

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: P1432672

Luminaire Tested: EHBR1-30-UNV-W-L835-UPL36

Issue Date: 3/20/2026

Test Information

Test Method: LM-79-2019
Report Number: P1432672
REPORT IS A COMBINATION OF REPORTS P1431761 AND P1431635
Test Lab: INNOVATION CENTER
Issue Date: 3/20/2026
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: METALUX
Catalog Number: EHBR1-30-UNV-W-L835-UPL36
Description: Elevate Round Highbay at, 30000 lumens, 3500K 80CRI LEDs with W lens
Light Source: -
Ballast/Driver: -

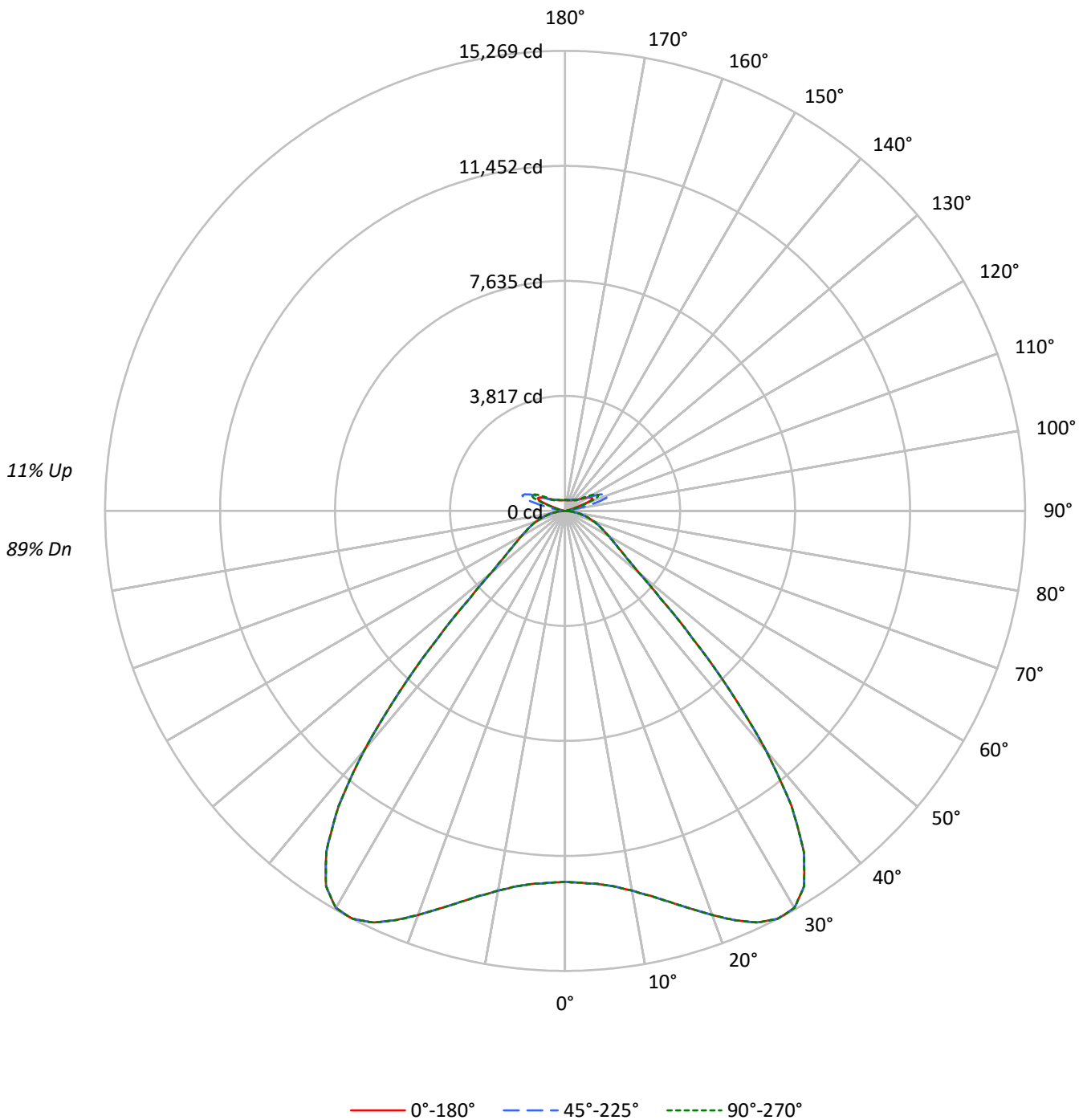
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 32919.4 lumens
Efficiency: N/A
Efficacy: 174.9 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): 188.2
Input Voltage (V): NR
Input Current (A_{in}): 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: P1432672
CATALOG NUMBER: EHBR1-30-UNV-W-L835-UPL36

Luminous Intensity Polar Plot





TEST NUMBER: P1432672
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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 | 0 |
| RCR | | | | | | | | | | | | | | | | | | | | | |
| 0 | 117 | 117 | 117 | 117 | 113 | 113 | 113 | 113 | 105 | 105 | 105 | 99 | 99 | 99 | 92 | 92 | 92 | 89 | | | |
| 1 | 109 | 105 | 102 | 99 | 105 | 102 | 99 | 96 | 96 | 93 | 91 | 90 | 88 | 86 | 85 | 83 | 82 | 79 | | | |
| 2 | 101 | 94 | 89 | 84 | 97 | 92 | 87 | 82 | 86 | 82 | 79 | 82 | 79 | 76 | 77 | 75 | 73 | 70 | | | |
| 3 | 94 | 85 | 78 | 73 | 90 | 83 | 77 | 72 | 78 | 73 | 69 | 74 | 70 | 67 | 71 | 67 | 64 | 62 | | | |
| 4 | 87 | 77 | 70 | 64 | 84 | 75 | 68 | 63 | 71 | 66 | 61 | 68 | 63 | 59 | 65 | 61 | 57 | 55 | | | |
| 5 | 81 | 70 | 62 | 57 | 78 | 68 | 61 | 56 | 65 | 59 | 54 | 62 | 57 | 53 | 59 | 55 | 52 | 49 | | | |
| 6 | 75 | 64 | 56 | 51 | 73 | 62 | 55 | 50 | 60 | 53 | 49 | 57 | 52 | 48 | 55 | 50 | 46 | 44 | | | |
| 7 | 70 | 58 | 51 | 45 | 68 | 57 | 50 | 45 | 55 | 48 | 44 | 52 | 47 | 43 | 50 | 46 | 42 | 40 | | | |
| 8 | 66 | 54 | 46 | 41 | 64 | 53 | 45 | 41 | 50 | 44 | 40 | 48 | 43 | 39 | 47 | 42 | 38 | 36 | | | |
| 9 | 61 | 49 | 42 | 37 | 60 | 48 | 42 | 37 | 47 | 40 | 36 | 45 | 39 | 35 | 43 | 38 | 35 | 33 | | | |
| 10 | 58 | 46 | 39 | 34 | 56 | 45 | 38 | 34 | 43 | 37 | 33 | 42 | 36 | 32 | 40 | 35 | 32 | 30 | | | |

AVERAGE LUMINANCE (cd/sqm):

| | 0° | 45° | 90° |
|-----|-------|-------|-------|
| 0° | 57821 | 57821 | 57821 |
| 5° | 58205 | 58205 | 58205 |
| 10° | 60227 | 60227 | 60227 |
| 15° | 64044 | 64044 | 64044 |
| 20° | 69425 | 69425 | 69425 |
| 25° | 75472 | 75472 | 75472 |
| 30° | 79107 | 79107 | 79107 |
| 35° | 75297 | 75297 | 75297 |
| 40° | 59748 | 59748 | 59748 |
| 45° | 36930 | 36930 | 36930 |
| 50° | 21384 | 21384 | 21384 |
| 55° | 16180 | 16180 | 16180 |
| 60° | 13879 | 13879 | 13879 |
| 65° | 12535 | 12535 | 12535 |
| 70° | 11531 | 11531 | 11531 |
| 75° | 10188 | 10188 | 10188 |
| 80° | 8303 | 8303 | 8303 |
| 85° | 4894 | 4894 | 4894 |

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 36930 cd/sqm



TEST NUMBER: P1432672
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ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|---------|-----------|
| 0°-10° | 1197.9 | 3.6 |
| 10°-20° | 3840.5 | 11.7 |
| 20°-30° | 6932.3 | 21.1 |
| 30°-40° | 8376.9 | 25.4 |
| 40°-50° | 4786.0 | 14.5 |
| 50°-60° | 2027.0 | 6.2 |
| 60°-70° | 1307.4 | 4.0 |
| 70°-80° | 760.2 | 2.3 |
| 80°-90° | 207.5 | 0.6 |
| 90°-100° | 99.7 | 0.3 |
| 100°-110° | 620.2 | 1.9 |
| 110°-120° | 1108.5 | 3.4 |
| 120°-130° | 651.2 | 2.0 |
| 130°-140° | 401.5 | 1.2 |
| 140°-150° | 280.3 | 0.9 |
| 150°-160° | 182.9 | 0.6 |
| 160°-170° | 104.7 | 0.3 |
| 170°-180° | 34.7 | 0.1 |
| 0°-30° | 11970.7 | 36.4 |
| 0°-40° | 20347.6 | 61.8 |
| 0°-60° | 27160.7 | 82.5 |
| 0°-90° | 29435.8 | 89.4 |
| 90°-120° | 1828.3 | 5.6 |
| 90°-150° | 3161.4 | 9.6 |
| 90°-180° | 3484.0 | 10.6 |
| 0°-180° | 32919.4 | 100.0 |

CANDELA DISTRIBUTION:

| | 0° | 22.5° | 45° | 67.5° | 90° | Flux |
|------|-------|-------|-------|-------|-------|------|
| 0° | 12313 | 12313 | 12313 | 12313 | 12313 | |
| 5° | 12428 | 12428 | 12428 | 12428 | 12428 | 1198 |
| 15° | 13436 | 13436 | 13436 | 13436 | 13436 | 3841 |
| 25° | 15072 | 15072 | 15072 | 15072 | 15072 | 6932 |
| 35° | 13820 | 13820 | 13820 | 13820 | 13820 | 8377 |
| 45° | 5975 | 5975 | 5975 | 5975 | 5975 | 4786 |
| 55° | 2186 | 2186 | 2186 | 2186 | 2186 | 2027 |
| 65° | 1308 | 1308 | 1308 | 1308 | 1308 | 1307 |
| 75° | 718 | 718 | 718 | 718 | 718 | 760 |
| 85° | 168 | 168 | 168 | 168 | 168 | 194 |
| 90° | 27 | 43 | 72 | 46 | 27 | 20 |
| 95° | 45 | 74 | 162 | 80 | 50 | 43 |
| 105° | 217 | 427 | 1090 | 471 | 286 | 291 |
| 115° | 997 | 1049 | 1289 | 1235 | 1227 | 919 |
| 125° | 720 | 672 | 690 | 700 | 785 | 656 |
| 135° | 528 | 512 | 530 | 498 | 496 | 413 |
| 145° | 437 | 431 | 457 | 451 | 449 | 277 |
| 155° | 384 | 380 | 398 | 398 | 398 | 179 |
| 165° | 361 | 361 | 371 | 371 | 369 | 103 |
| 175° | 358 | 358 | 364 | 364 | 364 | 34 |
| 180° | 363 | 363 | 363 | 363 | 363 | |



TEST NUMBER: P1432672

CATALOG NUMBER: EHBR1-30-UNV-W-L835-UPL36

CANDELA DISTRIBUTION (FULL):

| | 0° | 22.5° | 45° | 67.5° | 90° |
|--------|---------|---------|---------|---------|---------|
| 0° | 12312.6 | 12312.6 | 12312.6 | 12312.6 | 12312.6 |
| 2.5° | 12353.9 | 12353.9 | 12353.9 | 12353.9 | 12353.9 |
| 5° | 12427.7 | 12427.7 | 12427.7 | 12427.7 | 12427.7 |
| 7.5° | 12572.8 | 12572.8 | 12572.8 | 12572.8 | 12572.8 |
| 10° | 12796.1 | 12796.1 | 12796.1 | 12796.1 | 12796.1 |
| 12.5° | 13086.3 | 13086.3 | 13086.3 | 13086.3 | 13086.3 |
| 15° | 13436.1 | 13436.1 | 13436.1 | 13436.1 | 13436.1 |
| 17.5° | 13836.5 | 13836.5 | 13836.5 | 13836.5 | 13836.5 |
| 20° | 14268.9 | 14268.9 | 14268.9 | 14268.9 | 14268.9 |
| 22.5° | 14704.2 | 14704.2 | 14704.2 | 14704.2 | 14704.2 |
| 25° | 15071.6 | 15071.6 | 15071.6 | 15071.6 | 15071.6 |
| 27.5° | 15269.3 | 15269.3 | 15269.3 | 15269.3 | 15269.3 |
| 30° | 15216.2 | 15216.2 | 15216.2 | 15216.2 | 15216.2 |
| 32.5° | 14765.2 | 14765.2 | 14765.2 | 14765.2 | 14765.2 |
| 35° | 13819.7 | 13819.7 | 13819.7 | 13819.7 | 13819.7 |
| 37.5° | 12345.6 | 12345.6 | 12345.6 | 12345.6 | 12345.6 |
| 40° | 10355.8 | 10355.8 | 10355.8 | 10355.8 | 10355.8 |
| 42.5° | 8105.4 | 8105.4 | 8105.4 | 8105.4 | 8105.4 |
| 45° | 5975.1 | 5975.1 | 5975.1 | 5975.1 | 5975.1 |
| 47.5° | 4270.6 | 4270.6 | 4270.6 | 4270.6 | 4270.6 |
| 50° | 3187.0 | 3187.0 | 3187.0 | 3187.0 | 3187.0 |
| 52.5° | 2580.5 | 2580.5 | 2580.5 | 2580.5 | 2580.5 |
| 55° | 2186.5 | 2186.5 | 2186.5 | 2186.5 | 2186.5 |
| 57.5° | 1898.7 | 1898.7 | 1898.7 | 1898.7 | 1898.7 |
| 60° | 1668.5 | 1668.5 | 1668.5 | 1668.5 | 1668.5 |
| 62.5° | 1476.7 | 1476.7 | 1476.7 | 1476.7 | 1476.7 |
| 65° | 1308.4 | 1308.4 | 1308.4 | 1308.4 | 1308.4 |
| 67.5° | 1159.9 | 1159.9 | 1159.9 | 1159.9 | 1159.9 |
| 70° | 1011.8 | 1011.8 | 1011.8 | 1011.8 | 1011.8 |
| 72.5° | 864.3 | 864.3 | 864.3 | 864.3 | 864.3 |
| 75° | 717.7 | 717.7 | 717.7 | 717.7 | 717.7 |
| 77.5° | 576.5 | 576.5 | 576.5 | 576.5 | 576.5 |
| 80° | 436.8 | 436.8 | 436.8 | 436.8 | 436.8 |
| 82.5° | 299.5 | 299.5 | 299.5 | 299.5 | 299.5 |
| 85° | 168.2 | 168.2 | 168.2 | 168.2 | 168.2 |
| 87.5° | 53.1 | 53.1 | 53.1 | 53.1 | 53.1 |
| 90° | 26.8 | 42.7 | 72.3 | 46.5 | 26.8 |
| 92.5° | 38.2 | 64.0 | 115.5 | 60.0 | 34.2 |
| 95° | 44.6 | 74.4 | 161.7 | 80.3 | 50.5 |
| 97.5° | 56.5 | 82.3 | 185.4 | 98.1 | 78.4 |
| 100° | 74.4 | 96.2 | 288.6 | 120.0 | 104.1 |
| 102.5° | 126.0 | 203.3 | 611.9 | 225.1 | 157.7 |
| 105° | 217.1 | 427.4 | 1089.9 | 471.1 | 286.5 |
| 107.5° | 375.9 | 764.6 | 1437.0 | 834.0 | 542.5 |
| 110° | 701.6 | 1015.0 | 1506.9 | 1145.9 | 868.2 |



TEST NUMBER: P1432672

CATALOG NUMBER: EHBR1-30-UNV-W-L835-UPL36

CANDELA DISTRIBUTION (continued):

| | 0° | 22.5° | 45° | 67.5° | 90° |
|--------|-------|--------|--------|--------|--------|
| 112.5° | 947.6 | 1090.3 | 1443.4 | 1264.9 | 1130.0 |
| 115° | 997.2 | 1048.7 | 1288.7 | 1235.1 | 1227.3 |
| 117.5° | 963.4 | 957.5 | 1094.3 | 1110.2 | 1185.6 |
| 120° | 892.0 | 852.4 | 913.9 | 969.4 | 1070.6 |
| 122.5° | 802.7 | 755.2 | 782.9 | 824.5 | 925.8 |
| 125° | 719.9 | 672.3 | 690.2 | 700.1 | 785.4 |
| 127.5° | 646.6 | 614.8 | 624.8 | 612.9 | 666.4 |
| 130° | 597.4 | 569.7 | 583.6 | 555.8 | 581.6 |
| 132.5° | 556.9 | 539.1 | 554.9 | 521.1 | 529.1 |
| 135° | 527.6 | 511.7 | 529.6 | 497.8 | 495.9 |
| 137.5° | 502.3 | 488.4 | 506.3 | 482.4 | 476.5 |
| 140° | 479.5 | 467.6 | 487.4 | 469.5 | 465.6 |
| 142.5° | 454.2 | 446.3 | 470.0 | 458.2 | 454.2 |
| 145° | 436.9 | 430.8 | 456.6 | 450.7 | 448.7 |
| 147.5° | 421.4 | 417.5 | 441.2 | 439.3 | 439.3 |
| 150° | 407.6 | 403.6 | 427.4 | 425.4 | 427.4 |
| 152.5° | 393.7 | 389.7 | 411.5 | 409.5 | 411.5 |
| 155° | 384.2 | 380.2 | 398.1 | 398.1 | 398.1 |
| 157.5° | 376.2 | 374.3 | 388.2 | 388.2 | 388.2 |
| 160° | 370.8 | 368.9 | 380.7 | 380.7 | 378.8 |
| 162.5° | 365.4 | 363.4 | 377.2 | 375.3 | 375.3 |
| 165° | 361.4 | 361.4 | 371.3 | 371.3 | 369.4 |
| 167.5° | 361.4 | 359.4 | 369.4 | 369.4 | 367.3 |
| 170° | 359.4 | 359.4 | 367.3 | 365.4 | 363.4 |
| 172.5° | 359.9 | 359.9 | 367.8 | 365.9 | 363.8 |
| 175° | 358.4 | 358.4 | 364.3 | 364.3 | 364.3 |
| 177.5° | 360.3 | 360.3 | 364.3 | 364.3 | 362.4 |
| 180° | 362.9 | 362.9 | 362.9 | 362.9 | 362.9 |



TEST NUMBER: P1432672
 CATALOG NUMBER: EHBR1-30-UNV-W-L835-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 | 17.76 | 18.90 | 18.30 | 19.42 | 19.99 | 17.76 | 18.90 | 18.30 | 19.42 | 19.99 |
| | 3H | 19.25 | 20.26 | 19.81 | 20.80 | 21.42 | 19.25 | 20.26 | 19.81 | 20.80 | 21.42 |
| | 4H | 19.81 | 20.76 | 20.39 | 21.31 | 21.94 | 19.81 | 20.76 | 20.39 | 21.31 | 21.94 |
| | 6H | 20.19 | 21.06 | 20.78 | 21.63 | 22.27 | 20.19 | 21.06 | 20.78 | 21.63 | 22.27 |
| | 8H | 20.29 | 21.11 | 20.89 | 21.70 | 22.35 | 20.29 | 21.11 | 20.89 | 21.70 | 22.35 |
| | 12H | 20.33 | 21.11 | 20.93 | 21.69 | 22.36 | 20.33 | 21.11 | 20.93 | 21.69 | 22.36 |
| 4H | 2H | 18.20 | 19.14 | 18.77 | 19.69 | 20.32 | 18.20 | 19.14 | 18.77 | 19.69 | 20.32 |
| | 3H | 19.91 | 20.69 | 20.50 | 21.28 | 21.93 | 19.91 | 20.69 | 20.50 | 21.28 | 21.93 |
| | 4H | 20.59 | 21.29 | 21.19 | 21.89 | 22.57 | 20.59 | 21.29 | 21.19 | 21.89 | 22.57 |
| | 6H | 21.08 | 21.68 | 21.71 | 22.31 | 23.01 | 21.08 | 21.68 | 21.71 | 22.31 | 23.01 |
| | 8H | 21.21 | 21.78 | 21.85 | 22.40 | 23.11 | 21.21 | 21.78 | 21.85 | 22.40 | 23.11 |
| | 12H | 21.27 | 21.77 | 21.92 | 22.43 | 23.14 | 21.27 | 21.77 | 21.92 | 22.43 | 23.14 |
| 8H | 4H | 20.79 | 21.35 | 21.42 | 21.98 | 22.68 | 20.79 | 21.35 | 21.42 | 21.98 | 22.68 |
| | 6H | 21.38 | 21.84 | 22.05 | 22.52 | 23.23 | 21.38 | 21.84 | 22.05 | 22.52 | 23.23 |
| | 8H | 21.57 | 21.98 | 22.25 | 22.66 | 23.39 | 21.57 | 21.98 | 22.25 | 22.66 | 23.39 |
| | 12H | 21.67 | 22.04 | 22.35 | 22.70 | 23.50 | 21.67 | 22.04 | 22.35 | 22.70 | 23.50 |
| 12H | 4H | 20.78 | 21.28 | 21.43 | 21.94 | 22.65 | 20.78 | 21.28 | 21.43 | 21.94 | 22.65 |
| | 6H | 21.40 | 21.81 | 22.08 | 22.49 | 23.22 | 21.40 | 21.81 | 22.08 | 22.49 | 23.22 |
| | 8H | 21.62 | 21.98 | 22.30 | 22.65 | 23.44 | 21.62 | 21.98 | 22.30 | 22.65 | 23.44 |

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 |

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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)