

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: P1433288

Luminaire Tested: EHBR1-48-UNV-ASM-L930-UPL40

Issue Date: 3/20/2026

Test Information

Test Method: LM-79-2019
Report Number: P1433288
REPORT IS A COMBINATION OF REPORTS P1431842 AND P1431635
Test Lab: INNOVATION CENTER
Issue Date: 3/20/2026
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: METALUX
Catalog Number: EHBR1-48-UNV-ASM-L930-UPL40
Description: Elevate Round Highbay at, 49000 lumens, 3000K 90CRI LEDs with ASM lens
Light Source: -
Ballast/Driver: -

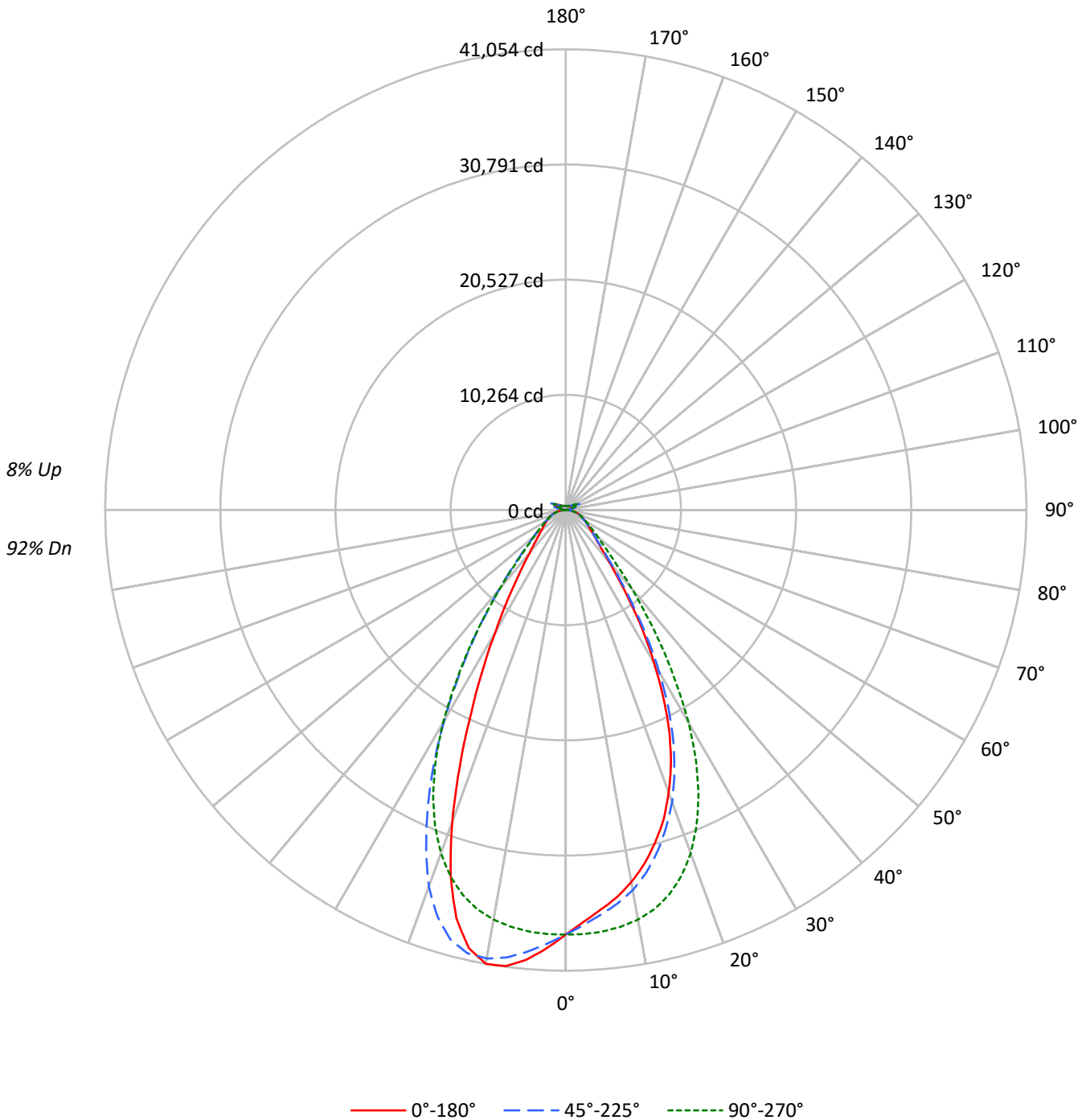
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 45761.9 lumens
Efficiency: N/A
Efficacy: 158.2 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: Direct

Input Watts (W): 289.2
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: P1433288
CATALOG NUMBER: EHBR1-48-UNV-ASM-L930-UPL40

Luminous Intensity Polar Plot





TEST NUMBER: P1433288
 CATALOG NUMBER: EHBR1-48-UNV-ASM-L930-UPL40

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 | 117 | 117 | 117 | 117 | 114 | 114 | 114 | 114 | 107 | 107 | 107 | 101 | 101 | 101 | 95 | 95 | 95 | 95 | 95 | 95 | 92 |
| 1 | 110 | 107 | 103 | 101 | 107 | 104 | 101 | 98 | 98 | 96 | 94 | 93 | 91 | 90 | 88 | 87 | 86 | 88 | 87 | 86 | 83 |
| 2 | 103 | 97 | 92 | 88 | 100 | 95 | 90 | 86 | 90 | 86 | 83 | 86 | 83 | 80 | 82 | 80 | 77 | 82 | 80 | 77 | 75 |
| 3 | 97 | 89 | 83 | 78 | 94 | 87 | 81 | 77 | 83 | 78 | 75 | 79 | 76 | 72 | 76 | 73 | 70 | 76 | 73 | 70 | 68 |
| 4 | 91 | 82 | 75 | 70 | 88 | 80 | 74 | 69 | 77 | 72 | 68 | 74 | 69 | 66 | 71 | 67 | 64 | 71 | 67 | 64 | 62 |
| 5 | 85 | 75 | 69 | 64 | 83 | 74 | 68 | 63 | 71 | 66 | 62 | 69 | 64 | 60 | 66 | 62 | 59 | 66 | 62 | 59 | 57 |
| 6 | 80 | 70 | 63 | 58 | 78 | 69 | 62 | 58 | 66 | 61 | 57 | 64 | 59 | 56 | 62 | 58 | 55 | 62 | 58 | 55 | 53 |
| 7 | 76 | 65 | 58 | 54 | 74 | 64 | 58 | 53 | 62 | 56 | 52 | 60 | 55 | 51 | 58 | 54 | 51 | 58 | 54 | 51 | 49 |
| 8 | 72 | 61 | 54 | 50 | 70 | 60 | 54 | 49 | 58 | 53 | 49 | 57 | 52 | 48 | 55 | 50 | 47 | 55 | 50 | 47 | 46 |
| 9 | 68 | 57 | 50 | 46 | 66 | 56 | 50 | 46 | 55 | 49 | 45 | 53 | 48 | 45 | 52 | 47 | 44 | 52 | 47 | 44 | 43 |
| 10 | 64 | 54 | 47 | 43 | 63 | 53 | 47 | 43 | 52 | 46 | 42 | 50 | 45 | 42 | 49 | 45 | 41 | 49 | 45 | 41 | 40 |

AVERAGE LUMINANCE (cd/sqm):

| | 0° | 45° | 90° | 135° | 180° |
|-----|--------|--------|--------|--------|--------|
| 0° | 177676 | 177676 | 177676 | 177676 | 177676 |
| 5° | 167430 | 169387 | 176594 | 185064 | 188394 |
| 10° | 158459 | 161814 | 174424 | 191006 | 193230 |
| 15° | 146373 | 150282 | 169274 | 189047 | 179571 |
| 20° | 130377 | 134768 | 158313 | 173771 | 143991 |
| 25° | 109262 | 113397 | 140120 | 145754 | 99765 |
| 30° | 81750 | 86489 | 113772 | 112636 | 64904 |
| 35° | 54423 | 57709 | 81601 | 80283 | 42034 |
| 40° | 34322 | 36680 | 52758 | 53098 | 28972 |
| 45° | 24455 | 25472 | 33474 | 34913 | 22442 |
| 50° | 20370 | 20531 | 24859 | 25505 | 19070 |
| 55° | 17981 | 18023 | 20296 | 20831 | 17372 |
| 60° | 16648 | 16507 | 17575 | 17946 | 16548 |
| 65° | 15891 | 15749 | 16021 | 16333 | 15959 |
| 70° | 15436 | 15168 | 15184 | 15476 | 15637 |
| 75° | 14674 | 14230 | 14200 | 14704 | 15127 |
| 80° | 13352 | 12420 | 12474 | 13352 | 14281 |
| 85° | 9724 | 8071 | 8071 | 9229 | 10198 |

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 112.5°
 Vertical Angle: 45°
 Luminance: 47063 cd/sqm



TEST NUMBER: P1433288
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ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|---------|-----------|
| 0°-10° | 3597.5 | 7.9 |
| 10°-20° | 9787.3 | 21.4 |
| 20°-30° | 11478.5 | 25.1 |
| 30°-40° | 7982.5 | 17.4 |
| 40°-50° | 3967.0 | 8.7 |
| 50°-60° | 2372.6 | 5.2 |
| 60°-70° | 1670.0 | 3.6 |
| 70°-80° | 1075.7 | 2.4 |
| 80°-90° | 347.8 | 0.8 |
| 90°-100° | 93.0 | 0.2 |
| 100°-110° | 604.9 | 1.3 |
| 110°-120° | 1117.2 | 2.4 |
| 120°-130° | 664.3 | 1.5 |
| 130°-140° | 402.2 | 0.9 |
| 140°-150° | 278.7 | 0.6 |
| 150°-160° | 182.4 | 0.4 |
| 160°-170° | 105.2 | 0.2 |
| 170°-180° | 35.1 | 0.1 |
| 0°-30° | 24863.2 | 54.3 |
| 0°-40° | 32845.8 | 71.8 |
| 0°-60° | 39185.4 | 85.6 |
| 0°-90° | 42278.9 | 92.4 |
| 90°-120° | 1815.1 | 4.0 |
| 90°-150° | 3160.3 | 6.9 |
| 90°-180° | 3483.0 | 7.6 |
| 0°-180° | 45761.9 | 100.0 |

CANDELA DISTRIBUTION:

| | 0° | 45° | 90° | 135° | 180° | Flux |
|------|-------|-------|-------|-------|-------|------|
| 0° | 37835 | 37835 | 37835 | 37835 | 37835 | |
| 5° | 35749 | 36167 | 37706 | 39514 | 40225 | 3353 |
| 15° | 30708 | 31528 | 35513 | 39661 | 37673 | 8564 |
| 25° | 21820 | 22645 | 27982 | 29107 | 19923 | 9845 |
| 35° | 9988 | 10592 | 14977 | 14735 | 7715 | 6363 |
| 45° | 3957 | 4121 | 5416 | 5649 | 3631 | 3198 |
| 55° | 2430 | 2436 | 2743 | 2815 | 2348 | 2205 |
| 65° | 1659 | 1644 | 1672 | 1705 | 1666 | 1647 |
| 75° | 1034 | 1002 | 1000 | 1036 | 1066 | 1091 |
| 85° | 334 | 277 | 277 | 317 | 350 | 344 |
| 90° | 26 | 70 | 26 | 75 | 31 | 29 |
| 95° | 43 | 156 | 50 | 135 | 48 | 42 |
| 105° | 211 | 1055 | 278 | 1126 | 143 | 282 |
| 115° | 965 | 1248 | 1189 | 1382 | 1016 | 889 |
| 125° | 697 | 669 | 761 | 742 | 798 | 635 |
| 135° | 510 | 514 | 482 | 538 | 557 | 399 |
| 145° | 424 | 444 | 437 | 447 | 457 | 269 |
| 155° | 378 | 390 | 390 | 390 | 406 | 176 |
| 165° | 362 | 370 | 369 | 368 | 381 | 103 |
| 175° | 362 | 368 | 369 | 367 | 376 | 35 |
| 180° | 368 | 368 | 368 | 368 | 368 | |



TEST NUMBER: P1433288
 CATALOG NUMBER: EHBR1-48-UNV-ASM-L930-UPL40

CANDELA DISTRIBUTION (FULL):

| | 0° | 22.5° | 45° | 67.5° | 90° | 112.5° | 135° | 157.5° | 180° |
|--------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| 0° | 37834.8 | 37834.8 | 37834.8 | 37834.8 | 37834.8 | 37834.8 | 37834.8 | 37834.8 | 37834.8 |
| 2.5° | 36711.8 | 36735.8 | 36992.6 | 37326.8 | 37812.9 | 38301.6 | 38697.5 | 38958.6 | 39087.7 |
| 5° | 35749.0 | 35882.4 | 36166.9 | 36780.6 | 37705.7 | 38684.7 | 39514.1 | 40056.8 | 40225.0 |
| 7.5° | 34811.1 | 34888.4 | 35364.4 | 36139.9 | 37449.5 | 38974.9 | 40207.3 | 40840.8 | 40995.5 |
| 10° | 33666.7 | 33841.9 | 34379.7 | 35294.2 | 37058.7 | 39157.9 | 40581.8 | 41035.9 | 41054.4 |
| 12.5° | 32320.2 | 32552.2 | 33107.7 | 34261.3 | 36435.1 | 39092.7 | 40456.2 | 40307.2 | 39968.9 |
| 15° | 30708.3 | 30911.9 | 31528.4 | 32866.5 | 35512.7 | 38706.0 | 39661.0 | 38448.5 | 37673.0 |
| 17.5° | 28967.3 | 29151.8 | 29687.3 | 31160.9 | 34213.0 | 37982.3 | 38000.8 | 35602.1 | 34139.2 |
| 20° | 26796.3 | 26941.0 | 27698.8 | 29144.6 | 32538.0 | 36821.7 | 35714.9 | 31327.7 | 29594.4 |
| 22.5° | 24486.3 | 24621.8 | 25295.1 | 26799.9 | 30438.0 | 35256.6 | 32531.6 | 27027.6 | 24663.0 |
| 25° | 21819.5 | 21893.3 | 22645.3 | 24006.0 | 27981.8 | 33339.0 | 29107.0 | 22342.3 | 19923.0 |
| 27.5° | 18819.2 | 18944.7 | 19731.5 | 21121.4 | 25092.9 | 30908.4 | 25460.4 | 18257.2 | 16025.3 |
| 30° | 15724.5 | 15932.3 | 16636.2 | 17880.5 | 21884.0 | 27792.4 | 21665.5 | 14539.7 | 12484.3 |
| 32.5° | 12836.2 | 12986.0 | 13487.6 | 14788.0 | 18291.3 | 24738.1 | 18021.0 | 11650.1 | 9909.0 |
| 35° | 9988.5 | 10138.2 | 10591.6 | 11868.6 | 14976.7 | 20917.0 | 14734.8 | 9154.1 | 7714.7 |
| 37.5° | 7635.2 | 7899.9 | 8190.7 | 9227.2 | 11753.6 | 17306.6 | 11745.8 | 7371.3 | 6257.4 |
| 40° | 5948.8 | 5991.4 | 6357.5 | 7020.8 | 9144.3 | 13532.2 | 9203.2 | 5884.3 | 5021.6 |
| 42.5° | 4761.9 | 4877.6 | 5035.0 | 5531.7 | 6928.6 | 10347.5 | 7233.7 | 4829.3 | 4265.3 |
| 45° | 3956.7 | 4002.1 | 4121.3 | 4454.7 | 5416.0 | 7614.6 | 5648.8 | 4074.5 | 3631.0 |
| 47.5° | 3461.5 | 3441.6 | 3518.2 | 3767.9 | 4410.7 | 5885.0 | 4578.1 | 3494.8 | 3184.0 |
| 50° | 3035.8 | 3023.7 | 3059.9 | 3226.6 | 3704.8 | 4515.7 | 3801.2 | 3050.6 | 2842.1 |
| 52.5° | 2705.1 | 2715.8 | 2719.4 | 2823.0 | 3182.6 | 3682.8 | 3237.2 | 2718.7 | 2578.2 |
| 55° | 2429.9 | 2443.4 | 2435.6 | 2512.2 | 2742.8 | 3096.1 | 2815.1 | 2444.8 | 2347.6 |
| 57.5° | 2214.9 | 2205.0 | 2194.3 | 2235.5 | 2408.7 | 2626.5 | 2444.8 | 2211.4 | 2146.8 |
| 60° | 2001.4 | 1992.1 | 1984.4 | 2011.3 | 2112.8 | 2274.5 | 2157.4 | 2007.7 | 1989.3 |
| 62.5° | 1818.4 | 1812.7 | 1812.0 | 1807.0 | 1885.0 | 1987.2 | 1907.8 | 1824.7 | 1808.4 |
| 65° | 1658.7 | 1652.4 | 1643.8 | 1636.0 | 1672.2 | 1767.3 | 1704.8 | 1660.1 | 1665.8 |
| 67.5° | 1499.1 | 1499.1 | 1484.2 | 1472.2 | 1507.6 | 1557.3 | 1530.3 | 1504.8 | 1511.2 |
| 70° | 1354.4 | 1355.1 | 1330.9 | 1321.7 | 1332.3 | 1385.5 | 1357.9 | 1361.5 | 1372.1 |
| 72.5° | 1199.0 | 1181.9 | 1164.2 | 1163.5 | 1164.9 | 1206.1 | 1196.9 | 1205.4 | 1216.8 |
| 75° | 1033.7 | 1013.8 | 1002.4 | 989.7 | 1000.3 | 1031.6 | 1035.8 | 1047.9 | 1065.6 |
| 77.5° | 874.0 | 843.6 | 834.3 | 828.0 | 820.8 | 856.3 | 869.8 | 886.1 | 912.3 |
| 80° | 702.4 | 669.0 | 653.4 | 644.2 | 656.2 | 672.5 | 702.4 | 714.4 | 751.3 |
| 82.5° | 519.4 | 494.5 | 475.3 | 474.6 | 480.3 | 495.2 | 520.8 | 543.4 | 564.7 |
| 85° | 334.2 | 294.4 | 277.4 | 283.8 | 277.4 | 300.1 | 317.2 | 344.1 | 350.5 |
| 87.5° | 120.6 | 94.4 | 90.1 | 99.4 | 97.2 | 104.3 | 119.1 | 129.8 | 130.6 |
| 90° | 25.7 | 41.1 | 69.9 | 44.9 | 25.7 | 43.7 | 75.1 | 42.7 | 30.7 |
| 92.5° | 37.2 | 62.2 | 112.1 | 58.3 | 33.3 | 59.0 | 105.9 | 56.1 | 40.3 |
| 95° | 43.0 | 71.7 | 156.2 | 77.5 | 49.5 | 72.4 | 134.7 | 61.8 | 47.9 |
| 97.5° | 55.2 | 79.4 | 179.3 | 94.8 | 76.3 | 89.7 | 151.9 | 65.8 | 57.6 |
| 100° | 72.4 | 92.9 | 279.2 | 116.7 | 101.3 | 101.3 | 276.7 | 75.3 | 65.2 |
| 102.5° | 122.4 | 196.6 | 592.2 | 218.4 | 153.1 | 198.0 | 640.4 | 149.0 | 78.7 |
| 105° | 210.8 | 413.6 | 1054.9 | 456.5 | 277.9 | 451.5 | 1126.2 | 381.3 | 142.8 |
| 107.5° | 364.4 | 740.0 | 1391.7 | 807.9 | 525.7 | 841.3 | 1450.7 | 750.1 | 329.0 |
| 110° | 679.3 | 981.9 | 1458.9 | 1109.4 | 840.6 | 1175.4 | 1583.2 | 1026.6 | 663.2 |



TEST NUMBER: P1433288
 CATALOG NUMBER: EHBR1-48-UNV-ASM-L930-UPL40

CANDELA DISTRIBUTION (continued):

| | 0° | 22.5° | 45° | 67.5° | 90° | 112.5° | 135° | 157.5° | 180° |
|--------|-------|--------|--------|--------|--------|--------|--------|--------|--------|
| 112.5° | 917.4 | 1054.9 | 1397.5 | 1224.6 | 1094.1 | 1309.8 | 1546.8 | 1138.0 | 916.6 |
| 115° | 965.4 | 1014.7 | 1247.7 | 1195.8 | 1188.9 | 1290.6 | 1381.6 | 1134.1 | 1016.4 |
| 117.5° | 932.8 | 926.3 | 1059.5 | 1075.6 | 1148.5 | 1181.2 | 1193.4 | 1065.0 | 1022.2 |
| 120° | 863.6 | 824.5 | 884.7 | 939.3 | 1037.2 | 1023.7 | 1005.9 | 963.2 | 964.7 |
| 122.5° | 777.3 | 731.1 | 758.7 | 799.8 | 897.7 | 868.9 | 850.4 | 860.2 | 885.9 |
| 125° | 697.2 | 650.4 | 669.2 | 679.5 | 761.4 | 732.5 | 741.7 | 771.9 | 798.3 |
| 127.5° | 626.2 | 594.7 | 605.8 | 595.0 | 646.9 | 633.4 | 662.9 | 697.0 | 719.5 |
| 130° | 578.3 | 551.3 | 566.2 | 540.0 | 565.0 | 568.1 | 607.2 | 636.3 | 650.4 |
| 132.5° | 538.6 | 521.3 | 538.8 | 506.9 | 513.8 | 528.5 | 565.7 | 590.9 | 599.3 |
| 135° | 509.8 | 495.1 | 513.8 | 484.6 | 481.9 | 503.6 | 537.6 | 553.7 | 557.1 |
| 137.5° | 485.6 | 472.8 | 492.3 | 469.9 | 463.5 | 485.0 | 510.7 | 523.7 | 520.5 |
| 140° | 463.9 | 453.1 | 473.7 | 456.4 | 452.6 | 474.3 | 485.8 | 500.6 | 498.2 |
| 142.5° | 440.4 | 432.7 | 457.2 | 445.7 | 441.8 | 461.5 | 467.3 | 478.3 | 475.2 |
| 145° | 424.5 | 418.7 | 444.4 | 438.0 | 436.7 | 451.5 | 446.9 | 461.0 | 456.6 |
| 147.5° | 410.5 | 406.7 | 429.7 | 427.2 | 427.2 | 438.0 | 432.2 | 444.4 | 440.0 |
| 150° | 398.5 | 394.7 | 417.0 | 414.4 | 416.3 | 423.9 | 415.6 | 429.7 | 429.3 |
| 152.5° | 386.5 | 381.9 | 402.3 | 399.7 | 401.6 | 409.3 | 401.6 | 417.7 | 416.5 |
| 155° | 378.3 | 373.7 | 390.3 | 388.9 | 389.6 | 393.4 | 389.6 | 405.6 | 406.4 |
| 157.5° | 372.8 | 369.4 | 382.1 | 381.4 | 381.4 | 384.1 | 382.1 | 396.3 | 397.0 |
| 160° | 368.4 | 365.8 | 376.6 | 375.9 | 374.7 | 378.6 | 377.3 | 389.5 | 390.2 |
| 162.5° | 364.1 | 361.4 | 374.2 | 372.2 | 372.2 | 372.2 | 371.8 | 384.0 | 385.4 |
| 165° | 361.7 | 361.0 | 369.8 | 369.8 | 368.7 | 370.5 | 368.1 | 377.2 | 380.6 |
| 167.5° | 361.7 | 359.8 | 369.4 | 369.4 | 368.1 | 366.3 | 367.7 | 375.5 | 378.9 |
| 170° | 361.2 | 360.5 | 368.1 | 367.0 | 365.0 | 365.7 | 365.3 | 373.1 | 376.5 |
| 172.5° | 362.6 | 361.9 | 370.3 | 368.4 | 367.1 | 367.1 | 365.5 | 371.3 | 376.6 |
| 175° | 362.2 | 361.4 | 367.9 | 367.9 | 368.6 | 367.4 | 366.9 | 370.9 | 376.2 |
| 177.5° | 364.7 | 364.0 | 367.9 | 367.9 | 366.7 | 368.1 | 369.5 | 373.5 | 380.7 |
| 180° | 368.1 | 368.1 | 368.1 | 368.1 | 368.1 | 368.1 | 368.1 | 368.1 | 368.1 |



TEST NUMBER: P1433288
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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 | 17.88 | 18.97 | 18.38 | 19.44 | 19.95 | 18.65 | 19.74 | 19.15 | 20.21 | 20.72 |
| | 3H | 19.70 | 20.67 | 20.21 | 21.15 | 21.71 | 20.21 | 21.18 | 20.72 | 21.66 | 22.22 |
| | 4H | 20.43 | 21.34 | 20.97 | 21.84 | 22.41 | 20.85 | 21.76 | 21.39 | 22.26 | 22.83 |
| | 6H | 21.00 | 21.84 | 21.55 | 22.35 | 22.93 | 21.35 | 22.18 | 21.90 | 22.70 | 23.28 |
| | 8H | 21.18 | 21.97 | 21.74 | 22.51 | 23.10 | 21.50 | 22.29 | 22.06 | 22.83 | 23.42 |
| | 12H | 21.28 | 22.04 | 21.85 | 22.57 | 23.18 | 21.58 | 22.34 | 22.15 | 22.87 | 23.48 |
| 4H | 2H | 18.40 | 19.30 | 18.93 | 19.81 | 20.38 | 19.03 | 19.93 | 19.56 | 20.44 | 21.00 |
| | 3H | 20.43 | 21.18 | 20.98 | 21.73 | 22.32 | 20.83 | 21.58 | 21.38 | 22.13 | 22.72 |
| | 4H | 21.30 | 21.97 | 21.86 | 22.53 | 23.15 | 21.62 | 22.29 | 22.18 | 22.85 | 23.47 |
| | 6H | 21.99 | 22.57 | 22.58 | 23.16 | 23.80 | 22.25 | 22.83 | 22.84 | 23.42 | 24.06 |
| | 8H | 22.22 | 22.76 | 22.81 | 23.34 | 23.99 | 22.46 | 23.00 | 23.05 | 23.58 | 24.23 |
| | 12H | 22.35 | 22.83 | 22.97 | 23.45 | 24.09 | 22.57 | 23.05 | 23.19 | 23.66 | 24.31 |
| 8H | 4H | 21.56 | 22.10 | 22.15 | 22.68 | 23.33 | 21.86 | 22.40 | 22.46 | 22.99 | 23.63 |
| | 6H | 22.37 | 22.82 | 23.00 | 23.44 | 24.10 | 22.62 | 23.07 | 23.25 | 23.70 | 24.35 |
| | 8H | 22.67 | 23.07 | 23.32 | 23.71 | 24.37 | 22.91 | 23.30 | 23.55 | 23.94 | 24.61 |
| | 12H | 22.88 | 23.22 | 23.52 | 23.84 | 24.58 | 23.09 | 23.43 | 23.73 | 24.06 | 24.80 |
| 12H | 4H | 21.56 | 22.04 | 22.18 | 22.66 | 23.31 | 21.87 | 22.35 | 22.48 | 22.96 | 23.61 |
| | 6H | 22.41 | 22.81 | 23.06 | 23.45 | 24.11 | 22.67 | 23.06 | 23.31 | 23.70 | 24.37 |
| | 8H | 22.76 | 23.10 | 23.40 | 23.72 | 24.46 | 23.00 | 23.34 | 23.64 | 23.96 | 24.70 |

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

Report Prepared for

Cooper Lighting Solutions

Metalux

Report Number: SP1-2506-472-5

Test Date: 08/01/2025

Luminaire Tested: EHBR-60-L930-N

Data in this report applies to families of products including EHBR-60-L930-N

Test Information

Test Method: LM-79-2019
 Report Number: SP1-2506-472-5
 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-L930-N**
 Description: Elevate Round Highbay at, 60000 lumens, 3000K 90CRI LEDs with N lens

Spectral Parameters

CCT (K): 2996
 CIE u': 0.2519
 CIE v': 0.5169
 Duv: -0.0033
 CIE x: 0.4325
 CIE y: 0.3945
 CIE z: 0.1730
 Peak Wavelength (nm): 630
 Dominant Wavelength (nm): 584
 Purity: 48.21818
 Rf: 91.3
 Rg: 102

| | | | |
|-----------|------|------|------|
| CRI (Ra): | 94.4 | | |
| R1: | 96.8 | R9: | 61.4 |
| R2: | 98.1 | R10: | 94.4 |
| R3: | 97.8 | R11: | 95.7 |
| R4: | 95.6 | R12: | 88.5 |
| R5: | 96.9 | R13: | 97.3 |
| R6: | 95.7 | R14: | 97.8 |
| R7: | 90.9 | R15: | 92.3 |
| R8: | 83.0 | | |



Test Conditions

Stabilization Time: 40M
 Operation Time: 1H 40M
 Sphere Temperature (°C): 25.0

REPORT NUMBER: SP1-2506-472-5

| 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: SP1-2506-472-5

CIE 1931 Chromaticity Diagram



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



Point lies inside the ANSI 3000K 7-step quadrangle

REPORT NUMBER: SP1-2506-472-5

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 | 101 | NR | 620 | 317 | NR | 750 | 7 | NR | 880 | 0 | NR |
| 365 | 0 | NR | 495 | 121 | NR | 625 | 320 | NR | 755 | 6 | NR | 885 | 0 | NR |
| 370 | 0 | NR | 500 | 141 | NR | 630 | 1000 | NR | 760 | 5 | NR | 890 | 0 | NR |
| 375 | 0 | NR | 505 | 158 | NR | 635 | 651 | NR | 765 | 4 | NR | 895 | 0 | NR |
| 380 | 0 | NR | 510 | 171 | NR | 640 | 207 | NR | 770 | 4 | NR | 900 | 0 | NR |
| 385 | 0 | NR | 515 | 182 | NR | 645 | 201 | NR | 775 | 3 | NR | 905 | 0 | NR |
| 390 | 0 | NR | 520 | 189 | NR | 650 | 174 | NR | 780 | 3 | NR | 910 | 0 | NR |
| 395 | 1 | NR | 525 | 194 | NR | 655 | 146 | NR | 785 | 2 | NR | 915 | 0 | NR |
| 400 | 1 | NR | 530 | 199 | NR | 660 | 124 | NR | 790 | 2 | NR | 920 | 0 | NR |
| 405 | 3 | NR | 535 | 205 | NR | 665 | 105 | NR | 795 | 2 | NR | 925 | 0 | NR |
| 410 | 4 | NR | 540 | 210 | NR | 670 | 96 | NR | 800 | 1 | NR | 930 | 0 | NR |
| 415 | 7 | NR | 545 | 216 | NR | 675 | 79 | NR | 805 | 1 | NR | 935 | 0 | NR |
| 420 | 13 | NR | 550 | 222 | NR | 680 | 67 | NR | 810 | 1 | NR | 940 | 0 | NR |
| 425 | 22 | NR | 555 | 230 | NR | 685 | 58 | NR | 815 | 1 | NR | 945 | 0 | NR |
| 430 | 37 | NR | 560 | 240 | NR | 690 | 49 | NR | 820 | 1 | NR | 950 | 0 | NR |
| 435 | 60 | NR | 565 | 248 | NR | 695 | 42 | NR | 825 | 1 | NR | 955 | 0 | NR |
| 440 | 101 | NR | 570 | 258 | NR | 700 | 36 | NR | 830 | 1 | NR | 960 | 0 | NR |
| 445 | 172 | NR | 575 | 268 | NR | 705 | 30 | NR | 835 | 1 | NR | 965 | 0 | NR |
| 450 | 223 | NR | 580 | 278 | NR | 710 | 26 | NR | 840 | 1 | NR | 970 | 0 | NR |
| 455 | 167 | NR | 585 | 287 | NR | 715 | 22 | NR | 845 | 0 | NR | 975 | 0 | NR |
| 460 | 126 | NR | 590 | 295 | NR | 720 | 19 | NR | 850 | 0 | NR | 980 | 0 | NR |
| 465 | 111 | NR | 595 | 298 | NR | 725 | 16 | NR | 855 | 0 | NR | 985 | 0 | NR |
| 470 | 86 | NR | 600 | 303 | NR | 730 | 14 | NR | 860 | 0 | NR | 990 | 0 | NR |
| 475 | 74 | NR | 605 | 307 | NR | 735 | 12 | NR | 865 | 0 | NR | 995 | 0 | NR |
| 480 | 77 | NR | 610 | 341 | NR | 740 | 10 | NR | 870 | 0 | NR | 1000 | 0 | NR |
| 485 | 86 | NR | 615 | 368 | NR | 745 | 8 | NR | 875 | 0 | NR | | | |

REPORT NUMBER: SP1-2506-472-5

Scotopic Flux vs. Wavelength



Scotopic Lumens: NR

S/P: 1.44

| 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 | 101 | NR | 620 | 317 | NR | 750 | 7 | NR | 880 | 0 | NR |
| 365 | 0 | NR | 495 | 121 | NR | 625 | 320 | NR | 755 | 6 | NR | 885 | 0 | NR |
| 370 | 0 | NR | 500 | 141 | NR | 630 | 1000 | NR | 760 | 5 | NR | 890 | 0 | NR |
| 375 | 0 | NR | 505 | 158 | NR | 635 | 651 | NR | 765 | 4 | NR | 895 | 0 | NR |
| 380 | 0 | NR | 510 | 171 | NR | 640 | 207 | NR | 770 | 4 | NR | 900 | 0 | NR |
| 385 | 0 | NR | 515 | 182 | NR | 645 | 201 | NR | 775 | 3 | NR | 905 | 0 | NR |
| 390 | 0 | NR | 520 | 189 | NR | 650 | 174 | NR | 780 | 3 | NR | 910 | 0 | NR |
| 395 | 1 | NR | 525 | 194 | NR | 655 | 146 | NR | 785 | 2 | NR | 915 | 0 | NR |
| 400 | 1 | NR | 530 | 199 | NR | 660 | 124 | NR | 790 | 2 | NR | 920 | 0 | NR |
| 405 | 3 | NR | 535 | 205 | NR | 665 | 105 | NR | 795 | 2 | NR | 925 | 0 | NR |
| 410 | 4 | NR | 540 | 210 | NR | 670 | 96 | NR | 800 | 1 | NR | 930 | 0 | NR |
| 415 | 7 | NR | 545 | 216 | NR | 675 | 79 | NR | 805 | 1 | NR | 935 | 0 | NR |
| 420 | 13 | NR | 550 | 222 | NR | 680 | 67 | NR | 810 | 1 | NR | 940 | 0 | NR |
| 425 | 22 | NR | 555 | 230 | NR | 685 | 58 | NR | 815 | 1 | NR | 945 | 0 | NR |
| 430 | 37 | NR | 560 | 240 | NR | 690 | 49 | NR | 820 | 1 | NR | 950 | 0 | NR |
| 435 | 60 | NR | 565 | 248 | NR | 695 | 42 | NR | 825 | 1 | NR | 955 | 0 | NR |
| 440 | 101 | NR | 570 | 258 | NR | 700 | 36 | NR | 830 | 1 | NR | 960 | 0 | NR |
| 445 | 172 | NR | 575 | 268 | NR | 705 | 30 | NR | 835 | 1 | NR | 965 | 0 | NR |
| 450 | 223 | NR | 580 | 278 | NR | 710 | 26 | NR | 840 | 1 | NR | 970 | 0 | NR |
| 455 | 167 | NR | 585 | 287 | NR | 715 | 22 | NR | 845 | 0 | NR | 975 | 0 | NR |
| 460 | 126 | NR | 590 | 295 | NR | 720 | 19 | NR | 850 | 0 | NR | 980 | 0 | NR |
| 465 | 111 | NR | 595 | 298 | NR | 725 | 16 | NR | 855 | 0 | NR | 985 | 0 | NR |
| 470 | 86 | NR | 600 | 303 | NR | 730 | 14 | NR | 860 | 0 | NR | 990 | 0 | NR |
| 475 | 74 | NR | 605 | 307 | NR | 735 | 12 | NR | 865 | 0 | NR | 995 | 0 | NR |
| 480 | 77 | NR | 610 | 341 | NR | 740 | 10 | NR | 870 | 0 | NR | 1000 | 0 | NR |
| 485 | 86 | NR | 615 | 368 | NR | 745 | 8 | NR | 875 | 0 | NR | | | |

REPORT NUMBER: SP1-2506-472-5

Melanopic Flux vs. Wavelength



Melanopic Lumens: NR

M/P: 2.85

| 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 | 101 | NR | 620 | 317 | NR | 750 | 7 | NR | 880 | 0 | NR |
| 365 | 0 | NR | 495 | 121 | NR | 625 | 320 | NR | 755 | 6 | NR | 885 | 0 | NR |
| 370 | 0 | NR | 500 | 141 | NR | 630 | 1000 | NR | 760 | 5 | NR | 890 | 0 | NR |
| 375 | 0 | NR | 505 | 158 | NR | 635 | 651 | NR | 765 | 4 | NR | 895 | 0 | NR |
| 380 | 0 | NR | 510 | 171 | NR | 640 | 207 | NR | 770 | 4 | NR | 900 | 0 | NR |
| 385 | 0 | NR | 515 | 182 | NR | 645 | 201 | NR | 775 | 3 | NR | 905 | 0 | NR |
| 390 | 0 | NR | 520 | 189 | NR | 650 | 174 | NR | 780 | 3 | NR | 910 | 0 | NR |
| 395 | 1 | NR | 525 | 194 | NR | 655 | 146 | NR | 785 | 2 | NR | 915 | 0 | NR |
| 400 | 1 | NR | 530 | 199 | NR | 660 | 124 | NR | 790 | 2 | NR | 920 | 0 | NR |
| 405 | 3 | NR | 535 | 205 | NR | 665 | 105 | NR | 795 | 2 | NR | 925 | 0 | NR |
| 410 | 4 | NR | 540 | 210 | NR | 670 | 96 | NR | 800 | 1 | NR | 930 | 0 | NR |
| 415 | 7 | NR | 545 | 216 | NR | 675 | 79 | NR | 805 | 1 | NR | 935 | 0 | NR |
| 420 | 13 | NR | 550 | 222 | NR | 680 | 67 | NR | 810 | 1 | NR | 940 | 0 | NR |
| 425 | 22 | NR | 555 | 230 | NR | 685 | 58 | NR | 815 | 1 | NR | 945 | 0 | NR |
| 430 | 37 | NR | 560 | 240 | NR | 690 | 49 | NR | 820 | 1 | NR | 950 | 0 | NR |
| 435 | 60 | NR | 565 | 248 | NR | 695 | 42 | NR | 825 | 1 | NR | 955 | 0 | NR |
| 440 | 101 | NR | 570 | 258 | NR | 700 | 36 | NR | 830 | 1 | NR | 960 | 0 | NR |
| 445 | 172 | NR | 575 | 268 | NR | 705 | 30 | NR | 835 | 1 | NR | 965 | 0 | NR |
| 450 | 223 | NR | 580 | 278 | NR | 710 | 26 | NR | 840 | 1 | NR | 970 | 0 | NR |
| 455 | 167 | NR | 585 | 287 | NR | 715 | 22 | NR | 845 | 0 | NR | 975 | 0 | NR |
| 460 | 126 | NR | 590 | 295 | NR | 720 | 19 | NR | 850 | 0 | NR | 980 | 0 | NR |
| 465 | 111 | NR | 595 | 298 | NR | 725 | 16 | NR | 855 | 0 | NR | 985 | 0 | NR |
| 470 | 86 | NR | 600 | 303 | NR | 730 | 14 | NR | 860 | 0 | NR | 990 | 0 | NR |
| 475 | 74 | NR | 605 | 307 | NR | 735 | 12 | NR | 865 | 0 | NR | 995 | 0 | NR |
| 480 | 77 | NR | 610 | 341 | NR | 740 | 10 | NR | 870 | 0 | NR | 1000 | 0 | NR |
| 485 | 86 | NR | 615 | 368 | NR | 745 | 8 | NR | 875 | 0 | NR | | | |

Summary

$R_f = 91.3$
 $R_g = 102$
 $CIE R_a = 94.4$
 $R_9 = 61.4$



Color Vector Graphics



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

| | | | |
|------------|------------|------------|------------|
| CES01 = 86 | CES26 = 91 | CES51 = 96 | CES76 = 89 |
| CES02 = 63 | CES27 = 96 | CES52 = 95 | CES77 = 85 |
| CES03 = 32 | CES28 = 96 | CES53 = 93 | CES78 = 86 |
| CES04 = 70 | CES29 = 90 | CES54 = 98 | CES79 = 89 |
| CES05 = 51 | CES30 = 96 | CES55 = 98 | CES80 = 91 |
| CES06 = 51 | CES31 = 90 | CES56 = 95 | CES81 = 72 |
| CES07 = 44 | CES32 = 84 | CES57 = 95 | CES82 = 95 |
| CES08 = 42 | CES33 = 91 | CES58 = 95 | CES83 = 93 |
| CES09 = 29 | CES34 = 92 | CES59 = 99 | CES84 = 96 |
| CES10 = 76 | CES35 = 96 | CES60 = 96 | CES85 = 80 |
| CES11 = 59 | CES36 = 90 | CES61 = 96 | CES86 = 77 |
| CES12 = 65 | CES37 = 94 | CES62 = 95 | CES87 = 91 |
| CES13 = 44 | CES38 = 99 | CES63 = 94 | CES88 = 96 |
| CES14 = 74 | CES39 = 97 | CES64 = 96 | CES89 = 82 |
| CES15 = 72 | CES40 = 94 | CES65 = 92 | CES90 = 97 |
| CES16 = 48 | CES41 = 94 | CES66 = 95 | CES91 = 82 |
| CES17 = 50 | CES42 = 91 | CES67 = 94 | CES92 = 78 |
| CES18 = 57 | CES43 = 88 | CES68 = 93 | CES93 = 87 |
| CES19 = 72 | CES44 = 99 | CES69 = 94 | CES94 = 73 |
| CES20 = 67 | CES45 = 93 | CES70 = 90 | CES95 = 85 |
| CES21 = 86 | CES46 = 93 | CES71 = 90 | CES96 = 92 |
| CES22 = 79 | CES47 = 86 | CES72 = 96 | CES97 = 93 |
| CES23 = 92 | CES48 = 95 | CES73 = 85 | CES98 = 94 |
| CES24 = 91 | CES49 = 91 | CES74 = 90 | CES99 = 93 |
| CES25 = 72 | CES50 = 96 | CES75 = 90 | |



Color Rendition by Hue-Angle Bin



Measure Comparisons



(END OF REPORT)