

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: P1432593

Luminaire Tested: EHBR1-18-UNV-ASM-L835-UPL40

Issue Date: 3/20/2026

**Test Information**

Test Method: LM-79-2019  
Report Number: P1432593  
REPORT IS A COMBINATION OF REPORTS P1431682 AND P1431635  
Test Lab: INNOVATION CENTER  
Issue Date: 3/20/2026  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: METALUX  
Catalog Number: EHBR1-18-UNV-ASM-L835-UPL40  
Description: Elevate Round Highbay at, 18000 lumens, 3500K 80CRI LEDs with ASM lens  
Light Source: -  
Ballast/Driver: -

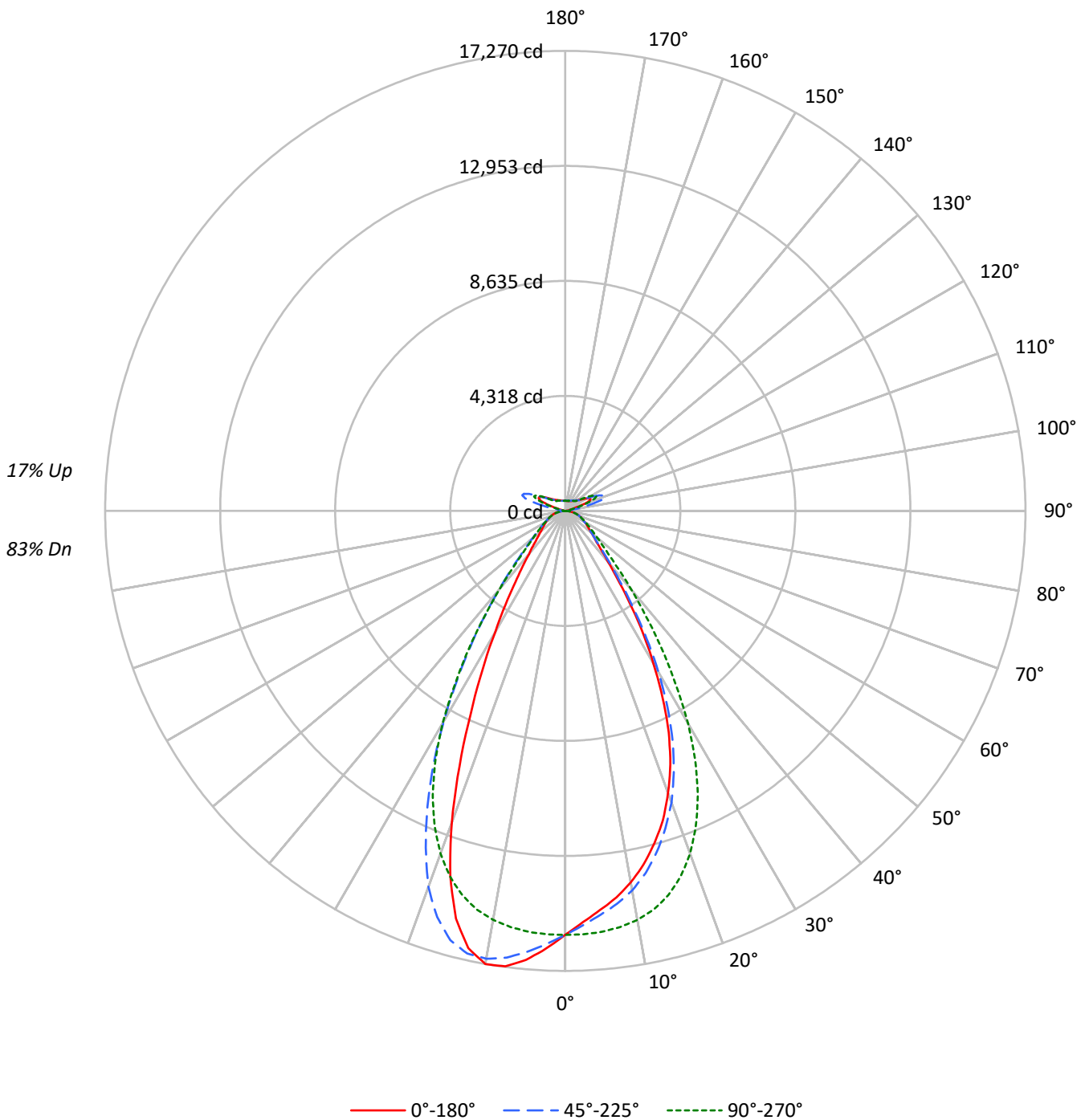
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 21557.6 lumens  
Efficiency: N/A  
Efficacy: 172.0 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: Semi-Direct

Input Watts (W): 125.3  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 24 FT

TEST NUMBER: P1432593  
CATALOG NUMBER: EHBR1-18-UNV-ASM-L835-UPL40

### Luminous Intensity Polar Plot





TEST NUMBER: P1432593  
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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   | 115 | 115 | 115 | 115 | 110 | 110 | 110 | 110 | 101 | 101 | 101 | 93 | 93 | 93 | 86 | 86 | 86 | 86 | 86 | 86 | 83 |
| 1   | 108 | 104 | 101 | 98  | 103 | 100 | 97  | 95  | 93  | 91  | 89  | 86 | 84 | 83 | 80 | 79 | 78 | 78 | 78 | 78 | 74 |
| 2   | 100 | 94  | 89  | 85  | 96  | 91  | 87  | 83  | 85  | 81  | 78  | 79 | 76 | 74 | 74 | 72 | 70 | 70 | 70 | 70 | 67 |
| 3   | 94  | 86  | 80  | 75  | 90  | 83  | 78  | 73  | 78  | 74  | 70  | 73 | 70 | 67 | 69 | 66 | 64 | 64 | 64 | 64 | 61 |
| 4   | 88  | 79  | 72  | 67  | 85  | 77  | 70  | 66  | 72  | 67  | 63  | 68 | 64 | 61 | 64 | 61 | 58 | 64 | 61 | 58 | 56 |
| 5   | 83  | 73  | 66  | 61  | 79  | 71  | 64  | 60  | 67  | 61  | 57  | 63 | 59 | 55 | 60 | 56 | 53 | 60 | 56 | 53 | 51 |
| 6   | 78  | 67  | 60  | 55  | 75  | 65  | 59  | 54  | 62  | 57  | 53  | 59 | 54 | 51 | 56 | 52 | 49 | 56 | 52 | 49 | 47 |
| 7   | 73  | 62  | 56  | 51  | 71  | 61  | 54  | 50  | 58  | 52  | 48  | 55 | 50 | 47 | 53 | 49 | 46 | 53 | 49 | 46 | 44 |
| 8   | 69  | 58  | 51  | 47  | 67  | 57  | 50  | 46  | 54  | 49  | 45  | 52 | 47 | 44 | 49 | 45 | 42 | 49 | 45 | 42 | 41 |
| 9   | 65  | 54  | 48  | 43  | 63  | 53  | 47  | 43  | 51  | 45  | 42  | 49 | 44 | 41 | 47 | 43 | 40 | 47 | 43 | 40 | 38 |
| 10  | 62  | 51  | 45  | 40  | 60  | 50  | 44  | 40  | 48  | 43  | 39  | 46 | 41 | 38 | 44 | 40 | 37 | 44 | 40 | 37 | 36 |

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

|     | 0°    | 45°   | 90°   | 135°  | 180°  |
|-----|-------|-------|-------|-------|-------|
| 0°  | 74742 | 74742 | 74742 | 74742 | 74742 |
| 5°  | 70432 | 71255 | 74287 | 77849 | 79250 |
| 10° | 66657 | 68069 | 73373 | 80349 | 81284 |
| 15° | 61574 | 63218 | 71207 | 79525 | 75539 |
| 20° | 54845 | 56692 | 66596 | 73099 | 60571 |
| 25° | 45962 | 47701 | 58943 | 61313 | 41968 |
| 30° | 34389 | 36383 | 47859 | 47381 | 27303 |
| 35° | 22894 | 24275 | 34326 | 33772 | 17682 |
| 40° | 14438 | 15430 | 22193 | 22336 | 12187 |
| 45° | 10287 | 10715 | 14081 | 14686 | 9440  |
| 50° | 8568  | 8637  | 10457 | 10730 | 8022  |
| 55° | 7564  | 7582  | 8538  | 8763  | 7308  |
| 60° | 7003  | 6943  | 7393  | 7550  | 6962  |
| 65° | 6685  | 6625  | 6739  | 6871  | 6713  |
| 70° | 6493  | 6381  | 6388  | 6511  | 6578  |
| 75° | 6172  | 5986  | 5974  | 6185  | 6364  |
| 80° | 5617  | 5226  | 5248  | 5617  | 6007  |
| 85° | 4091  | 3395  | 3395  | 3881  | 4289  |

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 112.5°  
 Vertical Angle: 45°  
 Luminance: 19797 cd/sqm



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**ZONAL LUMENS:**

| Zone      | Lumens  | % Fixture |
|-----------|---------|-----------|
| 0°-10°    | 1513.3  | 7.0       |
| 10°-20°   | 4117.1  | 19.1      |
| 20°-30°   | 4828.5  | 22.4      |
| 30°-40°   | 3358.0  | 15.6      |
| 40°-50°   | 1668.7  | 7.7       |
| 50°-60°   | 998.1   | 4.6       |
| 60°-70°   | 702.5   | 3.3       |
| 70°-80°   | 452.5   | 2.1       |
| 80°-90°   | 150.4   | 0.7       |
| 90°-100°  | 99.8    | 0.5       |
| 100°-110° | 656.7   | 3.0       |
| 110°-120° | 1214.0  | 5.6       |
| 120°-130° | 720.8   | 3.3       |
| 130°-140° | 434.9   | 2.0       |
| 140°-150° | 299.9   | 1.4       |
| 150°-160° | 194.7   | 0.9       |
| 160°-170° | 110.9   | 0.5       |
| 170°-180° | 36.6    | 0.2       |
| 0°-30°    | 10459.0 | 48.5      |
| 0°-40°    | 13817.0 | 64.1      |
| 0°-60°    | 16483.8 | 76.5      |
| 0°-90°    | 17789.2 | 82.5      |
| 90°-120°  | 1970.5  | 9.1       |
| 90°-150°  | 3426.2  | 15.9      |
| 90°-180°  | 3768.0  | 17.5      |
| 0°-180°   | 21557.6 | 100.0     |

**CANDELA DISTRIBUTION:**

|      | 0°    | 45°   | 90°   | 135°  | 180°  | Flux |
|------|-------|-------|-------|-------|-------|------|
| 0°   | 15916 | 15916 | 15916 | 15916 | 15916 |      |
| 5°   | 15038 | 15214 | 15861 | 16622 | 16921 | 1411 |
| 15°  | 12918 | 13263 | 14939 | 16684 | 15848 | 3602 |
| 25°  | 9179  | 9526  | 11771 | 12244 | 8381  | 4141 |
| 35°  | 4202  | 4455  | 6300  | 6198  | 3245  | 2677 |
| 45°  | 1664  | 1734  | 2278  | 2376  | 1527  | 1345 |
| 55°  | 1022  | 1025  | 1154  | 1184  | 988   | 927  |
| 65°  | 698   | 692   | 703   | 717   | 701   | 693  |
| 75°  | 435   | 422   | 421   | 436   | 448   | 459  |
| 85°  | 141   | 117   | 117   | 133   | 147   | 145  |
| 90°  | 27    | 76    | 27    | 80    | 30    | 20   |
| 95°  | 46    | 170   | 53    | 145   | 48    | 45   |
| 105° | 228   | 1148  | 302   | 1224  | 151   | 306  |
| 115° | 1050  | 1357  | 1292  | 1502  | 1102  | 967  |
| 125° | 757   | 726   | 827   | 804   | 864   | 690  |
| 135° | 553   | 556   | 521   | 581   | 601   | 433  |
| 145° | 457   | 478   | 470   | 482   | 491   | 289  |
| 155° | 403   | 417   | 416   | 416   | 434   | 188  |
| 165° | 380   | 390   | 388   | 387   | 399   | 108  |
| 175° | 378   | 384   | 384   | 381   | 389   | 36   |
| 180° | 383   | 383   | 383   | 383   | 383   |      |



TEST NUMBER: P1432593  
 CATALOG NUMBER: EHBR1-18-UNV-ASM-L835-UPL40

**CANDELA DISTRIBUTION (FULL):**

|        | 0°      | 22.5°   | 45°     | 67.5°   | 90°     | 112.5°  | 135°    | 157.5°  | 180°    |
|--------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| 0°     | 15915.7 | 15915.7 | 15915.7 | 15915.7 | 15915.7 | 15915.7 | 15915.7 | 15915.7 | 15915.7 |
| 2.5°   | 15443.2 | 15453.4 | 15561.4 | 15701.9 | 15906.3 | 16112.0 | 16278.5 | 16388.4 | 16442.7 |
| 5°     | 15038.3 | 15094.3 | 15214.0 | 15472.2 | 15861.4 | 16273.2 | 16622.1 | 16850.4 | 16921.1 |
| 7.5°   | 14643.7 | 14676.2 | 14876.5 | 15202.6 | 15753.6 | 16395.3 | 16913.7 | 17180.2 | 17245.2 |
| 10°    | 14162.3 | 14236.0 | 14462.3 | 14846.9 | 15589.2 | 16472.3 | 17071.3 | 17262.2 | 17270.0 |
| 12.5°  | 13595.8 | 13693.5 | 13927.2 | 14412.4 | 15326.8 | 16444.8 | 17018.4 | 16955.8 | 16813.3 |
| 15°    | 12917.8 | 13003.4 | 13262.8 | 13825.6 | 14938.9 | 16282.1 | 16683.9 | 16173.8 | 15847.6 |
| 17.5°  | 12185.4 | 12263.0 | 12488.3 | 13108.2 | 14392.1 | 15977.7 | 15985.5 | 14976.5 | 14361.0 |
| 20°    | 11272.2 | 11333.1 | 11651.8 | 12260.0 | 13687.5 | 15489.5 | 15023.9 | 13178.4 | 12449.2 |
| 22.5°  | 10300.5 | 10357.5 | 10640.6 | 11273.7 | 12804.1 | 14831.1 | 13684.7 | 11369.5 | 10374.7 |
| 25°    | 9178.6  | 9209.6  | 9525.9  | 10098.4 | 11770.9 | 14024.4 | 12244.2 | 9398.5  | 8380.9  |
| 27.5°  | 7916.5  | 7969.3  | 8300.3  | 8885.0  | 10555.6 | 13002.0 | 10710.3 | 7680.1  | 6741.2  |
| 30°    | 6614.7  | 6702.2  | 6998.2  | 7521.7  | 9205.7  | 11691.2 | 9113.8  | 6116.3  | 5251.7  |
| 32.5°  | 5399.7  | 5462.7  | 5673.7  | 6220.7  | 7694.5  | 10406.4 | 7580.7  | 4900.7  | 4168.4  |
| 35°    | 4201.8  | 4264.8  | 4455.4  | 4992.6  | 6300.1  | 8799.0  | 6198.4  | 3850.8  | 3245.2  |
| 37.5°  | 3211.9  | 3323.2  | 3445.5  | 3881.6  | 4944.3  | 7280.2  | 4941.1  | 3100.8  | 2632.3  |
| 40°    | 2502.4  | 2520.4  | 2674.4  | 2953.3  | 3846.6  | 5692.5  | 3871.4  | 2475.3  | 2112.4  |
| 42.5°  | 2003.1  | 2051.8  | 2118.0  | 2326.9  | 2914.6  | 4352.7  | 3042.9  | 2031.5  | 1794.3  |
| 45°    | 1664.4  | 1683.5  | 1733.6  | 1874.0  | 2278.3  | 3203.1  | 2376.2  | 1714.0  | 1527.4  |
| 47.5°  | 1456.1  | 1447.8  | 1480.0  | 1585.0  | 1855.4  | 2475.6  | 1925.8  | 1470.1  | 1339.4  |
| 50°    | 1277.0  | 1272.0  | 1287.2  | 1357.3  | 1558.4  | 1899.6  | 1599.1  | 1283.3  | 1195.6  |
| 52.5°  | 1138.0  | 1142.4  | 1144.0  | 1187.5  | 1338.8  | 1549.2  | 1361.8  | 1143.7  | 1084.5  |
| 55°    | 1022.2  | 1027.8  | 1024.6  | 1056.8  | 1153.8  | 1302.4  | 1184.2  | 1028.5  | 987.6   |
| 57.5°  | 931.7   | 927.5   | 923.1   | 940.4   | 1013.2  | 1104.8  | 1028.5  | 930.2   | 903.1   |
| 60°    | 841.9   | 838.0   | 834.7   | 846.1   | 888.7   | 956.8   | 907.6   | 844.6   | 836.9   |
| 62.5°  | 764.9   | 762.5   | 762.2   | 760.2   | 792.9   | 835.9   | 802.5   | 767.6   | 760.7   |
| 65°    | 697.8   | 695.1   | 691.5   | 688.2   | 703.4   | 743.4   | 717.2   | 698.4   | 700.7   |
| 67.5°  | 630.6   | 630.6   | 624.3   | 619.3   | 634.2   | 655.0   | 643.7   | 633.0   | 635.6   |
| 70°    | 569.7   | 570.0   | 559.9   | 556.0   | 560.5   | 582.9   | 571.3   | 572.7   | 577.2   |
| 72.5°  | 504.3   | 497.2   | 489.7   | 489.4   | 490.0   | 507.4   | 503.5   | 507.1   | 511.8   |
| 75°    | 434.8   | 426.5   | 421.7   | 416.3   | 420.8   | 433.9   | 435.7   | 440.8   | 448.3   |
| 77.5°  | 367.7   | 354.8   | 350.9   | 348.3   | 345.3   | 360.2   | 365.9   | 372.8   | 383.8   |
| 80°    | 295.5   | 281.4   | 274.9   | 271.0   | 276.1   | 283.0   | 295.5   | 300.5   | 316.0   |
| 82.5°  | 218.5   | 208.0   | 200.0   | 199.7   | 202.1   | 208.3   | 219.1   | 228.6   | 237.6   |
| 85°    | 140.6   | 123.8   | 116.7   | 119.4   | 116.7   | 126.3   | 133.4   | 144.8   | 147.4   |
| 87.5°  | 50.7    | 39.7    | 37.9    | 41.8    | 40.9    | 43.8    | 50.1    | 54.6    | 54.9    |
| 90°    | 27.4    | 44.2    | 75.5    | 48.4    | 27.4    | 46.5    | 80.3    | 43.5    | 29.6    |
| 92.5°  | 40.0    | 67.2    | 121.5   | 62.9    | 35.8    | 63.2    | 113.7   | 58.2    | 40.0    |
| 95°    | 46.3    | 77.6    | 169.5   | 83.9    | 52.8    | 77.9    | 145.1   | 64.4    | 48.4    |
| 97.5°  | 59.1    | 85.9    | 194.6   | 102.7   | 82.0    | 96.7    | 163.9   | 68.7    | 58.9    |
| 100°   | 77.9    | 100.6   | 303.3   | 126.0   | 109.3   | 109.3   | 299.6   | 79.0    | 67.2    |
| 102.5° | 132.3   | 213.4   | 643.9   | 236.7   | 165.6   | 214.0   | 694.9   | 158.8   | 81.8    |
| 105°   | 228.4   | 449.6   | 1147.5  | 495.8   | 301.5   | 489.8   | 1223.6  | 411.6   | 151.1   |
| 107.5° | 395.5   | 804.8   | 1513.4  | 878.2   | 571.1   | 914.0   | 1576.7  | 812.9   | 353.8   |
| 110°   | 738.2   | 1068.0  | 1586.5  | 1206.2  | 913.8   | 1277.6  | 1720.8  | 1113.8  | 717.4   |



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**CANDELA DISTRIBUTION (continued):**

|        | 0°     | 22.5°  | 45°    | 67.5°  | 90°    | 112.5° | 135°   | 157.5° | 180°   |
|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 112.5° | 997.3  | 1147.5 | 1519.7 | 1331.6 | 1189.5 | 1423.8 | 1681.2 | 1235.0 | 993.2  |
| 115°   | 1049.5 | 1103.6 | 1356.7 | 1300.3 | 1292.2 | 1403.0 | 1501.5 | 1230.8 | 1101.8 |
| 117.5° | 1014.0 | 1007.4 | 1151.9 | 1169.0 | 1248.3 | 1283.9 | 1296.7 | 1155.6 | 1108.1 |
| 120°   | 938.8  | 896.7  | 961.8  | 1020.6 | 1127.2 | 1112.5 | 1092.2 | 1044.9 | 1045.4 |
| 122.5° | 844.8  | 794.6  | 824.2  | 868.4  | 974.9  | 943.5  | 923.0  | 932.3  | 959.7  |
| 125°   | 757.2  | 706.8  | 726.2  | 737.0  | 826.6  | 795.2  | 804.2  | 836.2  | 863.9  |
| 127.5° | 680.0  | 646.2  | 657.3  | 645.1  | 701.5  | 686.8  | 718.5  | 754.6  | 778.2  |
| 130°   | 627.8  | 598.5  | 613.7  | 584.7  | 611.9  | 615.8  | 657.9  | 688.1  | 703.0  |
| 132.5° | 584.2  | 565.3  | 583.0  | 547.8  | 555.8  | 572.2  | 612.3  | 638.3  | 646.9  |
| 135°   | 552.8  | 536.3  | 555.8  | 523.1  | 520.6  | 545.1  | 581.2  | 598.2  | 600.9  |
| 137.5° | 526.0  | 511.6  | 531.4  | 506.6  | 500.1  | 524.5  | 552.0  | 565.1  | 561.2  |
| 140°   | 501.5  | 489.3  | 510.7  | 491.9  | 487.8  | 512.3  | 524.8  | 540.0  | 536.4  |
| 142.5° | 475.0  | 466.6  | 492.2  | 479.7  | 475.5  | 497.9  | 504.2  | 515.2  | 511.3  |
| 145°   | 456.7  | 450.4  | 477.9  | 471.4  | 469.5  | 486.0  | 481.6  | 496.4  | 490.8  |
| 147.5° | 440.6  | 436.5  | 461.5  | 459.2  | 459.2  | 471.4  | 465.1  | 477.9  | 472.2  |
| 150°   | 426.6  | 422.4  | 447.1  | 444.8  | 446.8  | 455.2  | 446.6  | 461.5  | 460.0  |
| 152.5° | 412.5  | 408.1  | 430.7  | 428.3  | 430.5  | 438.8  | 430.5  | 447.4  | 445.7  |
| 155°   | 402.6  | 398.2  | 416.7  | 416.1  | 416.4  | 420.6  | 416.4  | 433.4  | 433.7  |
| 157.5° | 395.3  | 392.5  | 406.8  | 406.5  | 406.5  | 408.9  | 406.8  | 421.8  | 422.1  |
| 160°   | 389.5  | 387.2  | 399.4  | 399.1  | 397.4  | 401.6  | 399.7  | 412.5  | 412.8  |
| 162.5° | 383.9  | 381.5  | 395.8  | 393.7  | 393.7  | 393.7  | 392.2  | 405.0  | 405.6  |
| 165°   | 380.3  | 380.0  | 390.1  | 390.1  | 388.4  | 390.4  | 386.8  | 395.7  | 398.6  |
| 167.5° | 380.3  | 378.2  | 388.7  | 388.7  | 386.8  | 384.8  | 385.4  | 392.5  | 395.3  |
| 170°   | 378.8  | 378.5  | 386.8  | 385.1  | 382.9  | 383.2  | 381.9  | 389.0  | 391.7  |
| 172.5° | 379.4  | 379.1  | 387.7  | 385.7  | 383.9  | 383.9  | 380.6  | 385.7  | 390.4  |
| 175°   | 378.0  | 377.7  | 384.2  | 384.2  | 384.5  | 382.7  | 381.2  | 384.2  | 389.0  |
| 177.5° | 380.3  | 380.0  | 384.2  | 384.2  | 382.5  | 383.0  | 383.6  | 386.5  | 393.4  |
| 180°   | 383.0  | 383.0  | 383.0  | 383.0  | 383.0  | 383.0  | 383.0  | 383.0  | 383.0  |



TEST NUMBER: P1432593  
 CATALOG NUMBER: EHBR1-18-UNV-ASM-L835-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 | 14.09            | 15.06 | 14.74 | 15.70 | 16.42 | 14.86          | 15.83 | 15.50 | 16.46 | 17.19 |
|                 | 3H   | 15.90            | 16.77 | 16.56 | 17.41 | 18.18 | 16.41          | 17.28 | 17.07 | 17.92 | 18.69 |
|                 | 4H   | 16.63            | 17.44 | 17.31 | 18.10 | 18.88 | 17.05          | 17.86 | 17.73 | 18.52 | 19.30 |
|                 | 6H   | 17.20            | 17.94 | 17.89 | 18.61 | 19.40 | 17.54          | 18.29 | 18.23 | 18.96 | 19.75 |
|                 | 8H   | 17.38            | 18.08 | 18.08 | 18.77 | 19.56 | 17.70          | 18.40 | 18.40 | 19.09 | 19.88 |
|                 | 12H  | 17.47            | 18.15 | 18.18 | 18.83 | 19.64 | 17.77          | 18.45 | 18.48 | 19.13 | 19.94 |
| 4H              | 2H   | 14.60            | 15.41 | 15.28 | 16.07 | 16.84 | 15.22          | 16.04 | 15.91 | 16.69 | 17.47 |
|                 | 3H   | 16.63            | 17.30 | 17.32 | 18.00 | 18.79 | 17.03          | 17.70 | 17.72 | 18.40 | 19.19 |
|                 | 4H   | 17.49            | 18.10 | 18.20 | 18.80 | 19.63 | 17.81          | 18.42 | 18.52 | 19.12 | 19.95 |
|                 | 6H   | 18.18            | 18.70 | 18.91 | 19.43 | 20.27 | 18.44          | 18.96 | 19.17 | 19.69 | 20.53 |
|                 | 8H   | 18.41            | 18.89 | 19.14 | 19.62 | 20.46 | 18.64          | 19.13 | 19.37 | 19.85 | 20.70 |
|                 | 12H  | 18.54            | 18.97 | 19.28 | 19.72 | 20.57 | 18.76          | 19.19 | 19.50 | 19.94 | 20.79 |
| 8H              | 4H   | 17.74            | 18.23 | 18.47 | 18.95 | 19.80 | 18.05          | 18.54 | 18.78 | 19.26 | 20.10 |
|                 | 6H   | 18.56            | 18.96 | 19.32 | 19.72 | 20.57 | 18.81          | 19.21 | 19.57 | 19.98 | 20.82 |
|                 | 8H   | 18.86            | 19.21 | 19.64 | 19.99 | 20.85 | 19.09          | 19.45 | 19.87 | 20.22 | 21.08 |
|                 | 12H  | 19.06            | 19.37 | 19.83 | 20.12 | 21.05 | 19.27          | 19.58 | 20.04 | 20.34 | 21.27 |
| 12H             | 4H   | 17.75            | 18.18 | 18.49 | 18.93 | 19.78 | 18.05          | 18.49 | 18.80 | 19.23 | 20.08 |
|                 | 6H   | 18.60            | 18.95 | 19.37 | 19.72 | 20.59 | 18.86          | 19.21 | 19.63 | 19.98 | 20.84 |
|                 | 8H   | 18.94            | 19.25 | 19.71 | 20.01 | 20.93 | 19.18          | 19.49 | 19.95 | 20.24 | 21.17 |

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



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

Report Prepared for

Cooper Lighting Solutions

Metalux

Report Number: SP1-2506-472-3

Test Date: 07/31/2025

Luminaire Tested: EHBR-60-L835-N

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

**Test Information**

Test Method: LM-79-2019  
 Report Number: SP1-2506-472-3  
 Test Lab: COOPER LIGHTING SOLUTIONS  
 Photometer: SP1 - 76IN SPHERE  
 Measurement Geometry: 4π  
 Issue Date: 08/05/2025  
 Manufacturer: COOPER LIGHTING SOLUTIONS  
 Product Line: Metalux  
 Catalog Number: **EHBR-60-L835-N**  
 Description: Elevate Round Highbay at, 60000 lumens, 3500K 80CRI LEDs with N lens

**Spectral Parameters**

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



CCT = 3468K  
 CIE x = 0.4049  
 CIE y = 0.3856  
 Duv = -0.0021

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 <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    | 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 <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    | 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 <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    | 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)