

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: EHBR1-48-UNV-ASM-L840-UPL40

Issue Date: 3/20/2026

**Test Information**

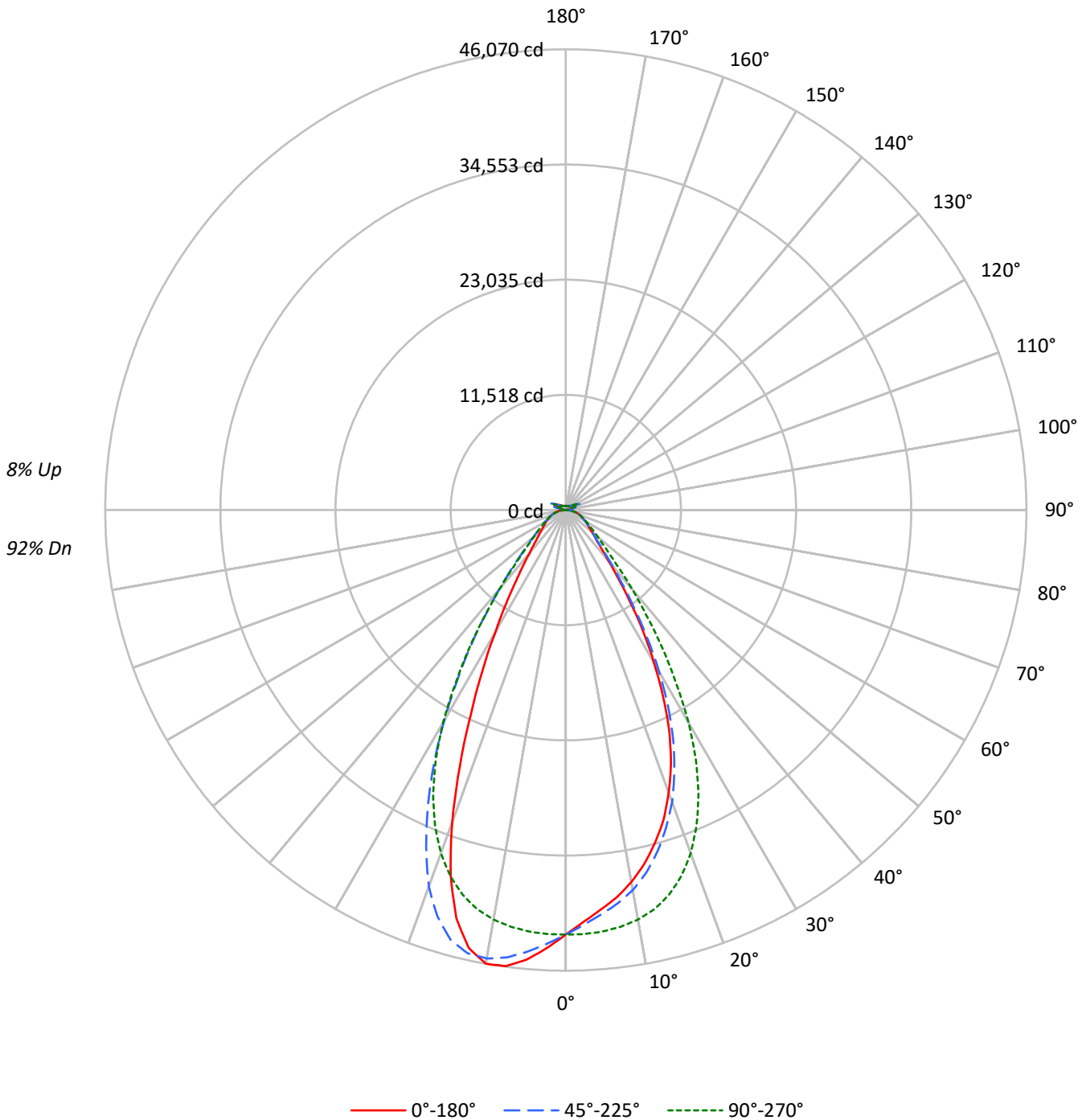
Test Method: LM-79-2019  
Report Number: REPORT IS A COMBINATION OF REPORTS P1431842 AND P1431635  
Test Lab: INNOVATION CENTER  
Issue Date: 3/20/2026  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: METALUX  
Catalog Number: EHBR1-48-UNV-ASM-L840-UPL40  
Description: Elevate Round Highbay at, 48000 lumens, 4000K 80CRI LEDs with ASM lens  
Light Source: -  
Ballast/Driver: -

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 51352.1 lumens  
Efficiency: N/A  
Efficacy: 177.6 lumens/watt  
Spacing Criteria (0/90/45): 0.84 / 0.99 / 0.92  
Luminous Opening: Vertical Cylinder (Dia: 1.71' x H: 0.1')  
CIE Type: Direct  
  
Input Watts (W): 289.2  
Input Voltage (V): NR  
Input Current (A<sub>in</sub>): 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:  
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### Luminous Intensity Polar Plot





TEST NUMBER:

CATALOG NUMBER: EHBR1-48-UNV-ASM-L840-UPL40

**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   | 117 | 117 | 117 | 117 | 114 | 114 | 114 | 114 | 107 | 107 | 107 | 101 | 101 | 101 | 95 | 95 | 95 | 95 | 95 | 95 | 92 |
| 1   | 110 | 107 | 103 | 101 | 107 | 104 | 101 | 98  | 98  | 96  | 94  | 93  | 91  | 90  | 88 | 87 | 86 | 88 | 87 | 86 | 83 |
| 2   | 103 | 97  | 92  | 88  | 100 | 95  | 90  | 86  | 90  | 86  | 83  | 86  | 83  | 80  | 82 | 80 | 77 | 82 | 80 | 77 | 75 |
| 3   | 97  | 89  | 83  | 78  | 94  | 87  | 81  | 77  | 83  | 78  | 75  | 79  | 76  | 72  | 76 | 73 | 70 | 76 | 73 | 70 | 68 |
| 4   | 91  | 82  | 75  | 70  | 88  | 80  | 74  | 69  | 77  | 72  | 68  | 74  | 69  | 66  | 71 | 67 | 64 | 71 | 67 | 64 | 62 |
| 5   | 85  | 75  | 69  | 64  | 83  | 74  | 68  | 63  | 71  | 66  | 62  | 69  | 64  | 60  | 66 | 62 | 59 | 66 | 62 | 59 | 57 |
| 6   | 80  | 70  | 63  | 58  | 78  | 69  | 62  | 58  | 66  | 61  | 57  | 64  | 59  | 56  | 62 | 58 | 55 | 62 | 58 | 55 | 53 |
| 7   | 76  | 65  | 58  | 54  | 74  | 64  | 58  | 53  | 62  | 56  | 52  | 60  | 55  | 51  | 58 | 54 | 51 | 58 | 54 | 51 | 49 |
| 8   | 72  | 61  | 54  | 50  | 70  | 60  | 54  | 49  | 58  | 53  | 49  | 57  | 52  | 48  | 55 | 50 | 47 | 55 | 50 | 47 | 46 |
| 9   | 68  | 57  | 50  | 46  | 66  | 56  | 50  | 46  | 55  | 49  | 45  | 53  | 48  | 45  | 52 | 47 | 44 | 52 | 47 | 44 | 43 |
| 10  | 64  | 54  | 47  | 43  | 63  | 53  | 47  | 43  | 52  | 46  | 42  | 50  | 45  | 42  | 49 | 45 | 41 | 49 | 45 | 41 | 40 |

**AVERAGE LUMINANCE (cd/sqm):**

|     | 0°     | 45°    | 90°    | 135°   | 180°   |
|-----|--------|--------|--------|--------|--------|
| 0°  | 199380 | 199380 | 199380 | 199380 | 199380 |
| 5°  | 187883 | 190080 | 198167 | 207671 | 211407 |
| 10° | 177816 | 181582 | 195731 | 214339 | 216835 |
| 15° | 164254 | 168641 | 189952 | 212140 | 201507 |
| 20° | 146304 | 151231 | 177653 | 194998 | 161581 |
| 25° | 122609 | 127249 | 157237 | 163560 | 111952 |
| 30° | 91736  | 97055  | 127670 | 126396 | 72833  |
| 35° | 61071  | 64758  | 91569  | 90090  | 47168  |
| 40° | 38514  | 41160  | 59203  | 59584  | 32511  |
| 45° | 27442  | 28584  | 37563  | 39178  | 25184  |
| 50° | 22858  | 23040  | 27895  | 28621  | 21400  |
| 55° | 20177  | 20224  | 22775  | 23376  | 19494  |
| 60° | 18682  | 18523  | 19722  | 20139  | 18569  |
| 65° | 17832  | 17672  | 17978  | 18329  | 17909  |
| 70° | 17321  | 17021  | 17039  | 17366  | 17548  |
| 75° | 16467  | 15969  | 15935  | 16500  | 16975  |
| 80° | 14983  | 13937  | 13998  | 14983  | 16026  |
| 85° | 10911  | 9057   | 9057   | 10355  | 11443  |

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 112.5°  
 Vertical Angle: 45°  
 Luminance: 52812 cd/sqm



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**ZONAL LUMENS:**

| Zone      | Lumens  | % Fixture |
|-----------|---------|-----------|
| 0°-10°    | 4037.0  | 7.9       |
| 10°-20°   | 10982.9 | 21.4      |
| 20°-30°   | 12880.6 | 25.1      |
| 30°-40°   | 8957.7  | 17.4      |
| 40°-50°   | 4451.5  | 8.7       |
| 50°-60°   | 2662.5  | 5.2       |
| 60°-70°   | 1874.0  | 3.6       |
| 70°-80°   | 1207.2  | 2.4       |
| 80°-90°   | 390.3   | 0.8       |
| 90°-100°  | 104.3   | 0.2       |
| 100°-110° | 678.8   | 1.3       |
| 110°-120° | 1253.7  | 2.4       |
| 120°-130° | 745.5   | 1.5       |
| 130°-140° | 451.3   | 0.9       |
| 140°-150° | 312.7   | 0.6       |
| 150°-160° | 204.7   | 0.4       |
| 160°-170° | 118.1   | 0.2       |
| 170°-180° | 39.4    | 0.1       |
| 0°-30°    | 27900.5 | 54.3      |
| 0°-40°    | 36858.2 | 71.8      |
| 0°-60°    | 43972.2 | 85.6      |
| 0°-90°    | 47443.6 | 92.4      |
| 90°-120°  | 2036.8  | 4.0       |
| 90°-150°  | 3546.4  | 6.9       |
| 90°-180°  | 3908.0  | 7.6       |
| 0°-180°   | 51352.1 | 100.0     |

**CANDELA DISTRIBUTION:**

|      | 0°    | 45°   | 90°   | 135°  | 180°  | Flux  |
|------|-------|-------|-------|-------|-------|-------|
| 0°   | 42457 | 42457 | 42457 | 42457 | 42457 |       |
| 5°   | 40116 | 40585 | 42312 | 44341 | 45139 | 3763  |
| 15°  | 34460 | 35380 | 39851 | 44506 | 42275 | 9610  |
| 25°  | 24485 | 25412 | 31400 | 32663 | 22357 | 11048 |
| 35°  | 11209 | 11885 | 16806 | 16535 | 8657  | 7140  |
| 45°  | 4440  | 4625  | 6078  | 6339  | 4075  | 3589  |
| 55°  | 2727  | 2733  | 3078  | 3159  | 2634  | 2474  |
| 65°  | 1861  | 1845  | 1876  | 1913  | 1869  | 1848  |
| 75°  | 1160  | 1125  | 1122  | 1162  | 1196  | 1224  |
| 85°  | 375   | 311   | 311   | 356   | 393   | 386   |
| 90°  | 29    | 78    | 29    | 84    | 34    | 32    |
| 95°  | 48    | 175   | 56    | 151   | 54    | 47    |
| 105° | 236   | 1184  | 312   | 1264  | 160   | 316   |
| 115° | 1083  | 1400  | 1334  | 1550  | 1141  | 998   |
| 125° | 782   | 751   | 854   | 832   | 896   | 713   |
| 135° | 572   | 577   | 541   | 603   | 625   | 448   |
| 145° | 476   | 499   | 490   | 502   | 512   | 302   |
| 155° | 424   | 438   | 437   | 437   | 456   | 198   |
| 165° | 406   | 415   | 414   | 413   | 427   | 116   |
| 175° | 406   | 413   | 414   | 412   | 422   | 39    |
| 180° | 413   | 413   | 413   | 413   | 413   |       |



TEST NUMBER:

CATALOG NUMBER: EHBR1-48-UNV-ASM-L840-UPL40

**CANDELA DISTRIBUTION (FULL):**

|        | 0°      | 22.5°   | 45°     | 67.5°   | 90°     | 112.5°  | 135°    | 157.5°  | 180°    |
|--------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| 0°     | 42456.6 | 42456.6 | 42456.6 | 42456.6 | 42456.6 | 42456.6 | 42456.6 | 42456.6 | 42456.6 |
| 2.5°   | 41196.4 | 41223.4 | 41511.6 | 41886.6 | 42432.0 | 42980.5 | 43424.7 | 43717.7 | 43862.6 |
| 5°     | 40116.0 | 40265.7 | 40585.0 | 41273.6 | 42311.8 | 43410.4 | 44341.1 | 44950.1 | 45138.8 |
| 7.5°   | 39063.6 | 39150.3 | 39684.5 | 40554.7 | 42024.3 | 43736.0 | 45118.9 | 45829.8 | 46003.4 |
| 10°    | 37779.4 | 37976.0 | 38579.5 | 39605.7 | 41585.7 | 43941.4 | 45539.2 | 46048.8 | 46069.5 |
| 12.5°  | 36268.4 | 36528.7 | 37152.1 | 38446.6 | 40885.9 | 43868.2 | 45398.3 | 45231.1 | 44851.4 |
| 15°    | 34459.6 | 34688.0 | 35379.9 | 36881.4 | 39850.9 | 43434.3 | 44505.9 | 43145.3 | 42275.1 |
| 17.5°  | 32505.9 | 32712.9 | 33313.9 | 34967.5 | 38392.4 | 42622.2 | 42642.9 | 39951.2 | 38309.6 |
| 20°    | 30069.7 | 30232.1 | 31082.4 | 32704.9 | 36512.8 | 41319.8 | 40077.8 | 35154.6 | 33209.6 |
| 22.5°  | 27477.5 | 27629.6 | 28385.1 | 30073.7 | 34156.2 | 39563.5 | 36505.6 | 30329.2 | 27675.8 |
| 25°    | 24484.9 | 24567.7 | 25411.6 | 26938.5 | 31400.0 | 37411.6 | 32662.7 | 25071.6 | 22356.8 |
| 27.5°  | 21118.1 | 21259.0 | 22141.9 | 23701.5 | 28158.2 | 34684.1 | 28570.6 | 20487.5 | 17982.9 |
| 30°    | 17645.4 | 17878.6 | 18668.4 | 20064.8 | 24557.3 | 31187.5 | 24312.1 | 16315.8 | 14009.4 |
| 32.5°  | 14404.3 | 14572.3 | 15135.2 | 16594.5 | 20525.7 | 27760.1 | 20222.4 | 13073.2 | 11119.5 |
| 35°    | 11208.7 | 11376.7 | 11885.4 | 13318.4 | 16806.2 | 23472.2 | 16534.8 | 10272.4 | 8657.1  |
| 37.5°  | 8567.9  | 8864.9  | 9191.3  | 10354.4 | 13189.4 | 19420.7 | 13180.7 | 8271.8  | 7021.8  |
| 40°    | 6675.5  | 6723.3  | 7134.1  | 7878.5  | 10261.3 | 15185.3 | 10327.4 | 6603.1  | 5635.0  |
| 42.5°  | 5343.6  | 5473.4  | 5650.1  | 6207.4  | 7775.0  | 11611.5 | 8117.3  | 5419.2  | 4786.3  |
| 45°    | 4440.0  | 4491.0  | 4624.7  | 4998.9  | 6077.6  | 8544.8  | 6338.8  | 4572.2  | 4074.6  |
| 47.5°  | 3884.3  | 3862.0  | 3948.0  | 4228.2  | 4949.5  | 6603.9  | 5137.4  | 3921.7  | 3573.0  |
| 50°    | 3406.6  | 3393.1  | 3433.7  | 3620.8  | 4157.4  | 5067.3  | 4265.6  | 3423.3  | 3189.3  |
| 52.5°  | 3035.6  | 3047.6  | 3051.6  | 3167.8  | 3571.4  | 4132.7  | 3632.7  | 3050.8  | 2893.1  |
| 55°    | 2726.7  | 2741.9  | 2733.1  | 2819.1  | 3077.8  | 3474.3  | 3159.0  | 2743.5  | 2634.4  |
| 57.5°  | 2485.5  | 2474.4  | 2462.4  | 2508.6  | 2702.9  | 2947.3  | 2743.5  | 2481.5  | 2409.1  |
| 60°    | 2245.9  | 2235.5  | 2226.8  | 2257.0  | 2370.9  | 2552.4  | 2421.0  | 2253.0  | 2232.3  |
| 62.5°  | 2040.5  | 2034.1  | 2033.3  | 2027.7  | 2115.3  | 2230.0  | 2140.8  | 2047.6  | 2029.3  |
| 65°    | 1861.3  | 1854.2  | 1844.6  | 1835.9  | 1876.5  | 1983.2  | 1913.1  | 1862.9  | 1869.3  |
| 67.5°  | 1682.2  | 1682.2  | 1665.5  | 1652.0  | 1691.8  | 1747.5  | 1717.2  | 1688.6  | 1695.8  |
| 70°    | 1519.8  | 1520.6  | 1493.5  | 1483.2  | 1495.1  | 1554.8  | 1523.8  | 1527.8  | 1539.7  |
| 72.5°  | 1345.5  | 1326.3  | 1306.4  | 1305.6  | 1307.2  | 1353.4  | 1343.1  | 1352.6  | 1365.4  |
| 75°    | 1160.0  | 1137.7  | 1124.9  | 1110.6  | 1122.5  | 1157.6  | 1162.3  | 1175.9  | 1195.8  |
| 77.5°  | 980.8   | 946.6   | 936.2   | 929.1   | 921.1   | 960.9   | 976.1   | 994.4   | 1023.8  |
| 80°    | 788.2   | 750.7   | 733.2   | 722.9   | 736.4   | 754.7   | 788.2   | 801.7   | 843.1   |
| 82.5°  | 582.8   | 554.9   | 533.4   | 532.6   | 539.0   | 555.7   | 584.4   | 609.8   | 633.7   |
| 85°    | 375.0   | 330.4   | 311.3   | 318.5   | 311.3   | 336.8   | 355.9   | 386.1   | 393.3   |
| 87.5°  | 135.3   | 105.9   | 101.1   | 111.5   | 109.1   | 117.0   | 133.7   | 145.7   | 146.5   |
| 90°    | 28.8    | 46.1    | 78.4    | 50.4    | 28.8    | 49.0    | 84.3    | 47.9    | 34.4    |
| 92.5°  | 41.7    | 69.8    | 125.8   | 65.4    | 37.4    | 66.2    | 118.8   | 63.0    | 45.2    |
| 95°    | 48.2    | 80.5    | 175.3   | 87.0    | 55.5    | 81.3    | 151.1   | 69.4    | 53.8    |
| 97.5°  | 61.9    | 89.1    | 201.2   | 106.4   | 85.6    | 100.7   | 170.5   | 73.8    | 64.6    |
| 100°   | 81.3    | 104.2   | 313.3   | 130.9   | 113.7   | 113.7   | 310.5   | 84.5    | 73.2    |
| 102.5° | 137.4   | 220.6   | 664.5   | 245.1   | 171.8   | 222.2   | 718.6   | 167.2   | 88.3    |
| 105°   | 236.5   | 464.1   | 1183.8  | 512.3   | 311.9   | 506.6   | 1263.8  | 427.9   | 160.2   |
| 107.5° | 408.9   | 830.4   | 1561.7  | 906.6   | 589.9   | 944.1   | 1627.9  | 841.7   | 369.2   |
| 110°   | 762.3   | 1101.9  | 1637.1  | 1244.9  | 943.3   | 1319.0  | 1776.6  | 1152.0  | 744.2   |



TEST NUMBER:

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**CANDELA DISTRIBUTION (continued):**

|        | 0°     | 22.5°  | 45°    | 67.5°  | 90°    | 112.5° | 135°   | 157.5° | 180°   |
|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 112.5° | 1029.5 | 1183.8 | 1568.2 | 1374.2 | 1227.7 | 1469.8 | 1735.7 | 1277.0 | 1028.6 |
| 115°   | 1083.3 | 1138.6 | 1400.1 | 1341.9 | 1334.1 | 1448.3 | 1550.4 | 1272.6 | 1140.6 |
| 117.5° | 1046.7 | 1039.4 | 1188.9 | 1207.0 | 1288.8 | 1325.5 | 1339.2 | 1195.1 | 1147.1 |
| 120°   | 969.1  | 925.2  | 992.8  | 1054.0 | 1163.9 | 1148.8 | 1128.8 | 1080.9 | 1082.5 |
| 122.5° | 872.2  | 820.4  | 851.4  | 897.5  | 1007.4 | 975.0  | 954.3  | 965.3  | 994.1  |
| 125°   | 782.4  | 729.9  | 750.9  | 762.5  | 854.4  | 822.0  | 832.3  | 866.2  | 895.8  |
| 127.5° | 702.7  | 667.4  | 679.8  | 667.7  | 725.9  | 710.8  | 743.9  | 782.1  | 807.4  |
| 130°   | 648.9  | 618.7  | 635.4  | 606.0  | 634.0  | 637.5  | 681.4  | 714.0  | 729.9  |
| 132.5° | 604.4  | 585.0  | 604.6  | 568.8  | 576.6  | 593.1  | 634.8  | 663.1  | 672.5  |
| 135°   | 572.1  | 555.6  | 576.6  | 543.8  | 540.8  | 565.1  | 603.3  | 621.3  | 625.1  |
| 137.5° | 544.9  | 530.6  | 552.4  | 527.3  | 520.1  | 544.3  | 573.1  | 587.7  | 584.1  |
| 140°   | 520.6  | 508.5  | 531.6  | 512.2  | 507.9  | 532.2  | 545.1  | 561.8  | 559.1  |
| 142.5° | 494.2  | 485.6  | 513.0  | 500.1  | 495.8  | 517.9  | 524.4  | 536.7  | 533.2  |
| 145°   | 476.4  | 469.9  | 498.7  | 491.5  | 490.1  | 506.6  | 501.5  | 517.3  | 512.4  |
| 147.5° | 460.7  | 456.4  | 482.2  | 479.4  | 479.4  | 491.5  | 485.0  | 498.7  | 493.8  |
| 150°   | 447.2  | 442.9  | 467.9  | 465.0  | 467.1  | 475.7  | 466.4  | 482.2  | 481.7  |
| 152.5° | 433.7  | 428.6  | 451.5  | 448.5  | 450.7  | 459.3  | 450.7  | 468.7  | 467.4  |
| 155°   | 424.5  | 419.4  | 438.0  | 436.4  | 437.2  | 441.5  | 437.2  | 455.2  | 456.0  |
| 157.5° | 418.3  | 414.5  | 428.8  | 428.0  | 428.0  | 431.0  | 428.8  | 444.7  | 445.5  |
| 160°   | 413.4  | 410.5  | 422.6  | 421.8  | 420.5  | 424.8  | 423.4  | 437.1  | 437.9  |
| 162.5° | 408.6  | 405.6  | 419.9  | 417.7  | 417.7  | 417.7  | 417.2  | 430.9  | 432.5  |
| 165°   | 405.9  | 405.1  | 415.0  | 415.0  | 413.7  | 415.8  | 413.1  | 423.3  | 427.1  |
| 167.5° | 405.9  | 403.7  | 414.5  | 414.5  | 413.1  | 411.0  | 412.6  | 421.4  | 425.2  |
| 170°   | 405.3  | 404.5  | 413.1  | 411.8  | 409.6  | 410.4  | 409.9  | 418.7  | 422.5  |
| 172.5° | 406.9  | 406.1  | 415.5  | 413.4  | 412.0  | 412.0  | 410.1  | 416.7  | 422.6  |
| 175°   | 406.4  | 405.6  | 412.8  | 412.8  | 413.6  | 412.3  | 411.7  | 416.2  | 422.1  |
| 177.5° | 409.3  | 408.5  | 412.8  | 412.8  | 411.5  | 413.1  | 414.6  | 419.1  | 427.2  |
| 180°   | 413.1  | 413.1  | 413.1  | 413.1  | 413.1  | 413.1  | 413.1  | 413.1  | 413.1  |



TEST NUMBER: CATALOG  
 CATALOG NUMBER: EHBR1-48-UNV-ASM-L840-UPL40

**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 | 18.28            | 19.37 | 18.78 | 19.85 | 20.35 | 19.05          | 20.14 | 19.55 | 20.61 | 21.12 |
|                 | 3H   | 20.10            | 21.07 | 20.61 | 21.55 | 22.11 | 20.61          | 21.58 | 21.12 | 22.07 | 22.62 |
|                 | 4H   | 20.83            | 21.74 | 21.37 | 22.24 | 22.81 | 21.25          | 22.16 | 21.79 | 22.66 | 23.23 |
|                 | 6H   | 21.40            | 22.24 | 21.95 | 22.75 | 23.33 | 21.75          | 22.58 | 22.30 | 23.10 | 23.68 |
|                 | 8H   | 21.58            | 22.37 | 22.15 | 22.91 | 23.50 | 21.90          | 22.69 | 22.47 | 23.23 | 23.82 |
|                 | 12H  | 21.68            | 22.44 | 22.25 | 22.97 | 23.58 | 21.98          | 22.74 | 22.55 | 23.27 | 23.88 |
| 4H              | 2H   | 18.80            | 19.70 | 19.33 | 20.21 | 20.78 | 19.43          | 20.33 | 19.96 | 20.84 | 21.40 |
|                 | 3H   | 20.84            | 21.58 | 21.38 | 22.13 | 22.72 | 21.23          | 21.98 | 21.78 | 22.53 | 23.12 |
|                 | 4H   | 21.70            | 22.37 | 22.26 | 22.93 | 23.55 | 22.02          | 22.69 | 22.58 | 23.25 | 23.87 |
|                 | 6H   | 22.39            | 22.97 | 22.98 | 23.56 | 24.20 | 22.65          | 23.23 | 23.24 | 23.82 | 24.46 |
|                 | 8H   | 22.62            | 23.16 | 23.21 | 23.74 | 24.39 | 22.86          | 23.40 | 23.45 | 23.98 | 24.63 |
|                 | 12H  | 22.75            | 23.23 | 23.37 | 23.85 | 24.49 | 22.97          | 23.45 | 23.59 | 24.07 | 24.71 |
| 8H              | 4H   | 21.96            | 22.50 | 22.55 | 23.08 | 23.73 | 22.26          | 22.80 | 22.86 | 23.39 | 24.03 |
|                 | 6H   | 22.77            | 23.22 | 23.40 | 23.85 | 24.50 | 23.03          | 23.47 | 23.65 | 24.10 | 24.75 |
|                 | 8H   | 23.08            | 23.47 | 23.72 | 24.11 | 24.77 | 23.31          | 23.70 | 23.95 | 24.34 | 25.01 |
|                 | 12H  | 23.28            | 23.62 | 23.92 | 24.24 | 24.98 | 23.49          | 23.83 | 24.13 | 24.46 | 25.20 |
| 12H             | 4H   | 21.96            | 22.44 | 22.58 | 23.06 | 23.71 | 22.27          | 22.75 | 22.88 | 23.36 | 24.01 |
|                 | 6H   | 22.81            | 23.21 | 23.46 | 23.85 | 24.51 | 23.07          | 23.46 | 23.71 | 24.10 | 24.77 |
|                 | 8H   | 23.16            | 23.50 | 23.80 | 24.12 | 24.86 | 23.40          | 23.74 | 24.04 | 24.36 | 25.10 |

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           |

REPORT NUMBER: SP1-2506-472-1

CIE 1931 Chromaticity Diagram



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



Point lies inside the ANSI 4000K 4-step quadrangle

REPORT NUMBER: SP1-2506-472-1

**Photopic Flux vs. Wavelength**



**Photopic Lumens: NR**

| λ (nm) | Power W <sup>^</sup> /nm | Lumens (φ/nm) | λ (nm) | Power W <sup>^</sup> /nm | Lumens (φ/nm) | λ (nm) | Power W <sup>^</sup> /nm | Lumens (φ/nm) | λ (nm) | Power W <sup>^</sup> /nm | Lumens (φ/nm) | λ (nm) | Power W <sup>^</sup> /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 <sup>^</sup> /nm | Lumens (φ/nm) | λ (nm) | Power W <sup>^</sup> /nm | Lumens (φ/nm) | λ (nm) | Power W <sup>^</sup> /nm | Lumens (φ/nm) | λ (nm) | Power W <sup>^</sup> /nm | Lumens (φ/nm) | λ (nm) | Power W <sup>^</sup> /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 <sup>^</sup> /nm | Lumens (φ/nm) | λ (nm) | Power W <sup>^</sup> /nm | Lumens (φ/nm) | λ (nm) | Power W <sup>^</sup> /nm | Lumens (φ/nm) | λ (nm) | Power W <sup>^</sup> /nm | Lumens (φ/nm) | λ (nm) | Power W <sup>^</sup> /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**

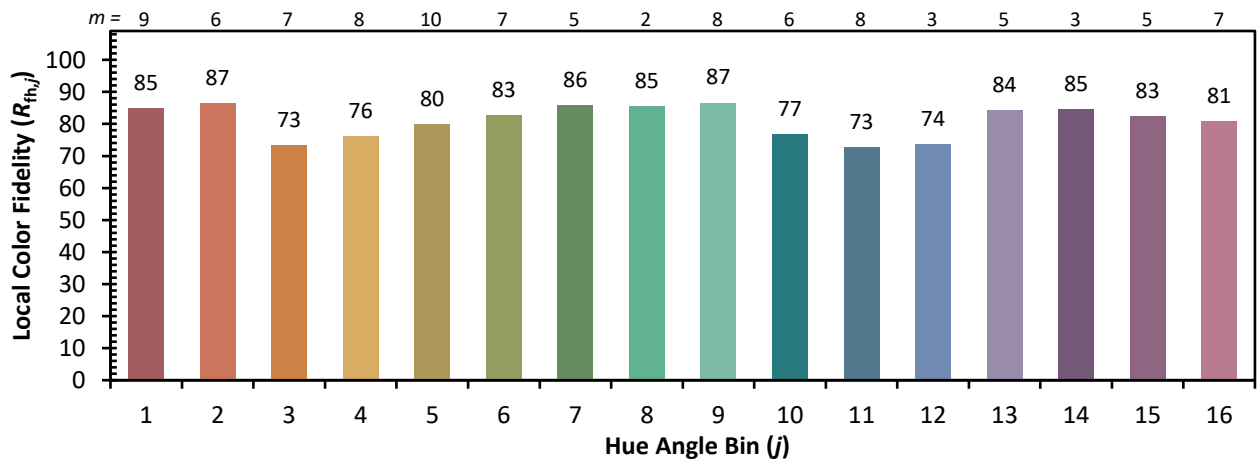


**Individual Sample Fidelity Index ( $R_{f,i}$ )**

|            |            |            |            |
|------------|------------|------------|------------|
| 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)