

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: P1432352

Luminaire Tested: EHBR1-24-UNV-W-L830-UPL36

Issue Date: 3/20/2026

Test Information

Test Method: LM-79-2019
Report Number: P1432352
REPORT IS A COMBINATION OF REPORTS P1431729 AND P1431635
Test Lab: INNOVATION CENTER
Issue Date: 3/20/2026
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: METALUX
Catalog Number: EHBR1-24-UNV-W-L830-UPL36
Description: Elevate Round Highbay at, 24000 lumens, 3000K 80CRI LEDs with W lens
Light Source: -
Ballast/Driver: -

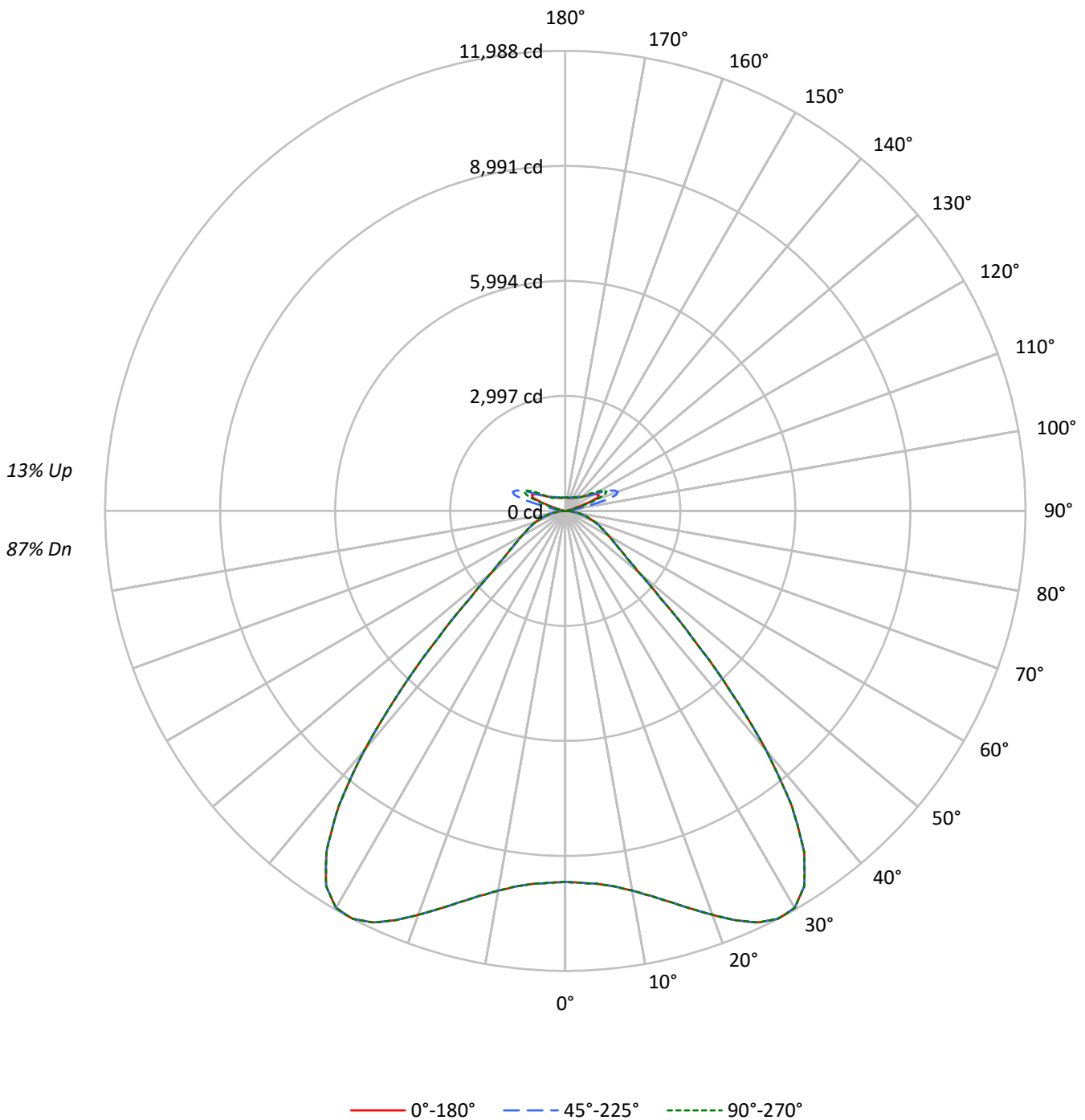
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 26472.9 lumens
Efficiency: N/A
Efficacy: 168.9 lumens/watt
Spacing Criteria (0/90/45): 1.54 / 1.54 / 1.31
Luminous Opening: Vertical Cylinder (Dia: 1.71' x H: 0.1')
CIE Type: Semi-Direct

Input Watts (W): 156.7
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: P1432352
CATALOG NUMBER: EHBR1-24-UNV-W-L830-UPL36

Luminous Intensity Polar Plot





TEST NUMBER: P1432352
 CATALOG NUMBER: EHBR1-24-UNV-W-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 | 116 | 116 | 116 | 116 | 112 | 112 | 112 | 112 | 104 | 104 | 104 | 97 | 97 | 97 | 90 | 90 | 90 | 90 | 90 | 90 | 87 |
| 1 | 108 | 104 | 101 | 98 | 104 | 101 | 98 | 95 | 94 | 92 | 90 | 89 | 87 | 85 | 83 | 82 | 80 | 80 | 80 | 80 | 78 |
| 2 | 100 | 94 | 88 | 84 | 97 | 91 | 86 | 82 | 85 | 81 | 78 | 80 | 77 | 74 | 76 | 73 | 71 | 71 | 71 | 71 | 68 |
| 3 | 93 | 84 | 78 | 73 | 90 | 82 | 76 | 71 | 77 | 72 | 68 | 73 | 69 | 66 | 69 | 66 | 63 | 63 | 63 | 63 | 61 |
| 4 | 86 | 76 | 69 | 64 | 83 | 74 | 68 | 62 | 70 | 65 | 60 | 67 | 62 | 58 | 63 | 59 | 56 | 56 | 56 | 56 | 54 |
| 5 | 80 | 69 | 62 | 56 | 77 | 68 | 61 | 55 | 64 | 58 | 54 | 61 | 56 | 52 | 58 | 54 | 50 | 50 | 50 | 50 | 48 |
| 6 | 75 | 63 | 56 | 50 | 72 | 62 | 55 | 49 | 59 | 53 | 48 | 56 | 51 | 47 | 53 | 49 | 45 | 45 | 45 | 45 | 43 |
| 7 | 70 | 58 | 50 | 45 | 67 | 57 | 49 | 44 | 54 | 48 | 43 | 52 | 46 | 42 | 49 | 45 | 41 | 41 | 41 | 41 | 39 |
| 8 | 65 | 53 | 46 | 41 | 63 | 52 | 45 | 40 | 50 | 44 | 39 | 48 | 42 | 38 | 46 | 41 | 37 | 37 | 37 | 37 | 35 |
| 9 | 61 | 49 | 42 | 37 | 59 | 48 | 41 | 36 | 46 | 40 | 36 | 44 | 39 | 35 | 42 | 38 | 34 | 34 | 34 | 34 | 32 |
| 10 | 57 | 45 | 38 | 34 | 55 | 44 | 38 | 33 | 43 | 37 | 33 | 41 | 36 | 32 | 39 | 35 | 31 | 31 | 31 | 31 | 29 |

AVERAGE LUMINANCE (cd/sqm):

| | 0° | 45° | 90° |
|-----|-------|-------|-------|
| 0° | 45395 | 45395 | 45395 |
| 5° | 45697 | 45697 | 45697 |
| 10° | 47285 | 47285 | 47285 |
| 15° | 50281 | 50281 | 50281 |
| 20° | 54506 | 54506 | 54506 |
| 25° | 59253 | 59253 | 59253 |
| 30° | 62107 | 62107 | 62107 |
| 35° | 59116 | 59116 | 59116 |
| 40° | 46908 | 46908 | 46908 |
| 45° | 28993 | 28993 | 28993 |
| 50° | 16789 | 16789 | 16789 |
| 55° | 12702 | 12702 | 12702 |
| 60° | 10897 | 10897 | 10897 |
| 65° | 9842 | 9842 | 9842 |
| 70° | 9054 | 9054 | 9054 |
| 75° | 7998 | 7998 | 7998 |
| 80° | 6518 | 6518 | 6518 |
| 85° | 3844 | 3844 | 3844 |

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 28993 cd/sqm



TEST NUMBER: P1432352
 CATALOG NUMBER: EHBR1-24-UNV-W-L830-UPL36

ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|---------|-----------|
| 0°-10° | 940.5 | 3.6 |
| 10°-20° | 3015.2 | 11.4 |
| 20°-30° | 5442.5 | 20.6 |
| 30°-40° | 6576.7 | 24.8 |
| 40°-50° | 3757.5 | 14.2 |
| 50°-60° | 1591.4 | 6.0 |
| 60°-70° | 1026.5 | 3.9 |
| 70°-80° | 596.8 | 2.3 |
| 80°-90° | 164.1 | 0.6 |
| 90°-100° | 96.1 | 0.4 |
| 100°-110° | 598.8 | 2.3 |
| 110°-120° | 1070.5 | 4.0 |
| 120°-130° | 628.7 | 2.4 |
| 130°-140° | 387.3 | 1.5 |
| 140°-150° | 270.1 | 1.0 |
| 150°-160° | 176.1 | 0.7 |
| 160°-170° | 100.7 | 0.4 |
| 170°-180° | 33.3 | 0.1 |
| 0°-30° | 9398.2 | 35.5 |
| 0°-40° | 15975.0 | 60.3 |
| 0°-60° | 21323.9 | 80.5 |
| 0°-90° | 23111.3 | 87.3 |
| 90°-120° | 1765.5 | 6.7 |
| 90°-150° | 3051.5 | 11.5 |
| 90°-180° | 3362.0 | 12.7 |
| 0°-180° | 26472.9 | 100.0 |

CANDELA DISTRIBUTION:

| | 0° | 22.5° | 45° | 67.5° | 90° | Flux |
|------|-------|-------|-------|-------|-------|------|
| 0° | 9667 | 9667 | 9667 | 9667 | 9667 | |
| 5° | 9757 | 9757 | 9757 | 9757 | 9757 | 941 |
| 15° | 10549 | 10549 | 10549 | 10549 | 10549 | 3015 |
| 25° | 11833 | 11833 | 11833 | 11833 | 11833 | 5443 |
| 35° | 10850 | 10850 | 10850 | 10850 | 10850 | 6577 |
| 45° | 4691 | 4691 | 4691 | 4691 | 4691 | 3757 |
| 55° | 1717 | 1717 | 1717 | 1717 | 1717 | 1591 |
| 65° | 1027 | 1027 | 1027 | 1027 | 1027 | 1027 |
| 75° | 563 | 563 | 563 | 563 | 563 | 597 |
| 85° | 132 | 132 | 132 | 132 | 132 | 152 |
| 90° | 26 | 41 | 70 | 45 | 26 | 18 |
| 95° | 43 | 72 | 156 | 77 | 49 | 41 |
| 105° | 210 | 413 | 1053 | 455 | 277 | 280 |
| 115° | 963 | 1013 | 1245 | 1193 | 1185 | 887 |
| 125° | 695 | 649 | 666 | 676 | 758 | 634 |
| 135° | 509 | 494 | 511 | 480 | 478 | 398 |
| 145° | 421 | 415 | 440 | 434 | 432 | 267 |
| 155° | 370 | 366 | 383 | 383 | 383 | 172 |
| 165° | 348 | 348 | 357 | 357 | 355 | 99 |
| 175° | 344 | 344 | 350 | 350 | 350 | 33 |
| 180° | 349 | 349 | 349 | 349 | 349 | |



TEST NUMBER: P1432352

CATALOG NUMBER: EHBR1-24-UNV-W-L830-UPL36

CANDELA DISTRIBUTION (FULL):

| | 0° | 22.5° | 45° | 67.5° | 90° |
|--------|---------|---------|---------|---------|---------|
| 0° | 9666.6 | 9666.6 | 9666.6 | 9666.6 | 9666.6 |
| 2.5° | 9699.1 | 9699.1 | 9699.1 | 9699.1 | 9699.1 |
| 5° | 9757.0 | 9757.0 | 9757.0 | 9757.0 | 9757.0 |
| 7.5° | 9870.9 | 9870.9 | 9870.9 | 9870.9 | 9870.9 |
| 10° | 10046.3 | 10046.3 | 10046.3 | 10046.3 | 10046.3 |
| 12.5° | 10274.1 | 10274.1 | 10274.1 | 10274.1 | 10274.1 |
| 15° | 10548.7 | 10548.7 | 10548.7 | 10548.7 | 10548.7 |
| 17.5° | 10863.1 | 10863.1 | 10863.1 | 10863.1 | 10863.1 |
| 20° | 11202.5 | 11202.5 | 11202.5 | 11202.5 | 11202.5 |
| 22.5° | 11544.3 | 11544.3 | 11544.3 | 11544.3 | 11544.3 |
| 25° | 11832.8 | 11832.8 | 11832.8 | 11832.8 | 11832.8 |
| 27.5° | 11988.0 | 11988.0 | 11988.0 | 11988.0 | 11988.0 |
| 30° | 11946.3 | 11946.3 | 11946.3 | 11946.3 | 11946.3 |
| 32.5° | 11592.1 | 11592.1 | 11592.1 | 11592.1 | 11592.1 |
| 35° | 10849.9 | 10849.9 | 10849.9 | 10849.9 | 10849.9 |
| 37.5° | 9692.5 | 9692.5 | 9692.5 | 9692.5 | 9692.5 |
| 40° | 8130.4 | 8130.4 | 8130.4 | 8130.4 | 8130.4 |
| 42.5° | 6363.6 | 6363.6 | 6363.6 | 6363.6 | 6363.6 |
| 45° | 4691.0 | 4691.0 | 4691.0 | 4691.0 | 4691.0 |
| 47.5° | 3352.9 | 3352.9 | 3352.9 | 3352.9 | 3352.9 |
| 50° | 2502.1 | 2502.1 | 2502.1 | 2502.1 | 2502.1 |
| 52.5° | 2025.9 | 2025.9 | 2025.9 | 2025.9 | 2025.9 |
| 55° | 1716.6 | 1716.6 | 1716.6 | 1716.6 | 1716.6 |
| 57.5° | 1490.7 | 1490.7 | 1490.7 | 1490.7 | 1490.7 |
| 60° | 1310.0 | 1310.0 | 1310.0 | 1310.0 | 1310.0 |
| 62.5° | 1159.4 | 1159.4 | 1159.4 | 1159.4 | 1159.4 |
| 65° | 1027.3 | 1027.3 | 1027.3 | 1027.3 | 1027.3 |
| 67.5° | 910.7 | 910.7 | 910.7 | 910.7 | 910.7 |
| 70° | 794.4 | 794.4 | 794.4 | 794.4 | 794.4 |
| 72.5° | 678.6 | 678.6 | 678.6 | 678.6 | 678.6 |
| 75° | 563.4 | 563.4 | 563.4 | 563.4 | 563.4 |
| 77.5° | 452.6 | 452.6 | 452.6 | 452.6 | 452.6 |
| 80° | 342.9 | 342.9 | 342.9 | 342.9 | 342.9 |
| 82.5° | 235.2 | 235.2 | 235.2 | 235.2 | 235.2 |
| 85° | 132.1 | 132.1 | 132.1 | 132.1 | 132.1 |
| 87.5° | 41.7 | 41.7 | 41.7 | 41.7 | 41.7 |
| 90° | 25.7 | 41.0 | 69.7 | 44.8 | 25.7 |
| 92.5° | 36.8 | 61.7 | 111.5 | 57.9 | 33.0 |
| 95° | 42.9 | 71.7 | 156.0 | 77.4 | 48.6 |
| 97.5° | 54.4 | 79.3 | 178.9 | 94.6 | 75.5 |
| 100° | 71.7 | 92.7 | 278.6 | 115.7 | 100.4 |
| 102.5° | 121.5 | 196.1 | 590.9 | 217.2 | 152.1 |
| 105° | 209.5 | 412.7 | 1052.6 | 454.9 | 276.6 |
| 107.5° | 362.9 | 738.4 | 1387.9 | 805.5 | 523.8 |
| 110° | 677.4 | 980.2 | 1455.4 | 1106.6 | 838.4 |



TEST NUMBER: P1432352
 CATALOG NUMBER: EHBR1-24-UNV-W-L830-UPL36

CANDELA DISTRIBUTION (continued):

| | 0° | 22.5° | 45° | 67.5° | 90° |
|--------|-------|--------|--------|--------|--------|
| 112.5° | 915.1 | 1053.0 | 1394.0 | 1221.6 | 1091.3 |
| 115° | 962.9 | 1012.8 | 1244.6 | 1192.8 | 1185.2 |
| 117.5° | 930.3 | 924.6 | 1056.8 | 1072.2 | 1144.9 |
| 120° | 861.4 | 823.1 | 882.5 | 936.1 | 1033.8 |
| 122.5° | 775.1 | 729.2 | 756.0 | 796.2 | 894.0 |
| 125° | 695.0 | 649.0 | 666.4 | 675.9 | 758.3 |
| 127.5° | 624.2 | 593.5 | 603.1 | 591.6 | 643.3 |
| 130° | 576.7 | 549.9 | 563.3 | 536.5 | 561.5 |
| 132.5° | 537.3 | 520.1 | 535.3 | 502.7 | 510.4 |
| 135° | 508.9 | 493.6 | 510.8 | 480.2 | 478.3 |
| 137.5° | 484.4 | 471.0 | 488.2 | 465.2 | 459.5 |
| 140° | 462.2 | 450.7 | 469.8 | 452.5 | 448.7 |
| 142.5° | 437.6 | 429.9 | 452.9 | 441.5 | 437.6 |
| 145° | 420.9 | 415.1 | 440.0 | 434.3 | 432.3 |
| 147.5° | 405.9 | 402.0 | 425.0 | 423.1 | 423.1 |
| 150° | 392.5 | 388.6 | 411.6 | 409.7 | 411.6 |
| 152.5° | 379.1 | 375.2 | 396.3 | 394.4 | 396.3 |
| 155° | 369.8 | 366.0 | 383.2 | 383.2 | 383.2 |
| 157.5° | 362.1 | 360.3 | 373.7 | 373.7 | 373.7 |
| 160° | 356.8 | 354.9 | 366.3 | 366.3 | 364.5 |
| 162.5° | 351.5 | 349.5 | 362.9 | 361.0 | 361.0 |
| 165° | 347.6 | 347.6 | 357.2 | 357.2 | 355.3 |
| 167.5° | 347.6 | 345.6 | 355.3 | 355.3 | 353.3 |
| 170° | 345.6 | 345.6 | 353.3 | 351.5 | 349.5 |
| 172.5° | 346.0 | 346.0 | 353.7 | 351.8 | 349.9 |
| 175° | 344.5 | 344.5 | 350.2 | 350.2 | 350.2 |
| 177.5° | 346.4 | 346.4 | 350.2 | 350.2 | 348.4 |
| 180° | 348.7 | 348.7 | 348.7 | 348.7 | 348.7 |



TEST NUMBER: P1432352
 CATALOG NUMBER: EHBR1-24-UNV-W-L830-UPL36

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 | 16.76 | 17.86 | 17.33 | 18.42 | 19.04 | 16.76 | 17.86 | 17.33 | 18.42 | 19.04 |
| | 3H | 18.25 | 19.23 | 18.84 | 19.80 | 20.47 | 18.25 | 19.23 | 18.84 | 19.80 | 20.47 |
| | 4H | 18.81 | 19.73 | 19.41 | 20.31 | 20.99 | 18.81 | 19.73 | 19.41 | 20.31 | 20.99 |
| | 6H | 19.19 | 20.03 | 19.81 | 20.63 | 21.32 | 19.19 | 20.03 | 19.81 | 20.63 | 21.32 |
| | 8H | 19.28 | 20.09 | 19.92 | 20.70 | 21.40 | 19.28 | 20.09 | 19.92 | 20.70 | 21.40 |
| | 12H | 19.32 | 20.08 | 19.95 | 20.69 | 21.41 | 19.32 | 20.08 | 19.95 | 20.69 | 21.41 |
| 4H | 2H | 17.19 | 18.11 | 17.80 | 18.70 | 19.37 | 17.19 | 18.11 | 17.80 | 18.70 | 19.37 |
| | 3H | 18.90 | 19.66 | 19.52 | 20.29 | 20.98 | 18.90 | 19.66 | 19.52 | 20.29 | 20.98 |
| | 4H | 19.58 | 20.26 | 20.22 | 20.89 | 21.62 | 19.58 | 20.26 | 20.22 | 20.89 | 21.62 |
| | 6H | 20.07 | 20.66 | 20.73 | 21.32 | 22.06 | 20.07 | 20.66 | 20.73 | 21.32 | 22.06 |
| | 8H | 20.20 | 20.75 | 20.87 | 21.41 | 22.16 | 20.20 | 20.75 | 20.87 | 21.41 | 22.16 |
| | 12H | 20.26 | 20.75 | 20.94 | 21.43 | 22.19 | 20.26 | 20.75 | 20.94 | 21.43 | 22.19 |
| 8H | 4H | 19.78 | 20.33 | 20.44 | 20.98 | 21.73 | 19.78 | 20.33 | 20.44 | 20.98 | 21.73 |
| | 6H | 20.37 | 20.82 | 21.06 | 21.52 | 22.28 | 20.37 | 20.82 | 21.06 | 21.52 | 22.28 |
| | 8H | 20.56 | 20.96 | 21.27 | 21.67 | 22.44 | 20.56 | 20.96 | 21.27 | 21.67 | 22.44 |
| | 12H | 20.66 | 21.02 | 21.37 | 21.71 | 22.55 | 20.66 | 21.02 | 21.37 | 21.71 | 22.55 |
| 12H | 4H | 19.77 | 20.26 | 20.45 | 20.94 | 21.70 | 19.77 | 20.26 | 20.45 | 20.94 | 21.70 |
| | 6H | 20.39 | 20.79 | 21.10 | 21.50 | 22.27 | 20.39 | 20.79 | 21.10 | 21.50 | 22.27 |
| | 8H | 20.61 | 20.96 | 21.31 | 21.66 | 22.49 | 20.61 | 20.96 | 21.31 | 21.66 | 22.49 |

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

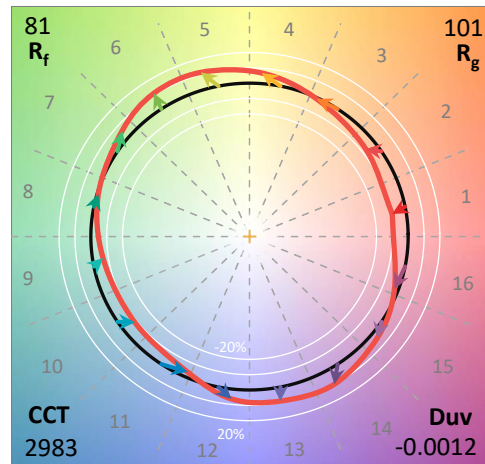
Test Information

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



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

Point lies inside the ANSI 3000K 4-step quadrangle

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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)