

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: P1436261

Luminaire Tested: EHBR1-60-UNV-M-L835-UPL18

Issue Date: 3/25/2026

Test Information

Test Method: LM-79-2019
Report Number: P1436261
REPORT IS A COMBINATION OF REPORTS P1436117 AND P1431635
Test Lab: INNOVATION CENTER
Issue Date: 3/25/2026
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: METALUX
Catalog Number: EHBR1-60-UNV-M-L835-UPL18
Description: Elevate Round Highbay at, 60000 lumens, 3500K 80CRI LEDs with M lens
Light Source: -
Ballast/Driver: -

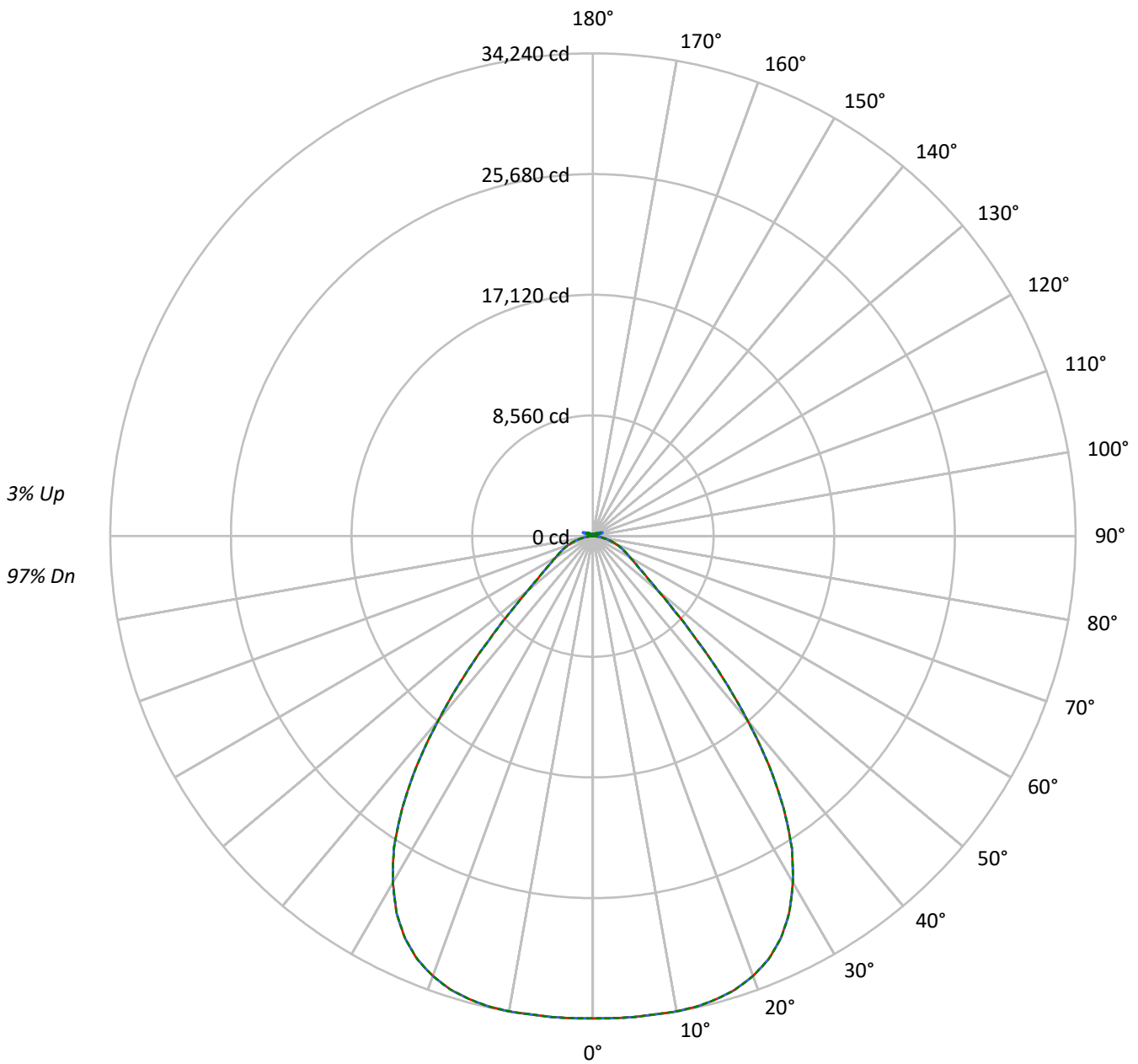
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 59635.2 lumens
Efficiency: N/A
Efficacy: 174.2 lumens/watt
Spacing Criteria (0/90/45): 1.21 / 1.21 / 1.15
Luminous Opening: Vertical Cylinder (Dia: 1.71' x H: 0.1')
CIE Type: Direct

Input Watts (W): 342.3
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT

TEST NUMBER: P1436261
CATALOG NUMBER: EHBR1-60-UNV-M-L835-UPL18

Luminous Intensity Polar Plot



— 0°-180° - - 45°-225° - - - 90°-270°



TEST NUMBER: P1436261

CATALOG NUMBER: EHBR1-60-UNV-M-L835-UPL18

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 | 0 |
| RCR | | | | | | | | | | | | | | | | | | |
| 0 | 118 | 118 | 118 | 118 | 115 | 115 | 115 | 115 | 109 | 109 | 109 | 104 | 104 | 104 | 99 | 99 | 99 | 97 |
| 1 | 111 | 107 | 104 | 101 | 108 | 105 | 102 | 99 | 100 | 98 | 96 | 96 | 94 | 92 | 92 | 90 | 89 | 87 |
| 2 | 103 | 97 | 92 | 88 | 101 | 95 | 90 | 86 | 91 | 87 | 84 | 88 | 84 | 82 | 84 | 82 | 79 | 77 |
| 3 | 96 | 88 | 82 | 77 | 94 | 86 | 81 | 76 | 83 | 78 | 74 | 80 | 76 | 73 | 78 | 74 | 71 | 69 |
| 4 | 90 | 80 | 73 | 68 | 88 | 79 | 72 | 67 | 76 | 71 | 66 | 74 | 69 | 65 | 71 | 67 | 64 | 62 |
| 5 | 84 | 74 | 66 | 61 | 82 | 72 | 66 | 60 | 70 | 64 | 60 | 68 | 63 | 59 | 66 | 62 | 58 | 56 |
| 6 | 79 | 68 | 60 | 55 | 77 | 67 | 60 | 55 | 65 | 59 | 54 | 63 | 57 | 53 | 61 | 56 | 53 | 51 |
| 7 | 74 | 62 | 55 | 50 | 72 | 62 | 55 | 50 | 60 | 54 | 49 | 58 | 53 | 49 | 57 | 52 | 48 | 46 |
| 8 | 69 | 58 | 51 | 46 | 68 | 57 | 50 | 45 | 56 | 49 | 45 | 54 | 49 | 45 | 53 | 48 | 44 | 42 |
| 9 | 65 | 54 | 47 | 42 | 64 | 53 | 46 | 42 | 52 | 46 | 41 | 51 | 45 | 41 | 49 | 44 | 41 | 39 |
| 10 | 62 | 50 | 43 | 39 | 60 | 49 | 43 | 38 | 48 | 42 | 38 | 47 | 42 | 38 | 46 | 41 | 38 | 36 |

AVERAGE LUMINANCE (cd/sqm):

| | 0° | 45° | 90° |
|-----|--------|--------|--------|
| 0° | 160636 | 160636 | 160636 |
| 5° | 160362 | 160362 | 160362 |
| 10° | 161115 | 161115 | 161115 |
| 15° | 162040 | 162040 | 162040 |
| 20° | 161550 | 161550 | 161550 |
| 25° | 157778 | 157778 | 157778 |
| 30° | 147534 | 147534 | 147534 |
| 35° | 128488 | 128488 | 128488 |
| 40° | 98471 | 98471 | 98471 |
| 45° | 64329 | 64329 | 64329 |
| 50° | 40553 | 40553 | 40553 |
| 55° | 30230 | 30230 | 30230 |
| 60° | 25450 | 25450 | 25450 |
| 65° | 23143 | 23143 | 23143 |
| 70° | 21082 | 21082 | 21082 |
| 75° | 18048 | 18048 | 18048 |
| 80° | 13897 | 13897 | 13897 |
| 85° | 7288 | 7288 | 7288 |

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 64329 cd/sqm



TEST NUMBER: P1436261
 CATALOG NUMBER: EHBR1-60-UNV-M-L835-UPL18

ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|---------|-----------|
| 0°-10° | 3267.1 | 5.5 |
| 10°-20° | 9594.3 | 16.1 |
| 20°-30° | 14395.9 | 24.1 |
| 30°-40° | 14483.8 | 24.3 |
| 40°-50° | 8290.9 | 13.9 |
| 50°-60° | 3792.0 | 6.4 |
| 60°-70° | 2405.9 | 4.0 |
| 70°-80° | 1349.6 | 2.3 |
| 80°-90° | 319.7 | 0.5 |
| 90°-100° | 49.5 | 0.1 |
| 100°-110° | 310.2 | 0.5 |
| 110°-120° | 554.7 | 0.9 |
| 120°-130° | 325.4 | 0.5 |
| 130°-140° | 199.6 | 0.3 |
| 140°-150° | 138.5 | 0.2 |
| 150°-160° | 90.0 | 0.2 |
| 160°-170° | 51.3 | 0.1 |
| 170°-180° | 16.9 | 0.0 |
| 0°-30° | 27257.2 | 45.7 |
| 0°-40° | 41741.0 | 70.0 |
| 0°-60° | 53823.9 | 90.3 |
| 0°-90° | 57899.1 | 97.1 |
| 90°-120° | 914.3 | 1.5 |
| 90°-150° | 1577.9 | 2.6 |
| 90°-180° | 1736.0 | 2.9 |
| 0°-180° | 59635.2 | 100.0 |

CANDELA DISTRIBUTION:

| | 0° | 22.5° | 45° | 67.5° | 90° | Flux |
|------|-------|-------|-------|-------|-------|-------|
| 0° | 34206 | 34206 | 34206 | 34206 | 34206 | |
| 5° | 34240 | 34240 | 34240 | 34240 | 34240 | 3267 |
| 15° | 33995 | 33995 | 33995 | 33995 | 33995 | 9594 |
| 25° | 31508 | 31508 | 31508 | 31508 | 31508 | 14396 |
| 35° | 23582 | 23582 | 23582 | 23582 | 23582 | 14484 |
| 45° | 10408 | 10408 | 10408 | 10408 | 10408 | 8291 |
| 55° | 4085 | 4085 | 4085 | 4085 | 4085 | 3792 |
| 65° | 2416 | 2416 | 2416 | 2416 | 2416 | 2406 |
| 75° | 1271 | 1271 | 1271 | 1271 | 1271 | 1350 |
| 85° | 250 | 250 | 250 | 250 | 250 | 307 |
| 90° | 13 | 21 | 36 | 23 | 13 | 16 |
| 95° | 22 | 37 | 80 | 40 | 25 | 21 |
| 105° | 108 | 214 | 546 | 236 | 143 | 145 |
| 115° | 499 | 525 | 645 | 618 | 614 | 460 |
| 125° | 360 | 336 | 345 | 350 | 392 | 328 |
| 135° | 262 | 254 | 263 | 247 | 246 | 205 |
| 145° | 216 | 213 | 226 | 223 | 222 | 137 |
| 155° | 189 | 187 | 196 | 196 | 196 | 88 |
| 165° | 177 | 177 | 182 | 182 | 181 | 51 |
| 175° | 175 | 175 | 178 | 178 | 178 | 17 |
| 180° | 177 | 177 | 177 | 177 | 177 | |



TEST NUMBER: P1436261

CATALOG NUMBER: EHBR1-60-UNV-M-L835-UPL18

CANDELA DISTRIBUTION (FULL):

| | 0° | 22.5° | 45° | 67.5° | 90° |
|--------|---------|---------|---------|---------|---------|
| 0° | 34206.4 | 34206.4 | 34206.4 | 34206.4 | 34206.4 |
| 2.5° | 34223.1 | 34223.1 | 34223.1 | 34223.1 | 34223.1 |
| 5° | 34239.8 | 34239.8 | 34239.8 | 34239.8 | 34239.8 |
| 7.5° | 34216.2 | 34216.2 | 34216.2 | 34216.2 | 34216.2 |
| 10° | 34231.0 | 34231.0 | 34231.0 | 34231.0 | 34231.0 |
| 12.5° | 34172.2 | 34172.2 | 34172.2 | 34172.2 | 34172.2 |
| 15° | 33995.1 | 33995.1 | 33995.1 | 33995.1 | 33995.1 |
| 17.5° | 33702.4 | 33702.4 | 33702.4 | 33702.4 | 33702.4 |
| 20° | 33203.3 | 33203.3 | 33203.3 | 33203.3 | 33203.3 |
| 22.5° | 32517.2 | 32517.2 | 32517.2 | 32517.2 | 32517.2 |
| 25° | 31508.1 | 31508.1 | 31508.1 | 31508.1 | 31508.1 |
| 27.5° | 30150.5 | 30150.5 | 30150.5 | 30150.5 | 30150.5 |
| 30° | 28378.0 | 28378.0 | 28378.0 | 28378.0 | 28378.0 |
| 32.5° | 26279.5 | 26279.5 | 26279.5 | 26279.5 | 26279.5 |
| 35° | 23582.1 | 23582.1 | 23582.1 | 23582.1 | 23582.1 |
| 37.5° | 20526.5 | 20526.5 | 20526.5 | 20526.5 | 20526.5 |
| 40° | 17067.5 | 17067.5 | 17067.5 | 17067.5 | 17067.5 |
| 42.5° | 13639.0 | 13639.0 | 13639.0 | 13639.0 | 13639.0 |
| 45° | 10408.1 | 10408.1 | 10408.1 | 10408.1 | 10408.1 |
| 47.5° | 7834.9 | 7834.9 | 7834.9 | 7834.9 | 7834.9 |
| 50° | 6043.8 | 6043.8 | 6043.8 | 6043.8 | 6043.8 |
| 52.5° | 4883.0 | 4883.0 | 4883.0 | 4883.0 | 4883.0 |
| 55° | 4085.3 | 4085.3 | 4085.3 | 4085.3 | 4085.3 |
| 57.5° | 3498.1 | 3498.1 | 3498.1 | 3498.1 | 3498.1 |
| 60° | 3059.5 | 3059.5 | 3059.5 | 3059.5 | 3059.5 |
| 62.5° | 2720.9 | 2720.9 | 2720.9 | 2720.9 | 2720.9 |
| 65° | 2415.6 | 2415.6 | 2415.6 | 2415.6 | 2415.6 |
| 67.5° | 2134.6 | 2134.6 | 2134.6 | 2134.6 | 2134.6 |
| 70° | 1849.8 | 1849.8 | 1849.8 | 1849.8 | 1849.8 |
| 72.5° | 1563.0 | 1563.0 | 1563.0 | 1563.0 | 1563.0 |
| 75° | 1271.4 | 1271.4 | 1271.4 | 1271.4 | 1271.4 |
| 77.5° | 994.4 | 994.4 | 994.4 | 994.4 | 994.4 |
| 80° | 731.1 | 731.1 | 731.1 | 731.1 | 731.1 |
| 82.5° | 476.7 | 476.7 | 476.7 | 476.7 | 476.7 |
| 85° | 250.5 | 250.5 | 250.5 | 250.5 | 250.5 |
| 87.5° | 71.5 | 71.5 | 71.5 | 71.5 | 71.5 |
| 90° | 12.9 | 20.8 | 35.8 | 22.9 | 12.9 |
| 92.5° | 18.9 | 31.8 | 57.6 | 29.8 | 16.9 |
| 95° | 21.8 | 36.7 | 80.5 | 39.8 | 24.8 |
| 97.5° | 27.8 | 40.7 | 92.4 | 48.7 | 38.8 |
| 100° | 36.7 | 47.7 | 144.1 | 59.6 | 51.7 |
| 102.5° | 62.6 | 101.3 | 306.1 | 112.3 | 78.5 |
| 105° | 108.3 | 213.7 | 545.6 | 235.5 | 143.1 |
| 107.5° | 187.8 | 382.6 | 719.5 | 417.4 | 271.3 |
| 110° | 350.8 | 507.8 | 754.3 | 573.4 | 434.3 |



TEST NUMBER: P1436261

CATALOG NUMBER: EHBR1-60-UNV-M-L835-UPL18

CANDELA DISTRIBUTION (continued):

| | 0° | 22.5° | 45° | 67.5° | 90° |
|--------|-------|-------|-------|-------|-------|
| 112.5° | 474.0 | 545.6 | 722.5 | 633.1 | 565.5 |
| 115° | 498.9 | 524.8 | 645.0 | 618.1 | 614.2 |
| 117.5° | 482.0 | 479.0 | 547.5 | 555.5 | 593.3 |
| 120° | 446.2 | 426.3 | 457.2 | 485.0 | 535.6 |
| 122.5° | 401.5 | 377.7 | 391.5 | 412.4 | 463.1 |
| 125° | 359.7 | 335.9 | 344.8 | 349.8 | 392.5 |
| 127.5° | 323.0 | 307.1 | 312.0 | 306.1 | 332.9 |
| 130° | 298.2 | 284.2 | 291.2 | 277.3 | 290.2 |
| 132.5° | 277.3 | 268.3 | 276.2 | 259.4 | 263.3 |
| 135° | 262.4 | 254.4 | 263.3 | 247.4 | 246.5 |
| 137.5° | 249.5 | 242.5 | 251.4 | 239.5 | 236.5 |
| 140° | 237.6 | 231.5 | 241.5 | 232.5 | 230.6 |
| 142.5° | 224.6 | 220.6 | 232.5 | 226.6 | 224.6 |
| 145° | 215.6 | 212.6 | 225.6 | 222.6 | 221.7 |
| 147.5° | 207.7 | 205.8 | 217.7 | 216.6 | 216.6 |
| 150° | 200.7 | 198.8 | 210.7 | 209.7 | 210.7 |
| 152.5° | 193.8 | 191.8 | 202.7 | 201.8 | 202.7 |
| 155° | 188.8 | 186.8 | 195.8 | 195.8 | 195.8 |
| 157.5° | 184.8 | 183.8 | 190.8 | 190.8 | 190.8 |
| 160° | 181.9 | 180.8 | 186.8 | 186.8 | 185.9 |
| 162.5° | 178.9 | 177.9 | 184.8 | 183.8 | 183.8 |
| 165° | 176.9 | 176.9 | 181.9 | 181.9 | 180.8 |
| 167.5° | 176.9 | 175.9 | 180.8 | 180.8 | 179.9 |
| 170° | 175.9 | 175.9 | 179.9 | 178.9 | 177.9 |
| 172.5° | 175.9 | 175.9 | 179.9 | 178.9 | 177.9 |
| 175° | 174.9 | 174.9 | 177.9 | 177.9 | 177.9 |
| 177.5° | 175.9 | 175.9 | 177.9 | 177.9 | 176.9 |
| 180° | 176.9 | 176.9 | 176.9 | 176.9 | 176.9 |



TEST NUMBER: P1436261
 CATALOG NUMBER: EHBR1-60-UNV-M-L835-UPL18

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 | 20.29 | 21.51 | 20.71 | 21.89 | 22.28 | 20.29 | 21.51 | 20.71 | 21.89 | 22.28 |
| | 3H | 21.78 | 22.86 | 22.21 | 23.26 | 23.69 | 21.78 | 22.86 | 22.21 | 23.26 | 23.69 |
| | 4H | 22.30 | 23.31 | 22.76 | 23.73 | 24.18 | 22.30 | 23.31 | 22.76 | 23.73 | 24.18 |
| | 6H | 22.63 | 23.56 | 23.10 | 23.99 | 24.46 | 22.63 | 23.56 | 23.10 | 23.99 | 24.46 |
| | 8H | 22.70 | 23.58 | 23.18 | 24.03 | 24.51 | 22.70 | 23.58 | 23.18 | 24.03 | 24.51 |
| | 12H | 22.71 | 23.55 | 23.20 | 24.00 | 24.50 | 22.71 | 23.55 | 23.20 | 24.00 | 24.50 |
| 4H | 2H | 20.73 | 21.74 | 21.19 | 22.16 | 22.61 | 20.73 | 21.74 | 21.19 | 22.16 | 22.61 |
| | 3H | 22.43 | 23.26 | 22.90 | 23.73 | 24.20 | 22.43 | 23.26 | 22.90 | 23.73 | 24.20 |
| | 4H | 23.06 | 23.81 | 23.55 | 24.28 | 24.80 | 23.06 | 23.81 | 23.55 | 24.28 | 24.80 |
| | 6H | 23.49 | 24.13 | 24.00 | 24.63 | 25.17 | 23.49 | 24.13 | 24.00 | 24.63 | 25.17 |
| | 8H | 23.58 | 24.18 | 24.10 | 24.69 | 25.23 | 23.58 | 24.18 | 24.10 | 24.69 | 25.23 |
| | 12H | 23.62 | 24.14 | 24.15 | 24.68 | 25.22 | 23.62 | 24.14 | 24.15 | 24.68 | 25.22 |
| 8H | 4H | 23.24 | 23.84 | 23.76 | 24.34 | 24.88 | 23.24 | 23.84 | 23.76 | 24.34 | 24.88 |
| | 6H | 23.75 | 24.24 | 24.31 | 24.79 | 25.34 | 23.75 | 24.24 | 24.31 | 24.79 | 25.34 |
| | 8H | 23.89 | 24.33 | 24.46 | 24.89 | 25.46 | 23.89 | 24.33 | 24.46 | 24.89 | 25.46 |
| | 12H | 23.96 | 24.34 | 24.53 | 24.89 | 25.53 | 23.96 | 24.34 | 24.53 | 24.89 | 25.53 |
| 12H | 4H | 23.23 | 23.76 | 23.77 | 24.30 | 24.84 | 23.23 | 23.76 | 23.77 | 24.30 | 24.84 |
| | 6H | 23.76 | 24.19 | 24.33 | 24.76 | 25.32 | 23.76 | 24.19 | 24.33 | 24.76 | 25.32 |
| | 8H | 23.93 | 24.31 | 24.49 | 24.86 | 25.50 | 23.93 | 24.31 | 24.49 | 24.86 | 25.50 |

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: SP1-2506-472-3

Test Date: 07/31/2025

Luminaire Tested: EHBR-60-L835-N

Data in this report applies to families of products including EHBR-60-L835-N

Test Information

Test Method: LM-79-2019
 Report Number: SP1-2506-472-3
 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-L835-N**
 Description: Elevate Round Highbay at, 60000 lumens, 3500K 80CRI LEDs with N lens

Spectral Parameters

CCT (K): 3468
 CIE u': 0.2375
 CIE v': 0.5091
 Duv: -0.0021
 CIE x: 0.4049
 CIE y: 0.3856
 CIE z: 0.2095
 Peak Wavelength (nm): 630
 Dominant Wavelength (nm): 581
 Purity: 37.24544
 R_f: 80.1
 R_g: 101

| | | | |
|-----------|------|------|------|
| CRI (Ra): | 82.1 | | |
| R1: | 82.9 | R9: | 27.6 |
| R2: | 85.6 | R10: | 63.8 |
| R3: | 85.9 | R11: | 81.2 |
| R4: | 82.8 | R12: | 57.2 |
| R5: | 81.0 | R13: | 82.6 |
| R6: | 79.7 | R14: | 91.0 |
| R7: | 86.5 | R15: | 79.4 |
| R8: | 72.1 | | |



Test Conditions

Stabilization Time: 39M
 Operation Time: 1H 39M
 Sphere Temperature (°C): 25.0

REPORT NUMBER: SP1-2506-472-3

| 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: SP1-2506-472-3

CIE 1931 Chromaticity Diagram



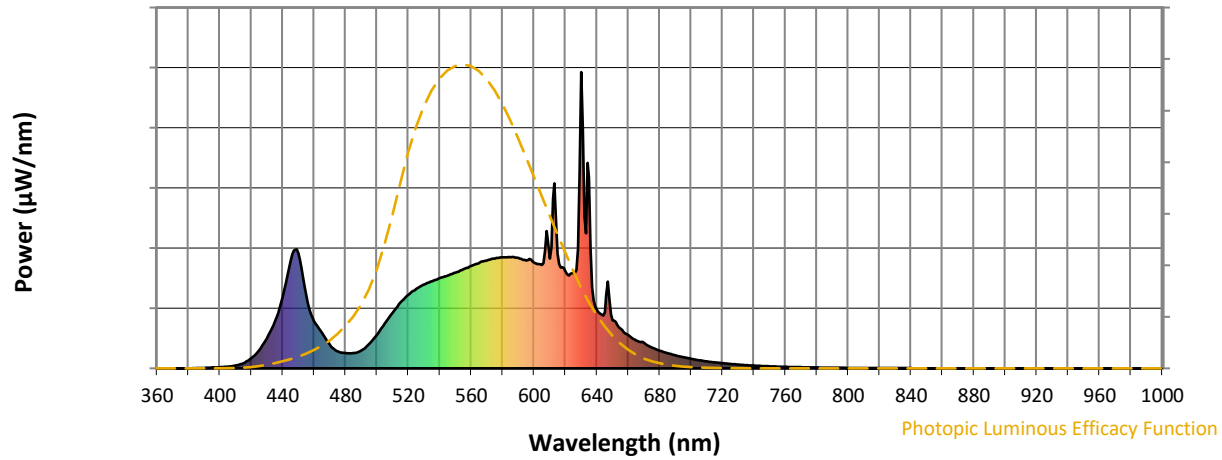
CIE 1931 Chromaticity Diagram with 2017 ANSI 7-Step and 4-Step Quadrangles



Point lies inside the ANSI 3500K 4-step quadrangle

REPORT NUMBER: SP1-2506-472-3

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 | 60 | NR | 620 | 327 | NR | 750 | 7 | NR | 880 | 0 | NR |
| 365 | 0 | NR | 495 | 82 | NR | 625 | 322 | NR | 755 | 6 | NR | 885 | 0 | NR |
| 370 | 0 | NR | 500 | 114 | NR | 630 | 1000 | NR | 760 | 5 | NR | 890 | 0 | NR |
| 375 | 0 | NR | 505 | 152 | NR | 635 | 645 | NR | 765 | 4 | NR | 895 | 0 | NR |
| 380 | 0 | NR | 510 | 189 | NR | 640 | 197 | NR | 770 | 4 | NR | 900 | 0 | NR |
| 385 | 1 | NR | 515 | 222 | NR | 645 | 189 | NR | 775 | 3 | NR | 905 | 0 | NR |
| 390 | 2 | NR | 520 | 248 | NR | 650 | 163 | NR | 780 | 3 | NR | 910 | 0 | NR |
| 395 | 3 | NR | 525 | 268 | NR | 655 | 134 | NR | 785 | 2 | NR | 915 | 0 | NR |
| 400 | 4 | NR | 530 | 283 | NR | 660 | 113 | NR | 790 | 2 | NR | 920 | 0 | NR |
| 405 | 6 | NR | 535 | 294 | NR | 665 | 94 | NR | 795 | 2 | NR | 925 | 0 | NR |
| 410 | 9 | NR | 540 | 305 | NR | 670 | 87 | NR | 800 | 2 | NR | 930 | 0 | NR |
| 415 | 18 | NR | 545 | 314 | NR | 675 | 70 | NR | 805 | 1 | NR | 935 | 0 | NR |
| 420 | 34 | NR | 550 | 323 | NR | 680 | 60 | NR | 810 | 1 | NR | 940 | 0 | NR |
| 425 | 62 | NR | 555 | 335 | NR | 685 | 51 | NR | 815 | 1 | NR | 945 | 0 | NR |
| 430 | 102 | NR | 560 | 346 | NR | 690 | 44 | NR | 820 | 1 | NR | 950 | 0 | NR |
| 435 | 159 | NR | 565 | 356 | NR | 695 | 38 | NR | 825 | 1 | NR | 955 | 0 | NR |
| 440 | 241 | NR | 570 | 364 | NR | 700 | 32 | NR | 830 | 1 | NR | 960 | 0 | NR |
| 445 | 363 | NR | 575 | 371 | NR | 705 | 28 | NR | 835 | 1 | NR | 965 | 0 | NR |
| 450 | 389 | NR | 580 | 375 | NR | 710 | 24 | NR | 840 | 1 | NR | 970 | 0 | NR |
| 455 | 245 | NR | 585 | 375 | NR | 715 | 20 | NR | 845 | 0 | NR | 975 | 0 | NR |
| 460 | 158 | NR | 590 | 373 | NR | 720 | 17 | NR | 850 | 0 | NR | 980 | 0 | NR |
| 465 | 120 | NR | 595 | 364 | NR | 725 | 15 | NR | 855 | 0 | NR | 985 | 0 | NR |
| 470 | 79 | NR | 600 | 357 | NR | 730 | 13 | NR | 860 | 0 | NR | 990 | 0 | NR |
| 475 | 57 | NR | 605 | 349 | NR | 735 | 11 | NR | 865 | 0 | NR | 995 | 0 | NR |
| 480 | 51 | NR | 610 | 371 | NR | 740 | 9 | NR | 870 | 0 | NR | 1000 | 0 | NR |
| 485 | 51 | NR | 615 | 387 | NR | 745 | 8 | NR | 875 | 0 | NR | | | |

REPORT NUMBER: SP1-2506-472-3

Scotopic Flux vs. Wavelength



Scotopic Lumens: NR

S/P: 1.43

| 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 | 60 | NR | 620 | 327 | NR | 750 | 7 | NR | 880 | 0 | NR |
| 365 | 0 | NR | 495 | 82 | NR | 625 | 322 | NR | 755 | 6 | NR | 885 | 0 | NR |
| 370 | 0 | NR | 500 | 114 | NR | 630 | 1000 | NR | 760 | 5 | NR | 890 | 0 | NR |
| 375 | 0 | NR | 505 | 152 | NR | 635 | 645 | NR | 765 | 4 | NR | 895 | 0 | NR |
| 380 | 0 | NR | 510 | 189 | NR | 640 | 197 | NR | 770 | 4 | NR | 900 | 0 | NR |
| 385 | 1 | NR | 515 | 222 | NR | 645 | 189 | NR | 775 | 3 | NR | 905 | 0 | NR |
| 390 | 2 | NR | 520 | 248 | NR | 650 | 163 | NR | 780 | 3 | NR | 910 | 0 | NR |
| 395 | 3 | NR | 525 | 268 | NR | 655 | 134 | NR | 785 | 2 | NR | 915 | 0 | NR |
| 400 | 4 | NR | 530 | 283 | NR | 660 | 113 | NR | 790 | 2 | NR | 920 | 0 | NR |
| 405 | 6 | NR | 535 | 294 | NR | 665 | 94 | NR | 795 | 2 | NR | 925 | 0 | NR |
| 410 | 9 | NR | 540 | 305 | NR | 670 | 87 | NR | 800 | 2 | NR | 930 | 0 | NR |
| 415 | 18 | NR | 545 | 314 | NR | 675 | 70 | NR | 805 | 1 | NR | 935 | 0 | NR |
| 420 | 34 | NR | 550 | 323 | NR | 680 | 60 | NR | 810 | 1 | NR | 940 | 0 | NR |
| 425 | 62 | NR | 555 | 335 | NR | 685 | 51 | NR | 815 | 1 | NR | 945 | 0 | NR |
| 430 | 102 | NR | 560 | 346 | NR | 690 | 44 | NR | 820 | 1 | NR | 950 | 0 | NR |
| 435 | 159 | NR | 565 | 356 | NR | 695 | 38 | NR | 825 | 1 | NR | 955 | 0 | NR |
| 440 | 241 | NR | 570 | 364 | NR | 700 | 32 | NR | 830 | 1 | NR | 960 | 0 | NR |
| 445 | 363 | NR | 575 | 371 | NR | 705 | 28 | NR | 835 | 1 | NR | 965 | 0 | NR |
| 450 | 389 | NR | 580 | 375 | NR | 710 | 24 | NR | 840 | 1 | NR | 970 | 0 | NR |
| 455 | 245 | NR | 585 | 375 | NR | 715 | 20 | NR | 845 | 0 | NR | 975 | 0 | NR |
| 460 | 158 | NR | 590 | 373 | NR | 720 | 17 | NR | 850 | 0 | NR | 980 | 0 | NR |
| 465 | 120 | NR | 595 | 364 | NR | 725 | 15 | NR | 855 | 0 | NR | 985 | 0 | NR |
| 470 | 79 | NR | 600 | 357 | NR | 730 | 13 | NR | 860 | 0 | NR | 990 | 0 | NR |
| 475 | 57 | NR | 605 | 349 | NR | 735 | 11 | NR | 865 | 0 | NR | 995 | 0 | NR |
| 480 | 51 | NR | 610 | 371 | NR | 740 | 9 | NR | 870 | 0 | NR | 1000 | 0 | NR |
| 485 | 51 | NR | 615 | 387 | NR | 745 | 8 | NR | 875 | 0 | NR | | | |

REPORT NUMBER: SP1-2506-472-3

Melanopic Flux vs. Wavelength



Melanopic Lumens: NR

M/P: 2.75

| 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 | 60 | NR | 620 | 327 | NR | 750 | 7 | NR | 880 | 0 | NR |
| 365 | 0 | NR | 495 | 82 | NR | 625 | 322 | NR | 755 | 6 | NR | 885 | 0 | NR |
| 370 | 0 | NR | 500 | 114 | NR | 630 | 1000 | NR | 760 | 5 | NR | 890 | 0 | NR |
| 375 | 0 | NR | 505 | 152 | NR | 635 | 645 | NR | 765 | 4 | NR | 895 | 0 | NR |
| 380 | 0 | NR | 510 | 189 | NR | 640 | 197 | NR | 770 | 4 | NR | 900 | 0 | NR |
| 385 | 1 | NR | 515 | 222 | NR | 645 | 189 | NR | 775 | 3 | NR | 905 | 0 | NR |
| 390 | 2 | NR | 520 | 248 | NR | 650 | 163 | NR | 780 | 3 | NR | 910 | 0 | NR |
| 395 | 3 | NR | 525 | 268 | NR | 655 | 134 | NR | 785 | 2 | NR | 915 | 0 | NR |
| 400 | 4 | NR | 530 | 283 | NR | 660 | 113 | NR | 790 | 2 | NR | 920 | 0 | NR |
| 405 | 6 | NR | 535 | 294 | NR | 665 | 94 | NR | 795 | 2 | NR | 925 | 0 | NR |
| 410 | 9 | NR | 540 | 305 | NR | 670 | 87 | NR | 800 | 2 | NR | 930 | 0 | NR |
| 415 | 18 | NR | 545 | 314 | NR | 675 | 70 | NR | 805 | 1 | NR | 935 | 0 | NR |
| 420 | 34 | NR | 550 | 323 | NR | 680 | 60 | NR | 810 | 1 | NR | 940 | 0 | NR |
| 425 | 62 | NR | 555 | 335 | NR | 685 | 51 | NR | 815 | 1 | NR | 945 | 0 | NR |
| 430 | 102 | NR | 560 | 346 | NR | 690 | 44 | NR | 820 | 1 | NR | 950 | 0 | NR |
| 435 | 159 | NR | 565 | 356 | NR | 695 | 38 | NR | 825 | 1 | NR | 955 | 0 | NR |
| 440 | 241 | NR | 570 | 364 | NR | 700 | 32 | NR | 830 | 1 | NR | 960 | 0 | NR |
| 445 | 363 | NR | 575 | 371 | NR | 705 | 28 | NR | 835 | 1 | NR | 965 | 0 | NR |
| 450 | 389 | NR | 580 | 375 | NR | 710 | 24 | NR | 840 | 1 | NR | 970 | 0 | NR |
| 455 | 245 | NR | 585 | 375 | NR | 715 | 20 | NR | 845 | 0 | NR | 975 | 0 | NR |
| 460 | 158 | NR | 590 | 373 | NR | 720 | 17 | NR | 850 | 0 | NR | 980 | 0 | NR |
| 465 | 120 | NR | 595 | 364 | NR | 725 | 15 | NR | 855 | 0 | NR | 985 | 0 | NR |
| 470 | 79 | NR | 600 | 357 | NR | 730 | 13 | NR | 860 | 0 | NR | 990 | 0 | NR |
| 475 | 57 | NR | 605 | 349 | NR | 735 | 11 | NR | 865 | 0 | NR | 995 | 0 | NR |
| 480 | 51 | NR | 610 | 371 | NR | 740 | 9 | NR | 870 | 0 | NR | 1000 | 0 | NR |
| 485 | 51 | NR | 615 | 387 | NR | 745 | 8 | NR | 875 | 0 | NR | | | |

Summary

$R_f = 80.1$
 $R_g = 101$
 $CIE R_a = 82.1$
 $R_9 = 27.6$



Color Vector Graphics



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

| | | | |
|------------|------------|------------|------------|
| CES01 = 86 | CES26 = 68 | CES51 = 90 | CES76 = 59 |
| CES02 = 62 | CES27 = 89 | CES52 = 90 | CES77 = 78 |
| CES03 = 31 | CES28 = 84 | CES53 = 81 | CES78 = 61 |
| CES04 = 70 | CES29 = 66 | CES54 = 91 | CES79 = 86 |
| CES05 = 49 | CES30 = 77 | CES55 = 90 | CES80 = 82 |
| CES06 = 51 | CES31 = 69 | CES56 = 80 | CES81 = 79 |
| CES07 = 42 | CES32 = 62 | CES57 = 79 | CES82 = 92 |
| CES08 = 41 | CES33 = 74 | CES58 = 81 | CES83 = 89 |
| CES09 = 29 | CES34 = 72 | CES59 = 92 | CES84 = 89 |
| CES10 = 75 | CES35 = 85 | CES60 = 94 | CES85 = 82 |
| CES11 = 58 | CES36 = 97 | CES61 = 90 | CES86 = 78 |
| CES12 = 64 | CES37 = 79 | CES62 = 92 | CES87 = 82 |
| CES13 = 43 | CES38 = 85 | CES63 = 78 | CES88 = 86 |
| CES14 = 74 | CES39 = 94 | CES64 = 79 | CES89 = 76 |
| CES15 = 71 | CES40 = 89 | CES65 = 76 | CES90 = 85 |
| CES16 = 47 | CES41 = 89 | CES66 = 73 | CES91 = 83 |
| CES17 = 49 | CES42 = 77 | CES67 = 70 | CES92 = 73 |
| CES18 = 56 | CES43 = 74 | CES68 = 76 | CES93 = 84 |
| CES19 = 72 | CES44 = 99 | CES69 = 81 | CES94 = 65 |
| CES20 = 66 | CES45 = 83 | CES70 = 68 | CES95 = 79 |
| CES21 = 86 | CES46 = 82 | CES71 = 64 | CES96 = 85 |
| CES22 = 78 | CES47 = 81 | CES72 = 88 | CES97 = 85 |
| CES23 = 92 | CES48 = 80 | CES73 = 60 | CES98 = 82 |
| CES24 = 91 | CES49 = 80 | CES74 = 97 | CES99 = 81 |
| CES25 = 72 | CES50 = 89 | CES75 = 64 | |



Color Rendition by Hue-Angle Bin



Measure Comparisons



(END OF REPORT)