

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: P1436307

Luminaire Tested: EHBR1-42-UNV-M-L840-UPL12

Issue Date: 3/25/2026

Test Information

Test Method: LM-79-2019
Report Number: P1436307
REPORT IS A COMBINATION OF REPORTS P1436091 AND P1431635
Test Lab: INNOVATION CENTER
Issue Date: 3/25/2026
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: METALUX
Catalog Number: EHBR1-42-UNV-M-L840-UPL12
Description: Elevate Round Highbay at, 42000 lumens, 4000K 80CRI LEDs with M lens
Light Source: -
Ballast/Driver: -

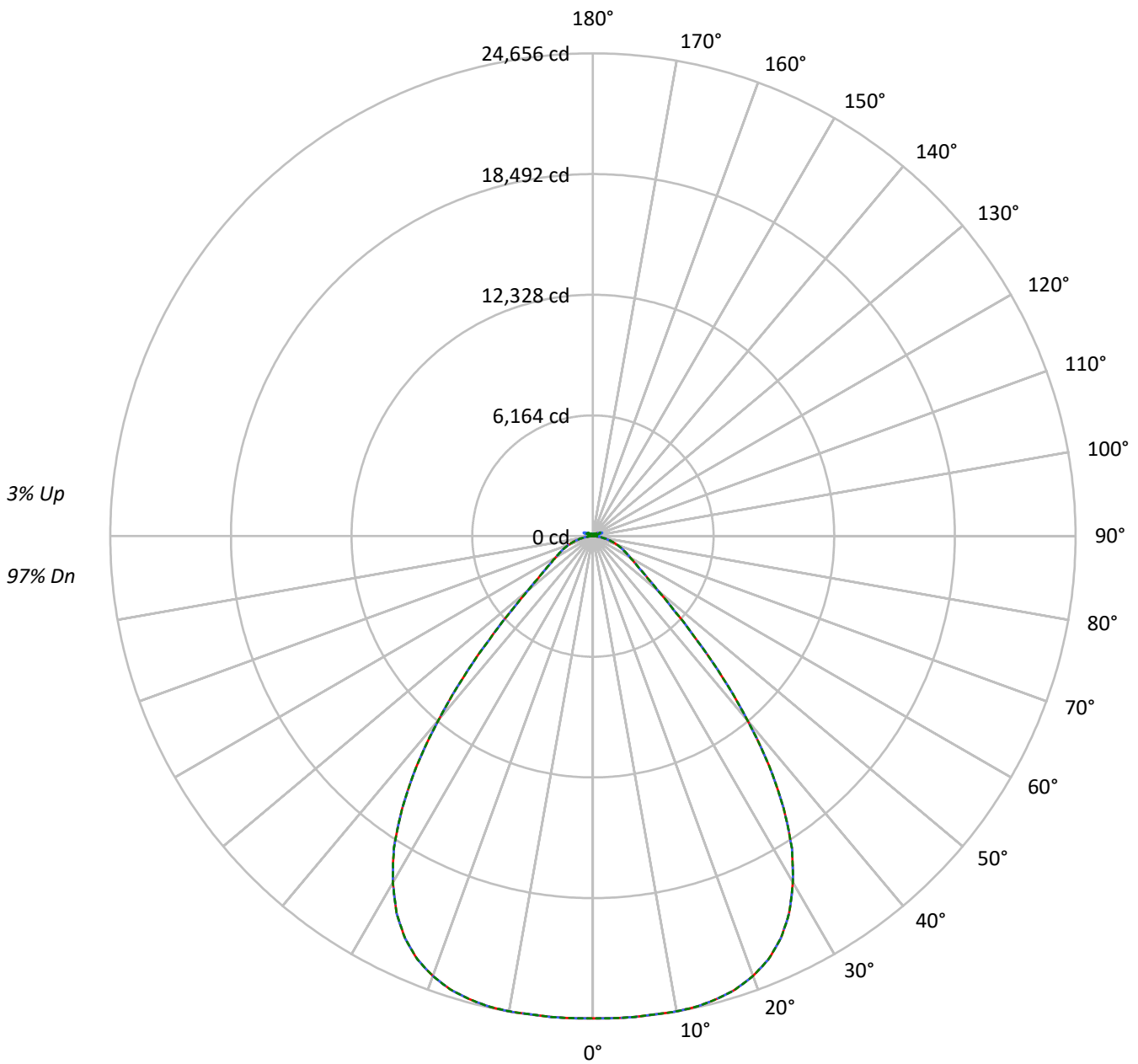
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 42866.4 lumens
Efficiency: N/A
Efficacy: 184.9 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): 231.8
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: P1436307
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Luminous Intensity Polar Plot



— 0°-180° - - - 45°-225° - · - · - 90°-270°



TEST NUMBER: P1436307

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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 |
| RCR | | | | | | | | | | | | | | | | | | | | |
| 0 | 118 | 118 | 118 | 118 | 115 | 115 | 115 | 115 | 110 | 110 | 110 | 104 | 104 | 104 | 100 | 100 | 100 | 97 | | |
| 1 | 111 | 107 | 104 | 101 | 108 | 105 | 102 | 99 | 100 | 98 | 96 | 96 | 94 | 92 | 92 | 91 | 89 | 87 | | |
| 2 | 103 | 97 | 92 | 88 | 101 | 95 | 90 | 86 | 91 | 87 | 84 | 88 | 85 | 82 | 85 | 82 | 80 | 78 | | |
| 3 | 96 | 88 | 82 | 77 | 94 | 87 | 81 | 76 | 83 | 78 | 74 | 80 | 76 | 73 | 78 | 74 | 71 | 69 | | |
| 4 | 90 | 80 | 73 | 68 | 88 | 79 | 73 | 68 | 76 | 71 | 66 | 74 | 69 | 65 | 72 | 68 | 64 | 62 | | |
| 5 | 84 | 74 | 66 | 61 | 82 | 72 | 66 | 61 | 70 | 64 | 60 | 68 | 63 | 59 | 66 | 62 | 58 | 56 | | |
| 6 | 79 | 68 | 60 | 55 | 77 | 67 | 60 | 55 | 65 | 59 | 54 | 63 | 58 | 53 | 61 | 57 | 53 | 51 | | |
| 7 | 74 | 62 | 55 | 50 | 72 | 62 | 55 | 50 | 60 | 54 | 49 | 58 | 53 | 49 | 57 | 52 | 48 | 47 | | |
| 8 | 69 | 58 | 51 | 46 | 68 | 57 | 50 | 45 | 56 | 49 | 45 | 54 | 49 | 45 | 53 | 48 | 44 | 43 | | |
| 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° | 115675 | 115675 | 115675 |
| 5° | 115477 | 115477 | 115477 |
| 10° | 116019 | 116019 | 116019 |
| 15° | 116685 | 116685 | 116685 |
| 20° | 116332 | 116332 | 116332 |
| 25° | 113616 | 113616 | 113616 |
| 30° | 106239 | 106239 | 106239 |
| 35° | 92524 | 92524 | 92524 |
| 40° | 70909 | 70909 | 70909 |
| 45° | 46323 | 46323 | 46323 |
| 50° | 29203 | 29203 | 29203 |
| 55° | 21769 | 21769 | 21769 |
| 60° | 18327 | 18327 | 18327 |
| 65° | 16665 | 16665 | 16665 |
| 70° | 15182 | 15182 | 15182 |
| 75° | 12996 | 12996 | 12996 |
| 80° | 10008 | 10008 | 10008 |
| 85° | 5249 | 5249 | 5249 |

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 46323 cd/sqm



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ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|---------|-----------|
| 0°-10° | 2352.6 | 5.5 |
| 10°-20° | 6908.9 | 16.1 |
| 20°-30° | 10366.5 | 24.2 |
| 30°-40° | 10429.8 | 24.3 |
| 40°-50° | 5970.3 | 13.9 |
| 50°-60° | 2730.7 | 6.4 |
| 60°-70° | 1732.6 | 4.0 |
| 70°-80° | 971.9 | 2.3 |
| 80°-90° | 230.1 | 0.5 |
| 90°-100° | 33.4 | 0.1 |
| 100°-110° | 209.6 | 0.5 |
| 110°-120° | 374.9 | 0.9 |
| 120°-130° | 219.9 | 0.5 |
| 130°-140° | 134.9 | 0.3 |
| 140°-150° | 93.6 | 0.2 |
| 150°-160° | 60.8 | 0.1 |
| 160°-170° | 34.6 | 0.1 |
| 170°-180° | 11.4 | 0.0 |
| 0°-30° | 19628.0 | 45.8 |
| 0°-40° | 30057.7 | 70.1 |
| 0°-60° | 38758.7 | 90.4 |
| 0°-90° | 41693.2 | 97.3 |
| 90°-120° | 617.9 | 1.4 |
| 90°-150° | 1066.4 | 2.5 |
| 90°-180° | 1173.0 | 2.7 |
| 0°-180° | 42866.4 | 100.0 |

CANDELA DISTRIBUTION:

| | 0° | 22.5° | 45° | 67.5° | 90° | Flux |
|------|-------|-------|-------|-------|-------|-------|
| 0° | 24632 | 24632 | 24632 | 24632 | 24632 | |
| 5° | 24656 | 24656 | 24656 | 24656 | 24656 | 2353 |
| 15° | 24480 | 24480 | 24480 | 24480 | 24480 | 6909 |
| 25° | 22689 | 22689 | 22689 | 22689 | 22689 | 10366 |
| 35° | 16982 | 16982 | 16982 | 16982 | 16982 | 10430 |
| 45° | 7495 | 7495 | 7495 | 7495 | 7495 | 5970 |
| 55° | 2942 | 2942 | 2942 | 2942 | 2942 | 2731 |
| 65° | 1740 | 1740 | 1740 | 1740 | 1740 | 1733 |
| 75° | 916 | 916 | 916 | 916 | 916 | 972 |
| 85° | 180 | 180 | 180 | 180 | 180 | 221 |
| 90° | 9 | 14 | 24 | 15 | 9 | 11 |
| 95° | 15 | 25 | 54 | 27 | 17 | 14 |
| 105° | 73 | 144 | 369 | 159 | 97 | 98 |
| 115° | 337 | 355 | 436 | 418 | 415 | 311 |
| 125° | 243 | 227 | 233 | 236 | 265 | 222 |
| 135° | 177 | 172 | 178 | 167 | 167 | 139 |
| 145° | 146 | 144 | 152 | 150 | 150 | 92 |
| 155° | 128 | 126 | 132 | 132 | 132 | 60 |
| 165° | 120 | 120 | 123 | 123 | 122 | 34 |
| 175° | 118 | 118 | 120 | 120 | 120 | 11 |
| 180° | 120 | 120 | 120 | 120 | 120 | |



TEST NUMBER: P1436307

CATALOG NUMBER: EHBR1-42-UNV-M-L840-UPL12

CANDELA DISTRIBUTION (FULL):

| | 0° | 22.5° | 45° | 67.5° | 90° |
|--------|---------|---------|---------|---------|---------|
| 0° | 24632.1 | 24632.1 | 24632.1 | 24632.1 | 24632.1 |
| 2.5° | 24644.1 | 24644.1 | 24644.1 | 24644.1 | 24644.1 |
| 5° | 24656.1 | 24656.1 | 24656.1 | 24656.1 | 24656.1 |
| 7.5° | 24639.2 | 24639.2 | 24639.2 | 24639.2 | 24639.2 |
| 10° | 24649.8 | 24649.8 | 24649.8 | 24649.8 | 24649.8 |
| 12.5° | 24607.5 | 24607.5 | 24607.5 | 24607.5 | 24607.5 |
| 15° | 24479.9 | 24479.9 | 24479.9 | 24479.9 | 24479.9 |
| 17.5° | 24269.2 | 24269.2 | 24269.2 | 24269.2 | 24269.2 |
| 20° | 23909.7 | 23909.7 | 23909.7 | 23909.7 | 23909.7 |
| 22.5° | 23415.7 | 23415.7 | 23415.7 | 23415.7 | 23415.7 |
| 25° | 22689.0 | 22689.0 | 22689.0 | 22689.0 | 22689.0 |
| 27.5° | 21711.4 | 21711.4 | 21711.4 | 21711.4 | 21711.4 |
| 30° | 20435.0 | 20435.0 | 20435.0 | 20435.0 | 20435.0 |
| 32.5° | 18923.9 | 18923.9 | 18923.9 | 18923.9 | 18923.9 |
| 35° | 16981.5 | 16981.5 | 16981.5 | 16981.5 | 16981.5 |
| 37.5° | 14781.1 | 14781.1 | 14781.1 | 14781.1 | 14781.1 |
| 40° | 12290.3 | 12290.3 | 12290.3 | 12290.3 | 12290.3 |
| 42.5° | 9821.4 | 9821.4 | 9821.4 | 9821.4 | 9821.4 |
| 45° | 7494.9 | 7494.9 | 7494.9 | 7494.9 | 7494.9 |
| 47.5° | 5641.9 | 5641.9 | 5641.9 | 5641.9 | 5641.9 |
| 50° | 4352.2 | 4352.2 | 4352.2 | 4352.2 | 4352.2 |
| 52.5° | 3516.3 | 3516.3 | 3516.3 | 3516.3 | 3516.3 |
| 55° | 2941.8 | 2941.8 | 2941.8 | 2941.8 | 2941.8 |
| 57.5° | 2519.0 | 2519.0 | 2519.0 | 2519.0 | 2519.0 |
| 60° | 2203.2 | 2203.2 | 2203.2 | 2203.2 | 2203.2 |
| 62.5° | 1959.4 | 1959.4 | 1959.4 | 1959.4 | 1959.4 |
| 65° | 1739.5 | 1739.5 | 1739.5 | 1739.5 | 1739.5 |
| 67.5° | 1537.2 | 1537.2 | 1537.2 | 1537.2 | 1537.2 |
| 70° | 1332.1 | 1332.1 | 1332.1 | 1332.1 | 1332.1 |
| 72.5° | 1125.6 | 1125.6 | 1125.6 | 1125.6 | 1125.6 |
| 75° | 915.5 | 915.5 | 915.5 | 915.5 | 915.5 |
| 77.5° | 716.1 | 716.1 | 716.1 | 716.1 | 716.1 |
| 80° | 526.5 | 526.5 | 526.5 | 526.5 | 526.5 |
| 82.5° | 343.2 | 343.2 | 343.2 | 343.2 | 343.2 |
| 85° | 180.4 | 180.4 | 180.4 | 180.4 | 180.4 |
| 87.5° | 51.5 | 51.5 | 51.5 | 51.5 | 51.5 |
| 90° | 8.7 | 14.1 | 24.2 | 15.4 | 8.7 |
| 92.5° | 12.8 | 21.5 | 39.0 | 20.1 | 11.4 |
| 95° | 14.8 | 24.8 | 54.4 | 26.9 | 16.8 |
| 97.5° | 18.8 | 27.5 | 62.5 | 32.9 | 26.2 |
| 100° | 24.8 | 32.2 | 97.4 | 40.3 | 34.9 |
| 102.5° | 42.3 | 68.5 | 206.9 | 75.9 | 53.1 |
| 105° | 73.2 | 144.4 | 368.7 | 159.2 | 96.7 |
| 107.5° | 126.9 | 258.6 | 486.2 | 282.1 | 183.4 |
| 110° | 237.1 | 343.2 | 509.8 | 387.5 | 293.5 |



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CANDELA DISTRIBUTION (continued):

| | 0° | 22.5° | 45° | 67.5° | 90° |
|--------|-------|-------|-------|-------|-------|
| 112.5° | 320.4 | 368.7 | 488.3 | 427.8 | 382.1 |
| 115° | 337.2 | 354.6 | 435.9 | 417.7 | 415.1 |
| 117.5° | 325.7 | 323.7 | 370.1 | 375.4 | 401.0 |
| 120° | 301.6 | 288.1 | 308.9 | 327.7 | 362.0 |
| 122.5° | 271.3 | 255.2 | 264.6 | 278.7 | 313.0 |
| 125° | 243.1 | 227.0 | 233.1 | 236.4 | 265.3 |
| 127.5° | 218.3 | 207.5 | 210.9 | 206.9 | 225.0 |
| 130° | 201.5 | 192.1 | 196.8 | 187.4 | 196.1 |
| 132.5° | 187.4 | 181.3 | 186.7 | 175.3 | 178.0 |
| 135° | 177.3 | 171.9 | 178.0 | 167.2 | 166.6 |
| 137.5° | 168.6 | 163.9 | 169.9 | 161.9 | 159.8 |
| 140° | 160.5 | 156.5 | 163.2 | 157.2 | 155.8 |
| 142.5° | 151.8 | 149.1 | 157.2 | 153.1 | 151.8 |
| 145° | 145.7 | 143.7 | 152.5 | 150.4 | 149.8 |
| 147.5° | 140.4 | 139.0 | 147.1 | 146.4 | 146.4 |
| 150° | 135.7 | 134.3 | 142.4 | 141.7 | 142.4 |
| 152.5° | 131.0 | 129.6 | 137.0 | 136.3 | 137.0 |
| 155° | 127.6 | 126.3 | 132.3 | 132.3 | 132.3 |
| 157.5° | 124.9 | 124.2 | 129.0 | 129.0 | 129.0 |
| 160° | 122.9 | 122.2 | 126.3 | 126.3 | 125.6 |
| 162.5° | 120.9 | 120.2 | 124.9 | 124.2 | 124.2 |
| 165° | 119.5 | 119.5 | 122.9 | 122.9 | 122.2 |
| 167.5° | 119.5 | 118.9 | 122.2 | 122.2 | 121.6 |
| 170° | 118.9 | 118.9 | 121.6 | 120.9 | 120.2 |
| 172.5° | 118.9 | 118.9 | 121.6 | 120.9 | 120.2 |
| 175° | 118.2 | 118.2 | 120.2 | 120.2 | 120.2 |
| 177.5° | 118.9 | 118.9 | 120.2 | 120.2 | 119.5 |
| 180° | 119.5 | 119.5 | 119.5 | 119.5 | 119.5 |



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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 | 19.16 | 20.39 | 19.58 | 20.76 | 21.15 | 19.16 | 20.39 | 19.58 | 20.76 | 21.15 |
| | 3H | 20.65 | 21.74 | 21.08 | 22.13 | 22.56 | 20.65 | 21.74 | 21.08 | 22.13 | 22.56 |
| | 4H | 21.18 | 22.19 | 21.63 | 22.60 | 23.05 | 21.18 | 22.19 | 21.63 | 22.60 | 23.05 |
| | 6H | 21.50 | 22.43 | 21.97 | 22.86 | 23.32 | 21.50 | 22.43 | 21.97 | 22.86 | 23.32 |
| | 8H | 21.57 | 22.46 | 22.05 | 22.90 | 23.37 | 21.57 | 22.46 | 22.05 | 22.90 | 23.37 |
| | 12H | 21.59 | 22.43 | 22.07 | 22.87 | 23.37 | 21.59 | 22.43 | 22.07 | 22.87 | 23.37 |
| 4H | 2H | 19.61 | 20.62 | 20.06 | 21.03 | 21.48 | 19.61 | 20.62 | 20.06 | 21.03 | 21.48 |
| | 3H | 21.31 | 22.14 | 21.77 | 22.60 | 23.07 | 21.31 | 22.14 | 21.77 | 22.60 | 23.07 |
| | 4H | 21.94 | 22.68 | 22.42 | 23.16 | 23.67 | 21.94 | 22.68 | 22.42 | 23.16 | 23.67 |
| | 6H | 22.36 | 23.01 | 22.88 | 23.51 | 24.04 | 22.36 | 23.01 | 22.88 | 23.51 | 24.04 |
| | 8H | 22.46 | 23.06 | 22.97 | 23.56 | 24.09 | 22.46 | 23.06 | 22.97 | 23.56 | 24.09 |
| | 12H | 22.49 | 23.02 | 23.02 | 23.55 | 24.09 | 22.49 | 23.02 | 23.02 | 23.55 | 24.09 |
| 8H | 4H | 22.12 | 22.72 | 22.63 | 23.22 | 23.75 | 22.12 | 22.72 | 22.63 | 23.22 | 23.75 |
| | 6H | 22.63 | 23.12 | 23.18 | 23.66 | 24.21 | 22.63 | 23.12 | 23.18 | 23.66 | 24.21 |
| | 8H | 22.77 | 23.20 | 23.33 | 23.77 | 24.32 | 22.77 | 23.20 | 23.33 | 23.77 | 24.32 |
| | 12H | 22.83 | 23.22 | 23.40 | 23.76 | 24.40 | 22.83 | 23.22 | 23.40 | 23.76 | 24.40 |
| 12H | 4H | 22.11 | 22.64 | 22.64 | 23.17 | 23.71 | 22.11 | 22.64 | 22.64 | 23.17 | 23.71 |
| | 6H | 22.63 | 23.07 | 23.20 | 23.63 | 24.19 | 22.63 | 23.07 | 23.20 | 23.63 | 24.19 |
| | 8H | 22.80 | 23.19 | 23.36 | 23.73 | 24.37 | 22.80 | 23.19 | 23.36 | 23.73 | 24.37 |

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

Report Prepared for

Cooper Lighting Solutions

Metalux

Report Number: SP1-2506-472-1

Test Date: 07/30/2025

Luminaire Tested: EHBR-60-L840-N

Data in this report applies to families of products including EHBR-60-L840-N

Test Information

Test Method: LM-79-2019
 Report Number: SP1-2506-472-1
 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-L840-N**
 Description: Elevate Round Highbay at, 60000 lumens, 4000K 80CRI LEDs with N lens

Spectral Parameters

CCT (K): 3898
 CIE u': 0.2263
 CIE v': 0.5052
 Duv: 0.0013
 CIE x: 0.3861
 CIE y: 0.3831
 CIE z: 0.2308
 Peak Wavelength (nm): 630
 Dominant Wavelength (nm): 578
 Purity: 30.85729
 Rf: 80.7
 Rg: 102.1

| | | | |
|-----------|------|------|------|
| CRI (Ra): | 82.1 | | |
| R1: | 84.4 | R9: | 38.5 |
| R2: | 83.5 | R10: | 58.9 |
| R3: | 80.8 | R11: | 83.6 |
| R4: | 83.9 | R12: | 54.2 |
| R5: | 82.1 | R13: | 82.8 |
| R6: | 77.3 | R14: | 88.2 |
| R7: | 86.4 | R15: | 81.2 |
| R8: | 78.3 | | |



Test Conditions
 Stabilization Time: 42M
 Operation Time: 1H 42M
 Sphere Temperature (°C): 25.0

REPORT NUMBER: SP1-2506-472-1

| 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 = 3898K
 CIE x = 0.3861
 CIE y = 0.3831
 Duv = 0.0013

Point lies inside the ANSI 4000K 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 | 60 | NR | 620 | 277 | NR | 750 | 6 | NR | 880 | 0 | NR |
| 365 | 0 | NR | 495 | 87 | NR | 625 | 278 | NR | 755 | 5 | NR | 885 | 0 | NR |
| 370 | 0 | NR | 500 | 124 | NR | 630 | 1000 | NR | 760 | 4 | NR | 890 | 0 | NR |
| 375 | 0 | NR | 505 | 168 | NR | 635 | 623 | NR | 765 | 4 | NR | 895 | 0 | NR |
| 380 | 1 | NR | 510 | 209 | NR | 640 | 162 | NR | 770 | 3 | NR | 900 | 0 | NR |
| 385 | 1 | NR | 515 | 246 | NR | 645 | 158 | NR | 775 | 3 | NR | 905 | 0 | NR |
| 390 | 2 | NR | 520 | 273 | NR | 650 | 134 | NR | 780 | 2 | NR | 910 | 0 | NR |
| 395 | 4 | NR | 525 | 292 | NR | 655 | 109 | NR | 785 | 2 | NR | 915 | 0 | NR |
| 400 | 5 | NR | 530 | 305 | NR | 660 | 91 | NR | 790 | 2 | NR | 920 | 0 | NR |
| 405 | 7 | NR | 535 | 313 | NR | 665 | 75 | NR | 795 | 2 | NR | 925 | 0 | NR |
| 410 | 11 | NR | 540 | 319 | NR | 670 | 70 | NR | 800 | 1 | NR | 930 | 0 | NR |
| 415 | 21 | NR | 545 | 323 | NR | 675 | 56 | NR | 805 | 1 | NR | 935 | 0 | NR |
| 420 | 42 | NR | 550 | 326 | NR | 680 | 47 | NR | 810 | 1 | NR | 940 | 0 | NR |
| 425 | 76 | NR | 555 | 330 | NR | 685 | 41 | NR | 815 | 1 | NR | 945 | 0 | NR |
| 430 | 125 | NR | 560 | 333 | NR | 690 | 35 | NR | 820 | 1 | NR | 950 | 0 | NR |
| 435 | 193 | NR | 565 | 336 | NR | 695 | 30 | NR | 825 | 1 | NR | 955 | 0 | NR |
| 440 | 302 | NR | 570 | 336 | NR | 700 | 26 | NR | 830 | 1 | NR | 960 | 0 | NR |
| 445 | 432 | NR | 575 | 335 | NR | 705 | 22 | NR | 835 | 1 | NR | 965 | 0 | NR |
| 450 | 380 | NR | 580 | 332 | NR | 710 | 19 | NR | 840 | 0 | NR | 970 | 0 | NR |
| 455 | 213 | NR | 585 | 326 | NR | 715 | 16 | NR | 845 | 0 | NR | 975 | 0 | NR |
| 460 | 147 | NR | 590 | 319 | NR | 720 | 14 | NR | 850 | 0 | NR | 980 | 0 | NR |
| 465 | 104 | NR | 595 | 307 | NR | 725 | 12 | NR | 855 | 0 | NR | 985 | 0 | NR |
| 470 | 65 | NR | 600 | 299 | NR | 730 | 10 | NR | 860 | 0 | NR | 990 | 0 | NR |
| 475 | 50 | NR | 605 | 291 | NR | 735 | 9 | NR | 865 | 0 | NR | 995 | 0 | NR |
| 480 | 46 | NR | 610 | 317 | NR | 740 | 8 | NR | 870 | 0 | NR | 1000 | 0 | NR |
| 485 | 47 | NR | 615 | 336 | NR | 745 | 7 | NR | 875 | 0 | NR | | | |

REPORT NUMBER: SP1-2506-472-1

Scotopic Flux vs. Wavelength



Scotopic Lumens: NR

S/P: 1.55

| 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 | 277 | NR | 750 | 6 | NR | 880 | 0 | NR |
| 365 | 0 | NR | 495 | 87 | NR | 625 | 278 | NR | 755 | 5 | NR | 885 | 0 | NR |
| 370 | 0 | NR | 500 | 124 | NR | 630 | 1000 | NR | 760 | 4 | NR | 890 | 0 | NR |
| 375 | 0 | NR | 505 | 168 | NR | 635 | 623 | NR | 765 | 4 | NR | 895 | 0 | NR |
| 380 | 1 | NR | 510 | 209 | NR | 640 | 162 | NR | 770 | 3 | NR | 900 | 0 | NR |
| 385 | 1 | NR | 515 | 246 | NR | 645 | 158 | NR | 775 | 3 | NR | 905 | 0 | NR |
| 390 | 2 | NR | 520 | 273 | NR | 650 | 134 | NR | 780 | 2 | NR | 910 | 0 | NR |
| 395 | 4 | NR | 525 | 292 | NR | 655 | 109 | NR | 785 | 2 | NR | 915 | 0 | NR |
| 400 | 5 | NR | 530 | 305 | NR | 660 | 91 | NR | 790 | 2 | NR | 920 | 0 | NR |
| 405 | 7 | NR | 535 | 313 | NR | 665 | 75 | NR | 795 | 2 | NR | 925 | 0 | NR |
| 410 | 11 | NR | 540 | 319 | NR | 670 | 70 | NR | 800 | 1 | NR | 930 | 0 | NR |
| 415 | 21 | NR | 545 | 323 | NR | 675 | 56 | NR | 805 | 1 | NR | 935 | 0 | NR |
| 420 | 42 | NR | 550 | 326 | NR | 680 | 47 | NR | 810 | 1 | NR | 940 | 0 | NR |
| 425 | 76 | NR | 555 | 330 | NR | 685 | 41 | NR | 815 | 1 | NR | 945 | 0 | NR |
| 430 | 125 | NR | 560 | 333 | NR | 690 | 35 | NR | 820 | 1 | NR | 950 | 0 | NR |
| 435 | 193 | NR | 565 | 336 | NR | 695 | 30 | NR | 825 | 1 | NR | 955 | 0 | NR |
| 440 | 302 | NR | 570 | 336 | NR | 700 | 26 | NR | 830 | 1 | NR | 960 | 0 | NR |
| 445 | 432 | NR | 575 | 335 | NR | 705 | 22 | NR | 835 | 1 | NR | 965 | 0 | NR |
| 450 | 380 | NR | 580 | 332 | NR | 710 | 19 | NR | 840 | 0 | NR | 970 | 0 | NR |
| 455 | 213 | NR | 585 | 326 | NR | 715 | 16 | NR | 845 | 0 | NR | 975 | 0 | NR |
| 460 | 147 | NR | 590 | 319 | NR | 720 | 14 | NR | 850 | 0 | NR | 980 | 0 | NR |
| 465 | 104 | NR | 595 | 307 | NR | 725 | 12 | NR | 855 | 0 | NR | 985 | 0 | NR |
| 470 | 65 | NR | 600 | 299 | NR | 730 | 10 | NR | 860 | 0 | NR | 990 | 0 | NR |
| 475 | 50 | NR | 605 | 291 | NR | 735 | 9 | NR | 865 | 0 | NR | 995 | 0 | NR |
| 480 | 46 | NR | 610 | 317 | NR | 740 | 8 | NR | 870 | 0 | NR | 1000 | 0 | NR |
| 485 | 47 | NR | 615 | 336 | NR | 745 | 7 | NR | 875 | 0 | NR | | | |

REPORT NUMBER: SP1-2506-472-1

Melanopic Flux vs. Wavelength



Melanopic Lumens: NR

M/P: 2.99

| 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 | 277 | NR | 750 | 6 | NR | 880 | 0 | NR |
| 365 | 0 | NR | 495 | 87 | NR | 625 | 278 | NR | 755 | 5 | NR | 885 | 0 | NR |
| 370 | 0 | NR | 500 | 124 | NR | 630 | 1000 | NR | 760 | 4 | NR | 890 | 0 | NR |
| 375 | 0 | NR | 505 | 168 | NR | 635 | 623 | NR | 765 | 4 | NR | 895 | 0 | NR |
| 380 | 1 | NR | 510 | 209 | NR | 640 | 162 | NR | 770 | 3 | NR | 900 | 0 | NR |
| 385 | 1 | NR | 515 | 246 | NR | 645 | 158 | NR | 775 | 3 | NR | 905 | 0 | NR |
| 390 | 2 | NR | 520 | 273 | NR | 650 | 134 | NR | 780 | 2 | NR | 910 | 0 | NR |
| 395 | 4 | NR | 525 | 292 | NR | 655 | 109 | NR | 785 | 2 | NR | 915 | 0 | NR |
| 400 | 5 | NR | 530 | 305 | NR | 660 | 91 | NR | 790 | 2 | NR | 920 | 0 | NR |
| 405 | 7 | NR | 535 | 313 | NR | 665 | 75 | NR | 795 | 2 | NR | 925 | 0 | NR |
| 410 | 11 | NR | 540 | 319 | NR | 670 | 70 | NR | 800 | 1 | NR | 930 | 0 | NR |
| 415 | 21 | NR | 545 | 323 | NR | 675 | 56 | NR | 805 | 1 | NR | 935 | 0 | NR |
| 420 | 42 | NR | 550 | 326 | NR | 680 | 47 | NR | 810 | 1 | NR | 940 | 0 | NR |
| 425 | 76 | NR | 555 | 330 | NR | 685 | 41 | NR | 815 | 1 | NR | 945 | 0 | NR |
| 430 | 125 | NR | 560 | 333 | NR | 690 | 35 | NR | 820 | 1 | NR | 950 | 0 | NR |
| 435 | 193 | NR | 565 | 336 | NR | 695 | 30 | NR | 825 | 1 | NR | 955 | 0 | NR |
| 440 | 302 | NR | 570 | 336 | NR | 700 | 26 | NR | 830 | 1 | NR | 960 | 0 | NR |
| 445 | 432 | NR | 575 | 335 | NR | 705 | 22 | NR | 835 | 1 | NR | 965 | 0 | NR |
| 450 | 380 | NR | 580 | 332 | NR | 710 | 19 | NR | 840 | 0 | NR | 970 | 0 | NR |
| 455 | 213 | NR | 585 | 326 | NR | 715 | 16 | NR | 845 | 0 | NR | 975 | 0 | NR |
| 460 | 147 | NR | 590 | 319 | NR | 720 | 14 | NR | 850 | 0 | NR | 980 | 0 | NR |
| 465 | 104 | NR | 595 | 307 | NR | 725 | 12 | NR | 855 | 0 | NR | 985 | 0 | NR |
| 470 | 65 | NR | 600 | 299 | NR | 730 | 10 | NR | 860 | 0 | NR | 990 | 0 | NR |
| 475 | 50 | NR | 605 | 291 | NR | 735 | 9 | NR | 865 | 0 | NR | 995 | 0 | NR |
| 480 | 46 | NR | 610 | 317 | NR | 740 | 8 | NR | 870 | 0 | NR | 1000 | 0 | NR |
| 485 | 47 | NR | 615 | 336 | NR | 745 | 7 | NR | 875 | 0 | NR | | | |

Summary

$R_f = 80.7$
 $R_g = 102.1$
 $CIE R_a = 82.1$
 $R_9 = 38.5$



Color Vector Graphics



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

| | | | |
|------------|------------|------------|------------|
| CES01 = 85 | CES26 = 69 | CES51 = 90 | CES76 = 58 |
| CES02 = 61 | CES27 = 89 | CES52 = 90 | CES77 = 76 |
| CES03 = 31 | CES28 = 83 | CES53 = 80 | CES78 = 60 |
| CES04 = 69 | CES29 = 66 | CES54 = 91 | CES79 = 85 |
| CES05 = 48 | CES30 = 76 | CES55 = 89 | CES80 = 79 |
| CES06 = 50 | CES31 = 69 | CES56 = 79 | CES81 = 81 |
| CES07 = 41 | CES32 = 62 | CES57 = 77 | CES82 = 91 |
| CES08 = 40 | CES33 = 74 | CES58 = 79 | CES83 = 88 |
| CES09 = 29 | CES34 = 72 | CES59 = 93 | CES84 = 89 |
| CES10 = 74 | CES35 = 84 | CES60 = 95 | CES85 = 84 |
| CES11 = 57 | CES36 = 98 | CES61 = 92 | CES86 = 82 |
| CES12 = 63 | CES37 = 77 | CES62 = 89 | CES87 = 81 |
| CES13 = 43 | CES38 = 83 | CES63 = 80 | CES88 = 86 |
| CES14 = 74 | CES39 = 94 | CES64 = 80 | CES89 = 79 |
| CES15 = 71 | CES40 = 88 | CES65 = 77 | CES90 = 85 |
| CES16 = 47 | CES41 = 89 | CES66 = 74 | CES91 = 83 |
| CES17 = 49 | CES42 = 74 | CES67 = 72 | CES92 = 77 |
| CES18 = 56 | CES43 = 73 | CES68 = 78 | CES93 = 86 |
| CES19 = 71 | CES44 = 98 | CES69 = 83 | CES94 = 69 |
| CES20 = 65 | CES45 = 82 | CES70 = 69 | CES95 = 80 |
| CES21 = 86 | CES46 = 82 | CES71 = 64 | CES96 = 86 |
| CES22 = 78 | CES47 = 80 | CES72 = 88 | CES97 = 83 |
| CES23 = 91 | CES48 = 79 | CES73 = 60 | CES98 = 81 |
| CES24 = 90 | CES49 = 80 | CES74 = 98 | CES99 = 83 |
| CES25 = 71 | CES50 = 89 | CES75 = 62 | |



Color Rendition by Hue-Angle Bin



Measure Comparisons



(END OF REPORT)