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:

Luminaire Tested: EHBR1-48-UNV-TA-L950-UPL36

Issue Date: 3/20/2026

Cooper Lighting Solutions Photometric Lab
1121 Highway 74 South
Peachtree City, GA 30269

Scaled Data Report

**Test Information**

| | |
|---|---|
| Test Method: | LM-79-2019 |
| Report Number: | |
| | REPORT IS A COMBINATION OF REPORTS P1431833 AND P1431635 |
| Test Lab: | INNOVATION CENTER |
| Issue Date: | 3/20/2026 |
| Manufacturer: | COOPER LIGHTING SOLUTIONS |
| Product Line: | METALUX |
| Catalog Number: | EHBR1-48-UNV-TA-L950-UPL36 |
| Description: | Elevate Round Highbay at, 48000 lumens, 5000K 90CRI LEDs with TA lens |
| Light Source: | - |
| Ballast/Driver: | - |

**Summary**

| | |
|---|---|
| Lumens per Lamp: | N/A |
| Luminaire Lumens: | 47446.2 lumens |
| Efficiency: | N/A |
| Efficacy: | 165.3 lumens/watt |
| Spacing Criteria (0/90/45): | 1.07 / 0.8 / 0.93 |
| Luminous Opening: | Vertical Cylinder (Dia: 1.71' x H: 0.1') |
| CIE Type: | Direct |

| | |
|---|---|
| Input Watts (W): | 287 |
| Input Voltage (V): | NR |
| Input Current (Ain): | 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: | 24 FT |

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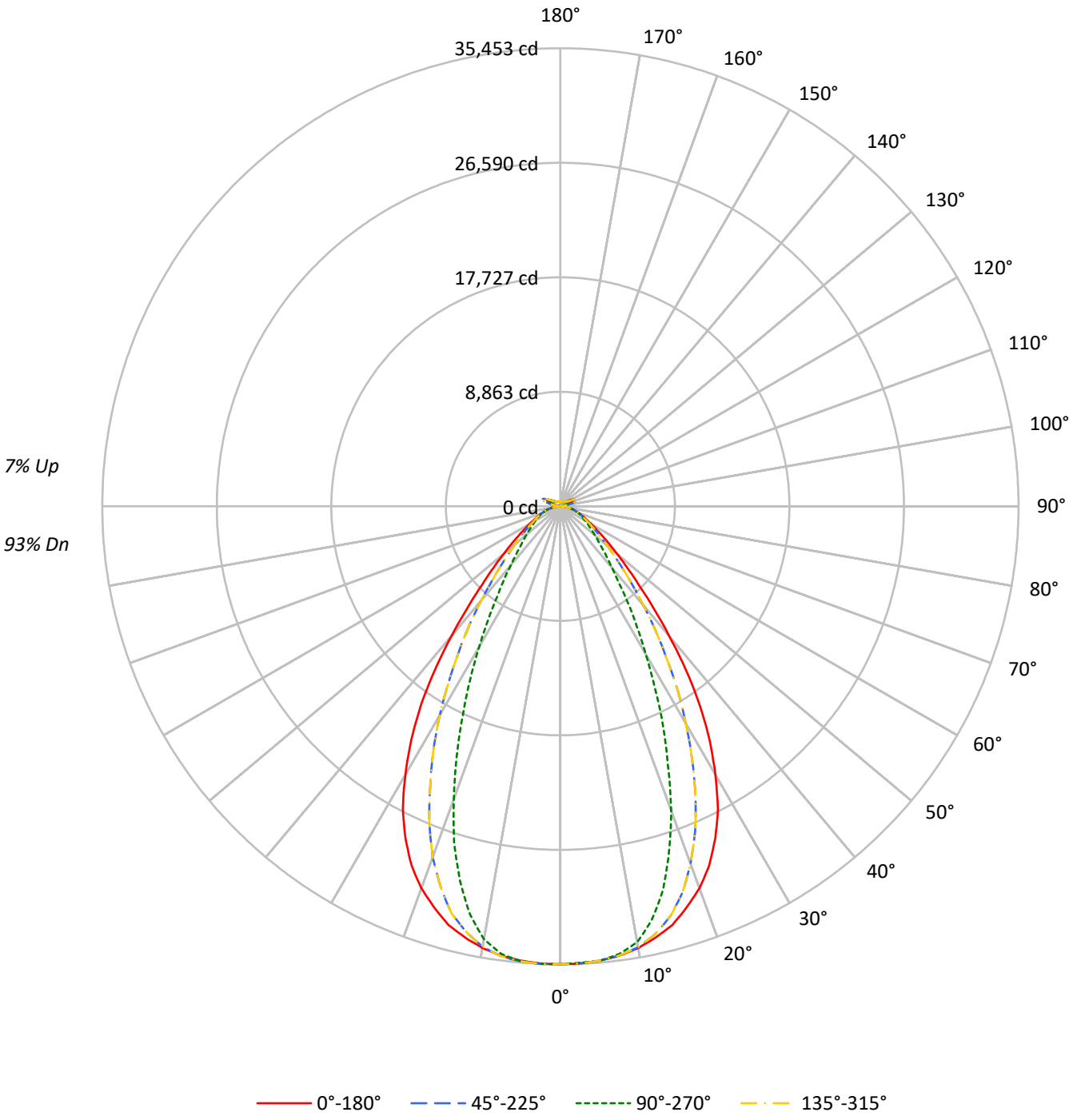
## Luminous Intensity Polar Plot



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## COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

| RF | 20 | | | | 20 | | | | 20 | | | 20 | | | 20 | | | 20 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| RC | 80 | | | | 70 | | | | 50 | | | 30 | | | 10 | | | 0 |
| RW | 70 | 50 | 30 | 10 | 70 | 50 | 30 | 10 | 50 | 30 | 10 | 50 | 30 | 10 | 50 | 30 | 10 | 0 |
| RCR | | | | | | | | | | | | | | | | | | |
| 0 | 117 | 117 | 117 | 117 | 114 | 114 | 114 | 114 | 107 | 107 | 107 | 101 | 101 | 101 | 95 | 95 | 95 | 93 |
| 1 | 110 | 106 | 103 | 100 | 107 | 103 | 101 | 98 | 98 | 96 | 94 | 93 | 91 | 89 | 88 | 87 | 86 | 83 |
| 2 | 103 | 96 | 91 | 87 | 100 | 94 | 89 | 85 | 89 | 86 | 82 | 85 | 82 | 79 | 81 | 79 | 77 | 74 |
| 3 | 96 | 88 | 81 | 76 | 93 | 86 | 80 | 75 | 82 | 77 | 73 | 78 | 74 | 71 | 75 | 72 | 69 | 67 |
| 4 | 90 | 80 | 73 | 68 | 87 | 79 | 72 | 67 | 75 | 70 | 66 | 72 | 68 | 64 | 70 | 66 | 63 | 61 |
| 5 | 84 | 74 | 67 | 61 | 82 | 72 | 66 | 61 | 70 | 64 | 60 | 67 | 62 | 58 | 65 | 61 | 57 | 55 |
| 6 | 79 | 68 | 61 | 56 | 77 | 67 | 60 | 55 | 65 | 59 | 54 | 62 | 57 | 53 | 60 | 56 | 52 | 51 |
| 7 | 74 | 63 | 56 | 51 | 72 | 62 | 55 | 51 | 60 | 54 | 50 | 58 | 53 | 49 | 56 | 52 | 48 | 47 |
| 8 | 70 | 59 | 52 | 47 | 68 | 58 | 51 | 47 | 56 | 50 | 46 | 54 | 49 | 45 | 53 | 48 | 45 | 43 |
| 9 | 66 | 55 | 48 | 43 | 64 | 54 | 48 | 43 | 53 | 47 | 43 | 51 | 46 | 42 | 50 | 45 | 42 | 40 |
| 10 | 63 | 51 | 45 | 40 | 61 | 51 | 44 | 40 | 49 | 44 | 40 | 48 | 43 | 39 | 47 | 42 | 39 | 37 |

## AVERAGE LUMINANCE (cd/sqm):

| | 0° | 90° | 180° | 270° |
|---|---|---|---|---|
| 0° | 166420 | 166420 | 166420 | 166420 |
| 5° | 165302 | 165319 | 165302 | 165494 |
| 10° | 163371 | 161233 | 163371 | 160178 |
| 15° | 159810 | 146374 | 159810 | 143013 |
| 20° | 153045 | 121976 | 153045 | 117227 |
| 25° | 141977 | 94331 | 141977 | 89444 |
| 30° | 124716 | 68759 | 124716 | 65264 |
| 35° | 102497 | 49564 | 102497 | 46329 |
| 40° | 75535 | 35659 | 75535 | 34558 |
| 45° | 52756 | 28098 | 52756 | 27126 |
| 50° | 38184 | 23313 | 38184 | 22958 |
| 55° | 28917 | 20360 | 28917 | 20085 |
| 60° | 23042 | 18362 | 23042 | 18492 |
| 65° | 19363 | 17172 | 19363 | 17336 |
| 70° | 17215 | 16309 | 17215 | 16469 |
| 75° | 15215 | 15215 | 15215 | 15361 |
| 80° | 12472 | 13742 | 12472 | 13742 |
| 85° | 7990 | 9523 | 7990 | 9805 |

## MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 22.5°
Vertical Angle: 45°
Luminance: 55275 cd/sqm

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**ZONAL LUMENS:**

| Zone | Lumens | % Fixture |
|---|---|---|
| 0°-10° | 3346.6 | 7.1 |
| 10°-20° | 8994.4 | 19.0 |
| 20°-30° | 10937.1 | 23.1 |
| 30°-40° | 8909.1 | 18.8 |
| 40°-50° | 5349.0 | 11.3 |
| 50°-60° | 3078.4 | 6.5 |
| 60°-70° | 1926.6 | 4.1 |
| 70°-80° | 1134.7 | 2.4 |
| 80°-90° | 337.9 | 0.7 |
| 90°-100° | 90.2 | 0.2 |
| 100°-110° | 596.5 | 1.3 |
| 110°-120° | 1103.4 | 2.3 |
| 120°-130° | 654.9 | 1.4 |
| 130°-140° | 396.2 | 0.8 |
| 140°-150° | 274.9 | 0.6 |
| 150°-160° | 179.5 | 0.4 |
| 160°-170° | 102.8 | 0.2 |
| 170°-180° | 34.1 | 0.1 |
| 0°-30° | 23278.0 | 49.1 |
| 0°-40° | 32187.1 | 67.8 |
| 0°-60° | 40614.5 | 85.6 |
| 0°-90° | 44013.6 | 92.8 |
| 90°-120° | 1790.1 | 3.8 |
| 90°-150° | 3116.2 | 6.6 |
| 90°-180° | 3433.0 | 7.2 |
| 0°-180° | 47446.2 | 100.0 |

**CANDELA DISTRIBUTION:**

| | 0° | 90° | 180° | 270° | 360° | Flux |
|---|---|---|---|---|---|---|
| 0° | 35438 | 35438 | 35438 | 35438 | 35438 | |
| 5° | 35295 | 35298 | 35295 | 35336 | 35295 | 3351 |
| 15° | 33527 | 30708 | 33527 | 30003 | 33527 | 9400 |
| 25° | 28353 | 18838 | 28353 | 17862 | 28353 | 12925 |
| 35° | 18812 | 9097 | 18812 | 8503 | 18812 | 11615 |
| 45° | 8536 | 4546 | 8536 | 4389 | 8536 | 6800 |
| 55° | 3908 | 2752 | 3908 | 2714 | 3908 | 3593 |
| 65° | 2021 | 1792 | 2021 | 1810 | 2021 | 2043 |
| 75° | 1072 | 1072 | 1072 | 1082 | 1072 | 1132 |
| 85° | 275 | 327 | 275 | 337 | 275 | 301 |
| 90° | 25 | 26 | 25 | 26 | 25 | 23 |
| 95° | 48 | 43 | 48 | 43 | 48 | 51 |
| 105° | 274 | 209 | 274 | 136 | 274 | 369 |
| 115° | 1174 | 956 | 1174 | 1001 | 1174 | 1070 |
| 125° | 751 | 690 | 751 | 785 | 751 | 691 |
| 135° | 474 | 505 | 474 | 547 | 474 | 376 |
| 145° | 430 | 419 | 430 | 450 | 430 | 269 |
| 155° | 382 | 372 | 382 | 402 | 382 | 179 |
| 165° | 358 | 355 | 358 | 370 | 358 | 102 |
| 175° | 356 | 357 | 356 | 364 | 356 | 34 |
| 180° | 358 | 358 | 358 | 358 | 358 | |

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TEST NUMBER:
CATALOG NUMBER: EHBR1-48-UNV-TA-L950-UPL36

**CANDELA DISTRIBUTION (FULL):**

| | 0° | 22.5° | 45° | 67.5° | 90° | 112.5° | 135° | 157.5° | 180° | 202.5° | 225° |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0° | 35437.9 | 35437.9 | 35437.9 | 35437.9 | 35437.9 | 35437.9 | 35437.9 | 35437.9 | 35437.9 | 35437.9 | *35437.9* |
| 2.5° | *35420.8* | *35412.7* | *35405.3* | *35391.9* | *35359.9* | *35391.9* | *35405.3* | *35412.7* | *35420.8* | *35443.1* | *35452.8* |
| 5° | 35294.6 | 35326.6 | 35293.1 | 35300.6 | 35298.3 | 35300.6 | 35293.1 | 35326.6 | 35294.6 | 35316.9 | *35357.0* |
| 7.5° | 35074.2 | 35068.3 | 35057.1 | 35013.4 | 34939.1 | 35013.4 | 35057.1 | 35068.3 | 35074.2 | 35101.6 | *35129.9* |
| 10° | 34710.5 | 34734.3 | 34655.6 | 34380.2 | 34256.2 | 34380.2 | 34655.6 | 34734.3 | 34710.5 | 34755.1 | *34612.6* |
| 12.5° | 34171.0 | 34228.8 | 33910.4 | 33194.9 | 32759.2 | 33194.9 | 33910.4 | 34228.8 | 34171.0 | 34210.3 | *33724.8* |
| 15° | 33527.4 | 33479.1 | 32851.2 | 31347.5 | 30708.4 | 31347.5 | 32851.2 | 33479.1 | 33527.4 | 33479.1 | *32587.7* |
| 17.5° | 32525.4 | 32595.2 | 31376.4 | 29162.3 | 27982.2 | 29162.3 | 31376.4 | 32595.2 | 32525.4 | 32548.4 | *30856.1* |
| 20° | 31455.1 | 31476.6 | 29443.6 | 26327.7 | 25069.6 | 26327.7 | 29443.6 | 31476.6 | 31455.1 | 31325.9 | *28889.2* |
| 22.5° | 30093.1 | 30101.2 | 27228.8 | 23398.2 | 21775.6 | 23398.2 | 27228.8 | 30101.2 | 30093.1 | 29877.8 | *26494.0* |
| 25° | 28352.6 | 28416.4 | 24736.4 | 20429.2 | 18837.9 | 20429.2 | 24736.4 | 28416.4 | 28352.6 | 28107.6 | *23833.1* |
| 27.5° | 26398.3 | 26442.0 | 22075.5 | 17455.1 | 15800.7 | 17455.1 | 22075.5 | 26442.0 | 26398.3 | 26131.1 | *21289.4* |
| 30° | 23989.0 | 24269.6 | 19403.4 | 14738.5 | 13225.8 | 14738.5 | 19403.4 | 24269.6 | 23989.0 | 23958.5 | *18667.2* |
| 32.5° | 21501.0 | 21997.5 | 16884.3 | 12316.6 | 11019.9 | 12316.6 | 16884.3 | 21997.5 | 21501.0 | 21642.8 | *16053.8* |
| 35° | 18811.9 | 19370.1 | 14270.2 | 10239.1 | 9096.8 | 10239.1 | 14270.2 | 19370.1 | 18811.9 | 18995.2 | *13655.6* |
| 37.5° | 15961.0 | 16814.5 | 12054.6 | 8481.5 | 7383.0 | 8481.5 | 12054.6 | 16814.5 | 15961.0 | 16306.9 | *11546.2* |
| 40° | 13092.2 | 14010.4 | 9953.3 | 7052.0 | 6180.6 | 7052.0 | 9953.3 | 14010.4 | 13092.2 | 13655.6 | *9533.3* |
| 42.5° | 10628.8 | 11333.1 | 8215.0 | 5894.1 | 5325.5 | 5894.1 | 8215.0 | 11333.1 | 10628.8 | 11028.1 | *7857.2* |
| 45° | 8535.7 | 8943.2 | 6797.4 | 4999.7 | 4546.2 | 4999.7 | 6797.4 | 8943.2 | 8535.7 | 8906.0 | *6502.7* |
| 47.5° | 6968.8 | 7221.9 | 5595.7 | 4320.6 | 3970.9 | 4320.6 | 5595.7 | 7221.9 | 6968.8 | 7086.1 | *5431.0* |
| 50° | 5690.7 | 5828.8 | 4704.3 | 3744.6 | 3474.4 | 3744.6 | 4704.3 | 5828.8 | 5690.7 | 5762.7 | *4549.1* |
| 52.5° | 4722.1 | 4790.3 | 3945.7 | 3286.6 | 3088.5 | 3286.6 | 3945.7 | 4790.3 | 4722.1 | 4733.2 | *3876.7* |
| 55° | 3907.9 | 3924.2 | 3368.2 | 2889.5 | 2751.5 | 2889.5 | 3368.2 | 3924.2 | 3907.9 | 3910.8 | *3311.8* |
| 57.5° | 3272.5 | 3296.2 | 2894.7 | 2571.1 | 2456.8 | 2571.1 | 2894.7 | 3296.2 | 3272.5 | 3277.7 | *2868.0* |
| 60° | 2770.0 | 2785.6 | 2501.4 | 2283.9 | 2207.4 | 2283.9 | 2501.4 | 2785.6 | 2770.0 | 2763.4 | *2485.8* |
| 62.5° | 2358.1 | 2387.7 | 2185.8 | 2035.2 | 1986.3 | 2035.2 | 2185.8 | 2387.7 | 2358.1 | 2364.8 | *2185.1* |
| 65° | 2021.1 | 2040.4 | 1915.7 | 1809.5 | 1792.4 | 1809.5 | 1915.7 | 2040.4 | 2021.1 | 2037.5 | *1921.7* |
| 67.5° | 1744.2 | 1766.5 | 1682.6 | 1620.3 | 1603.2 | 1620.3 | 1682.6 | 1766.5 | 1744.2 | 1757.6 | *1684.1* |
| 70° | 1510.5 | 1510.5 | 1465.2 | 1430.3 | 1431.0 | 1430.3 | 1465.2 | 1510.5 | 1510.5 | 1512.7 | *1473.3* |
| 72.5° | 1281.1 | 1289.2 | 1258.9 | 1248.5 | 1252.9 | 1248.5 | 1258.9 | 1289.2 | 1281.1 | 1309.3 | *1267.8* |
| 75° | 1071.8 | 1080.7 | 1065.1 | 1059.2 | 1071.8 | 1059.2 | 1065.1 | 1080.7 | 1071.8 | 1086.6 | *1068.1* |
| 77.5° | 855.8 | 872.2 | 869.9 | 877.4 | 901.1 | 877.4 | 869.9 | 872.2 | 855.8 | 878.1 | *882.5* |
| 80° | 656.1 | 670.3 | 671.0 | 689.5 | 722.9 | 689.5 | 671.0 | 670.3 | 656.1 | 670.3 | *681.4* |
| 82.5° | 461.7 | 470.6 | 476.5 | 507.7 | 536.7 | 507.7 | 476.5 | 470.6 | 461.7 | 469.9 | *484.7* |
| 85° | 274.6 | 267.2 | 277.6 | 296.9 | 327.3 | 296.9 | 277.6 | 267.2 | 274.6 | 274.6 | *282.1* |
| 87.5° | 87.6 | 85.4 | 84.6 | 103.1 | 118.0 | 103.1 | 84.6 | 85.4 | 87.6 | 90.6 | *94.3* |
| 90° | 24.7 | 43.7 | 68.4 | 40.0 | 26.2 | 40.0 | 68.4 | 43.7 | 24.7 | 41.8 | *72.2* |
| 92.5° | 32.3 | 57.0 | 110.2 | 60.9 | 36.9 | 60.9 | 110.2 | 57.0 | 32.3 | 57.0 | *102.7* |
| 95° | 47.5 | 76.0 | 154.0 | 70.3 | 43.3 | 70.3 | 154.0 | 76.0 | 47.5 | 70.3 | *131.1* |
| 97.5° | 74.1 | 93.1 | 176.7 | 78.0 | 54.7 | 78.0 | 176.7 | 93.1 | 74.1 | 87.4 | *148.2* |
| 100° | 98.9 | 114.0 | 275.6 | 91.2 | 71.8 | 91.2 | 275.6 | 114.0 | 98.9 | 98.9 | *271.8* |
| 102.5° | 150.1 | 214.7 | 585.3 | 193.8 | 121.2 | 193.8 | 585.3 | 214.7 | 150.1 | 193.8 | *631.0* |
| 105° | 273.6 | 450.4 | 1043.3 | 408.6 | 208.6 | 408.6 | 1043.3 | 450.4 | 273.6 | 444.7 | *1111.8* |
| 107.5° | 518.8 | 798.2 | 1375.9 | 731.7 | 360.7 | 731.7 | 1375.9 | 798.2 | 518.8 | 830.4 | *1432.9* |
| 110° | 830.4 | 1096.5 | 1442.4 | 971.1 | 672.3 | 971.1 | 1442.4 | 1096.5 | 830.4 | 1161.1 | *1564.1* |

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**CANDELA DISTRIBUTION (continued):**

| | 0° | 22.5° | 45° | 67.5° | 90° | 112.5° | 135° | 157.5° | 180° | 202.5° | 225° |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 112.5° | 1081.3 | 1210.5 | 1381.6 | 1043.3 | 908.0 | 1043.3 | 1381.6 | 1210.5 | 1081.3 | 1294.2 | *1527.9* |
| 115° | 1174.5 | 1182.0 | 1233.4 | 1003.4 | 955.5 | 1003.4 | 1233.4 | 1182.0 | 1174.5 | 1275.2 | *1364.5* |
| 117.5° | 1134.5 | 1062.3 | 1047.1 | 916.0 | 923.9 | 916.0 | 1047.1 | 1062.3 | 1134.5 | 1166.9 | *1178.2* |
| 120° | 1024.3 | 927.4 | 874.2 | 815.3 | 854.8 | 815.3 | 874.2 | 927.4 | 1024.3 | 1011.1 | *992.0* |
| 122.5° | 885.6 | 788.6 | 748.8 | 722.9 | 770.0 | 722.9 | 748.8 | 788.6 | 885.6 | 857.1 | *838.1* |
| 125° | 750.6 | 669.0 | 659.5 | 643.0 | 690.1 | 643.0 | 659.5 | 669.0 | 750.6 | 722.2 | *730.5* |
| 127.5° | 636.6 | 585.3 | 596.8 | 587.9 | 619.9 | 587.9 | 596.8 | 585.3 | 636.6 | 623.3 | *652.6* |
| 130° | 555.7 | 530.2 | 557.6 | 545.0 | 572.3 | 545.0 | 557.6 | 530.2 | 555.7 | 559.4 | *598.3* |
| 132.5° | 505.1 | 497.4 | 530.5 | 515.4 | 533.2 | 515.4 | 530.5 | 497.4 | 505.1 | 521.0 | *557.2* |
| 135° | 474.3 | 475.4 | 506.6 | 489.5 | 505.4 | 489.5 | 506.6 | 475.4 | 474.3 | 497.1 | *529.4* |
| 137.5° | 456.0 | 461.7 | 484.5 | 467.4 | 480.7 | 467.4 | 484.5 | 461.7 | 456.0 | 478.8 | *503.5* |
| 140° | 445.3 | 449.1 | 466.2 | 447.3 | 459.4 | 447.3 | 466.2 | 449.1 | 445.3 | 468.2 | *479.5* |
| 142.5° | 434.7 | 438.5 | 449.9 | 427.9 | 435.5 | 427.9 | 449.9 | 438.5 | 434.7 | 456.4 | *462.0* |
| 145° | 429.7 | 431.7 | 437.3 | 413.4 | 419.1 | 413.4 | 437.3 | 431.7 | 429.7 | 445.7 | *441.9* |
| 147.5° | 421.0 | 421.0 | 422.8 | 401.6 | 406.1 | 401.6 | 422.8 | 421.0 | 421.0 | 432.4 | *427.4* |
| 150° | 410.3 | 408.4 | 410.3 | 389.0 | 393.6 | 389.0 | 410.3 | 408.4 | 410.3 | 417.9 | *411.0* |
| 152.5° | 395.2 | 393.2 | 395.9 | 376.5 | 381.0 | 376.5 | 395.9 | 393.2 | 395.2 | 402.7 | *396.6* |
| 155° | 381.8 | 381.8 | 383.3 | 367.7 | 372.2 | 367.7 | 383.3 | 381.8 | 381.8 | 386.3 | *384.0* |
| 157.5° | 373.8 | 373.8 | 375.3 | 363.5 | 366.8 | 363.5 | 375.3 | 373.8 | 373.8 | 376.5 | *376.0* |
| 160° | 365.8 | 367.7 | 369.1 | 359.3 | 362.6 | 359.3 | 369.1 | 367.7 | 365.8 | 370.3 | *369.9* |
| 162.5° | 362.7 | 363.5 | 366.1 | 355.0 | 358.5 | 355.0 | 366.1 | 363.5 | 362.7 | 363.5 | *363.1* |
| 165° | 358.5 | 360.4 | 361.9 | 353.9 | 355.4 | 353.9 | 361.9 | 360.4 | 358.5 | 360.4 | *358.8* |
| 167.5° | 357.3 | 359.3 | 360.8 | 353.4 | 356.1 | 353.4 | 360.8 | 359.3 | 357.3 | 355.5 | *357.7* |
| 170° | 353.5 | 356.2 | 359.6 | 354.2 | 354.9 | 354.2 | 359.6 | 356.2 | 353.5 | 354.3 | *354.6* |
| 172.5° | 355.0 | 357.7 | 361.1 | 355.7 | 356.4 | 355.7 | 361.1 | 357.7 | 355.0 | 355.8 | *354.2* |
| 175° | 356.5 | 357.2 | 359.5 | 355.3 | 356.8 | 355.3 | 359.5 | 357.2 | 356.5 | 355.4 | *355.7* |
| 177.5° | 355.4 | 358.0 | 360.2 | 357.9 | 359.4 | 357.9 | 360.2 | 358.0 | 355.4 | 356.1 | *358.4* |
| 180° | 358.4 | 358.4 | 358.4 | 358.4 | 358.4 | 358.4 | 358.4 | 358.4 | 358.4 | 358.4 | *358.4* |

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Scaled Data Report

TEST NUMBER:
CATALOG NUMBER: EHBR1-48-UNV-TA-L950-UPL36

**CANDELA DISTRIBUTION (continued):**

| | 247.5° | 270° | 292.5° | 315° | 337.5° | 360° |
|---|---|---|---|---|---|---|
| 0° | 35437.9 | 35437.9 | 35437.9 | 35437.9 | 35437.9 | 35437.9 |
| 2.5° | *35437.2* | *35450.5* | *35437.2* | *35452.8* | *35443.1* | *35420.8* |
| 5° | 35341.5 | 35335.5 | 35341.5 | 35357.0 | 35316.9 | 35294.6 |
| 7.5° | 34970.3 | 34946.6 | 34970.3 | 35129.9 | 35101.6 | 35074.2 |
| 10° | 34195.4 | 34032.1 | 34195.4 | 34612.6 | 34755.1 | 34710.5 |
| 12.5° | 32844.6 | 32338.4 | 32844.6 | 33724.8 | 34210.3 | 34171.0 |
| 15° | 30872.4 | 30003.3 | 30872.4 | 32587.7 | 33479.1 | 33527.4 |
| 17.5° | 28320.6 | 27326.1 | 28320.6 | 30856.1 | 32548.4 | 32525.4 |
| 20° | 25545.4 | 24093.6 | 25545.4 | 28889.2 | 31325.9 | 31455.1 |
| 22.5° | 22514.8 | 20951.7 | 22514.8 | 26494.0 | 29877.8 | 30093.1 |
| 25° | 19491.8 | 17861.8 | 19491.8 | 23833.1 | 28107.6 | 28352.6 |
| 27.5° | 16666.1 | 15114.8 | 16666.1 | 21289.4 | 26131.1 | 26398.3 |
| 30° | 14049.7 | 12553.4 | 14049.7 | 18667.2 | 23958.5 | 23989.0 |
| 32.5° | 11861.6 | 10378.7 | 11861.6 | 16053.8 | 21642.8 | 21501.0 |
| 35° | 9732.9 | 8503.1 | 9732.9 | 13655.6 | 18995.2 | 18811.9 |
| 37.5° | 8128.2 | 7142.5 | 8128.2 | 11546.2 | 16306.9 | 15961.0 |
| 40° | 6779.6 | 5989.8 | 6779.6 | 9533.3 | 13655.6 | 13092.2 |
| 42.5° | 5667.7 | 5076.9 | 5667.7 | 7857.2 | 11028.1 | 10628.8 |
| 45° | 4832.7 | 4388.9 | 4832.7 | 6502.7 | 8906.0 | 8535.7 |
| 47.5° | 4217.3 | 3856.7 | 4217.3 | 5431.0 | 7086.1 | 6968.8 |
| 50° | 3669.6 | 3421.6 | 3669.6 | 4549.1 | 5762.7 | 5690.7 |
| 52.5° | 3227.9 | 3048.3 | 3227.9 | 3876.7 | 4733.2 | 4722.1 |
| 55° | 2860.6 | 2714.3 | 2860.6 | 3311.8 | 3910.8 | 3907.9 |
| 57.5° | 2540.7 | 2446.4 | 2540.7 | 2868.0 | 3277.7 | 3272.5 |
| 60° | 2255.6 | 2223.0 | 2255.6 | 2485.8 | 2763.4 | 2770.0 |
| 62.5° | 2037.5 | 1989.1 | 2037.5 | 2185.1 | 2364.8 | 2358.1 |
| 65° | 1820.7 | 1809.5 | 1820.7 | 1921.7 | 2037.5 | 2021.1 |
| 67.5° | 1624.7 | 1615.1 | 1624.7 | 1684.1 | 1757.6 | 1744.2 |
| 70° | 1437.7 | 1445.1 | 1437.7 | 1473.3 | 1512.7 | 1510.5 |
| 72.5° | 1256.6 | 1258.1 | 1256.6 | 1267.8 | 1309.3 | 1281.1 |
| 75° | 1082.1 | 1082.1 | 1082.1 | 1068.1 | 1086.6 | 1071.8 |
| 77.5° | 892.1 | 914.4 | 892.1 | 882.5 | 878.1 | 855.8 |
| 80° | 701.4 | 722.9 | 701.4 | 681.4 | 670.3 | 656.1 |
| 82.5° | 508.4 | 543.3 | 508.4 | 484.7 | 469.9 | 461.7 |
| 85° | 315.4 | 337.0 | 315.4 | 282.1 | 274.6 | 274.6 |
| 87.5° | 118.7 | 129.9 | 118.7 | 94.3 | 90.6 | 87.6 |
| 90° | 38.0 | 25.5 | 38.0 | 72.2 | 41.8 | 24.7 |
| 92.5° | 51.3 | 34.9 | 51.3 | 102.7 | 57.0 | 32.3 |
| 95° | 57.0 | 42.6 | 57.0 | 131.1 | 70.3 | 47.5 |
| 97.5° | 60.9 | 52.0 | 60.9 | 148.2 | 87.4 | 74.1 |
| 100° | 70.3 | 60.4 | 70.3 | 271.8 | 98.9 | 98.9 |
| 102.5° | 142.5 | 73.7 | 142.5 | 631.0 | 193.8 | 150.1 |
| 105° | 372.5 | 136.4 | 372.5 | 1111.8 | 444.7 | 273.6 |
| 107.5° | 737.3 | 320.7 | 737.3 | 1432.9 | 830.4 | 518.8 |
| 110° | 1011.1 | 651.4 | 1011.1 | 1564.1 | 1161.1 | 830.4 |

Cooper Lighting Solutions Photometric Lab
1121 Highway 74 South
Peachtree City, GA 30269

Scaled Data Report

TEST NUMBER:
CATALOG NUMBER: EHBR1-48-UNV-TA-L950-UPL36

**CANDELA DISTRIBUTION (continued):**

| | 247.5° | 270° | 292.5° | 315° | 337.5° | 360° |
|---|---|---|---|---|---|---|
| 112.5° | 1121.3 | 902.3 | 1121.3 | 1527.9 | 1294.2 | 1081.3 |
| 115° | 1117.4 | 1001.1 | 1117.4 | 1364.5 | 1275.2 | 1174.5 |
| 117.5° | 1049.1 | 1006.8 | 1049.1 | 1178.2 | 1166.9 | 1134.5 |
| 120° | 949.1 | 949.8 | 949.1 | 992.0 | 1011.1 | 1024.3 |
| 122.5° | 846.4 | 872.6 | 846.4 | 838.1 | 857.1 | 885.6 |
| 125° | 759.0 | 785.2 | 759.0 | 730.5 | 722.2 | 750.6 |
| 127.5° | 685.6 | 707.2 | 685.6 | 652.6 | 623.3 | 636.6 |
| 130° | 624.8 | 638.9 | 624.8 | 598.3 | 559.4 | 555.7 |
| 132.5° | 580.7 | 588.3 | 580.7 | 557.2 | 521.0 | 505.1 |
| 135° | 544.6 | 547.2 | 544.6 | 529.4 | 497.1 | 474.3 |
| 137.5° | 514.9 | 511.8 | 514.9 | 503.5 | 478.8 | 456.0 |
| 140° | 493.6 | 489.8 | 493.6 | 479.5 | 468.2 | 445.3 |
| 142.5° | 471.5 | 468.5 | 471.5 | 462.0 | 456.4 | 434.7 |
| 145° | 455.9 | 450.2 | 455.9 | 441.9 | 445.7 | 429.7 |
| 147.5° | 439.6 | 434.6 | 439.6 | 427.4 | 432.4 | 421.0 |
| 150° | 425.8 | 424.7 | 425.8 | 411.0 | 417.9 | 410.3 |
| 152.5° | 412.5 | 412.2 | 412.5 | 396.6 | 402.7 | 395.2 |
| 155° | 400.7 | 401.5 | 400.7 | 384.0 | 386.3 | 381.8 |
| 157.5° | 390.8 | 391.5 | 390.8 | 376.0 | 376.5 | 373.8 |
| 160° | 382.8 | 383.5 | 382.8 | 369.9 | 370.3 | 365.8 |
| 162.5° | 376.7 | 377.4 | 376.7 | 363.1 | 363.5 | 362.7 |
| 165° | 367.9 | 370.5 | 367.9 | 358.8 | 360.4 | 358.5 |
| 167.5° | 364.9 | 367.6 | 364.9 | 357.7 | 355.5 | 357.3 |
| 170° | 361.8 | 364.5 | 361.8 | 354.6 | 354.3 | 353.5 |
| 172.5° | 359.5 | 364.0 | 359.5 | 354.2 | 355.8 | 355.0 |
| 175° | 359.1 | 364.4 | 359.1 | 355.7 | 355.4 | 356.5 |
| 177.5° | 361.7 | 369.0 | 361.7 | 358.4 | 356.1 | 355.4 |
| 180° | 358.4 | 358.4 | 358.4 | 358.4 | 358.4 | 358.4 |

Cooper Lighting Solutions Photometric Lab
1121 Highway 74 South
Peachtree City, GA 30269

Scaled Data Report

TEST NUMBER: CATALOG
CATALOG NUMBER: EHBR1-48-UNV-TA-L950-UPL36

**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 | 20.46 | 21.61 | 20.95 | 22.07 | 22.57 | 18.73 | 19.87 | 19.22 | 20.34 | 20.83 |
| | 3H | 21.62 | 22.64 | 22.12 | 23.12 | 23.66 | 20.32 | 21.34 | 20.83 | 21.82 | 22.36 |
| | 4H | 22.07 | 23.02 | 22.60 | 23.52 | 24.08 | 20.97 | 21.93 | 21.50 | 22.42 | 22.98 |
| | 6H | 22.39 | 23.26 | 22.92 | 23.77 | 24.34 | 21.49 | 22.36 | 22.03 | 22.87 | 23.44 |
| | 8H | 22.47 | 23.30 | 23.02 | 23.83 | 24.41 | 21.65 | 22.48 | 22.21 | 23.01 | 23.59 |
| | 12H | 22.50 | 23.30 | 23.06 | 23.82 | 24.42 | 21.74 | 22.54 | 22.30 | 23.06 | 23.66 |
| 4H | 2H | 20.71 | 21.66 | 21.24 | 22.16 | 22.72 | 19.27 | 20.22 | 19.80 | 20.72 | 21.28 |
| | 3H | 22.11 | 22.89 | 22.64 | 23.43 | 24.01 | 21.07 | 21.86 | 21.61 | 22.40 | 22.98 |
| | 4H | 22.69 | 23.40 | 23.25 | 23.95 | 24.56 | 21.84 | 22.55 | 22.40 | 23.10 | 23.71 |
| | 6H | 23.13 | 23.74 | 23.71 | 24.32 | 24.95 | 22.47 | 23.08 | 23.05 | 23.65 | 24.29 |
| | 8H | 23.25 | 23.82 | 23.84 | 24.40 | 25.03 | 22.68 | 23.25 | 23.27 | 23.82 | 24.46 |
| | 12H | 23.31 | 23.81 | 23.92 | 24.42 | 25.06 | 22.80 | 23.30 | 23.41 | 23.91 | 24.55 |
| 8H | 4H | 22.85 | 23.42 | 23.44 | 23.99 | 24.63 | 22.08 | 22.65 | 22.67 | 23.22 | 23.86 |
| | 6H | 23.39 | 23.86 | 24.01 | 24.48 | 25.12 | 22.82 | 23.29 | 23.44 | 23.91 | 24.55 |
| | 8H | 23.57 | 23.99 | 24.21 | 24.62 | 25.28 | 23.10 | 23.51 | 23.74 | 24.15 | 24.81 |
| | 12H | 23.69 | 24.05 | 24.32 | 24.66 | 25.39 | 23.29 | 23.65 | 23.92 | 24.27 | 25.00 |
| 12H | 4H | 22.84 | 23.34 | 23.45 | 23.95 | 24.59 | 22.08 | 22.58 | 22.69 | 23.19 | 23.83 |
| | 6H | 23.41 | 23.82 | 24.05 | 24.46 | 25.11 | 22.85 | 23.26 | 23.49 | 23.90 | 24.56 |
| | 8H | 23.63 | 23.99 | 24.26 | 24.61 | 25.34 | 23.17 | 23.53 | 23.80 | 24.15 | 24.88 |

Cooper Lighting Solutions Photometric Lab
1121 Highway 74 South
Peachtree City, GA 30269

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

Report Prepared for

Cooper Lighting Solutions

Metalux

Report Number: SP1-2506-472-8

Test Date: 08/04/2025

Luminaire Tested: EHBR-60-L950-N

Data in this report applies to families of products including EHBR-60-L950-N

Report Generated By FNC07603 / LDUCLS01DT446
Version: v7.04

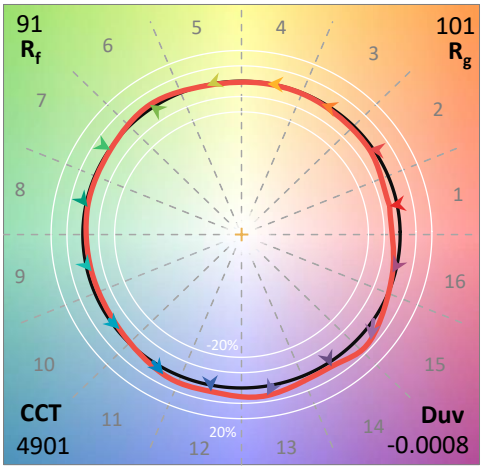
## Test Information

| | |
|---|---|
| Test Method: | LM-79-2019 |
| Report Number: | SP1-2506-472-8 |
| Test Lab: | COOPER LIGHTING SOLUTIONS |
| Photometer: | SP1 - 76IN SPHERE |
| Measurement Geometry: | 4π |
| Issue Date: | 08/05/2025 |
| Manufacturer: | COOPER LIGHTING SOLUTIONS |
| Product Line: | Metalux |
| Catalog Number: | **EHBR-60-L950-N** |
| Description: | Elevate Round Highbay at, 60000 lumens, 5000K 90CRI LEDs with N lens |

## Spectral Parameters

| | |
|---|---|
| CCT (K): | 4901 |
| CIE u': | 0.2131 |
| CIE v': | 0.4853 |
| Duv: | -0.0008 |
| CIE x: | 0.3477 |
| CIE y: | 0.3520 |
| CIE z: | 0.3003 |
| Peak Wavelength (nm): | 630 |
| Dominant Wavelength (nm): | 574 |
| Purity: | 9.953987 |
| Rf: | 90.7 |
| Rg: | 100.5 |

| | | | | | |
|---|---|---|---|---|---|
| CRI (Ra): | 94.3 | | | | |
| R1: | 95.8 | R9: | 72.3 | | |
| R2: | 96.5 | R10: | 89.1 | | |
| R3: | 94.4 | R11: | 94.9 | | |
| R4: | 95.3 | R12: | 68.4 | | |
| R5: | 94.1 | R13: | 96.4 | | |
| R6: | 92.5 | R14: | 96.4 | | |
| R7: | 95.5 | R15: | 93.9 | | |
| R8: | 90.1 | | | | |




## Test Conditions

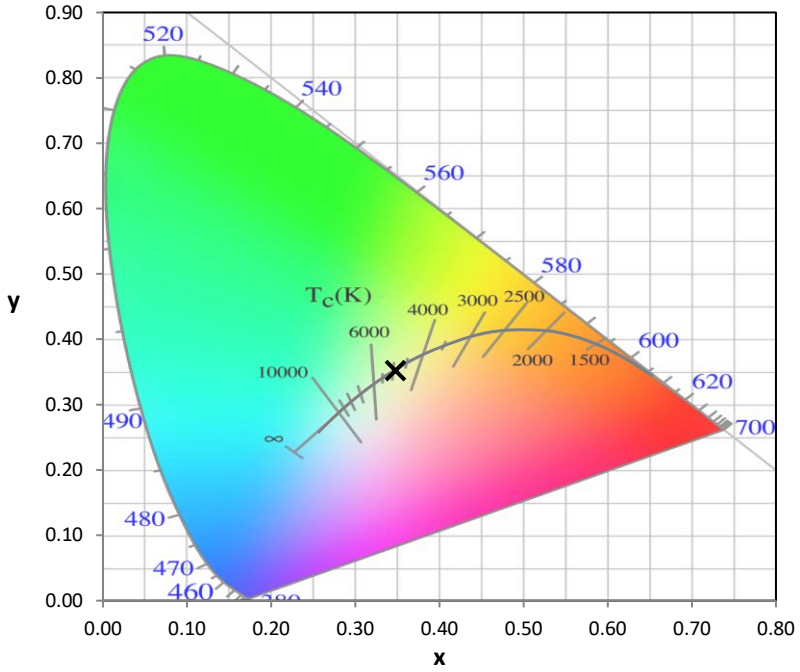
| | |
|---|---|
| Stabilization Time: | 35M |
| Operation Time: | 1H 35M |
| Sphere Temperature (°C): | 25.0 |

REPORT NUMBER: SP1-2506-472-8

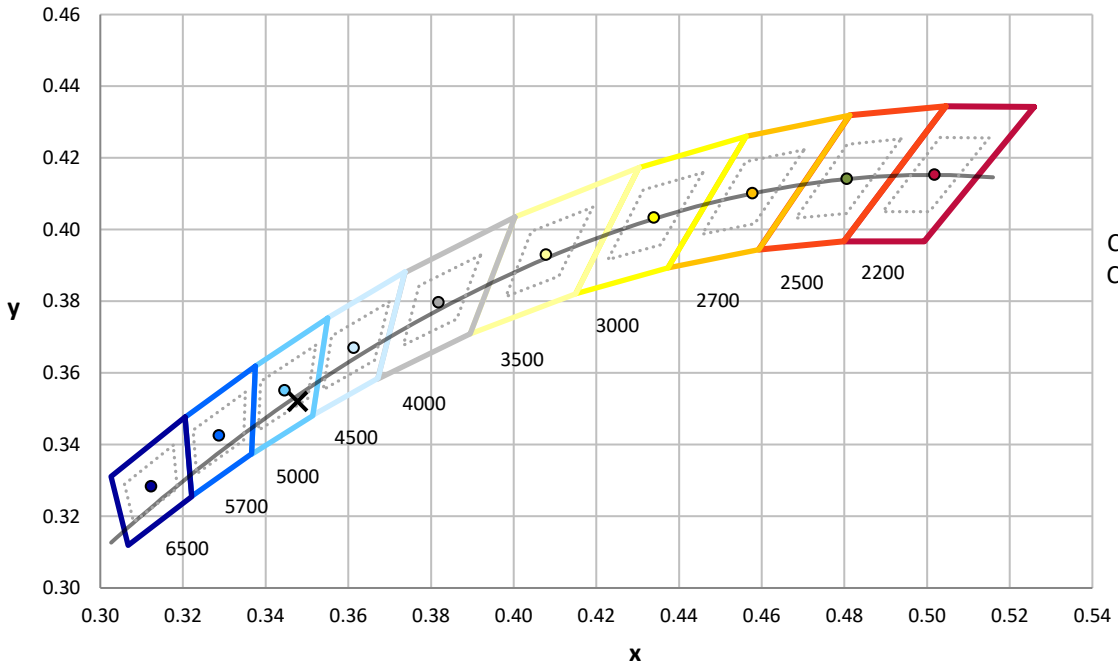
| Measurement and Test Equipment | | | |
|---|---|---|---|
| Instrument | Identification Number | Calibration Date | Calibration Due Date |
| Photometer | 76INCH SPHERE IN0058 | 6/16/2025 | 12/16/2025 |
| Power Meter | XITRON INXT2011004 | 1/21/2025 | 1/21/2026 |
| AC Power Source | CHROMA 61603 IN0063 | 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: SP1-2506-472-8

## CIE 1931 Chromaticity Diagram




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

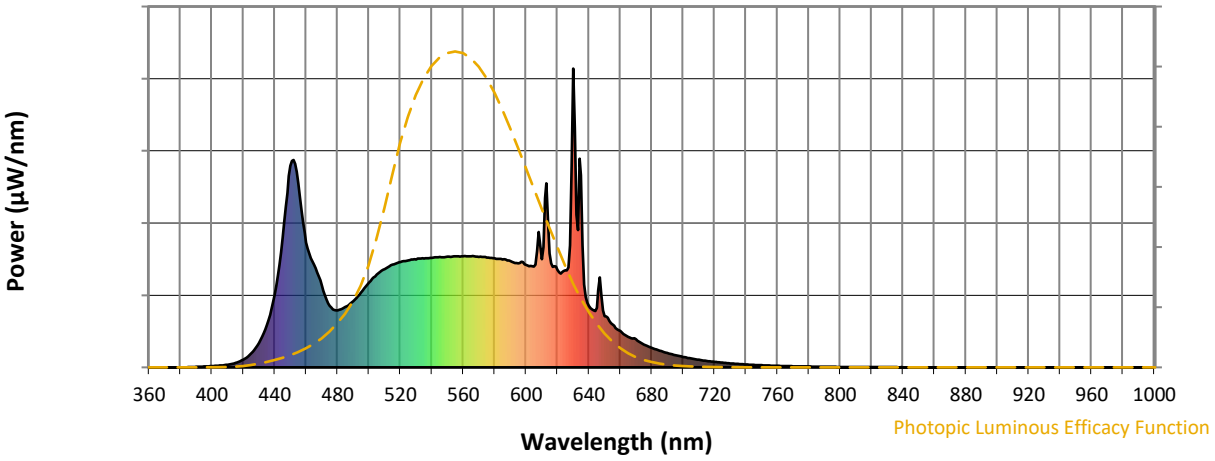



CCT = 4901K
CIE x = 0.3477
CIE y = 0.3520
Duv = -0.0008

Point lies inside the ANSI 5000K 4-step quadrangle

REPORT NUMBER: SP1-2506-472-8

## Photopic Flux vs. Wavelength

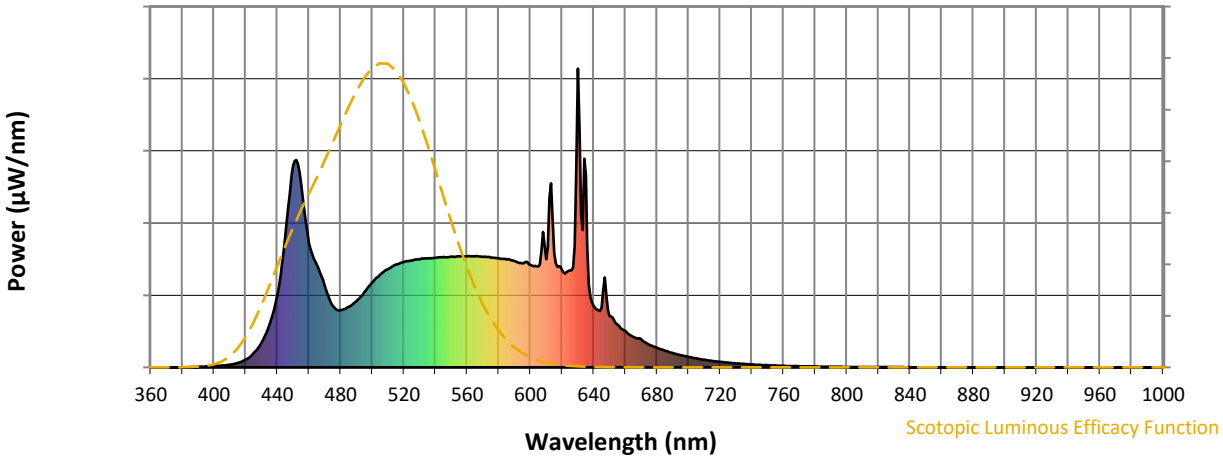



## Photopic Lumens: NR

| 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 | 221 | NR | 620 | 326 | NR | 750 | 7 | NR | 880 | 0 | NR |
| 365 | 0 | NR | 495 | 250 | NR | 625 | 325 | NR | 755 | 6 | NR | 885 | 0 | NR |
| 370 | 0 | NR | 500 | 284 | NR | 630 | 1000 | NR | 760 | 5 | NR | 890 | 0 | NR |
| 375 | 0 | NR | 505 | 311 | NR | 635 | 643 | NR | 765 | 4 | NR | 895 | 0 | NR |
| 380 | 0 | NR | 510 | 329 | NR | 640 | 206 | NR | 770 | 4 | NR | 900 | 0 | NR |
| 385 | 1 | NR | 515 | 344 | NR | 645 | 199 | NR | 775 | 3 | NR | 905 | 0 | NR |
| 390 | 2 | NR | 520 | 353 | NR | 650 | 172 | NR | 780 | 3 | NR | 910 | 0 | NR |
| 395 | 3 | NR | 525 | 357 | NR | 655 | 143 | NR | 785 | 2 | NR | 915 | 0 | NR |
| 400 | 5 | NR | 530 | 362 | NR | 660 | 122 | NR | 790 | 2 | NR | 920 | 0 | NR |
| 405 | 6 | NR | 535 | 365 | NR | 665 | 102 | NR | 795 | 2 | NR | 925 | 0 | NR |
| 410 | 9 | NR | 540 | 367 | NR | 670 | 94 | NR | 800 | 2 | NR | 930 | 0 | NR |
| 415 | 15 | NR | 545 | 369 | NR | 675 | 76 | NR | 805 | 1 | NR | 935 | 0 | NR |
| 420 | 26 | NR | 550 | 370 | NR | 680 | 65 | NR | 810 | 1 | NR | 940 | 0 | NR |
| 425 | 47 | NR | 555 | 372 | NR | 685 | 56 | NR | 815 | 1 | NR | 945 | 0 | NR |
| 430 | 81 | NR | 560 | 372 | NR | 690 | 48 | NR | 820 | 1 | NR | 950 | 0 | NR |
| 435 | 143 | NR | 565 | 371 | NR | 695 | 41 | NR | 825 | 1 | NR | 955 | 0 | NR |
| 440 | 243 | NR | 570 | 370 | NR | 700 | 35 | NR | 830 | 1 | NR | 960 | 0 | NR |
| 445 | 434 | NR | 575 | 367 | NR | 705 | 30 | NR | 835 | 1 | NR | 965 | 0 | NR |
| 450 | 675 | NR | 580 | 365 | NR | 710 | 25 | NR | 840 | 1 | NR | 970 | 0 | NR |
| 455 | 615 | NR | 585 | 361 | NR | 715 | 22 | NR | 845 | 0 | NR | 975 | 0 | NR |
| 460 | 418 | NR | 590 | 356 | NR | 720 | 19 | NR | 850 | 0 | NR | 980 | 0 | NR |
| 465 | 344 | NR | 595 | 348 | NR | 725 | 16 | NR | 855 | 0 | NR | 985 | 0 | NR |
| 470 | 272 | NR | 600 | 343 | NR | 730 | 13 | NR | 860 | 0 | NR | 990 | 0 | NR |
| 475 | 206 | NR | 605 | 337 | NR | 735 | 11 | NR | 865 | 0 | NR | 995 | 0 | NR |
| 480 | 190 | NR | 610 | 362 | NR | 740 | 10 | NR | 870 | 0 | NR | 1000 | 0 | NR |
| 485 | 202 | NR | 615 | 381 | NR | 745 | 8 | NR | 875 | 0 | NR | | | |

REPORT NUMBER: SP1-2506-472-8

## Scotopic Flux vs. Wavelength

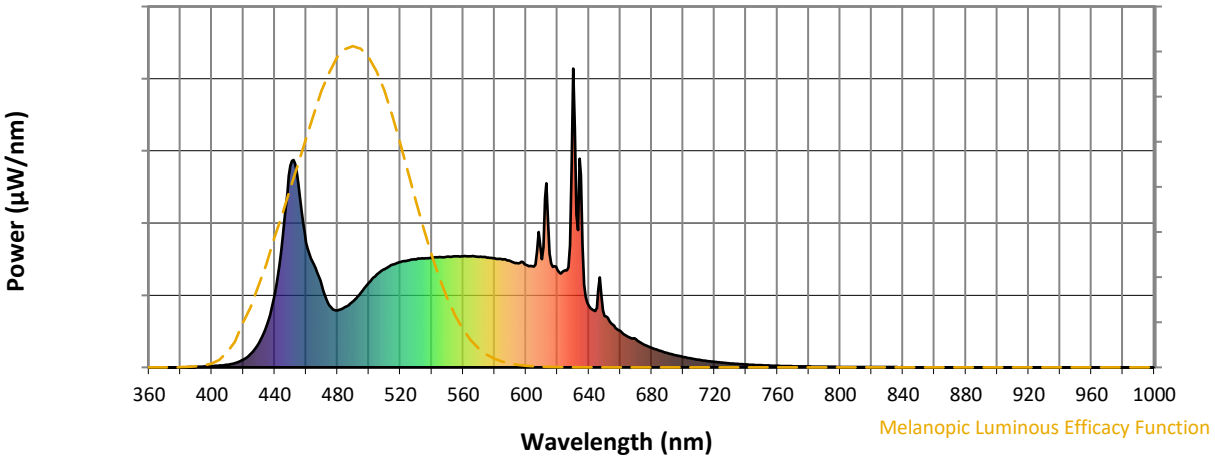



**Scotopic Lumens: NR** **S/P: 2.04**

| 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 | 221 | NR | 620 | 326 | NR | 750 | 7 | NR | 880 | 0 | NR |
| 365 | 0 | NR | 495 | 250 | NR | 625 | 325 | NR | 755 | 6 | NR | 885 | 0 | NR |
| 370 | 0 | NR | 500 | 284 | NR | 630 | 1000 | NR | 760 | 5 | NR | 890 | 0 | NR |
| 375 | 0 | NR | 505 | 311 | NR | 635 | 643 | NR | 765 | 4 | NR | 895 | 0 | NR |
| 380 | 0 | NR | 510 | 329 | NR | 640 | 206 | NR | 770 | 4 | NR | 900 | 0 | NR |
| 385 | 1 | NR | 515 | 344 | NR | 645 | 199 | NR | 775 | 3 | NR | 905 | 0 | NR |
| 390 | 2 | NR | 520 | 353 | NR | 650 | 172 | NR | 780 | 3 | NR | 910 | 0 | NR |
| 395 | 3 | NR | 525 | 357 | NR | 655 | 143 | NR | 785 | 2 | NR | 915 | 0 | NR |
| 400 | 5 | NR | 530 | 362 | NR | 660 | 122 | NR | 790 | 2 | NR | 920 | 0 | NR |
| 405 | 6 | NR | 535 | 365 | NR | 665 | 102 | NR | 795 | 2 | NR | 925 | 0 | NR |
| 410 | 9 | NR | 540 | 367 | NR | 670 | 94 | NR | 800 | 2 | NR | 930 | 0 | NR |
| 415 | 15 | NR | 545 | 369 | NR | 675 | 76 | NR | 805 | 1 | NR | 935 | 0 | NR |
| 420 | 26 | NR | 550 | 370 | NR | 680 | 65 | NR | 810 | 1 | NR | 940 | 0 | NR |
| 425 | 47 | NR | 555 | 372 | NR | 685 | 56 | NR | 815 | 1 | NR | 945 | 0 | NR |
| 430 | 81 | NR | 560 | 372 | NR | 690 | 48 | NR | 820 | 1 | NR | 950 | 0 | NR |
| 435 | 143 | NR | 565 | 371 | NR | 695 | 41 | NR | 825 | 1 | NR | 955 | 0 | NR |
| 440 | 243 | NR | 570 | 370 | NR | 700 | 35 | NR | 830 | 1 | NR | 960 | 0 | NR |
| 445 | 434 | NR | 575 | 367 | NR | 705 | 30 | NR | 835 | 1 | NR | 965 | 0 | NR |
| 450 | 675 | NR | 580 | 365 | NR | 710 | 25 | NR | 840 | 1 | NR | 970 | 0 | NR |
| 455 | 615 | NR | 585 | 361 | NR | 715 | 22 | NR | 845 | 0 | NR | 975 | 0 | NR |
| 460 | 418 | NR | 590 | 356 | NR | 720 | 19 | NR | 850 | 0 | NR | 980 | 0 | NR |
| 465 | 344 | NR | 595 | 348 | NR | 725 | 16 | NR | 855 | 0 | NR | 985 | 0 | NR |
| 470 | 272 | NR | 600 | 343 | NR | 730 | 13 | NR | 860 | 0 | NR | 990 | 0 | NR |
| 475 | 206 | NR | 605 | 337 | NR | 735 | 11 | NR | 865 | 0 | NR | 995 | 0 | NR |
| 480 | 190 | NR | 610 | 362 | NR | 740 | 10 | NR | 870 | 0 | NR | 1000 | 0 | NR |
| 485 | 202 | NR | 615 | 381 | NR | 745 | 8 | NR | 875 | 0 | NR | | | |

REPORT NUMBER: SP1-2506-472-8

## Melanopic Flux vs. Wavelength




**Melanopic Lumens: NR** **M/P: 4.41**

| 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 | 221 | NR | 620 | 326 | NR | 750 | 7 | NR | 880 | 0 | NR |
| 365 | 0 | NR | 495 | 250 | NR | 625 | 325 | NR | 755 | 6 | NR | 885 | 0 | NR |
| 370 | 0 | NR | 500 | 284 | NR | 630 | 1000 | NR | 760 | 5 | NR | 890 | 0 | NR |
| 375 | 0 | NR | 505 | 311 | NR | 635 | 643 | NR | 765 | 4 | NR | 895 | 0 | NR |
| 380 | 0 | NR | 510 | 329 | NR | 640 | 206 | NR | 770 | 4 | NR | 900 | 0 | NR |
| 385 | 1 | NR | 515 | 344 | NR | 645 | 199 | NR | 775 | 3 | NR | 905 | 0 | NR |
| 390 | 2 | NR | 520 | 353 | NR | 650 | 172 | NR | 780 | 3 | NR | 910 | 0 | NR |
| 395 | 3 | NR | 525 | 357 | NR | 655 | 143 | NR | 785 | 2 | NR | 915 | 0 | NR |
| 400 | 5 | NR | 530 | 362 | NR | 660 | 122 | NR | 790 | 2 | NR | 920 | 0 | NR |
| 405 | 6 | NR | 535 | 365 | NR | 665 | 102 | NR | 795 | 2 | NR | 925 | 0 | NR |
| 410 | 9 | NR | 540 | 367 | NR | 670 | 94 | NR | 800 | 2 | NR | 930 | 0 | NR |
| 415 | 15 | NR | 545 | 369 | NR | 675 | 76 | NR | 805 | 1 | NR | 935 | 0 | NR |
| 420 | 26 | NR | 550 | 370 | NR | 680 | 65 | NR | 810 | 1 | NR | 940 | 0 | NR |
| 425 | 47 | NR | 555 | 372 | NR | 685 | 56 | NR | 815 | 1 | NR | 945 | 0 | NR |
| 430 | 81 | NR | 560 | 372 | NR | 690 | 48 | NR | 820 | 1 | NR | 950 | 0 | NR |
| 435 | 143 | NR | 565 | 371 | NR | 695 | 41 | NR | 825 | 1 | NR | 955 | 0 | NR |
| 440 | 243 | NR | 570 | 370 | NR | 700 | 35 | NR | 830 | 1 | NR | 960 | 0 | NR |
| 445 | 434 | NR | 575 | 367 | NR | 705 | 30 | NR | 835 | 1 | NR | 965 | 0 | NR |
| 450 | 675 | NR | 580 | 365 | NR | 710 | 25 | NR | 840 | 1 | NR | 970 | 0 | NR |
| 455 | 615 | NR | 585 | 361 | NR | 715 | 22 | NR | 845 | 0 | NR | 975 | 0 | NR |
| 460 | 418 | NR | 590 | 356 | NR | 720 | 19 | NR | 850 | 0 | NR | 980 | 0 | NR |
| 465 | 344 | NR | 595 | 348 | NR | 725 | 16 | NR | 855 | 0 | NR | 985 | 0 | NR |
| 470 | 272 | NR | 600 | 343 | NR | 730 | 13 | NR | 860 | 0 | NR | 990 | 0 | NR |
| 475 | 206 | NR | 605 | 337 | NR | 735 | 11 | NR | 865 | 0 | NR | 995 | 0 | NR |
| 480 | 190 | NR | 610 | 362 | NR | 740 | 10 | NR | 870 | 0 | NR | 1000 | 0 | NR |
| 485 | 202 | NR | 615 | 381 | NR | 745 | 8 | NR | 875 | 0 | NR | | | |

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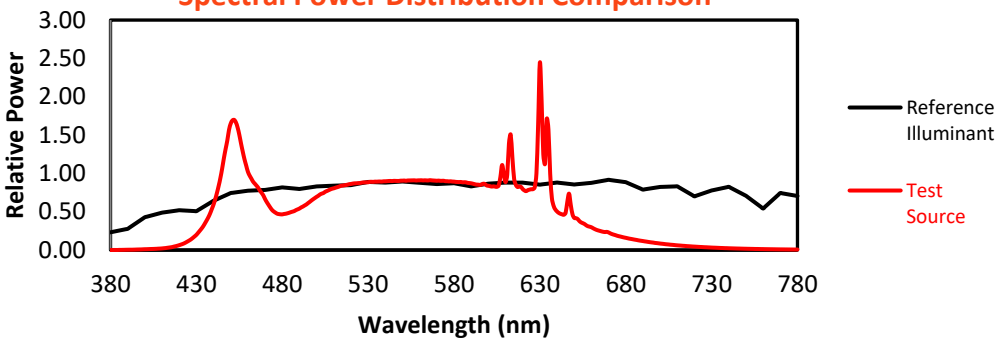
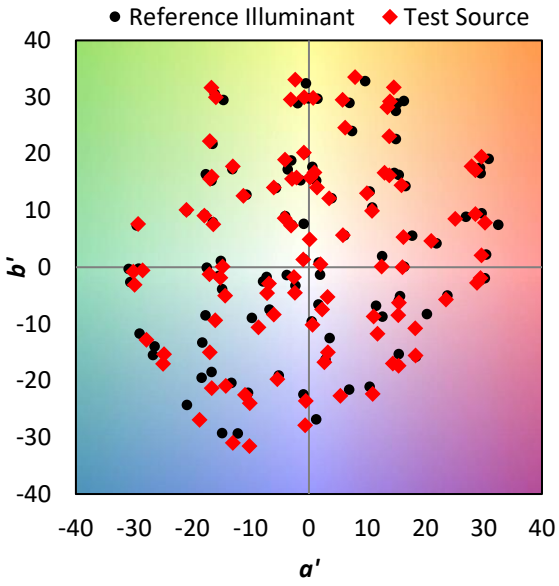
## Summary

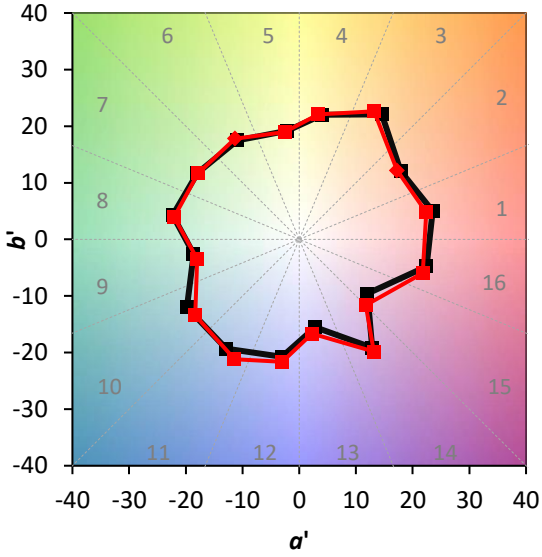
$R_f$ = 90.7
$R_g$ = 100.5
CIE $R_a$ = 94.3
$R_9$ = 72.3

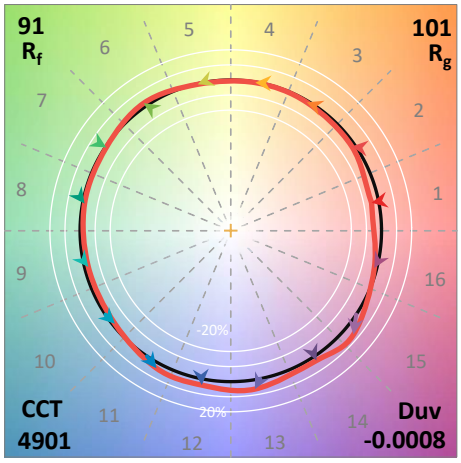
## Spectral Power Distribution Comparison

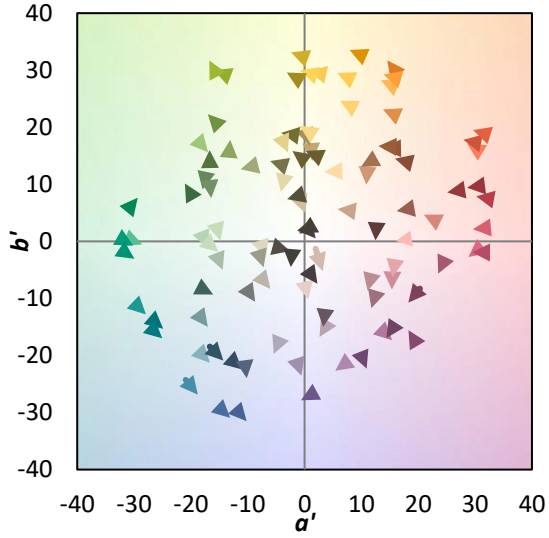



## Color Vector Graphics



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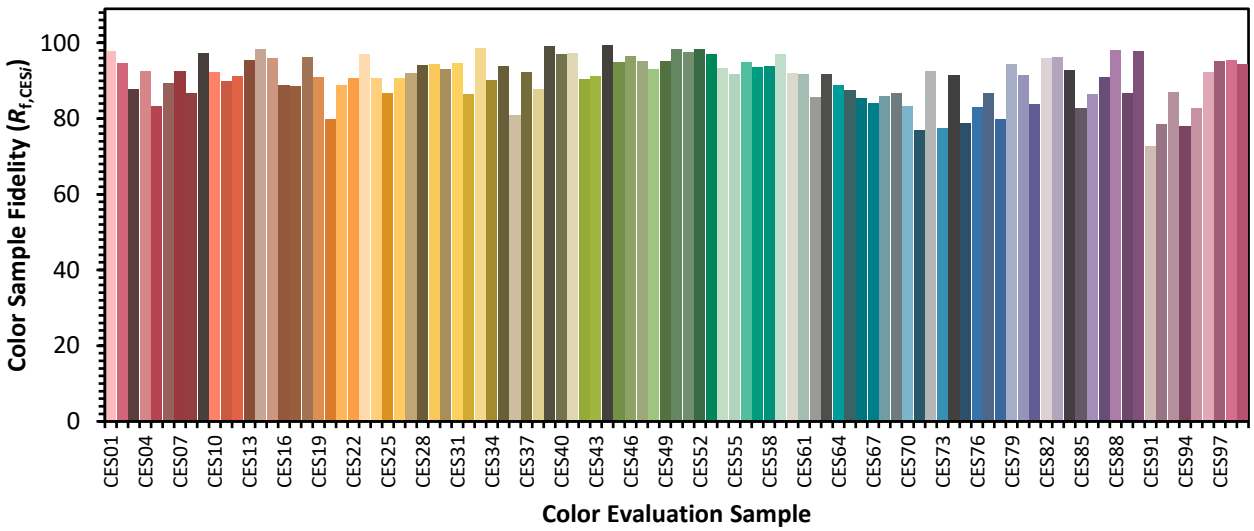
**Individual Sample Fidelity Index ($R_{f,i}$)**

| | | | |
|---|---|---|---|
| CES01 = 85 | CES26 = 91 | CES51 = 98 | CES76 = 83 |
| CES02 = 61 | CES27 = 92 | CES52 = 98 | CES77 = 87 |
| CES03 = 31 | CES28 = 94 | CES53 = 97 | CES78 = 80 |
| CES04 = 69 | CES29 = 94 | CES54 = 93 | CES79 = 94 |
| CES05 = 48 | CES30 = 93 | CES55 = 92 | CES80 = 91 |
| CES06 = 50 | CES31 = 95 | CES56 = 95 | CES81 = 84 |
| CES07 = 41 | CES32 = 86 | CES57 = 94 | CES82 = 96 |
| CES08 = 40 | CES33 = 99 | CES58 = 94 | CES83 = 96 |
| CES09 = 29 | CES34 = 90 | CES59 = 97 | CES84 = 93 |
| CES10 = 73 | CES35 = 94 | CES60 = 92 | CES85 = 83 |
| CES11 = 56 | CES36 = 81 | CES61 = 92 | CES86 = 86 |
| CES12 = 62 | CES37 = 92 | CES62 = 86 | CES87 = 91 |
| CES13 = 43 | CES38 = 88 | CES63 = 92 | CES88 = 98 |
| CES14 = 74 | CES39 = 99 | CES64 = 89 | CES89 = 87 |
| CES15 = 71 | CES40 = 97 | CES65 = 88 | CES90 = 98 |
| CES16 = 47 | CES41 = 97 | CES66 = 85 | CES91 = 73 |
| CES17 = 48 | CES42 = 90 | CES67 = 84 | CES92 = 79 |
| CES18 = 56 | CES43 = 91 | CES68 = 86 | CES93 = 87 |
| CES19 = 70 | CES44 = 99 | CES69 = 87 | CES94 = 78 |
| CES20 = 65 | CES45 = 95 | CES70 = 83 | CES95 = 83 |
| CES21 = 85 | CES46 = 97 | CES71 = 77 | CES96 = 92 |
| CES22 = 77 | CES47 = 95 | CES72 = 92 | CES97 = 95 |
| CES23 = 91 | CES48 = 93 | CES73 = 77 | CES98 = 95 |
| CES24 = 90 | CES49 = 95 | CES74 = 92 | CES99 = 94 |
| CES25 = 70 | CES50 = 98 | CES75 = 79 | |



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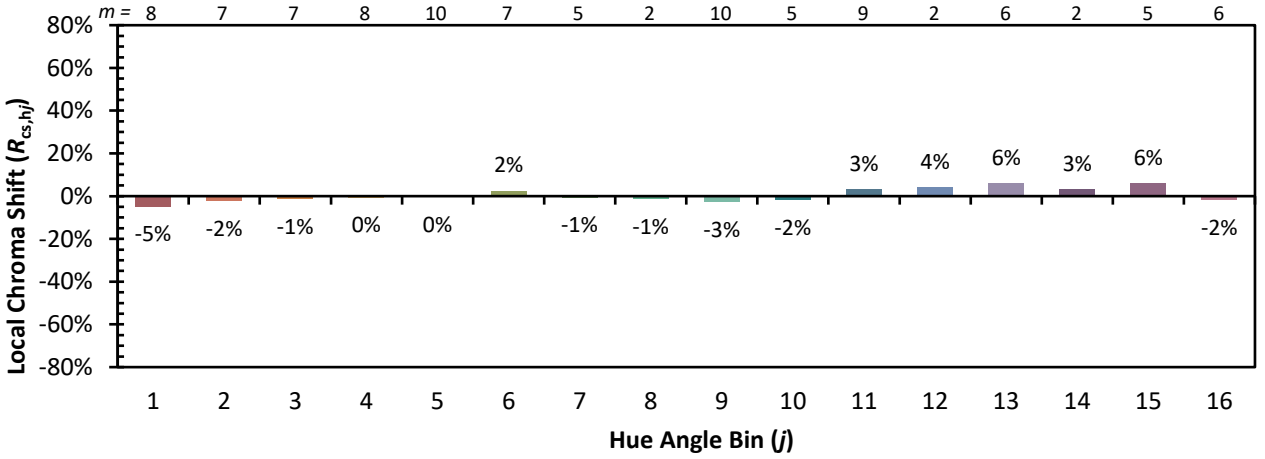
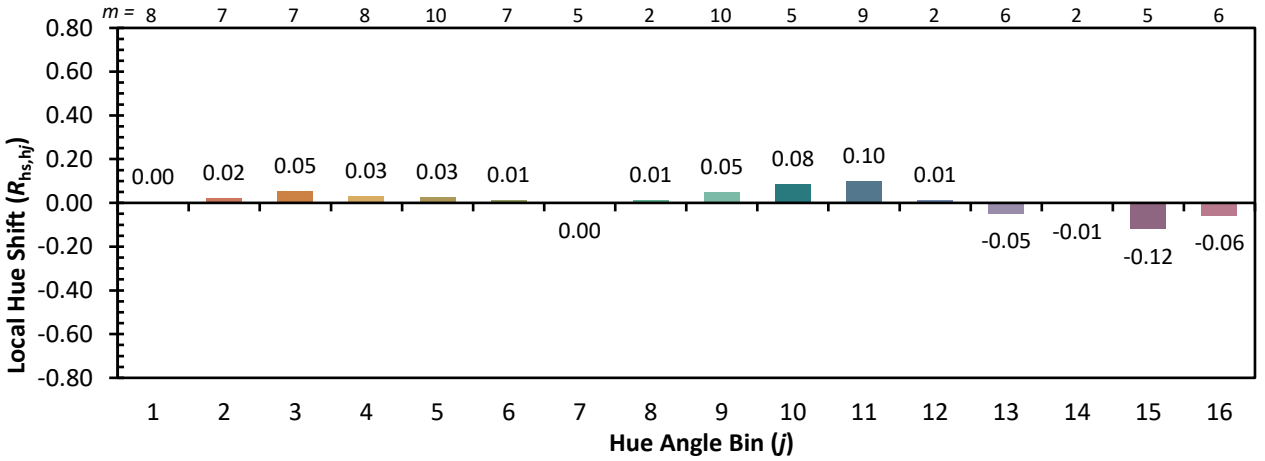
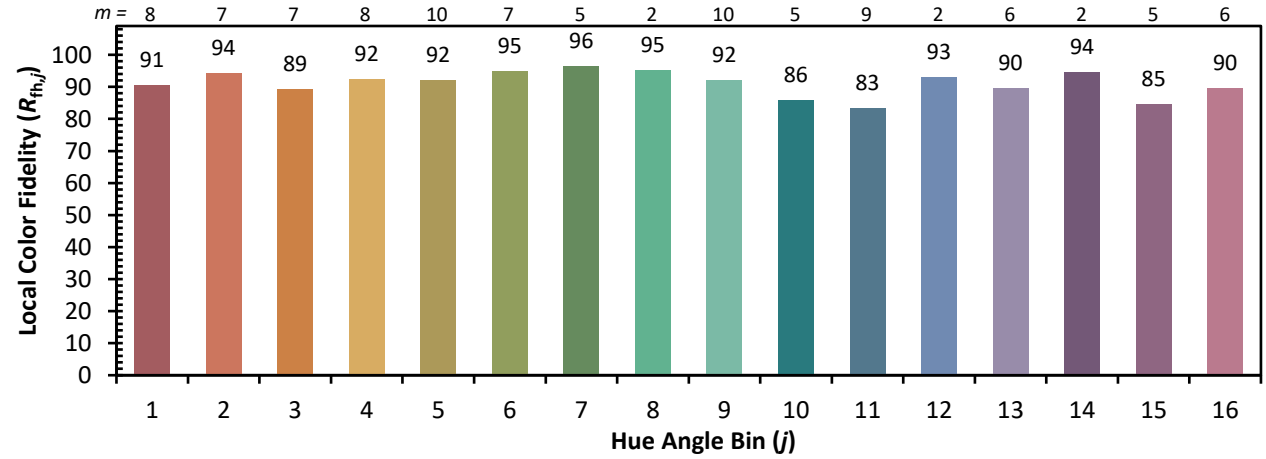
## Color Rendition by Hue-Angle Bin



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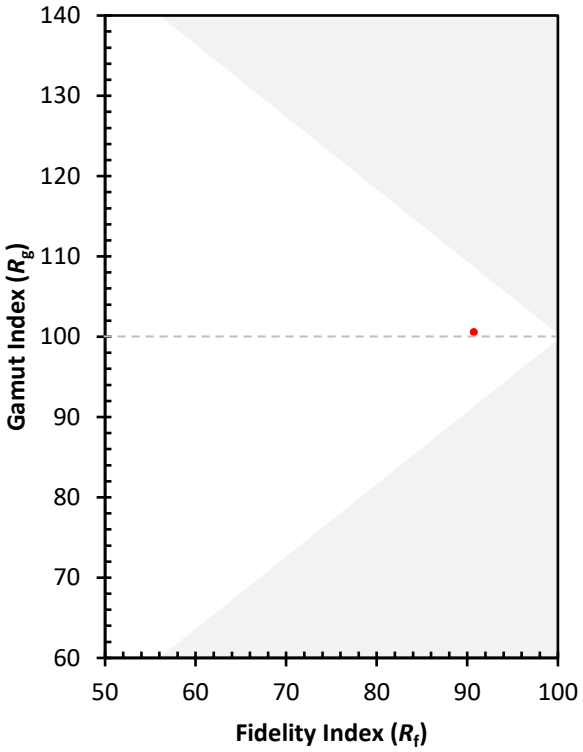
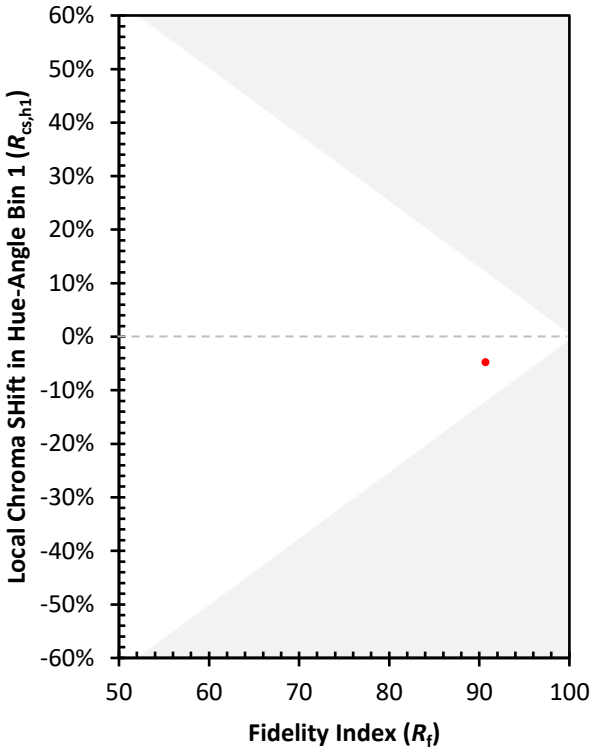
### Measure Comparisons

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