

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:

Luminaire Tested: EHBR1-54-UNV-W-L950-UPL24

Issue Date: 3/20/2026

Test Information

Test Method: LM-79-2019
Report Number:
REPORT IS A COMBINATION OF REPORTS P1431887 AND P1431635
Test Lab: INNOVATION CENTER
Issue Date: 3/20/2026
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: METALUX
Catalog Number: EHBR1-54-UNV-W-L950-UPL24
Description: Elevate Round Highbay at, 55000 lumens, 5000K 90CRI LEDs with W lens
Light Source: -
Ballast/Driver: -

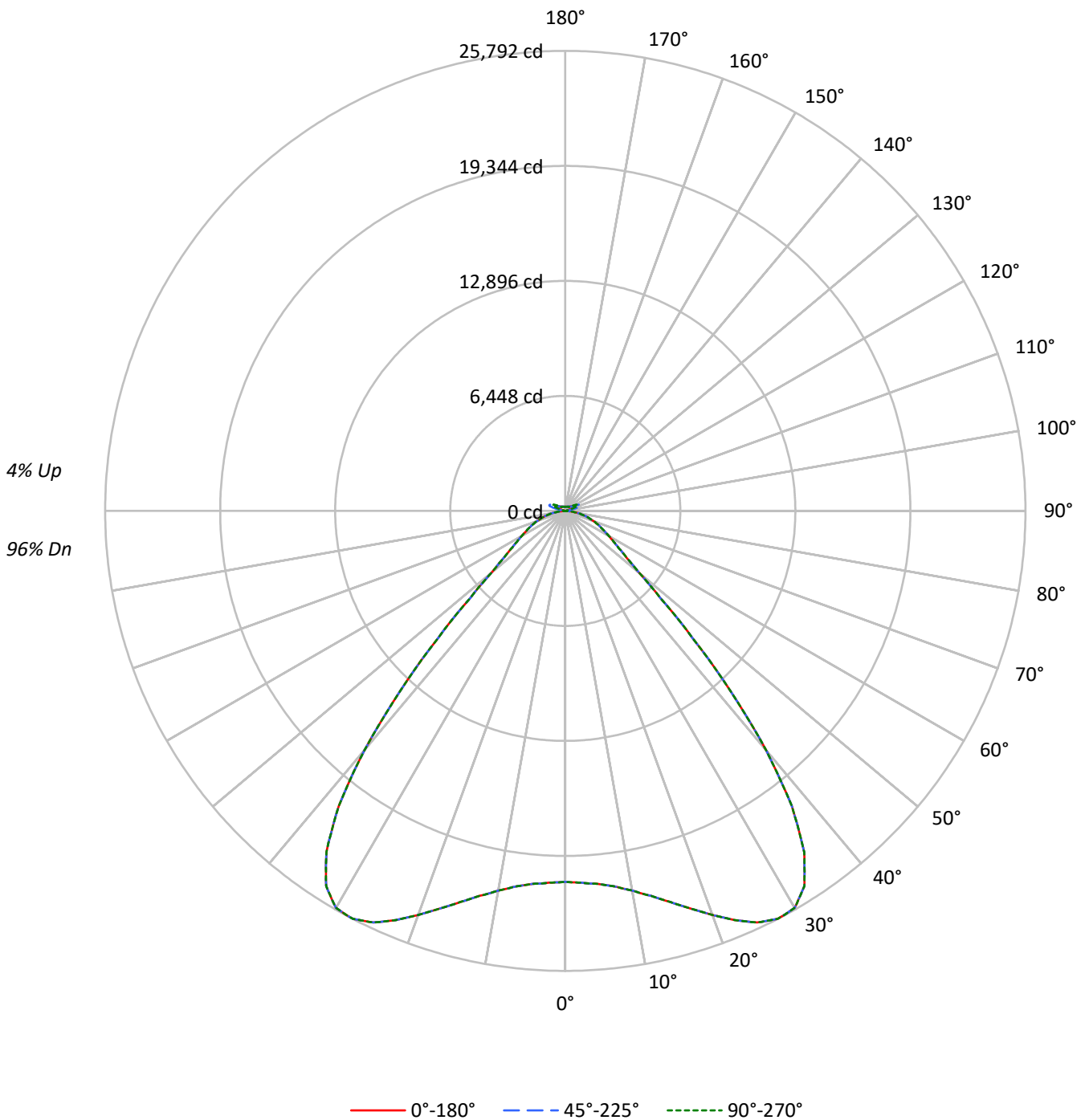
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 51940.7 lumens
Efficiency: N/A
Efficacy: 166.2 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: Direct

Input Watts (W): 312.5
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:
CATALOG NUMBER: EHBR1-54-UNV-W-L950-UPL24

Luminous Intensity Polar Plot





TEST NUMBER:

CATALOG NUMBER: EHBR1-54-UNV-W-L950-UPL24

COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

| | | | | | | | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|----|----|----|----|----|----|----|
| RF | 20 | | | | 20 | | | | 20 | | | | 20 | | | | 20 | | | | 20 |
| RC | 80 | | | | 70 | | | | 50 | | | | 30 | | | | 10 | | | | 0 |
| RW | 70 | 50 | 30 | 10 | 70 | 50 | 30 | 10 | 50 | 30 | 10 | 50 | 30 | 10 | 50 | 30 | 10 | 50 | 30 | 10 | 0 |
| RCR | | | | | | | | | | | | | | | | | | | | | |
| 0 | 118 | 118 | 118 | 118 | 115 | 115 | 115 | 115 | 109 | 109 | 109 | 103 | 103 | 103 | 98 | 98 | 98 | 98 | 98 | 98 | 96 |
| 1 | 110 | 106 | 103 | 100 | 107 | 104 | 101 | 98 | 99 | 96 | 94 | 94 | 92 | 91 | 90 | 89 | 87 | 87 | 87 | 87 | 85 |
| 2 | 102 | 96 | 90 | 86 | 100 | 94 | 89 | 85 | 90 | 85 | 82 | 86 | 82 | 80 | 82 | 80 | 77 | 77 | 77 | 77 | 75 |
| 3 | 95 | 87 | 80 | 75 | 92 | 85 | 79 | 74 | 81 | 76 | 72 | 78 | 74 | 70 | 75 | 72 | 69 | 69 | 69 | 69 | 66 |
| 4 | 88 | 78 | 71 | 66 | 86 | 77 | 70 | 65 | 74 | 68 | 64 | 71 | 66 | 62 | 69 | 65 | 61 | 61 | 61 | 61 | 59 |
| 5 | 82 | 71 | 64 | 58 | 80 | 70 | 63 | 58 | 68 | 61 | 57 | 65 | 60 | 56 | 63 | 59 | 55 | 55 | 55 | 55 | 53 |
| 6 | 77 | 65 | 57 | 52 | 75 | 64 | 57 | 52 | 62 | 56 | 51 | 60 | 54 | 50 | 58 | 53 | 49 | 49 | 49 | 49 | 48 |
| 7 | 72 | 60 | 52 | 47 | 70 | 59 | 52 | 46 | 57 | 51 | 46 | 55 | 50 | 45 | 54 | 49 | 45 | 45 | 45 | 45 | 43 |
| 8 | 67 | 55 | 47 | 42 | 65 | 54 | 47 | 42 | 53 | 46 | 42 | 51 | 45 | 41 | 50 | 44 | 41 | 41 | 41 | 41 | 39 |
| 9 | 63 | 51 | 43 | 38 | 61 | 50 | 43 | 38 | 49 | 42 | 38 | 47 | 42 | 37 | 46 | 41 | 37 | 37 | 37 | 37 | 35 |
| 10 | 59 | 47 | 40 | 35 | 58 | 46 | 39 | 35 | 45 | 39 | 35 | 44 | 38 | 34 | 43 | 38 | 34 | 34 | 34 | 34 | 32 |

AVERAGE LUMINANCE (cd/sqm):

| | 0° | 45° | 90° |
|-----|--------|--------|--------|
| 0° | 97669 | 97669 | 97669 |
| 5° | 98318 | 98318 | 98318 |
| 10° | 101734 | 101734 | 101734 |
| 15° | 108181 | 108181 | 108181 |
| 20° | 117271 | 117271 | 117271 |
| 25° | 127484 | 127484 | 127484 |
| 30° | 133626 | 133626 | 133626 |
| 35° | 127190 | 127190 | 127190 |
| 40° | 100924 | 100924 | 100924 |
| 45° | 62380 | 62380 | 62380 |
| 50° | 36122 | 36122 | 36122 |
| 55° | 27329 | 27329 | 27329 |
| 60° | 23444 | 23444 | 23444 |
| 65° | 21175 | 21175 | 21175 |
| 70° | 19478 | 19478 | 19478 |
| 75° | 17209 | 17209 | 17209 |
| 80° | 14025 | 14025 | 14025 |
| 85° | 8266 | 8266 | 8266 |

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 62380 cd/sqm



TEST NUMBER:

CATALOG NUMBER: EHBR1-54-UNV-W-L950-UPL24

ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|---------|-----------|
| 0°-10° | 2023.5 | 3.9 |
| 10°-20° | 6487.3 | 12.5 |
| 20°-30° | 11709.8 | 22.5 |
| 30°-40° | 14150.0 | 27.2 |
| 40°-50° | 8084.4 | 15.6 |
| 50°-60° | 3424.0 | 6.6 |
| 60°-70° | 2208.5 | 4.3 |
| 70°-80° | 1284.1 | 2.5 |
| 80°-90° | 343.8 | 0.7 |
| 90°-100° | 64.1 | 0.1 |
| 100°-110° | 393.8 | 0.8 |
| 110°-120° | 703.4 | 1.4 |
| 120°-130° | 414.0 | 0.8 |
| 130°-140° | 257.4 | 0.5 |
| 140°-150° | 181.6 | 0.3 |
| 150°-160° | 119.3 | 0.2 |
| 160°-170° | 68.7 | 0.1 |
| 170°-180° | 22.8 | 0.0 |
| 0°-30° | 20220.5 | 38.9 |
| 0°-40° | 34370.6 | 66.2 |
| 0°-60° | 45878.9 | 88.3 |
| 0°-90° | 49715.3 | 95.7 |
| 90°-120° | 1161.3 | 2.2 |
| 90°-150° | 2014.4 | 3.9 |
| 90°-180° | 2225.0 | 4.3 |
| 0°-180° | 51940.7 | 100.0 |

CANDELA DISTRIBUTION:

| | 0° | 22.5° | 45° | 67.5° | 90° | Flux |
|------|-------|-------|-------|-------|-------|-------|
| 0° | 20798 | 20798 | 20798 | 20798 | 20798 | |
| 5° | 20992 | 20992 | 20992 | 20992 | 20992 | 2024 |
| 15° | 22696 | 22696 | 22696 | 22696 | 22696 | 6487 |
| 25° | 25458 | 25458 | 25458 | 25458 | 25458 | 11710 |
| 35° | 23344 | 23344 | 23344 | 23344 | 23344 | 14150 |
| 45° | 10093 | 10093 | 10093 | 10093 | 10093 | 8084 |
| 55° | 3693 | 3693 | 3693 | 3693 | 3693 | 3424 |
| 65° | 2210 | 2210 | 2210 | 2210 | 2210 | 2208 |
| 75° | 1212 | 1212 | 1212 | 1212 | 1212 | 1284 |
| 85° | 284 | 284 | 284 | 284 | 284 | 327 |
| 90° | 18 | 28 | 47 | 31 | 18 | 21 |
| 95° | 29 | 48 | 103 | 52 | 33 | 28 |
| 105° | 138 | 272 | 691 | 299 | 182 | 185 |
| 115° | 633 | 666 | 818 | 784 | 779 | 583 |
| 125° | 458 | 428 | 439 | 445 | 499 | 417 |
| 135° | 338 | 328 | 340 | 319 | 318 | 264 |
| 145° | 283 | 280 | 296 | 292 | 291 | 179 |
| 155° | 251 | 248 | 260 | 260 | 260 | 117 |
| 165° | 238 | 238 | 244 | 244 | 243 | 68 |
| 175° | 237 | 237 | 240 | 240 | 240 | 23 |
| 180° | 240 | 240 | 240 | 240 | 240 | |



TEST NUMBER:

CATALOG NUMBER: EHBR1-54-UNV-W-L950-UPL24

CANDELA DISTRIBUTION (FULL):

| | 0° | 22.5° | 45° | 67.5° | 90° |
|--------|---------|---------|---------|---------|---------|
| 0° | 20798.0 | 20798.0 | 20798.0 | 20798.0 | 20798.0 |
| 2.5° | 20867.8 | 20867.8 | 20867.8 | 20867.8 | 20867.8 |
| 5° | 20992.5 | 20992.5 | 20992.5 | 20992.5 | 20992.5 |
| 7.5° | 21237.6 | 21237.6 | 21237.6 | 21237.6 | 21237.6 |
| 10° | 21614.8 | 21614.8 | 21614.8 | 21614.8 | 21614.8 |
| 12.5° | 22105.0 | 22105.0 | 22105.0 | 22105.0 | 22105.0 |
| 15° | 22695.8 | 22695.8 | 22695.8 | 22695.8 | 22695.8 |
| 17.5° | 23372.1 | 23372.1 | 23372.1 | 23372.1 | 23372.1 |
| 20° | 24102.5 | 24102.5 | 24102.5 | 24102.5 | 24102.5 |
| 22.5° | 24837.8 | 24837.8 | 24837.8 | 24837.8 | 24837.8 |
| 25° | 25458.5 | 25458.5 | 25458.5 | 25458.5 | 25458.5 |
| 27.5° | 25792.5 | 25792.5 | 25792.5 | 25792.5 | 25792.5 |
| 30° | 25702.8 | 25702.8 | 25702.8 | 25702.8 | 25702.8 |
| 32.5° | 24940.9 | 24940.9 | 24940.9 | 24940.9 | 24940.9 |
| 35° | 23343.9 | 23343.9 | 23343.9 | 23343.9 | 23343.9 |
| 37.5° | 20853.7 | 20853.7 | 20853.7 | 20853.7 | 20853.7 |
| 40° | 17492.7 | 17492.7 | 17492.7 | 17492.7 | 17492.7 |
| 42.5° | 13691.4 | 13691.4 | 13691.4 | 13691.4 | 13691.4 |
| 45° | 10092.9 | 10092.9 | 10092.9 | 10092.9 | 10092.9 |
| 47.5° | 7213.8 | 7213.8 | 7213.8 | 7213.8 | 7213.8 |
| 50° | 5383.4 | 5383.4 | 5383.4 | 5383.4 | 5383.4 |
| 52.5° | 4358.8 | 4358.8 | 4358.8 | 4358.8 | 4358.8 |
| 55° | 3693.3 | 3693.3 | 3693.3 | 3693.3 | 3693.3 |
| 57.5° | 3207.2 | 3207.2 | 3207.2 | 3207.2 | 3207.2 |
| 60° | 2818.4 | 2818.4 | 2818.4 | 2818.4 | 2818.4 |
| 62.5° | 2494.3 | 2494.3 | 2494.3 | 2494.3 | 2494.3 |
| 65° | 2210.2 | 2210.2 | 2210.2 | 2210.2 | 2210.2 |
| 67.5° | 1959.2 | 1959.2 | 1959.2 | 1959.2 | 1959.2 |
| 70° | 1709.1 | 1709.1 | 1709.1 | 1709.1 | 1709.1 |
| 72.5° | 1459.9 | 1459.9 | 1459.9 | 1459.9 | 1459.9 |
| 75° | 1212.3 | 1212.3 | 1212.3 | 1212.3 | 1212.3 |
| 77.5° | 973.8 | 973.8 | 973.8 | 973.8 | 973.8 |
| 80° | 737.8 | 737.8 | 737.8 | 737.8 | 737.8 |
| 82.5° | 506.0 | 506.0 | 506.0 | 506.0 | 506.0 |
| 85° | 284.1 | 284.1 | 284.1 | 284.1 | 284.1 |
| 87.5° | 89.8 | 89.8 | 89.8 | 89.8 | 89.8 |
| 90° | 18.0 | 28.1 | 46.9 | 30.6 | 18.0 |
| 92.5° | 24.7 | 41.1 | 73.7 | 38.5 | 22.2 |
| 95° | 29.3 | 48.1 | 103.4 | 51.9 | 33.1 |
| 97.5° | 36.8 | 53.1 | 118.5 | 63.2 | 50.6 |
| 100° | 48.1 | 62.0 | 183.8 | 77.0 | 67.0 |
| 102.5° | 80.7 | 129.8 | 388.5 | 143.5 | 100.9 |
| 105° | 138.5 | 271.7 | 691.1 | 299.3 | 182.5 |
| 107.5° | 239.0 | 485.2 | 910.8 | 529.1 | 344.5 |
| 110° | 445.8 | 644.2 | 955.6 | 727.1 | 551.2 |



TEST NUMBER:

CATALOG NUMBER: EHBR1-54-UNV-W-L950-UPL24

CANDELA DISTRIBUTION (continued):

| | 0° | 22.5° | 45° | 67.5° | 90° |
|--------|-------|-------|-------|-------|-------|
| 112.5° | 601.5 | 691.9 | 915.5 | 802.4 | 717.0 |
| 115° | 632.9 | 665.5 | 817.5 | 783.6 | 778.6 |
| 117.5° | 611.5 | 607.8 | 694.4 | 704.5 | 752.2 |
| 120° | 566.4 | 541.2 | 580.1 | 615.4 | 679.4 |
| 122.5° | 509.8 | 479.7 | 497.3 | 523.6 | 587.7 |
| 125° | 458.0 | 427.8 | 439.1 | 445.4 | 499.4 |
| 127.5° | 411.5 | 391.3 | 397.7 | 390.1 | 424.0 |
| 130° | 380.9 | 363.3 | 372.1 | 354.5 | 370.9 |
| 132.5° | 356.2 | 344.9 | 354.9 | 333.6 | 338.7 |
| 135° | 338.2 | 328.2 | 339.5 | 319.3 | 318.1 |
| 137.5° | 322.6 | 313.9 | 325.1 | 310.0 | 306.3 |
| 140° | 309.2 | 301.7 | 314.2 | 303.0 | 300.5 |
| 142.5° | 293.8 | 288.7 | 303.8 | 296.3 | 293.8 |
| 145° | 283.3 | 279.5 | 295.8 | 292.1 | 290.8 |
| 147.5° | 274.1 | 271.6 | 286.6 | 285.3 | 285.3 |
| 150° | 265.3 | 262.8 | 277.8 | 276.6 | 277.8 |
| 152.5° | 256.5 | 254.0 | 267.8 | 266.6 | 267.8 |
| 155° | 251.0 | 248.5 | 259.9 | 259.9 | 259.9 |
| 157.5° | 246.0 | 244.7 | 253.6 | 253.6 | 253.6 |
| 160° | 243.1 | 241.8 | 249.4 | 249.4 | 248.1 |
| 162.5° | 240.2 | 238.9 | 247.7 | 246.4 | 246.4 |
| 165° | 237.7 | 237.7 | 243.9 | 243.9 | 242.7 |
| 167.5° | 237.7 | 236.4 | 242.7 | 242.7 | 241.4 |
| 170° | 236.4 | 236.4 | 241.4 | 240.2 | 238.9 |
| 172.5° | 237.2 | 237.2 | 242.2 | 241.0 | 239.7 |
| 175° | 236.8 | 236.8 | 240.5 | 240.5 | 240.5 |
| 177.5° | 238.0 | 238.0 | 240.5 | 240.5 | 239.3 |
| 180° | 240.2 | 240.2 | 240.2 | 240.2 | 240.2 |



TEST NUMBER: CATALOG
 CATALOG NUMBER: EHBR1-54-UNV-W-L950-UPL24

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 | 20.07 | 21.30 | 20.51 | 21.71 | 22.13 | 20.07 | 21.30 | 20.51 | 21.71 | 22.13 |
| | 3H | 21.57 | 22.66 | 22.02 | 23.09 | 23.56 | 21.57 | 22.66 | 22.02 | 23.09 | 23.56 |
| | 4H | 22.13 | 23.15 | 22.61 | 23.59 | 24.08 | 22.13 | 23.15 | 22.61 | 23.59 | 24.08 |
| | 6H | 22.51 | 23.46 | 23.00 | 23.91 | 24.41 | 22.51 | 23.46 | 23.00 | 23.91 | 24.41 |
| | 8H | 22.61 | 23.51 | 23.12 | 23.98 | 24.49 | 22.61 | 23.51 | 23.12 | 23.98 | 24.49 |
| | 12H | 22.65 | 23.50 | 23.16 | 23.97 | 24.51 | 22.65 | 23.50 | 23.16 | 23.97 | 24.51 |
| 4H | 2H | 20.51 | 21.54 | 20.99 | 21.98 | 22.46 | 20.51 | 21.54 | 20.99 | 21.98 | 22.46 |
| | 3H | 22.23 | 23.08 | 22.72 | 23.56 | 24.07 | 22.23 | 23.08 | 22.72 | 23.56 | 24.07 |
| | 4H | 22.91 | 23.67 | 23.42 | 24.17 | 24.71 | 22.91 | 23.67 | 23.42 | 24.17 | 24.71 |
| | 6H | 23.41 | 24.06 | 23.95 | 24.59 | 25.15 | 23.41 | 24.06 | 23.95 | 24.59 | 25.15 |
| | 8H | 23.54 | 24.15 | 24.08 | 24.68 | 25.25 | 23.54 | 24.15 | 24.08 | 24.68 | 25.25 |
| | 12H | 23.60 | 24.14 | 24.16 | 24.70 | 25.28 | 23.60 | 24.14 | 24.16 | 24.70 | 25.28 |
| 8H | 4H | 23.12 | 23.73 | 23.66 | 24.25 | 24.82 | 23.12 | 23.73 | 23.66 | 24.25 | 24.82 |
| | 6H | 23.71 | 24.21 | 24.29 | 24.79 | 25.36 | 23.71 | 24.21 | 24.29 | 24.79 | 25.36 |
| | 8H | 23.90 | 24.35 | 24.49 | 24.93 | 25.53 | 23.90 | 24.35 | 24.49 | 24.93 | 25.53 |
| | 12H | 24.01 | 24.40 | 24.59 | 24.97 | 25.64 | 24.01 | 24.40 | 24.59 | 24.97 | 25.64 |
| 12H | 4H | 23.11 | 23.65 | 23.67 | 24.21 | 24.79 | 23.11 | 23.65 | 23.67 | 24.21 | 24.79 |
| | 6H | 23.73 | 24.18 | 24.32 | 24.76 | 25.35 | 23.73 | 24.18 | 24.32 | 24.76 | 25.35 |
| | 8H | 23.96 | 24.35 | 24.54 | 24.92 | 25.58 | 23.96 | 24.35 | 24.54 | 24.92 | 25.58 |

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



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

Report Prepared for

Cooper Lighting Solutions

Metalux

Report Number: SP1-2506-472-8

Test Date: 08/04/2025

Luminaire Tested: EHBR-60-L950-N

Data in this report applies to families of products including EHBR-60-L950-N

Test Information

Test Method: LM-79-2019
 Report Number: SP1-2506-472-8
 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-L950-N**
 Description: Elevate Round Highbay at, 60000 lumens, 5000K 90CRI LEDs with N lens

Spectral Parameters

CCT (K): 4901
 CIE u': 0.2131
 CIE v': 0.4853
 Duv: -0.0008
 CIE x: 0.3477
 CIE y: 0.3520
 CIE z: 0.3003
 Peak Wavelength (nm): 630
 Dominant Wavelength (nm): 574
 Purity: 9.953987
 Rf: 90.7
 Rg: 100.5

| | | | |
|-----------|------|------|------|
| CRI (Ra): | 94.3 | | |
| R1: | 95.8 | R9: | 72.3 |
| R2: | 96.5 | R10: | 89.1 |
| R3: | 94.4 | R11: | 94.9 |
| R4: | 95.3 | R12: | 68.4 |
| R5: | 94.1 | R13: | 96.4 |
| R6: | 92.5 | R14: | 96.4 |
| R7: | 95.5 | R15: | 93.9 |
| R8: | 90.1 | | |



Test Conditions

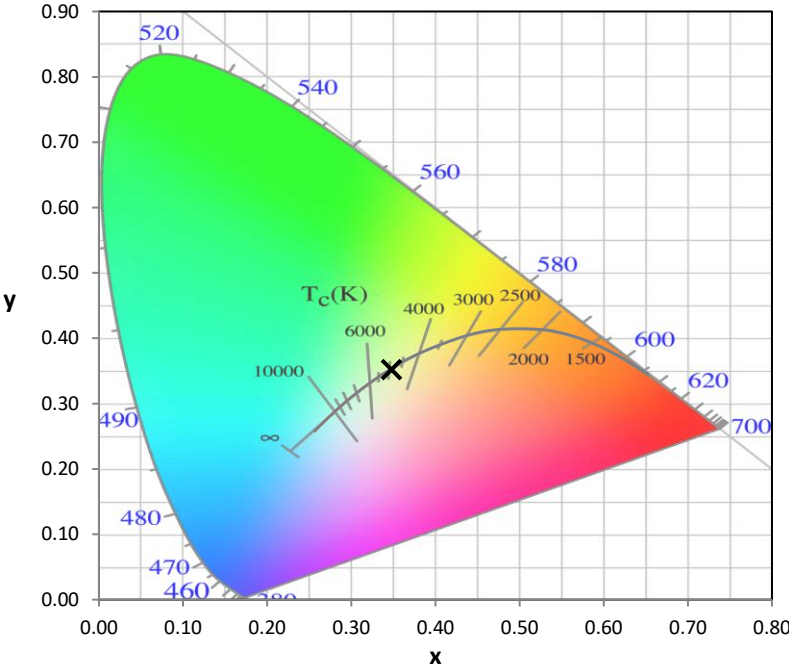
Stabilization Time: 35M
 Operation Time: 1H 35M
 Sphere Temperature (°C): 25.0

REPORT NUMBER: SP1-2506-472-8

| 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: SP1-2506-472-8

CIE 1931 Chromaticity Diagram



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



Point lies inside the ANSI 5000K 4-step quadrangle

REPORT NUMBER: SP1-2506-472-8

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 | 221 | NR | 620 | 326 | NR | 750 | 7 | NR | 880 | 0 | NR |
| 365 | 0 | NR | 495 | 250 | NR | 625 | 325 | NR | 755 | 6 | NR | 885 | 0 | NR |
| 370 | 0 | NR | 500 | 284 | NR | 630 | 1000 | NR | 760 | 5 | NR | 890 | 0 | NR |
| 375 | 0 | NR | 505 | 311 | NR | 635 | 643 | NR | 765 | 4 | NR | 895 | 0 | NR |
| 380 | 0 | NR | 510 | 329 | NR | 640 | 206 | NR | 770 | 4 | NR | 900 | 0 | NR |
| 385 | 1 | NR | 515 | 344 | NR | 645 | 199 | NR | 775 | 3 | NR | 905 | 0 | NR |
| 390 | 2 | NR | 520 | 353 | NR | 650 | 172 | NR | 780 | 3 | NR | 910 | 0 | NR |
| 395 | 3 | NR | 525 | 357 | NR | 655 | 143 | NR | 785 | 2 | NR | 915 | 0 | NR |
| 400 | 5 | NR | 530 | 362 | NR | 660 | 122 | NR | 790 | 2 | NR | 920 | 0 | NR |
| 405 | 6 | NR | 535 | 365 | NR | 665 | 102 | NR | 795 | 2 | NR | 925 | 0 | NR |
| 410 | 9 | NR | 540 | 367 | NR | 670 | 94 | NR | 800 | 2 | NR | 930 | 0 | NR |
| 415 | 15 | NR | 545 | 369 | NR | 675 | 76 | NR | 805 | 1 | NR | 935 | 0 | NR |
| 420 | 26 | NR | 550 | 370 | NR | 680 | 65 | NR | 810 | 1 | NR | 940 | 0 | NR |
| 425 | 47 | NR | 555 | 372 | NR | 685 | 56 | NR | 815 | 1 | NR | 945 | 0 | NR |
| 430 | 81 | NR | 560 | 372 | NR | 690 | 48 | NR | 820 | 1 | NR | 950 | 0 | NR |
| 435 | 143 | NR | 565 | 371 | NR | 695 | 41 | NR | 825 | 1 | NR | 955 | 0 | NR |
| 440 | 243 | NR | 570 | 370 | NR | 700 | 35 | NR | 830 | 1 | NR | 960 | 0 | NR |
| 445 | 434 | NR | 575 | 367 | NR | 705 | 30 | NR | 835 | 1 | NR | 965 | 0 | NR |
| 450 | 675 | NR | 580 | 365 | NR | 710 | 25 | NR | 840 | 1 | NR | 970 | 0 | NR |
| 455 | 615 | NR | 585 | 361 | NR | 715 | 22 | NR | 845 | 0 | NR | 975 | 0 | NR |
| 460 | 418 | NR | 590 | 356 | NR | 720 | 19 | NR | 850 | 0 | NR | 980 | 0 | NR |
| 465 | 344 | NR | 595 | 348 | NR | 725 | 16 | NR | 855 | 0 | NR | 985 | 0 | NR |
| 470 | 272 | NR | 600 | 343 | NR | 730 | 13 | NR | 860 | 0 | NR | 990 | 0 | NR |
| 475 | 206 | NR | 605 | 337 | NR | 735 | 11 | NR | 865 | 0 | NR | 995 | 0 | NR |
| 480 | 190 | NR | 610 | 362 | NR | 740 | 10 | NR | 870 | 0 | NR | 1000 | 0 | NR |
| 485 | 202 | NR | 615 | 381 | NR | 745 | 8 | NR | 875 | 0 | NR | | | |

REPORT NUMBER: SP1-2506-472-8

Scotopic Flux vs. Wavelength



Scotopic Lumens: NR S/P: 2.04

| 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 | 221 | NR | 620 | 326 | NR | 750 | 7 | NR | 880 | 0 | NR |
| 365 | 0 | NR | 495 | 250 | NR | 625 | 325 | NR | 755 | 6 | NR | 885 | 0 | NR |
| 370 | 0 | NR | 500 | 284 | NR | 630 | 1000 | NR | 760 | 5 | NR | 890 | 0 | NR |
| 375 | 0 | NR | 505 | 311 | NR | 635 | 643 | NR | 765 | 4 | NR | 895 | 0 | NR |
| 380 | 0 | NR | 510 | 329 | NR | 640 | 206 | NR | 770 | 4 | NR | 900 | 0 | NR |
| 385 | 1 | NR | 515 | 344 | NR | 645 | 199 | NR | 775 | 3 | NR | 905 | 0 | NR |
| 390 | 2 | NR | 520 | 353 | NR | 650 | 172 | NR | 780 | 3 | NR | 910 | 0 | NR |
| 395 | 3 | NR | 525 | 357 | NR | 655 | 143 | NR | 785 | 2 | NR | 915 | 0 | NR |
| 400 | 5 | NR | 530 | 362 | NR | 660 | 122 | NR | 790 | 2 | NR | 920 | 0 | NR |
| 405 | 6 | NR | 535 | 365 | NR | 665 | 102 | NR | 795 | 2 | NR | 925 | 0 | NR |
| 410 | 9 | NR | 540 | 367 | NR | 670 | 94 | NR | 800 | 2 | NR | 930 | 0 | NR |
| 415 | 15 | NR | 545 | 369 | NR | 675 | 76 | NR | 805 | 1 | NR | 935 | 0 | NR |
| 420 | 26 | NR | 550 | 370 | NR | 680 | 65 | NR | 810 | 1 | NR | 940 | 0 | NR |
| 425 | 47 | NR | 555 | 372 | NR | 685 | 56 | NR | 815 | 1 | NR | 945 | 0 | NR |
| 430 | 81 | NR | 560 | 372 | NR | 690 | 48 | NR | 820 | 1 | NR | 950 | 0 | NR |
| 435 | 143 | NR | 565 | 371 | NR | 695 | 41 | NR | 825 | 1 | NR | 955 | 0 | NR |
| 440 | 243 | NR | 570 | 370 | NR | 700 | 35 | NR | 830 | 1 | NR | 960 | 0 | NR |
| 445 | 434 | NR | 575 | 367 | NR | 705 | 30 | NR | 835 | 1 | NR | 965 | 0 | NR |
| 450 | 675 | NR | 580 | 365 | NR | 710 | 25 | NR | 840 | 1 | NR | 970 | 0 | NR |
| 455 | 615 | NR | 585 | 361 | NR | 715 | 22 | NR | 845 | 0 | NR | 975 | 0 | NR |
| 460 | 418 | NR | 590 | 356 | NR | 720 | 19 | NR | 850 | 0 | NR | 980 | 0 | NR |
| 465 | 344 | NR | 595 | 348 | NR | 725 | 16 | NR | 855 | 0 | NR | 985 | 0 | NR |
| 470 | 272 | NR | 600 | 343 | NR | 730 | 13 | NR | 860 | 0 | NR | 990 | 0 | NR |
| 475 | 206 | NR | 605 | 337 | NR | 735 | 11 | NR | 865 | 0 | NR | 995 | 0 | NR |
| 480 | 190 | NR | 610 | 362 | NR | 740 | 10 | NR | 870 | 0 | NR | 1000 | 0 | NR |
| 485 | 202 | NR | 615 | 381 | NR | 745 | 8 | NR | 875 | 0 | NR | | | |

REPORT NUMBER: SP1-2506-472-8

Melanopic Flux vs. Wavelength



Melanopic Lumens: NR

M/P: 4.41

| 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 | 221 | NR | 620 | 326 | NR | 750 | 7 | NR | 880 | 0 | NR |
| 365 | 0 | NR | 495 | 250 | NR | 625 | 325 | NR | 755 | 6 | NR | 885 | 0 | NR |
| 370 | 0 | NR | 500 | 284 | NR | 630 | 1000 | NR | 760 | 5 | NR | 890 | 0 | NR |
| 375 | 0 | NR | 505 | 311 | NR | 635 | 643 | NR | 765 | 4 | NR | 895 | 0 | NR |
| 380 | 0 | NR | 510 | 329 | NR | 640 | 206 | NR | 770 | 4 | NR | 900 | 0 | NR |
| 385 | 1 | NR | 515 | 344 | NR | 645 | 199 | NR | 775 | 3 | NR | 905 | 0 | NR |
| 390 | 2 | NR | 520 | 353 | NR | 650 | 172 | NR | 780 | 3 | NR | 910 | 0 | NR |
| 395 | 3 | NR | 525 | 357 | NR | 655 | 143 | NR | 785 | 2 | NR | 915 | 0 | NR |
| 400 | 5 | NR | 530 | 362 | NR | 660 | 122 | NR | 790 | 2 | NR | 920 | 0 | NR |
| 405 | 6 | NR | 535 | 365 | NR | 665 | 102 | NR | 795 | 2 | NR | 925 | 0 | NR |
| 410 | 9 | NR | 540 | 367 | NR | 670 | 94 | NR | 800 | 2 | NR | 930 | 0 | NR |
| 415 | 15 | NR | 545 | 369 | NR | 675 | 76 | NR | 805 | 1 | NR | 935 | 0 | NR |
| 420 | 26 | NR | 550 | 370 | NR | 680 | 65 | NR | 810 | 1 | NR | 940 | 0 | NR |
| 425 | 47 | NR | 555 | 372 | NR | 685 | 56 | NR | 815 | 1 | NR | 945 | 0 | NR |
| 430 | 81 | NR | 560 | 372 | NR | 690 | 48 | NR | 820 | 1 | NR | 950 | 0 | NR |
| 435 | 143 | NR | 565 | 371 | NR | 695 | 41 | NR | 825 | 1 | NR | 955 | 0 | NR |
| 440 | 243 | NR | 570 | 370 | NR | 700 | 35 | NR | 830 | 1 | NR | 960 | 0 | NR |
| 445 | 434 | NR | 575 | 367 | NR | 705 | 30 | NR | 835 | 1 | NR | 965 | 0 | NR |
| 450 | 675 | NR | 580 | 365 | NR | 710 | 25 | NR | 840 | 1 | NR | 970 | 0 | NR |
| 455 | 615 | NR | 585 | 361 | NR | 715 | 22 | NR | 845 | 0 | NR | 975 | 0 | NR |
| 460 | 418 | NR | 590 | 356 | NR | 720 | 19 | NR | 850 | 0 | NR | 980 | 0 | NR |
| 465 | 344 | NR | 595 | 348 | NR | 725 | 16 | NR | 855 | 0 | NR | 985 | 0 | NR |
| 470 | 272 | NR | 600 | 343 | NR | 730 | 13 | NR | 860 | 0 | NR | 990 | 0 | NR |
| 475 | 206 | NR | 605 | 337 | NR | 735 | 11 | NR | 865 | 0 | NR | 995 | 0 | NR |
| 480 | 190 | NR | 610 | 362 | NR | 740 | 10 | NR | 870 | 0 | NR | 1000 | 0 | NR |
| 485 | 202 | NR | 615 | 381 | NR | 745 | 8 | NR | 875 | 0 | NR | | | |

Summary

$R_f = 90.7$
 $R_g = 100.5$
 CIE $R_a = 94.3$
 $R_9 = 72.3$



Color Vector Graphics



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

| | | | |
|------------|------------|------------|------------|
| CES01 = 85 | CES26 = 91 | CES51 = 98 | CES76 = 83 |
| CES02 = 61 | CES27 = 92 | CES52 = 98 | CES77 = 87 |
| CES03 = 31 | CES28 = 94 | CES53 = 97 | CES78 = 80 |
| CES04 = 69 | CES29 = 94 | CES54 = 93 | CES79 = 94 |
| CES05 = 48 | CES30 = 93 | CES55 = 92 | CES80 = 91 |
| CES06 = 50 | CES31 = 95 | CES56 = 95 | CES81 = 84 |
| CES07 = 41 | CES32 = 86 | CES57 = 94 | CES82 = 96 |
| CES08 = 40 | CES33 = 99 | CES58 = 94 | CES83 = 96 |
| CES09 = 29 | CES34 = 90 | CES59 = 97 | CES84 = 93 |
| CES10 = 73 | CES35 = 94 | CES60 = 92 | CES85 = 83 |
| CES11 = 56 | CES36 = 81 | CES61 = 92 | CES86 = 86 |
| CES12 = 62 | CES37 = 92 | CES62 = 86 | CES87 = 91 |
| CES13 = 43 | CES38 = 88 | CES63 = 92 | CES88 = 98 |
| CES14 = 74 | CES39 = 99 | CES64 = 89 | CES89 = 87 |
| CES15 = 71 | CES40 = 97 | CES65 = 88 | CES90 = 98 |
| CES16 = 47 | CES41 = 97 | CES66 = 85 | CES91 = 73 |
| CES17 = 48 | CES42 = 90 | CES67 = 84 | CES92 = 79 |
| CES18 = 56 | CES43 = 91 | CES68 = 86 | CES93 = 87 |
| CES19 = 70 | CES44 = 99 | CES69 = 87 | CES94 = 78 |
| CES20 = 65 | CES45 = 95 | CES70 = 83 | CES95 = 83 |
| CES21 = 85 | CES46 = 97 | CES71 = 77 | CES96 = 92 |
| CES22 = 77 | CES47 = 95 | CES72 = 92 | CES97 = 95 |
| CES23 = 91 | CES48 = 93 | CES73 = 77 | CES98 = 95 |
| CES24 = 90 | CES49 = 95 | CES74 = 92 | CES99 = 94 |
| CES25 = 70 | CES50 = 98 | CES75 = 79 | |



Color Rendition by Hue-Angle Bin



Measure Comparisons



(END OF REPORT)