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

Scaled data based on original data using

LM-79-08 Approved Method: Electrical and Photometric Measurements of Solid-State Lighting Products

Test Report Prepared for

Cooper Lighting Solutions

(formerly Eaton)

Brand: McGRAW-EDISON

Report Number: P1358455

Luminaire Tested: **GSS-SB1A-735-U-SL4**

Issue Date: 02/18/2026

Report Generated By 670245763

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

Scaled Data Report

**Test Information**

| | |
|---|---|
| Test Method: | LM-79-08 |
| Report Number: | P1358455 |
| Test Lab: | INNOVATION CENTER(G3) |
| Issue Date: | 02/18/2026 |
| Manufacturer: | COOPER LIGHTING SOLUTIONS (FORMERLY EATON) |
| Product Line: | McGRAW-EDISON |
| Catalog Number: | GSS-SB1A-735-U-SL4 |
| Description: | GALLEON II SLIM SITE HIGH DENSITY LED ARRAYS 1SQUARE 31W 70CRI 3500K FIXTURE w/ TYPE IV SPILL CONTROL DISTRIBUTION OPTIC |
| Light Source: | (26) 3500K CCT, 70 CRI LEDS |
| Ballast/Driver: | ELECTRONIC DRIVER |

**Summary**

| | |
|---|---|
| Lumens per Lamp: | N/A |
| Luminaire Lumens: | 3904.5 lumens |
| Efficiency: | N/A |
| Efficacy: | 126.0 lumens/watt |
| Luminous Opening: | Rectangular (W 0.5' x L: 0.5' x H: 0') |
| IES Classification: | Type IV - Short |
| BUG Rating: | B1 - U0 - G1 |

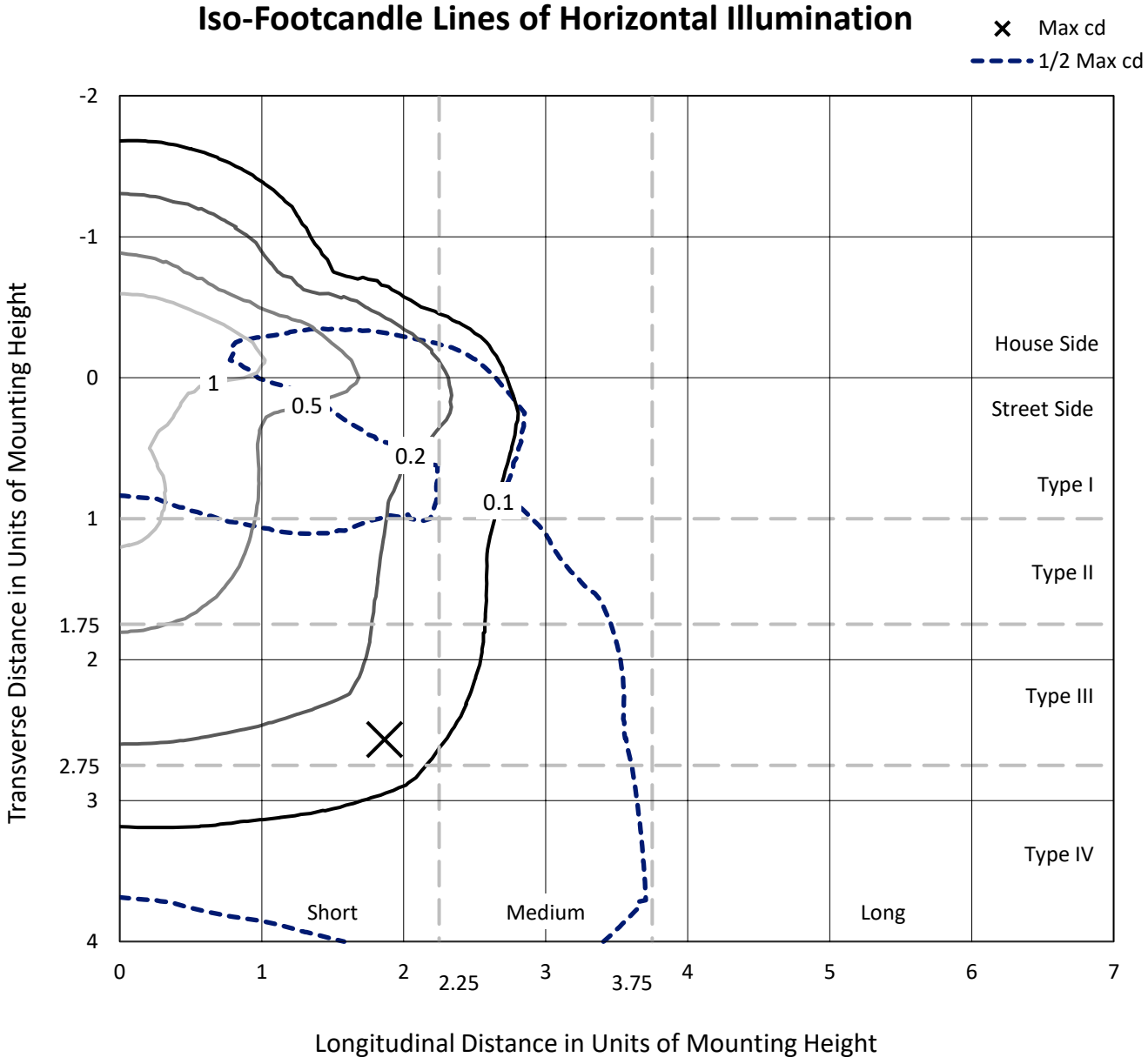
| | |
|---|---|
| Input Watts (W): | 31 |
| Input Voltage (V): | 120 |
| Input Current (Ain): | NR |
| Voltage Rise (V): | NR |
| Power Factor: | 0.98 |
| Total Harmonic Distortion (THDi): | 6.4% |
| Frequency (hertz): | 60 |
| Stabilization Time: | NR |
| Operation Time: | NR |
| Ambient Temperature (°C): | NR |
| Test Distance: | 28.75 FT |

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Scaled Data Report

REPORT NUMBER: P1358455
CATALOG NUMBER: GSS-SB1A-735-U-SL4

## Iso-Footcandle Lines of Horizontal Illumination



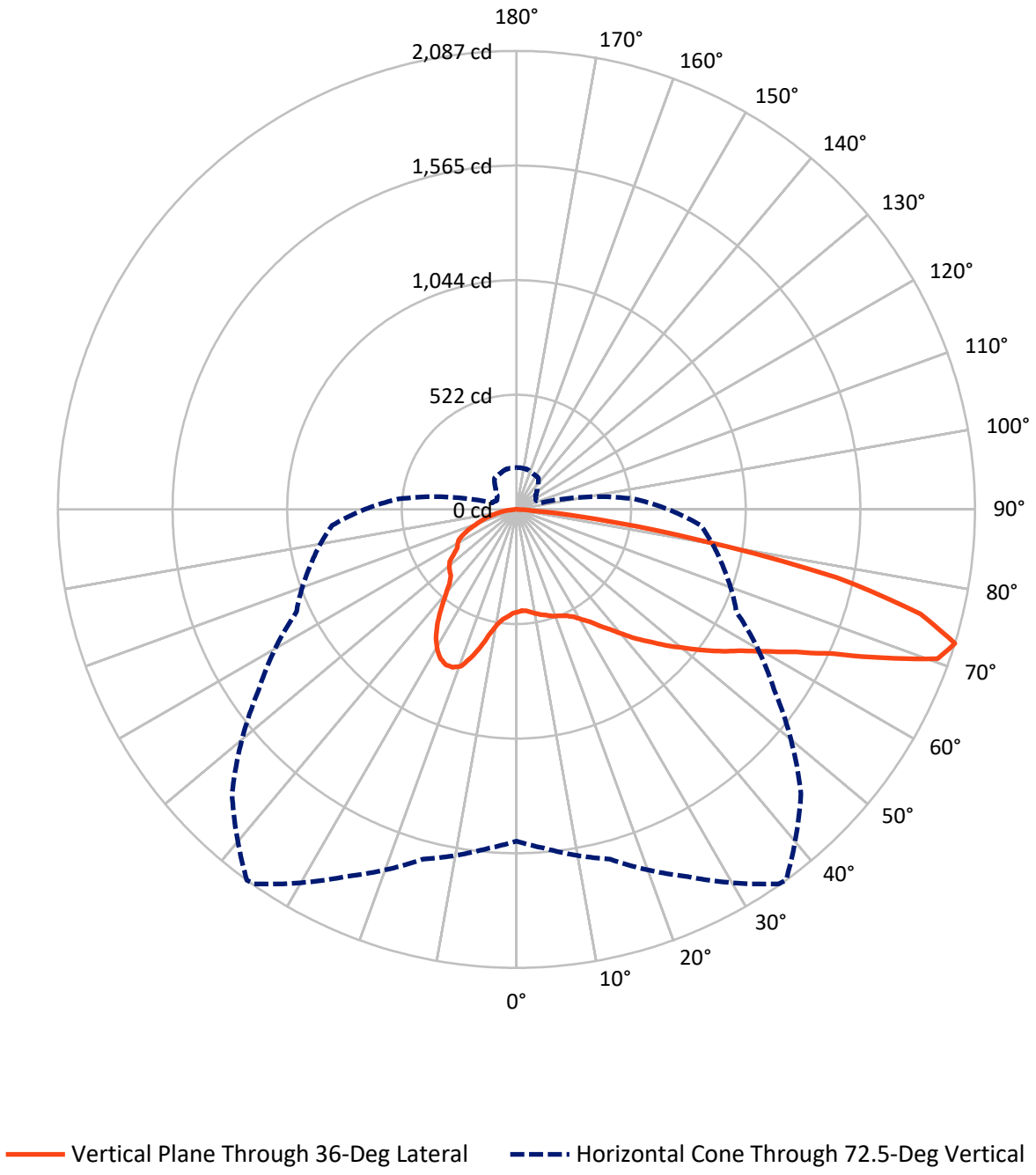

Based on 20 foot mounting height. Maximum calculated value = 1.6 fc
Type IV - Short - N/A

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1121 Highway 74 South
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Scaled Data Report

REPORT NUMBER: P1358455
CATALOG NUMBER: GSS-SB1A-735-U-SL4

## Luminous Intensity Polar Plot



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Scaled Data Report

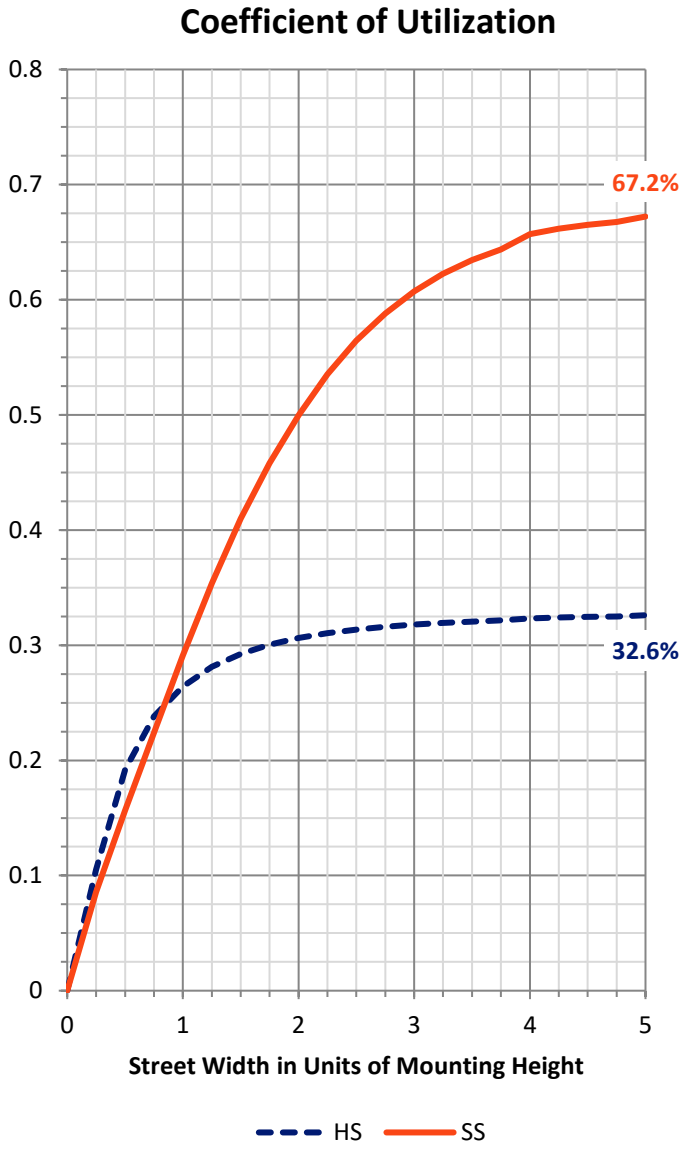
REPORT NUMBER: P1358455
CATALOG NUMBER: GSS-SB1A-735-U-SL4

**FLUX DISTRIBUTION:**

| | | Downward | Upward | Total |
|---|---|---|---|---|
| **House Side** | Lumens | 1284.9 | 0.0 | 1284.9 |
| | % Fixture | 32.9 | 0.0 | 32.9 |
| **Street Side** | Lumens | 2619.6 | 0.0 | 2619.6 |
| | % Fixture | 67.1 | 0.0 | 67.1 |
| **Total** | Lumens | 3904.5 | 0.0 | 3904.5 |
| | % Fixture | 100.0 | 0.0 | 100.0 |

**ZONAL LUMENS:**

| Zone | Lumens | % Fixture |
|---|---|---|
| 0°-10° | 46.3 | 1.2 |
| 10°-20° | 159.6 | 4.1 |
| 20°-30° | 303.0 | 7.8 |
| 30°-40° | 442.4 | 11.3 |
| 40°-50° | 588.4 | 15.1 |
| 50°-60° | 754.5 | 19.3 |
| 60°-70° | 887.5 | 22.7 |
| 70°-80° | 664.8 | 17.0 |
| 80°-90° | 58.0 | 1.5 |
| 90°-100° | 0.0 | 0.0 |
| 100°-110° | 0.0 | 0.0 |
| 110°-120° | 0.0 | 0.0 |
| 120°-130° | 0.0 | 0.0 |
| 130°-140° | 0.0 | 0.0 |
| 140°-150° | 0.0 | 0.0 |
| 150°-160° | 0.0 | 0.0 |
| 160°-170° | 0.0 | 0.0 |
| 170°-180° | 0.0 | 0.0 |
| 0°-90° | 3904.5 | 100.0 |
| 0°-180° | 3904.5 | 100.0 |



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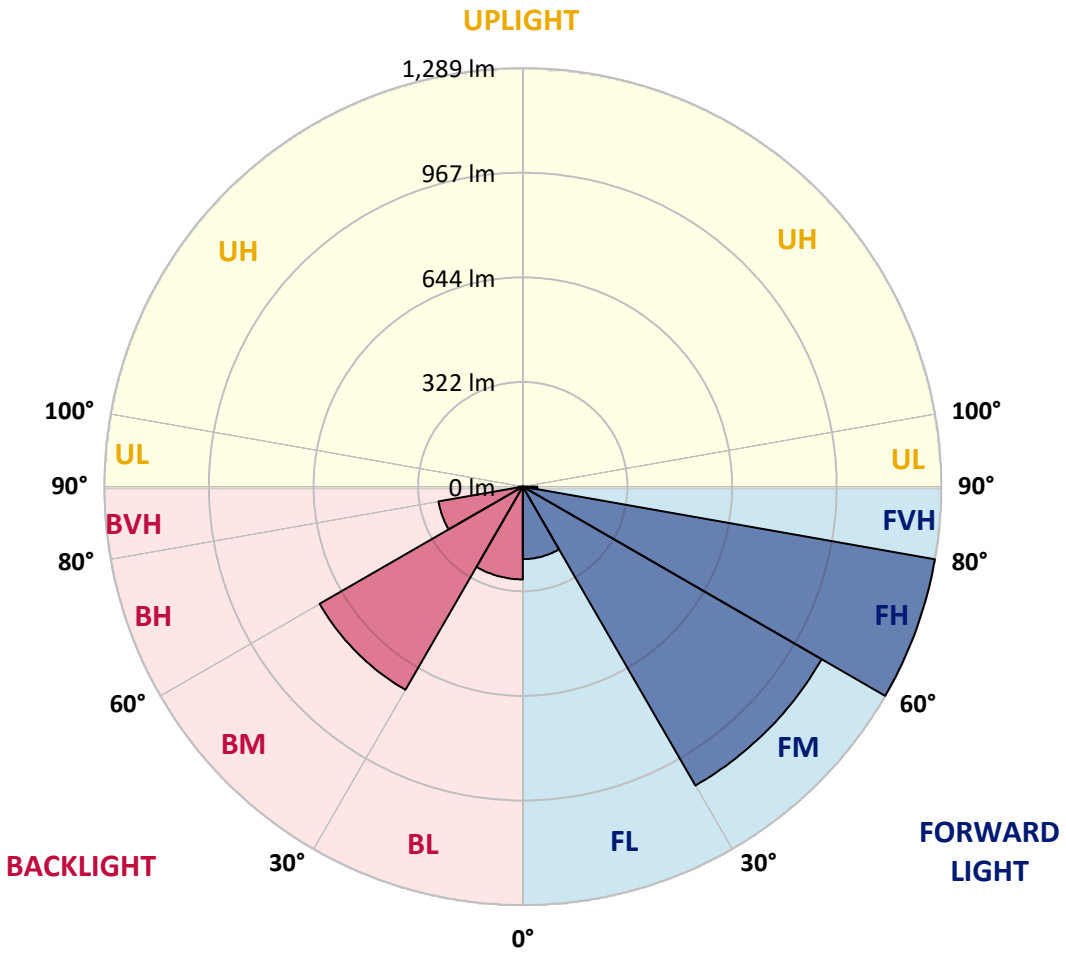
Scaled Data Report

REPORT NUMBER: P1358455
CATALOG NUMBER: GSS-SB1A-735-U-SL4

## LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

| Zone | | Lumens | % Fixture | Zone Rating/Lumen Limit B | U | G |
|---|---|---|---|---|---|---|
| FL | (0°-30°) | 223.2 | 5.7 | | | |
| FM | (30°-60°) | 1062.9 | 27.2 | | | |
| FH | (60°-80°) | 1288.7 | 33.0 | | | G1/1800 |
| FVH | (80°-90°) | 44.7 | 1.1 | | | G1/100 |
| BL | (0°-30°) | 285.6 | 7.3 | B1/500 | | |
| BM | (30°-60°) | 722.4 | 18.5 | B1/1000 | | |
| BH | (60°-80°) | 263.6 | 6.8 | B1/500 | | G1/500 |
| BVH | (80°-90°) | 13.3 | 0.3 | | | G1/100 |
| UL | (90°-100°) | 0.0 | 0.0 | | U0/0 | |
| UH | (100°-180°) | 0.0 | 0.0 | | U0/0 | |

**BUG Rating: B1-U0-G1**
Type IV Short



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REPORT NUMBER: P1358455
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**CANDELA DISTRIBUTION (FULL):**

| | 0° | 5° | 15° | 25° | 35° | 36° | 45° | 55° | 65° | 75° | 85° |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0° | 467.6 | 467.6 | 467.6 | 467.6 | 467.6 | *467.6* | 467.6 | 467.6 | 467.6 | 467.6 | 467.6 |
| 2.5° | 464.0 | 461.4 | 463.1 | 461.4 | 461.4 | *461.4* | 463.1 | 463.1 | 465.8 | 465.8 | 465.8 |
| 5° | 467.6 | 466.7 | 467.6 | 466.7 | 464.0 | *464.0* | 465.8 | 464.0 | 468.4 | 466.7 | 469.3 |
| 7.5° | 477.3 | 475.5 | 475.5 | 472.9 | 473.8 | *472.0* | 473.8 | 471.1 | 473.8 | 472.0 | 472.0 |
| 10° | 488.8 | 486.2 | 487.0 | 483.5 | 480.8 | *481.7* | 483.5 | 480.8 | 481.7 | 482.6 | 482.6 |
| 12.5° | 498.6 | 496.8 | 496.8 | 489.7 | 491.5 | *491.5* | 493.2 | 490.6 | 492.4 | 491.5 | 495.0 |
| 15° | 511.0 | 508.3 | 506.5 | 501.2 | 500.3 | *499.4* | 502.1 | 499.4 | 503.9 | 503.0 | 507.4 |
| 17.5° | 522.5 | 519.8 | 518.0 | 509.2 | 507.4 | *510.1* | 511.0 | 509.2 | 513.6 | 515.4 | 524.2 |
| 20° | 533.1 | 534.0 | 527.8 | 517.2 | 517.2 | *518.0* | 518.0 | 518.0 | 525.1 | 527.8 | 537.5 |
| 22.5° | 551.7 | 549.9 | 543.7 | 531.3 | 526.0 | *526.0* | 534.0 | 528.7 | 533.1 | 539.3 | 556.1 |
| 25° | 575.6 | 572.1 | 561.4 | 545.5 | 536.6 | *537.5* | 540.2 | 536.6 | 541.9 | 549.0 | 574.7 |
| 27.5° | 618.1 | 613.7 | 595.1 | 563.2 | 552.6 | *553.5* | 554.3 | 544.6 | 543.7 | 555.2 | 590.7 |
| 30° | 680.1 | 674.8 | 646.4 | 606.6 | 578.3 | *580.0* | 570.3 | 552.6 | 546.4 | 558.8 | 609.2 |
| 32.5° | 747.4 | 740.3 | 712.0 | 655.3 | 617.2 | *608.4* | 589.8 | 558.8 | 549.0 | 562.3 | 626.1 |
| 35° | 828.0 | 821.8 | 787.2 | 707.5 | 655.3 | *650.0* | 612.8 | 572.1 | 556.1 | 565.0 | 642.0 |
| 37.5° | 942.2 | 926.3 | 884.7 | 774.8 | 701.3 | *693.4* | 642.9 | 590.7 | 557.0 | 563.2 | 664.2 |
| 40° | 1040.5 | 1024.6 | 979.4 | 859.9 | 759.8 | *747.4* | 687.2 | 612.8 | 565.9 | 566.7 | 692.5 |
| 42.5° | 1143.2 | 1128.2 | 1079.5 | 931.6 | 812.0 | *805.8* | 726.1 | 639.4 | 577.4 | 576.5 | 724.4 |
| 45° | 1251.3 | 1252.1 | 1176.9 | 1017.5 | 874.0 | *861.6* | 774.0 | 674.8 | 598.6 | 588.0 | 776.6 |
| 47.5° | 1403.6 | 1386.7 | 1294.7 | 1099.8 | 943.1 | *927.2* | 824.4 | 712.0 | 630.5 | 614.6 | 835.1 |
| 50° | 1526.7 | 1514.3 | 1402.7 | 1194.6 | 1007.7 | *990.9* | 883.8 | 752.7 | 658.8 | 651.8 | 913.0 |
| 52.5° | 1629.4 | 1608.1 | 1505.4 | 1284.0 | 1080.4 | *1065.3* | 932.5 | 792.6 | 698.7 | 695.1 | 1004.2 |
| 55° | 1686.1 | 1663.9 | 1576.3 | 1367.3 | 1162.7 | *1139.7* | 987.4 | 840.4 | 746.5 | 748.3 | 1106.0 |
| 57.5° | 1730.3 | 1707.3 | 1621.4 | 1430.1 | 1244.2 | *1213.2* | 1047.6 | 892.6 | 803.2 | 820.0 | 1245.1 |
| 60° | 1746.3 | 1723.3 | 1659.5 | 1513.4 | 1331.8 | *1312.4* | 1115.8 | 957.3 | 868.7 | 904.1 | 1380.6 |
| 62.5° | 1769.3 | 1774.6 | 1729.5 | 1615.2 | 1446.1 | *1429.3* | 1203.4 | 1037.0 | 949.3 | 977.6 | 1428.4 |
| 65° | 1787.9 | 1785.2 | 1790.6 | 1756.0 | 1605.5 | *1581.6* | 1333.6 | 1140.6 | 1003.3 | 1002.4 | 1404.5 |
| 67.5° | 1744.5 | 1747.2 | 1775.5 | 1860.5 | 1826.9 | *1803.8* | 1501.9 | 1236.2 | 1029.0 | 1049.4 | 1328.3 |
| 70° | 1711.7 | 1719.7 | 1757.8 | 1864.1 | 2032.3 | *2035.0* | 1736.5 | 1317.7 | 1102.5 | 1049.4 | 1115.8 |
| 72.5° | *1509.8* | *1550.6* | *1648.9* | *1844.6* | *2081.0* | *2087.2* | *1831.3* | *1431.9* | *1105.1* | *969.7* | *843.0* |
| 75° | 999.8 | 1031.6 | 1293.8 | 1655.1 | 1908.3 | *1898.6* | 1695.8 | 1377.0 | 1034.3 | 790.8 | 536.6 |
| 77.5° | 294.9 | 355.1 | 605.7 | 1026.3 | 1428.4 | *1490.4* | 1391.2 | 942.2 | 766.9 | 371.0 | 191.3 |
| 80° | 84.1 | 93.9 | 169.1 | 360.4 | 771.3 | *837.7* | 864.3 | 450.7 | 227.6 | 98.3 | 63.8 |
| 82.5° | 40.7 | 42.5 | 61.1 | 101.0 | 330.3 | *361.3* | 302.9 | 136.4 | 61.1 | 35.4 | 24.8 |
| 85° | 7.1 | 8.9 | 15.1 | 30.1 | 59.3 | *71.7* | 67.3 | 27.5 | 18.6 | 15.9 | 11.5 |
| 87.5° | 1.8 | 1.8 | 2.7 | 2.7 | 3.5 | *3.5* | 3.5 | 4.4 | 4.4 | 4.4 | 4.4 |
| 90° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | *0.0* | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

Cooper Lighting Solutions Photometric Lab
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Scaled Data Report

REPORT NUMBER: P1358455
CATALOG NUMBER: GSS-SB1A-735-U-SL4

**CANDELA DISTRIBUTION (continued):**

| | 90° | 95° | 105° | 115° | 125° | 135° | 145° | 155° | 165° | 175° | 180° |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0° | 467.6 | 467.6 | 467.6 | 467.6 | 467.6 | 467.6 | 467.6 | 467.6 | 467.6 | 467.6 | 467.6 |
| 2.5° | 470.2 | 470.2 | 473.8 | 475.5 | 475.5 | 472.9 | 472.9 | 480.8 | 477.3 | 479.1 | 478.2 |
| 5° | 471.1 | 474.6 | 474.6 | 480.0 | 482.6 | 487.0 | 488.8 | 492.4 | 495.9 | 495.9 | 495.0 |
| 7.5° | 476.4 | 479.1 | 483.5 | 487.0 | 494.1 | 501.2 | 503.9 | 514.5 | 516.3 | 520.7 | 518.9 |
| 10° | 484.4 | 488.8 | 495.9 | 505.6 | 514.5 | 526.0 | 531.3 | 542.8 | 549.0 | 556.1 | 551.7 |
| 12.5° | 496.8 | 502.1 | 513.6 | 526.9 | 546.4 | 564.1 | 578.3 | 589.8 | 598.6 | 606.6 | 603.9 |
| 15° | 510.1 | 520.7 | 535.7 | 559.7 | 594.2 | 626.1 | 644.7 | 664.2 | 668.6 | 675.7 | 674.8 |
| 17.5° | 533.1 | 540.2 | 570.3 | 618.1 | 663.3 | 690.7 | 706.7 | 716.4 | 713.7 | 716.4 | 714.6 |
| 20° | 551.7 | 569.4 | 623.4 | 693.4 | 737.7 | 755.4 | 757.1 | 748.3 | 729.7 | 726.1 | 719.1 |
| 22.5° | 579.1 | 605.7 | 692.5 | 765.1 | 800.5 | 798.8 | 773.1 | 746.5 | 722.6 | 712.9 | 709.3 |
| 25° | 605.7 | 653.5 | 765.1 | 833.3 | 843.0 | 812.0 | 773.1 | 738.5 | 706.7 | 696.9 | 688.9 |
| 27.5° | 639.4 | 708.4 | 847.5 | 890.8 | 861.6 | 813.8 | 756.2 | 717.3 | 687.2 | 671.2 | 667.7 |
| 30° | 673.9 | 772.2 | 916.5 | 918.3 | 866.9 | 795.2 | 725.3 | 690.7 | 656.2 | 640.2 | 641.1 |
| 32.5° | 720.8 | 842.1 | 975.0 | 938.7 | 851.9 | 758.0 | 683.6 | 646.4 | 616.3 | 608.4 | 606.6 |
| 35° | 766.9 | 921.0 | 1021.9 | 940.4 | 816.5 | 705.8 | 628.7 | 587.1 | 568.5 | 560.5 | 564.1 |
| 37.5° | 832.4 | 1001.5 | 1049.4 | 923.6 | 765.1 | 635.8 | 564.1 | 531.3 | 517.2 | 514.5 | 518.0 |
| 40° | 904.1 | 1075.9 | 1067.1 | 904.1 | 695.1 | 561.4 | 502.1 | 481.7 | 472.9 | 474.6 | 480.8 |
| 42.5° | 981.2 | 1137.0 | 1080.4 | 859.9 | 612.8 | 493.2 | 452.5 | 443.7 | 456.9 | 464.9 | 470.2 |
| 45° | 1063.5 | 1192.8 | 1084.8 | 797.0 | 535.7 | 441.0 | 424.2 | 441.0 | 461.4 | 464.9 | 467.6 |
| 47.5° | 1145.0 | 1241.5 | 1084.8 | 713.7 | 462.2 | 406.5 | 415.3 | 437.5 | 453.4 | 447.2 | 448.1 |
| 50° | 1222.9 | 1280.5 | 1082.1 | 617.2 | 410.9 | 388.8 | 403.8 | 418.0 | 410.9 | 393.2 | 394.9 |
| 52.5° | 1293.8 | 1315.0 | 1063.5 | 518.0 | 368.4 | 384.3 | 385.2 | 367.5 | 351.6 | 342.7 | 344.5 |
| 55° | 1372.6 | 1346.9 | 1008.6 | 429.5 | 340.9 | 372.8 | 348.0 | 325.0 | 333.0 | 330.3 | 329.4 |
| 57.5° | 1454.9 | 1384.1 | 933.4 | 353.3 | 315.3 | 345.4 | 317.9 | 316.1 | 315.3 | 311.7 | 307.3 |
| 60° | 1525.8 | 1414.2 | 820.9 | 278.1 | 277.2 | 303.7 | 311.7 | 307.3 | 302.9 | 295.8 | 292.2 |
| 62.5° | 1485.0 | 1338.9 | 656.2 | 224.9 | 238.2 | 271.0 | 300.2 | 291.3 | 292.2 | 286.0 | 283.4 |
| 65° | 1369.9 | 1190.2 | 447.2 | 187.7 | 201.0 | 241.8 | 272.7 | 264.8 | 260.3 | 258.6 | 256.8 |
| 67.5° | 1221.2 | 1030.8 | 294.9 | 148.8 | 168.3 | 211.6 | 240.9 | 231.1 | 237.3 | 237.3 | 236.4 |
| 70° | 960.8 | 788.1 | 186.0 | 121.3 | 133.7 | 175.3 | 200.1 | 204.6 | 213.4 | 214.3 | 213.4 |
| 72.5° | *690.7* | *539.3* | *116.0* | *97.4* | *106.3* | *133.7* | *174.5* | *178.9* | *188.6* | *190.4* | *190.4* |
| 75° | 407.3 | 303.7 | 77.9 | 77.9 | 82.4 | 108.9 | 144.3 | 158.5 | 162.9 | 164.7 | 162.9 |
| 77.5° | 163.8 | 116.9 | 51.4 | 57.6 | 63.8 | 87.7 | 110.7 | 128.4 | 126.6 | 125.7 | 121.3 |
| 80° | 58.4 | 50.5 | 35.4 | 38.1 | 46.0 | 65.5 | 82.4 | 87.7 | 93.0 | 90.3 | 87.7 |
| 82.5° | 23.9 | 23.0 | 22.1 | 24.8 | 27.5 | 39.8 | 57.6 | 57.6 | 58.4 | 57.6 | 56.7 |
| 85° | 8.9 | 8.9 | 10.6 | 12.4 | 15.1 | 18.6 | 25.7 | 32.8 | 27.5 | 19.5 | 20.4 |
| 87.5° | 4.4 | 4.4 | 3.5 | 3.5 | 4.4 | 6.2 | 6.2 | 8.0 | 8.0 | 4.4 | 2.7 |
| 90° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

Cooper Lighting Solutions Photometric Lab
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Peachtree City, GA 30269

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

Report Prepared for

Cooper Lighting Solutions

McGraw-Edison

Report Number: SP1-2407-184-5

Test Date: 10/10/2024

Luminaire Tested: GSS-SB1A-735-U-5WQ

Data in this report applies to families of products including GSS-SB1A-735-U-5WQ

Report Generated By FNC07603 / LDUCLS01DT446
Version: v7.04

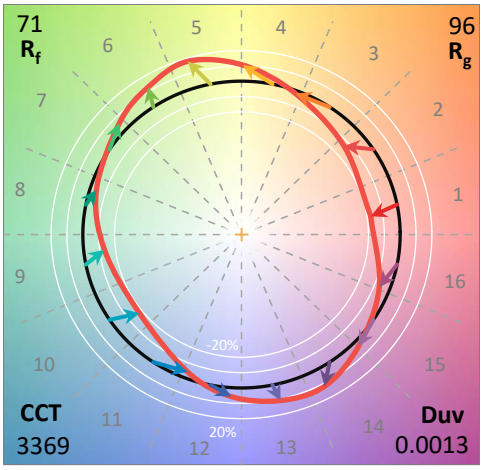
## Test Information

| | |
|---|---|
| Test Method: | LM-79-2019 |
| Report Number: | SP1-2407-184-5 |
| Test Lab: | COOPER LIGHTING SOLUTIONS |
| Photometer: | SP1 - 76IN SPHERE |
| Measurement Geometry: | 4π |
| Issue Date: | 10/15/2024 |
| Manufacturer: | COOPER LIGHTING SOLUTIONS |
| Product Line: | McGraw-Edison |
| Catalog Number: | **GSS-SB1A-735-U-5WQ** |
| Description: | GALLEON II SITE SLIM 1SQ 350MA 5WQ HIGH DENSITY LIGHTSQUARE WITH 70 CRI 3500K CCT 26 LEDS |

## Spectral Parameters

| | |
|---|---|
| CCT (K): | 3369 |
| CIE u': | 0.2386 |
| CIE v': | 0.5156 |
| Duv: | 0.0013 |
| CIE x: | 0.4143 |
| CIE y: | 0.3980 |
| CIE z: | 0.1877 |
| Peak Wavelength (nm): | 590 |
| Dominant Wavelength (nm): | 580 |
| Purity: | 43.80166 |
| Rf: | 71.4 |
| Rg: | 96 |

| | |
|---|---|
| CRI (Ra): | 70.1 |
| R1: | 66.6 |
| R2: | 77.6 |
| R3: | 88.5 |
| R4: | 69.5 |
| R5: | 66.4 |
| R6: | 69.6 |
| R7: | 77.5 |
| R8: | 44.9 |
| R9: | -40.2 |
| R10: | 49.1 |
| R11: | 66.3 |
| R12: | 45.7 |
| R13: | 68.0 |
| R14: | 93.4 |
| R15: | 57.6 |




## Test Conditions

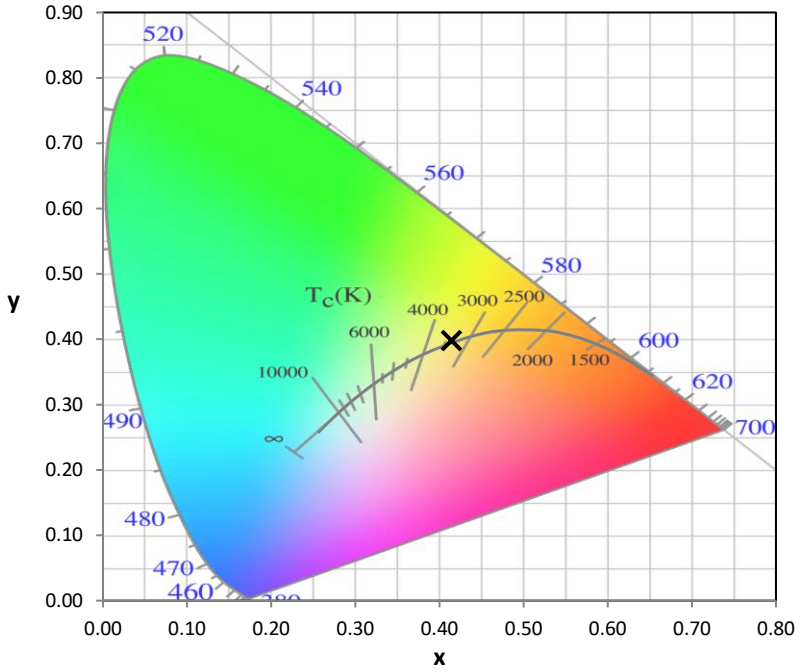
| | |
|---|---|
| Stabilization Time: | 21M |
| Operation Time: | 1H 21M |
| Sphere Temperature (°C): | 25.2 |

REPORT NUMBER: SP1-2407-184-5

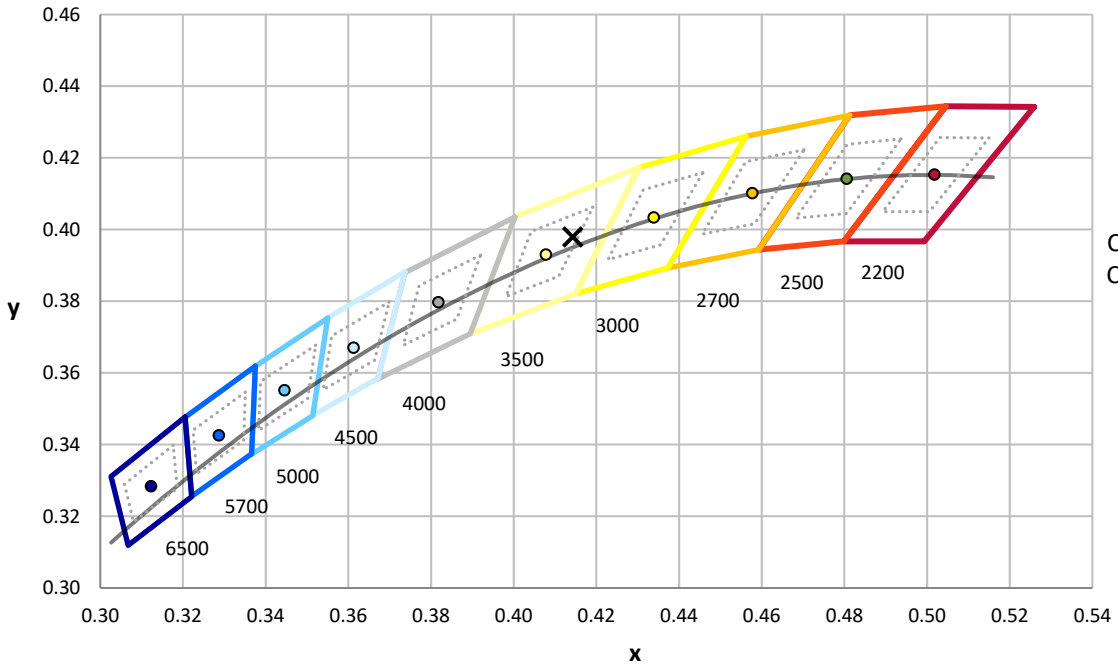
| Measurement and Test Equipment | | | |
|---|---|---|---|
| Instrument | Identification Number | Calibration Date | Calibration Due Date |
| Photometer | IN0058 | 6/18/2024 | 12/18/2024 |
| Power Meter | INXT2011004 | 2/8/2024 | 2/8/2025 |
| AC Power Source | IN0063 | 10/24/2023 | 10/24/2024 |
| DC Power Source | IN0208 | 10/24/2023 | 10/24/2024 |
| Sphere Thermometer | IN0085 | 10/24/2023 | 10/24/2024 |
| Room Thermometer | IN0046 | 10/24/2023 | 10/24/2024 |

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**CIE 1931 Chromaticity Diagram**




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

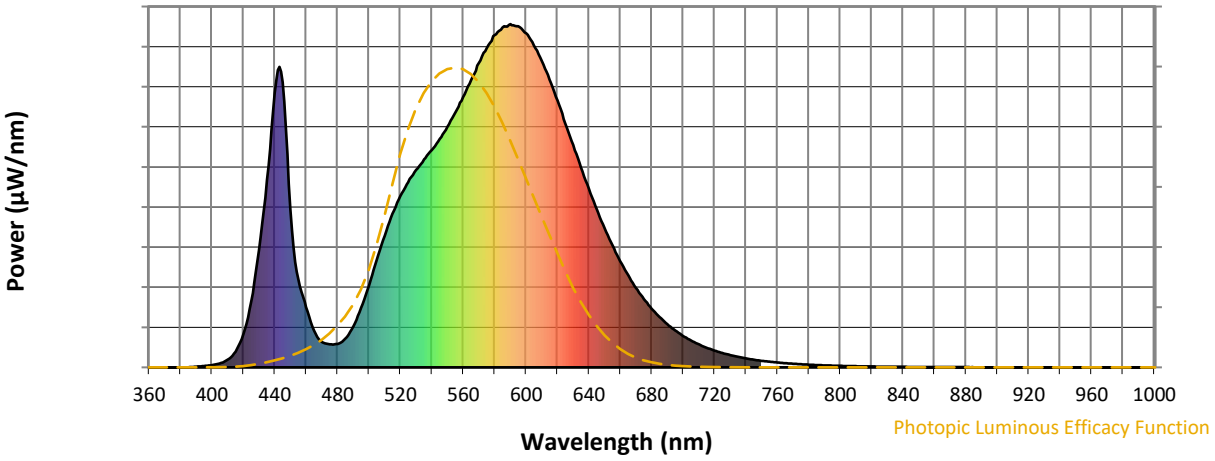



CCT = 3369K
CIE x = 0.4143
CIE y = 0.3980
Duv = 0.0013

Point lies inside the ANSI 3500K 4-step quadrangle

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## Photopic Flux vs. Wavelength

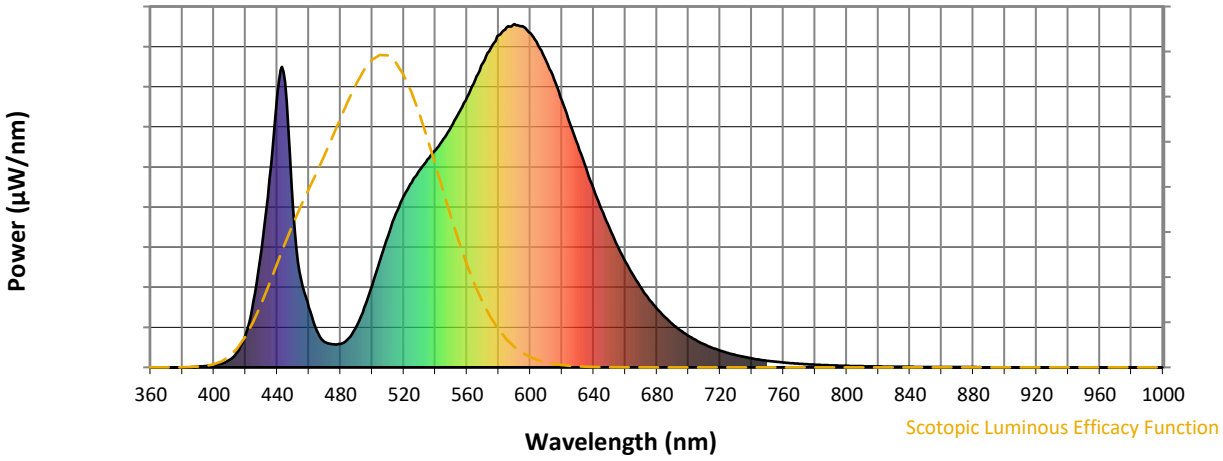



## Photopic Lumens: NR

| λ (nm) | Power W^/nm | Lumens (ϕ/nm) | λ (nm) | Power W^/nm | Lumens (ϕ/nm) | λ (nm) | Power W^/nm | Lumens (ϕ/nm) | λ (nm) | Power W^/nm | Lumens (ϕ/nm) | λ (nm) | Power W^/nm | Lumens (ϕ/nm) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 360 | 0 | NR | 490 | 119 | NR | 620 | 778 | NR | 750 | 19 | NR | 880 | 1 | NR |
| 365 | 0 | NR | 495 | 173 | NR | 625 | 711 | NR | 755 | 16 | NR | 885 | 0 | NR |
| 370 | 0 | NR | 500 | 239 | NR | 630 | 648 | NR | 760 | 14 | NR | 890 | 0 | NR |
| 375 | 0 | NR | 505 | 313 | NR | 635 | 582 | NR | 765 | 12 | NR | 895 | 0 | NR |
| 380 | 0 | NR | 510 | 383 | NR | 640 | 520 | NR | 770 | 11 | NR | 900 | 0 | NR |
| 385 | 0 | NR | 515 | 448 | NR | 645 | 460 | NR | 775 | 9 | NR | 905 | 0 | NR |
| 390 | 2 | NR | 520 | 500 | NR | 650 | 406 | NR | 780 | 8 | NR | 910 | 0 | NR |
| 395 | 4 | NR | 525 | 539 | NR | 655 | 355 | NR | 785 | 7 | NR | 915 | 0 | NR |
| 400 | 6 | NR | 530 | 575 | NR | 660 | 309 | NR | 790 | 6 | NR | 920 | 0 | NR |
| 405 | 11 | NR | 535 | 606 | NR | 665 | 269 | NR | 795 | 5 | NR | 925 | 0 | NR |
| 410 | 22 | NR | 540 | 633 | NR | 670 | 231 | NR | 800 | 4 | NR | 930 | 0 | NR |
| 415 | 45 | NR | 545 | 666 | NR | 675 | 199 | NR | 805 | 4 | NR | 935 | 0 | NR |
| 420 | 96 | NR | 550 | 701 | NR | 680 | 171 | NR | 810 | 3 | NR | 940 | 0 | NR |
| 425 | 193 | NR | 555 | 743 | NR | 685 | 147 | NR | 815 | 3 | NR | 945 | 0 | NR |
| 430 | 341 | NR | 560 | 788 | NR | 690 | 126 | NR | 820 | 3 | NR | 950 | 0 | NR |
| 435 | 547 | NR | 565 | 837 | NR | 695 | 107 | NR | 825 | 2 | NR | 955 | 0 | NR |
| 440 | 799 | NR | 570 | 887 | NR | 700 | 92 | NR | 830 | 2 | NR | 960 | 0 | NR |
| 445 | 831 | NR | 575 | 931 | NR | 705 | 78 | NR | 835 | 2 | NR | 965 | 0 | NR |
| 450 | 461 | NR | 580 | 967 | NR | 710 | 67 | NR | 840 | 2 | NR | 970 | 0 | NR |
| 455 | 256 | NR | 585 | 990 | NR | 715 | 57 | NR | 845 | 1 | NR | 975 | 0 | NR |
| 460 | 176 | NR | 590 | 1000 | NR | 720 | 49 | NR | 850 | 1 | NR | 980 | 0 | NR |
| 465 | 107 | NR | 595 | 994 | NR | 725 | 42 | NR | 855 | 1 | NR | 985 | 0 | NR |
| 470 | 74 | NR | 600 | 973 | NR | 730 | 36 | NR | 860 | 1 | NR | 990 | 0 | NR |
| 475 | 67 | NR | 605 | 938 | NR | 735 | 31 | NR | 865 | 1 | NR | 995 | 0 | NR |
| 480 | 68 | NR | 610 | 892 | NR | 740 | 26 | NR | 870 | 1 | NR | 1000 | 0 | NR |
| 485 | 84 | NR | 615 | 838 | NR | 745 | 22 | NR | 875 | 1 | NR | | | |

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## Scotopic Flux vs. Wavelength

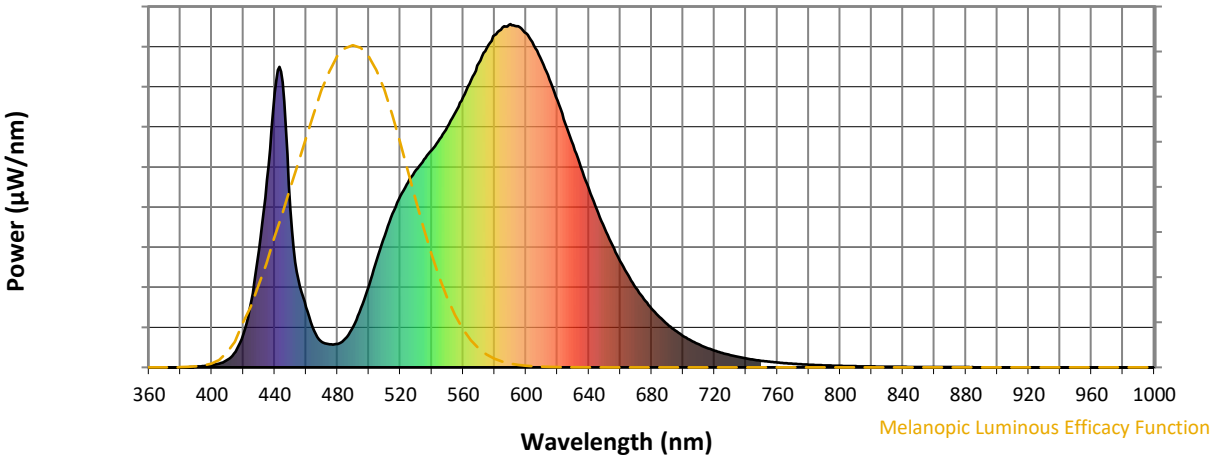



**Scotopic Lumens: NR** **S/P: 1.29**

| 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 | 119 | NR | 620 | 778 | NR | 750 | 19 | NR | 880 | 1 | NR |
| 365 | 0 | NR | 495 | 173 | NR | 625 | 711 | NR | 755 | 16 | NR | 885 | 0 | NR |
| 370 | 0 | NR | 500 | 239 | NR | 630 | 648 | NR | 760 | 14 | NR | 890 | 0 | NR |
| 375 | 0 | NR | 505 | 313 | NR | 635 | 582 | NR | 765 | 12 | NR | 895 | 0 | NR |
| 380 | 0 | NR | 510 | 383 | NR | 640 | 520 | NR | 770 | 11 | NR | 900 | 0 | NR |
| 385 | 0 | NR | 515 | 448 | NR | 645 | 460 | NR | 775 | 9 | NR | 905 | 0 | NR |
| 390 | 2 | NR | 520 | 500 | NR | 650 | 406 | NR | 780 | 8 | NR | 910 | 0 | NR |
| 395 | 4 | NR | 525 | 539 | NR | 655 | 355 | NR | 785 | 7 | NR | 915 | 0 | NR |
| 400 | 6 | NR | 530 | 575 | NR | 660 | 309 | NR | 790 | 6 | NR | 920 | 0 | NR |
| 405 | 11 | NR | 535 | 606 | NR | 665 | 269 | NR | 795 | 5 | NR | 925 | 0 | NR |
| 410 | 22 | NR | 540 | 633 | NR | 670 | 231 | NR | 800 | 4 | NR | 930 | 0 | NR |
| 415 | 45 | NR | 545 | 666 | NR | 675 | 199 | NR | 805 | 4 | NR | 935 | 0 | NR |
| 420 | 96 | NR | 550 | 701 | NR | 680 | 171 | NR | 810 | 3 | NR | 940 | 0 | NR |
| 425 | 193 | NR | 555 | 743 | NR | 685 | 147 | NR | 815 | 3 | NR | 945 | 0 | NR |
| 430 | 341 | NR | 560 | 788 | NR | 690 | 126 | NR | 820 | 3 | NR | 950 | 0 | NR |
| 435 | 547 | NR | 565 | 837 | NR | 695 | 107 | NR | 825 | 2 | NR | 955 | 0 | NR |
| 440 | 799 | NR | 570 | 887 | NR | 700 | 92 | NR | 830 | 2 | NR | 960 | 0 | NR |
| 445 | 831 | NR | 575 | 931 | NR | 705 | 78 | NR | 835 | 2 | NR | 965 | 0 | NR |
| 450 | 461 | NR | 580 | 967 | NR | 710 | 67 | NR | 840 | 2 | NR | 970 | 0 | NR |
| 455 | 256 | NR | 585 | 990 | NR | 715 | 57 | NR | 845 | 1 | NR | 975 | 0 | NR |
| 460 | 176 | NR | 590 | 1000 | NR | 720 | 49 | NR | 850 | 1 | NR | 980 | 0 | NR |
| 465 | 107 | NR | 595 | 994 | NR | 725 | 42 | NR | 855 | 1 | NR | 985 | 0 | NR |
| 470 | 74 | NR | 600 | 973 | NR | 730 | 36 | NR | 860 | 1 | NR | 990 | 0 | NR |
| 475 | 67 | NR | 605 | 938 | NR | 735 | 31 | NR | 865 | 1 | NR | 995 | 0 | NR |
| 480 | 68 | NR | 610 | 892 | NR | 740 | 26 | NR | 870 | 1 | NR | 1000 | 0 | NR |
| 485 | 84 | NR | 615 | 838 | NR | 745 | 22 | NR | 875 | 1 | NR | | | |

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## Melanopic Flux vs. Wavelength




**Melanopic Lumens: NR** **M/P: 2.36**

| 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 | 119 | NR | 620 | 778 | NR | 750 | 19 | NR | 880 | 1 | NR |
| 365 | 0 | NR | 495 | 173 | NR | 625 | 711 | NR | 755 | 16 | NR | 885 | 0 | NR |
| 370 | 0 | NR | 500 | 239 | NR | 630 | 648 | NR | 760 | 14 | NR | 890 | 0 | NR |
| 375 | 0 | NR | 505 | 313 | NR | 635 | 582 | NR | 765 | 12 | NR | 895 | 0 | NR |
| 380 | 0 | NR | 510 | 383 | NR | 640 | 520 | NR | 770 | 11 | NR | 900 | 0 | NR |
| 385 | 0 | NR | 515 | 448 | NR | 645 | 460 | NR | 775 | 9 | NR | 905 | 0 | NR |
| 390 | 2 | NR | 520 | 500 | NR | 650 | 406 | NR | 780 | 8 | NR | 910 | 0 | NR |
| 395 | 4 | NR | 525 | 539 | NR | 655 | 355 | NR | 785 | 7 | NR | 915 | 0 | NR |
| 400 | 6 | NR | 530 | 575 | NR | 660 | 309 | NR | 790 | 6 | NR | 920 | 0 | NR |
| 405 | 11 | NR | 535 | 606 | NR | 665 | 269 | NR | 795 | 5 | NR | 925 | 0 | NR |
| 410 | 22 | NR | 540 | 633 | NR | 670 | 231 | NR | 800 | 4 | NR | 930 | 0 | NR |
| 415 | 45 | NR | 545 | 666 | NR | 675 | 199 | NR | 805 | 4 | NR | 935 | 0 | NR |
| 420 | 96 | NR | 550 | 701 | NR | 680 | 171 | NR | 810 | 3 | NR | 940 | 0 | NR |
| 425 | 193 | NR | 555 | 743 | NR | 685 | 147 | NR | 815 | 3 | NR | 945 | 0 | NR |
| 430 | 341 | NR | 560 | 788 | NR | 690 | 126 | NR | 820 | 3 | NR | 950 | 0 | NR |
| 435 | 547 | NR | 565 | 837 | NR | 695 | 107 | NR | 825 | 2 | NR | 955 | 0 | NR |
| 440 | 799 | NR | 570 | 887 | NR | 700 | 92 | NR | 830 | 2 | NR | 960 | 0 | NR |
| 445 | 831 | NR | 575 | 931 | NR | 705 | 78 | NR | 835 | 2 | NR | 965 | 0 | NR |
| 450 | 461 | NR | 580 | 967 | NR | 710 | 67 | NR | 840 | 2 | NR | 970 | 0 | NR |
| 455 | 256 | NR | 585 | 990 | NR | 715 | 57 | NR | 845 | 1 | NR | 975 | 0 | NR |
| 460 | 176 | NR | 590 | 1000 | NR | 720 | 49 | NR | 850 | 1 | NR | 980 | 0 | NR |
| 465 | 107 | NR | 595 | 994 | NR | 725 | 42 | NR | 855 | 1 | NR | 985 | 0 | NR |
| 470 | 74 | NR | 600 | 973 | NR | 730 | 36 | NR | 860 | 1 | NR | 990 | 0 | NR |
| 475 | 67 | NR | 605 | 938 | NR | 735 | 31 | NR | 865 | 1 | NR | 995 | 0 | NR |
| 480 | 68 | NR | 610 | 892 | NR | 740 | 26 | NR | 870 | 1 | NR | 1000 | 0 | NR |
| 485 | 84 | NR | 615 | 838 | NR | 745 | 22 | NR | 875 | 1 | NR | | | |

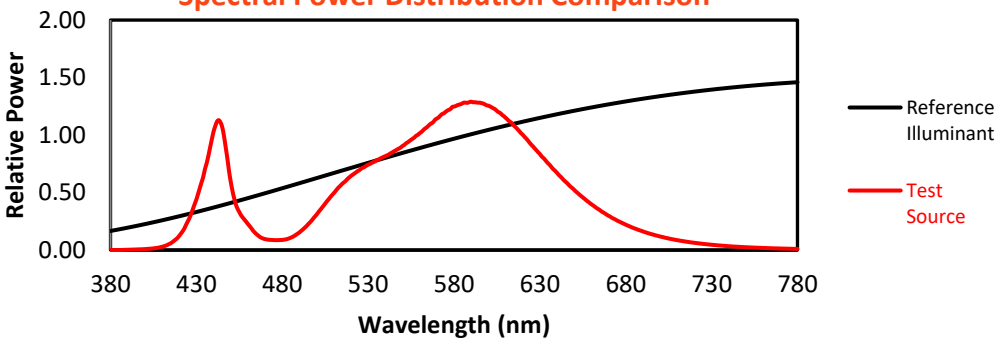
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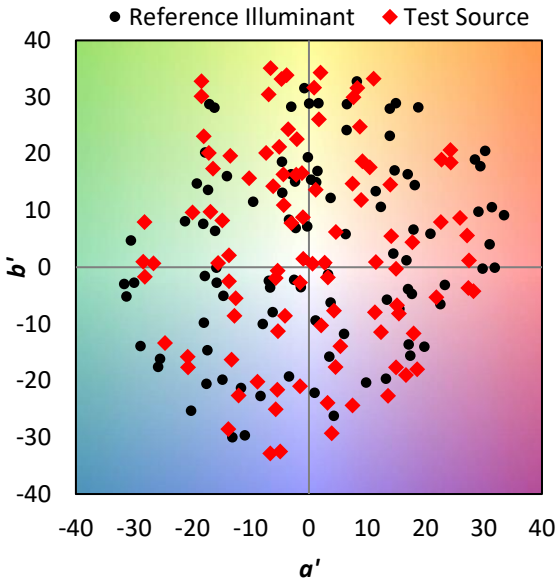
## Summary

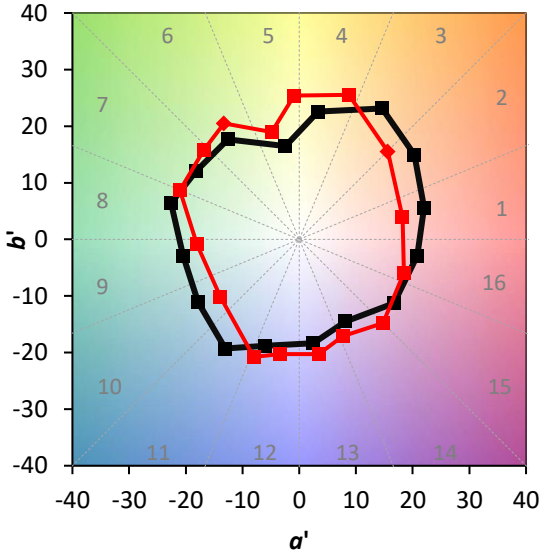
$R_f$ = 71.4
$R_g$ = 96
CIE $R_a$ = 70.1
$R_9$ = -40.2

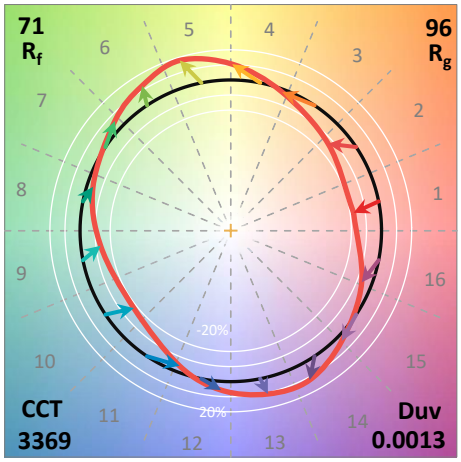
## Spectral Power Distribution Comparison

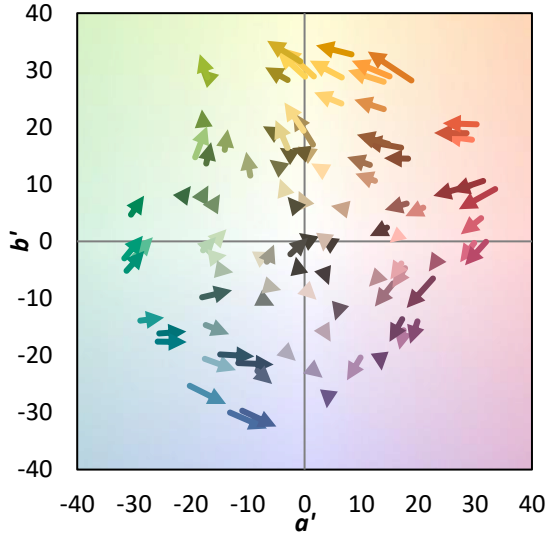



## Color Vector Graphics



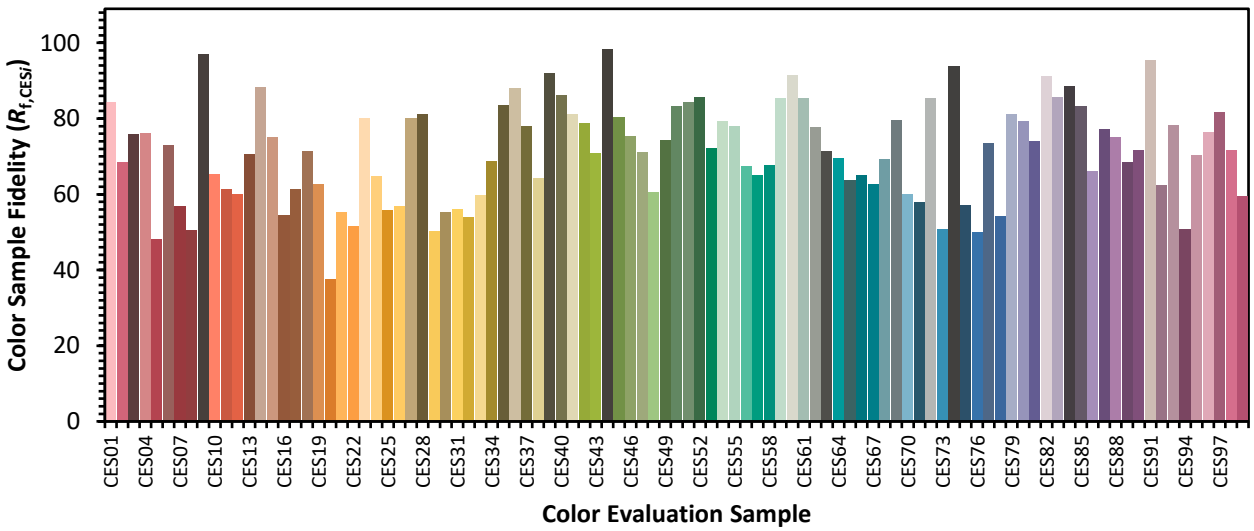



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## Individual Sample Fidelity Index ($R_{f,i}$)

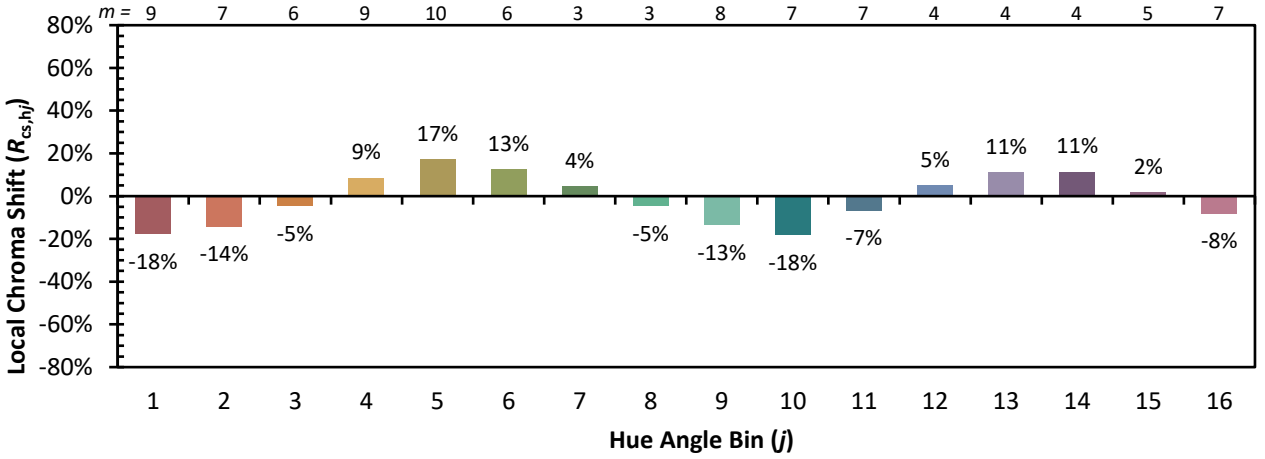
| | | | |
|---|---|---|---|
| CES01 = 86 | CES26 = 57 | CES51 = 84 | CES76 = 50 |
| CES02 = 62 | CES27 = 80 | CES52 = 86 | CES77 = 74 |
| CES03 = 31 | CES28 = 81 | CES53 = 72 | CES78 = 54 |
| CES04 = 70 | CES29 = 50 | CES54 = 79 | CES79 = 81 |
| CES05 = 48 | CES30 = 55 | CES55 = 78 | CES80 = 79 |
| CES06 = 51 | CES31 = 56 | CES56 = 67 | CES81 = 74 |
| CES07 = 40 | CES32 = 54 | CES57 = 65 | CES82 = 91 |
| CES08 = 39 | CES33 = 60 | CES58 = 68 | CES83 = 86 |
| CES09 = 29 | CES34 = 69 | CES59 = 85 | CES84 = 89 |
| CES10 = 75 | CES35 = 83 | CES60 = 91 | CES85 = 83 |
| CES11 = 58 | CES36 = 88 | CES61 = 85 | CES86 = 66 |
| CES12 = 64 | CES37 = 78 | CES62 = 78 | CES87 = 77 |
| CES13 = 43 | CES38 = 64 | CES63 = 71 | CES88 = 75 |
| CES14 = 74 | CES39 = 92 | CES64 = 70 | CES89 = 68 |
| CES15 = 71 | CES40 = 86 | CES65 = 64 | CES90 = 72 |
| CES16 = 47 | CES41 = 81 | CES66 = 65 | CES91 = 95 |
| CES17 = 50 | CES42 = 79 | CES67 = 63 | CES92 = 62 |
| CES18 = 56 | CES43 = 71 | CES68 = 69 | CES93 = 78 |
| CES19 = 72 | CES44 = 98 | CES69 = 80 | CES94 = 51 |
| CES20 = 65 | CES45 = 80 | CES70 = 60 | CES95 = 70 |
| CES21 = 87 | CES46 = 75 | CES71 = 58 | CES96 = 76 |
| CES22 = 79 | CES47 = 71 | CES72 = 85 | CES97 = 82 |
| CES23 = 92 | CES48 = 61 | CES73 = 51 | CES98 = 72 |
| CES24 = 91 | CES49 = 74 | CES74 = 94 | CES99 = 60 |
| CES25 = 72 | CES50 = 83 | CES75 = 57 | |

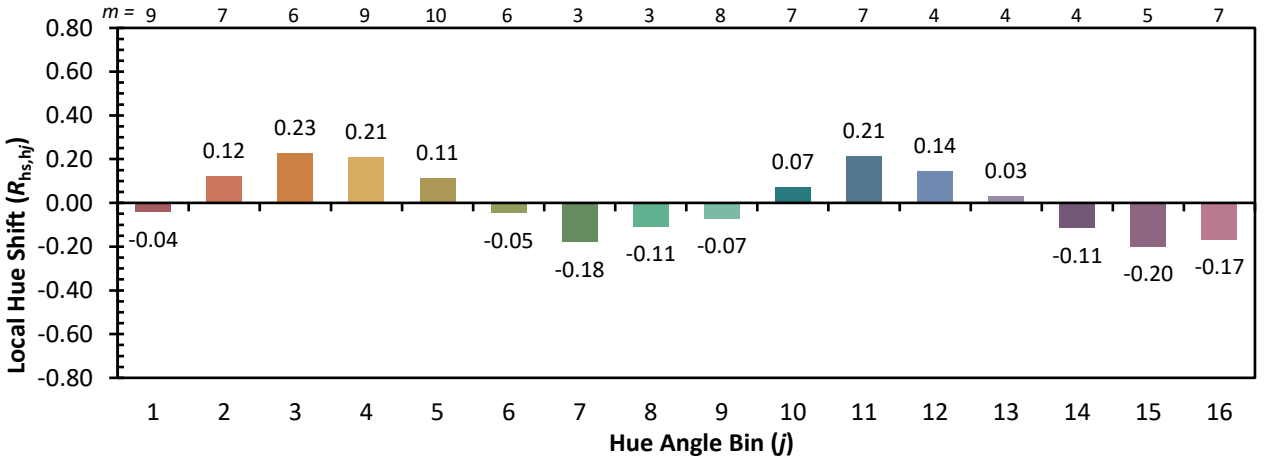


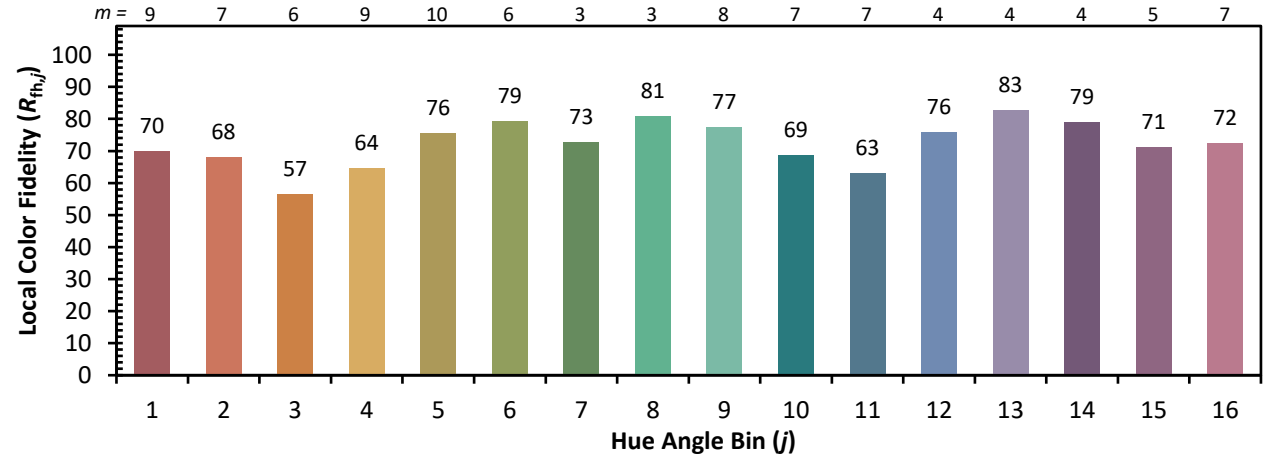
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## Color Rendition by Hue-Angle Bin



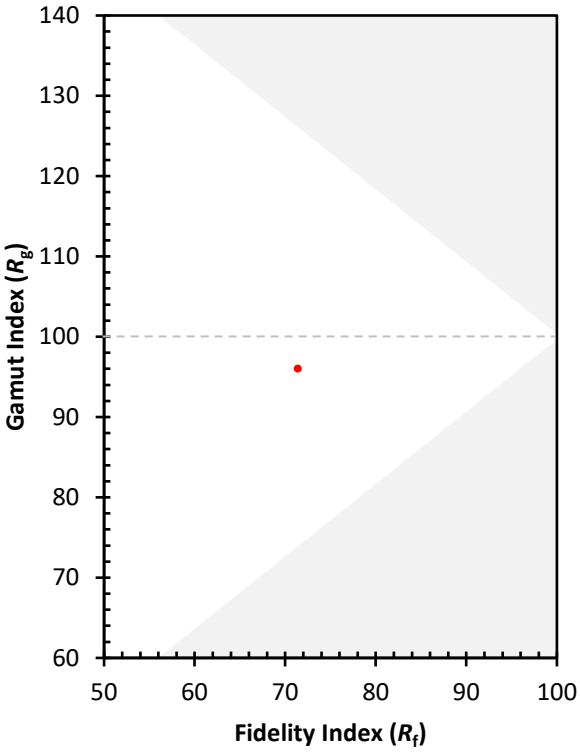



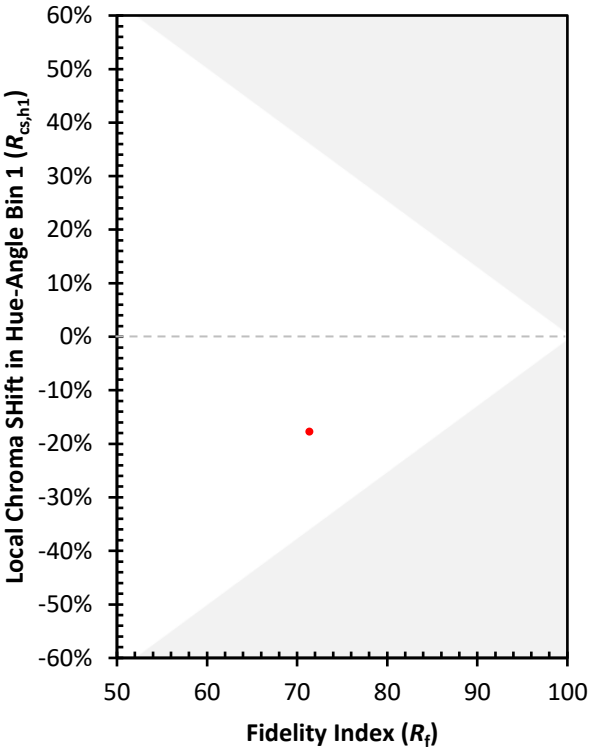



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## Measure Comparisons




(END OF REPORT)