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: P1432850

Luminaire Tested: EHBR1-12-UNV-ASM-L850

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: | P1432850 |
| | TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2601-654-4) |
| Test Lab: | INNOVATION CENTER |
| Issue Date: | 3/13/2026 |
| Manufacturer: | COOPER LIGHTING SOLUTIONS |
| Product Line: | METALUX |
| Catalog Number: | EHBR1-12-UNV-ASM-L850 |
| Description: | Elevate Round Highbay at, 12000 lumens, 5000K 80CRI LEDs with ASM lens |
| Light Source: | - |
| Ballast/Driver: | - |

**Summary**

| | |
|---|---|
| Lumens per Lamp: | N/A |
| Luminaire Lumens: | 12077.4 lumens |
| Efficiency: | N/A |
| Efficacy: | 186.7 lumens/watt |
| Spacing Criteria (0/90/45): | 0.84 / 0.99 / 0.92 |
| Luminous Opening: | Circular (Dia: 1.71' x H: 0') |
| CIE Type: | Direct |

| | |
|---|---|
| Input Watts (W): | 64.7 |
| 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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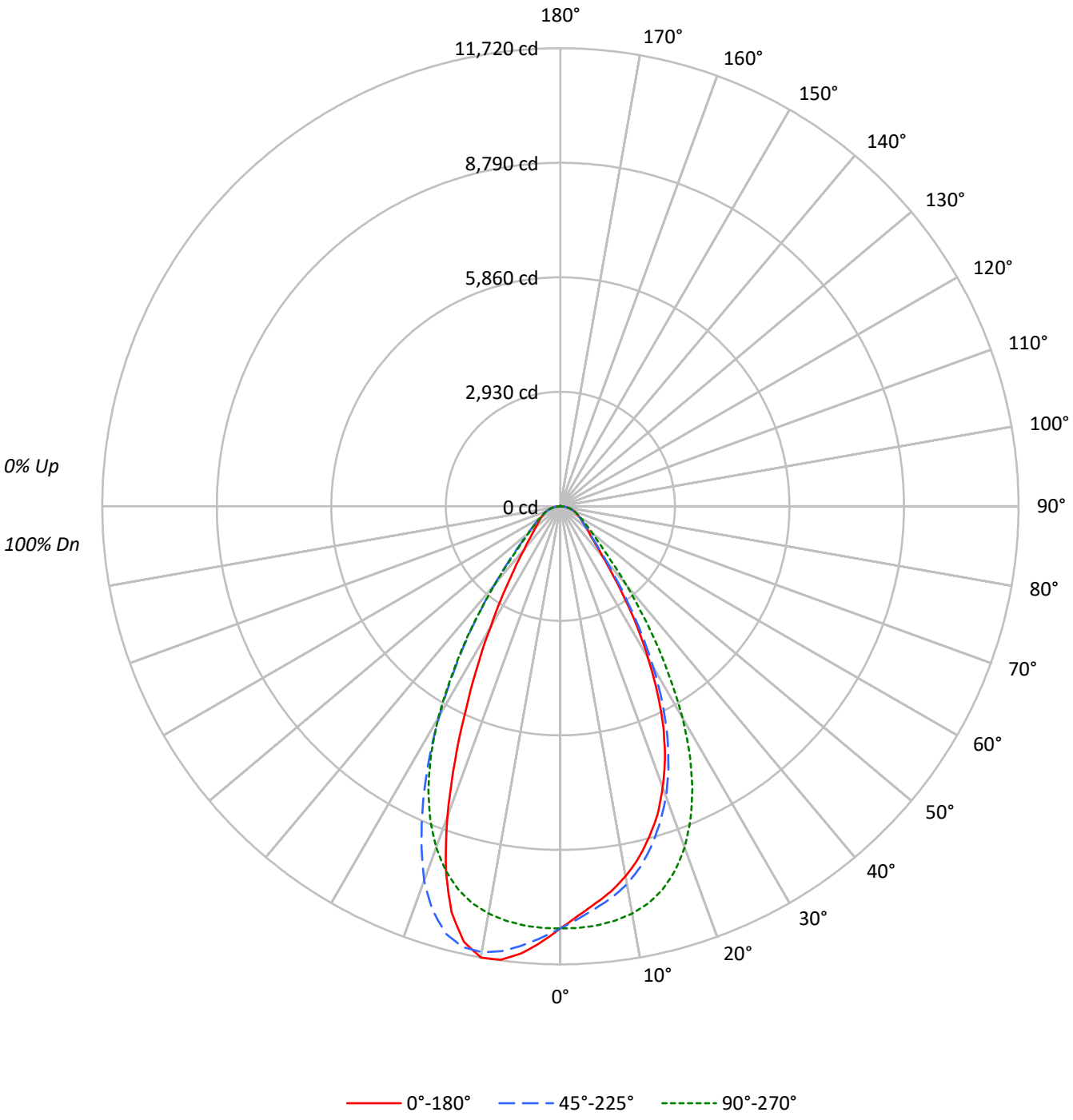
Scaled Data Report

TEST NUMBER: P1432850
CATALOG NUMBER: EHBR1-12-UNV-ASM-L850

## Luminous Intensity Polar Plot



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Scaled Data Report

TEST NUMBER: P1432850
CATALOG NUMBER: EHBR1-12-UNV-ASM-L850

## 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 | 103 | 109 | 106 | 104 | 101 | 102 | 100 | 98 | 98 | 97 | 95 | 95 | 93 | 92 | 90 |
| 2 | 105 | 99 | 94 | 90 | 103 | 97 | 93 | 89 | 94 | 90 | 87 | 91 | 88 | 85 | 88 | 85 | 83 | 81 |
| 3 | 99 | 91 | 85 | 80 | 96 | 89 | 84 | 79 | 87 | 82 | 78 | 84 | 80 | 77 | 82 | 78 | 76 | 74 |
| 4 | 93 | 84 | 77 | 72 | 91 | 83 | 77 | 72 | 80 | 75 | 71 | 78 | 74 | 70 | 76 | 72 | 69 | 67 |
| 5 | 87 | 78 | 71 | 66 | 86 | 77 | 70 | 65 | 75 | 69 | 65 | 73 | 68 | 64 | 71 | 67 | 64 | 62 |
| 6 | 82 | 72 | 65 | 60 | 81 | 71 | 65 | 60 | 70 | 64 | 60 | 68 | 63 | 59 | 67 | 62 | 59 | 57 |
| 7 | 78 | 67 | 60 | 56 | 76 | 67 | 60 | 56 | 65 | 59 | 55 | 64 | 59 | 55 | 63 | 58 | 55 | 53 |
| 8 | 74 | 63 | 56 | 52 | 72 | 62 | 56 | 52 | 61 | 55 | 51 | 60 | 55 | 51 | 59 | 54 | 51 | 49 |
| 9 | 70 | 59 | 53 | 48 | 69 | 59 | 52 | 48 | 58 | 52 | 48 | 57 | 51 | 48 | 56 | 51 | 47 | 46 |
| 10 | 66 | 56 | 49 | 45 | 65 | 55 | 49 | 45 | 54 | 49 | 45 | 54 | 48 | 45 | 53 | 48 | 45 | 43 |

## AVERAGE LUMINANCE (cd/sqm):

| | 0° | 45° | 90° | 135° | 180° |
|---|---|---|---|---|---|
| 0° | 50723 | 50723 | 50723 | 50723 | 50723 |
| 5° | 48110 | 48673 | 50743 | 53177 | 54134 |
| 10° | 45832 | 46802 | 50449 | 55245 | 55889 |
| 15° | 42622 | 43760 | 49290 | 55047 | 52288 |
| 20° | 38230 | 39518 | 46422 | 50954 | 42222 |
| 25° | 32277 | 33498 | 41392 | 43057 | 29471 |
| 30° | 24343 | 25753 | 33878 | 33540 | 19327 |
| 35° | 16347 | 17334 | 24511 | 24115 | 12626 |
| 40° | 10411 | 11127 | 16004 | 16107 | 8788 |
| 45° | 7501 | 7813 | 10268 | 10710 | 6884 |
| 50° | 6332 | 6382 | 7727 | 7928 | 5928 |
| 55° | 5680 | 5693 | 6411 | 6580 | 5487 |
| 60° | 5367 | 5321 | 5664 | 5785 | 5335 |
| 65° | 5263 | 5214 | 5305 | 5408 | 5284 |
| 70° | 5308 | 5218 | 5222 | 5322 | 5378 |
| 75° | 5354 | 5191 | 5182 | 5365 | 5520 |
| 80° | 5422 | 5044 | 5065 | 5422 | 5801 |
| 85° | 5140 | 4267 | 4267 | 4882 | 5394 |

## MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 112.5°
Vertical Angle: 45°
Luminance: 14437 cd/sqm

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Scaled Data Report

TEST NUMBER: P1432850
CATALOG NUMBER: EHBR1-12-UNV-ASM-L850

**ZONAL LUMENS:**

| Zone | Lumens | % Fixture |
|---|---|---|
| 0°-10° | 1027.0 | 8.5 |
| 10°-20° | 2794.1 | 23.1 |
| 20°-30° | 3276.9 | 27.1 |
| 30°-40° | 2278.9 | 18.9 |
| 40°-50° | 1132.5 | 9.4 |
| 50°-60° | 677.3 | 5.6 |
| 60°-70° | 476.7 | 3.9 |
| 70°-80° | 307.1 | 2.5 |
| 80°-90° | 97.5 | 0.8 |
| 90°-100° | 0.6 | 0.0 |
| 100°-110° | 0.7 | 0.0 |
| 110°-120° | 0.7 | 0.0 |
| 120°-130° | 0.9 | 0.0 |
| 130°-140° | 1.2 | 0.0 |
| 140°-150° | 1.5 | 0.0 |
| 150°-160° | 1.6 | 0.0 |
| 160°-170° | 1.6 | 0.0 |
| 170°-180° | 0.7 | 0.0 |
| 0°-30° | 7098.0 | 58.8 |
| 0°-40° | 9376.9 | 77.6 |
| 0°-60° | 11186.7 | 92.6 |
| 0°-90° | 12068.1 | 99.9 |
| 90°-120° | 1.9 | 0.0 |
| 90°-150° | 5.4 | 0.0 |
| 90°-180° | 9.0 | 0.1 |
| 0°-180° | 12077.4 | 100.0 |

**CANDELA DISTRIBUTION:**

| | 0° | 45° | 90° | 135° | 180° | Flux |
|---|---|---|---|---|---|---|
| 0° | 10801 | 10801 | 10801 | 10801 | 10801 | |
| 5° | 10206 | 10325 | 10764 | 11281 | 11484 | 957 |
| 15° | 8767 | 9001 | 10138 | 11322 | 10755 | 2445 |
| 25° | 6229 | 6465 | 7988 | 8310 | 5688 | 2811 |
| 35° | 2852 | 3024 | 4276 | 4206 | 2202 | 1816 |
| 45° | 1130 | 1176 | 1546 | 1613 | 1037 | 913 |
| 55° | 694 | 695 | 783 | 804 | 670 | 629 |
| 65° | 474 | 469 | 477 | 487 | 476 | 470 |
| 75° | 295 | 286 | 286 | 296 | 304 | 311 |
| 85° | 95 | 79 | 79 | 91 | 100 | 98 |
| 90° | 0 | 0 | 0 | 1 | 2 | 5 |
| 95° | 0 | 0 | 0 | 1 | 2 | 0 |
| 105° | 0 | 0 | 0 | 1 | 2 | 0 |
| 115° | 0 | 0 | 1 | 1 | 2 | 0 |
| 125° | 1 | 1 | 1 | 1 | 2 | 0 |
| 135° | 1 | 1 | 2 | 2 | 2 | 1 |
| 145° | 2 | 2 | 2 | 2 | 3 | 1 |
| 155° | 4 | 3 | 3 | 3 | 4 | 2 |
| 165° | 6 | 5 | 6 | 6 | 7 | 2 |
| 175° | 7 | 7 | 7 | 8 | 9 | 1 |
| 180° | 8 | 8 | 8 | 8 | 8 | |

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Scaled Data Report

TEST NUMBER: P1432850
CATALOG NUMBER: EHBR1-12-UNV-ASM-L850

**CANDELA DISTRIBUTION (FULL):**

| | 0° | 22.5° | 45° | 67.5° | 90° | 112.5° | 135° | 157.5° | 180° |
|---|---|---|---|---|---|---|---|---|---|
| 0° | 10801.2 | 10801.2 | 10801.2 | 10801.2 | 10801.2 | 10801.2 | 10801.2 | 10801.2 | 10801.2 |
| 2.5° | 10480.6 | 10487.4 | 10560.8 | 10656.2 | 10794.9 | 10934.5 | 11047.4 | 11122.0 | 11158.8 |
| 5° | 10205.7 | 10243.8 | 10325.1 | 10500.2 | 10764.3 | 11043.8 | 11280.6 | 11435.5 | 11483.6 |
| 7.5° | 9937.9 | 9960.0 | 10096.0 | 10317.3 | 10691.3 | 11126.7 | 11478.5 | 11659.3 | 11703.5 |
| 10° | 9611.3 | 9661.3 | 9814.8 | 10075.9 | 10579.6 | 11179.0 | 11585.4 | 11715.0 | 11720.3 |
| 12.5° | 9226.8 | 9293.0 | 9451.7 | 9781.0 | 10401.6 | 11160.3 | 11549.6 | 11507.1 | 11410.4 |
| 15° | 8766.7 | 8824.8 | 9000.8 | 9382.8 | 10138.3 | 11049.9 | 11322.5 | 10976.4 | 10755.0 |
| 17.5° | 8269.7 | 8322.3 | 8475.3 | 8895.9 | 9767.2 | 10843.3 | 10848.6 | 10163.8 | 9746.2 |
| 20° | 7649.9 | 7691.2 | 7907.5 | 8320.3 | 9289.0 | 10512.0 | 10196.0 | 8943.5 | 8448.7 |
| 22.5° | 6990.4 | 7029.1 | 7221.3 | 7650.9 | 8689.5 | 10065.1 | 9287.3 | 7716.0 | 7040.8 |
| 25° | 6229.1 | 6250.2 | 6464.8 | 6853.3 | 7988.4 | 9517.7 | 8309.6 | 6378.4 | 5687.7 |
| 27.5° | 5372.6 | 5408.3 | 5633.0 | 6029.8 | 7163.6 | 8823.8 | 7268.5 | 5212.2 | 4575.0 |
| 30° | 4489.1 | 4548.4 | 4749.3 | 5104.6 | 6247.5 | 7934.2 | 6185.2 | 4150.8 | 3564.1 |
| 32.5° | 3664.6 | 3707.3 | 3850.4 | 4221.7 | 5221.8 | 7062.3 | 5144.7 | 3325.9 | 2828.8 |
| 35° | 2851.5 | 2894.2 | 3023.7 | 3388.2 | 4275.6 | 5971.5 | 4206.5 | 2613.3 | 2202.4 |
| 37.5° | 2179.7 | 2255.3 | 2338.3 | 2634.2 | 3355.4 | 4940.8 | 3353.3 | 2104.4 | 1786.4 |
| 40° | 1698.3 | 1710.5 | 1815.0 | 2004.3 | 2610.6 | 3863.2 | 2627.4 | 1679.8 | 1433.6 |
| 42.5° | 1359.4 | 1392.4 | 1437.4 | 1579.2 | 1978.0 | 2954.1 | 2065.1 | 1378.7 | 1217.7 |
| 45° | 1129.5 | 1142.5 | 1176.5 | 1271.8 | 1546.1 | 2173.8 | 1612.6 | 1163.1 | 1036.6 |
| 47.5° | 988.2 | 982.5 | 1004.4 | 1075.7 | 1259.2 | 1680.0 | 1307.0 | 997.7 | 909.0 |
| 50° | 866.7 | 863.2 | 873.6 | 921.1 | 1057.6 | 1289.2 | 1085.2 | 870.9 | 811.4 |
| 52.5° | 772.3 | 775.3 | 776.3 | 805.9 | 908.6 | 1051.4 | 924.1 | 776.1 | 736.0 |
| 55° | 693.7 | 697.5 | 695.3 | 717.2 | 783.0 | 883.9 | 803.7 | 697.9 | 670.2 |
| 57.5° | 632.3 | 629.5 | 626.4 | 638.2 | 687.6 | 749.8 | 697.9 | 631.3 | 612.9 |
| 60° | 571.4 | 568.8 | 566.5 | 574.2 | 603.1 | 649.3 | 615.9 | 573.2 | 568.0 |
| 62.5° | 519.1 | 517.5 | 517.3 | 515.9 | 538.1 | 567.3 | 544.6 | 520.9 | 516.3 |
| 65° | 473.6 | 471.7 | 469.2 | 467.1 | 477.4 | 504.5 | 486.7 | 474.0 | 475.5 |
| 67.5° | 428.0 | 428.0 | 423.7 | 420.2 | 430.4 | 444.6 | 436.8 | 429.6 | 431.4 |
| 70° | 386.6 | 386.8 | 380.0 | 377.3 | 380.3 | 395.6 | 387.6 | 388.7 | 391.7 |
| 72.5° | 342.3 | 337.4 | 332.4 | 332.1 | 332.6 | 344.3 | 341.6 | 344.1 | 347.3 |
| 75° | 295.1 | 289.4 | 286.1 | 282.5 | 285.6 | 294.5 | 295.7 | 299.1 | 304.2 |
| 77.5° | 249.5 | 240.9 | 238.2 | 236.3 | 234.4 | 244.5 | 248.3 | 252.9 | 260.5 |
| 80° | 200.5 | 191.0 | 186.5 | 183.9 | 187.3 | 192.0 | 200.5 | 203.9 | 214.5 |
| 82.5° | 148.2 | 141.2 | 135.7 | 135.5 | 137.1 | 141.4 | 148.6 | 155.1 | 161.2 |
| 85° | 95.4 | 84.1 | 79.2 | 81.0 | 79.2 | 85.7 | 90.6 | 98.2 | 100.1 |
| 87.5° | 34.5 | 26.9 | 25.7 | 28.4 | 27.7 | 29.8 | 34.0 | 37.0 | 37.2 |
| 90° | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.4 | 0.6 | 1.2 | 1.6 |
| 92.5° | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.4 | 0.6 | 1.2 | 1.6 |
| 95° | 0.2 | 0.2 | 0.2 | 0.2 | 0.4 | 0.4 | 0.6 | 1.2 | 1.6 |
| 97.5° | 0.4 | 0.2 | 0.2 | 0.2 | 0.4 | 0.4 | 0.6 | 1.2 | 1.6 |
| 100° | 0.4 | 0.2 | 0.2 | 0.4 | 0.4 | 0.4 | 0.6 | 1.2 | 1.6 |
| 102.5° | 0.4 | 0.2 | 0.2 | 0.4 | 0.4 | 0.6 | 0.8 | 1.4 | 1.6 |
| 105° | 0.4 | 0.2 | 0.2 | 0.4 | 0.4 | 0.6 | 0.8 | 1.4 | 1.9 |
| 107.5° | 0.4 | 0.2 | 0.4 | 0.4 | 0.4 | 0.6 | 0.8 | 1.4 | 1.9 |
| 110° | 0.4 | 0.2 | 0.4 | 0.4 | 0.4 | 0.6 | 0.8 | 1.4 | 1.9 |

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Scaled Data Report

TEST NUMBER: P1432850
CATALOG NUMBER: EHBR1-12-UNV-ASM-L850

**CANDELA DISTRIBUTION (continued):**

| | 0° | 22.5° | 45° | 67.5° | 90° | 112.5° | 135° | 157.5° | 180° |
|---|---|---|---|---|---|---|---|---|---|
| 112.5° | 0.4 | 0.2 | 0.4 | 0.4 | 0.4 | 0.6 | 0.8 | 1.4 | *1.9* |
| 115° | 0.4 | 0.2 | 0.4 | 0.4 | 0.6 | 0.6 | 0.8 | 1.4 | *1.9* |
| 117.5° | 0.4 | 0.2 | 0.4 | 0.6 | 0.6 | 0.6 | 0.8 | 1.4 | *1.9* |
| 120° | 0.4 | 0.2 | 0.4 | 0.6 | 0.6 | 0.6 | 1.0 | 1.4 | *1.9* |
| 122.5° | 0.4 | 0.4 | 0.6 | 0.8 | 0.8 | 0.8 | 1.0 | 1.6 | *1.9* |
| 125° | 0.6 | 0.4 | 0.8 | 1.0 | 0.8 | 0.8 | 1.2 | 1.6 | *2.1* |
| 127.5° | 0.6 | 0.4 | 0.8 | 1.0 | 1.0 | 1.0 | 1.2 | 1.6 | *2.1* |
| 130° | 0.6 | 0.6 | 1.0 | 1.2 | 1.2 | 1.0 | 1.2 | 1.9 | *2.1* |
| 132.5° | 0.8 | 0.8 | 1.4 | 1.6 | 1.4 | 1.2 | 1.4 | 2.1 | *2.3* |
| 135° | 0.8 | 1.0 | 1.4 | 1.9 | 1.6 | 1.2 | 1.6 | 1.9 | *2.3* |
| 137.5° | 1.0 | 1.2 | 1.9 | 2.1 | 1.9 | 1.4 | 1.6 | 2.1 | *2.3* |
| 140° | 1.4 | 1.6 | 2.1 | 2.1 | 2.1 | 1.6 | 1.6 | 2.1 | *2.5* |
| 142.5° | 1.9 | 1.9 | 2.3 | 2.3 | 2.3 | 1.9 | 1.9 | 2.3 | *2.5* |
| 145° | 2.3 | 2.3 | 2.5 | 2.3 | 2.5 | 2.3 | 2.1 | 2.3 | *2.7* |
| 147.5° | 2.7 | 2.7 | 2.7 | 2.5 | 2.5 | 2.3 | 2.3 | 2.5 | *2.8* |
| 150° | 3.0 | 3.0 | 2.8 | 2.7 | 2.7 | 2.7 | 2.5 | 2.7 | *3.0* |
| 152.5° | 3.4 | 3.2 | 3.0 | 2.8 | 2.8 | 2.8 | 2.8 | 3.0 | *3.2* |
| 155° | 3.8 | 3.6 | 3.4 | 3.0 | 3.2 | 3.2 | 3.2 | 3.4 | *3.6* |
| 157.5° | 4.4 | 4.0 | 3.8 | 3.6 | 3.6 | 3.8 | 3.8 | 4.0 | *4.2* |
| 160° | 4.8 | 4.6 | 4.4 | 4.2 | 4.4 | 4.4 | 4.6 | 4.8 | *5.1* |
| 162.5° | 5.3 | 5.1 | 4.8 | 4.8 | 4.8 | 4.8 | 5.3 | 5.5 | *5.9* |
| 165° | 5.7 | 5.5 | 5.3 | 5.3 | 5.5 | 5.5 | 5.9 | 6.3 | *6.7* |
| 167.5° | 5.7 | 5.7 | 5.7 | 5.7 | 5.9 | 5.9 | 6.3 | 6.9 | *7.3* |
| 170° | 6.1 | 5.9 | 5.9 | 6.1 | 6.1 | 6.3 | 6.7 | 7.3 | *7.7* |
| 172.5° | 6.5 | 6.3 | 6.5 | 6.5 | 6.7 | 6.7 | 7.3 | 7.9 | *8.3* |
| 175° | 6.9 | 6.7 | 6.9 | 6.9 | 7.1 | 7.3 | 7.7 | 8.3 | *8.7* |
| 177.5° | 7.1 | 6.9 | 6.9 | 6.9 | 7.1 | 7.5 | 7.9 | 8.5 | *8.9* |
| 180° | 7.5 | 7.5 | 7.5 | 7.5 | 7.5 | 7.5 | 7.5 | 7.5 | *7.5* |

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Scaled Data Report

TEST NUMBER: P1432850
CATALOG NUMBER: EHBR1-12-UNV-ASM-L850

**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 | 14.61 | 15.82 | 14.98 | 16.13 | 16.45 | 15.38 | 16.58 | 15.74 | 16.90 | 17.22 |
| | 3H | 16.53 | 17.60 | 16.91 | 17.94 | 18.30 | 17.03 | 18.10 | 17.41 | 18.44 | 18.80 |
| | 4H | 17.34 | 18.34 | 17.75 | 18.69 | 19.08 | 17.75 | 18.75 | 18.15 | 19.10 | 19.49 |
| | 6H | 18.01 | 18.93 | 18.43 | 19.30 | 19.70 | 18.33 | 19.25 | 18.75 | 19.63 | 20.02 |
| | 8H | 18.25 | 19.12 | 18.68 | 19.51 | 19.92 | 18.54 | 19.41 | 18.98 | 19.81 | 20.22 |
| | 12H | 18.41 | 19.24 | 18.84 | 19.63 | 20.06 | 18.68 | 19.51 | 19.11 | 19.89 | 20.33 |
| 4H | 2H | 15.18 | 16.18 | 15.59 | 16.53 | 16.92 | 15.80 | 16.80 | 16.21 | 17.16 | 17.54 |
| | 3H | 17.34 | 18.16 | 17.75 | 18.57 | 18.98 | 17.72 | 18.55 | 18.14 | 18.96 | 19.36 |
| | 4H | 18.29 | 19.03 | 18.73 | 19.45 | 19.90 | 18.59 | 19.33 | 19.03 | 19.76 | 20.20 |
| | 6H | 19.10 | 19.74 | 19.57 | 20.19 | 20.66 | 19.34 | 19.98 | 19.81 | 20.43 | 20.90 |
| | 8H | 19.39 | 19.99 | 19.87 | 20.44 | 20.91 | 19.61 | 20.20 | 20.08 | 20.65 | 21.13 |
| | 12H | 19.60 | 20.12 | 20.09 | 20.61 | 21.09 | 19.79 | 20.32 | 20.28 | 20.80 | 21.28 |
| 8H | 4H | 18.61 | 19.20 | 19.08 | 19.65 | 20.13 | 18.90 | 19.49 | 19.37 | 19.94 | 20.42 |
| | 6H | 19.56 | 20.05 | 20.07 | 20.55 | 21.03 | 19.80 | 20.28 | 20.30 | 20.78 | 21.27 |
| | 8H | 19.95 | 20.38 | 20.48 | 20.90 | 21.40 | 20.16 | 20.59 | 20.69 | 21.11 | 21.61 |
| | 12H | 20.25 | 20.62 | 20.77 | 21.12 | 21.70 | 20.44 | 20.82 | 20.96 | 21.31 | 21.89 |
| 12H | 4H | 18.63 | 19.16 | 19.12 | 19.64 | 20.12 | 18.93 | 19.45 | 19.41 | 19.94 | 20.41 |
| | 6H | 19.63 | 20.06 | 20.15 | 20.58 | 21.07 | 19.87 | 20.30 | 20.39 | 20.82 | 21.32 |
| | 8H | 20.08 | 20.45 | 20.59 | 20.95 | 21.53 | 20.30 | 20.68 | 20.82 | 21.17 | 21.75 |

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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: SP1-2506-472-4

Test Date: 07/31/2025

Luminaire Tested: EHBR-60-L850-N

Data in this report applies to families of products including EHBR-60-L850-N

Report Generated By FNC07603 / LDUCLS01DT446
Version: v7.04

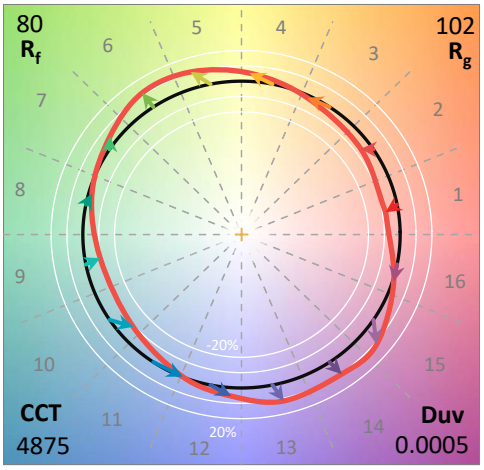
## Test Information

| | |
|---|---|
| Test Method: | LM-79-2019 |
| Report Number: | SP1-2506-472-4 |
| 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-L850-N** |
| Description: | Elevate Round Highbay at, 60000 lumens, 5000K 80CRI LEDs with N lens |

## Spectral Parameters

| | |
|---|---|
| CCT (K): | 4875 |
| CIE u': | 0.2124 |
| CIE v': | 0.4871 |
| Duv: | 0.0005 |
| CIE x: | 0.3488 |
| CIE y: | 0.3555 |
| CIE z: | 0.2957 |
| Peak Wavelength (nm): | 630 |
| Dominant Wavelength (nm): | 573 |
| Purity: | 11.33556 |
| Rf: | 80 |
| Rg: | 102.3 |

| | |
|---|---|
| CRI (Ra): | 82.3 |
| R1: | 85.0 |
| R2: | 83.1 |
| R3: | 78.8 |
| R4: | 84.0 |
| R5: | 83.0 |
| R6: | 76.3 |
| R7: | 86.8 |
| R8: | 81.7 |
| R9: | 43.9 |
| R10: | 57.4 |
| R11: | 83.1 |
| R12: | 51.0 |
| R13: | 83.4 |
| R14: | 87.4 |
| R15: | 83.4 |




## Test Conditions

| | |
|---|---|
| Stabilization Time: | 39M |
| Operation Time: | 1H 39M |
| 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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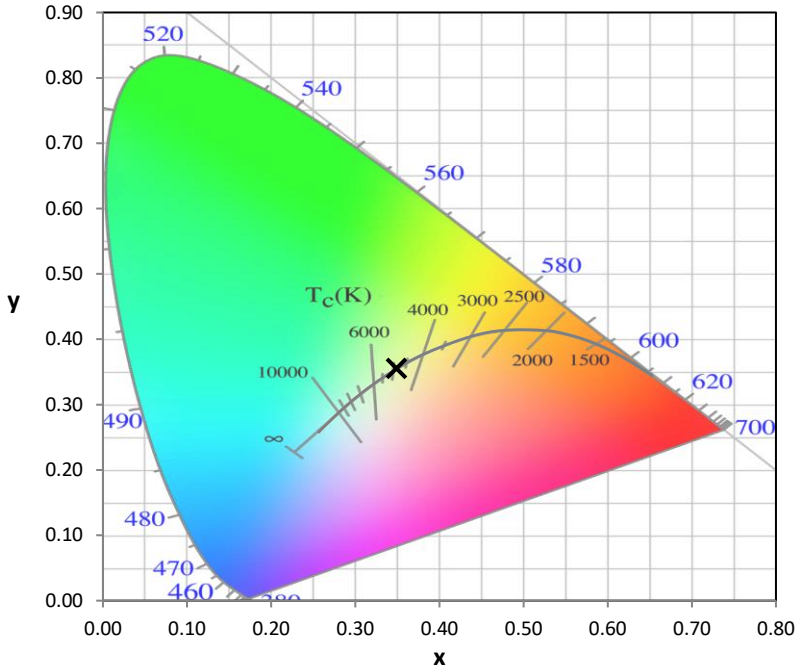
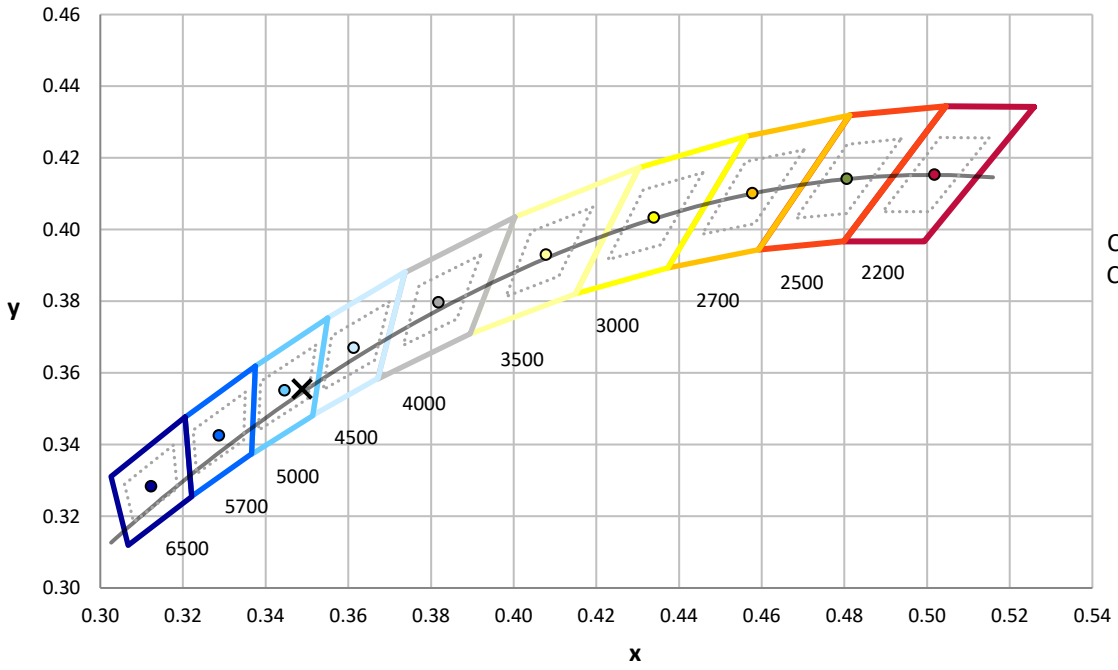
## CIE 1931 Chromaticity Diagram




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




CCT = 4875K
CIE x = 0.3488
CIE y = 0.3555
Duv = 0.0005

Point lies inside the ANSI 5000K 4-step quadrangle

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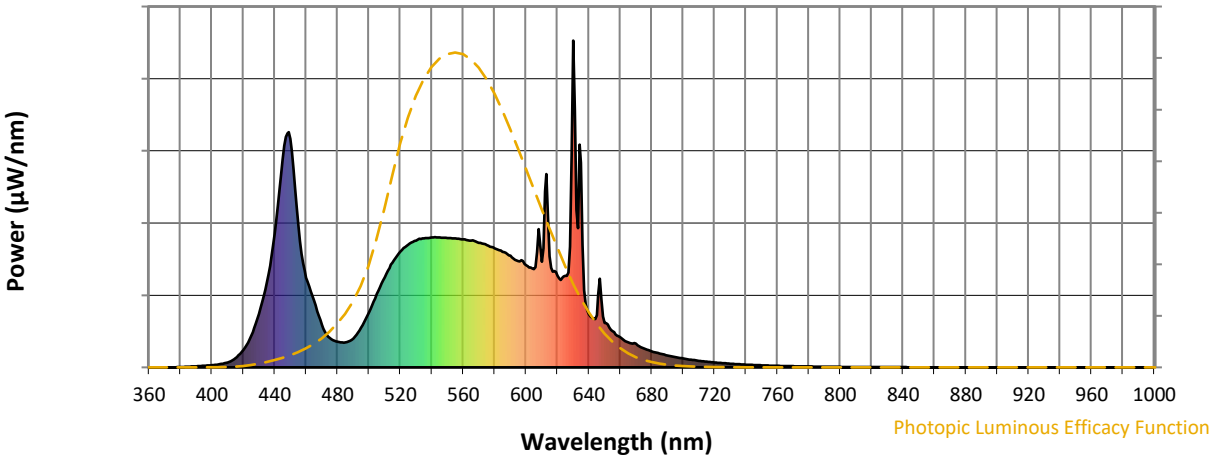
## Photopic Flux vs. Wavelength




## 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 | 89 | NR | 620 | 280 | NR | 750 | 6 | NR | 880 | 0 | NR |
| 365 | 0 | NR | 495 | 121 | NR | 625 | 280 | NR | 755 | 5 | NR | 885 | 0 | NR |
| 370 | 0 | NR | 500 | 168 | NR | 630 | 1000 | NR | 760 | 5 | NR | 890 | 0 | NR |
| 375 | 0 | NR | 505 | 224 | NR | 635 | 626 | NR | 765 | 4 | NR | 895 | 0 | NR |
| 380 | 1 | NR | 510 | 275 | NR | 640 | 163 | NR | 770 | 4 | NR | 900 | 0 | NR |
| 385 | 2 | NR | 515 | 321 | NR | 645 | 160 | NR | 775 | 3 | NR | 905 | 0 | NR |
| 390 | 3 | NR | 520 | 354 | NR | 650 | 136 | NR | 780 | 3 | NR | 910 | 0 | NR |
| 395 | 5 | NR | 525 | 375 | NR | 655 | 111 | NR | 785 | 2 | NR | 915 | 0 | NR |
| 400 | 7 | NR | 530 | 388 | NR | 660 | 93 | NR | 790 | 2 | NR | 920 | 0 | NR |
| 405 | 10 | NR | 535 | 395 | NR | 665 | 76 | NR | 795 | 2 | NR | 925 | 0 | NR |
| 410 | 15 | NR | 540 | 397 | NR | 670 | 72 | NR | 800 | 2 | NR | 930 | 0 | NR |
| 415 | 28 | NR | 545 | 398 | NR | 675 | 57 | NR | 805 | 1 | NR | 935 | 0 | NR |
| 420 | 53 | NR | 550 | 396 | NR | 680 | 49 | NR | 810 | 1 | NR | 940 | 0 | NR |
| 425 | 97 | NR | 555 | 395 | NR | 685 | 42 | NR | 815 | 1 | NR | 945 | 0 | NR |
| 430 | 163 | NR | 560 | 392 | NR | 690 | 37 | NR | 820 | 1 | NR | 950 | 0 | NR |
| 435 | 261 | NR | 565 | 388 | NR | 695 | 32 | NR | 825 | 1 | NR | 955 | 0 | NR |
| 440 | 409 | NR | 570 | 381 | NR | 700 | 27 | NR | 830 | 1 | NR | 960 | 0 | NR |
| 445 | 637 | NR | 575 | 374 | NR | 705 | 23 | NR | 835 | 1 | NR | 965 | 0 | NR |
| 450 | 699 | NR | 580 | 365 | NR | 710 | 20 | NR | 840 | 1 | NR | 970 | 0 | NR |
| 455 | 436 | NR | 585 | 354 | NR | 715 | 17 | NR | 845 | 0 | NR | 975 | 0 | NR |
| 460 | 274 | NR | 590 | 342 | NR | 720 | 15 | NR | 850 | 0 | NR | 980 | 0 | NR |
| 465 | 205 | NR | 595 | 325 | NR | 725 | 13 | NR | 855 | 0 | NR | 985 | 0 | NR |
| 470 | 130 | NR | 600 | 313 | NR | 730 | 11 | NR | 860 | 0 | NR | 990 | 0 | NR |
| 475 | 90 | NR | 605 | 301 | NR | 735 | 10 | NR | 865 | 0 | NR | 995 | 0 | NR |
| 480 | 78 | NR | 610 | 323 | NR | 740 | 8 | NR | 870 | 0 | NR | 1000 | 0 | NR |
| 485 | 77 | NR | 615 | 340 | NR | 745 | 7 | NR | 875 | 0 | NR | | | |

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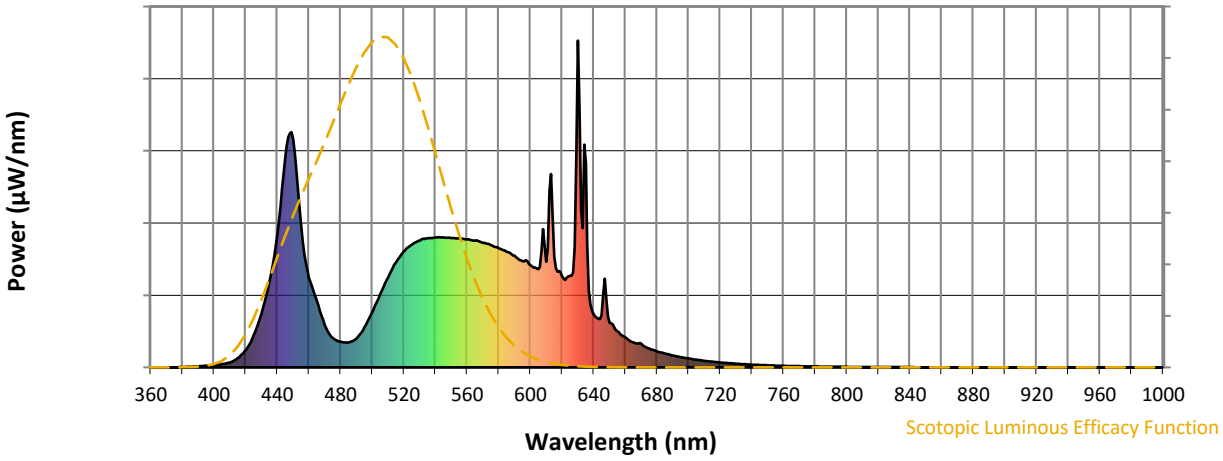
## Scotopic Flux vs. Wavelength




**Scotopic Lumens: NR** **S/P: 1.82**

| 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 | 89 | NR | 620 | 280 | NR | 750 | 6 | NR | 880 | 0 | NR |
| 365 | 0 | NR | 495 | 121 | NR | 625 | 280 | NR | 755 | 5 | NR | 885 | 0 | NR |
| 370 | 0 | NR | 500 | 168 | NR | 630 | 1000 | NR | 760 | 5 | NR | 890 | 0 | NR |
| 375 | 0 | NR | 505 | 224 | NR | 635 | 626 | NR | 765 | 4 | NR | 895 | 0 | NR |
| 380 | 1 | NR | 510 | 275 | NR | 640 | 163 | NR | 770 | 4 | NR | 900 | 0 | NR |
| 385 | 2 | NR | 515 | 321 | NR | 645 | 160 | NR | 775 | 3 | NR | 905 | 0 | NR |
| 390 | 3 | NR | 520 | 354 | NR | 650 | 136 | NR | 780 | 3 | NR | 910 | 0 | NR |
| 395 | 5 | NR | 525 | 375 | NR | 655 | 111 | NR | 785 | 2 | NR | 915 | 0 | NR |
| 400 | 7 | NR | 530 | 388 | NR | 660 | 93 | NR | 790 | 2 | NR | 920 | 0 | NR |
| 405 | 10 | NR | 535 | 395 | NR | 665 | 76 | NR | 795 | 2 | NR | 925 | 0 | NR |
| 410 | 15 | NR | 540 | 397 | NR | 670 | 72 | NR | 800 | 2 | NR | 930 | 0 | NR |
| 415 | 28 | NR | 545 | 398 | NR | 675 | 57 | NR | 805 | 1 | NR | 935 | 0 | NR |
| 420 | 53 | NR | 550 | 396 | NR | 680 | 49 | NR | 810 | 1 | NR | 940 | 0 | NR |
| 425 | 97 | NR | 555 | 395 | NR | 685 | 42 | NR | 815 | 1 | NR | 945 | 0 | NR |
| 430 | 163 | NR | 560 | 392 | NR | 690 | 37 | NR | 820 | 1 | NR | 950 | 0 | NR |
| 435 | 261 | NR | 565 | 388 | NR | 695 | 32 | NR | 825 | 1 | NR | 955 | 0 | NR |
| 440 | 409 | NR | 570 | 381 | NR | 700 | 27 | NR | 830 | 1 | NR | 960 | 0 | NR |
| 445 | 637 | NR | 575 | 374 | NR | 705 | 23 | NR | 835 | 1 | NR | 965 | 0 | NR |
| 450 | 699 | NR | 580 | 365 | NR | 710 | 20 | NR | 840 | 1 | NR | 970 | 0 | NR |
| 455 | 436 | NR | 585 | 354 | NR | 715 | 17 | NR | 845 | 0 | NR | 975 | 0 | NR |
| 460 | 274 | NR | 590 | 342 | NR | 720 | 15 | NR | 850 | 0 | NR | 980 | 0 | NR |
| 465 | 205 | NR | 595 | 325 | NR | 725 | 13 | NR | 855 | 0 | NR | 985 | 0 | NR |
| 470 | 130 | NR | 600 | 313 | NR | 730 | 11 | NR | 860 | 0 | NR | 990 | 0 | NR |
| 475 | 90 | NR | 605 | 301 | NR | 735 | 10 | NR | 865 | 0 | NR | 995 | 0 | NR |
| 480 | 78 | NR | 610 | 323 | NR | 740 | 8 | NR | 870 | 0 | NR | 1000 | 0 | NR |
| 485 | 77 | NR | 615 | 340 | NR | 745 | 7 | NR | 875 | 0 | NR | | | |

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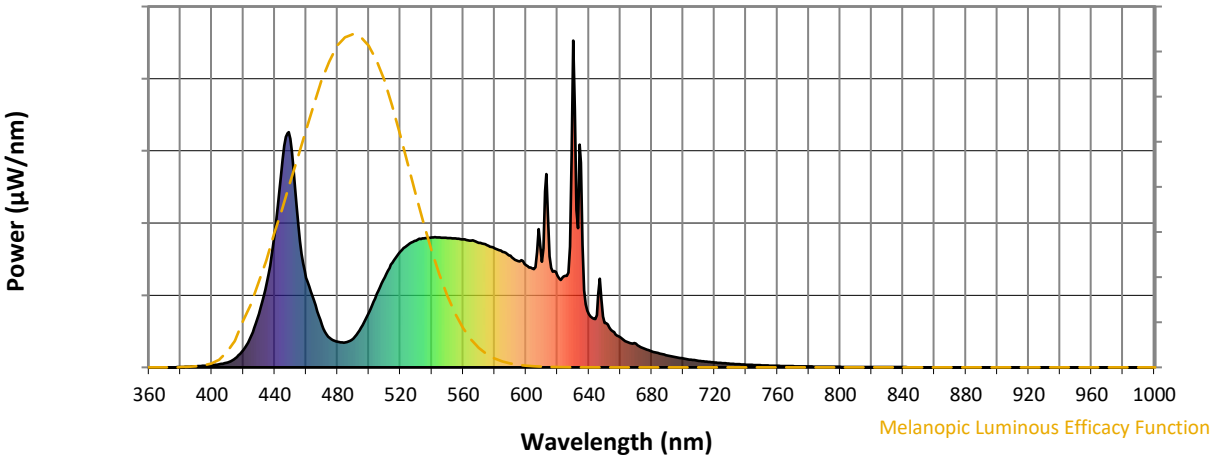
## Melanopic Flux vs. Wavelength




**Melanopic Lumens: NR** **M/P: 3.71**

| 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 | 89 | NR | 620 | 280 | NR | 750 | 6 | NR | 880 | 0 | NR |
| 365 | 0 | NR | 495 | 121 | NR | 625 | 280 | NR | 755 | 5 | NR | 885 | 0 | NR |
| 370 | 0 | NR | 500 | 168 | NR | 630 | 1000 | NR | 760 | 5 | NR | 890 | 0 | NR |
| 375 | 0 | NR | 505 | 224 | NR | 635 | 626 | NR | 765 | 4 | NR | 895 | 0 | NR |
| 380 | 1 | NR | 510 | 275 | NR | 640 | 163 | NR | 770 | 4 | NR | 900 | 0 | NR |
| 385 | 2 | NR | 515 | 321 | NR | 645 | 160 | NR | 775 | 3 | NR | 905 | 0 | NR |
| 390 | 3 | NR | 520 | 354 | NR | 650 | 136 | NR | 780 | 3 | NR | 910 | 0 | NR |
| 395 | 5 | NR | 525 | 375 | NR | 655 | 111 | NR | 785 | 2 | NR | 915 | 0 | NR |
| 400 | 7 | NR | 530 | 388 | NR | 660 | 93 | NR | 790 | 2 | NR | 920 | 0 | NR |
| 405 | 10 | NR | 535 | 395 | NR | 665 | 76 | NR | 795 | 2 | NR | 925 | 0 | NR |
| 410 | 15 | NR | 540 | 397 | NR | 670 | 72 | NR | 800 | 2 | NR | 930 | 0 | NR |
| 415 | 28 | NR | 545 | 398 | NR | 675 | 57 | NR | 805 | 1 | NR | 935 | 0 | NR |
| 420 | 53 | NR | 550 | 396 | NR | 680 | 49 | NR | 810 | 1 | NR | 940 | 0 | NR |
| 425 | 97 | NR | 555 | 395 | NR | 685 | 42 | NR | 815 | 1 | NR | 945 | 0 | NR |
| 430 | 163 | NR | 560 | 392 | NR | 690 | 37 | NR | 820 | 1 | NR | 950 | 0 | NR |
| 435 | 261 | NR | 565 | 388 | NR | 695 | 32 | NR | 825 | 1 | NR | 955 | 0 | NR |
| 440 | 409 | NR | 570 | 381 | NR | 700 | 27 | NR | 830 | 1 | NR | 960 | 0 | NR |
| 445 | 637 | NR | 575 | 374 | NR | 705 | 23 | NR | 835 | 1 | NR | 965 | 0 | NR |
| 450 | 699 | NR | 580 | 365 | NR | 710 | 20 | NR | 840 | 1 | NR | 970 | 0 | NR |
| 455 | 436 | NR | 585 | 354 | NR | 715 | 17 | NR | 845 | 0 | NR | 975 | 0 | NR |
| 460 | 274 | NR | 590 | 342 | NR | 720 | 15 | NR | 850 | 0 | NR | 980 | 0 | NR |
| 465 | 205 | NR | 595 | 325 | NR | 725 | 13 | NR | 855 | 0 | NR | 985 | 0 | NR |
| 470 | 130 | NR | 600 | 313 | NR | 730 | 11 | NR | 860 | 0 | NR | 990 | 0 | NR |
| 475 | 90 | NR | 605 | 301 | NR | 735 | 10 | NR | 865 | 0 | NR | 995 | 0 | NR |
| 480 | 78 | NR | 610 | 323 | NR | 740 | 8 | NR | 870 | 0 | NR | 1000 | 0 | NR |
| 485 | 77 | NR | 615 | 340 | NR | 745 | 7 | NR | 875 | 0 | NR | | | |

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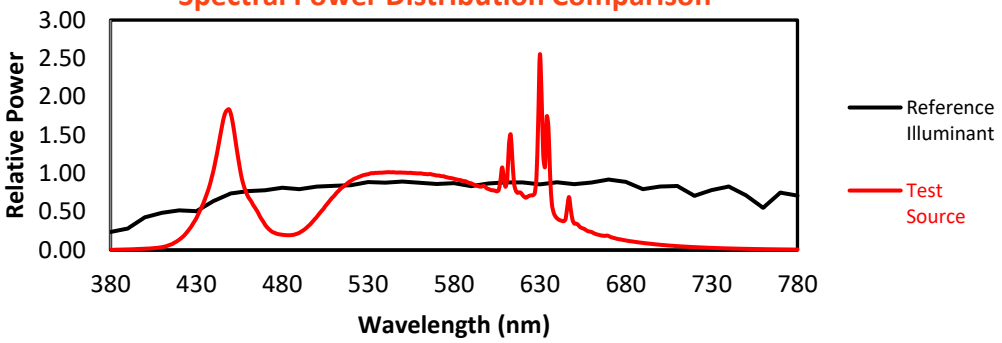
# TM-30-18

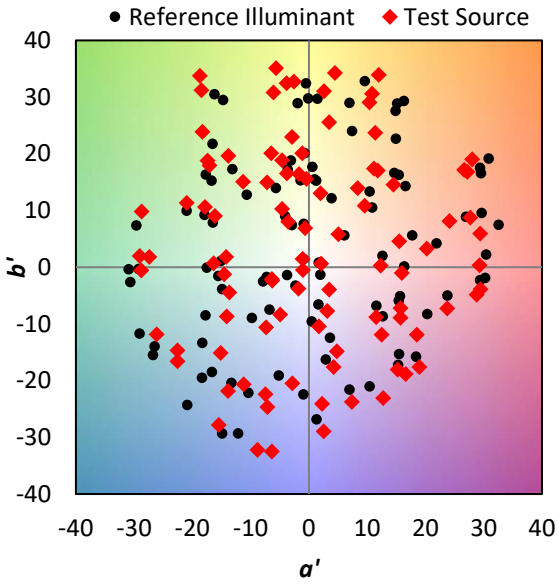
## Summary

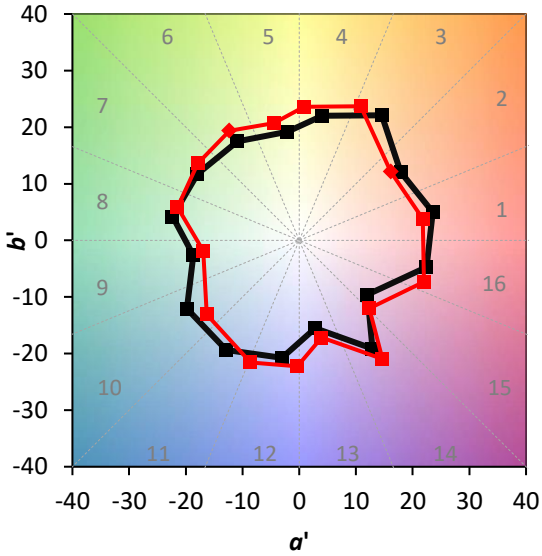
$R_f$ = 80
$R_g$ = 102.3
CIE $R_a$ = 82.3
$R_9$ = 43.9

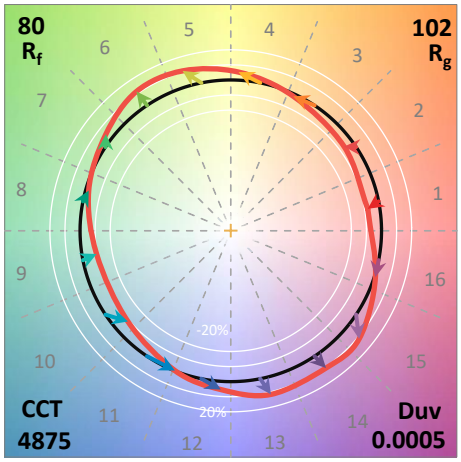
## Spectral Power Distribution Comparison

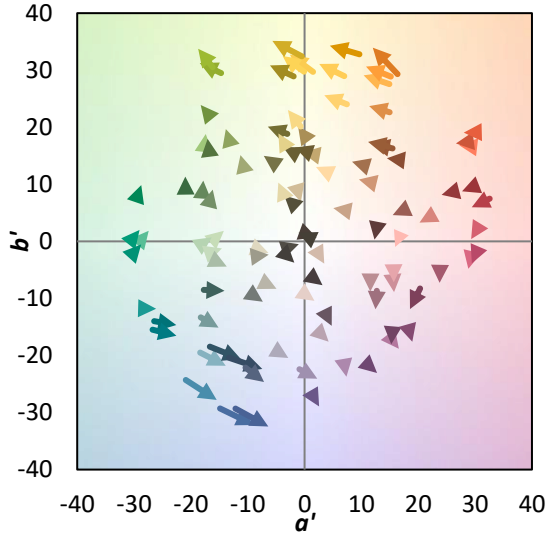



## Color Vector Graphics



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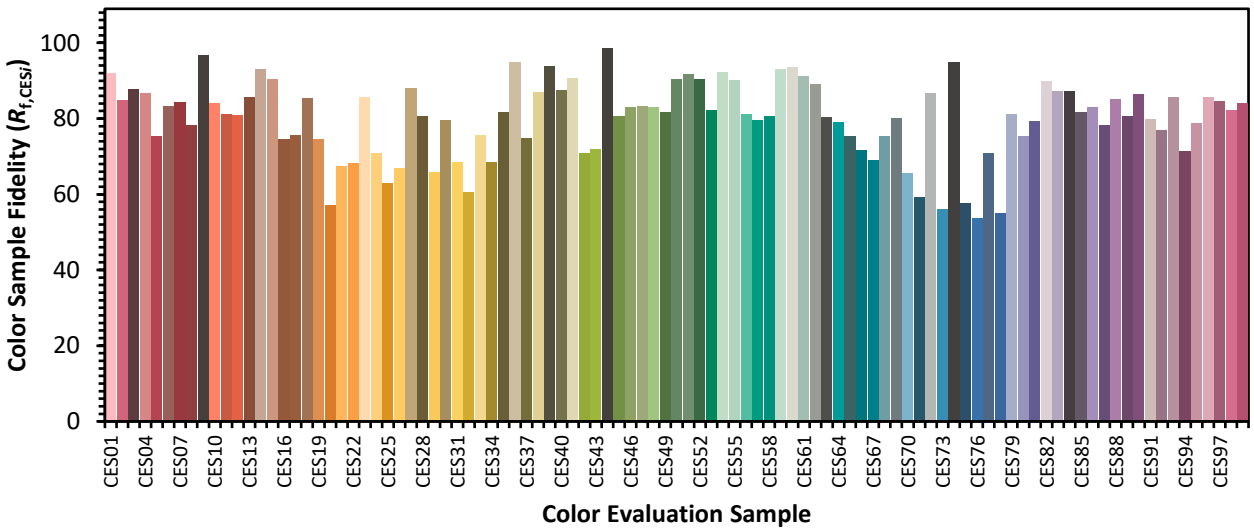
# TM-30-18

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

| | | | |
|---|---|---|---|
| CES01 = 85 | CES26 = 67 | CES51 = 92 | CES76 = 54 |
| CES02 = 60 | CES27 = 88 | CES52 = 91 | CES77 = 71 |
| CES03 = 31 | CES28 = 81 | CES53 = 82 | CES78 = 55 |
| CES04 = 69 | CES29 = 66 | CES54 = 92 | CES79 = 81 |
| CES05 = 47 | CES30 = 80 | CES55 = 90 | CES80 = 75 |
| CES06 = 50 | CES31 = 69 | CES56 = 81 | CES81 = 79 |
| CES07 = 40 | CES32 = 61 | CES57 = 80 | CES82 = 90 |
| CES08 = 39 | CES33 = 76 | CES58 = 81 | CES83 = 87 |
| CES09 = 29 | CES34 = 68 | CES59 = 93 | CES84 = 87 |
| CES10 = 73 | CES35 = 82 | CES60 = 94 | CES85 = 82 |
| CES11 = 56 | CES36 = 95 | CES61 = 91 | CES86 = 83 |
| CES12 = 62 | CES37 = 75 | CES62 = 89 | CES87 = 78 |
| CES13 = 42 | CES38 = 87 | CES63 = 80 | CES88 = 85 |
| CES14 = 74 | CES39 = 94 | CES64 = 79 | CES89 = 81 |
| CES15 = 71 | CES40 = 87 | CES65 = 75 | CES90 = 86 |
| CES16 = 46 | CES41 = 91 | CES66 = 72 | CES91 = 80 |
| CES17 = 48 | CES42 = 71 | CES67 = 69 | CES92 = 77 |
| CES18 = 56 | CES43 = 72 | CES68 = 75 | CES93 = 86 |
| CES19 = 70 | CES44 = 99 | CES69 = 80 | CES94 = 71 |
| CES20 = 65 | CES45 = 81 | CES70 = 66 | CES95 = 79 |
| CES21 = 85 | CES46 = 83 | CES71 = 59 | CES96 = 86 |
| CES22 = 77 | CES47 = 83 | CES72 = 87 | CES97 = 85 |
| CES23 = 91 | CES48 = 83 | CES73 = 56 | CES98 = 82 |
| CES24 = 90 | CES49 = 82 | CES74 = 95 | CES99 = 84 |
| CES25 = 71 | CES50 = 91 | CES75 = 58 | |



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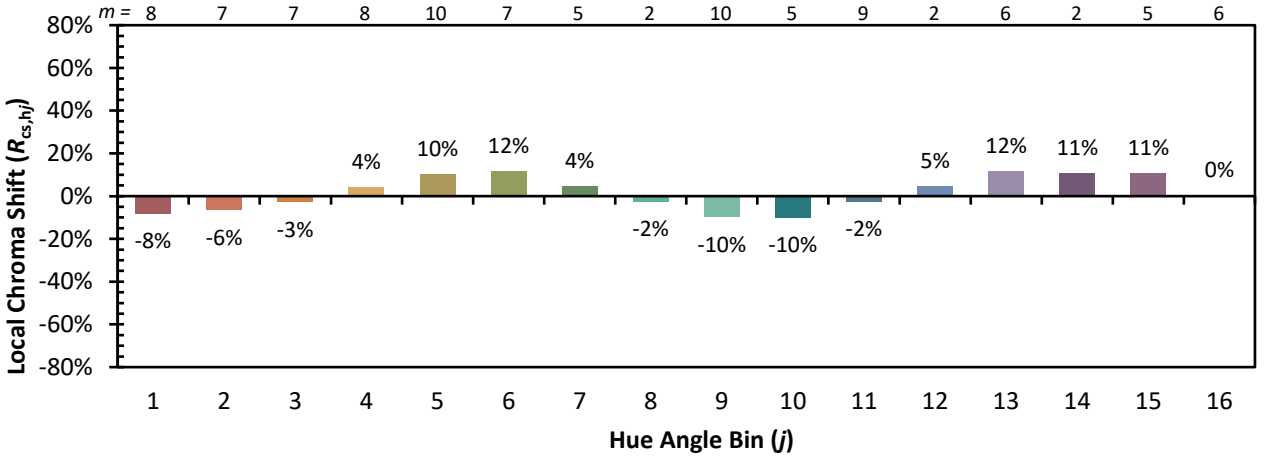
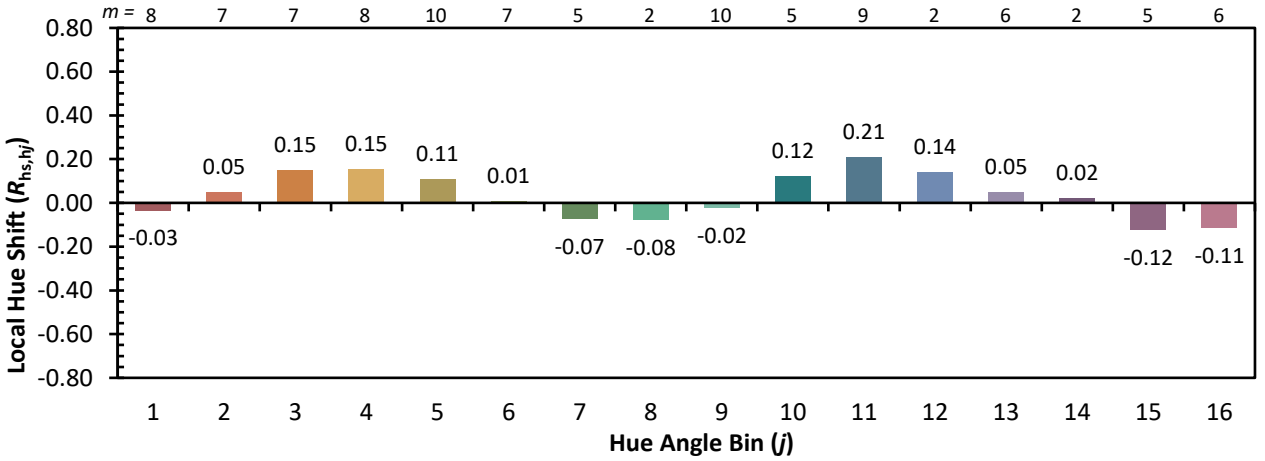
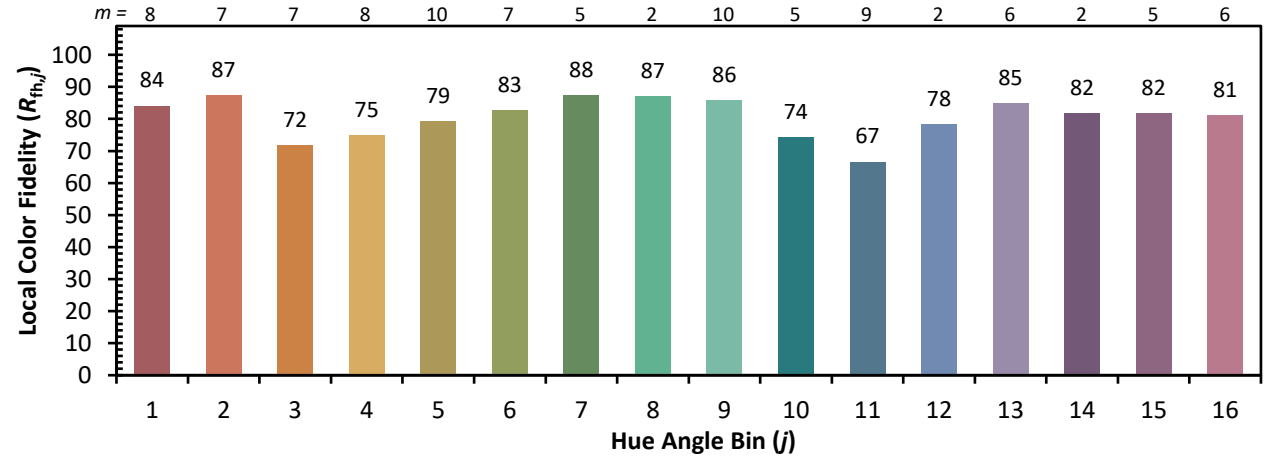
**TM-30-18**

## Color Rendition by Hue-Angle Bin



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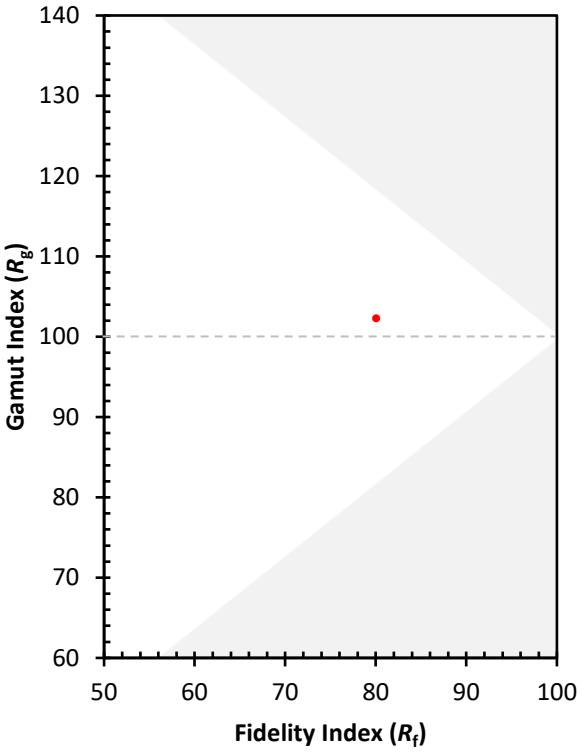
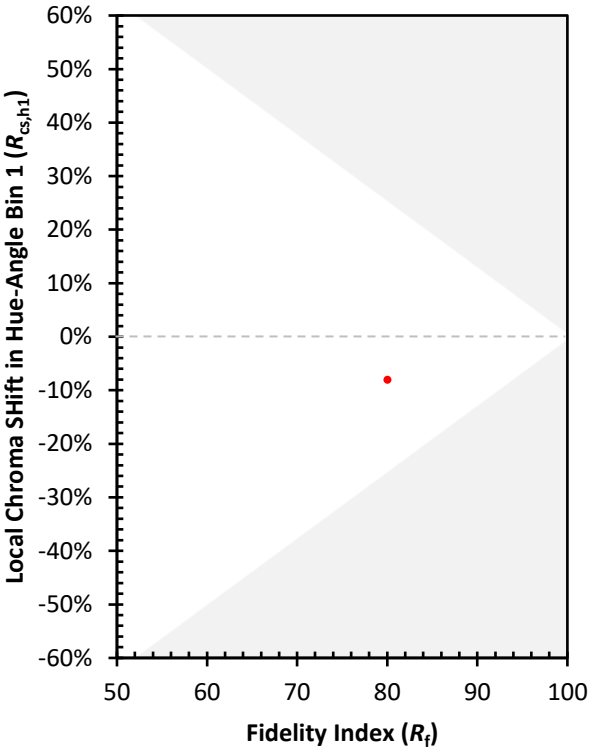
# TM-30-18

## Measure Comparisons




(END OF REPORT)