

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: P1432330

Luminaire Tested: EHBR1-24-UNV-A1-L830

Issue Date: 3/13/2026

Test Information

Test Method: LM-79-2019
Report Number: P1432330
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2601-654-5)
Test Lab: INNOVATION CENTER
Issue Date: 3/13/2026
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: METALUX
Catalog Number: EHBR1-24-UNV-A1-L830
Description: Elevate Round Highbay at, 24000 lumens, 3000K 80CRI LEDs with A lens
Light Source: -
Ballast/Driver: -

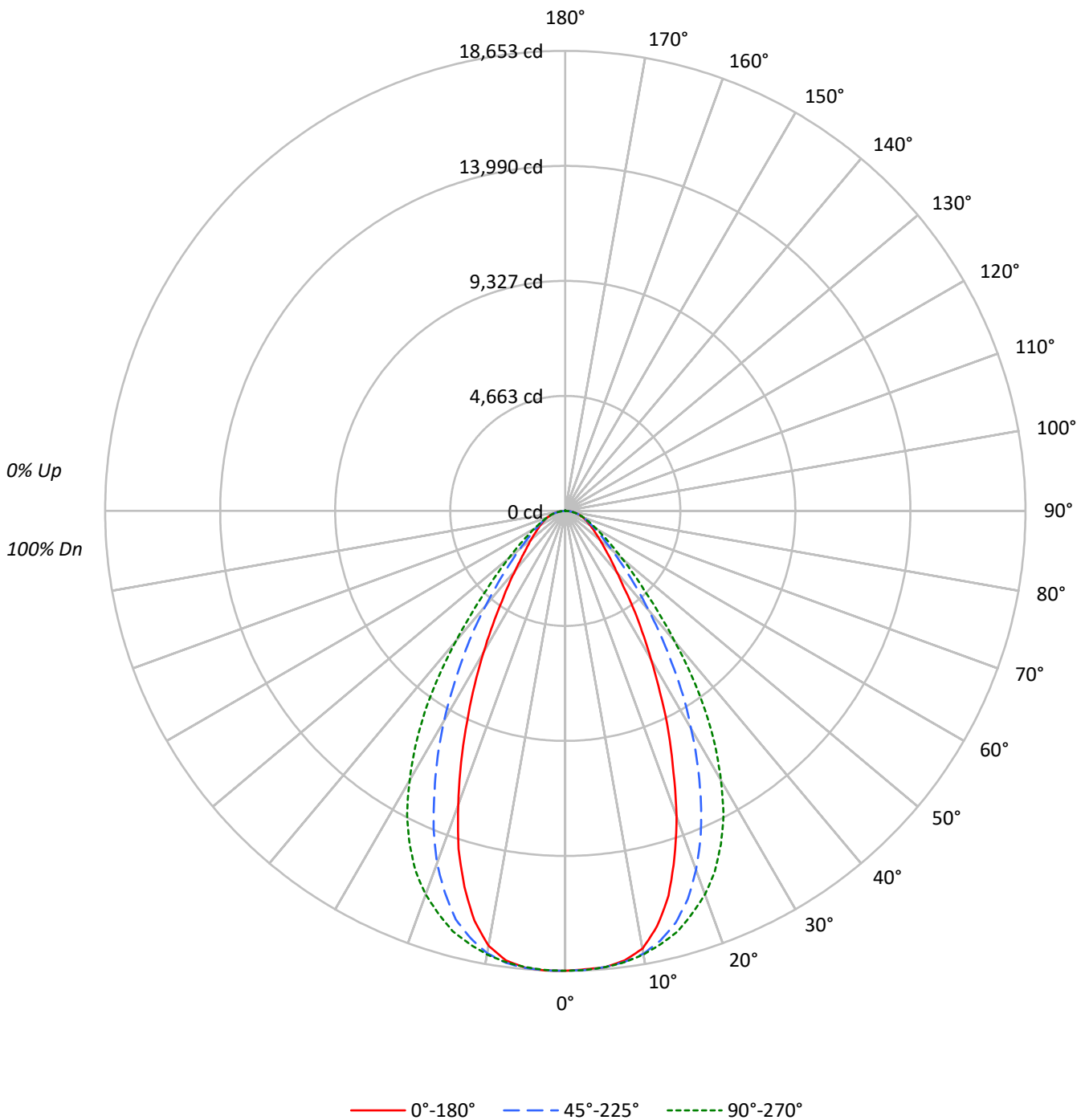
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 23163.0 lumens
Efficiency: N/A
Efficacy: 180.5 lumens/watt
Spacing Criteria (0/90/45): 0.8 / 1.07 / 0.95
Luminous Opening: Circular (Dia: 1.71' x H: 0')
CIE Type: Direct

Input Watts (W): 128.3
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT

TEST NUMBER: P1432330
CATALOG NUMBER: EHBR1-24-UNV-A1-L830

Luminous Intensity Polar Plot





TEST NUMBER: P1432330
 CATALOG NUMBER: EHBR1-24-UNV-A1-L830

COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

| | | | | | | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| RF | 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 | 50 | 30 | 10 |
| RCR | | | | | | | | | | | | | | | | | | | | |
| 0 | 119 | 119 | 119 | 119 | 116 | 116 | 116 | 116 | 111 | 111 | 111 | 106 | 106 | 106 | 102 | 102 | 102 | 100 | 100 | 100 |
| 1 | 112 | 108 | 105 | 102 | 109 | 106 | 103 | 100 | 102 | 99 | 97 | 98 | 96 | 94 | 94 | 93 | 92 | 90 | 90 | 90 |
| 2 | 104 | 98 | 93 | 89 | 102 | 96 | 92 | 88 | 93 | 89 | 86 | 90 | 87 | 84 | 87 | 84 | 82 | 80 | 80 | 80 |
| 3 | 98 | 90 | 83 | 78 | 95 | 88 | 82 | 78 | 85 | 81 | 77 | 83 | 79 | 75 | 80 | 77 | 74 | 72 | 72 | 72 |
| 4 | 91 | 82 | 75 | 70 | 89 | 81 | 75 | 70 | 79 | 73 | 69 | 77 | 72 | 68 | 75 | 71 | 67 | 65 | 65 | 65 |
| 5 | 86 | 76 | 69 | 63 | 84 | 75 | 68 | 63 | 73 | 67 | 62 | 71 | 66 | 62 | 69 | 65 | 61 | 60 | 60 | 60 |
| 6 | 81 | 70 | 63 | 58 | 79 | 69 | 62 | 58 | 68 | 62 | 57 | 66 | 61 | 57 | 65 | 60 | 56 | 55 | 55 | 55 |
| 7 | 76 | 65 | 58 | 53 | 75 | 64 | 58 | 53 | 63 | 57 | 52 | 62 | 56 | 52 | 60 | 56 | 52 | 50 | 50 | 50 |
| 8 | 72 | 61 | 54 | 49 | 70 | 60 | 53 | 49 | 59 | 53 | 48 | 58 | 52 | 48 | 57 | 52 | 48 | 46 | 46 | 46 |
| 9 | 68 | 57 | 50 | 45 | 67 | 56 | 50 | 45 | 55 | 49 | 45 | 54 | 49 | 45 | 53 | 48 | 45 | 43 | 43 | 43 |
| 10 | 64 | 53 | 47 | 42 | 63 | 53 | 46 | 42 | 52 | 46 | 42 | 51 | 46 | 42 | 50 | 45 | 42 | 40 | 40 | 40 |

AVERAGE LUMINANCE (cd/sqm):

| | 0° | 45° | 90° | 135° | 180° |
|-----|-------|-------|-------|-------|-------|
| 0° | 87558 | 87558 | 87558 | 87558 | 87558 |
| 5° | 87547 | 87534 | 87538 | 87692 | 87639 |
| 10° | 85944 | 86946 | 87084 | 86838 | 85382 |
| 15° | 78549 | 84031 | 85760 | 83356 | 76746 |
| 20° | 65916 | 77417 | 82706 | 75959 | 63350 |
| 25° | 51355 | 67436 | 77294 | 64973 | 48694 |
| 30° | 37733 | 55358 | 68440 | 53257 | 35815 |
| 35° | 27438 | 43042 | 56741 | 41189 | 25647 |
| 40° | 19935 | 32103 | 42227 | 30748 | 19320 |
| 45° | 15885 | 23751 | 29825 | 22721 | 15335 |
| 50° | 13355 | 18083 | 21874 | 17486 | 13153 |
| 55° | 11852 | 14510 | 16834 | 14267 | 11692 |
| 60° | 10908 | 12360 | 13688 | 12283 | 10985 |
| 65° | 10480 | 11200 | 11816 | 11234 | 10580 |
| 70° | 10338 | 10585 | 10912 | 10642 | 10439 |
| 75° | 10232 | 10166 | 10232 | 10195 | 10330 |
| 80° | 10287 | 9546 | 9335 | 9695 | 10287 |
| 85° | 9284 | 7867 | 7786 | 7996 | 9553 |

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 67.5°
 Vertical Angle: 45°
 Luminance: 31249 cd/sqm



TEST NUMBER: P1432330
 CATALOG NUMBER: EHBR1-24-UNV-A1-L830

ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|---------|-----------|
| 0°-10° | 1760.7 | 7.6 |
| 10°-20° | 4732.2 | 20.4 |
| 20°-30° | 5754.3 | 24.8 |
| 30°-40° | 4687.3 | 20.2 |
| 40°-50° | 2814.3 | 12.1 |
| 50°-60° | 1619.6 | 7.0 |
| 60°-70° | 1013.6 | 4.4 |
| 70°-80° | 597.0 | 2.6 |
| 80°-90° | 174.6 | 0.8 |
| 90°-100° | 0.1 | 0.0 |
| 100°-110° | 0.1 | 0.0 |
| 110°-120° | 0.1 | 0.0 |
| 120°-130° | 0.3 | 0.0 |
| 130°-140° | 1.2 | 0.0 |
| 140°-150° | 2.1 | 0.0 |
| 150°-160° | 2.4 | 0.0 |
| 160°-170° | 2.1 | 0.0 |
| 170°-180° | 0.9 | 0.0 |
| 0°-30° | 12247.3 | 52.9 |
| 0°-40° | 16934.6 | 73.1 |
| 0°-60° | 21368.5 | 92.3 |
| 0°-90° | 23153.7 | 100.0 |
| 90°-120° | 0.3 | 0.0 |
| 90°-150° | 3.9 | 0.0 |
| 90°-180° | 9.0 | 0.0 |
| 0°-180° | 23163.0 | 100.0 |

CANDELA DISTRIBUTION:

| | 0° | 45° | 90° | 135° | 180° | Flux |
|------|-------|-------|-------|-------|-------|------|
| 0° | 18645 | 18645 | 18645 | 18645 | 18645 | |
| 5° | 18572 | 18569 | 18570 | 18602 | 18591 | 1755 |
| 15° | 16157 | 17284 | 17640 | 17145 | 15786 | 4445 |
| 25° | 9911 | 13014 | 14917 | 12539 | 9398 | 4516 |
| 35° | 4786 | 7508 | 9898 | 7185 | 4474 | 3028 |
| 45° | 2392 | 3576 | 4491 | 3421 | 2309 | 1887 |
| 55° | 1448 | 1772 | 2056 | 1742 | 1428 | 1309 |
| 65° | 943 | 1008 | 1063 | 1011 | 952 | 938 |
| 75° | 564 | 560 | 564 | 562 | 569 | 597 |
| 85° | 172 | 146 | 144 | 148 | 177 | 184 |
| 90° | 1 | 0 | 0 | 0 | 0 | 9 |
| 95° | 1 | 0 | 0 | 0 | 0 | 1 |
| 105° | 1 | 0 | 0 | 0 | 1 | 1 |
| 115° | 1 | 0 | 0 | 0 | 1 | 1 |
| 125° | 1 | 0 | 0 | 0 | 1 | 1 |
| 135° | 2 | 2 | 2 | 2 | 2 | 1 |
| 145° | 4 | 3 | 3 | 4 | 4 | 2 |
| 155° | 6 | 5 | 4 | 5 | 6 | 3 |
| 165° | 9 | 7 | 7 | 8 | 9 | 3 |
| 175° | 12 | 10 | 9 | 10 | 12 | 1 |
| 180° | 11 | 11 | 11 | 11 | 11 | |



TEST NUMBER: P1432330
 CATALOG NUMBER: EHBR1-24-UNV-A1-L830

CANDELA DISTRIBUTION (FULL):

| | 0° | 22.5° | 45° | 67.5° | 90° | 112.5° | 135° | 157.5° | 180° |
|--------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| 0° | 18644.9 | 18644.9 | 18644.9 | 18644.9 | 18644.9 | 18644.9 | 18644.9 | 18644.9 | 18644.9 |
| 2.5° | 18604.0 | 18620.7 | 18627.8 | 18631.7 | 18635.9 | 18647.7 | 18652.8 | 18644.5 | 18651.6 |
| 5° | 18571.6 | 18572.7 | 18568.8 | 18586.4 | 18569.6 | 18581.3 | 18602.4 | 18594.1 | 18591.1 |
| 7.5° | 18382.5 | 18421.6 | 18444.6 | 18450.5 | 18453.6 | 18468.1 | 18482.9 | 18398.9 | 18386.4 |
| 10° | 18023.2 | 18088.5 | 18233.3 | 18274.7 | 18262.3 | 18285.7 | 18210.7 | 17991.2 | 17905.3 |
| 12.5° | 17235.6 | 17464.8 | 17841.3 | 18008.8 | 17978.3 | 17999.1 | 17743.6 | 17280.5 | 17014.2 |
| 15° | 16156.6 | 16492.8 | 17284.0 | 17614.3 | 17639.7 | 17614.3 | 17145.3 | 16242.9 | 15785.6 |
| 17.5° | 14722.3 | 15343.2 | 16508.1 | 17149.3 | 17112.5 | 17124.7 | 16234.3 | 14900.3 | 14377.1 |
| 20° | 13189.9 | 13851.8 | 15491.2 | 16560.8 | 16549.5 | 16481.5 | 15199.5 | 13440.2 | 12676.4 |
| 22.5° | 11456.8 | 12310.5 | 14325.9 | 15837.1 | 15832.9 | 15719.7 | 13939.3 | 11845.7 | 11023.4 |
| 25° | 9911.1 | 10748.5 | 13014.5 | 14950.7 | 14917.1 | 14788.3 | 12539.3 | 10255.2 | 9397.6 |
| 27.5° | 8313.2 | 9183.7 | 11614.5 | 13911.9 | 13888.9 | 13748.4 | 11201.0 | 8768.5 | 7952.4 |
| 30° | 6958.5 | 7754.4 | 10208.7 | 12768.9 | 12621.3 | 12605.3 | 9821.4 | 7391.9 | 6604.7 |
| 32.5° | 5797.9 | 6480.2 | 8883.4 | 11573.6 | 11312.4 | 11386.9 | 8446.4 | 6240.7 | 5460.5 |
| 35° | 4786.1 | 5387.1 | 7508.0 | 10191.2 | 9897.5 | 9993.9 | 7184.7 | 5120.8 | 4473.7 |
| 37.5° | 3884.4 | 4462.4 | 6342.3 | 8846.7 | 8397.5 | 8579.5 | 6074.7 | 4276.5 | 3757.9 |
| 40° | 3251.8 | 3710.2 | 5236.8 | 7371.2 | 6888.2 | 7184.7 | 5015.7 | 3566.9 | 3151.5 |
| 42.5° | 2801.9 | 3101.1 | 4322.2 | 5962.7 | 5592.2 | 5802.3 | 4134.0 | 2981.9 | 2671.1 |
| 45° | 2391.9 | 2630.5 | 3576.3 | 4705.3 | 4490.9 | 4685.7 | 3421.2 | 2542.6 | 2309.1 |
| 47.5° | 2089.2 | 2273.2 | 2944.1 | 3799.7 | 3666.5 | 3728.2 | 2857.3 | 2218.9 | 2029.1 |
| 50° | 1828.0 | 1970.1 | 2475.1 | 3066.7 | 2994.0 | 3031.9 | 2393.5 | 1930.7 | 1800.3 |
| 52.5° | 1624.9 | 1729.2 | 2075.9 | 2520.4 | 2484.4 | 2490.3 | 2039.7 | 1698.3 | 1603.8 |
| 55° | 1447.6 | 1520.3 | 1772.2 | 2064.6 | 2056.1 | 2057.6 | 1742.5 | 1505.0 | 1428.1 |
| 57.5° | 1292.6 | 1352.7 | 1523.0 | 1734.2 | 1721.8 | 1724.5 | 1508.9 | 1336.7 | 1287.1 |
| 60° | 1161.4 | 1201.6 | 1316.0 | 1465.6 | 1457.4 | 1453.9 | 1307.8 | 1186.7 | 1169.6 |
| 62.5° | 1045.0 | 1070.8 | 1150.1 | 1256.3 | 1240.7 | 1244.1 | 1149.6 | 1072.0 | 1046.6 |
| 65° | 943.1 | 952.1 | 1007.9 | 1073.5 | 1063.4 | 1072.0 | 1011.0 | 957.9 | 952.1 |
| 67.5° | 843.5 | 852.5 | 885.3 | 929.4 | 917.7 | 924.7 | 886.0 | 854.8 | 849.8 |
| 70° | 752.9 | 752.6 | 770.9 | 794.7 | 794.7 | 795.8 | 775.1 | 756.4 | 760.3 |
| 72.5° | 659.2 | 656.8 | 662.3 | 678.3 | 674.1 | 688.9 | 667.0 | 661.1 | 661.9 |
| 75° | 563.9 | 557.2 | 560.3 | 568.6 | 563.9 | 571.7 | 561.9 | 569.3 | 569.3 |
| 77.5° | 474.1 | 461.6 | 457.7 | 458.9 | 450.3 | 462.0 | 464.3 | 469.4 | 481.1 |
| 80° | 380.4 | 362.8 | 353.0 | 352.7 | 345.2 | 352.7 | 358.5 | 369.1 | 380.4 |
| 82.5° | 282.3 | 267.1 | 250.7 | 247.6 | 242.9 | 247.2 | 255.0 | 267.5 | 285.9 |
| 85° | 172.3 | 156.2 | 146.0 | 140.6 | 144.5 | 144.5 | 148.4 | 166.0 | 177.3 |
| 87.5° | 62.1 | 54.2 | 44.5 | 44.9 | 46.1 | 47.7 | 49.6 | 62.5 | 68.4 |
| 90° | 0.7 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.4 |
| 92.5° | 0.4 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.4 |
| 95° | 0.7 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.4 |
| 97.5° | 0.7 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.4 |
| 100° | 0.7 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.7 |
| 102.5° | 0.7 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.7 |
| 105° | 0.7 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.7 |
| 107.5° | 0.7 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.7 |
| 110° | 0.7 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.7 |



TEST NUMBER: P1432330
 CATALOG NUMBER: EHBR1-24-UNV-A1-L830

CANDELA DISTRIBUTION (continued):

| | 0° | 22.5° | 45° | 67.5° | 90° | 112.5° | 135° | 157.5° | 180° |
|--------|------|-------|------|-------|------|--------|------|--------|------|
| 112.5° | 0.7 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.7 |
| 115° | 0.7 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.7 |
| 117.5° | 1.2 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.7 |
| 120° | 0.7 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.4 | 0.7 |
| 122.5° | 1.2 | 0.4 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.4 | 1.2 |
| 125° | 1.2 | 0.4 | 0.0 | 0.0 | 0.0 | 0.0 | 0.4 | 0.4 | 1.2 |
| 127.5° | 1.2 | 0.4 | 0.0 | 0.0 | 0.0 | 0.0 | 0.4 | 0.7 | 1.2 |
| 130° | 1.2 | 0.7 | 0.4 | 0.0 | 0.4 | 0.4 | 0.7 | 0.7 | 1.2 |
| 132.5° | 1.6 | 1.2 | 1.2 | 0.7 | 0.7 | 1.2 | 1.2 | 1.6 | 1.6 |
| 135° | 2.0 | 1.6 | 1.6 | 1.2 | 1.6 | 1.6 | 1.6 | 1.6 | 2.0 |
| 137.5° | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.3 |
| 140° | 2.7 | 2.3 | 2.3 | 2.3 | 2.3 | 2.3 | 2.3 | 2.7 | 2.7 |
| 142.5° | 3.1 | 3.1 | 2.7 | 2.7 | 2.7 | 3.1 | 3.1 | 3.1 | 3.6 |
| 145° | 3.6 | 3.6 | 3.1 | 3.1 | 3.1 | 3.6 | 3.6 | 3.9 | 3.9 |
| 147.5° | 4.7 | 4.3 | 3.6 | 3.6 | 3.6 | 3.6 | 3.9 | 4.3 | 4.7 |
| 150° | 5.1 | 4.7 | 3.9 | 3.9 | 3.9 | 3.9 | 4.3 | 5.1 | 5.4 |
| 152.5° | 5.4 | 5.1 | 4.3 | 3.9 | 3.9 | 3.9 | 4.7 | 5.1 | 5.9 |
| 155° | 5.9 | 5.4 | 4.7 | 3.9 | 3.9 | 4.3 | 5.1 | 5.9 | 6.3 |
| 157.5° | 7.0 | 6.3 | 5.4 | 4.7 | 4.7 | 5.1 | 5.9 | 6.7 | 7.0 |
| 160° | 7.8 | 7.0 | 6.3 | 5.4 | 5.4 | 5.9 | 6.7 | 7.4 | 7.8 |
| 162.5° | 8.6 | 7.8 | 6.7 | 6.3 | 5.9 | 6.3 | 7.0 | 8.2 | 8.6 |
| 165° | 9.0 | 8.2 | 7.4 | 6.7 | 6.7 | 6.7 | 7.8 | 8.6 | 9.0 |
| 167.5° | 9.4 | 9.0 | 7.8 | 7.0 | 7.0 | 7.0 | 8.2 | 9.0 | 9.4 |
| 170° | 9.7 | 9.4 | 8.2 | 7.4 | 7.0 | 7.4 | 8.6 | 9.4 | 9.7 |
| 172.5° | 10.6 | 10.1 | 9.0 | 8.2 | 7.8 | 8.2 | 9.4 | 10.1 | 10.6 |
| 175° | 11.7 | 11.0 | 10.1 | 9.0 | 8.6 | 9.0 | 10.1 | 11.0 | 11.7 |
| 177.5° | 12.1 | 11.3 | 10.6 | 9.4 | 9.0 | 9.4 | 10.6 | 11.3 | 12.1 |
| 180° | 10.6 | 10.6 | 10.6 | 10.6 | 10.6 | 10.6 | 10.6 | 10.6 | 10.6 |



TEST NUMBER: P1432330
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CIE UGR TABLE:

| Reflectances: | | | | | | | | | | | |
|-----------------|------|------------------|-------|-------|-------|-------|----------------|-------|-------|-------|-------|
| Ceiling | | 0.7 | 0.7 | 0.5 | 0.5 | 0.3 | 0.7 | 0.7 | 0.5 | 0.5 | 0.3 |
| Wall | | 0.5 | 0.3 | 0.5 | 0.3 | 0.3 | 0.5 | 0.3 | 0.5 | 0.3 | 0.3 |
| Reference plane | | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 |
| Room dimensions | | Viewed crosswise | | | | | Viewed endwise | | | | |
| X=2H | Y=2H | 17.92 | 19.19 | 18.29 | 19.50 | 19.82 | 18.91 | 20.17 | 19.27 | 20.48 | 20.80 |
| | 3H | 19.49 | 20.62 | 19.87 | 20.95 | 21.31 | 20.25 | 21.37 | 20.63 | 21.70 | 22.07 |
| | 4H | 20.16 | 21.21 | 20.56 | 21.56 | 21.95 | 20.81 | 21.86 | 21.21 | 22.21 | 22.59 |
| | 6H | 20.71 | 21.68 | 21.13 | 22.05 | 22.45 | 21.24 | 22.20 | 21.65 | 22.57 | 22.97 |
| | 8H | 20.91 | 21.83 | 21.35 | 22.22 | 22.63 | 21.38 | 22.29 | 21.81 | 22.68 | 23.09 |
| | 12H | 21.04 | 21.91 | 21.47 | 22.30 | 22.73 | 21.45 | 22.33 | 21.89 | 22.71 | 23.14 |
| 4H | 2H | 18.50 | 19.54 | 18.90 | 19.90 | 20.28 | 19.27 | 20.31 | 19.67 | 20.67 | 21.05 |
| | 3H | 20.29 | 21.15 | 20.70 | 21.55 | 21.96 | 20.86 | 21.72 | 21.27 | 22.12 | 22.53 |
| | 4H | 21.08 | 21.85 | 21.52 | 22.28 | 22.72 | 21.55 | 22.33 | 21.99 | 22.75 | 23.19 |
| | 6H | 21.77 | 22.43 | 22.23 | 22.88 | 23.35 | 22.12 | 22.79 | 22.59 | 23.24 | 23.71 |
| | 8H | 22.01 | 22.64 | 22.48 | 23.09 | 23.56 | 22.31 | 22.93 | 22.78 | 23.38 | 23.85 |
| | 12H | 22.18 | 22.73 | 22.67 | 23.22 | 23.69 | 22.43 | 22.98 | 22.91 | 23.46 | 23.94 |
| 8H | 4H | 21.36 | 21.99 | 21.83 | 22.43 | 22.91 | 21.78 | 22.41 | 22.25 | 22.86 | 23.33 |
| | 6H | 22.18 | 22.69 | 22.68 | 23.19 | 23.67 | 22.49 | 22.99 | 22.99 | 23.49 | 23.97 |
| | 8H | 22.51 | 22.97 | 23.03 | 23.48 | 23.98 | 22.75 | 23.20 | 23.27 | 23.72 | 24.21 |
| | 12H | 22.76 | 23.16 | 23.28 | 23.66 | 24.23 | 22.94 | 23.34 | 23.46 | 23.84 | 24.41 |
| 12H | 4H | 21.38 | 21.93 | 21.87 | 22.41 | 22.89 | 21.80 | 22.35 | 22.29 | 22.83 | 23.31 |
| | 6H | 22.23 | 22.68 | 22.75 | 23.20 | 23.69 | 22.53 | 22.98 | 23.05 | 23.50 | 24.00 |
| | 8H | 22.61 | 23.01 | 23.13 | 23.51 | 24.08 | 22.85 | 23.25 | 23.36 | 23.74 | 24.32 |

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

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
 CIE u': 0.2516
 CIE v': 0.5201
 Duv: -0.0012
 CIE x: 0.4364
 CIE y: 0.4010
 CIE z: 0.1626
 Peak Wavelength (nm): 630
 Dominant Wavelength (nm): 583
 Purity: 51.34918
 Rf: 81.2
 Rg: 101.5

| | | | |
|-----------|------|------|------|
| CRI (Ra): | 83.4 | | |
| R1: | 84.0 | R9: | 29.4 |
| R2: | 87.5 | R10: | 68.6 |
| R3: | 88.9 | R11: | 82.2 |
| R4: | 83.8 | R12: | 61.6 |
| R5: | 81.9 | R13: | 83.9 |
| R6: | 83.1 | R14: | 92.5 |
| R7: | 87.1 | R15: | 79.8 |
| R8: | 70.9 | | |



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 |

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CIE 1931 Chromaticity Diagram



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



Point lies inside the ANSI 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 | | | |

Summary

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



Color Vector Graphics



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 | |



Color Rendition by Hue-Angle Bin



Measure Comparisons



(END OF REPORT)