

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: P1432272

Luminaire Tested: EHBR1-12-UNV-ASM-L830-UPL36

Issue Date: 3/20/2026

Test Information

Test Method: LM-79-2019
Report Number: P1432272
REPORT IS A COMBINATION OF REPORTS P1431649 AND P1431635
Test Lab: INNOVATION CENTER
Issue Date: 3/20/2026
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: METALUX
Catalog Number: EHBR1-12-UNV-ASM-L830-UPL36
Description: Elevate Round Highbay at, 12000 lumens, 3000K 80CRI LEDs with ASM lens
Light Source: -
Ballast/Driver: -

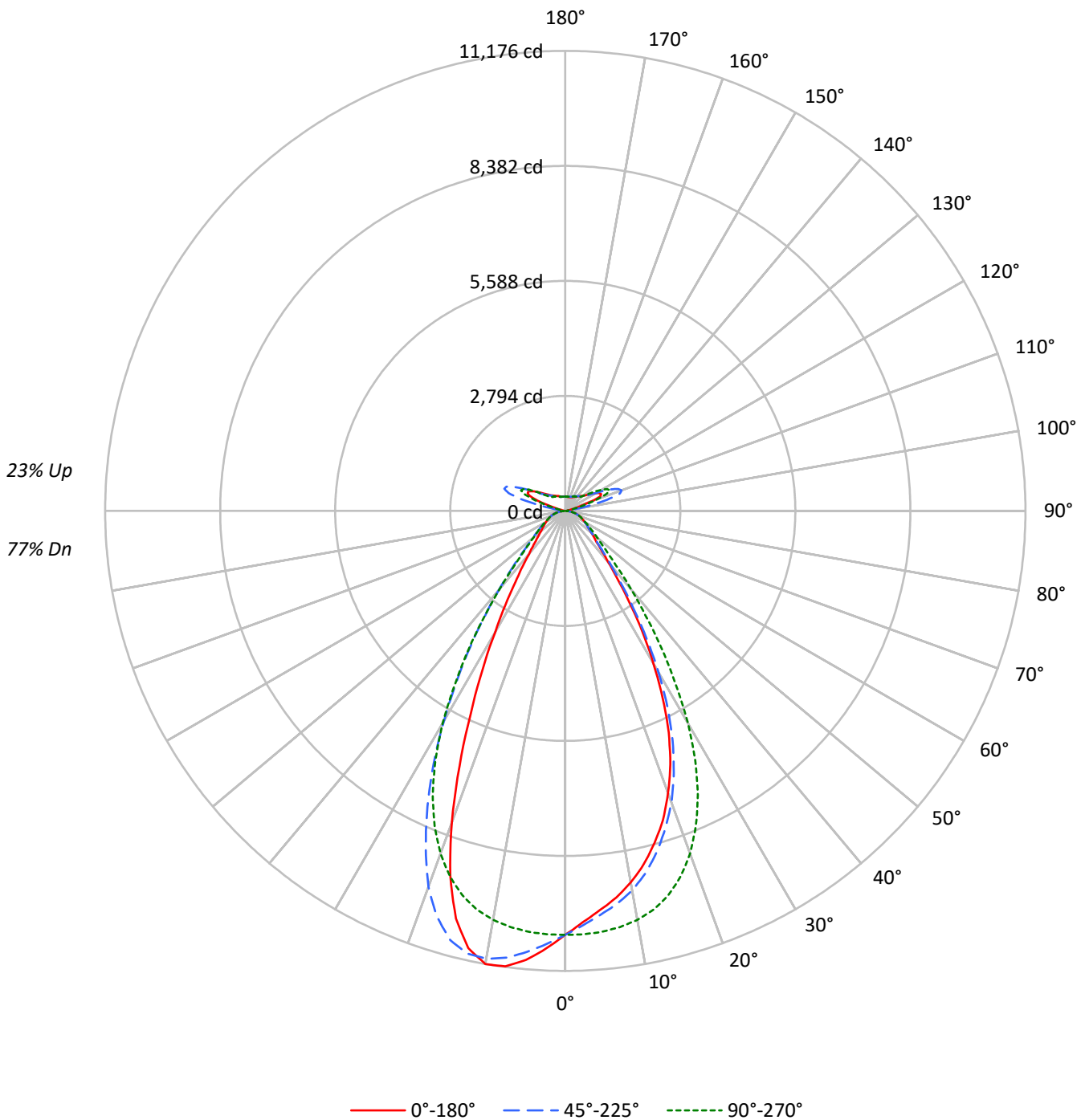
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 14965.7 lumens
Efficiency: N/A
Efficacy: 160.7 lumens/watt
Spacing Criteria (0/90/45): 0.84 / 0.99 / 0.92
Luminous Opening: Vertical Cylinder (Dia: 1.71' x H: 0.1')
CIE Type: Semi-Direct

Input Watts (W): 93.1
Input Voltage (V): NR
Input Current (A_{in}): 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: P1432272
CATALOG NUMBER: EHBR1-12-UNV-ASM-L830-UPL36

Luminous Intensity Polar Plot





TEST NUMBER: P1432272

CATALOG NUMBER: EHBR1-12-UNV-ASM-L830-UPL36

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 | 0 |
| RCR | | | | | | | | | | | | | | | | | | | | | |
| 0 | 114 | 114 | 114 | 114 | 108 | 108 | 108 | 108 | 98 | 98 | 98 | 89 | 89 | 89 | 81 | 81 | 81 | 77 | | | 77 |
| 1 | 106 | 103 | 99 | 96 | 101 | 98 | 95 | 93 | 90 | 88 | 86 | 82 | 81 | 79 | 75 | 74 | 73 | 69 | | | 69 |
| 2 | 99 | 93 | 88 | 83 | 94 | 89 | 85 | 81 | 82 | 79 | 75 | 76 | 73 | 70 | 70 | 68 | 66 | 63 | | | 63 |
| 3 | 92 | 84 | 78 | 73 | 88 | 81 | 76 | 71 | 75 | 71 | 67 | 70 | 66 | 63 | 65 | 62 | 60 | 57 | | | 57 |
| 4 | 86 | 77 | 71 | 66 | 83 | 75 | 69 | 64 | 69 | 64 | 61 | 65 | 61 | 57 | 60 | 57 | 54 | 52 | | | 52 |
| 5 | 81 | 71 | 64 | 59 | 78 | 69 | 62 | 58 | 64 | 59 | 55 | 60 | 56 | 52 | 56 | 53 | 50 | 48 | | | 48 |
| 6 | 76 | 66 | 59 | 54 | 73 | 64 | 57 | 53 | 60 | 54 | 50 | 56 | 52 | 48 | 53 | 49 | 46 | 44 | | | 44 |
| 7 | 72 | 61 | 54 | 49 | 69 | 59 | 53 | 48 | 56 | 50 | 46 | 52 | 48 | 45 | 49 | 46 | 43 | 41 | | | 41 |
| 8 | 67 | 57 | 50 | 45 | 65 | 55 | 49 | 44 | 52 | 47 | 43 | 49 | 45 | 41 | 46 | 43 | 40 | 38 | | | 38 |
| 9 | 64 | 53 | 46 | 42 | 61 | 51 | 45 | 41 | 49 | 43 | 40 | 46 | 42 | 38 | 44 | 40 | 37 | 35 | | | 35 |
| 10 | 60 | 50 | 43 | 39 | 58 | 48 | 42 | 38 | 46 | 41 | 37 | 44 | 39 | 36 | 41 | 38 | 35 | 33 | | | 33 |

AVERAGE LUMINANCE (cd/sqm):

| | 0° | 45° | 90° | 135° | 180° |
|-----|-------|-------|-------|-------|-------|
| 0° | 48369 | 48369 | 48369 | 48369 | 48369 |
| 5° | 45580 | 46113 | 48075 | 50381 | 51287 |
| 10° | 43138 | 44051 | 47483 | 51998 | 52603 |
| 15° | 39848 | 40912 | 46082 | 51465 | 48885 |
| 20° | 35493 | 36688 | 43098 | 47306 | 39199 |
| 25° | 29745 | 30870 | 38145 | 39679 | 27159 |
| 30° | 22255 | 23545 | 30973 | 30663 | 17669 |
| 35° | 14816 | 15710 | 22214 | 21856 | 11443 |
| 40° | 9344 | 9986 | 14363 | 14455 | 7887 |
| 45° | 6657 | 6934 | 9113 | 9505 | 6110 |
| 50° | 5546 | 5589 | 6768 | 6944 | 5191 |
| 55° | 4895 | 4906 | 5525 | 5671 | 4729 |
| 60° | 4533 | 4494 | 4784 | 4885 | 4505 |
| 65° | 4327 | 4287 | 4361 | 4446 | 4345 |
| 70° | 4202 | 4129 | 4134 | 4212 | 4258 |
| 75° | 3995 | 3874 | 3865 | 4002 | 4118 |
| 80° | 3635 | 3382 | 3395 | 3635 | 3889 |
| 85° | 2648 | 2197 | 2197 | 2514 | 2779 |

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 112.5°
 Vertical Angle: 45°
 Luminance: 12812 cd/sqm



TEST NUMBER: P1432272
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ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|---------|-----------|
| 0°-10° | 979.4 | 6.5 |
| 10°-20° | 2664.4 | 17.8 |
| 20°-30° | 3124.8 | 20.9 |
| 30°-40° | 2173.1 | 14.5 |
| 40°-50° | 1079.9 | 7.2 |
| 50°-60° | 645.9 | 4.3 |
| 60°-70° | 454.6 | 3.0 |
| 70°-80° | 292.9 | 2.0 |
| 80°-90° | 99.1 | 0.7 |
| 90°-100° | 91.3 | 0.6 |
| 100°-110° | 601.8 | 4.0 |
| 110°-120° | 1112.9 | 7.4 |
| 120°-130° | 660.6 | 4.4 |
| 130°-140° | 398.3 | 2.7 |
| 140°-150° | 274.5 | 1.8 |
| 150°-160° | 177.9 | 1.2 |
| 160°-170° | 101.0 | 0.7 |
| 170°-180° | 33.3 | 0.2 |
| 0°-30° | 6768.6 | 45.2 |
| 0°-40° | 8941.7 | 59.7 |
| 0°-60° | 10667.6 | 71.3 |
| 0°-90° | 11514.1 | 76.9 |
| 90°-120° | 1806.0 | 12.1 |
| 90°-150° | 3139.3 | 21.0 |
| 90°-180° | 3452.0 | 23.1 |
| 0°-180° | 14965.7 | 100.0 |

CANDELA DISTRIBUTION:

| | 0° | 45° | 90° | 135° | 180° | Flux |
|------|-------|-------|-------|-------|-------|------|
| 0° | 10300 | 10300 | 10300 | 10300 | 10300 | |
| 5° | 9732 | 9846 | 10265 | 10757 | 10951 | 913 |
| 15° | 8360 | 8583 | 9668 | 10797 | 10256 | 2331 |
| 25° | 5940 | 6165 | 7618 | 7924 | 5424 | 2680 |
| 35° | 2719 | 2883 | 4077 | 4011 | 2100 | 1732 |
| 45° | 1077 | 1122 | 1474 | 1538 | 988 | 871 |
| 55° | 662 | 663 | 747 | 766 | 639 | 600 |
| 65° | 452 | 448 | 455 | 464 | 454 | 448 |
| 75° | 281 | 273 | 272 | 282 | 290 | 297 |
| 85° | 91 | 76 | 76 | 86 | 96 | 94 |
| 90° | 25 | 69 | 25 | 73 | 26 | 16 |
| 95° | 42 | 155 | 48 | 133 | 44 | 41 |
| 105° | 209 | 1052 | 276 | 1122 | 138 | 280 |
| 115° | 962 | 1244 | 1185 | 1376 | 1010 | 886 |
| 125° | 694 | 666 | 758 | 737 | 791 | 633 |
| 135° | 507 | 509 | 477 | 532 | 550 | 396 |
| 145° | 418 | 437 | 430 | 441 | 449 | 265 |
| 155° | 368 | 381 | 380 | 380 | 396 | 171 |
| 165° | 346 | 356 | 354 | 352 | 363 | 99 |
| 175° | 344 | 350 | 350 | 346 | 353 | 33 |
| 180° | 348 | 348 | 348 | 348 | 348 | |



TEST NUMBER: P1432272
 CATALOG NUMBER: EHBR1-12-UNV-ASM-L830-UPL36

CANDELA DISTRIBUTION (FULL):

| | 0° | 22.5° | 45° | 67.5° | 90° | 112.5° | 135° | 157.5° | 180° |
|--------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| 0° | 10299.9 | 10299.9 | 10299.9 | 10299.9 | 10299.9 | 10299.9 | 10299.9 | 10299.9 | 10299.9 |
| 2.5° | 9994.1 | 10000.7 | 10070.7 | 10161.6 | 10293.9 | 10427.0 | 10534.7 | 10605.8 | 10640.9 |
| 5° | 9732.0 | 9768.4 | 9845.8 | 10012.9 | 10264.7 | 10531.2 | 10757.1 | 10904.8 | 10950.6 |
| 7.5° | 9476.7 | 9497.8 | 9627.4 | 9838.4 | 10195.0 | 10610.3 | 10945.7 | 11118.2 | 11160.3 |
| 10° | 9165.2 | 9212.9 | 9359.3 | 9608.3 | 10088.5 | 10660.1 | 11047.7 | 11171.3 | 11176.3 |
| 12.5° | 8798.6 | 8861.7 | 9013.0 | 9327.0 | 9918.8 | 10642.3 | 11013.5 | 10973.0 | 10880.8 |
| 15° | 8359.8 | 8415.2 | 8583.1 | 8947.4 | 9667.8 | 10537.0 | 10797.0 | 10467.0 | 10255.8 |
| 17.5° | 7885.9 | 7936.1 | 8081.9 | 8483.0 | 9313.9 | 10340.0 | 10345.1 | 9692.0 | 9293.8 |
| 20° | 7294.8 | 7334.2 | 7540.5 | 7934.1 | 8857.9 | 10024.1 | 9722.8 | 8528.5 | 8056.5 |
| 22.5° | 6666.0 | 6702.9 | 6886.1 | 7295.8 | 8286.2 | 9598.0 | 8856.2 | 7357.8 | 6714.0 |
| 25° | 5940.0 | 5960.1 | 6164.8 | 6535.2 | 7617.6 | 9076.0 | 7923.9 | 6082.3 | 5423.7 |
| 27.5° | 5123.2 | 5157.3 | 5371.6 | 5749.9 | 6831.1 | 8414.3 | 6931.2 | 4970.3 | 4362.6 |
| 30° | 4280.8 | 4337.3 | 4528.9 | 4867.7 | 5957.6 | 7566.0 | 5898.1 | 3958.2 | 3398.7 |
| 32.5° | 3494.5 | 3535.2 | 3671.7 | 4025.8 | 4979.5 | 6734.6 | 4905.9 | 3171.5 | 2697.5 |
| 35° | 2719.2 | 2759.9 | 2883.4 | 3231.0 | 4077.1 | 5694.3 | 4011.3 | 2492.0 | 2100.2 |
| 37.5° | 2078.6 | 2150.6 | 2229.7 | 2512.0 | 3199.7 | 4711.5 | 3197.6 | 2006.7 | 1703.5 |
| 40° | 1619.5 | 1631.1 | 1730.8 | 1911.3 | 2489.4 | 3683.9 | 2505.4 | 1601.9 | 1367.0 |
| 42.5° | 1296.3 | 1327.8 | 1370.7 | 1505.9 | 1886.2 | 2817.0 | 1969.2 | 1314.7 | 1161.1 |
| 45° | 1077.1 | 1089.5 | 1121.9 | 1212.8 | 1474.4 | 2072.9 | 1537.8 | 1109.2 | 988.5 |
| 47.5° | 942.3 | 936.9 | 957.8 | 1025.8 | 1200.8 | 1602.1 | 1246.3 | 951.4 | 866.8 |
| 50° | 826.5 | 823.2 | 833.0 | 878.4 | 1008.6 | 1229.3 | 1034.9 | 830.5 | 773.7 |
| 52.5° | 736.4 | 739.3 | 740.3 | 768.5 | 866.5 | 1002.6 | 881.3 | 740.1 | 701.9 |
| 55° | 661.5 | 665.2 | 663.0 | 683.9 | 746.7 | 842.9 | 766.4 | 665.5 | 639.1 |
| 57.5° | 603.0 | 600.2 | 597.3 | 608.6 | 655.7 | 715.0 | 665.5 | 602.0 | 584.4 |
| 60° | 544.9 | 542.4 | 540.2 | 547.5 | 575.1 | 619.2 | 587.3 | 546.6 | 541.6 |
| 62.5° | 495.1 | 493.5 | 493.3 | 492.0 | 513.1 | 540.9 | 519.3 | 496.7 | 492.3 |
| 65° | 451.6 | 449.8 | 447.5 | 445.4 | 455.2 | 481.1 | 464.1 | 452.0 | 453.5 |
| 67.5° | 408.1 | 408.1 | 404.0 | 400.7 | 410.5 | 424.0 | 416.6 | 409.6 | 411.4 |
| 70° | 368.7 | 368.9 | 362.3 | 359.8 | 362.7 | 377.2 | 369.6 | 370.7 | 373.6 |
| 72.5° | 326.4 | 321.8 | 317.0 | 316.7 | 317.2 | 328.3 | 325.8 | 328.1 | 331.2 |
| 75° | 281.4 | 276.0 | 272.9 | 269.4 | 272.3 | 280.8 | 281.9 | 285.2 | 290.1 |
| 77.5° | 237.9 | 229.7 | 227.2 | 225.4 | 223.5 | 233.1 | 236.8 | 241.2 | 248.4 |
| 80° | 191.2 | 182.1 | 177.9 | 175.4 | 178.6 | 183.1 | 191.2 | 194.5 | 204.6 |
| 82.5° | 141.3 | 134.6 | 129.4 | 129.2 | 130.8 | 134.8 | 141.7 | 147.9 | 153.7 |
| 85° | 91.0 | 80.2 | 75.5 | 77.3 | 75.5 | 81.7 | 86.4 | 93.7 | 95.5 |
| 87.5° | 32.9 | 25.7 | 24.5 | 27.1 | 26.4 | 28.4 | 32.4 | 35.3 | 35.5 |
| 90° | 25.1 | 40.5 | 69.1 | 44.2 | 25.1 | 42.5 | 73.3 | 39.4 | 26.4 |
| 92.5° | 36.6 | 61.5 | 111.3 | 57.7 | 32.8 | 57.9 | 104.1 | 52.8 | 36.0 |
| 95° | 42.3 | 71.1 | 155.4 | 76.8 | 48.2 | 71.3 | 132.7 | 58.6 | 43.7 |
| 97.5° | 54.0 | 78.8 | 178.3 | 94.0 | 75.1 | 88.5 | 150.0 | 62.5 | 53.2 |
| 100° | 71.3 | 92.2 | 278.0 | 115.3 | 100.0 | 100.0 | 274.5 | 72.0 | 60.9 |
| 102.5° | 121.1 | 195.6 | 590.3 | 216.8 | 151.7 | 196.0 | 636.9 | 145.0 | 74.3 |
| 105° | 209.2 | 412.2 | 1052.0 | 454.5 | 276.2 | 448.9 | 1121.6 | 376.8 | 137.8 |
| 107.5° | 362.5 | 737.8 | 1387.5 | 805.1 | 523.4 | 837.8 | 1445.3 | 744.7 | 323.6 |
| 110° | 676.7 | 979.2 | 1454.6 | 1105.9 | 837.6 | 1171.2 | 1577.6 | 1020.6 | 657.0 |



TEST NUMBER: P1432272
 CATALOG NUMBER: EHBR1-12-UNV-ASM-L830-UPL36

CANDELA DISTRIBUTION (continued):

| | 0° | 22.5° | 45° | 67.5° | 90° | 112.5° | 135° | 157.5° | 180° |
|--------|-------|--------|--------|--------|--------|--------|--------|--------|--------|
| 112.5° | 914.3 | 1052.0 | 1393.3 | 1220.8 | 1090.5 | 1305.3 | 1541.2 | 1131.7 | 909.9 |
| 115° | 962.2 | 1011.8 | 1243.9 | 1192.1 | 1184.7 | 1286.2 | 1376.4 | 1127.9 | 1009.6 |
| 117.5° | 929.6 | 923.7 | 1056.0 | 1071.6 | 1144.4 | 1177.0 | 1188.6 | 1058.9 | 1015.3 |
| 120° | 860.6 | 822.1 | 881.7 | 935.6 | 1033.3 | 1019.9 | 1001.1 | 957.4 | 957.9 |
| 122.5° | 774.4 | 728.5 | 755.5 | 795.8 | 893.6 | 864.9 | 845.8 | 854.1 | 879.3 |
| 125° | 694.1 | 647.9 | 665.6 | 675.4 | 757.5 | 728.9 | 736.8 | 765.9 | 791.3 |
| 127.5° | 623.3 | 592.4 | 602.4 | 591.1 | 642.8 | 629.4 | 658.3 | 691.2 | 712.7 |
| 130° | 575.3 | 548.5 | 562.3 | 535.7 | 560.6 | 564.2 | 602.8 | 630.2 | 643.8 |
| 132.5° | 535.3 | 518.1 | 533.9 | 501.5 | 509.0 | 524.2 | 560.8 | 584.4 | 592.3 |
| 135° | 506.6 | 491.4 | 509.0 | 478.8 | 476.7 | 499.3 | 532.2 | 547.8 | 550.1 |
| 137.5° | 481.8 | 468.6 | 486.5 | 463.7 | 457.8 | 480.3 | 505.4 | 517.3 | 513.7 |
| 140° | 459.3 | 447.9 | 467.5 | 450.3 | 446.4 | 469.0 | 480.4 | 494.4 | 490.9 |
| 142.5° | 434.8 | 427.1 | 450.5 | 439.0 | 435.2 | 455.9 | 461.6 | 471.5 | 467.9 |
| 145° | 418.0 | 412.2 | 437.3 | 431.4 | 429.6 | 444.7 | 440.7 | 454.3 | 449.0 |
| 147.5° | 403.0 | 399.1 | 422.1 | 420.0 | 420.0 | 431.4 | 425.5 | 437.3 | 431.9 |
| 150° | 390.0 | 386.1 | 408.9 | 406.8 | 408.7 | 416.4 | 408.5 | 422.1 | 420.6 |
| 152.5° | 376.9 | 372.9 | 393.8 | 391.6 | 393.6 | 401.2 | 393.6 | 409.1 | 407.4 |
| 155° | 367.7 | 363.6 | 380.7 | 380.3 | 380.5 | 384.3 | 380.5 | 396.0 | 396.2 |
| 157.5° | 360.5 | 358.3 | 371.5 | 371.3 | 371.3 | 373.5 | 371.5 | 385.1 | 385.3 |
| 160° | 355.2 | 353.1 | 364.4 | 364.2 | 362.5 | 366.3 | 364.6 | 376.3 | 376.6 |
| 162.5° | 350.0 | 347.8 | 360.9 | 359.0 | 359.0 | 359.0 | 357.6 | 369.3 | 369.6 |
| 165° | 346.5 | 346.3 | 355.7 | 355.7 | 354.0 | 355.9 | 352.4 | 360.4 | 362.7 |
| 167.5° | 346.5 | 344.5 | 354.2 | 354.2 | 352.4 | 350.5 | 350.9 | 357.2 | 359.5 |
| 170° | 344.9 | 344.7 | 352.4 | 350.7 | 348.7 | 348.9 | 347.4 | 353.7 | 356.0 |
| 172.5° | 345.3 | 345.1 | 353.0 | 351.1 | 349.3 | 349.3 | 346.0 | 350.4 | 354.7 |
| 175° | 343.8 | 343.6 | 349.5 | 349.5 | 349.7 | 348.0 | 346.4 | 349.0 | 353.2 |
| 177.5° | 345.8 | 345.6 | 349.5 | 349.5 | 347.8 | 348.2 | 348.5 | 351.1 | 357.3 |
| 180° | 348.2 | 348.2 | 348.2 | 348.2 | 348.2 | 348.2 | 348.2 | 348.2 | 348.2 |



TEST NUMBER: P1432272
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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 | 12.13 | 13.05 | 12.85 | 13.76 | 14.60 | 12.90 | 13.82 | 13.61 | 14.53 | 15.36 |
| | 3H | 13.94 | 14.76 | 14.67 | 15.48 | 16.35 | 14.45 | 15.27 | 15.18 | 15.99 | 16.86 |
| | 4H | 14.67 | 15.44 | 15.42 | 16.17 | 17.05 | 15.09 | 15.86 | 15.84 | 16.59 | 17.47 |
| | 6H | 15.23 | 15.94 | 15.99 | 16.68 | 17.58 | 15.58 | 16.28 | 16.34 | 17.03 | 17.92 |
| | 8H | 15.41 | 16.08 | 16.18 | 16.84 | 17.74 | 15.73 | 16.40 | 16.50 | 17.16 | 18.06 |
| | 12H | 15.51 | 16.14 | 16.28 | 16.89 | 17.82 | 15.81 | 16.44 | 16.58 | 17.19 | 18.12 |
| 4H | 2H | 12.63 | 13.40 | 13.38 | 14.13 | 15.02 | 13.26 | 14.03 | 14.01 | 14.76 | 15.65 |
| | 3H | 14.66 | 15.30 | 15.42 | 16.07 | 16.97 | 15.06 | 15.70 | 15.82 | 16.47 | 17.36 |
| | 4H | 15.52 | 16.10 | 16.30 | 16.87 | 17.80 | 15.84 | 16.42 | 16.62 | 17.19 | 18.12 |
| | 6H | 16.21 | 16.71 | 17.00 | 17.50 | 18.44 | 16.47 | 16.97 | 17.26 | 17.76 | 18.70 |
| | 8H | 16.44 | 16.90 | 17.23 | 17.69 | 18.64 | 16.68 | 17.14 | 17.47 | 17.93 | 18.87 |
| | 12H | 16.57 | 16.98 | 17.38 | 17.79 | 18.74 | 16.78 | 17.20 | 17.60 | 18.01 | 18.96 |
| 8H | 4H | 15.78 | 16.24 | 16.57 | 17.03 | 17.98 | 16.08 | 16.54 | 16.88 | 17.33 | 18.28 |
| | 6H | 16.59 | 16.97 | 17.41 | 17.80 | 18.75 | 16.84 | 17.22 | 17.66 | 18.05 | 19.00 |
| | 8H | 16.89 | 17.23 | 17.73 | 18.06 | 19.03 | 17.13 | 17.46 | 17.96 | 18.29 | 19.26 |
| | 12H | 17.09 | 17.38 | 17.92 | 18.20 | 19.23 | 17.30 | 17.59 | 18.14 | 18.41 | 19.44 |
| 12H | 4H | 15.78 | 16.19 | 16.59 | 17.00 | 17.95 | 16.08 | 16.49 | 16.89 | 17.31 | 18.26 |
| | 6H | 16.63 | 16.97 | 17.47 | 17.80 | 18.76 | 16.89 | 17.22 | 17.72 | 18.05 | 19.02 |
| | 8H | 16.97 | 17.26 | 17.80 | 18.08 | 19.11 | 17.21 | 17.50 | 18.04 | 18.32 | 19.35 |

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
 R_f: 81.2
 R_g: 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)