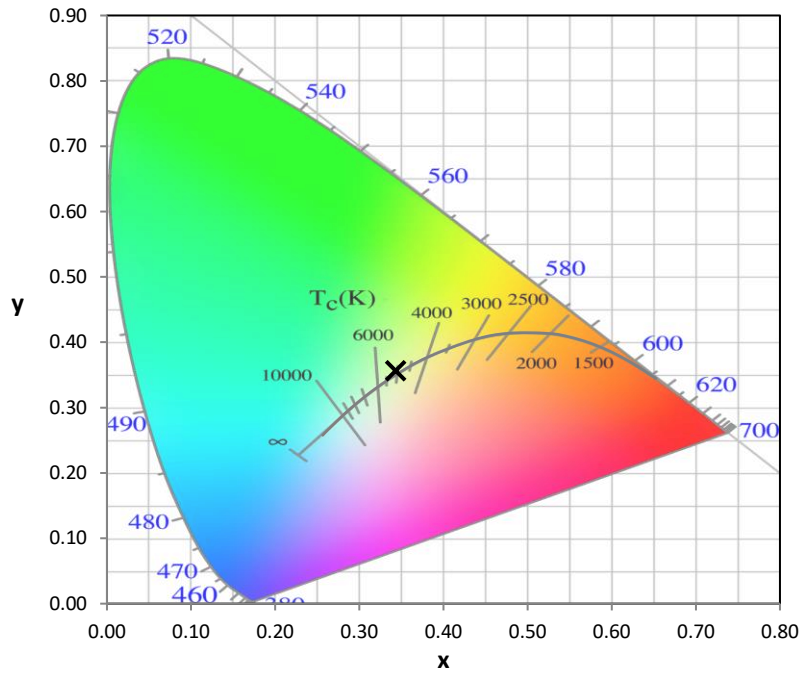
Stabilization Time: 20M
 Operation Time: 1H 20M
 Sphere Temperature (°C): 25.0

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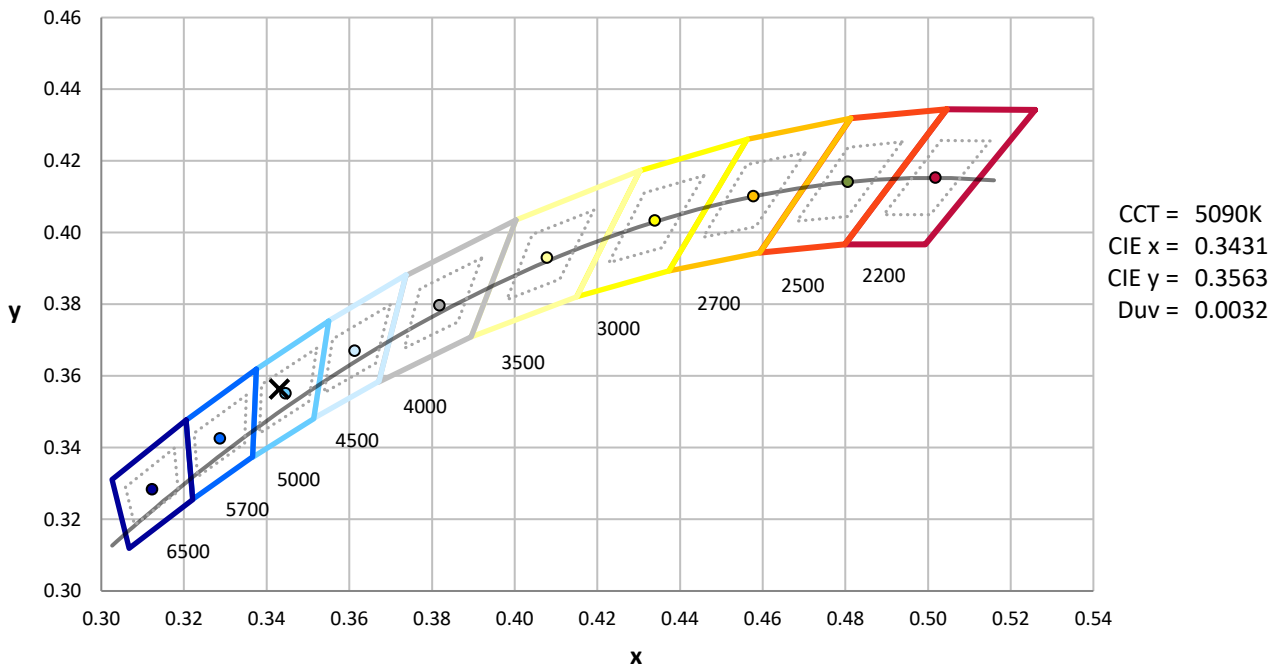
| Measurement and Test Equipment | | | |
|--------------------------------|-----------------------|------------------|----------------------|
| Instrument | Identification Number | Calibration Date | Calibration Due Date |
| Photometer | 3M SPHERE IN02505 | 1/10/2026 | 7/10/2026 |
| Power Meter | XITRON INXT2011006 | 10/21/2025 | 10/21/2026 |
| AC Power Source | CHROMA 61604 IN6064A | 10/20/2025 | 10/20/2026 |
| DC Power Source | EYSIGHT N5770A IN0534 | 10/20/2025 | 10/20/2026 |
| Sphere Thermometer | TANDD IN4036E | 10/21/2025 | 10/21/2026 |
| | | | |

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CIE 1931 Chromaticity Diagram



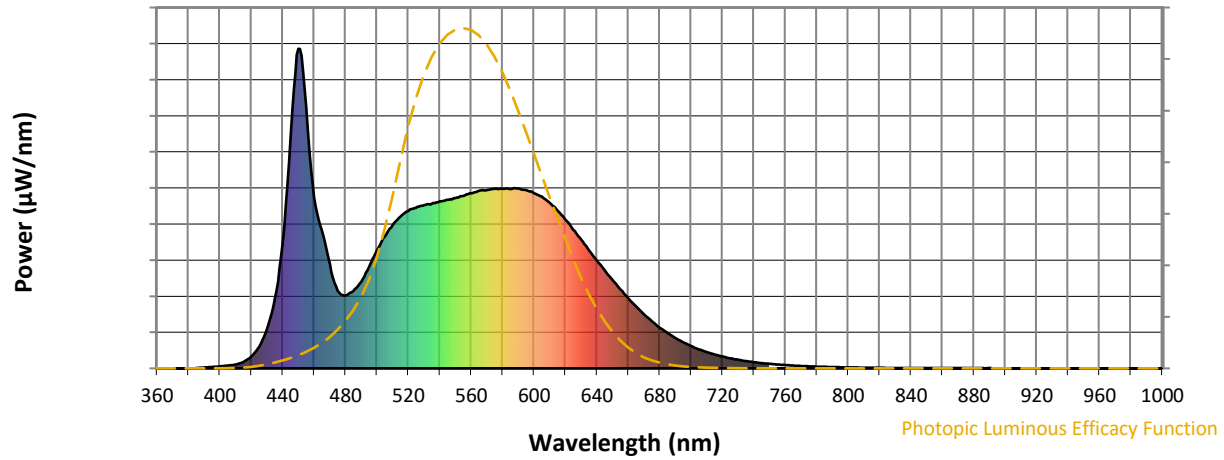
CIE 1931 Chromaticity Diagram with 2017 ANSI 7-Step and 4-Step Quadrangles



Point lies inside the ANSI 5000K 4-step quadrangle

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Photopic Flux vs. Wavelength

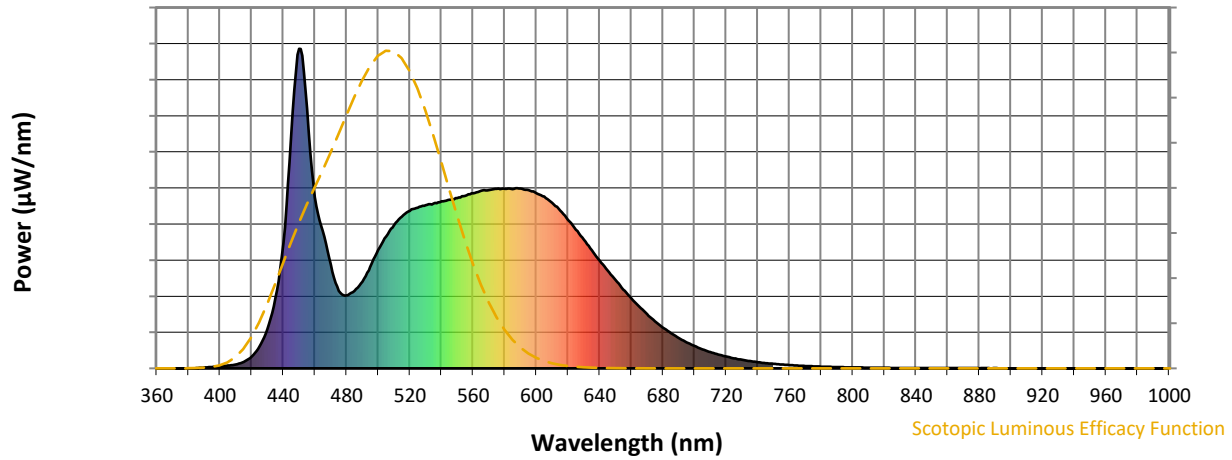


Photopic Lumens: NR

| 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 | 272 | NR | 620 | 465 | NR | 750 | 14 | NR | 880 | 1 | NR |
| 365 | 0 | NR | 495 | 317 | NR | 625 | 434 | NR | 755 | 12 | NR | 885 | 1 | NR |
| 370 | 0 | NR | 500 | 371 | NR | 630 | 402 | NR | 760 | 10 | NR | 890 | 1 | NR |
| 375 | 0 | NR | 505 | 412 | NR | 635 | 370 | NR | 765 | 9 | NR | 895 | 0 | NR |
| 380 | 0 | NR | 510 | 448 | NR | 640 | 338 | NR | 770 | 7 | NR | 900 | 0 | NR |
| 385 | 1 | NR | 515 | 474 | NR | 645 | 306 | NR | 775 | 6 | NR | 905 | 0 | NR |
| 390 | 3 | NR | 520 | 493 | NR | 650 | 277 | NR | 780 | 5 | NR | 910 | 0 | NR |
| 395 | 4 | NR | 525 | 503 | NR | 655 | 247 | NR | 785 | 5 | NR | 915 | 0 | NR |
| 400 | 6 | NR | 530 | 510 | NR | 660 | 219 | NR | 790 | 4 | NR | 920 | 0 | NR |
| 405 | 9 | NR | 535 | 515 | NR | 665 | 193 | NR | 795 | 3 | NR | 925 | 0 | NR |
| 410 | 12 | NR | 540 | 523 | NR | 670 | 169 | NR | 800 | 3 | NR | 930 | 0 | NR |
| 415 | 20 | NR | 545 | 527 | NR | 675 | 148 | NR | 805 | 3 | NR | 935 | 0 | NR |
| 420 | 37 | NR | 550 | 532 | NR | 680 | 128 | NR | 810 | 2 | NR | 940 | 0 | NR |
| 425 | 68 | NR | 555 | 540 | NR | 685 | 110 | NR | 815 | 2 | NR | 945 | 0 | NR |
| 430 | 123 | NR | 560 | 548 | NR | 690 | 95 | NR | 820 | 2 | NR | 950 | 0 | NR |
| 435 | 220 | NR | 565 | 555 | NR | 695 | 82 | NR | 825 | 1 | NR | 955 | 0 | NR |
| 440 | 391 | NR | 570 | 558 | NR | 700 | 70 | NR | 830 | 1 | NR | 960 | 0 | NR |
| 445 | 726 | NR | 575 | 561 | NR | 705 | 59 | NR | 835 | 1 | NR | 965 | 0 | NR |
| 450 | 1000 | NR | 580 | 562 | NR | 710 | 51 | NR | 840 | 1 | NR | 970 | 0 | NR |
| 455 | 812 | NR | 585 | 561 | NR | 715 | 43 | NR | 845 | 1 | NR | 975 | 0 | NR |
| 460 | 536 | NR | 590 | 563 | NR | 720 | 37 | NR | 850 | 1 | NR | 980 | 0 | NR |
| 465 | 429 | NR | 595 | 558 | NR | 725 | 32 | NR | 855 | 1 | NR | 985 | 0 | NR |
| 470 | 325 | NR | 600 | 548 | NR | 730 | 27 | NR | 860 | 1 | NR | 990 | 0 | NR |
| 475 | 242 | NR | 605 | 538 | NR | 735 | 23 | NR | 865 | 1 | NR | 995 | 0 | NR |
| 480 | 228 | NR | 610 | 518 | NR | 740 | 19 | NR | 870 | 1 | NR | 1000 | 0 | NR |
| 485 | 242 | NR | 615 | 494 | NR | 745 | 16 | NR | 875 | 1 | NR | | | |

REPORT NUMBER: SP3-2511-615-15

Scotopic Flux vs. Wavelength



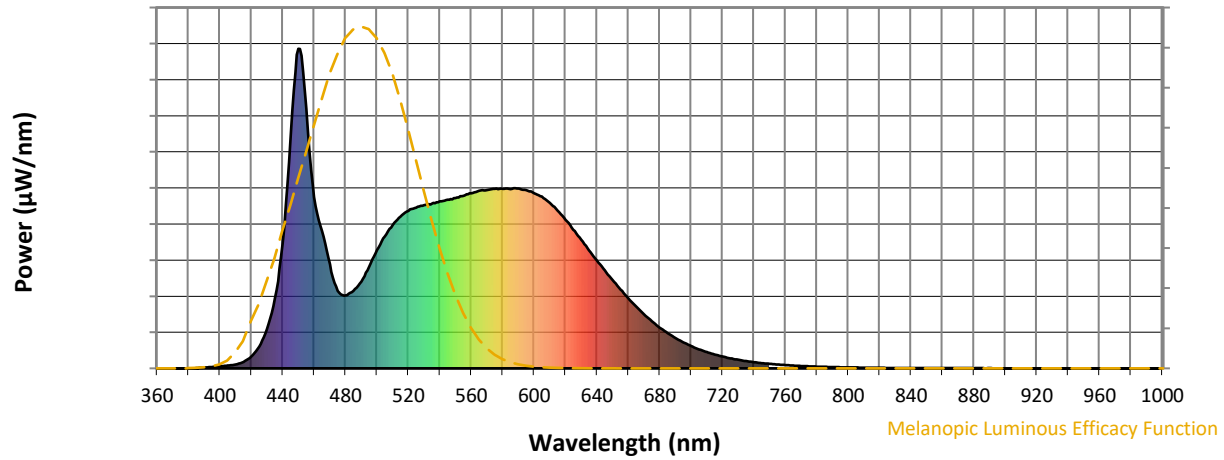
Scotopic Lumens: NR

S/P: 1.99

| 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 | 272 | NR | 620 | 465 | NR | 750 | 14 | NR | 880 | 1 | NR |
| 365 | 0 | NR | 495 | 317 | NR | 625 | 434 | NR | 755 | 12 | NR | 885 | 1 | NR |
| 370 | 0 | NR | 500 | 371 | NR | 630 | 402 | NR | 760 | 10 | NR | 890 | 1 | NR |
| 375 | 0 | NR | 505 | 412 | NR | 635 | 370 | NR | 765 | 9 | NR | 895 | 0 | NR |
| 380 | 0 | NR | 510 | 448 | NR | 640 | 338 | NR | 770 | 7 | NR | 900 | 0 | NR |
| 385 | 1 | NR | 515 | 474 | NR | 645 | 306 | NR | 775 | 6 | NR | 905 | 0 | NR |
| 390 | 3 | NR | 520 | 493 | NR | 650 | 277 | NR | 780 | 5 | NR | 910 | 0 | NR |
| 395 | 4 | NR | 525 | 503 | NR | 655 | 247 | NR | 785 | 5 | NR | 915 | 0 | NR |
| 400 | 6 | NR | 530 | 510 | NR | 660 | 219 | NR | 790 | 4 | NR | 920 | 0 | NR |
| 405 | 9 | NR | 535 | 515 | NR | 665 | 193 | NR | 795 | 3 | NR | 925 | 0 | NR |
| 410 | 12 | NR | 540 | 523 | NR | 670 | 169 | NR | 800 | 3 | NR | 930 | 0 | NR |
| 415 | 20 | NR | 545 | 527 | NR | 675 | 148 | NR | 805 | 3 | NR | 935 | 0 | NR |
| 420 | 37 | NR | 550 | 532 | NR | 680 | 128 | NR | 810 | 2 | NR | 940 | 0 | NR |
| 425 | 68 | NR | 555 | 540 | NR | 685 | 110 | NR | 815 | 2 | NR | 945 | 0 | NR |
| 430 | 123 | NR | 560 | 548 | NR | 690 | 95 | NR | 820 | 2 | NR | 950 | 0 | NR |
| 435 | 220 | NR | 565 | 555 | NR | 695 | 82 | NR | 825 | 1 | NR | 955 | 0 | NR |
| 440 | 391 | NR | 570 | 558 | NR | 700 | 70 | NR | 830 | 1 | NR | 960 | 0 | NR |
| 445 | 726 | NR | 575 | 561 | NR | 705 | 59 | NR | 835 | 1 | NR | 965 | 0 | NR |
| 450 | 1000 | NR | 580 | 562 | NR | 710 | 51 | NR | 840 | 1 | NR | 970 | 0 | NR |
| 455 | 812 | NR | 585 | 561 | NR | 715 | 43 | NR | 845 | 1 | NR | 975 | 0 | NR |
| 460 | 536 | NR | 590 | 563 | NR | 720 | 37 | NR | 850 | 1 | NR | 980 | 0 | NR |
| 465 | 429 | NR | 595 | 558 | NR | 725 | 32 | NR | 855 | 1 | NR | 985 | 0 | NR |
| 470 | 325 | NR | 600 | 548 | NR | 730 | 27 | NR | 860 | 1 | NR | 990 | 0 | NR |
| 475 | 242 | NR | 605 | 538 | NR | 735 | 23 | NR | 865 | 1 | NR | 995 | 0 | NR |
| 480 | 228 | NR | 610 | 518 | NR | 740 | 19 | NR | 870 | 1 | NR | 1000 | 0 | NR |
| 485 | 242 | NR | 615 | 494 | NR | 745 | 16 | NR | 875 | 1 | NR | | | |

REPORT NUMBER: SP3-2511-615-15

Melanopic Flux vs. Wavelength



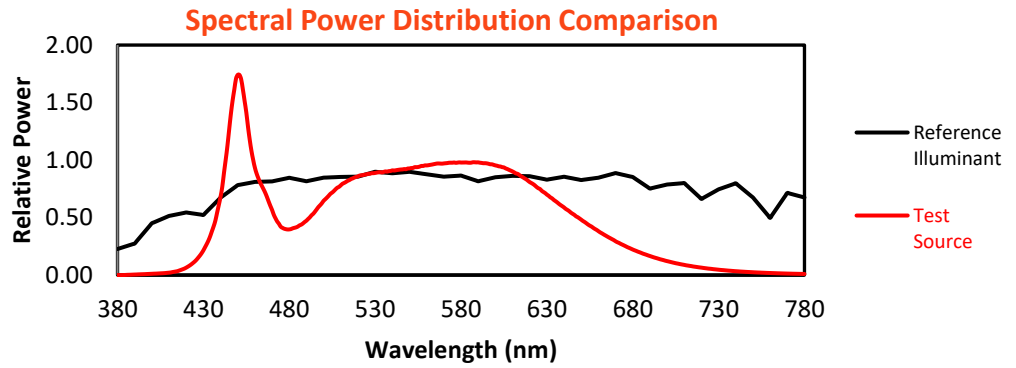
Melanopic Lumens: NR

M/P: 4.23

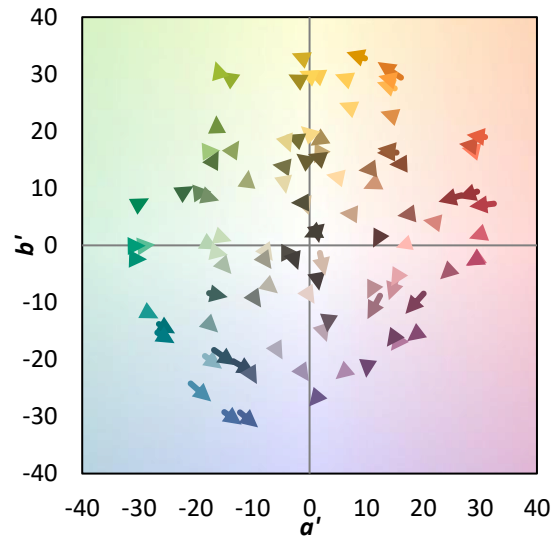
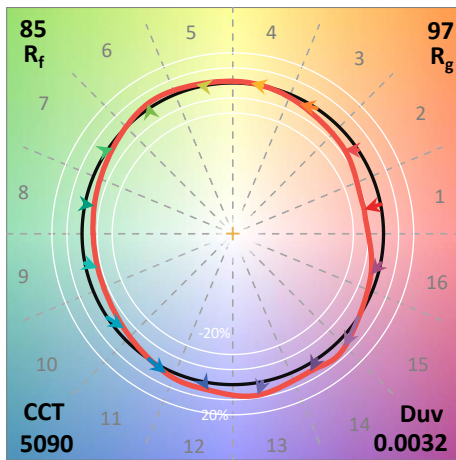
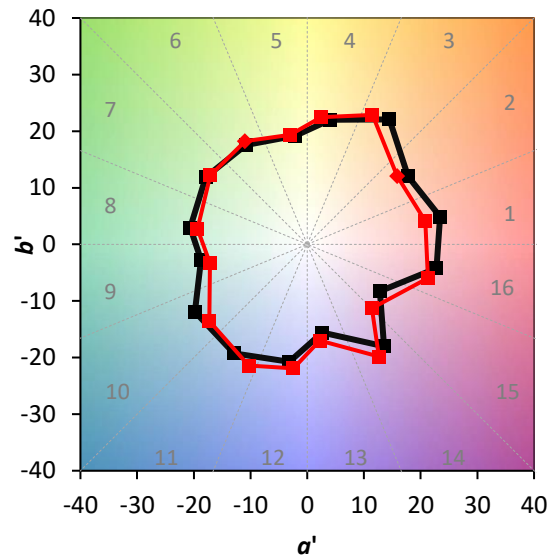
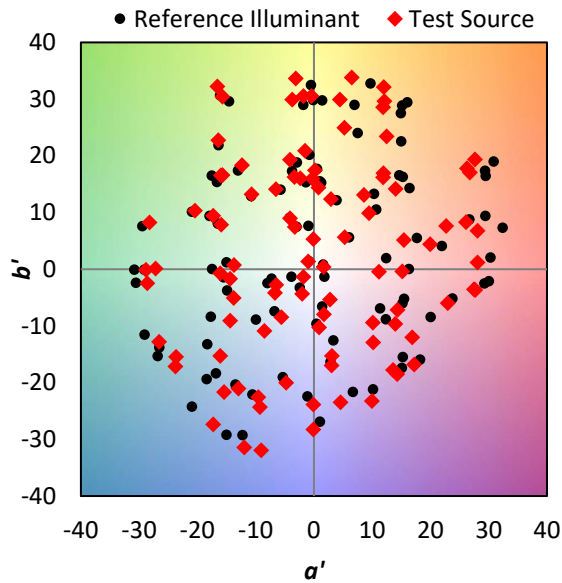
| λ (nm) | Power W [^] /nm | Lumens (φ/nm) | λ (nm) | Power W [^] /nm | Lumens (φ/nm) | λ (nm) | Power W [^] /nm | Lumens (φ/nm) | λ (nm) | Power W [^] /nm | Lumens (φ/nm) | λ (nm) | Power W [^] /nm | Lumens (φ/nm) |
|--------|--------------------------|---------------|--------|--------------------------|---------------|--------|--------------------------|---------------|--------|--------------------------|---------------|--------|--------------------------|---------------|
| 360 | 0 | NR | 490 | 272 | NR | 620 | 465 | NR | 750 | 14 | NR | 880 | 1 | NR |
| 365 | 0 | NR | 495 | 317 | NR | 625 | 434 | NR | 755 | 12 | NR | 885 | 1 | NR |
| 370 | 0 | NR | 500 | 371 | NR | 630 | 402 | NR | 760 | 10 | NR | 890 | 1 | NR |
| 375 | 0 | NR | 505 | 412 | NR | 635 | 370 | NR | 765 | 9 | NR | 895 | 0 | NR |
| 380 | 0 | NR | 510 | 448 | NR | 640 | 338 | NR | 770 | 7 | NR | 900 | 0 | NR |
| 385 | 1 | NR | 515 | 474 | NR | 645 | 306 | NR | 775 | 6 | NR | 905 | 0 | NR |
| 390 | 3 | NR | 520 | 493 | NR | 650 | 277 | NR | 780 | 5 | NR | 910 | 0 | NR |
| 395 | 4 | NR | 525 | 503 | NR | 655 | 247 | NR | 785 | 5 | NR | 915 | 0 | NR |
| 400 | 6 | NR | 530 | 510 | NR | 660 | 219 | NR | 790 | 4 | NR | 920 | 0 | NR |
| 405 | 9 | NR | 535 | 515 | NR | 665 | 193 | NR | 795 | 3 | NR | 925 | 0 | NR |
| 410 | 12 | NR | 540 | 523 | NR | 670 | 169 | NR | 800 | 3 | NR | 930 | 0 | NR |
| 415 | 20 | NR | 545 | 527 | NR | 675 | 148 | NR | 805 | 3 | NR | 935 | 0 | NR |
| 420 | 37 | NR | 550 | 532 | NR | 680 | 128 | NR | 810 | 2 | NR | 940 | 0 | NR |
| 425 | 68 | NR | 555 | 540 | NR | 685 | 110 | NR | 815 | 2 | NR | 945 | 0 | NR |
| 430 | 123 | NR | 560 | 548 | NR | 690 | 95 | NR | 820 | 2 | NR | 950 | 0 | NR |
| 435 | 220 | NR | 565 | 555 | NR | 695 | 82 | NR | 825 | 1 | NR | 955 | 0 | NR |
| 440 | 391 | NR | 570 | 558 | NR | 700 | 70 | NR | 830 | 1 | NR | 960 | 0 | NR |
| 445 | 726 | NR | 575 | 561 | NR | 705 | 59 | NR | 835 | 1 | NR | 965 | 0 | NR |
| 450 | 1000 | NR | 580 | 562 | NR | 710 | 51 | NR | 840 | 1 | NR | 970 | 0 | NR |
| 455 | 812 | NR | 585 | 561 | NR | 715 | 43 | NR | 845 | 1 | NR | 975 | 0 | NR |
| 460 | 536 | NR | 590 | 563 | NR | 720 | 37 | NR | 850 | 1 | NR | 980 | 0 | NR |
| 465 | 429 | NR | 595 | 558 | NR | 725 | 32 | NR | 855 | 1 | NR | 985 | 0 | NR |
| 470 | 325 | NR | 600 | 548 | NR | 730 | 27 | NR | 860 | 1 | NR | 990 | 0 | NR |
| 475 | 242 | NR | 605 | 538 | NR | 735 | 23 | NR | 865 | 1 | NR | 995 | 0 | NR |
| 480 | 228 | NR | 610 | 518 | NR | 740 | 19 | NR | 870 | 1 | NR | 1000 | 0 | NR |
| 485 | 242 | NR | 615 | 494 | NR | 745 | 16 | NR | 875 | 1 | NR | | | |

Summary

$R_f = 84.8$
 $R_g = 96.7$
 CIE $R_a = 84.2$
 $R_9 = 12.9$

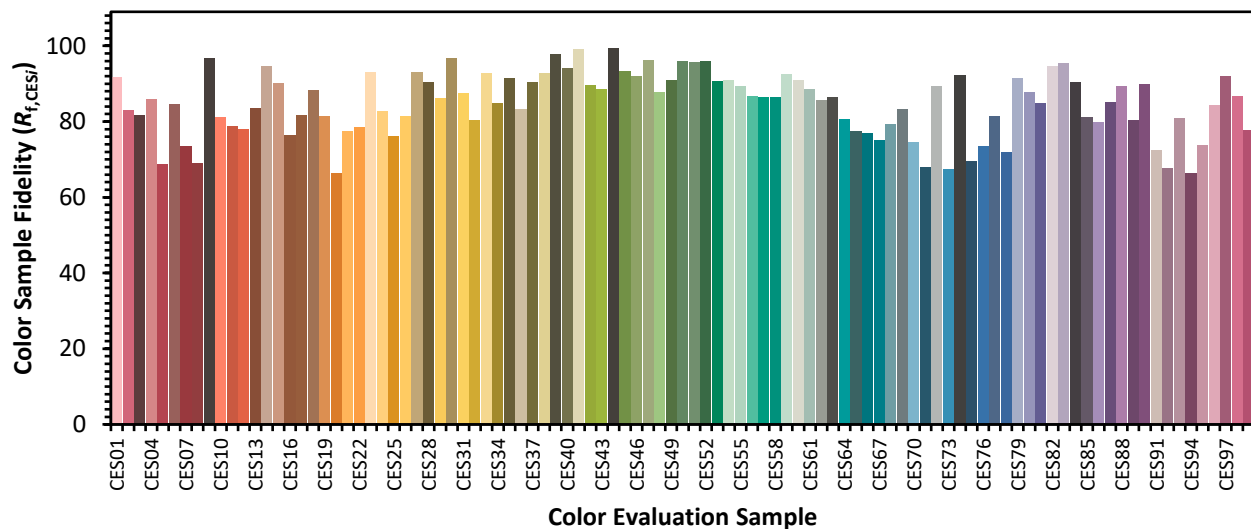


Color Vector Graphics

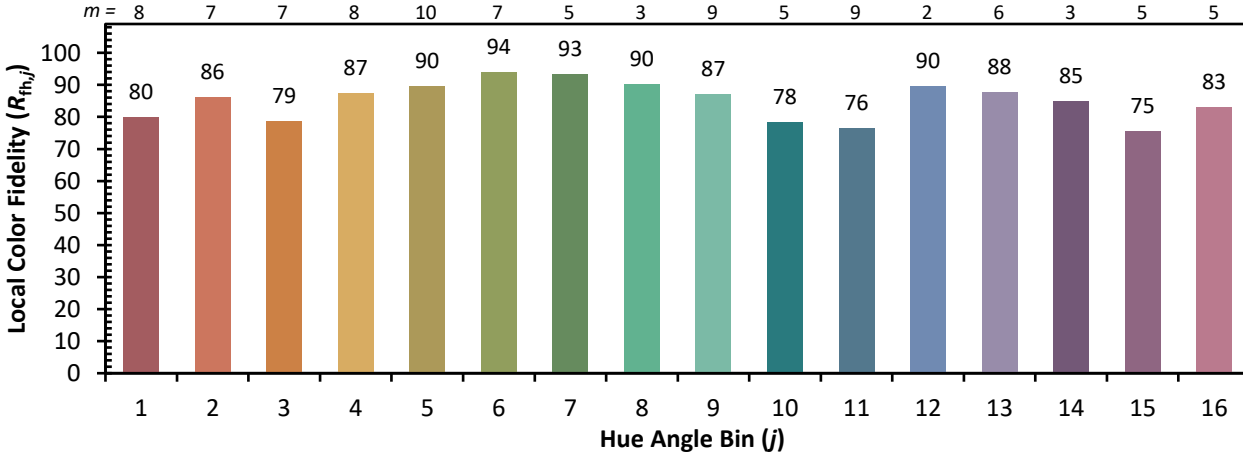
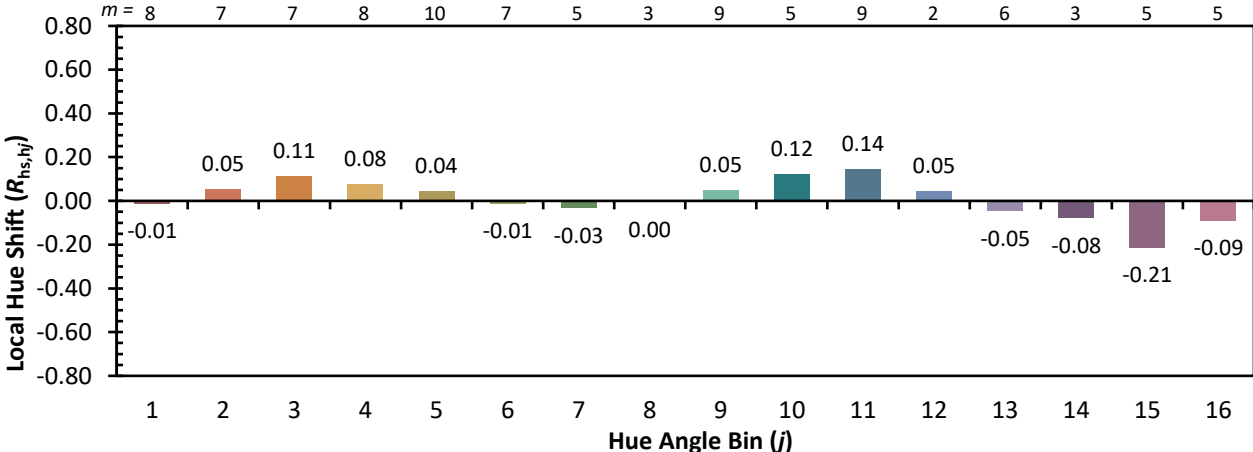
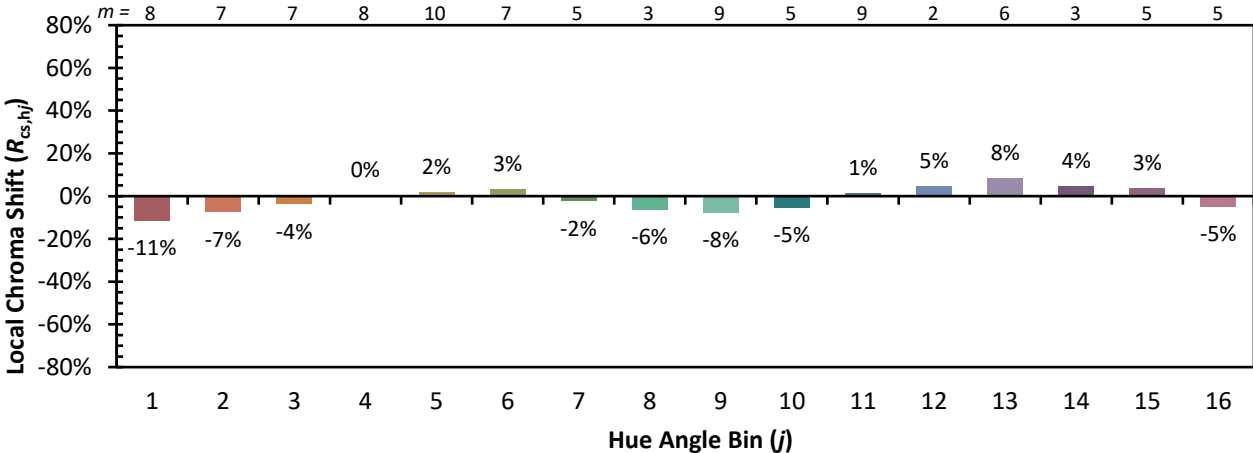


Individual Sample Fidelity Index ($R_{f,i}$)

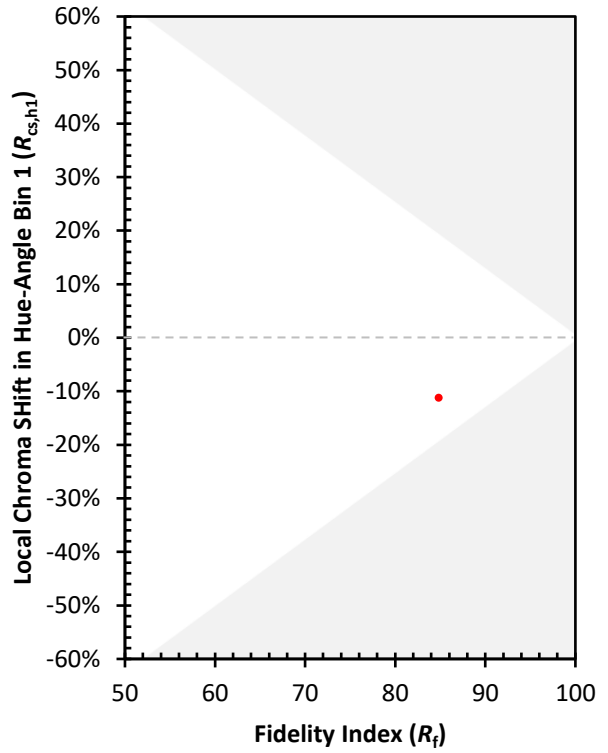
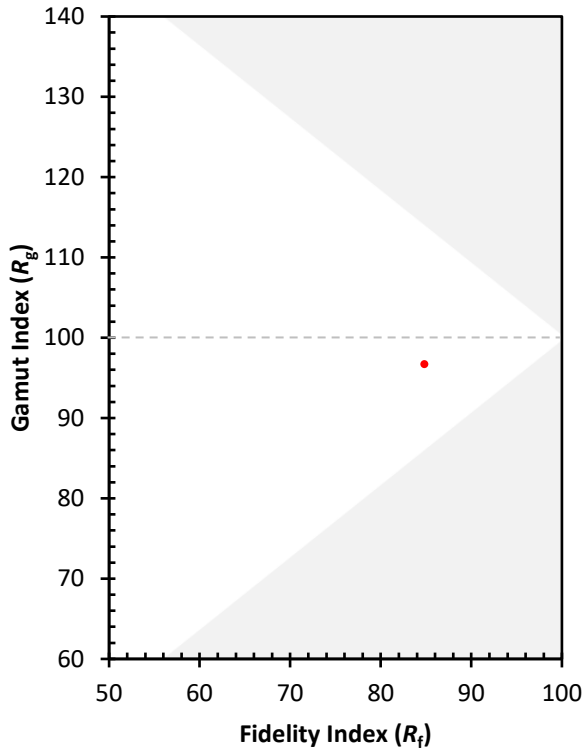
| | | | |
|------------|------------|------------|------------|
| CES01 = 85 | CES26 = 81 | CES51 = 96 | CES76 = 74 |
| CES02 = 60 | CES27 = 93 | CES52 = 96 | CES77 = 81 |
| CES03 = 30 | CES28 = 90 | CES53 = 91 | CES78 = 72 |
| CES04 = 69 | CES29 = 86 | CES54 = 91 | CES79 = 91 |
| CES05 = 47 | CES30 = 97 | CES55 = 89 | CES80 = 88 |
| CES06 = 50 | CES31 = 88 | CES56 = 87 | CES81 = 85 |
| CES07 = 40 | CES32 = 80 | CES57 = 86 | CES82 = 95 |
| CES08 = 39 | CES33 = 93 | CES58 = 87 | CES83 = 95 |
| CES09 = 29 | CES34 = 85 | CES59 = 93 | CES84 = 90 |
| CES10 = 73 | CES35 = 91 | CES60 = 91 | CES85 = 81 |
| CES11 = 56 | CES36 = 83 | CES61 = 89 | CES86 = 80 |
| CES12 = 61 | CES37 = 90 | CES62 = 86 | CES87 = 85 |
| CES13 = 42 | CES38 = 93 | CES63 = 86 | CES88 = 89 |
| CES14 = 74 | CES39 = 98 | CES64 = 81 | CES89 = 80 |
| CES15 = 71 | CES40 = 94 | CES65 = 77 | CES90 = 90 |
| CES16 = 46 | CES41 = 99 | CES66 = 77 | CES91 = 72 |
| CES17 = 48 | CES42 = 90 | CES67 = 75 | CES92 = 68 |
| CES18 = 55 | CES43 = 88 | CES68 = 79 | CES93 = 81 |
| CES19 = 70 | CES44 = 99 | CES69 = 83 | CES94 = 66 |
| CES20 = 64 | CES45 = 93 | CES70 = 75 | CES95 = 74 |
| CES21 = 85 | CES46 = 92 | CES71 = 68 | CES96 = 84 |
| CES22 = 77 | CES47 = 96 | CES72 = 89 | CES97 = 92 |
| CES23 = 91 | CES48 = 88 | CES73 = 67 | CES98 = 87 |
| CES24 = 90 | CES49 = 91 | CES74 = 92 | CES99 = 78 |
| CES25 = 70 | CES50 = 96 | CES75 = 70 | |



Color Rendition by Hue-Angle Bin



Measure Comparisons



(END OF REPORT)