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: P1432397

Luminaire Tested: EHBR1-36-UNV-TASM-L830-UPL18

Issue Date: 3/20/2026

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

Scaled Data Report

**Test Information**

| | |
|---|---|
| Test Method: | LM-79-2019 |
| Report Number: | P1432397 |
| | REPORT IS A COMBINATION OF REPORTS P1431774 AND P1431635 |
| Test Lab: | INNOVATION CENTER |
| Issue Date: | 3/20/2026 |
| Manufacturer: | COOPER LIGHTING SOLUTIONS |
| Product Line: | METALUX |
| Catalog Number: | EHBR1-36-UNV-TASM-L830-UPL18 |
| Description: | Elevate Round Highbay at, 36000 lumens, 3000K 80CRI LEDs with TASM lens |
| Light Source: | - |
| Ballast/Driver: | - |

**Summary**

| | |
|---|---|
| Lumens per Lamp: | N/A |
| Luminaire Lumens: | 35516.2 lumens |
| Efficiency: | N/A |
| Efficacy: | 174.7 lumens/watt |
| Spacing Criteria (0/90/45): | 0.99 / 0.84 / 0.9 |
| Luminous Opening: | Vertical Cylinder (Dia: 1.71' x H: 0.1') |
| CIE Type: | Direct |

| | |
|---|---|
| Input Watts (W): | 203.3 |
| 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 |

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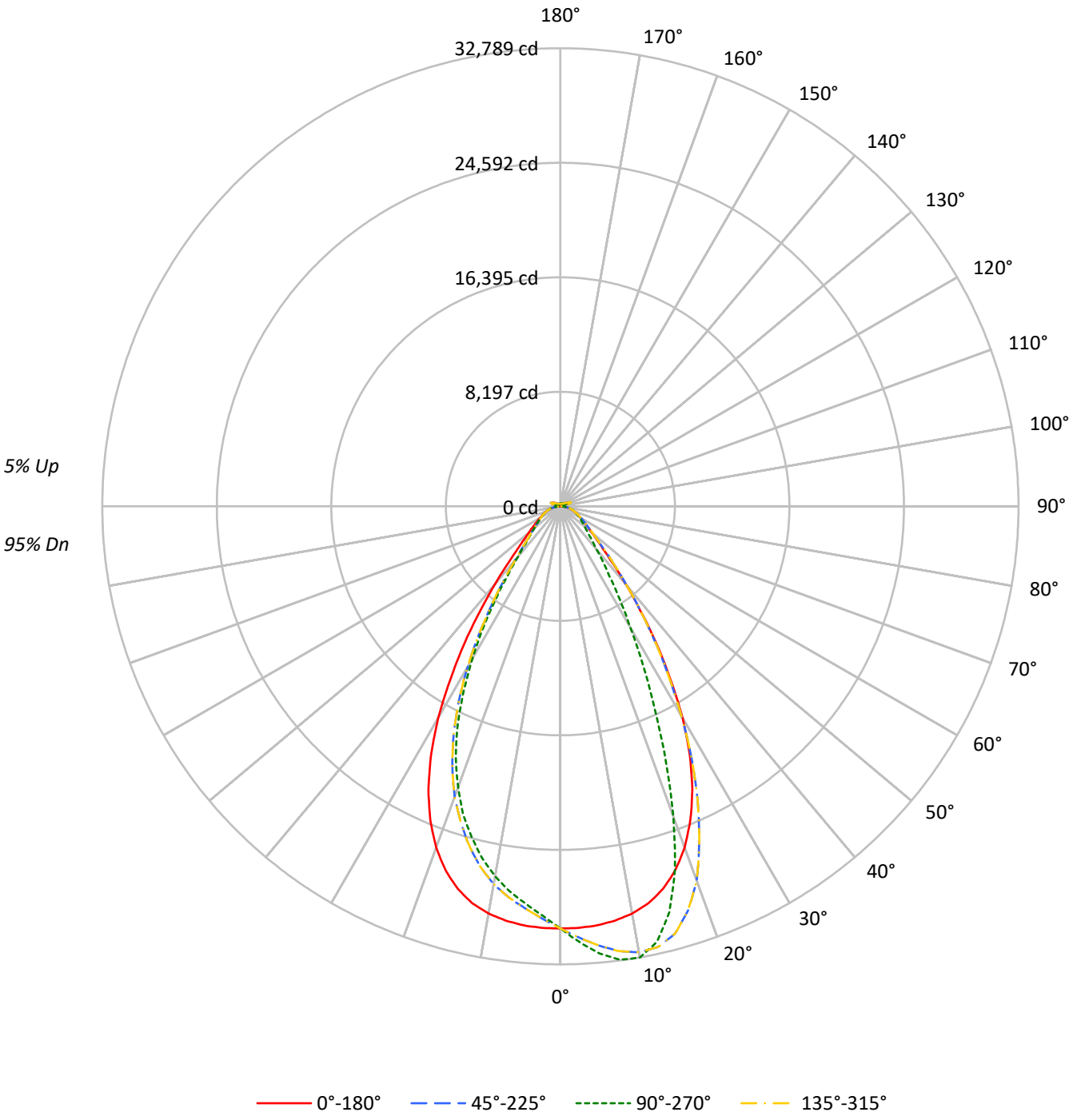
## Luminous Intensity Polar Plot



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## COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

| RF | 20 | | | | 20 | | | | 20 | | | 20 | | | 20 | | | 20 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| RC | 80 | | | | 70 | | | | 50 | | | 30 | | | 10 | | | 0 |
| RW | 70 | 50 | 30 | 10 | 70 | 50 | 30 | 10 | 50 | 30 | 10 | 50 | 30 | 10 | 50 | 30 | 10 | 0 |
| RCR | | | | | | | | | | | | | | | | | | |
| 0 | 118 | 118 | 118 | 118 | 115 | 115 | 115 | 115 | 108 | 108 | 108 | 103 | 103 | 103 | 98 | 98 | 98 | 95 |
| 1 | 111 | 107 | 104 | 101 | 108 | 105 | 102 | 99 | 100 | 97 | 95 | 95 | 93 | 92 | 91 | 89 | 88 | 86 |
| 2 | 104 | 98 | 93 | 89 | 101 | 96 | 91 | 87 | 91 | 88 | 85 | 88 | 85 | 82 | 84 | 82 | 80 | 77 |
| 3 | 97 | 90 | 84 | 79 | 95 | 88 | 82 | 78 | 84 | 80 | 76 | 81 | 77 | 74 | 78 | 75 | 72 | 70 |
| 4 | 91 | 82 | 76 | 71 | 89 | 81 | 75 | 70 | 78 | 73 | 69 | 75 | 71 | 67 | 73 | 69 | 66 | 64 |
| 5 | 86 | 76 | 69 | 64 | 84 | 75 | 69 | 64 | 72 | 67 | 63 | 70 | 65 | 62 | 68 | 64 | 61 | 59 |
| 6 | 81 | 71 | 64 | 59 | 79 | 70 | 63 | 59 | 68 | 62 | 58 | 66 | 61 | 57 | 64 | 59 | 56 | 54 |
| 7 | 77 | 66 | 59 | 54 | 75 | 65 | 59 | 54 | 63 | 57 | 53 | 62 | 56 | 53 | 60 | 55 | 52 | 50 |
| 8 | 72 | 62 | 55 | 50 | 71 | 61 | 54 | 50 | 59 | 54 | 49 | 58 | 53 | 49 | 56 | 52 | 48 | 47 |
| 9 | 69 | 58 | 51 | 47 | 67 | 57 | 51 | 47 | 56 | 50 | 46 | 54 | 49 | 46 | 53 | 49 | 45 | 44 |
| 10 | 65 | 54 | 48 | 44 | 64 | 54 | 48 | 44 | 53 | 47 | 43 | 51 | 46 | 43 | 50 | 46 | 42 | 41 |

## AVERAGE LUMINANCE (cd/sqm):

| | 0° | 90° | 180° | 270° |
|---|---|---|---|---|
| 0° | 141906 | 141906 | 141906 | 141906 |
| 5° | 141042 | 150465 | 141042 | 133722 |
| 10° | 139308 | 154328 | 139308 | 126557 |
| 15° | 135195 | 143419 | 135195 | 116904 |
| 20° | 126441 | 115003 | 126441 | 104129 |
| 25° | 111910 | 79680 | 111910 | 87264 |
| 30° | 90867 | 51838 | 90867 | 65291 |
| 35° | 65173 | 33571 | 65173 | 43466 |
| 40° | 42136 | 23139 | 42136 | 27412 |
| 45° | 26735 | 17924 | 26735 | 19531 |
| 50° | 19854 | 15231 | 19854 | 16269 |
| 55° | 16210 | 13875 | 16210 | 14361 |
| 60° | 14036 | 13216 | 14036 | 13297 |
| 65° | 12796 | 12746 | 12796 | 12692 |
| 70° | 12127 | 12490 | 12127 | 12328 |
| 75° | 11341 | 12082 | 11341 | 11720 |
| 80° | 9963 | 11407 | 9963 | 10664 |
| 85° | 6445 | 8144 | 6445 | 7766 |

## MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 22.5°
Vertical Angle: 45°
Luminance: 37588 cd/sqm

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**ZONAL LUMENS:**

| Zone | Lumens | % Fixture |
|---|---|---|
| 0°-10° | 2873.2 | 8.1 |
| 10°-20° | 7816.8 | 22.0 |
| 20°-30° | 9167.6 | 25.8 |
| 30°-40° | 6375.5 | 18.0 |
| 40°-50° | 3168.3 | 8.9 |
| 50°-60° | 1895.0 | 5.3 |
| 60°-70° | 1333.8 | 3.8 |
| 70°-80° | 859.2 | 2.4 |
| 80°-90° | 275.9 | 0.8 |
| 90°-100° | 47.0 | 0.1 |
| 100°-110° | 303.1 | 0.9 |
| 110°-120° | 559.3 | 1.6 |
| 120°-130° | 333.0 | 0.9 |
| 130°-140° | 202.3 | 0.6 |
| 140°-150° | 140.8 | 0.4 |
| 150°-160° | 92.9 | 0.3 |
| 160°-170° | 54.2 | 0.2 |
| 170°-180° | 18.2 | 0.1 |
| 0°-30° | 19857.6 | 55.9 |
| 0°-40° | 26233.1 | 73.9 |
| 0°-60° | 31296.4 | 88.1 |
| 0°-90° | 33765.3 | 95.1 |
| 90°-120° | 909.4 | 2.6 |
| 90°-150° | 1585.6 | 4.5 |
| 90°-180° | 1751.0 | 4.9 |
| 0°-180° | 35516.2 | 100.0 |

**CANDELA DISTRIBUTION:**

| | 0° | 90° | 180° | 270° | 360° | Flux |
|---|---|---|---|---|---|---|
| 0° | 30218 | 30218 | 30218 | 30218 | 30218 | |
| 5° | 30115 | 32127 | 30115 | 28552 | 30115 | 2858 |
| 15° | 28363 | 30088 | 28363 | 24526 | 28363 | 7926 |
| 25° | 22348 | 15912 | 22348 | 17427 | 22348 | 10118 |
| 35° | 11962 | 6162 | 11962 | 7978 | 11962 | 7467 |
| 45° | 4326 | 2900 | 4326 | 3160 | 4326 | 3540 |
| 55° | 2191 | 1875 | 2191 | 1941 | 2191 | 2003 |
| 65° | 1336 | 1330 | 1336 | 1325 | 1336 | 1341 |
| 75° | 799 | 851 | 799 | 826 | 799 | 839 |
| 85° | 222 | 280 | 222 | 267 | 222 | 246 |
| 90° | 13 | 17 | 13 | 13 | 13 | 17 |
| 95° | 25 | 26 | 25 | 22 | 25 | 27 |
| 105° | 139 | 73 | 139 | 106 | 139 | 188 |
| 115° | 595 | 510 | 595 | 483 | 595 | 542 |
| 125° | 381 | 401 | 381 | 349 | 381 | 351 |
| 135° | 243 | 281 | 243 | 256 | 243 | 192 |
| 145° | 221 | 231 | 221 | 215 | 221 | 138 |
| 155° | 198 | 207 | 198 | 193 | 198 | 93 |
| 165° | 190 | 197 | 190 | 187 | 190 | 54 |
| 175° | 192 | 197 | 192 | 188 | 192 | 18 |
| 180° | 192 | 192 | 192 | 192 | 192 | |

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TEST NUMBER: P1432397
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**CANDELA DISTRIBUTION (FULL):**

| | 0° | 22.5° | 45° | 67.5° | 90° | 112.5° | 135° | 157.5° | 180° | 202.5° | 225° |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0° | 30217.8 | 30217.8 | 30217.8 | 30217.8 | *30217.8* | 30217.8 | 30217.8 | 30217.8 | 30217.8 | 30217.8 | 30217.8 |
| 2.5° | 30200.2 | 30590.6 | 30906.7 | 31115.3 | *31218.4* | 31115.3 | 30906.7 | 30590.6 | 30200.2 | 29812.0 | 29545.1 |
| 5° | 30114.6 | 30896.6 | 31558.9 | 31992.5 | *32126.7* | 31992.5 | 31558.9 | 30896.6 | 30114.6 | 29375.8 | 28885.6 |
| 7.5° | 29910.1 | 31128.3 | 32112.5 | 32618.5 | *32742.1* | 32618.5 | 32112.5 | 31128.3 | 29910.1 | 28864.0 | 28244.8 |
| 10° | *29597.8* | *31274.5* | *32411.7* | *32774.3* | *32789.1* | *32774.3* | *32411.7* | *31274.5* | *29597.8* | *28188.7* | *27458.2* |
| 12.5° | 29099.8 | 31222.4 | 32311.4 | 32192.4 | *31922.1* | 32192.4 | 32311.4 | 31222.4 | 29099.8 | 27363.6 | 26442.3 |
| 15° | 28363.2 | 30913.6 | 31676.2 | 30707.9 | *30088.5* | 30707.9 | 31676.2 | 30913.6 | 28363.2 | 26249.7 | 25181.0 |
| 17.5° | 27325.1 | 30335.6 | 30350.3 | 28434.6 | *27266.2* | 28434.6 | 30350.3 | 30335.6 | 27325.1 | 24887.4 | 23710.5 |
| 20° | 25987.3 | 29408.6 | 28524.7 | 25020.6 | *23636.4* | 25020.6 | 28524.7 | 29408.6 | 25987.3 | 23277.1 | 22122.4 |
| 22.5° | 24310.0 | 28158.6 | 25982.2 | 21586.3 | *19697.7* | 21586.3 | 25982.2 | 28158.6 | 24310.0 | 21404.4 | 20202.6 |
| 25° | 22348.4 | 26627.0 | 23247.1 | 17844.3 | *15912.1* | 17844.3 | 23247.1 | 26627.0 | 22348.4 | 19173.0 | 18086.3 |
| 27.5° | 20041.1 | 24685.7 | 20334.6 | 14581.7 | *12799.0* | 14581.7 | 20334.6 | 24685.7 | 20041.1 | 16869.1 | 15759.1 |
| 30° | 17478.2 | 22197.1 | 17303.7 | 11612.5 | *9971.0* | 11612.5 | 17303.7 | 22197.1 | 17478.2 | 14280.8 | 13286.8 |
| 32.5° | 14608.8 | 19757.8 | 14392.9 | 9304.6 | *7914.1* | 9304.6 | 14392.9 | 19757.8 | 14608.8 | 11810.8 | 10772.2 |
| 35° | 11961.5 | 16705.9 | 11768.3 | 7311.2 | *6161.5* | 7311.2 | 11768.3 | 16705.9 | 11961.5 | 9479.1 | 8459.2 |
| 37.5° | 9387.3 | 13822.4 | 9381.1 | 5887.3 | *4997.6* | 5887.3 | 9381.1 | 13822.4 | 9387.3 | 7369.6 | 6541.7 |
| 40° | 7303.2 | 10807.8 | 7350.3 | 4699.7 | *4010.6* | 4699.7 | 7350.3 | 10807.8 | 7303.2 | 5607.3 | 5077.5 |
| 42.5° | 5533.7 | 8264.3 | 5777.3 | 3857.1 | *3406.5* | 3857.1 | 5777.3 | 8264.3 | 5533.7 | 4418.0 | 4021.4 |
| 45° | 4325.6 | 6081.6 | 4511.5 | 3254.1 | *2900.1* | 3254.1 | 4511.5 | 6081.6 | 4325.6 | 3557.9 | 3291.5 |
| 47.5° | 3522.8 | 4700.2 | 3656.4 | 2791.2 | *2543.1* | 2791.2 | 3656.4 | 4700.2 | 3522.8 | 3009.4 | 2809.9 |
| 50° | 2959.0 | 3606.6 | 3036.0 | 2436.5 | *2269.9* | 2436.5 | 3036.0 | 3606.6 | 2959.0 | 2577.0 | 2443.9 |
| 52.5° | 2541.9 | 2941.4 | 2585.5 | 2171.3 | *2059.2* | 2171.3 | 2585.5 | 2941.4 | 2541.9 | 2254.7 | 2171.9 |
| 55° | 2190.6 | 2472.7 | 2248.4 | 1952.6 | *1875.0* | 1952.6 | 2248.4 | 2472.7 | 2190.6 | 2006.4 | 1945.3 |
| 57.5° | 1923.7 | 2097.7 | 1952.6 | 1766.2 | *1714.6* | 1766.2 | 1952.6 | 2097.7 | 1923.7 | 1785.5 | 1752.6 |
| 60° | 1687.4 | 1816.7 | 1723.1 | 1603.6 | *1588.8* | 1603.6 | 1723.1 | 1816.7 | 1687.4 | 1606.4 | 1584.8 |
| 62.5° | 1505.6 | 1587.2 | 1523.7 | 1457.3 | *1444.3* | 1457.3 | 1523.7 | 1587.2 | 1505.6 | 1443.2 | 1447.2 |
| 65° | 1335.6 | 1411.4 | 1361.6 | 1325.9 | *1330.4* | 1325.9 | 1361.6 | 1411.4 | 1335.6 | 1306.6 | 1312.9 |
| 67.5° | 1204.0 | 1243.8 | 1222.2 | 1201.8 | *1206.9* | 1201.8 | 1222.2 | 1243.8 | 1204.0 | 1175.8 | 1185.4 |
| 70° | 1064.1 | 1106.6 | 1084.5 | 1087.3 | *1095.9* | 1087.3 | 1084.5 | 1106.6 | 1064.1 | 1055.7 | 1063.0 |
| 72.5° | 930.4 | 963.3 | 955.9 | 962.7 | *971.7* | 962.7 | 955.9 | 963.3 | 930.4 | 929.3 | 929.9 |
| 75° | 798.9 | 823.8 | 827.3 | 836.9 | *851.1* | 836.9 | 827.3 | 823.8 | 798.9 | 790.5 | 800.6 |
| 77.5° | 655.6 | 683.9 | 694.7 | 707.7 | *728.7* | 707.7 | 694.7 | 683.9 | 655.6 | 661.2 | 666.4 |
| 80° | 524.1 | 537.2 | 561.0 | 570.5 | *600.1* | 570.5 | 561.0 | 537.2 | 524.1 | 514.5 | 521.8 |
| 82.5° | 383.6 | 395.5 | 415.9 | 434.1 | *451.0* | 434.1 | 415.9 | 395.5 | 383.6 | 379.1 | 379.6 |
| 85° | 221.5 | 239.7 | 253.3 | 274.8 | *279.9* | 274.8 | 253.3 | 239.7 | 221.5 | 226.7 | 221.5 |
| 87.5° | 77.7 | 83.3 | 95.2 | 103.7 | *104.3* | 103.7 | 95.2 | 83.3 | 77.7 | 79.3 | 71.9 |
| 90° | 13.0 | 22.2 | 38.1 | 22.6 | *17.0* | 22.6 | 38.1 | 22.2 | 13.0 | 22.7 | 35.1 |
| 92.5° | 16.9 | 29.9 | 53.5 | 29.3 | *21.7* | 29.3 | 53.5 | 29.9 | 16.9 | 29.3 | 56.2 |
| 95° | 25.1 | 36.6 | 67.9 | 32.1 | *25.6* | 32.1 | 67.9 | 36.6 | 25.1 | 39.0 | 78.3 |
| 97.5° | 38.6 | 45.2 | 76.5 | 34.1 | *30.4* | 34.1 | 76.5 | 45.2 | 38.6 | 47.6 | 89.8 |
| 100° | 51.1 | 51.1 | 139.0 | 38.9 | *34.3* | 38.9 | 139.0 | 51.1 | 51.1 | 58.7 | 139.8 |
| 102.5° | 77.0 | 99.6 | 321.0 | 76.0 | *40.9* | 76.0 | 321.0 | 99.6 | 77.0 | 109.6 | 296.3 |
| 105° | 139.4 | 226.3 | 563.9 | 192.1 | *73.3* | 192.1 | 563.9 | 226.3 | 139.4 | 228.7 | 527.6 |
| 107.5° | 263.2 | 421.2 | 726.1 | 376.5 | *166.4* | 376.5 | 726.1 | 421.2 | 263.2 | 404.4 | 696.2 |
| 110° | 420.7 | 588.3 | 792.4 | 514.7 | *333.4* | 514.7 | 792.4 | 588.3 | 420.7 | 555.1 | 729.8 |

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TEST NUMBER: P1432397
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**CANDELA DISTRIBUTION (continued):**

| | 0° | 22.5° | 45° | 67.5° | 90° | 112.5° | 135° | 157.5° | 180° | 202.5° | 225° |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 112.5° | 547.4 | 655.5 | 774.1 | 570.4 | *460.1* | 570.4 | 774.1 | 655.5 | 547.4 | 612.7 | 699.1 |
| 115° | 595.0 | 645.9 | 691.6 | 568.5 | *510.0* | 568.5 | 691.6 | 645.9 | 595.0 | 598.3 | 624.2 |
| 117.5° | 574.9 | 591.2 | 597.5 | 533.9 | *512.9* | 533.9 | 597.5 | 591.2 | 574.9 | 538.3 | 530.1 |
| 120° | 519.1 | 512.5 | 503.9 | 483.0 | *484.1* | 483.0 | 503.9 | 512.5 | 519.1 | 470.2 | 442.8 |
| 122.5° | 449.6 | 435.2 | 426.2 | 431.7 | *444.7* | 431.7 | 426.2 | 435.2 | 449.6 | 400.6 | 379.9 |
| 125° | 381.4 | 367.1 | 372.1 | 387.5 | *401.2* | 387.5 | 372.1 | 367.1 | 381.4 | 340.8 | 335.3 |
| 127.5° | 324.4 | 317.7 | 332.6 | 350.1 | *361.8* | 350.1 | 332.6 | 317.7 | 324.4 | 298.5 | 303.7 |
| 130° | 283.7 | 285.0 | 304.8 | 320.0 | *327.2* | 320.0 | 304.8 | 285.0 | 283.7 | 271.3 | 284.1 |
| 132.5° | 258.3 | 265.5 | 284.3 | 297.5 | *302.0* | 297.5 | 284.3 | 265.5 | 258.3 | 255.1 | 270.8 |
| 135° | 242.6 | 253.0 | 270.4 | 278.7 | *280.8* | 278.7 | 270.4 | 253.0 | 242.6 | 244.1 | 258.3 |
| 137.5° | 233.5 | 243.9 | 257.0 | 263.9 | *262.7* | 263.9 | 257.0 | 243.9 | 233.5 | 237.0 | 247.9 |
| 140° | 228.4 | 238.8 | 244.5 | 252.3 | *251.7* | 252.3 | 244.5 | 238.8 | 228.4 | 230.2 | 239.0 |
| 142.5° | 223.2 | 232.6 | 235.5 | 241.5 | *240.2* | 241.5 | 235.5 | 232.6 | 223.2 | 225.2 | 230.9 |
| 145° | 221.0 | 228.1 | 225.5 | 232.9 | *231.1* | 232.9 | 225.5 | 228.1 | 221.0 | 221.3 | 224.8 |
| 147.5° | 216.1 | 221.3 | 218.4 | 224.8 | *223.0* | 224.8 | 218.4 | 221.3 | 216.1 | 216.1 | 217.7 |
| 150° | 210.9 | 214.8 | 210.4 | 217.7 | *217.8* | 217.7 | 210.4 | 214.8 | 210.9 | 210.0 | 211.5 |
| 152.5° | 203.8 | 207.7 | 203.8 | 212.1 | *211.7* | 212.1 | 203.8 | 207.7 | 203.8 | 202.9 | 204.4 |
| 155° | 198.2 | 200.2 | 198.2 | 206.5 | *207.0* | 206.5 | 198.2 | 200.2 | 198.2 | 197.6 | 198.8 |
| 157.5° | 194.6 | 196.1 | 195.1 | 202.4 | *203.0* | 202.4 | 195.1 | 196.1 | 194.6 | 194.6 | 195.1 |
| 160° | 192.0 | 193.9 | 193.5 | 199.8 | *200.4* | 199.8 | 193.5 | 193.9 | 192.0 | 192.4 | 193.0 |
| 162.5° | 191.2 | 191.2 | 191.4 | 197.6 | *198.8* | 197.6 | 191.4 | 191.2 | 191.2 | 191.2 | 192.1 |
| 165° | 190.0 | 191.0 | 190.2 | 195.2 | *197.3* | 195.2 | 190.2 | 191.0 | 190.0 | 190.4 | 190.4 |
| 167.5° | 190.2 | 189.2 | 190.4 | 195.0 | *197.1* | 195.0 | 190.4 | 189.2 | 190.2 | 190.5 | 190.5 |
| 170° | 188.8 | 189.5 | 189.6 | 194.2 | *196.2* | 194.2 | 189.6 | 189.5 | 188.8 | 189.8 | 190.2 |
| 172.5° | 190.6 | 190.6 | 190.3 | 194.0 | *197.0* | 194.0 | 190.3 | 190.6 | 190.6 | 191.0 | 191.9 |
| 175° | 191.7 | 191.3 | 191.5 | 194.1 | *197.2* | 194.1 | 191.5 | 191.3 | 191.7 | 191.2 | 191.2 |
| 177.5° | 190.7 | 191.8 | 193.0 | 195.7 | *199.6* | 195.7 | 193.0 | 191.8 | 190.7 | 191.2 | 191.2 |
| 180° | 191.8 | 191.8 | 191.8 | 191.8 | *191.8* | 191.8 | 191.8 | 191.8 | 191.8 | 191.8 | 191.8 |

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Scaled Data Report

TEST NUMBER: P1432397
CATALOG NUMBER: EHBR1-36-UNV-TASM-L830-UPL18

**CANDELA DISTRIBUTION (continued):**

| | 247.5° | 270° | 292.5° | 315° | 337.5° | 360° |
|---|---|---|---|---|---|---|
| 0° | 30217.8 | 30217.8 | 30217.8 | 30217.8 | 30217.8 | 30217.8 |
| 2.5° | 29340.1 | 29320.8 | 29340.1 | 29545.1 | 29812.0 | 30200.2 |
| 5° | 28658.3 | 28551.8 | 28658.3 | 28885.6 | 29375.8 | 30114.6 |
| 7.5° | 27864.6 | 27802.7 | 27864.6 | 28244.8 | 28864.0 | 29910.1 |
| 10° | *27028.7* | *26888.8* | *27028.7* | *27458.2* | *28188.7* | *29597.8* |
| 12.5° | 25998.6 | 25813.4 | 25998.6 | 26442.3 | 27363.6 | 29099.8 |
| 15° | 24688.6 | 24525.9 | 24688.6 | 25181.0 | 26249.7 | 28363.2 |
| 17.5° | 23282.7 | 23135.4 | 23282.7 | 23710.5 | 24887.4 | 27325.1 |
| 20° | 21517.1 | 21401.6 | 21517.1 | 22122.4 | 23277.1 | 25987.3 |
| 22.5° | 19664.8 | 19556.6 | 19664.8 | 20202.6 | 21404.4 | 24310.0 |
| 25° | 17485.5 | 17426.6 | 17485.5 | 18086.3 | 19173.0 | 22348.4 |
| 27.5° | 15130.7 | 15030.4 | 15130.7 | 15759.1 | 16869.1 | 20041.1 |
| 30° | 12724.8 | 12558.7 | 12724.8 | 13286.8 | 14280.8 | 17478.2 |
| 32.5° | 10371.5 | 10252.0 | 10371.5 | 10772.2 | 11810.8 | 14608.8 |
| 35° | 8097.1 | 7977.6 | 8097.1 | 8459.2 | 9479.1 | 11961.5 |
| 37.5° | 6309.4 | 6098.1 | 6309.4 | 6541.7 | 7369.6 | 9387.3 |
| 40° | 4785.2 | 4751.2 | 4785.2 | 5077.5 | 5607.3 | 7303.2 |
| 42.5° | 3895.6 | 3803.2 | 3895.6 | 4021.4 | 4418.0 | 5533.7 |
| 45° | 3196.3 | 3160.1 | 3196.3 | 3291.5 | 3557.9 | 4325.6 |
| 47.5° | 2748.7 | 2764.6 | 2748.7 | 2809.9 | 3009.4 | 3522.8 |
| 50° | 2414.9 | 2424.6 | 2414.9 | 2443.9 | 2577.0 | 2959.0 |
| 52.5° | 2169.0 | 2160.5 | 2169.0 | 2171.9 | 2254.7 | 2541.9 |
| 55° | 1951.4 | 1940.7 | 1951.4 | 1945.3 | 2006.4 | 2190.6 |
| 57.5° | 1761.1 | 1769.0 | 1761.1 | 1752.6 | 1785.5 | 1923.7 |
| 60° | 1591.1 | 1598.5 | 1591.1 | 1584.8 | 1606.4 | 1687.4 |
| 62.5° | 1447.8 | 1452.3 | 1447.8 | 1447.2 | 1443.2 | 1505.6 |
| 65° | 1319.6 | 1324.8 | 1319.6 | 1312.9 | 1306.6 | 1335.6 |
| 67.5° | 1197.3 | 1197.3 | 1197.3 | 1185.4 | 1175.8 | 1204.0 |
| 70° | 1082.3 | 1081.7 | 1082.3 | 1063.0 | 1055.7 | 1064.1 |
| 72.5° | 944.0 | 957.6 | 944.0 | 929.9 | 929.3 | 930.4 |
| 75° | 809.7 | 825.6 | 809.7 | 800.6 | 790.5 | 798.9 |
| 77.5° | 673.7 | 698.1 | 673.7 | 666.4 | 661.2 | 655.6 |
| 80° | 534.3 | 561.0 | 534.3 | 521.8 | 514.5 | 524.1 |
| 82.5° | 394.9 | 414.8 | 394.9 | 379.6 | 379.1 | 383.6 |
| 85° | 235.1 | 266.9 | 235.1 | 221.5 | 226.7 | 221.5 |
| 87.5° | 75.4 | 96.3 | 75.4 | 71.9 | 79.3 | 77.7 |
| 90° | 20.7 | 13.0 | 20.7 | 35.1 | 22.7 | 13.0 |
| 92.5° | 31.3 | 18.8 | 31.3 | 56.2 | 29.3 | 16.9 |
| 95° | 36.1 | 21.6 | 36.1 | 78.3 | 39.0 | 25.1 |
| 97.5° | 39.9 | 28.0 | 39.9 | 89.8 | 47.6 | 38.6 |
| 100° | 46.6 | 36.6 | 46.6 | 139.8 | 58.7 | 51.1 |
| 102.5° | 98.4 | 61.6 | 98.4 | 296.3 | 109.6 | 77.0 |
| 105° | 207.0 | 105.8 | 207.0 | 527.6 | 228.7 | 139.4 |
| 107.5° | 370.2 | 182.6 | 370.2 | 696.2 | 404.4 | 263.2 |
| 110° | 491.1 | 340.0 | 491.1 | 729.8 | 555.1 | 420.7 |

TEST NUMBER: P1432397
CATALOG NUMBER: EHBR1-36-UNV-TASM-L830-UPL18

**CANDELA DISTRIBUTION (continued):**

| | 247.5° | 270° | 292.5° | 315° | 337.5° | 360° |
|---|---|---|---|---|---|---|
| 112.5° | 527.6 | 459.1 | 527.6 | 699.1 | 612.7 | 547.4 |
| 115° | 507.5 | 483.1 | 507.5 | 624.2 | 598.3 | 595.0 |
| 117.5° | 463.3 | 466.8 | 463.3 | 530.1 | 538.3 | 574.9 |
| 120° | 412.4 | 432.2 | 412.4 | 442.8 | 470.2 | 519.1 |
| 122.5° | 366.0 | 389.0 | 366.0 | 379.9 | 400.6 | 449.6 |
| 125° | 325.6 | 349.2 | 325.6 | 335.3 | 340.8 | 381.4 |
| 127.5° | 297.8 | 313.7 | 297.8 | 303.7 | 298.5 | 324.4 |
| 130° | 276.2 | 289.7 | 276.2 | 284.1 | 271.3 | 283.7 |
| 132.5° | 261.4 | 270.1 | 261.4 | 270.8 | 255.1 | 258.3 |
| 135° | 248.6 | 255.7 | 248.6 | 258.3 | 244.1 | 242.6 |
| 137.5° | 237.6 | 243.8 | 237.6 | 247.9 | 237.0 | 233.5 |
| 140° | 228.2 | 233.4 | 228.2 | 239.0 | 230.2 | 228.4 |
| 142.5° | 218.2 | 222.0 | 218.2 | 230.9 | 225.2 | 223.2 |
| 145° | 211.7 | 214.6 | 211.7 | 224.8 | 221.3 | 221.0 |
| 147.5° | 206.2 | 208.0 | 206.2 | 217.7 | 216.1 | 216.1 |
| 150° | 200.5 | 202.4 | 200.5 | 211.5 | 210.0 | 210.9 |
| 152.5° | 194.4 | 196.9 | 194.4 | 204.4 | 202.9 | 203.8 |
| 155° | 190.7 | 193.1 | 190.7 | 198.8 | 197.6 | 198.2 |
| 157.5° | 188.9 | 191.0 | 188.9 | 195.1 | 194.6 | 194.6 |
| 160° | 187.7 | 189.3 | 187.7 | 193.0 | 192.4 | 192.0 |
| 162.5° | 186.0 | 187.5 | 186.0 | 192.1 | 191.2 | 191.2 |
| 165° | 186.1 | 186.7 | 186.1 | 190.4 | 190.4 | 190.0 |
| 167.5° | 185.7 | 186.7 | 185.7 | 190.5 | 190.5 | 190.2 |
| 170° | 186.3 | 186.9 | 186.3 | 190.2 | 189.8 | 188.8 |
| 172.5° | 187.5 | 188.1 | 187.5 | 191.9 | 191.0 | 190.6 |
| 175° | 187.7 | 188.3 | 187.7 | 191.2 | 191.2 | 191.7 |
| 177.5° | 189.2 | 189.8 | 189.2 | 191.2 | 191.2 | 190.7 |
| 180° | 191.8 | 191.8 | 191.8 | 191.8 | 191.8 | 191.8 |

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

Scaled Data Report

TEST NUMBER: P1432397
CATALOG NUMBER: EHBR1-36-UNV-TASM-L830-UPL18

**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 | 17.99 | 19.12 | 18.45 | 19.54 | 19.98 | 17.31 | 18.44 | 17.77 | 18.86 | 19.30 |
| | 3H | 19.54 | 20.55 | 20.01 | 20.98 | 21.47 | 19.16 | 20.17 | 19.63 | 20.60 | 21.09 |
| | 4H | 20.18 | 21.12 | 20.67 | 21.57 | 22.08 | 19.94 | 20.88 | 20.44 | 21.33 | 21.84 |
| | 6H | 20.66 | 21.52 | 21.16 | 21.99 | 22.51 | 20.59 | 21.45 | 21.09 | 21.92 | 22.44 |
| | 8H | 20.81 | 21.63 | 21.33 | 22.12 | 22.64 | 20.81 | 21.63 | 21.33 | 22.11 | 22.64 |
| | 12H | 20.89 | 21.66 | 21.41 | 22.15 | 22.70 | 20.94 | 21.72 | 21.46 | 22.20 | 22.75 |
| 4H | 2H | 18.41 | 19.35 | 18.90 | 19.80 | 20.31 | 17.89 | 18.83 | 18.38 | 19.28 | 19.79 |
| | 3H | 20.21 | 20.98 | 20.71 | 21.49 | 22.01 | 19.95 | 20.72 | 20.45 | 21.22 | 21.75 |
| | 4H | 20.98 | 21.68 | 21.51 | 22.19 | 22.75 | 20.86 | 21.55 | 21.38 | 22.06 | 22.63 |
| | 6H | 21.60 | 22.20 | 22.15 | 22.74 | 23.32 | 21.63 | 22.23 | 22.18 | 22.77 | 23.35 |
| | 8H | 21.79 | 22.36 | 22.35 | 22.89 | 23.48 | 21.90 | 22.46 | 22.45 | 23.00 | 23.58 |
| | 12H | 21.90 | 22.40 | 22.47 | 22.97 | 23.56 | 22.07 | 22.56 | 22.64 | 23.13 | 23.72 |
| 8H | 4H | 21.23 | 21.79 | 21.79 | 22.33 | 22.92 | 21.14 | 21.70 | 21.69 | 22.23 | 22.82 |
| | 6H | 21.98 | 22.43 | 22.56 | 23.02 | 23.61 | 22.04 | 22.49 | 22.63 | 23.08 | 23.68 |
| | 8H | 22.25 | 22.65 | 22.85 | 23.25 | 23.86 | 22.39 | 22.80 | 23.00 | 23.40 | 24.01 |
| | 12H | 22.42 | 22.77 | 23.02 | 23.35 | 24.04 | 22.64 | 23.00 | 23.24 | 23.58 | 24.26 |
| 12H | 4H | 21.24 | 21.74 | 21.81 | 22.31 | 22.90 | 21.15 | 21.64 | 21.72 | 22.21 | 22.80 |
| | 6H | 22.02 | 22.42 | 22.62 | 23.02 | 23.63 | 22.08 | 22.49 | 22.69 | 23.09 | 23.70 |
| | 8H | 22.34 | 22.69 | 22.94 | 23.27 | 23.96 | 22.49 | 22.85 | 23.09 | 23.43 | 24.11 |

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

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

Report Prepared for

Cooper Lighting Solutions

Metalux

Report Number: SP1-2506-472-2

Test Date: 07/31/2025

Luminaire Tested: EHBR-60-L830-N

Data in this report applies to families of products including EHBR-60-L830-N

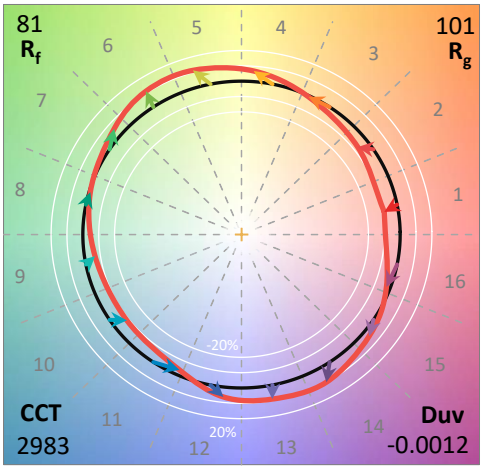
Report Generated By FNC07603 / LDUCLS01DT446
Version: v7.04

## Test Information

| | |
|---|---|
| Test Method: | LM-79-2019 |
| Report Number: | SP1-2506-472-2 |
| 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-L830-N** |
| Description: | Elevate Round Highbay at, 60000 lumens, 3000K 80CRI LEDs with N lens |

## Spectral Parameters

| | | | | | |
|---|---|---|---|---|---|
| CCT (K): | 2983 | CRI (Ra): | 83.4 | | |
| CIE u': | 0.2516 | R1: | 84.0 | R9: | 29.4 |
| CIE v': | 0.5201 | R2: | 87.5 | R10: | 68.6 |
| Duv: | -0.0012 | R3: | 88.9 | R11: | 82.2 |
| CIE x: | 0.4364 | R4: | 83.8 | R12: | 61.6 |
| CIE y: | 0.4010 | R5: | 81.9 | R13: | 83.9 |
| CIE z: | 0.1626 | R6: | 83.1 | R14: | 92.5 |
| Peak Wavelength (nm): | 630 | R7: | 87.1 | R15: | 79.8 |
| Dominant Wavelength (nm): | 583 | R8: | 70.9 | | |
| Purity: | 51.34918 | | | | |
| Rf: | 81.2 | | | | |
| Rg: | 101.5 | | | | |




## Test Conditions

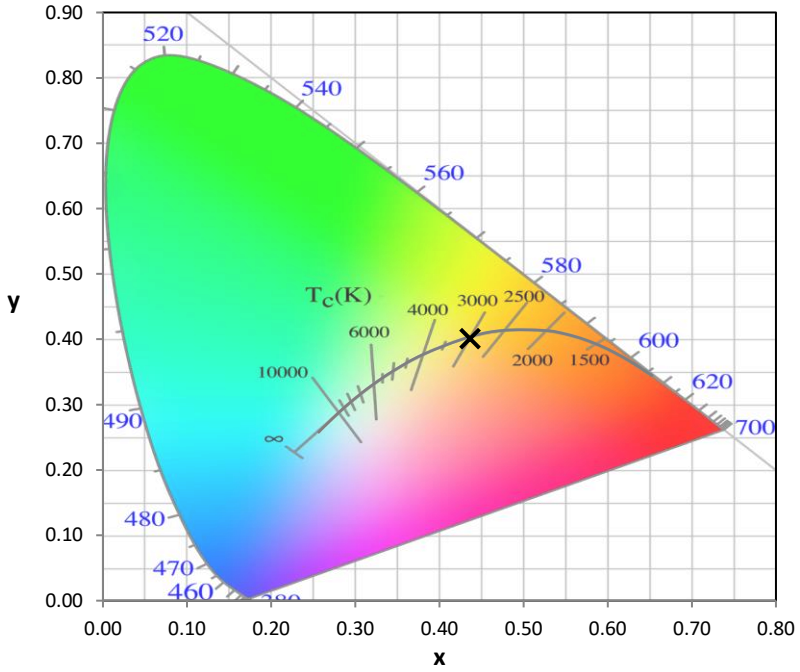
| | |
|---|---|
| Stabilization Time: | 38M |
| Operation Time: | 1H 38M |
| Sphere Temperature (°C): | 25.0 |

REPORT NUMBER: SP1-2506-472-2

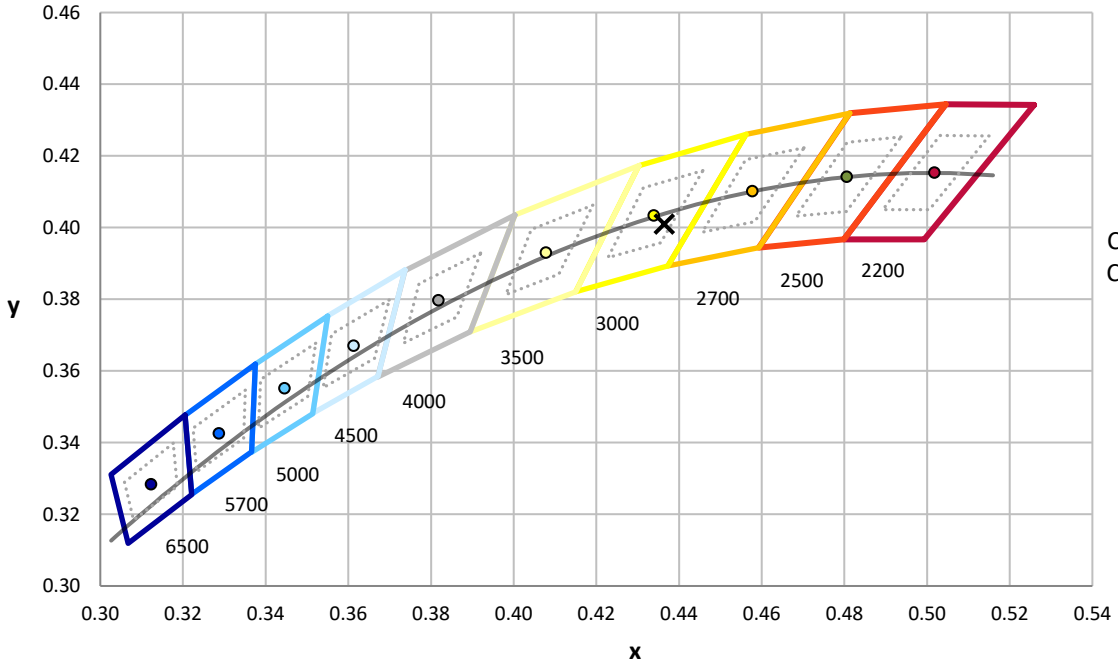
| Measurement and Test Equipment | | | |
|---|---|---|---|
| Instrument | Identification Number | Calibration Date | Calibration Due Date |
| Photometer | 76INCH SPHERE IN0058 | 6/16/2025 | 12/16/2025 |
| Power Meter | XITRON INXT2011004 | 1/21/2025 | 1/21/2026 |
| AC Power Source | CHROMA 61603 IN0063 | 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: SP1-2506-472-2

## CIE 1931 Chromaticity Diagram




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

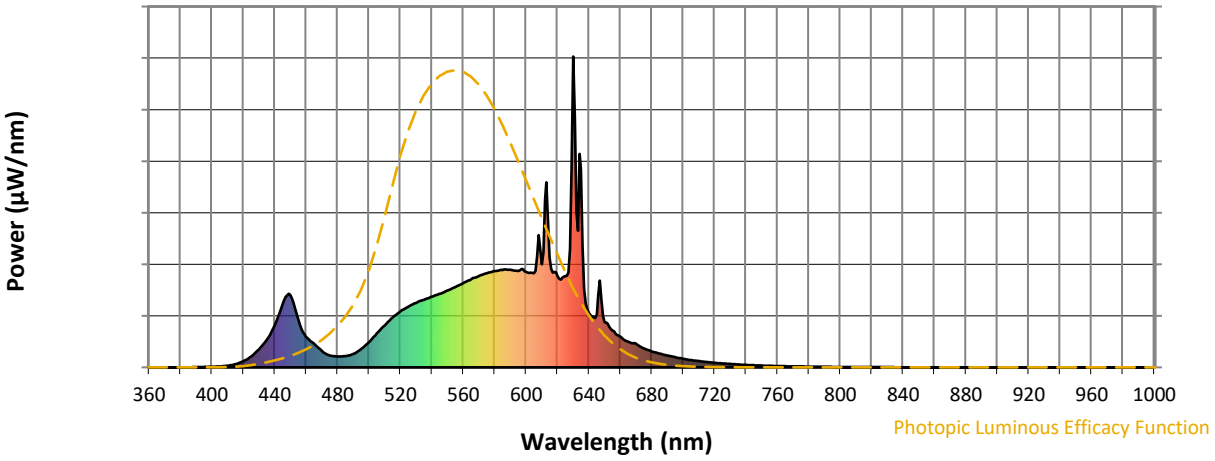



CCT = 2983K
CIE x = 0.4364
CIE y = 0.4010
Duv = -0.0012

Point lies inside the ANSI 3000K 4-step quadrangle

REPORT NUMBER: SP1-2506-472-2

## Photopic Flux vs. Wavelength

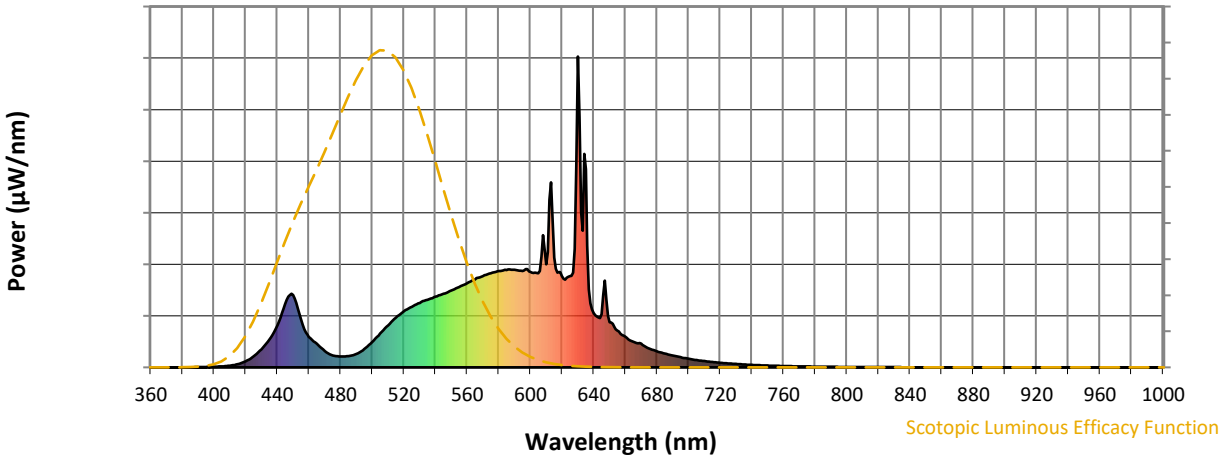



## Photopic Lumens: NR

| 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 | 43 | NR | 620 | 294 | NR | 750 | 6 | NR | 880 | 0 | NR |
| 365 | 0 | NR | 495 | 59 | NR | 625 | 294 | NR | 755 | 5 | NR | 885 | 0 | NR |
| 370 | 0 | NR | 500 | 81 | NR | 630 | 1000 | NR | 760 | 4 | NR | 890 | 0 | NR |
| 375 | 0 | NR | 505 | 109 | NR | 635 | 637 | NR | 765 | 4 | NR | 895 | 0 | NR |
| 380 | 0 | NR | 510 | 135 | NR | 640 | 175 | NR | 770 | 3 | NR | 900 | 0 | NR |
| 385 | 0 | NR | 515 | 160 | NR | 645 | 171 | NR | 775 | 3 | NR | 905 | 0 | NR |
| 390 | 1 | NR | 520 | 180 | NR | 650 | 146 | NR | 780 | 2 | NR | 910 | 0 | NR |
| 395 | 1 | NR | 525 | 195 | NR | 655 | 119 | NR | 785 | 2 | NR | 915 | 0 | NR |
| 400 | 2 | NR | 530 | 207 | NR | 660 | 99 | NR | 790 | 2 | NR | 920 | 0 | NR |
| 405 | 3 | NR | 535 | 218 | NR | 665 | 82 | NR | 795 | 2 | NR | 925 | 0 | NR |
| 410 | 5 | NR | 540 | 227 | NR | 670 | 76 | NR | 800 | 1 | NR | 930 | 0 | NR |
| 415 | 10 | NR | 545 | 237 | NR | 675 | 61 | NR | 805 | 1 | NR | 935 | 0 | NR |
| 420 | 20 | NR | 550 | 247 | NR | 680 | 52 | NR | 810 | 1 | NR | 940 | 0 | NR |
| 425 | 35 | NR | 555 | 259 | NR | 685 | 44 | NR | 815 | 1 | NR | 945 | 0 | NR |
| 430 | 58 | NR | 560 | 271 | NR | 690 | 38 | NR | 820 | 1 | NR | 950 | 0 | NR |
| 435 | 90 | NR | 565 | 283 | NR | 695 | 33 | NR | 825 | 1 | NR | 955 | 0 | NR |
| 440 | 135 | NR | 570 | 293 | NR | 700 | 27 | NR | 830 | 1 | NR | 960 | 0 | NR |
| 445 | 204 | NR | 575 | 303 | NR | 705 | 24 | NR | 835 | 1 | NR | 965 | 0 | NR |
| 450 | 233 | NR | 580 | 310 | NR | 710 | 20 | NR | 840 | 0 | NR | 970 | 0 | NR |
| 455 | 153 | NR | 585 | 313 | NR | 715 | 17 | NR | 845 | 0 | NR | 975 | 0 | NR |
| 460 | 98 | NR | 590 | 314 | NR | 720 | 15 | NR | 850 | 0 | NR | 980 | 0 | NR |
| 465 | 76 | NR | 595 | 310 | NR | 725 | 13 | NR | 855 | 0 | NR | 985 | 0 | NR |
| 470 | 53 | NR | 600 | 307 | NR | 730 | 11 | NR | 860 | 0 | NR | 990 | 0 | NR |
| 475 | 39 | NR | 605 | 303 | NR | 735 | 9 | NR | 865 | 0 | NR | 995 | 0 | NR |
| 480 | 35 | NR | 610 | 331 | NR | 740 | 8 | NR | 870 | 0 | NR | 1000 | 0 | NR |
| 485 | 36 | NR | 615 | 353 | NR | 745 | 7 | NR | 875 | 0 | NR | | | |

REPORT NUMBER: SP1-2506-472-2

## Scotopic Flux vs. Wavelength

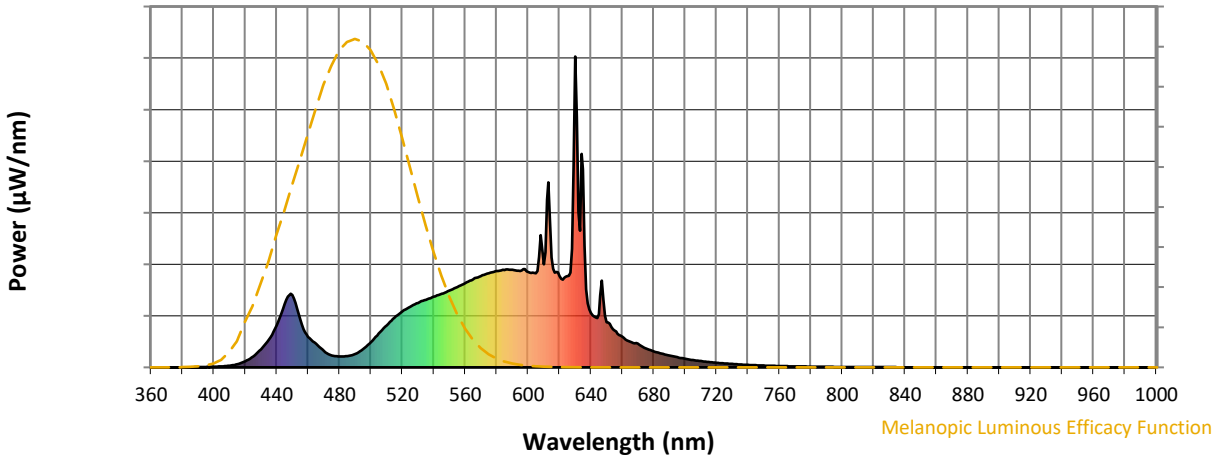



**Scotopic Lumens: NR** **S/P: 1.27**

| 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 | 43 | NR | 620 | 294 | NR | 750 | 6 | NR | 880 | 0 | NR |
| 365 | 0 | NR | 495 | 59 | NR | 625 | 294 | NR | 755 | 5 | NR | 885 | 0 | NR |
| 370 | 0 | NR | 500 | 81 | NR | 630 | 1000 | NR | 760 | 4 | NR | 890 | 0 | NR |
| 375 | 0 | NR | 505 | 109 | NR | 635 | 637 | NR | 765 | 4 | NR | 895 | 0 | NR |
| 380 | 0 | NR | 510 | 135 | NR | 640 | 175 | NR | 770 | 3 | NR | 900 | 0 | NR |
| 385 | 0 | NR | 515 | 160 | NR | 645 | 171 | NR | 775 | 3 | NR | 905 | 0 | NR |
| 390 | 1 | NR | 520 | 180 | NR | 650 | 146 | NR | 780 | 2 | NR | 910 | 0 | NR |
| 395 | 1 | NR | 525 | 195 | NR | 655 | 119 | NR | 785 | 2 | NR | 915 | 0 | NR |
| 400 | 2 | NR | 530 | 207 | NR | 660 | 99 | NR | 790 | 2 | NR | 920 | 0 | NR |
| 405 | 3 | NR | 535 | 218 | NR | 665 | 82 | NR | 795 | 2 | NR | 925 | 0 | NR |
| 410 | 5 | NR | 540 | 227 | NR | 670 | 76 | NR | 800 | 1 | NR | 930 | 0 | NR |
| 415 | 10 | NR | 545 | 237 | NR | 675 | 61 | NR | 805 | 1 | NR | 935 | 0 | NR |
| 420 | 20 | NR | 550 | 247 | NR | 680 | 52 | NR | 810 | 1 | NR | 940 | 0 | NR |
| 425 | 35 | NR | 555 | 259 | NR | 685 | 44 | NR | 815 | 1 | NR | 945 | 0 | NR |
| 430 | 58 | NR | 560 | 271 | NR | 690 | 38 | NR | 820 | 1 | NR | 950 | 0 | NR |
| 435 | 90 | NR | 565 | 283 | NR | 695 | 33 | NR | 825 | 1 | NR | 955 | 0 | NR |
| 440 | 135 | NR | 570 | 293 | NR | 700 | 27 | NR | 830 | 1 | NR | 960 | 0 | NR |
| 445 | 204 | NR | 575 | 303 | NR | 705 | 24 | NR | 835 | 1 | NR | 965 | 0 | NR |
| 450 | 233 | NR | 580 | 310 | NR | 710 | 20 | NR | 840 | 0 | NR | 970 | 0 | NR |
| 455 | 153 | NR | 585 | 313 | NR | 715 | 17 | NR | 845 | 0 | NR | 975 | 0 | NR |
| 460 | 98 | NR | 590 | 314 | NR | 720 | 15 | NR | 850 | 0 | NR | 980 | 0 | NR |
| 465 | 76 | NR | 595 | 310 | NR | 725 | 13 | NR | 855 | 0 | NR | 985 | 0 | NR |
| 470 | 53 | NR | 600 | 307 | NR | 730 | 11 | NR | 860 | 0 | NR | 990 | 0 | NR |
| 475 | 39 | NR | 605 | 303 | NR | 735 | 9 | NR | 865 | 0 | NR | 995 | 0 | NR |
| 480 | 35 | NR | 610 | 331 | NR | 740 | 8 | NR | 870 | 0 | NR | 1000 | 0 | NR |
| 485 | 36 | NR | 615 | 353 | NR | 745 | 7 | NR | 875 | 0 | NR | | | |

REPORT NUMBER: SP1-2506-472-2

## Melanopic Flux vs. Wavelength




**Melanopic Lumens: NR** **M/P: 2.34**

| 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 | 43 | NR | 620 | 294 | NR | 750 | 6 | NR | 880 | 0 | NR |
| 365 | 0 | NR | 495 | 59 | NR | 625 | 294 | NR | 755 | 5 | NR | 885 | 0 | NR |
| 370 | 0 | NR | 500 | 81 | NR | 630 | 1000 | NR | 760 | 4 | NR | 890 | 0 | NR |
| 375 | 0 | NR | 505 | 109 | NR | 635 | 637 | NR | 765 | 4 | NR | 895 | 0 | NR |
| 380 | 0 | NR | 510 | 135 | NR | 640 | 175 | NR | 770 | 3 | NR | 900 | 0 | NR |
| 385 | 0 | NR | 515 | 160 | NR | 645 | 171 | NR | 775 | 3 | NR | 905 | 0 | NR |
| 390 | 1 | NR | 520 | 180 | NR | 650 | 146 | NR | 780 | 2 | NR | 910 | 0 | NR |
| 395 | 1 | NR | 525 | 195 | NR | 655 | 119 | NR | 785 | 2 | NR | 915 | 0 | NR |
| 400 | 2 | NR | 530 | 207 | NR | 660 | 99 | NR | 790 | 2 | NR | 920 | 0 | NR |
| 405 | 3 | NR | 535 | 218 | NR | 665 | 82 | NR | 795 | 2 | NR | 925 | 0 | NR |
| 410 | 5 | NR | 540 | 227 | NR | 670 | 76 | NR | 800 | 1 | NR | 930 | 0 | NR |
| 415 | 10 | NR | 545 | 237 | NR | 675 | 61 | NR | 805 | 1 | NR | 935 | 0 | NR |
| 420 | 20 | NR | 550 | 247 | NR | 680 | 52 | NR | 810 | 1 | NR | 940 | 0 | NR |
| 425 | 35 | NR | 555 | 259 | NR | 685 | 44 | NR | 815 | 1 | NR | 945 | 0 | NR |
| 430 | 58 | NR | 560 | 271 | NR | 690 | 38 | NR | 820 | 1 | NR | 950 | 0 | NR |
| 435 | 90 | NR | 565 | 283 | NR | 695 | 33 | NR | 825 | 1 | NR | 955 | 0 | NR |
| 440 | 135 | NR | 570 | 293 | NR | 700 | 27 | NR | 830 | 1 | NR | 960 | 0 | NR |
| 445 | 204 | NR | 575 | 303 | NR | 705 | 24 | NR | 835 | 1 | NR | 965 | 0 | NR |
| 450 | 233 | NR | 580 | 310 | NR | 710 | 20 | NR | 840 | 0 | NR | 970 | 0 | NR |
| 455 | 153 | NR | 585 | 313 | NR | 715 | 17 | NR | 845 | 0 | NR | 975 | 0 | NR |
| 460 | 98 | NR | 590 | 314 | NR | 720 | 15 | NR | 850 | 0 | NR | 980 | 0 | NR |
| 465 | 76 | NR | 595 | 310 | NR | 725 | 13 | NR | 855 | 0 | NR | 985 | 0 | NR |
| 470 | 53 | NR | 600 | 307 | NR | 730 | 11 | NR | 860 | 0 | NR | 990 | 0 | NR |
| 475 | 39 | NR | 605 | 303 | NR | 735 | 9 | NR | 865 | 0 | NR | 995 | 0 | NR |
| 480 | 35 | NR | 610 | 331 | NR | 740 | 8 | NR | 870 | 0 | NR | 1000 | 0 | NR |
| 485 | 36 | NR | 615 | 353 | NR | 745 | 7 | NR | 875 | 0 | NR | | | |

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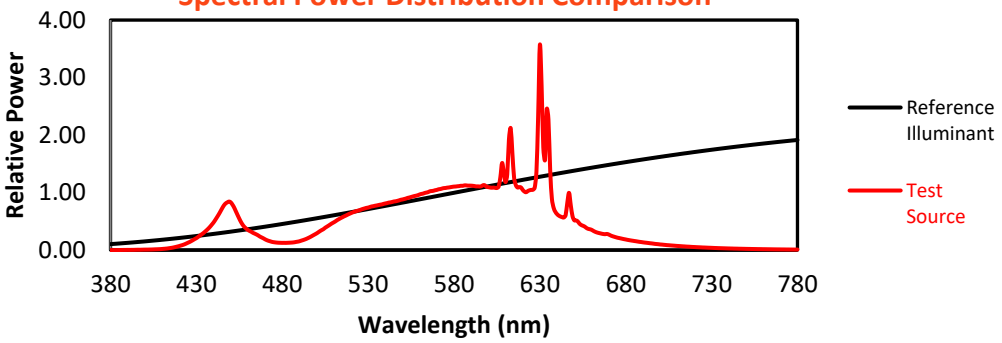
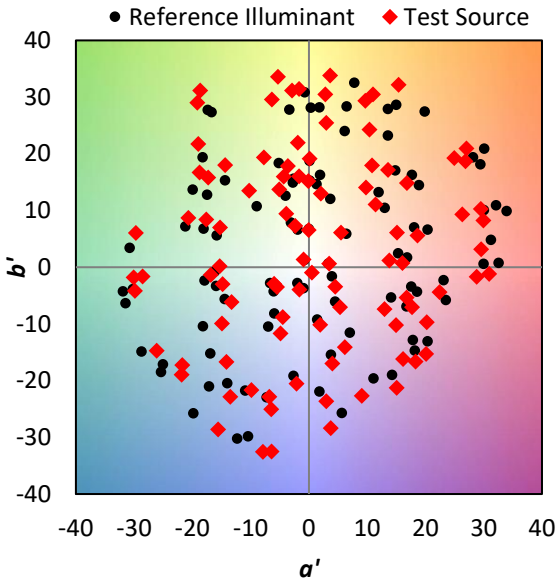
## Summary

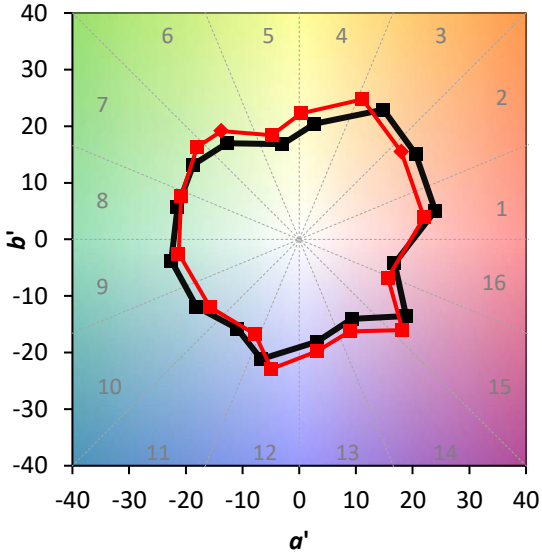
$R_f$ = 81.2
$R_g$ = 101.5
CIE $R_a$ = 83.4
$R_9$ = 29.4

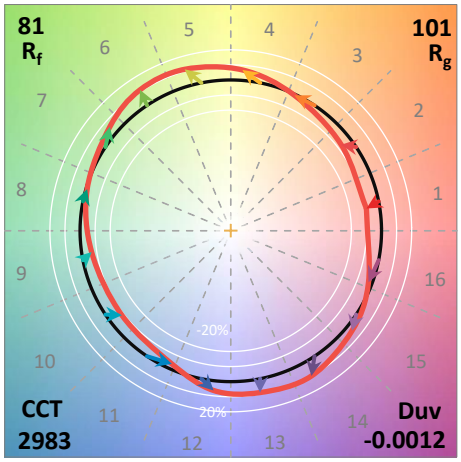
## Spectral Power Distribution Comparison

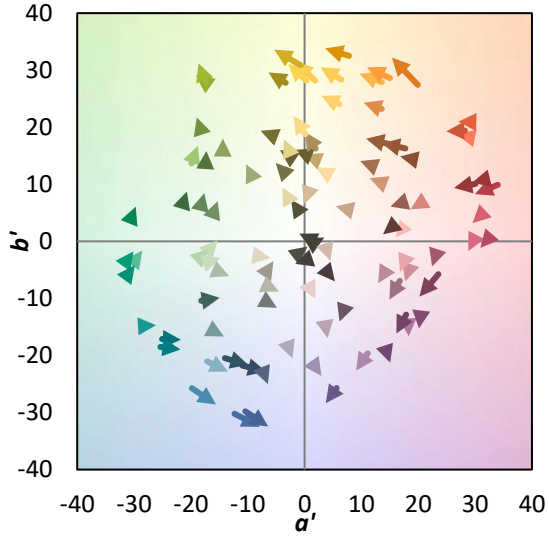



## Color Vector Graphics



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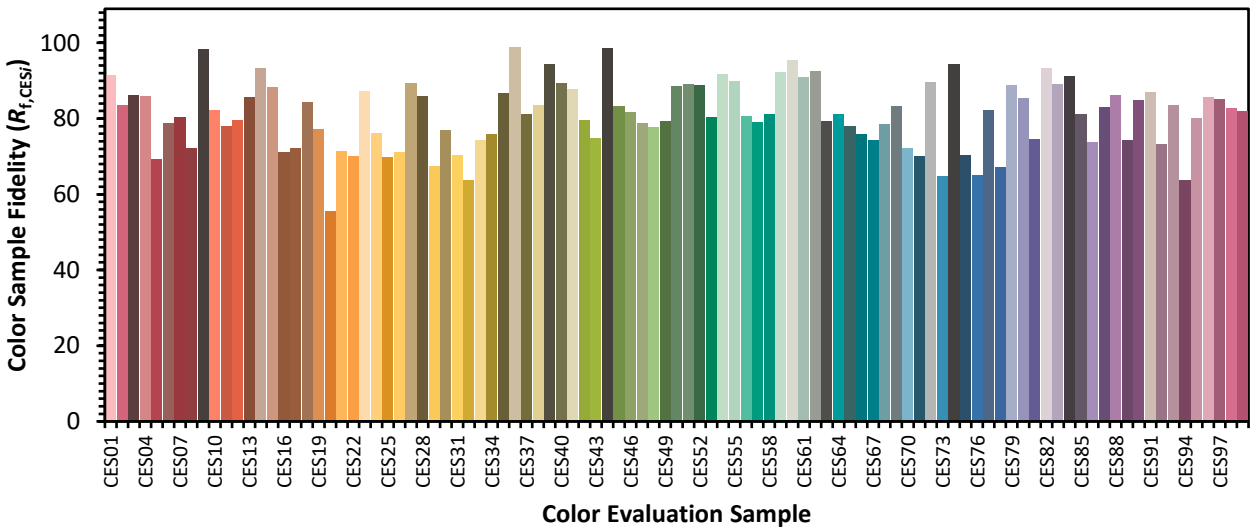
**Individual Sample Fidelity Index ($R_{f,i}$)**

| | | | |
|---|---|---|---|
| CES01 = 86 | CES26 = 71 | CES51 = 89 | CES76 = 65 |
| CES02 = 63 | CES27 = 89 | CES52 = 89 | CES77 = 82 |
| CES03 = 31 | CES28 = 86 | CES53 = 80 | CES78 = 67 |
| CES04 = 70 | CES29 = 68 | CES54 = 92 | CES79 = 89 |
| CES05 = 50 | CES30 = 77 | CES55 = 90 | CES80 = 85 |
| CES06 = 51 | CES31 = 70 | CES56 = 81 | CES81 = 75 |
| CES07 = 43 | CES32 = 64 | CES57 = 79 | CES82 = 93 |
| CES08 = 41 | CES33 = 74 | CES58 = 81 | CES83 = 89 |
| CES09 = 29 | CES34 = 76 | CES59 = 92 | CES84 = 91 |
| CES10 = 76 | CES35 = 87 | CES60 = 96 | CES85 = 81 |
| CES11 = 59 | CES36 = 99 | CES61 = 91 | CES86 = 74 |
| CES12 = 65 | CES37 = 81 | CES62 = 93 | CES87 = 83 |
| CES13 = 44 | CES38 = 83 | CES63 = 79 | CES88 = 86 |
| CES14 = 74 | CES39 = 94 | CES64 = 81 | CES89 = 74 |
| CES15 = 72 | CES40 = 89 | CES65 = 78 | CES90 = 85 |
| CES16 = 48 | CES41 = 88 | CES66 = 76 | CES91 = 87 |
| CES17 = 50 | CES42 = 80 | CES67 = 74 | CES92 = 73 |
| CES18 = 57 | CES43 = 75 | CES68 = 79 | CES93 = 84 |
| CES19 = 72 | CES44 = 99 | CES69 = 83 | CES94 = 64 |
| CES20 = 67 | CES45 = 83 | CES70 = 72 | CES95 = 80 |
| CES21 = 87 | CES46 = 82 | CES71 = 70 | CES96 = 86 |
| CES22 = 79 | CES47 = 79 | CES72 = 90 | CES97 = 85 |
| CES23 = 92 | CES48 = 78 | CES73 = 65 | CES98 = 83 |
| CES24 = 91 | CES49 = 79 | CES74 = 94 | CES99 = 82 |
| CES25 = 72 | CES50 = 88 | CES75 = 70 | |



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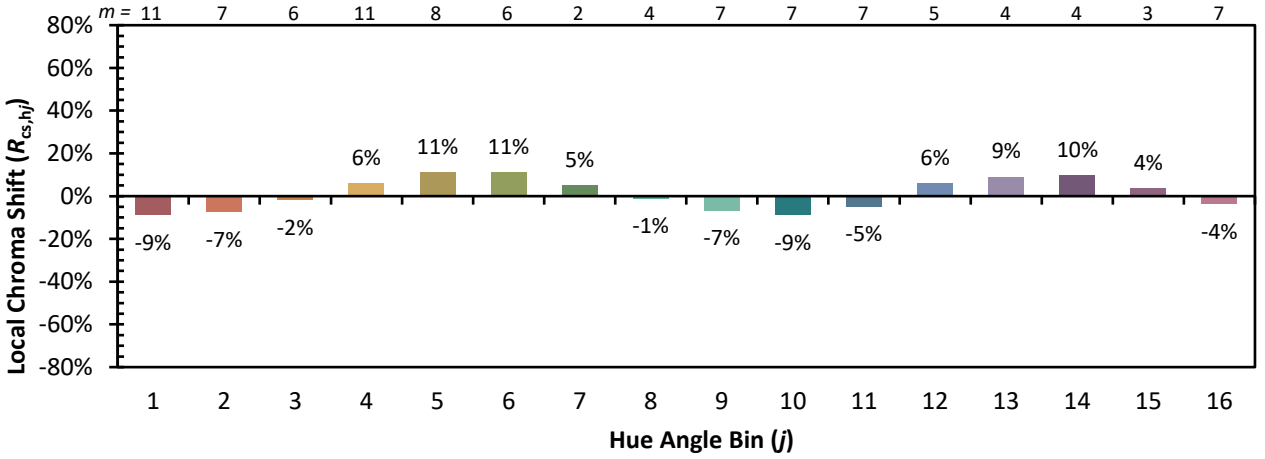
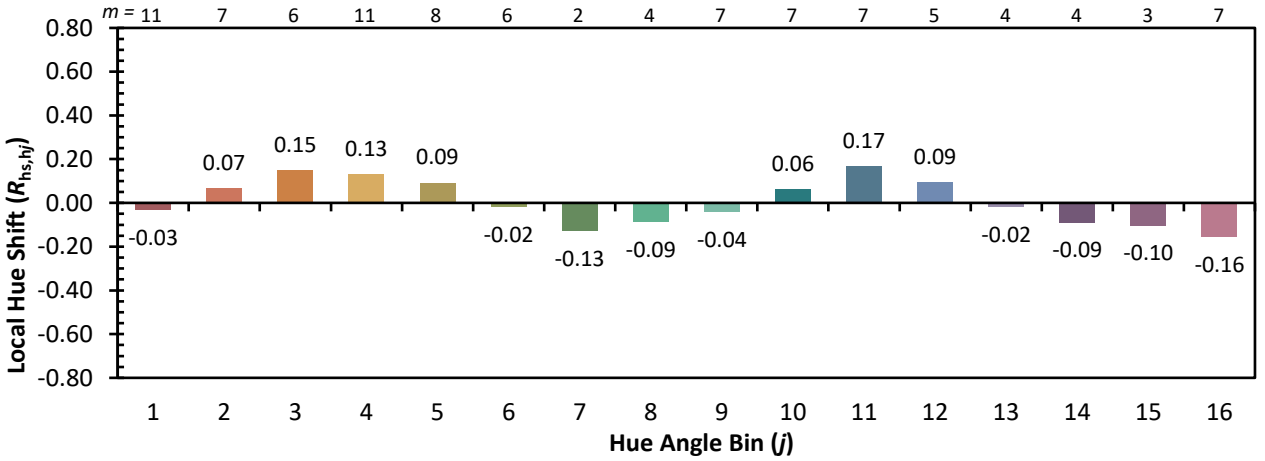
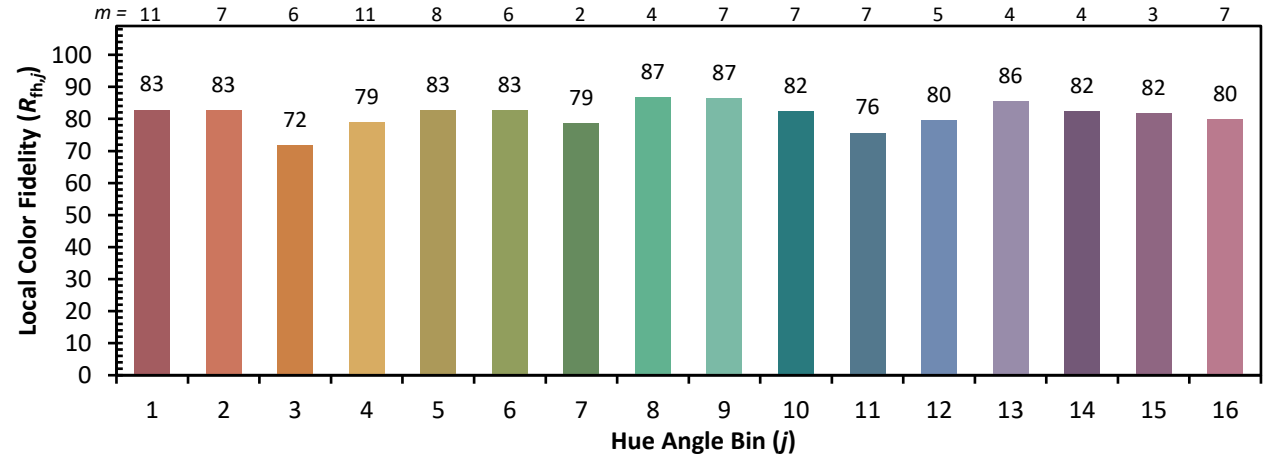
## Color Rendition by Hue-Angle Bin



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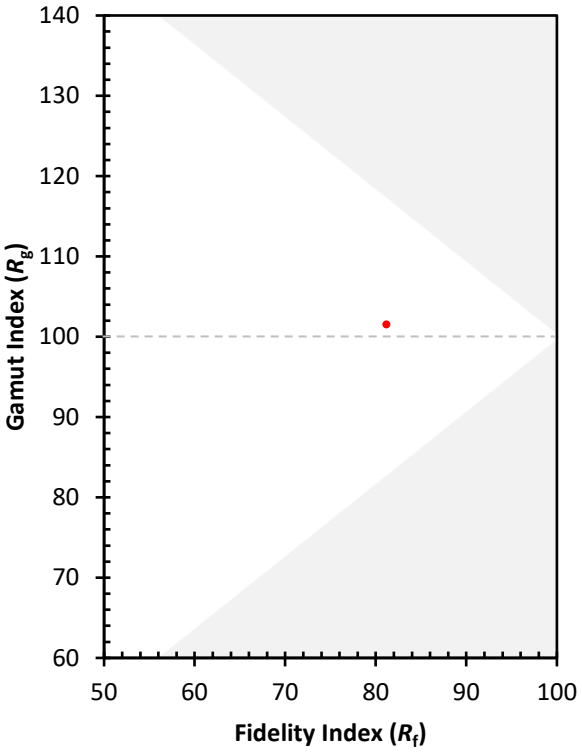
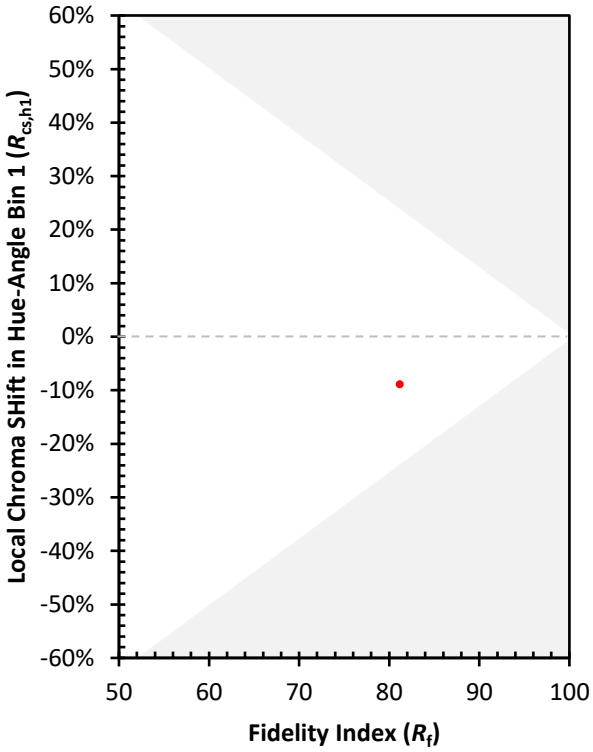
## Measure Comparisons




(END OF REPORT)