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: P1431707

Luminaire Tested: EHBR1-24-UNV-A1-L950

Issue Date: 3/13/2026

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: | P1431707 |
| | TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2601-654-5) |
| Test Lab: | INNOVATION CENTER |
| Issue Date: | 3/13/2026 |
| Manufacturer: | COOPER LIGHTING SOLUTIONS |
| Product Line: | METALUX |
| Catalog Number: | EHBR1-24-UNV-A1-L950 |
| Description: | Elevate Round Highbay at, 24000 lumens, 5000K 90CRI LEDs with A lens |
| Light Source: | - |
| Ballast/Driver: | - |

**Summary**

| | |
|---|---|
| Lumens per Lamp: | N/A |
| Luminaire Lumens: | 22975.1 lumens |
| Efficiency: | N/A |
| Efficacy: | 179.1 lumens/watt |
| Spacing Criteria (0/90/45): | 0.8 / 1.07 / 0.95 |
| Luminous Opening: | Circular (Dia: 1.71' x H: 0') |
| CIE Type: | Direct |

| | |
|---|---|
| Input Watts (W): | 128.3 |
| 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 |

Cooper Lighting Solutions Photometric Lab
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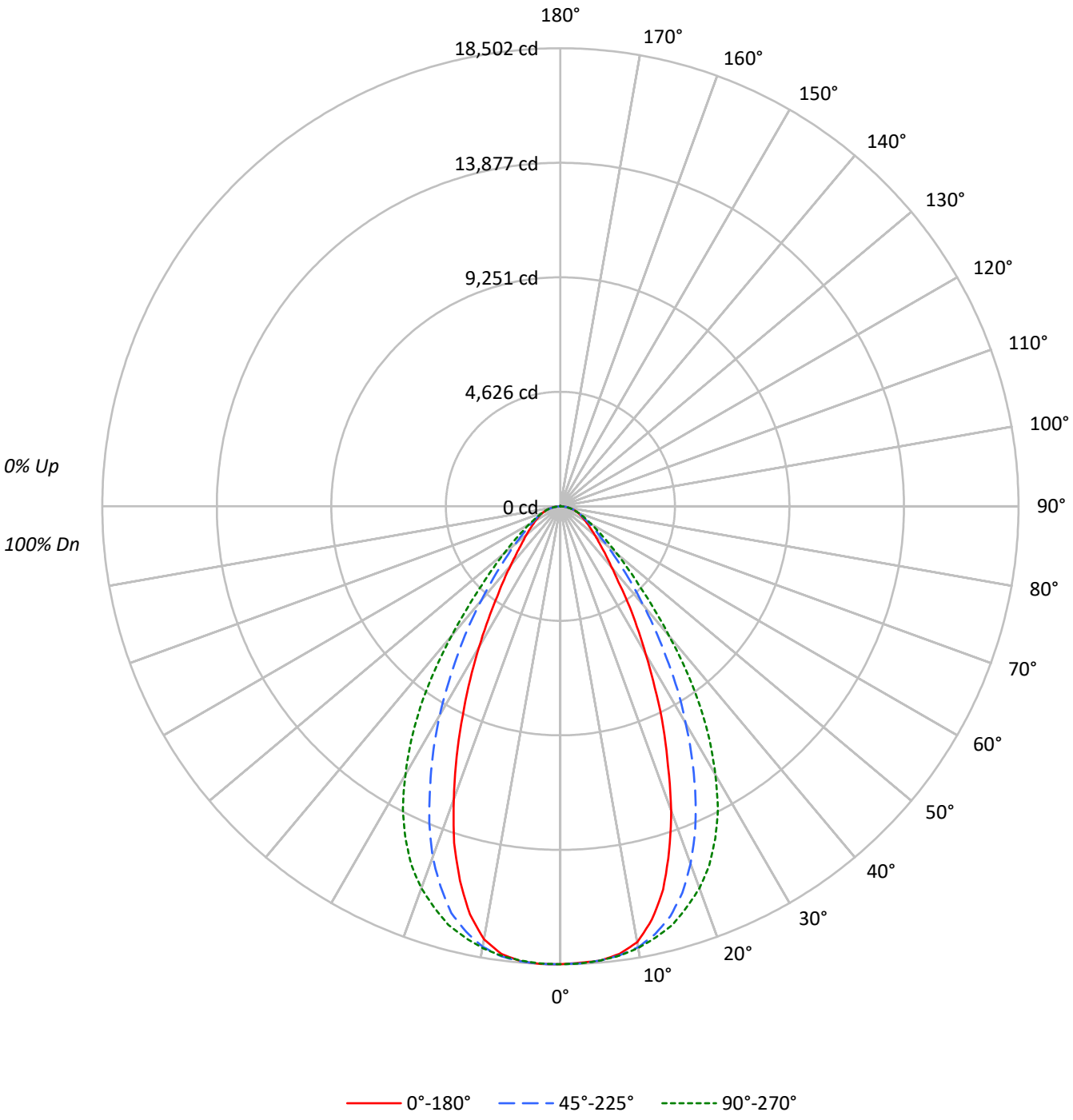
Scaled Data Report

TEST NUMBER: P1431707
CATALOG NUMBER: EHBR1-24-UNV-A1-L950

## Luminous Intensity Polar Plot



Cooper Lighting Solutions Photometric Lab
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Scaled Data Report

TEST NUMBER: P1431707
CATALOG NUMBER: EHBR1-24-UNV-A1-L950

## 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 | 119 | 119 | 119 | 119 | 116 | 116 | 116 | 116 | 111 | 111 | 111 | 106 | 106 | 106 | 102 | 102 | 102 | 100 |
| 1 | 112 | 108 | 105 | 102 | 109 | 106 | 103 | 100 | 102 | 99 | 97 | 98 | 96 | 94 | 94 | 93 | 92 | 90 |
| 2 | 104 | 98 | 93 | 89 | 102 | 96 | 92 | 88 | 93 | 89 | 86 | 90 | 87 | 84 | 87 | 84 | 82 | 80 |
| 3 | 98 | 90 | 83 | 78 | 95 | 88 | 82 | 78 | 85 | 81 | 77 | 83 | 79 | 75 | 80 | 77 | 74 | 72 |
| 4 | 91 | 82 | 75 | 70 | 89 | 81 | 75 | 70 | 79 | 73 | 69 | 77 | 72 | 68 | 75 | 71 | 67 | 65 |
| 5 | 86 | 76 | 69 | 63 | 84 | 75 | 68 | 63 | 73 | 67 | 62 | 71 | 66 | 62 | 69 | 65 | 61 | 60 |
| 6 | 81 | 70 | 63 | 58 | 79 | 69 | 62 | 58 | 68 | 62 | 57 | 66 | 61 | 57 | 65 | 60 | 56 | 55 |
| 7 | 76 | 65 | 58 | 53 | 75 | 64 | 58 | 53 | 63 | 57 | 52 | 62 | 56 | 52 | 60 | 56 | 52 | 50 |
| 8 | 72 | 61 | 54 | 49 | 70 | 60 | 53 | 49 | 59 | 53 | 48 | 58 | 52 | 48 | 57 | 52 | 48 | 46 |
| 9 | 68 | 57 | 50 | 45 | 67 | 56 | 50 | 45 | 55 | 49 | 45 | 54 | 49 | 45 | 53 | 48 | 45 | 43 |
| 10 | 64 | 53 | 47 | 42 | 63 | 53 | 46 | 42 | 52 | 46 | 42 | 51 | 46 | 42 | 50 | 45 | 42 | 40 |

## AVERAGE LUMINANCE (cd/sqm):

| | 0° | 45° | 90° | 135° | 180° |
|---|---|---|---|---|---|
| 0° | 86848 | 86848 | 86848 | 86848 | 86848 |
| 5° | 86837 | 86824 | 86828 | 86981 | 86928 |
| 10° | 85248 | 86241 | 86378 | 86134 | 84690 |
| 15° | 77913 | 83349 | 85065 | 82680 | 76123 |
| 20° | 65382 | 76789 | 82035 | 75344 | 62836 |
| 25° | 50939 | 66889 | 76667 | 64447 | 48299 |
| 30° | 37427 | 54909 | 67885 | 52826 | 35524 |
| 35° | 27216 | 42693 | 56281 | 40855 | 25439 |
| 40° | 19773 | 31843 | 41884 | 30498 | 19163 |
| 45° | 15756 | 23559 | 29584 | 22537 | 15211 |
| 50° | 13247 | 17936 | 21696 | 17345 | 13046 |
| 55° | 11756 | 14392 | 16697 | 14150 | 11597 |
| 60° | 10820 | 12260 | 13577 | 12184 | 10896 |
| 65° | 10394 | 11109 | 11720 | 11143 | 10494 |
| 70° | 10254 | 10500 | 10824 | 10556 | 10356 |
| 75° | 10148 | 10085 | 10148 | 10114 | 10246 |
| 80° | 10204 | 9471 | 9260 | 9617 | 10204 |
| 85° | 9208 | 7802 | 7727 | 7931 | 9478 |

## MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 67.5°
Vertical Angle: 45°
Luminance: 30996 cd/sqm

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Scaled Data Report

TEST NUMBER: P1431707
CATALOG NUMBER: EHBR1-24-UNV-A1-L950

**ZONAL LUMENS:**

| Zone | Lumens | % Fixture |
|---|---|---|
| 0°-10° | 1746.5 | 7.6 |
| 10°-20° | 4693.8 | 20.4 |
| 20°-30° | 5707.7 | 24.8 |
| 30°-40° | 4649.3 | 20.2 |
| 40°-50° | 2791.5 | 12.1 |
| 50°-60° | 1606.5 | 7.0 |
| 60°-70° | 1005.4 | 4.4 |
| 70°-80° | 592.1 | 2.6 |
| 80°-90° | 173.2 | 0.8 |
| 90°-100° | 0.1 | 0.0 |
| 100°-110° | 0.1 | 0.0 |
| 110°-120° | 0.1 | 0.0 |
| 120°-130° | 0.3 | 0.0 |
| 130°-140° | 1.2 | 0.0 |
| 140°-150° | 2.1 | 0.0 |
| 150°-160° | 2.3 | 0.0 |
| 160°-170° | 2.1 | 0.0 |
| 170°-180° | 0.9 | 0.0 |
| 0°-30° | 12148.0 | 52.9 |
| 0°-40° | 16797.3 | 73.1 |
| 0°-60° | 21195.2 | 92.3 |
| 0°-90° | 22966.0 | 100.0 |
| 90°-120° | 0.3 | 0.0 |
| 90°-150° | 3.9 | 0.0 |
| 90°-180° | 9.0 | 0.0 |
| 0°-180° | 22975.1 | 100.0 |

**CANDELA DISTRIBUTION:**

| | 0° | 45° | 90° | 135° | 180° | Flux |
|---|---|---|---|---|---|---|
| 0° | 18494 | 18494 | 18494 | 18494 | 18494 | |
| 5° | 18421 | 18418 | 18419 | 18452 | 18440 | 1741 |
| 15° | 16026 | 17144 | 17497 | 17006 | 15658 | 4409 |
| 25° | 9831 | 12909 | 14796 | 12438 | 9321 | 4479 |
| 35° | 4747 | 7447 | 9817 | 7126 | 4437 | 3003 |
| 45° | 2372 | 3547 | 4454 | 3394 | 2290 | 1871 |
| 55° | 1436 | 1758 | 2039 | 1728 | 1416 | 1298 |
| 65° | 935 | 1000 | 1055 | 1003 | 944 | 930 |
| 75° | 559 | 556 | 559 | 557 | 565 | 592 |
| 85° | 171 | 145 | 143 | 147 | 176 | 182 |
| 90° | 1 | 0 | 0 | 0 | 0 | 9 |
| 95° | 1 | 0 | 0 | 0 | 0 | 1 |
| 105° | 1 | 0 | 0 | 0 | 1 | 1 |
| 115° | 1 | 0 | 0 | 0 | 1 | 1 |
| 125° | 1 | 0 | 0 | 0 | 1 | 1 |
| 135° | 2 | 2 | 2 | 2 | 2 | 1 |
| 145° | 4 | 3 | 3 | 4 | 4 | 2 |
| 155° | 6 | 5 | 4 | 5 | 6 | 3 |
| 165° | 9 | 7 | 7 | 8 | 9 | 2 |
| 175° | 12 | 10 | 8 | 10 | 12 | 1 |
| 180° | 10 | 10 | 10 | 10 | 10 | |

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Scaled Data Report

TEST NUMBER: P1431707
CATALOG NUMBER: EHBR1-24-UNV-A1-L950

**CANDELA DISTRIBUTION (FULL):**

| | 0° | 22.5° | 45° | 67.5° | 90° | 112.5° | 135° | 157.5° | 180° |
|---|---|---|---|---|---|---|---|---|---|
| 0° | 18493.7 | 18493.7 | 18493.7 | 18493.7 | 18493.7 | 18493.7 | *18493.7* | 18493.7 | 18493.7 |
| 2.5° | *18453.1* | *18469.8* | *18476.7* | *18480.6* | *18484.8* | *18496.5* | *18501.5* | *18493.4* | *18500.3* |
| 5° | 18421.0 | 18422.1 | 18418.2 | 18435.7 | 18419.0 | 18430.6 | *18451.6* | 18443.4 | 18440.3 |
| 7.5° | 18233.5 | 18272.2 | 18295.1 | 18300.9 | 18304.0 | 18318.3 | *18333.0* | 18249.8 | 18237.3 |
| 10° | 17877.1 | 17941.8 | 18085.5 | 18126.5 | 18114.2 | 18137.4 | *18063.0* | 17845.3 | 17760.1 |
| 12.5° | 17095.9 | 17323.2 | 17696.6 | 17862.8 | 17832.6 | 17853.1 | *17599.7* | 17140.4 | 16876.2 |
| 15° | 16025.6 | 16359.1 | 17143.8 | 17471.5 | 17496.7 | 17471.5 | *17006.3* | 16111.2 | 15657.6 |
| 17.5° | 14602.9 | 15218.8 | 16374.2 | 17010.2 | 16973.8 | 16985.9 | *16102.7* | 14779.5 | 14260.5 |
| 20° | 13082.9 | 13739.5 | 15365.6 | 16426.5 | 16415.3 | 16347.9 | *15076.3* | 13331.2 | 12573.6 |
| 22.5° | 11363.9 | 12210.7 | 14209.8 | 15708.7 | 15704.5 | 15592.2 | *13826.2* | 11749.7 | 10934.0 |
| 25° | 9830.8 | 10661.3 | 12909.0 | 14829.5 | 14796.1 | 14668.4 | *12437.7* | 10172.0 | 9321.4 |
| 27.5° | 8245.8 | 9109.2 | 11520.4 | 13799.1 | 13776.3 | 13636.9 | *11110.2* | 8697.4 | 7887.9 |
| 30° | 6902.1 | 7691.5 | 10125.9 | 12665.4 | 12519.0 | 12503.1 | *9741.8* | 7332.0 | 6551.2 |
| 32.5° | 5750.9 | 6427.6 | 8811.3 | 11479.8 | 11220.6 | 11294.6 | *8377.9* | 6190.1 | 5416.3 |
| 35° | 4747.3 | 5343.4 | 7447.1 | 10108.6 | 9817.2 | 9912.9 | *7126.4* | 5079.3 | 4437.4 |
| 37.5° | 3852.9 | 4426.2 | 6290.8 | 8774.9 | 8329.4 | 8509.9 | *6025.5* | 4241.8 | 3727.4 |
| 40° | 3225.4 | 3680.1 | 5194.3 | 7311.5 | 6832.3 | 7126.4 | *4975.0* | 3538.0 | 3125.9 |
| 42.5° | 2779.2 | 3075.9 | 4287.1 | 5914.4 | 5546.8 | 5755.2 | *4100.5* | 2957.7 | 2649.5 |
| 45° | 2372.5 | 2609.1 | 3547.3 | 4667.1 | 4454.5 | 4647.7 | *3393.5* | 2522.0 | 2290.4 |
| 47.5° | 2072.3 | 2254.8 | 2920.2 | 3768.9 | 3636.7 | 3698.0 | *2834.2* | 2200.9 | 2012.6 |
| 50° | 1813.2 | 1954.1 | 2455.0 | 3041.8 | 2969.7 | 3007.4 | *2374.1* | 1915.0 | 1785.7 |
| 52.5° | 1611.7 | 1715.1 | 2059.1 | 2500.0 | 2464.3 | 2470.1 | *2023.1* | 1684.6 | 1590.8 |
| 55° | 1435.9 | 1508.0 | 1757.8 | 2047.9 | 2039.4 | 2040.9 | *1728.3* | 1492.8 | 1416.5 |
| 57.5° | 1282.1 | 1341.7 | 1510.6 | 1720.2 | 1707.8 | 1710.5 | *1496.7* | 1325.8 | 1276.7 |
| 60° | 1152.0 | 1191.9 | 1305.3 | 1453.7 | 1445.6 | 1442.1 | *1297.2* | 1177.1 | 1160.1 |
| 62.5° | 1036.5 | 1062.1 | 1140.8 | 1246.1 | 1230.6 | 1234.0 | *1140.3* | 1063.3 | 1038.1 |
| 65° | 935.4 | 944.4 | 999.7 | 1064.8 | 1054.7 | 1063.3 | *1002.8* | 950.1 | 944.4 |
| 67.5° | 836.7 | 845.6 | 878.1 | 921.9 | 910.3 | 917.2 | *878.8* | 847.9 | 842.9 |
| 70° | 746.8 | 746.5 | 764.7 | 788.3 | 788.3 | 789.4 | *768.8* | 750.3 | 754.2 |
| 72.5° | 653.8 | 651.5 | 657.0 | 672.8 | 668.6 | 683.3 | *661.6* | 655.8 | 656.5 |
| 75° | 559.3 | 552.7 | 555.8 | 564.0 | 559.3 | 567.0 | *557.4* | 564.7 | 564.7 |
| 77.5° | 470.2 | 457.9 | 454.0 | 455.2 | 446.6 | 458.2 | *460.6* | 465.6 | 477.2 |
| 80° | 377.3 | 359.8 | 350.2 | 349.8 | 342.4 | 349.8 | *355.6* | 366.1 | 377.3 |
| 82.5° | 280.0 | 265.0 | 248.6 | 245.6 | 240.9 | 245.2 | *252.9* | 265.4 | 283.6 |
| 85° | 170.9 | 155.0 | 144.8 | 139.5 | 143.4 | 143.4 | *147.2* | 164.6 | 175.9 |
| 87.5° | 61.6 | 53.8 | 44.1 | 44.5 | 45.7 | 47.3 | *49.2* | 62.0 | 67.8 |
| 90° | 0.7 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | *0.0* | 0.0 | 0.4 |
| 92.5° | 0.4 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | *0.0* | 0.0 | 0.4 |
| 95° | 0.7 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | *0.0* | 0.0 | 0.4 |
| 97.5° | 0.7 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | *0.0* | 0.0 | 0.4 |
| 100° | 0.7 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | *0.0* | 0.0 | 0.7 |
| 102.5° | 0.7 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | *0.0* | 0.0 | 0.7 |
| 105° | 0.7 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | *0.0* | 0.0 | 0.7 |
| 107.5° | 0.7 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | *0.0* | 0.0 | 0.7 |
| 110° | 0.7 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | *0.0* | 0.0 | 0.7 |

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Scaled Data Report

TEST NUMBER: P1431707
CATALOG NUMBER: EHBR1-24-UNV-A1-L950

**CANDELA DISTRIBUTION (continued):**

| | 0° | 22.5° | 45° | 67.5° | 90° | 112.5° | 135° | 157.5° | 180° |
|---|---|---|---|---|---|---|---|---|---|
| 112.5° | 0.7 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | *0.0* | 0.0 | 0.7 |
| 115° | 0.7 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | *0.0* | 0.0 | 0.7 |
| 117.5° | 1.2 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | *0.0* | 0.0 | 0.7 |
| 120° | 0.7 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | *0.0* | 0.4 | 0.7 |
| 122.5° | 1.2 | 0.4 | 0.0 | 0.0 | 0.0 | 0.0 | *0.0* | 0.4 | 1.2 |
| 125° | 1.2 | 0.4 | 0.0 | 0.0 | 0.0 | 0.0 | *0.4* | 0.4 | 1.2 |
| 127.5° | 1.2 | 0.4 | 0.0 | 0.0 | 0.0 | 0.0 | *0.4* | 0.7 | 1.2 |
| 130° | 1.2 | 0.7 | 0.4 | 0.0 | 0.4 | 0.4 | *0.7* | 0.7 | 1.2 |
| 132.5° | 1.6 | 1.2 | 1.2 | 0.7 | 0.7 | 1.2 | *1.2* | 1.6 | 1.6 |
| 135° | 2.0 | 1.6 | 1.6 | 1.2 | 1.6 | 1.6 | *1.6* | 1.6 | 2.0 |
| 137.5° | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | *2.0* | 2.0 | 2.3 |
| 140° | 2.7 | 2.3 | 2.3 | 2.3 | 2.3 | 2.3 | *2.3* | 2.7 | 2.7 |
| 142.5° | 3.1 | 3.1 | 2.7 | 2.7 | 2.7 | 3.1 | *3.1* | 3.1 | 3.5 |
| 145° | 3.5 | 3.5 | 3.1 | 3.1 | 3.1 | 3.5 | *3.5* | 3.9 | 3.9 |
| 147.5° | 4.6 | 4.3 | 3.5 | 3.5 | 3.5 | 3.5 | *3.9* | 4.3 | 4.6 |
| 150° | 5.0 | 4.6 | 3.9 | 3.9 | 3.9 | 3.9 | *4.3* | 5.0 | 5.4 |
| 152.5° | 5.4 | 5.0 | 4.3 | 3.9 | 3.9 | 3.9 | *4.6* | 5.0 | 5.9 |
| 155° | 5.9 | 5.4 | 4.6 | 3.9 | 3.9 | 4.3 | *5.0* | 5.9 | 6.2 |
| 157.5° | 7.0 | 6.2 | 5.4 | 4.6 | 4.6 | 5.0 | *5.9* | 6.6 | 7.0 |
| 160° | 7.7 | 7.0 | 6.2 | 5.4 | 5.4 | 5.9 | *6.6* | 7.3 | 7.7 |
| 162.5° | 8.5 | 7.7 | 6.6 | 6.2 | 5.9 | 6.2 | *7.0* | 8.2 | 8.5 |
| 165° | 8.9 | 8.2 | 7.3 | 6.6 | 6.6 | 6.6 | *7.7* | 8.5 | 8.9 |
| 167.5° | 9.3 | 8.9 | 7.7 | 7.0 | 7.0 | 7.0 | *8.2* | 8.9 | 9.3 |
| 170° | 9.7 | 9.3 | 8.2 | 7.3 | 7.0 | 7.3 | *8.5* | 9.3 | 9.7 |
| 172.5° | 10.5 | 10.0 | 8.9 | 8.2 | 7.7 | 8.2 | *9.3* | 10.0 | 10.5 |
| 175° | 11.6 | 10.9 | 10.0 | 8.9 | 8.5 | 8.9 | *10.0* | 10.9 | 11.6 |
| 177.5° | 12.0 | 11.2 | 10.5 | 9.3 | 8.9 | 9.3 | *10.5* | 11.2 | 12.0 |
| 180° | 10.5 | 10.5 | 10.5 | 10.5 | 10.5 | 10.5 | *10.5* | 10.5 | 10.5 |

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Scaled Data Report

TEST NUMBER: P1431707
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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 | 17.90 | 19.16 | 18.26 | 19.47 | 19.79 | 18.88 | 20.14 | 19.24 | 20.46 | 20.77 |
| | 3H | 19.46 | 20.59 | 19.84 | 20.92 | 21.29 | 20.22 | 21.34 | 20.60 | 21.68 | 22.04 |
| | 4H | 20.13 | 21.18 | 20.53 | 21.53 | 21.92 | 20.78 | 21.83 | 21.18 | 22.18 | 22.56 |
| | 6H | 20.69 | 21.65 | 21.10 | 22.02 | 22.42 | 21.21 | 22.17 | 21.63 | 22.55 | 22.94 |
| | 8H | 20.89 | 21.80 | 21.32 | 22.19 | 22.60 | 21.35 | 22.26 | 21.78 | 22.65 | 23.06 |
| | 12H | 21.01 | 21.89 | 21.45 | 22.27 | 22.70 | 21.42 | 22.30 | 21.86 | 22.68 | 23.11 |
| 4H | 2H | 18.47 | 19.52 | 18.87 | 19.87 | 20.25 | 19.24 | 20.29 | 19.64 | 20.64 | 21.02 |
| | 3H | 20.26 | 21.12 | 20.67 | 21.53 | 21.93 | 20.83 | 21.69 | 21.24 | 22.10 | 22.50 |
| | 4H | 21.05 | 21.83 | 21.49 | 22.25 | 22.69 | 21.52 | 22.30 | 21.96 | 22.72 | 23.16 |
| | 6H | 21.74 | 22.41 | 22.20 | 22.85 | 23.32 | 22.09 | 22.76 | 22.56 | 23.21 | 23.68 |
| | 8H | 21.99 | 22.61 | 22.46 | 23.06 | 23.53 | 22.28 | 22.90 | 22.75 | 23.35 | 23.82 |
| | 12H | 22.16 | 22.71 | 22.64 | 23.19 | 23.67 | 22.40 | 22.95 | 22.89 | 23.43 | 23.91 |
| 8H | 4H | 21.33 | 21.96 | 21.80 | 22.41 | 22.88 | 21.76 | 22.38 | 22.23 | 22.83 | 23.30 |
| | 6H | 22.15 | 22.66 | 22.66 | 23.16 | 23.64 | 22.46 | 22.97 | 22.96 | 23.46 | 23.95 |
| | 8H | 22.48 | 22.94 | 23.01 | 23.45 | 23.95 | 22.72 | 23.17 | 23.24 | 23.69 | 24.18 |
| | 12H | 22.73 | 23.13 | 23.25 | 23.63 | 24.20 | 22.91 | 23.31 | 23.43 | 23.81 | 24.38 |
| 12H | 4H | 21.35 | 21.90 | 21.84 | 22.38 | 22.86 | 21.77 | 22.32 | 22.26 | 22.80 | 23.28 |
| | 6H | 22.20 | 22.65 | 22.72 | 23.17 | 23.66 | 22.50 | 22.96 | 23.02 | 23.47 | 23.97 |
| | 8H | 22.59 | 22.99 | 23.10 | 23.48 | 24.05 | 22.82 | 23.22 | 23.34 | 23.72 | 24.29 |

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# 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

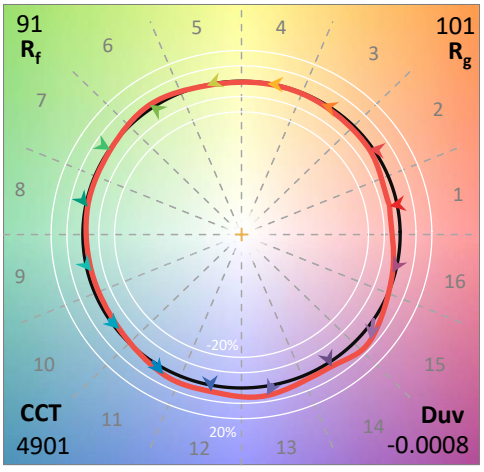
## Test Information

| | |
|---|---|
| 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 |

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| Measurement and Test Equipment | | | |
|---|---|---|---|
| Instrument | Identification Number | Calibration Date | Calibration Due Date |
| Photometer | 76INCH SPHERE IN0058 | 6/16/2025 | 12/16/2025 |
| Power Meter | XITRON INXT2011004 | 1/21/2025 | 1/21/2026 |
| AC Power Source | CHROMA 61603 IN0063 | 10/22/2024 | 10/22/2025 |
| DC Power Source | AGILENT E3634A IN0208 | 10/22/2024 | 10/22/2025 |
| Sphere Thermometer | ONSET IN0085 | 10/22/2024 | 10/22/2025 |
| Room Thermometer | ONSET IN0046 | 10/22/2024 | 10/22/2025 |

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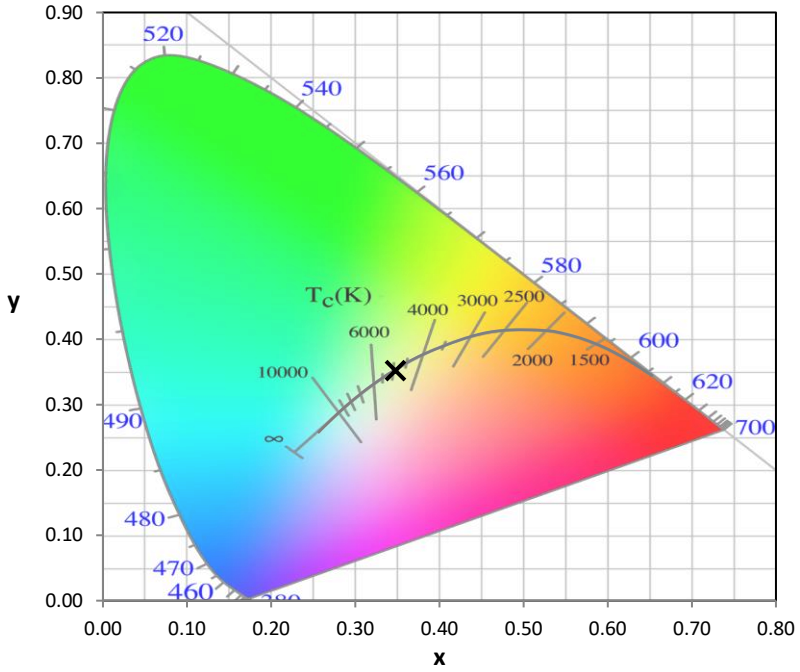
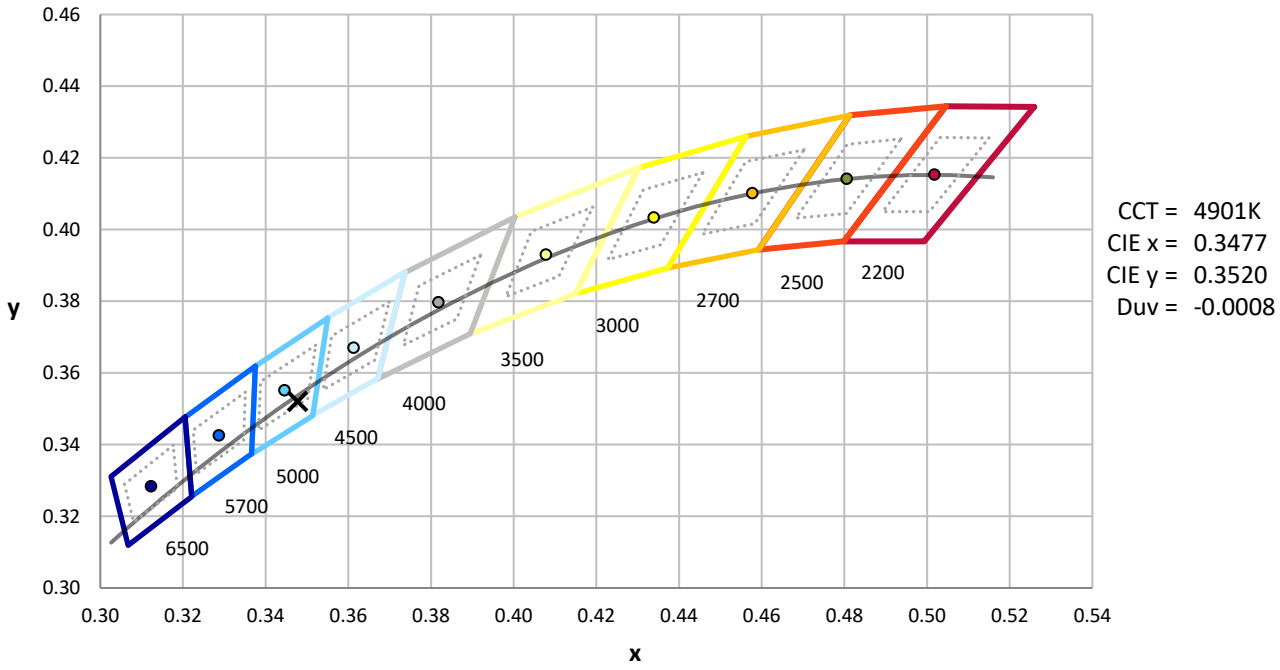
**CIE 1931 Chromaticity Diagram**




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




Point lies inside the ANSI 5000K 4-step quadrangle

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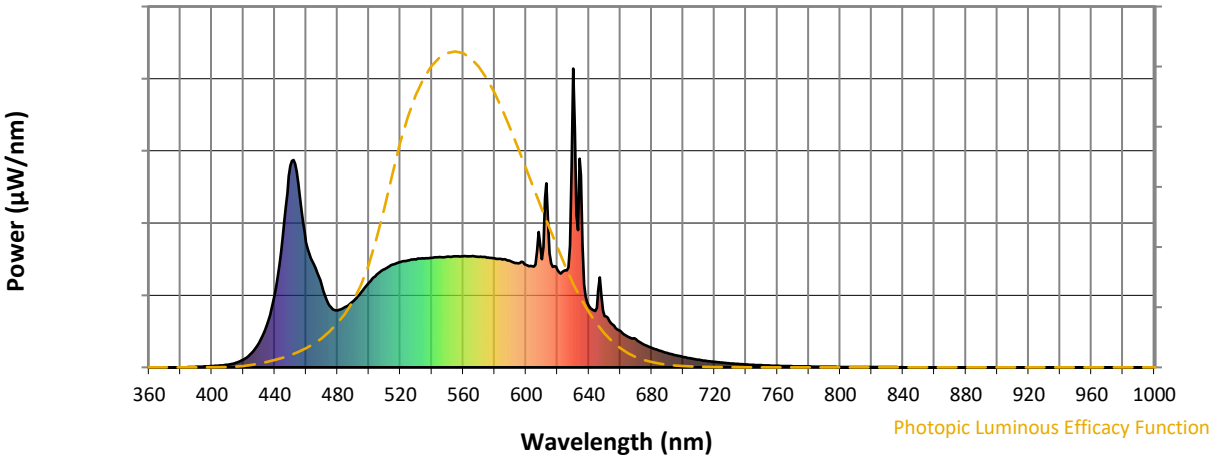
## Photopic Flux vs. Wavelength




## 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 | 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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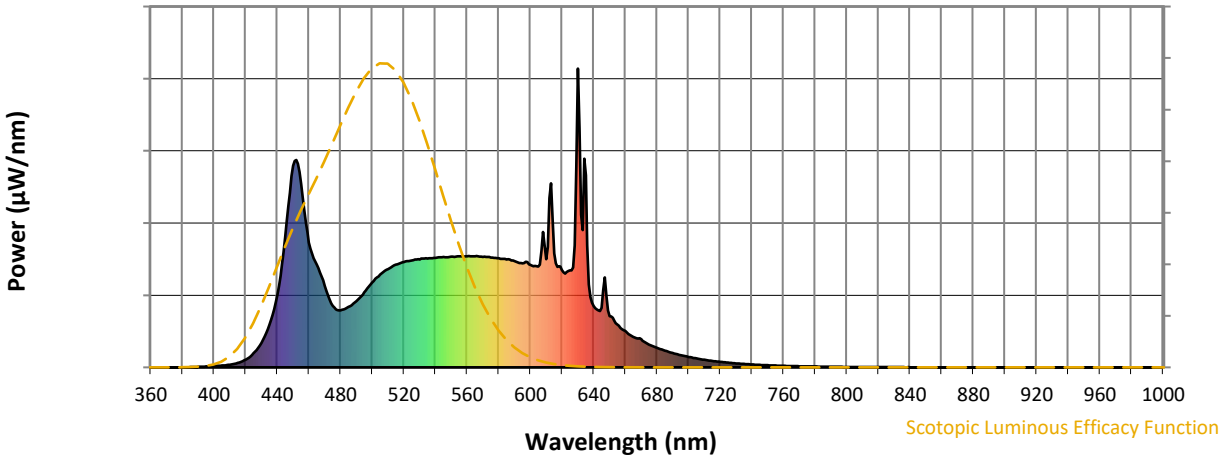
## Scotopic Flux vs. Wavelength




**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 | | | |

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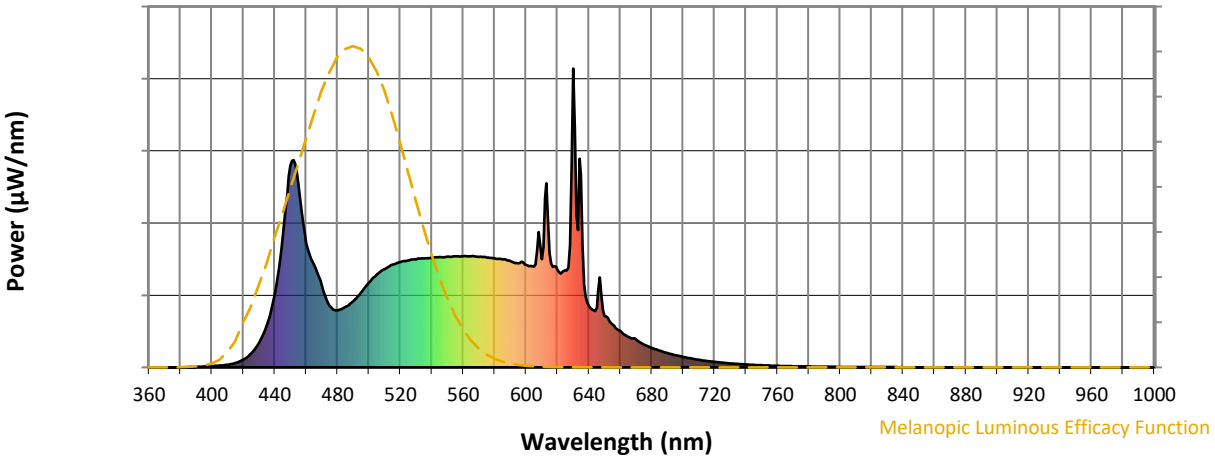
## Melanopic Flux vs. Wavelength




**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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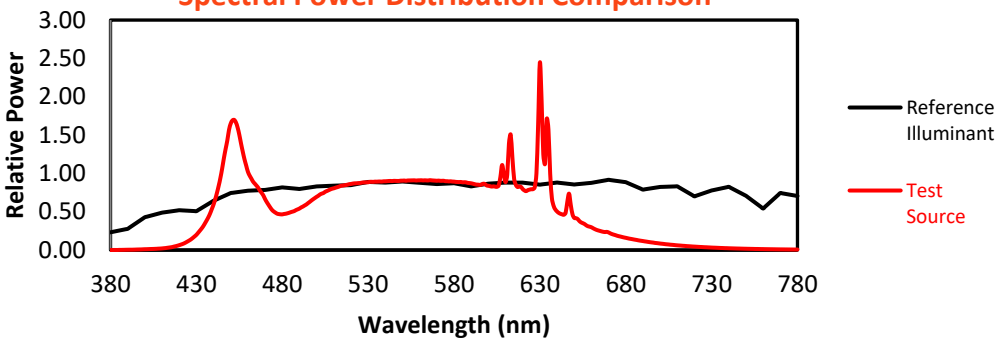
# TM-30-18

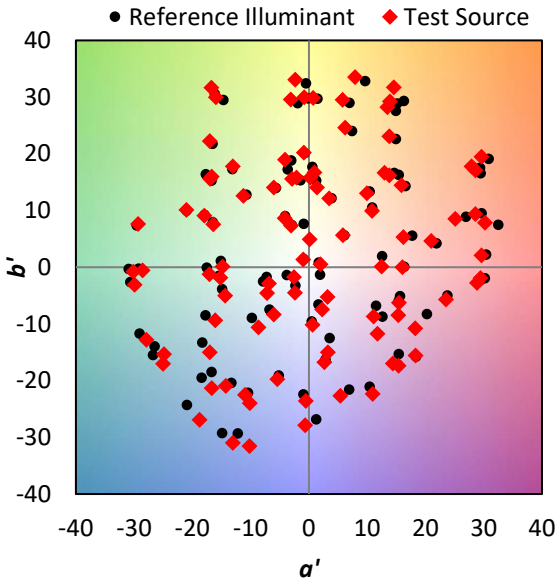
## Summary

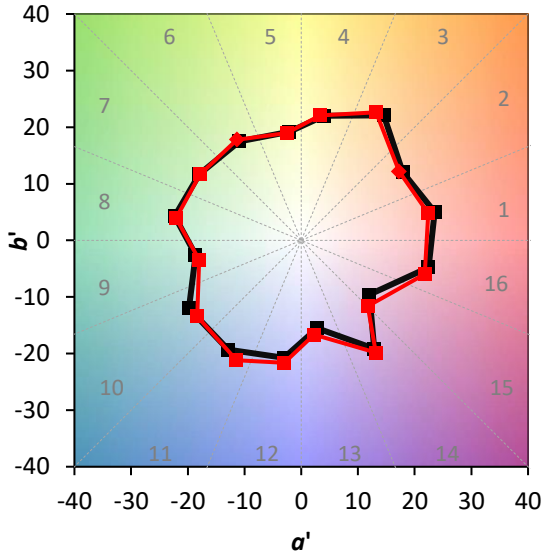
$R_f$ = 90.7
$R_g$ = 100.5
CIE $R_a$ = 94.3
$R_9$ = 72.3

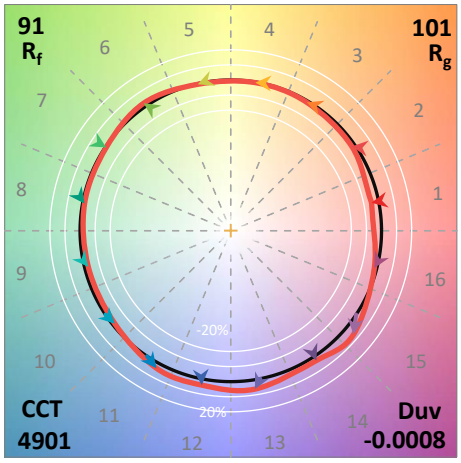
## Spectral Power Distribution Comparison

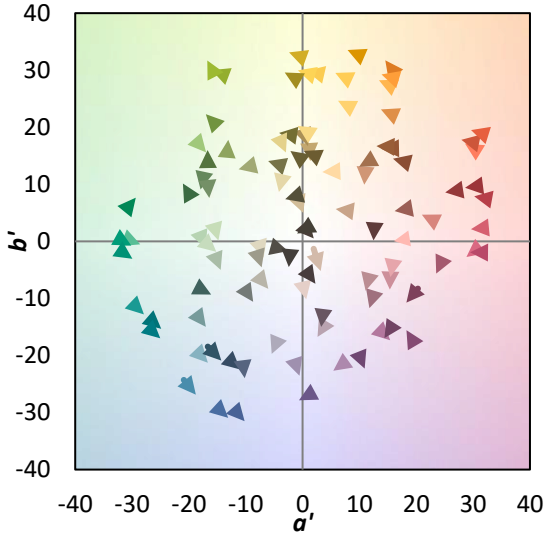



## Color Vector Graphics



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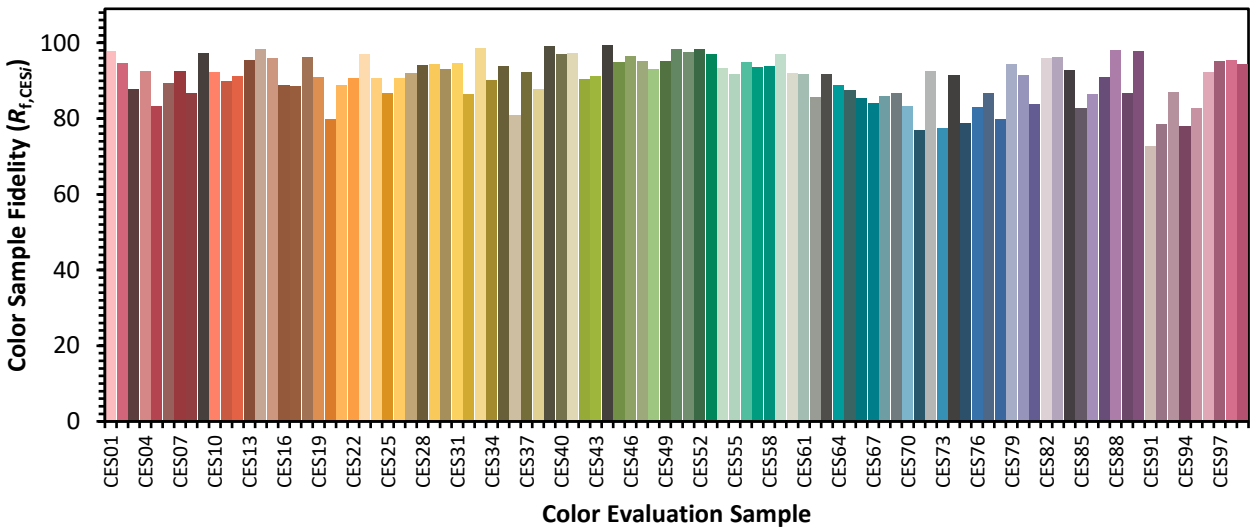
## Individual Sample Fidelity Index ($R_{f,i}$)

| | | | |
|---|---|---|---|
| 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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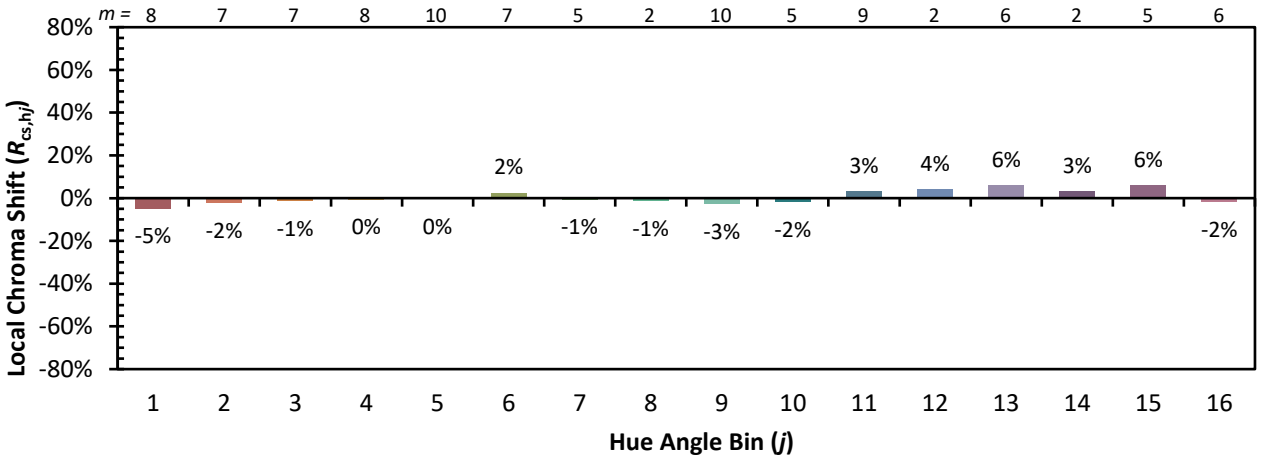
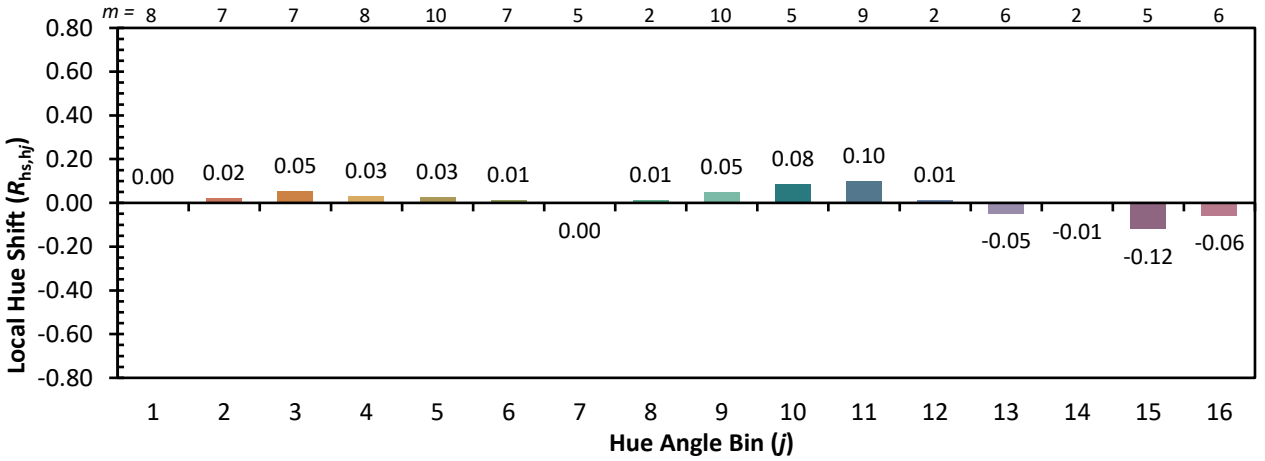
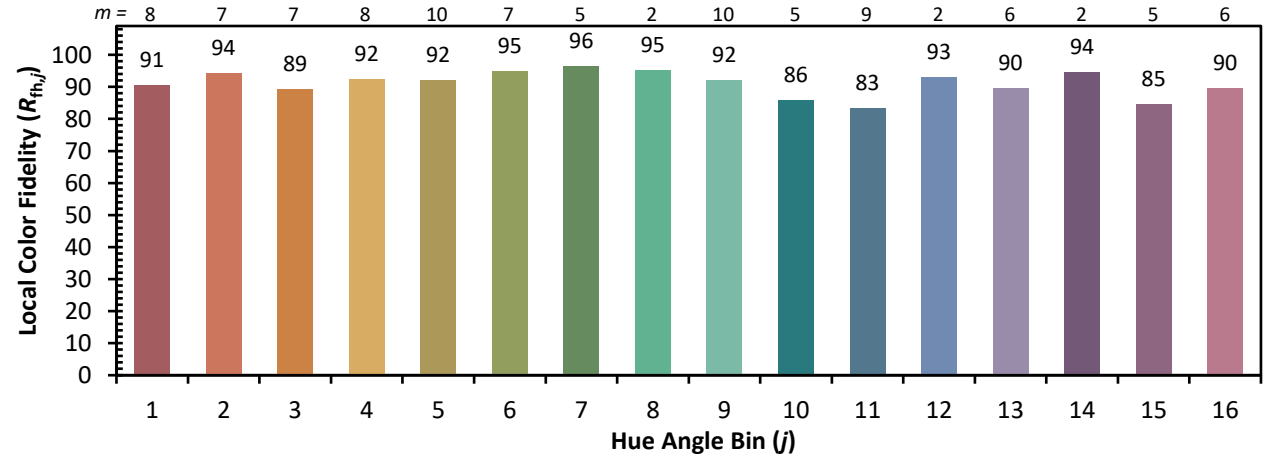
# TM-30-18

## Color Rendition by Hue-Angle Bin



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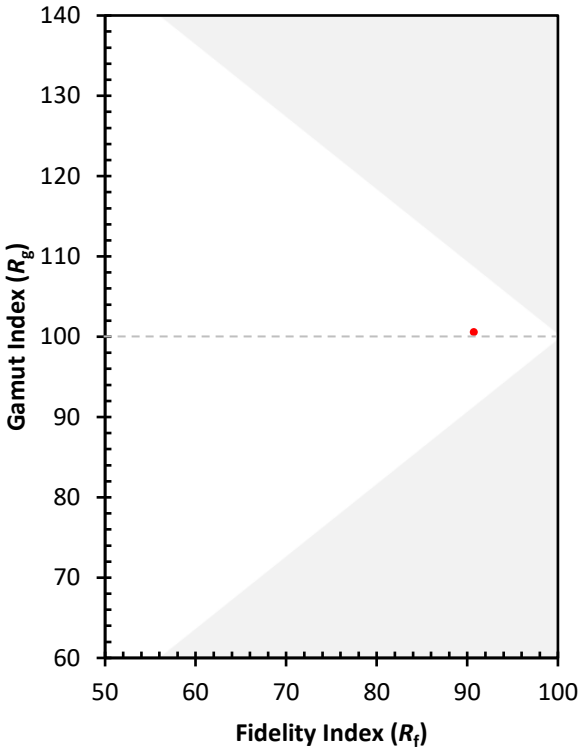
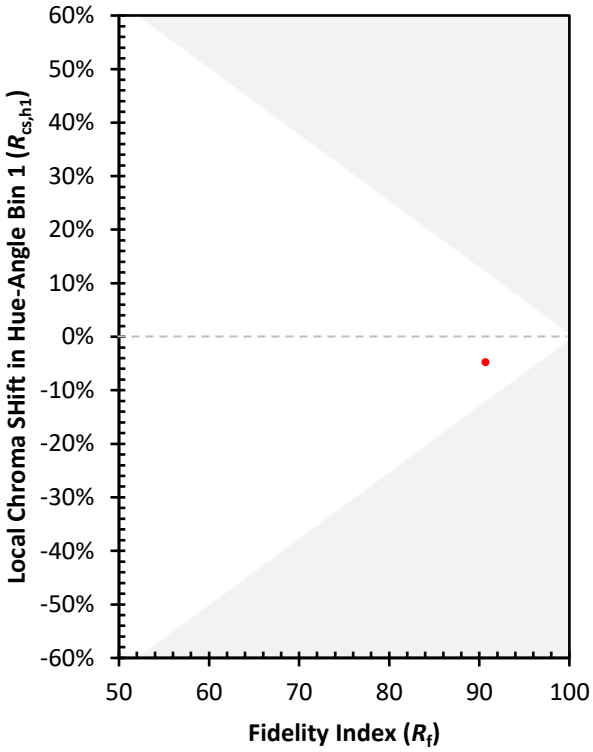
## Measure Comparisons

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