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: P1433514

Luminaire Tested: EHBR1-30-UNV-A1-L935

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: | P1433514 |
| | 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: | EHBR1-30-UNV-A1-L935 |
| Description: | Elevate Round Highbay at, 30000 lumens, 3500K 90CRI LEDs with A lens |
| Light Source: | - |
| Ballast/Driver: | - |

**Summary**

| | |
|---|---|
| Lumens per Lamp: | N/A |
| Luminaire Lumens: | 27575.1 lumens |
| Efficiency: | N/A |
| Efficacy: | 172.6 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): | 159.8 |
| 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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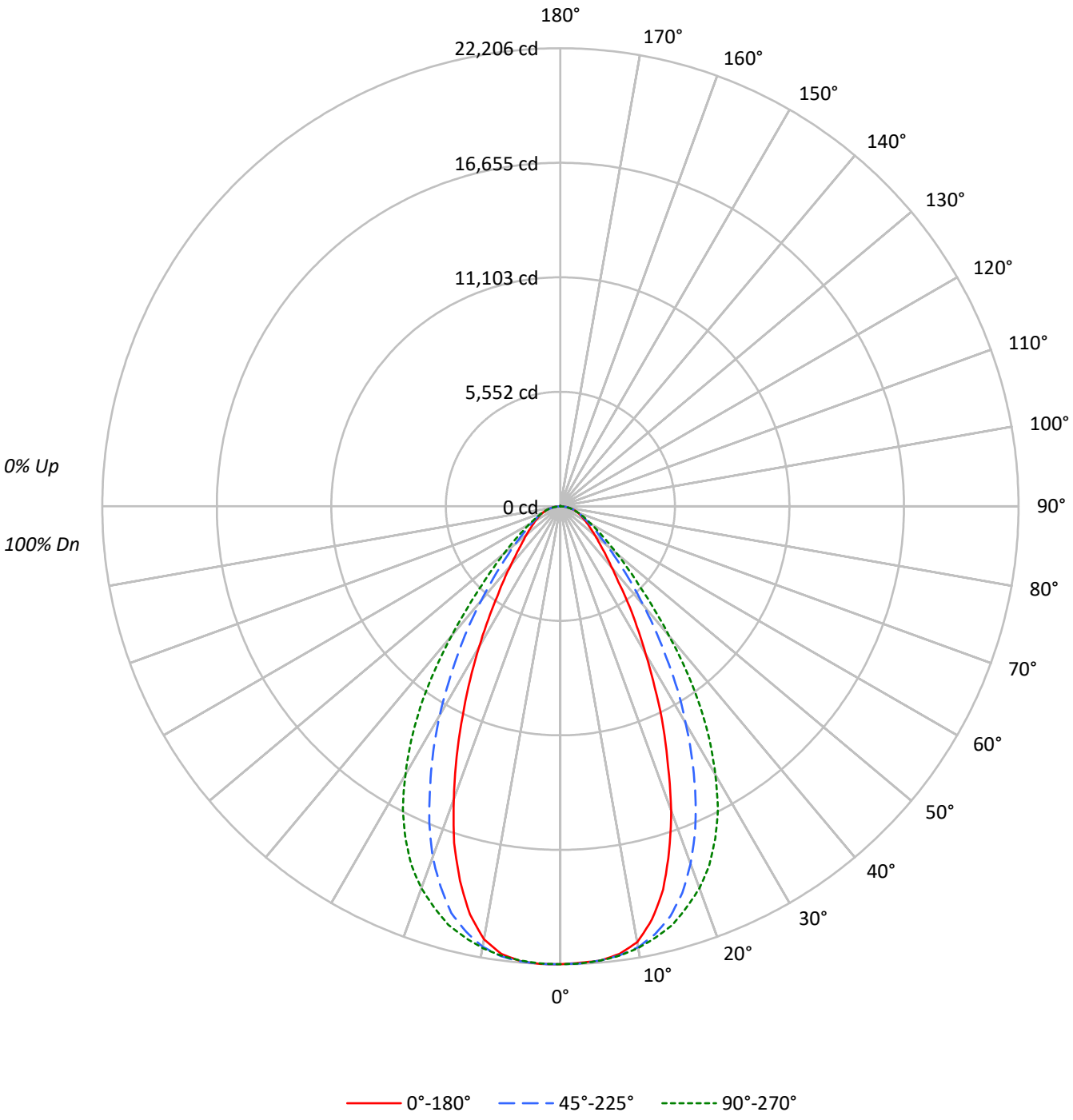
Scaled Data Report

TEST NUMBER: P1433514
CATALOG NUMBER: EHBR1-30-UNV-A1-L935

## Luminous Intensity Polar Plot



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TEST NUMBER: P1433514
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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 | 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° | 104237 | 104237 | 104237 | 104237 | 104237 |
| 5° | 104223 | 104207 | 104212 | 104396 | 104332 |
| 10° | 102316 | 103508 | 103672 | 103380 | 101646 |
| 15° | 93511 | 100037 | 102096 | 99235 | 91365 |
| 20° | 78472 | 92164 | 98460 | 90428 | 75417 |
| 25° | 61138 | 80281 | 92017 | 77349 | 57970 |
| 30° | 44921 | 65902 | 81477 | 63401 | 42637 |
| 35° | 32664 | 51241 | 67549 | 49034 | 30533 |
| 40° | 23732 | 38218 | 50270 | 36605 | 23000 |
| 45° | 18911 | 28275 | 35507 | 27050 | 18256 |
| 50° | 15899 | 21527 | 26040 | 20816 | 15658 |
| 55° | 14110 | 17273 | 20040 | 16984 | 13919 |
| 60° | 12986 | 14715 | 16295 | 14623 | 13078 |
| 65° | 12476 | 13333 | 14067 | 13374 | 12595 |
| 70° | 12308 | 12600 | 12989 | 12670 | 12429 |
| 75° | 12180 | 12104 | 12180 | 12139 | 12298 |
| 80° | 12245 | 11366 | 11112 | 11542 | 12245 |
| 85° | 11046 | 9365 | 9268 | 9515 | 11374 |

## MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 67.5°
Vertical Angle: 45°
Luminance: 37202 cd/sqm

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**ZONAL LUMENS:**

| Zone | Lumens | % Fixture |
|---|---|---|
| 0°-10° | 2096.1 | 7.6 |
| 10°-20° | 5633.6 | 20.4 |
| 20°-30° | 6850.4 | 24.8 |
| 30°-40° | 5580.2 | 20.2 |
| 40°-50° | 3350.3 | 12.1 |
| 50°-60° | 1928.1 | 7.0 |
| 60°-70° | 1206.7 | 4.4 |
| 70°-80° | 710.7 | 2.6 |
| 80°-90° | 207.8 | 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° | 1.4 | 0.0 |
| 140°-150° | 2.5 | 0.0 |
| 150°-160° | 2.8 | 0.0 |
| 160°-170° | 2.5 | 0.0 |
| 170°-180° | 1.1 | 0.0 |
| 0°-30° | 14580.2 | 52.9 |
| 0°-40° | 20160.3 | 73.1 |
| 0°-60° | 25438.8 | 92.3 |
| 0°-90° | 27564.1 | 100.0 |
| 90°-120° | 0.3 | 0.0 |
| 90°-150° | 4.7 | 0.0 |
| 90°-180° | 11.0 | 0.0 |
| 0°-180° | 27575.1 | 100.0 |

**CANDELA DISTRIBUTION:**

| | 0° | 45° | 90° | 135° | 180° | Flux |
|---|---|---|---|---|---|---|
| 0° | 22196 | 22196 | 22196 | 22196 | 22196 | |
| 5° | 22109 | 22106 | 22107 | 22146 | 22132 | 2090 |
| 15° | 19234 | 20576 | 21000 | 20411 | 18792 | 5292 |
| 25° | 11799 | 15494 | 17759 | 14928 | 11188 | 5376 |
| 35° | 5698 | 8938 | 11783 | 8553 | 5326 | 3605 |
| 45° | 2848 | 4258 | 5346 | 4073 | 2749 | 2246 |
| 55° | 1723 | 2110 | 2448 | 2074 | 1700 | 1558 |
| 65° | 1123 | 1200 | 1266 | 1204 | 1134 | 1116 |
| 75° | 671 | 667 | 671 | 669 | 678 | 711 |
| 85° | 205 | 174 | 172 | 177 | 211 | 219 |
| 90° | 1 | 0 | 0 | 0 | 0 | 10 |
| 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 | 2 |
| 145° | 4 | 4 | 4 | 4 | 5 | 3 |
| 155° | 7 | 6 | 5 | 6 | 7 | 3 |
| 165° | 11 | 9 | 8 | 9 | 11 | 3 |
| 175° | 14 | 12 | 10 | 12 | 14 | 1 |
| 180° | 12 | 12 | 12 | 12 | 12 | |

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TEST NUMBER: P1433514
CATALOG NUMBER: EHBR1-30-UNV-A1-L935

**CANDELA DISTRIBUTION (FULL):**

| | 0° | 22.5° | 45° | 67.5° | 90° | 112.5° | 135° | 157.5° | 180° |
|---|---|---|---|---|---|---|---|---|---|
| 0° | 22196.5 | 22196.5 | 22196.5 | 22196.5 | 22196.5 | 22196.5 | *22196.5* | 22196.5 | 22196.5 |
| 2.5° | *22147.7* | *22167.7* | *22176.0* | *22180.7* | *22185.8* | *22199.7* | *22205.8* | *22196.0* | *22204.4* |
| 5° | 22109.1 | 22110.5 | 22105.8 | 22126.8 | 22106.7 | 22120.7 | *22145.8* | 22136.0 | 22132.3 |
| 7.5° | 21884.1 | 21930.6 | 21958.0 | 21965.0 | 21968.7 | 21985.9 | *22003.5* | 21903.6 | 21888.7 |
| 10° | 21456.4 | 21534.0 | 21706.5 | 21755.7 | 21740.9 | 21768.8 | *21679.5* | 21418.2 | 21316.0 |
| 12.5° | 20518.7 | 20791.6 | 21239.8 | 21439.1 | 21402.9 | 21427.5 | *21123.5* | 20572.2 | 20255.1 |
| 15° | 19234.1 | 19634.5 | 20576.3 | 20969.7 | 20999.8 | 20969.7 | *20411.3* | 19336.9 | 18792.5 |
| 17.5° | 17526.6 | 18265.8 | 19652.6 | 20415.9 | 20372.2 | 20386.6 | *19326.7* | 17738.6 | 17115.7 |
| 20° | 15702.3 | 16490.3 | 18442.0 | 19715.3 | 19701.9 | 19621.0 | *18094.7* | 16000.3 | 15091.0 |
| 22.5° | 13639.2 | 14655.4 | 17054.8 | 18853.8 | 18848.8 | 18714.0 | *16594.4* | 14102.1 | 13123.1 |
| 25° | 11799.1 | 12795.8 | 15493.6 | 17798.6 | 17758.6 | 17605.2 | *14927.8* | 12208.6 | 11187.7 |
| 27.5° | 9896.8 | 10933.0 | 13827.0 | 16561.9 | 16534.5 | 16367.1 | *13334.7* | 10438.7 | 9467.2 |
| 30° | 8284.0 | 9231.4 | 12153.3 | 15201.1 | 15025.5 | 15006.4 | *11692.1* | 8800.0 | 7862.8 |
| 32.5° | 6902.3 | 7714.5 | 10575.5 | 13778.1 | 13467.2 | 13555.9 | *10055.3* | 7429.5 | 6500.7 |
| 35° | 5697.7 | 6413.3 | 8938.1 | 12132.4 | 11782.8 | 11897.7 | *8553.1* | 6096.2 | 5325.9 |
| 37.5° | 4624.4 | 5312.4 | 7550.4 | 10531.7 | 9997.2 | 10213.8 | *7232.0* | 5091.1 | 4473.7 |
| 40° | 3871.2 | 4417.0 | 6234.3 | 8775.4 | 8200.3 | 8553.1 | *5971.2* | 4246.3 | 3751.8 |
| 42.5° | 3335.7 | 3691.8 | 5145.5 | 7098.5 | 6657.4 | 6907.4 | *4921.4* | 3549.9 | 3179.9 |
| 45° | 2847.5 | 3131.6 | 4257.5 | 5601.6 | 5346.4 | 5578.3 | *4073.0* | 3027.0 | 2748.9 |
| 47.5° | 2487.2 | 2706.1 | 3504.9 | 4523.4 | 4364.9 | 4438.4 | *3401.6* | 2641.5 | 2415.6 |
| 50° | 2176.2 | 2345.4 | 2946.5 | 3650.9 | 3564.3 | 3609.5 | *2849.3* | 2298.5 | 2143.2 |
| 52.5° | 1934.5 | 2058.5 | 2471.4 | 3000.4 | 2957.7 | 2964.6 | *2428.1* | 2021.8 | 1909.4 |
| 55° | 1723.4 | 1809.9 | 2109.7 | 2457.9 | 2447.7 | 2449.5 | *2074.4* | 1791.7 | 1700.1 |
| 57.5° | 1538.8 | 1610.4 | 1813.1 | 2064.6 | 2049.8 | 2053.0 | *1796.3* | 1591.3 | 1532.3 |
| 60° | 1382.6 | 1430.5 | 1566.7 | 1744.8 | 1735.0 | 1730.8 | *1556.9* | 1412.8 | 1392.4 |
| 62.5° | 1244.0 | 1274.8 | 1369.1 | 1495.5 | 1477.0 | 1481.1 | *1368.6* | 1276.1 | 1245.9 |
| 65° | 1122.8 | 1133.5 | 1199.9 | 1278.0 | 1265.9 | 1276.1 | *1203.6* | 1140.4 | 1133.5 |
| 67.5° | 1004.2 | 1014.9 | 1053.9 | 1106.4 | 1092.5 | 1100.9 | *1054.9* | 1017.6 | 1011.6 |
| 70° | 896.4 | 895.8 | 917.7 | 946.0 | 946.0 | 947.5 | *922.8* | 900.5 | 905.2 |
| 72.5° | 784.7 | 782.0 | 788.5 | 807.5 | 802.4 | 820.0 | *794.0* | 787.1 | 788.0 |
| 75° | 671.3 | 663.4 | 667.1 | 676.8 | 671.3 | 680.7 | *669.0* | 677.8 | 677.8 |
| 77.5° | 564.4 | 549.5 | 544.9 | 546.2 | 536.0 | 550.0 | *552.8* | 558.8 | 572.7 |
| 80° | 452.8 | 431.9 | 420.3 | 419.8 | 410.9 | 419.8 | *426.8* | 439.3 | 452.8 |
| 82.5° | 336.2 | 318.0 | 298.5 | 294.7 | 289.2 | 294.3 | *303.6* | 318.5 | 340.3 |
| 85° | 205.0 | 186.0 | 173.8 | 167.4 | 172.0 | 172.0 | *176.6* | 197.6 | 211.1 |
| 87.5° | 74.0 | 64.6 | 53.0 | 53.5 | 54.8 | 56.7 | *59.0* | 74.4 | 81.4 |
| 90° | 0.9 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | *0.0* | 0.0 | 0.5 |
| 92.5° | 0.5 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | *0.0* | 0.0 | 0.5 |
| 95° | 0.9 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | *0.0* | 0.0 | 0.5 |
| 97.5° | 0.9 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | *0.0* | 0.0 | 0.5 |
| 100° | 0.9 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | *0.0* | 0.0 | 0.9 |
| 102.5° | 0.9 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | *0.0* | 0.0 | 0.9 |
| 105° | 0.9 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | *0.0* | 0.0 | 0.9 |
| 107.5° | 0.9 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | *0.0* | 0.0 | 0.9 |
| 110° | 0.9 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | *0.0* | 0.0 | 0.9 |

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Scaled Data Report

TEST NUMBER: P1433514
CATALOG NUMBER: EHBR1-30-UNV-A1-L935

**CANDELA DISTRIBUTION (continued):**

| | 0° | 22.5° | 45° | 67.5° | 90° | 112.5° | 135° | 157.5° | 180° |
|---|---|---|---|---|---|---|---|---|---|
| 112.5° | 0.9 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | *0.0* | 0.0 | 0.9 |
| 115° | 0.9 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | *0.0* | 0.0 | 0.9 |
| 117.5° | 1.4 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | *0.0* | 0.0 | 0.9 |
| 120° | 0.9 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | *0.0* | 0.5 | 0.9 |
| 122.5° | 1.4 | 0.5 | 0.0 | 0.0 | 0.0 | 0.0 | *0.0* | 0.5 | 1.4 |
| 125° | 1.4 | 0.5 | 0.0 | 0.0 | 0.0 | 0.0 | *0.5* | 0.5 | 1.4 |
| 127.5° | 1.4 | 0.5 | 0.0 | 0.0 | 0.0 | 0.0 | *0.5* | 0.9 | 1.4 |
| 130° | 1.4 | 0.9 | 0.5 | 0.0 | 0.5 | 0.5 | *0.9* | 0.9 | 1.4 |
| 132.5° | 1.9 | 1.4 | 1.4 | 0.9 | 0.9 | 1.4 | *1.4* | 1.9 | 1.9 |
| 135° | 2.4 | 1.9 | 1.9 | 1.4 | 1.9 | 1.9 | *1.9* | 1.9 | 2.4 |
| 137.5° | 2.4 | 2.4 | 2.4 | 2.4 | 2.4 | 2.4 | *2.4* | 2.4 | 2.8 |
| 140° | 3.3 | 2.8 | 2.8 | 2.8 | 2.8 | 2.8 | *2.8* | 3.3 | 3.3 |
| 142.5° | 3.7 | 3.7 | 3.3 | 3.3 | 3.3 | 3.7 | *3.7* | 3.7 | 4.2 |
| 145° | 4.2 | 4.2 | 3.7 | 3.7 | 3.7 | 4.2 | *4.2* | 4.6 | 4.6 |
| 147.5° | 5.6 | 5.1 | 4.2 | 4.2 | 4.2 | 4.2 | *4.6* | 5.1 | 5.6 |
| 150° | 6.1 | 5.6 | 4.6 | 4.6 | 4.6 | 4.6 | *5.1* | 6.1 | 6.5 |
| 152.5° | 6.5 | 6.1 | 5.1 | 4.6 | 4.6 | 4.6 | *5.6* | 6.1 | 7.0 |
| 155° | 7.0 | 6.5 | 5.6 | 4.6 | 4.6 | 5.1 | *6.1* | 7.0 | 7.4 |
| 157.5° | 8.3 | 7.4 | 6.5 | 5.6 | 5.6 | 6.1 | *7.0* | 7.9 | 8.3 |
| 160° | 9.3 | 8.3 | 7.4 | 6.5 | 6.5 | 7.0 | *7.9* | 8.8 | 9.3 |
| 162.5° | 10.2 | 9.3 | 7.9 | 7.4 | 7.0 | 7.4 | *8.3* | 9.8 | 10.2 |
| 165° | 10.7 | 9.8 | 8.8 | 7.9 | 7.9 | 7.9 | *9.3* | 10.2 | 10.7 |
| 167.5° | 11.1 | 10.7 | 9.3 | 8.3 | 8.3 | 8.3 | *9.8* | 10.7 | 11.1 |
| 170° | 11.6 | 11.1 | 9.8 | 8.8 | 8.3 | 8.8 | *10.2* | 11.1 | 11.6 |
| 172.5° | 12.5 | 12.1 | 10.7 | 9.8 | 9.3 | 9.8 | *11.1* | 12.1 | 12.5 |
| 175° | 14.0 | 13.1 | 12.1 | 10.7 | 10.2 | 10.7 | *12.1* | 13.1 | 14.0 |
| 177.5° | 14.4 | 13.5 | 12.5 | 11.1 | 10.7 | 11.1 | *12.5* | 13.5 | 14.4 |
| 180° | 12.5 | 12.5 | 12.5 | 12.5 | 12.5 | 12.5 | *12.5* | 12.5 | 12.5 |

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Scaled Data Report

TEST NUMBER: P1433514
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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 | 18.53 | 19.80 | 18.90 | 20.11 | 20.43 | 19.51 | 20.78 | 19.88 | 21.09 | 21.41 |
| | 3H | 20.10 | 21.22 | 20.48 | 21.55 | 21.92 | 20.85 | 21.98 | 21.23 | 22.31 | 22.68 |
| | 4H | 20.76 | 21.81 | 21.17 | 22.17 | 22.55 | 21.41 | 22.46 | 21.82 | 22.81 | 23.20 |
| | 6H | 21.32 | 22.28 | 21.74 | 22.66 | 23.05 | 21.84 | 22.81 | 22.26 | 23.18 | 23.58 |
| | 8H | 21.52 | 22.43 | 21.95 | 22.83 | 23.23 | 21.98 | 22.89 | 22.41 | 23.29 | 23.69 |
| | 12H | 21.65 | 22.52 | 22.08 | 22.90 | 23.34 | 22.06 | 22.93 | 22.49 | 23.32 | 23.75 |
| 4H | 2H | 19.10 | 20.15 | 19.51 | 20.50 | 20.89 | 19.87 | 20.92 | 20.27 | 21.27 | 21.66 |
| | 3H | 20.89 | 21.76 | 21.31 | 22.16 | 22.57 | 21.46 | 22.32 | 21.88 | 22.73 | 23.13 |
| | 4H | 21.69 | 22.46 | 22.12 | 22.88 | 23.33 | 22.16 | 22.93 | 22.59 | 23.35 | 23.80 |
| | 6H | 22.37 | 23.04 | 22.84 | 23.49 | 23.96 | 22.73 | 23.40 | 23.19 | 23.84 | 24.31 |
| | 8H | 22.62 | 23.24 | 23.09 | 23.69 | 24.16 | 22.91 | 23.54 | 23.38 | 23.99 | 24.46 |
| | 12H | 22.79 | 23.34 | 23.28 | 23.82 | 24.30 | 23.03 | 23.58 | 23.52 | 24.07 | 24.54 |
| 8H | 4H | 21.97 | 22.59 | 22.44 | 23.04 | 23.51 | 22.39 | 23.01 | 22.86 | 23.46 | 23.93 |
| | 6H | 22.79 | 23.29 | 23.29 | 23.79 | 24.27 | 23.09 | 23.60 | 23.59 | 24.10 | 24.58 |
| | 8H | 23.12 | 23.57 | 23.64 | 24.09 | 24.58 | 23.35 | 23.81 | 23.88 | 24.32 | 24.82 |
| | 12H | 23.37 | 23.77 | 23.88 | 24.26 | 24.84 | 23.55 | 23.94 | 24.06 | 24.44 | 25.01 |
| 12H | 4H | 21.98 | 22.53 | 22.47 | 23.02 | 23.49 | 22.40 | 22.95 | 22.89 | 23.44 | 23.91 |
| | 6H | 22.83 | 23.29 | 23.36 | 23.80 | 24.30 | 23.14 | 23.59 | 23.66 | 24.11 | 24.60 |
| | 8H | 23.22 | 23.62 | 23.74 | 24.12 | 24.69 | 23.45 | 23.85 | 23.97 | 24.35 | 24.92 |

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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: SP1-2506-472-6

Test Date: 08/01/2025

Luminaire Tested: EHBR-60-L935-N

Data in this report applies to families of products including EHBR-60-L935-N

Report Generated By FNC07603 / LDUCLS01DT446
Version: v7.04

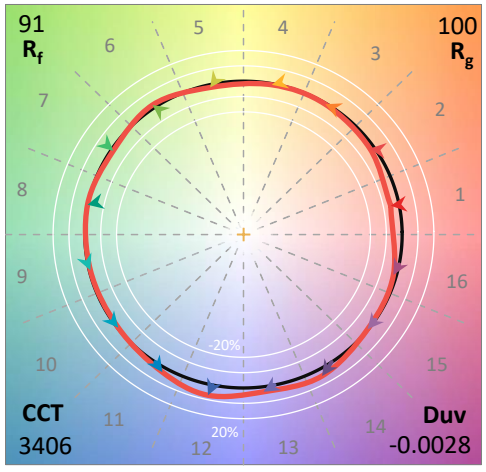
## Test Information

| | |
|---|---|
| Test Method: | LM-79-2019 |
| Report Number: | SP1-2506-472-6 |
| 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-L935-N** |
| Description: | Elevate Round Highbay at, 60000 lumens, 3500K 90CRI LEDs with N lens |

## Spectral Parameters

| | |
|---|---|
| CCT (K): | 3406 |
| CIE u': | 0.2394 |
| CIE v': | 0.5094 |
| Duv: | -0.0028 |
| CIE x: | 0.4076 |
| CIE y: | 0.3856 |
| CIE z: | 0.2068 |
| Peak Wavelength (nm): | 630 |
| Dominant Wavelength (nm): | 582 |
| Purity: | 38.0517 |
| Rf: | 91.3 |
| Rg: | 100 |

| | | | | | |
|---|---|---|---|---|---|
| CRI (Ra): | 94.6 | | | | |
| R1: | 96.6 | R9: | 63.8 | | |
| R2: | 98.4 | R10: | 94.7 | | |
| R3: | 98.1 | R11: | 96.6 | | |
| R4: | 95.8 | R12: | 80.9 | | |
| R5: | 96.2 | R13: | 97.4 | | |
| R6: | 95.4 | R14: | 98.3 | | |
| R7: | 91.8 | R15: | 93.1 | | |
| R8: | 84.4 | | | | |




## Test Conditions

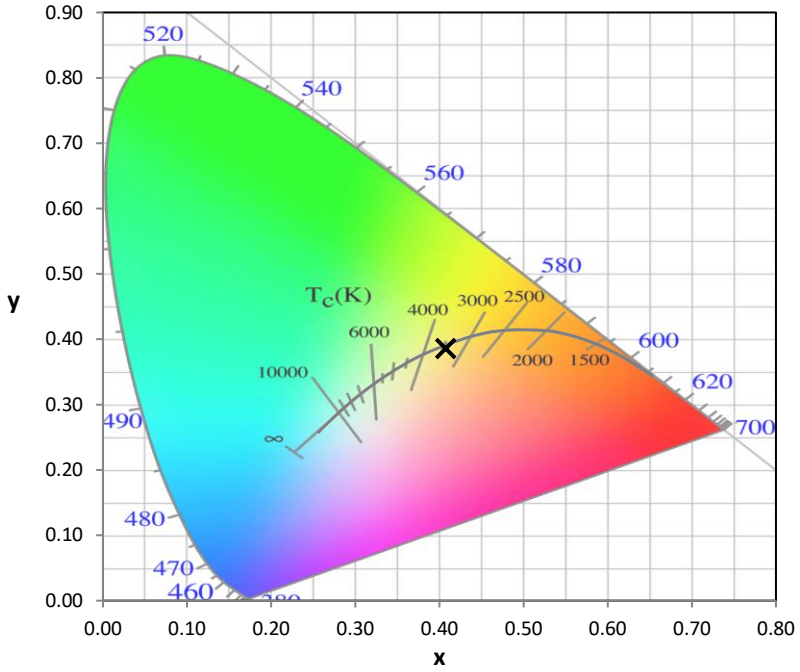
| | |
|---|---|
| Stabilization Time: | 35M |
| Operation Time: | 1H 35M |
| Sphere Temperature (°C): | 25.0 |

REPORT NUMBER: SP1-2506-472-6

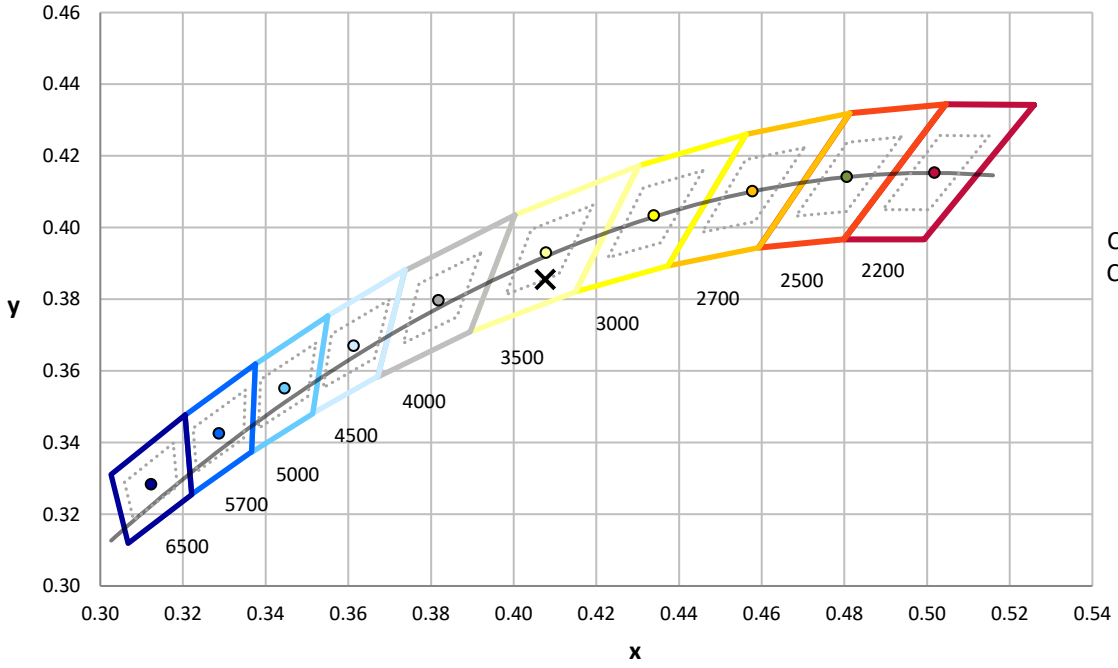
| Measurement and Test Equipment | | | |
|---|---|---|---|
| Instrument | Identification Number | Calibration Date | Calibration Due Date |
| Photometer | 76INCH SPHERE IN0058 | 6/16/2025 | 12/16/2025 |
| Power Meter | XITRON INXT2011004 | 1/21/2025 | 1/21/2026 |
| AC Power Source | CHROMA 61603 IN0063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

## CIE 1931 Chromaticity Diagram




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

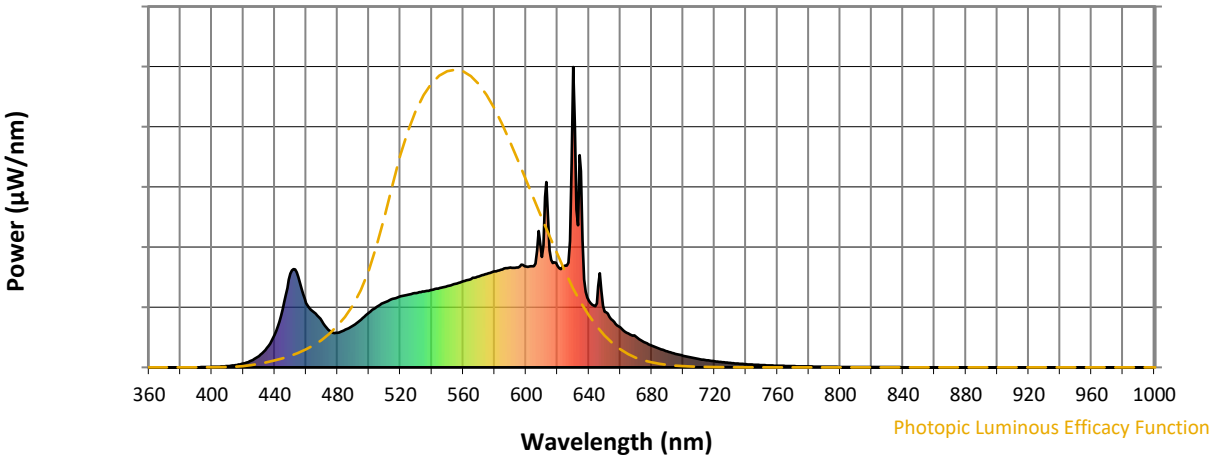



CCT = 3406K
CIE x = 0.4076
CIE y = 0.3856
Duv = -0.0028

Point lies inside the ANSI 3500K 4-step quadrangle

REPORT NUMBER: SP1-2506-472-6

## Photopic Flux vs. Wavelength

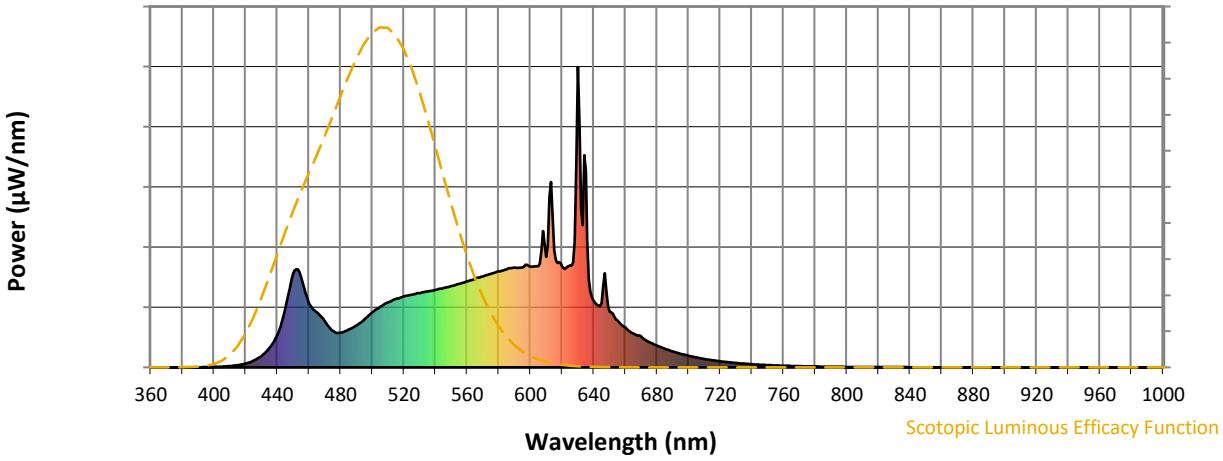



## Photopic Lumens: NR

| 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 | 140 | NR | 620 | 338 | NR | 750 | 8 | NR | 880 | 0 | NR |
| 365 | 0 | NR | 495 | 159 | NR | 625 | 339 | NR | 755 | 7 | NR | 885 | 0 | NR |
| 370 | 0 | NR | 500 | 182 | NR | 630 | 1000 | NR | 760 | 5 | NR | 890 | 0 | NR |
| 375 | 0 | NR | 505 | 202 | NR | 635 | 653 | NR | 765 | 5 | NR | 895 | 0 | NR |
| 380 | 0 | NR | 510 | 216 | NR | 640 | 222 | NR | 770 | 4 | NR | 900 | 0 | NR |
| 385 | 0 | NR | 515 | 228 | NR | 645 | 214 | NR | 775 | 3 | NR | 905 | 0 | NR |
| 390 | 0 | NR | 520 | 236 | NR | 650 | 185 | NR | 780 | 3 | NR | 910 | 0 | NR |
| 395 | 1 | NR | 525 | 242 | NR | 655 | 157 | NR | 785 | 3 | NR | 915 | 0 | NR |
| 400 | 2 | NR | 530 | 248 | NR | 660 | 133 | NR | 790 | 2 | NR | 920 | 0 | NR |
| 405 | 3 | NR | 535 | 253 | NR | 665 | 113 | NR | 795 | 2 | NR | 925 | 0 | NR |
| 410 | 4 | NR | 540 | 258 | NR | 670 | 103 | NR | 800 | 2 | NR | 930 | 0 | NR |
| 415 | 7 | NR | 545 | 264 | NR | 675 | 85 | NR | 805 | 1 | NR | 935 | 0 | NR |
| 420 | 13 | NR | 550 | 270 | NR | 680 | 72 | NR | 810 | 1 | NR | 940 | 0 | NR |
| 425 | 22 | NR | 555 | 278 | NR | 685 | 62 | NR | 815 | 1 | NR | 945 | 0 | NR |
| 430 | 38 | NR | 560 | 286 | NR | 690 | 53 | NR | 820 | 1 | NR | 950 | 0 | NR |
| 435 | 65 | NR | 565 | 295 | NR | 695 | 45 | NR | 825 | 1 | NR | 955 | 0 | NR |
| 440 | 108 | NR | 570 | 303 | NR | 700 | 39 | NR | 830 | 1 | NR | 960 | 0 | NR |
| 445 | 193 | NR | 575 | 311 | NR | 705 | 33 | NR | 835 | 1 | NR | 965 | 0 | NR |
| 450 | 312 | NR | 580 | 319 | NR | 710 | 28 | NR | 840 | 1 | NR | 970 | 0 | NR |
| 455 | 300 | NR | 585 | 326 | NR | 715 | 24 | NR | 845 | 0 | NR | 975 | 0 | NR |
| 460 | 214 | NR | 590 | 332 | NR | 720 | 20 | NR | 850 | 0 | NR | 980 | 0 | NR |
| 465 | 184 | NR | 595 | 333 | NR | 725 | 17 | NR | 855 | 0 | NR | 985 | 0 | NR |
| 470 | 153 | NR | 600 | 336 | NR | 730 | 15 | NR | 860 | 0 | NR | 990 | 0 | NR |
| 475 | 122 | NR | 605 | 337 | NR | 735 | 12 | NR | 865 | 0 | NR | 995 | 0 | NR |
| 480 | 115 | NR | 610 | 367 | NR | 740 | 10 | NR | 870 | 0 | NR | 1000 | 0 | NR |
| 485 | 125 | NR | 615 | 390 | NR | 745 | 9 | NR | 875 | 0 | NR | | | |

REPORT NUMBER: SP1-2506-472-6

## Scotopic Flux vs. Wavelength

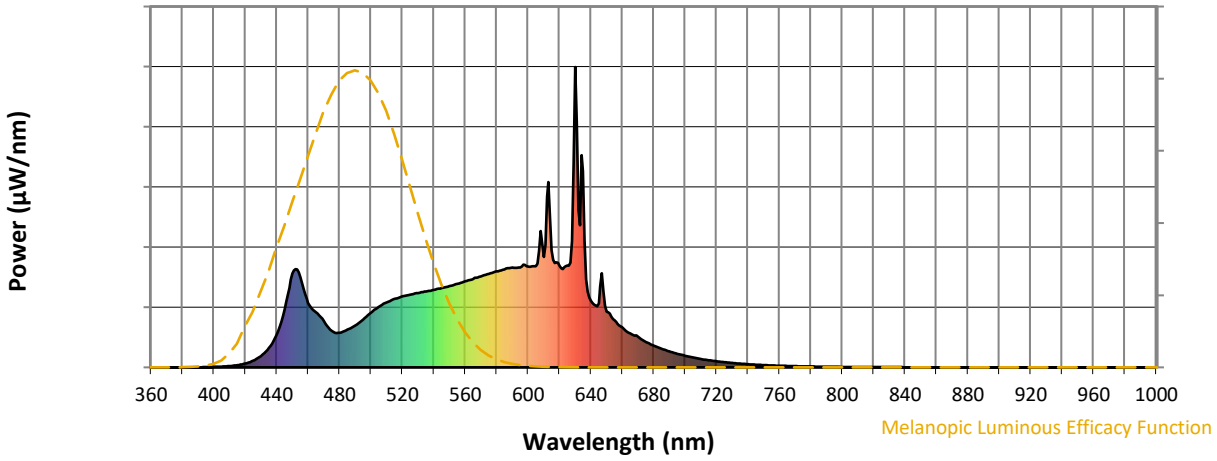



**Scotopic Lumens: NR** **S/P: 1.62**

| 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 | 140 | NR | 620 | 338 | NR | 750 | 8 | NR | 880 | 0 | NR |
| 365 | 0 | NR | 495 | 159 | NR | 625 | 339 | NR | 755 | 7 | NR | 885 | 0 | NR |
| 370 | 0 | NR | 500 | 182 | NR | 630 | 1000 | NR | 760 | 5 | NR | 890 | 0 | NR |
| 375 | 0 | NR | 505 | 202 | NR | 635 | 653 | NR | 765 | 5 | NR | 895 | 0 | NR |
| 380 | 0 | NR | 510 | 216 | NR | 640 | 222 | NR | 770 | 4 | NR | 900 | 0 | NR |
| 385 | 0 | NR | 515 | 228 | NR | 645 | 214 | NR | 775 | 3 | NR | 905 | 0 | NR |
| 390 | 0 | NR | 520 | 236 | NR | 650 | 185 | NR | 780 | 3 | NR | 910 | 0 | NR |
| 395 | 1 | NR | 525 | 242 | NR | 655 | 157 | NR | 785 | 3 | NR | 915 | 0 | NR |
| 400 | 2 | NR | 530 | 248 | NR | 660 | 133 | NR | 790 | 2 | NR | 920 | 0 | NR |
| 405 | 3 | NR | 535 | 253 | NR | 665 | 113 | NR | 795 | 2 | NR | 925 | 0 | NR |
| 410 | 4 | NR | 540 | 258 | NR | 670 | 103 | NR | 800 | 2 | NR | 930 | 0 | NR |
| 415 | 7 | NR | 545 | 264 | NR | 675 | 85 | NR | 805 | 1 | NR | 935 | 0 | NR |
| 420 | 13 | NR | 550 | 270 | NR | 680 | 72 | NR | 810 | 1 | NR | 940 | 0 | NR |
| 425 | 22 | NR | 555 | 278 | NR | 685 | 62 | NR | 815 | 1 | NR | 945 | 0 | NR |
| 430 | 38 | NR | 560 | 286 | NR | 690 | 53 | NR | 820 | 1 | NR | 950 | 0 | NR |
| 435 | 65 | NR | 565 | 295 | NR | 695 | 45 | NR | 825 | 1 | NR | 955 | 0 | NR |
| 440 | 108 | NR | 570 | 303 | NR | 700 | 39 | NR | 830 | 1 | NR | 960 | 0 | NR |
| 445 | 193 | NR | 575 | 311 | NR | 705 | 33 | NR | 835 | 1 | NR | 965 | 0 | NR |
| 450 | 312 | NR | 580 | 319 | NR | 710 | 28 | NR | 840 | 1 | NR | 970 | 0 | NR |
| 455 | 300 | NR | 585 | 326 | NR | 715 | 24 | NR | 845 | 0 | NR | 975 | 0 | NR |
| 460 | 214 | NR | 590 | 332 | NR | 720 | 20 | NR | 850 | 0 | NR | 980 | 0 | NR |
| 465 | 184 | NR | 595 | 333 | NR | 725 | 17 | NR | 855 | 0 | NR | 985 | 0 | NR |
| 470 | 153 | NR | 600 | 336 | NR | 730 | 15 | NR | 860 | 0 | NR | 990 | 0 | NR |
| 475 | 122 | NR | 605 | 337 | NR | 735 | 12 | NR | 865 | 0 | NR | 995 | 0 | NR |
| 480 | 115 | NR | 610 | 367 | NR | 740 | 10 | NR | 870 | 0 | NR | 1000 | 0 | NR |
| 485 | 125 | NR | 615 | 390 | NR | 745 | 9 | NR | 875 | 0 | NR | | | |

REPORT NUMBER: SP1-2506-472-6

## Melanopic Flux vs. Wavelength




**Melanopic Lumens: NR** **M/P: 3.3**

| 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 | 140 | NR | 620 | 338 | NR | 750 | 8 | NR | 880 | 0 | NR |
| 365 | 0 | NR | 495 | 159 | NR | 625 | 339 | NR | 755 | 7 | NR | 885 | 0 | NR |
| 370 | 0 | NR | 500 | 182 | NR | 630 | 1000 | NR | 760 | 5 | NR | 890 | 0 | NR |
| 375 | 0 | NR | 505 | 202 | NR | 635 | 653 | NR | 765 | 5 | NR | 895 | 0 | NR |
| 380 | 0 | NR | 510 | 216 | NR | 640 | 222 | NR | 770 | 4 | NR | 900 | 0 | NR |
| 385 | 0 | NR | 515 | 228 | NR | 645 | 214 | NR | 775 | 3 | NR | 905 | 0 | NR |
| 390 | 0 | NR | 520 | 236 | NR | 650 | 185 | NR | 780 | 3 | NR | 910 | 0 | NR |
| 395 | 1 | NR | 525 | 242 | NR | 655 | 157 | NR | 785 | 3 | NR | 915 | 0 | NR |
| 400 | 2 | NR | 530 | 248 | NR | 660 | 133 | NR | 790 | 2 | NR | 920 | 0 | NR |
| 405 | 3 | NR | 535 | 253 | NR | 665 | 113 | NR | 795 | 2 | NR | 925 | 0 | NR |
| 410 | 4 | NR | 540 | 258 | NR | 670 | 103 | NR | 800 | 2 | NR | 930 | 0 | NR |
| 415 | 7 | NR | 545 | 264 | NR | 675 | 85 | NR | 805 | 1 | NR | 935 | 0 | NR |
| 420 | 13 | NR | 550 | 270 | NR | 680 | 72 | NR | 810 | 1 | NR | 940 | 0 | NR |
| 425 | 22 | NR | 555 | 278 | NR | 685 | 62 | NR | 815 | 1 | NR | 945 | 0 | NR |
| 430 | 38 | NR | 560 | 286 | NR | 690 | 53 | NR | 820 | 1 | NR | 950 | 0 | NR |
| 435 | 65 | NR | 565 | 295 | NR | 695 | 45 | NR | 825 | 1 | NR | 955 | 0 | NR |
| 440 | 108 | NR | 570 | 303 | NR | 700 | 39 | NR | 830 | 1 | NR | 960 | 0 | NR |
| 445 | 193 | NR | 575 | 311 | NR | 705 | 33 | NR | 835 | 1 | NR | 965 | 0 | NR |
| 450 | 312 | NR | 580 | 319 | NR | 710 | 28 | NR | 840 | 1 | NR | 970 | 0 | NR |
| 455 | 300 | NR | 585 | 326 | NR | 715 | 24 | NR | 845 | 0 | NR | 975 | 0 | NR |
| 460 | 214 | NR | 590 | 332 | NR | 720 | 20 | NR | 850 | 0 | NR | 980 | 0 | NR |
| 465 | 184 | NR | 595 | 333 | NR | 725 | 17 | NR | 855 | 0 | NR | 985 | 0 | NR |
| 470 | 153 | NR | 600 | 336 | NR | 730 | 15 | NR | 860 | 0 | NR | 990 | 0 | NR |
| 475 | 122 | NR | 605 | 337 | NR | 735 | 12 | NR | 865 | 0 | NR | 995 | 0 | NR |
| 480 | 115 | NR | 610 | 367 | NR | 740 | 10 | NR | 870 | 0 | NR | 1000 | 0 | NR |
| 485 | 125 | NR | 615 | 390 | NR | 745 | 9 | NR | 875 | 0 | NR | | | |

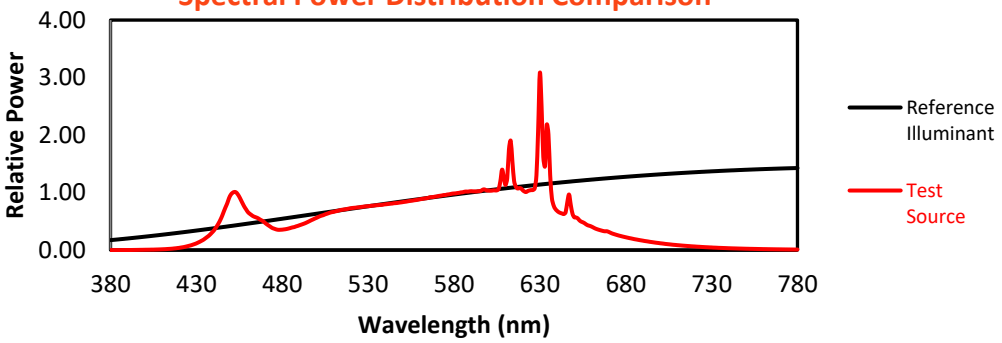
REPORT NUMBER: SP1-2506-472-6

# TM-30-18

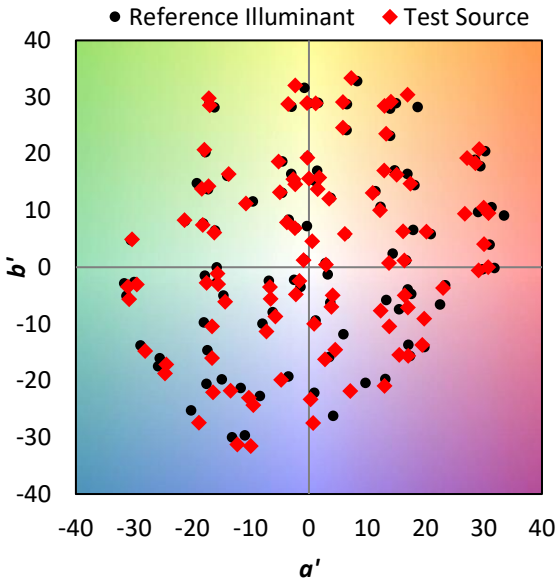
## Summary

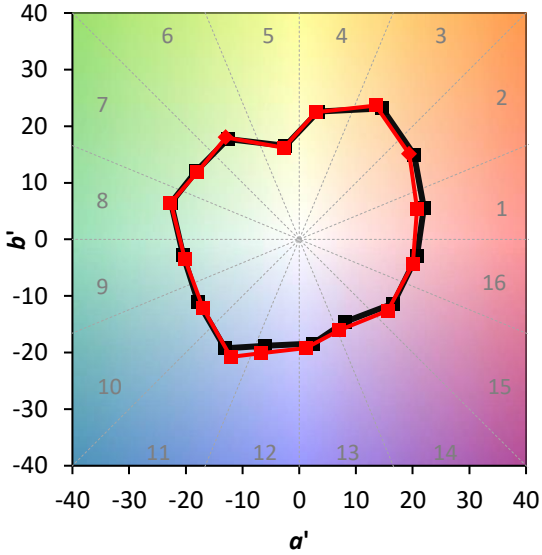
$R_f$ = 91.3
$R_g$ = 100
CIE $R_a$ = 94.6
$R_9$ = 63.8

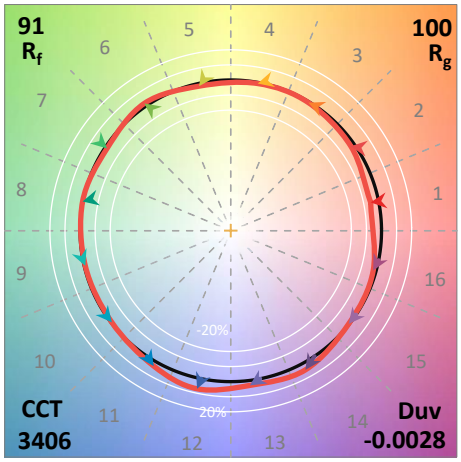
## Spectral Power Distribution Comparison

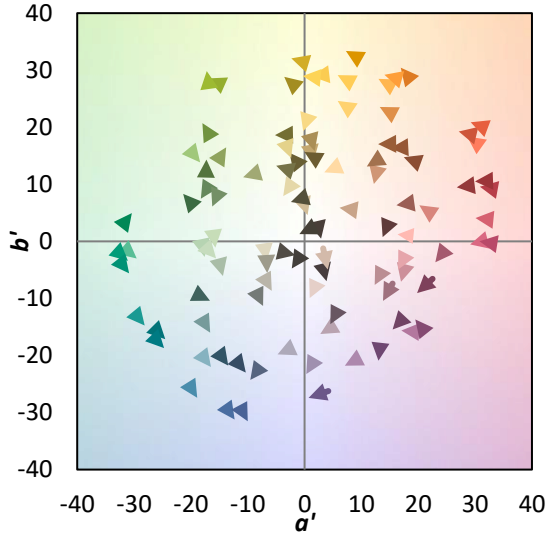



## Color Vector Graphics



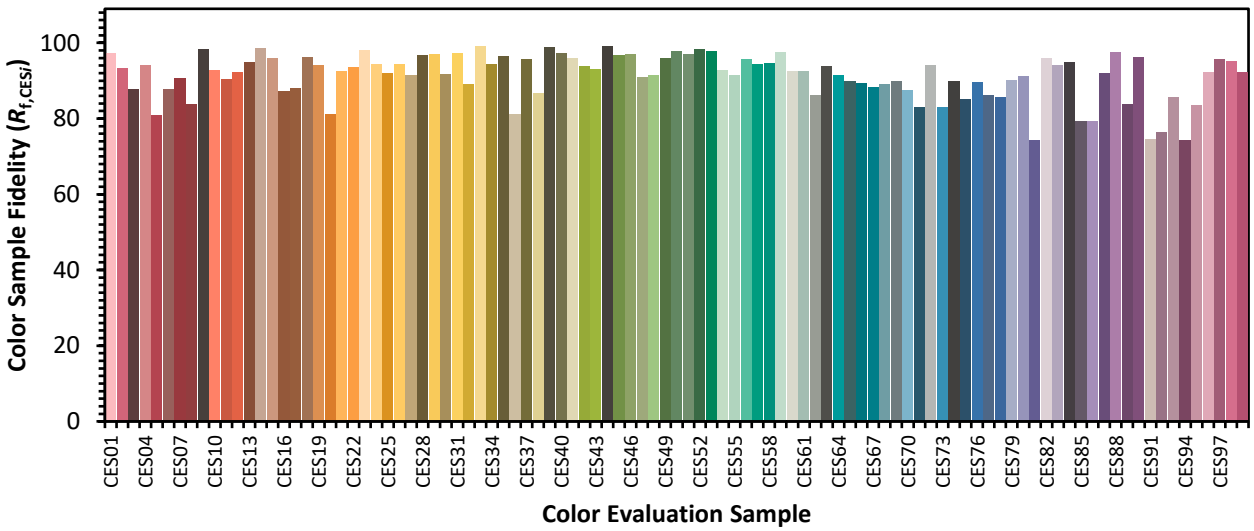



REPORT NUMBER: SP1-2506-472-6

# TM-30-18

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

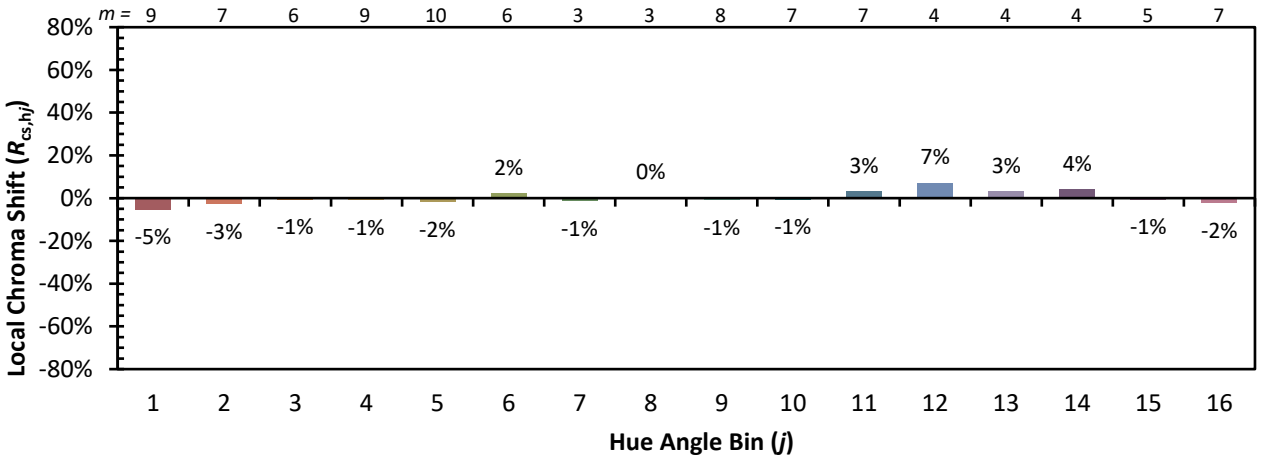
| | | | |
|---|---|---|---|
| CES01 = 86 | CES26 = 94 | CES51 = 97 | CES76 = 90 |
| CES02 = 63 | CES27 = 92 | CES52 = 98 | CES77 = 86 |
| CES03 = 31 | CES28 = 97 | CES53 = 98 | CES78 = 86 |
| CES04 = 70 | CES29 = 97 | CES54 = 93 | CES79 = 90 |
| CES05 = 50 | CES30 = 92 | CES55 = 92 | CES80 = 91 |
| CES06 = 51 | CES31 = 97 | CES56 = 96 | CES81 = 74 |
| CES07 = 43 | CES32 = 89 | CES57 = 94 | CES82 = 96 |
| CES08 = 41 | CES33 = 99 | CES58 = 95 | CES83 = 94 |
| CES09 = 29 | CES34 = 94 | CES59 = 98 | CES84 = 95 |
| CES10 = 75 | CES35 = 97 | CES60 = 92 | CES85 = 79 |
| CES11 = 58 | CES36 = 81 | CES61 = 93 | CES86 = 79 |
| CES12 = 64 | CES37 = 96 | CES62 = 86 | CES87 = 92 |
| CES13 = 44 | CES38 = 87 | CES63 = 94 | CES88 = 98 |
| CES14 = 74 | CES39 = 99 | CES64 = 91 | CES89 = 84 |
| CES15 = 72 | CES40 = 97 | CES65 = 90 | CES90 = 96 |
| CES16 = 48 | CES41 = 96 | CES66 = 89 | CES91 = 75 |
| CES17 = 49 | CES42 = 94 | CES67 = 88 | CES92 = 76 |
| CES18 = 56 | CES43 = 93 | CES68 = 89 | CES93 = 86 |
| CES19 = 71 | CES44 = 99 | CES69 = 90 | CES94 = 74 |
| CES20 = 67 | CES45 = 97 | CES70 = 88 | CES95 = 83 |
| CES21 = 86 | CES46 = 97 | CES71 = 83 | CES96 = 92 |
| CES22 = 78 | CES47 = 91 | CES72 = 94 | CES97 = 96 |
| CES23 = 91 | CES48 = 91 | CES73 = 83 | CES98 = 95 |
| CES24 = 90 | CES49 = 96 | CES74 = 90 | CES99 = 92 |
| CES25 = 71 | CES50 = 98 | CES75 = 85 | |

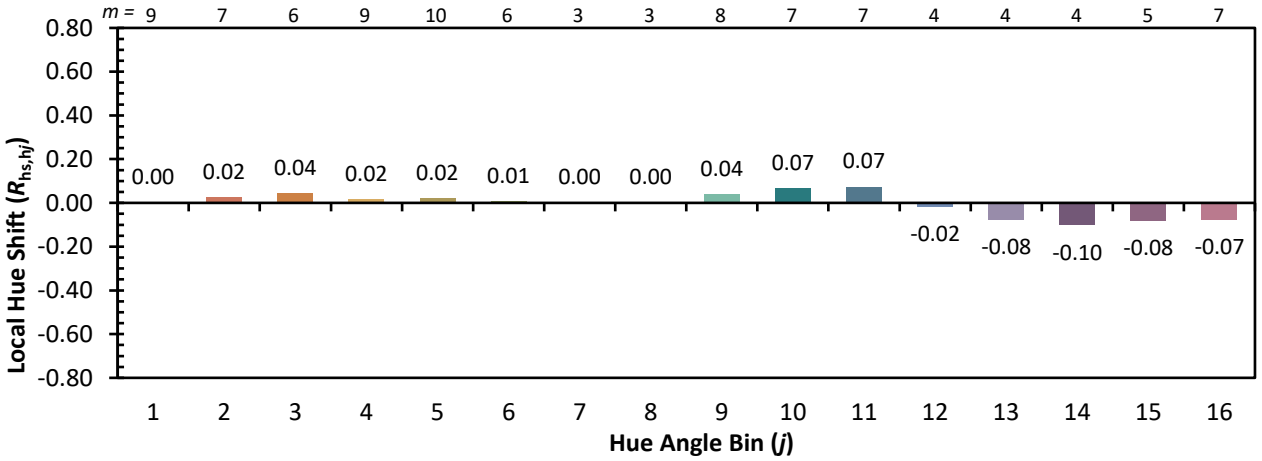


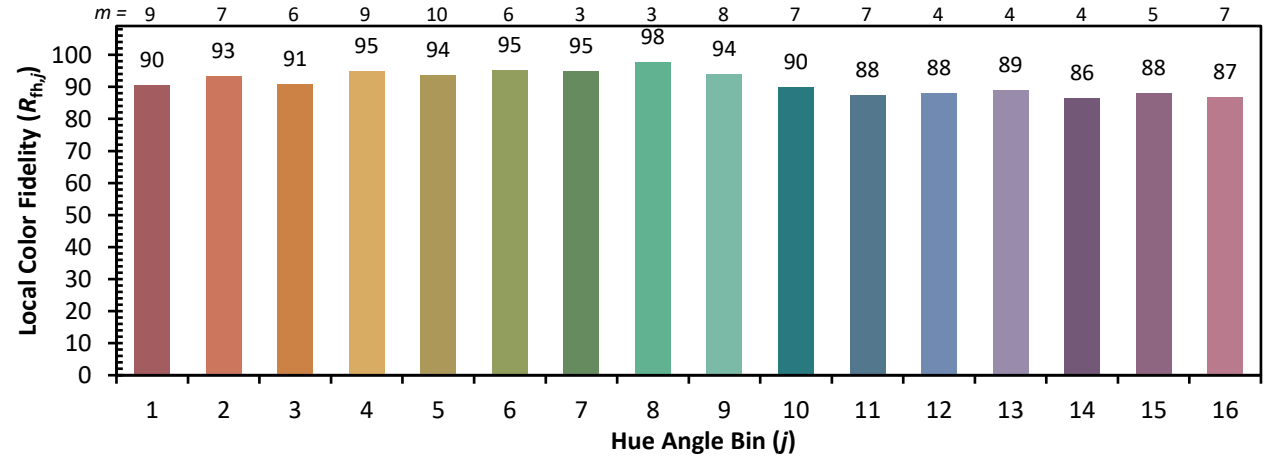
REPORT NUMBER: SP1-2506-472-6

# TM-30-18

## Color Rendition by Hue-Angle Bin



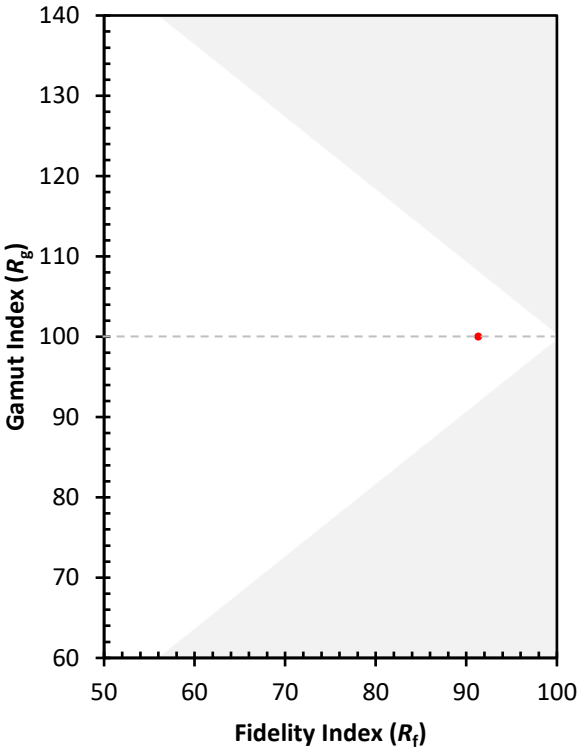



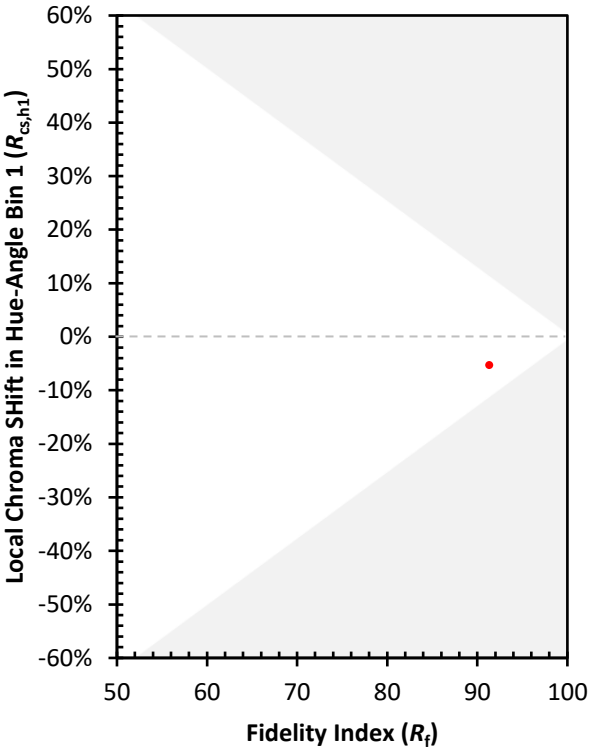



REPORT NUMBER: SP1-2506-472-6

# TM-30-18

## Measure Comparisons




(END OF REPORT)