

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

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Peachtree City, GA 30269

Scaled data based on original data using  
LM-79-2024 Approved Method: Electrical and Photometric Measurements of Solid-  
State Lighting Products

Test Report Prepared for  
Cooper Lighting Solutions

Brand: LUMARK

Report Number: P1503404

Luminaire Tested: PRV-P-PB1A-750-U-T4RE

Issue Date: 07/22/2026

**Test Information**

Test Method: LM-79-2024  
Report Number: P1503404  
Test Lab: INNOVATION CENTER(G3)  
Issue Date: 7/22/2026  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: LUMARK  
Catalog Number: PRV-P-PB1A-750-U-T4RE  
Description: PREVAIL PETITE DISCRETE LED 1 SQUARE AT 950MA 70CRI 5000K FIXTURE w/ TYPE IV  
ROADWAY ILLUMINANCE DISTRIBUTION OPTIC  
Light Source: (10) 5000K CCT, 70 CRI LEDS  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 4682.8 lumens  
Efficiency: N/A  
Efficacy: 142.3 lumens/watt  
Luminous Opening: Rectangular (W 0.33' x L: 0.33' x H: 0')  
IES Classification: Type IV - Medium  
BUG Rating: B1 - U0 - G1

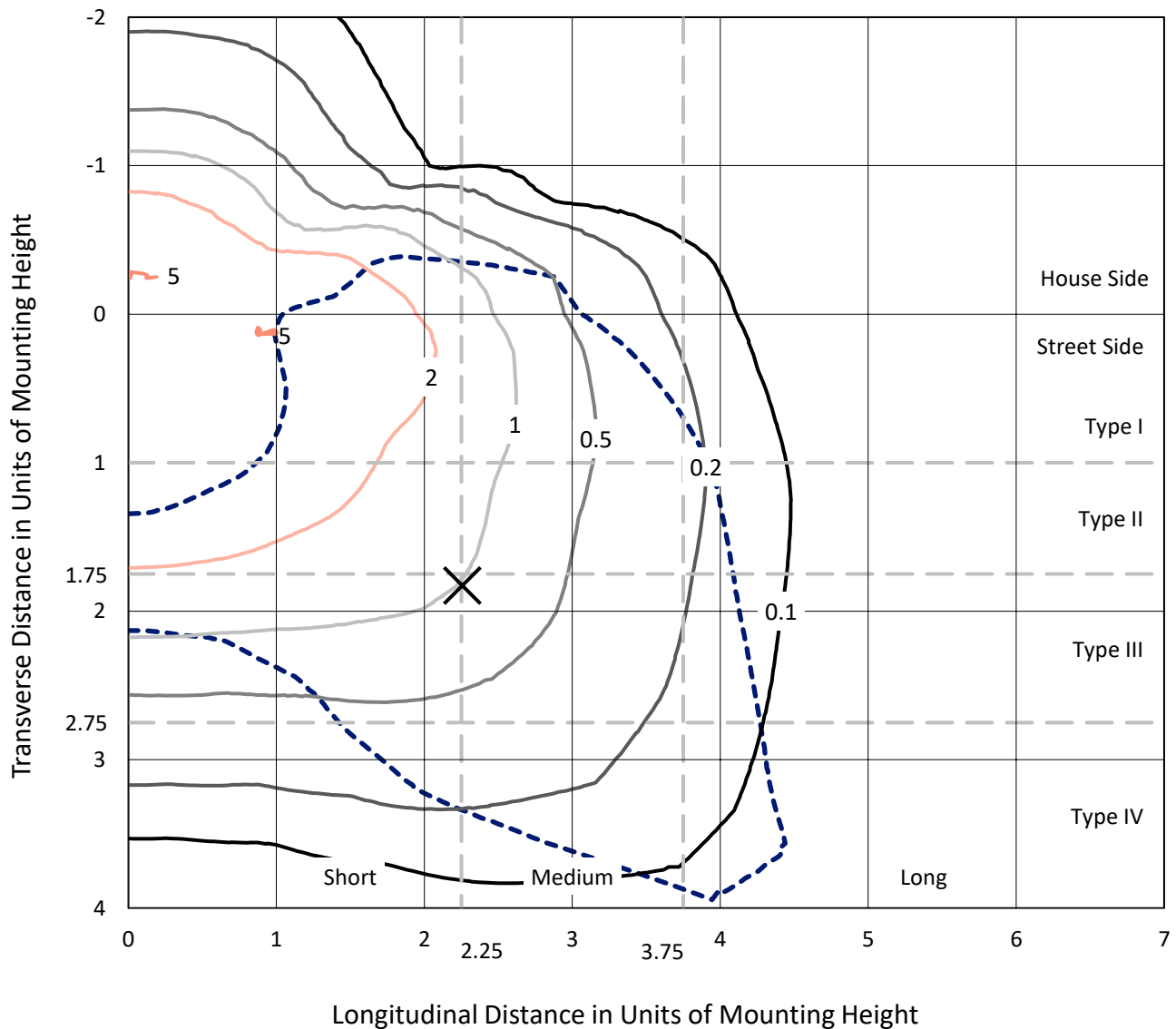
Input Watts (W): 32.9  
Input Voltage (V): 120  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: 0.97  
Total Harmonic Distortion (THDi): 10.0%  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 28.75 FT

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## Iso-Footcandle Lines of Horizontal Illumination

× Max cd  
 --- 1/2 Max cd

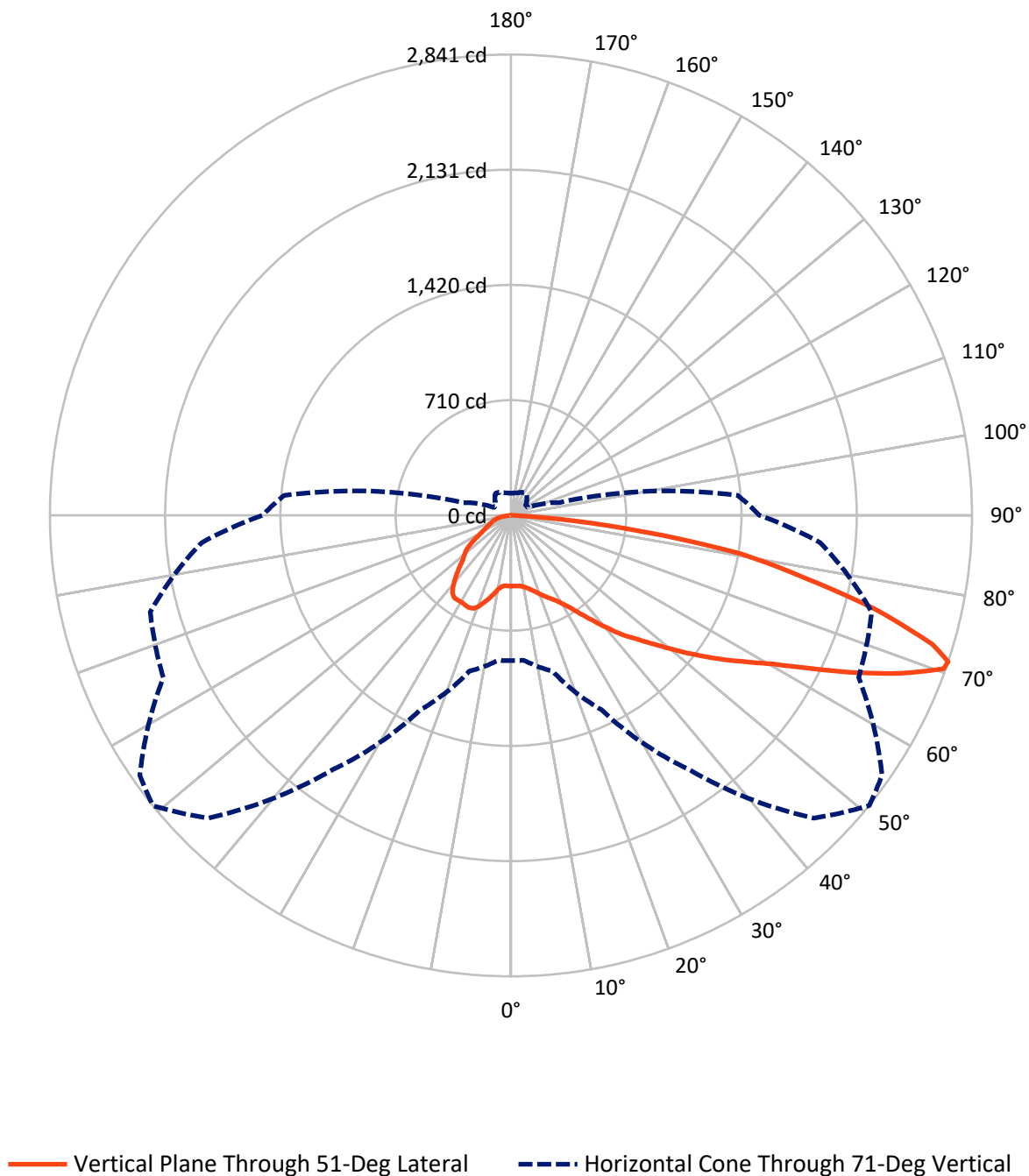


Based on 10 foot mounting height. Maximum calculated value = 5 fc  
 Type IV - Medium - N/A

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## Luminous Intensity Polar Plot



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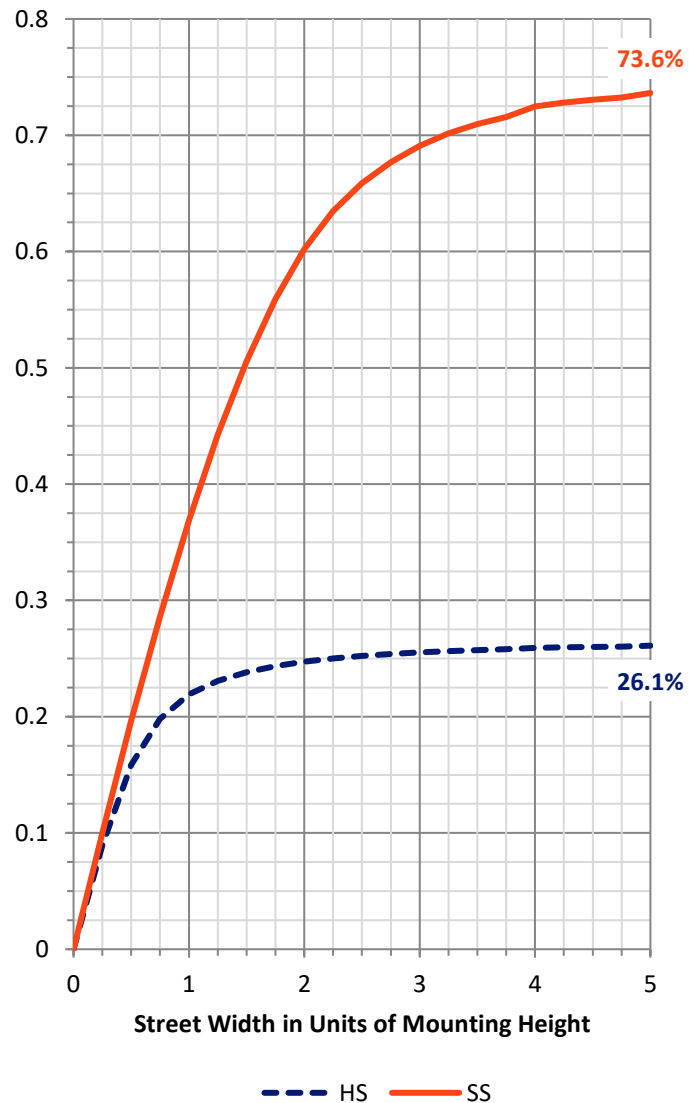
**FLUX DISTRIBUTION:**

|                    |           | Downward | Upward | Total  |
|--------------------|-----------|----------|--------|--------|
| <b>House Side</b>  | Lumens    | 1229.6   | 0.0    | 1229.6 |
|                    | % Fixture | 26.3     | 0.0    | 26.3   |
| <b>Street Side</b> | Lumens    | 3453.2   | 0.0    | 3453.2 |
|                    | % Fixture | 73.7     | 0.0    | 73.7   |
| <b>Total</b>       | Lumens    | 4682.8   | 0.0    | 4682.8 |
|                    | % Fixture | 100.0    | 0.0    | 100.0  |

**ZONAL LUMENS:**

| Zone      | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10°    | 42.4   | 0.9       |
| 10°-20°   | 144.6  | 3.1       |
| 20°-30°   | 275.0  | 5.9       |
| 30°-40°   | 438.4  | 9.4       |
| 40°-50°   | 682.9  | 14.6      |
| 50°-60°   | 957.4  | 20.4      |
| 60°-70°   | 1213.3 | 25.9      |
| 70°-80°   | 825.8  | 17.6      |
| 80°-90°   | 103.0  | 2.2       |
| 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°    | 4682.8 | 100.0     |
| 0°-180°   | 4682.8 | 100.0     |

**Coefficient of Utilization**



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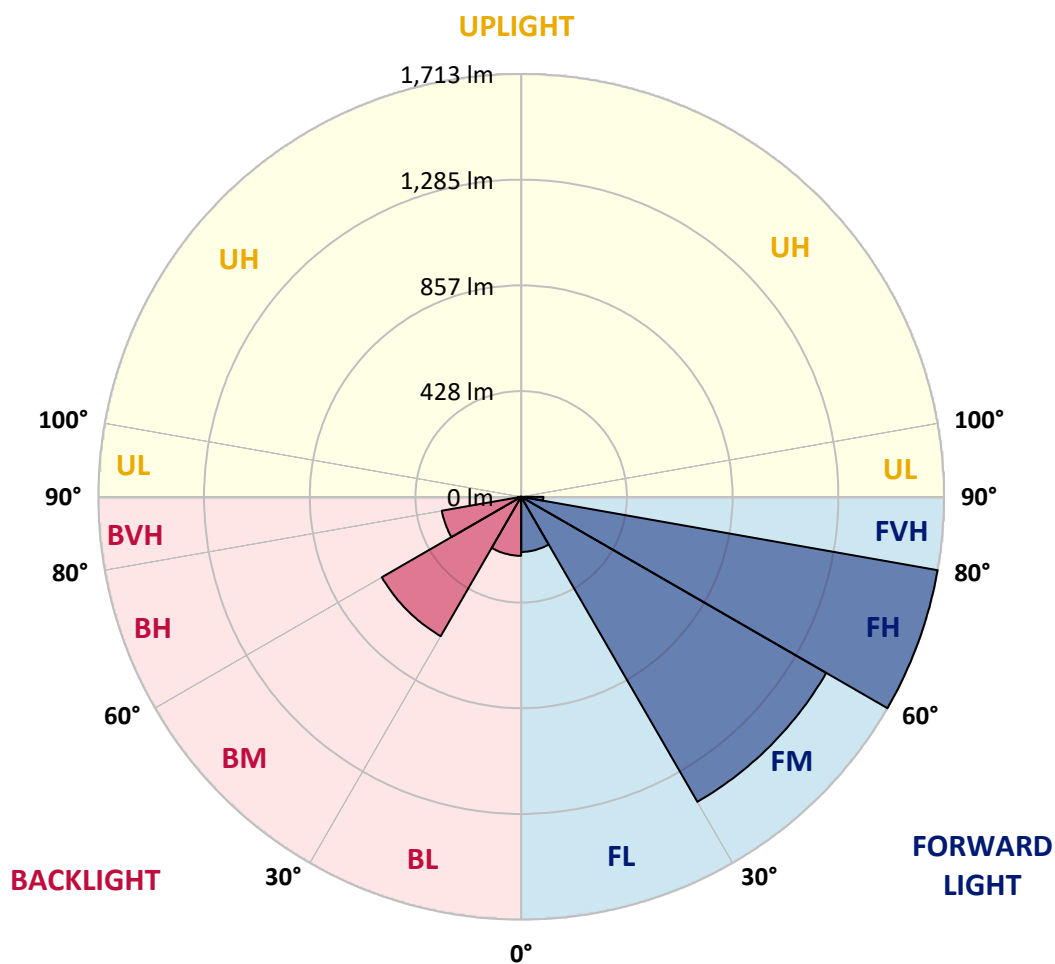
CATALOG NUMBER: PRV-P-PB1A-750-U-T4RE

**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

| Zone |             | Lumens | % Fixture | Zone Rating/Lumen Limit |      |         |
|------|-------------|--------|-----------|-------------------------|------|---------|
|      |             |        |           | B                       | U    | G       |
| FL   | (0°-30°)    | 223.1  | 4.8       |                         |      |         |
| FM   | (30°-60°)   | 1427.0 | 30.5      |                         |      |         |
| FH   | (60°-80°)   | 1713.1 | 36.6      |                         |      | G1/1800 |
| FVH  | (80°-90°)   | 89.9   | 1.9       |                         |      | G1/100  |
| BL   | (0°-30°)    | 238.9  | 5.1       | B1/500                  |      |         |
| BM   | (30°-60°)   | 651.7  | 13.9      | B1/1000                 |      |         |
| BH   | (60°-80°)   | 326.0  | 7.0       | B1/500                  |      | G1/500  |
| BVH  | (80°-90°)   | 13.1   | 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 Medium



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**CANDELA DISTRIBUTION (FULL):**

|       | 0°   | 5°   | 15°  | 25°  | 35°  | 45°  | 51°  | 55°  | 65°  | 75°  | 85°  |
|-------|------|------|------|------|------|------|------|------|------|------|------|
| 0°    | 436  | 436  | 436  | 436  | 436  | 436  | 436  | 436  | 436  | 436  | 436  |
| 2.5°  | 436  | 435  | 436  | 438  | 438  | 436  | 436  | 436  | 435  | 436  | 437  |
| 5°    | 439  | 439  | 439  | 441  | 440  | 437  | 437  | 437  | 436  | 436  | 437  |
| 7.5°  | 451  | 450  | 450  | 448  | 445  | 442  | 440  | 440  | 438  | 438  | 439  |
| 10°   | 471  | 469  | 466  | 463  | 458  | 452  | 448  | 446  | 443  | 442  | 444  |
| 12.5° | 489  | 489  | 485  | 481  | 475  | 467  | 460  | 458  | 452  | 450  | 454  |
| 15°   | 504  | 504  | 502  | 498  | 493  | 485  | 477  | 474  | 467  | 463  | 469  |
| 17.5° | 513  | 513  | 512  | 512  | 510  | 502  | 496  | 493  | 484  | 480  | 489  |
| 20°   | 524  | 525  | 525  | 526  | 526  | 522  | 519  | 516  | 507  | 504  | 513  |
| 22.5° | 541  | 541  | 541  | 544  | 543  | 543  | 542  | 539  | 533  | 528  | 539  |
| 25°   | 562  | 562  | 561  | 566  | 567  | 568  | 568  | 567  | 564  | 556  | 571  |
| 27.5° | 597  | 598  | 595  | 594  | 594  | 598  | 595  | 599  | 597  | 594  | 614  |
| 30°   | 645  | 641  | 638  | 633  | 631  | 634  | 633  | 634  | 634  | 634  | 670  |
| 32.5° | 701  | 698  | 695  | 686  | 680  | 680  | 682  | 683  | 683  | 689  | 733  |
| 35°   | 774  | 771  | 770  | 759  | 746  | 744  | 748  | 750  | 758  | 777  | 822  |
| 37.5° | 852  | 852  | 850  | 842  | 824  | 818  | 823  | 831  | 850  | 900  | 944  |
| 40°   | 954  | 949  | 943  | 932  | 905  | 902  | 909  | 919  | 954  | 1050 | 1124 |
| 42.5° | 1057 | 1055 | 1053 | 1047 | 1002 | 993  | 1004 | 1014 | 1075 | 1211 | 1286 |
| 45°   | 1147 | 1154 | 1143 | 1135 | 1086 | 1073 | 1088 | 1107 | 1201 | 1343 | 1445 |
| 47.5° | 1257 | 1252 | 1238 | 1227 | 1182 | 1167 | 1184 | 1213 | 1318 | 1463 | 1579 |
| 50°   | 1338 | 1338 | 1329 | 1330 | 1284 | 1280 | 1301 | 1336 | 1426 | 1590 | 1712 |
| 52.5° | 1392 | 1390 | 1400 | 1415 | 1390 | 1398 | 1427 | 1458 | 1540 | 1696 | 1816 |
| 55°   | 1450 | 1451 | 1465 | 1493 | 1499 | 1518 | 1563 | 1591 | 1654 | 1811 | 1921 |
| 57.5° | 1506 | 1509 | 1544 | 1579 | 1600 | 1651 | 1701 | 1727 | 1768 | 1931 | 2042 |
| 60°   | 1559 | 1562 | 1601 | 1689 | 1743 | 1824 | 1858 | 1877 | 1892 | 2084 | 2246 |
| 62.5° | 1563 | 1564 | 1630 | 1778 | 1902 | 2038 | 2076 | 2078 | 2072 | 2333 | 2474 |
| 65°   | 1406 | 1410 | 1523 | 1775 | 2055 | 2298 | 2336 | 2315 | 2281 | 2539 | 2499 |
| 67.5° | 1119 | 1149 | 1257 | 1608 | 2093 | 2541 | 2597 | 2576 | 2431 | 2539 | 2357 |
| 70°   | 946  | 958  | 1050 | 1376 | 1983 | 2656 | 2829 | 2786 | 2426 | 2410 | 2063 |
| 71°   | 895  | 896  | 994  | 1322 | 1912 | 2639 | 2841 | 2792 | 2364 | 2301 | 1911 |
| 72.5° | 737  | 742  | 866  | 1248 | 1864 | 2533 | 2716 | 2679 | 2219 | 2101 | 1648 |
| 75°   | 375  | 385  | 526  | 956  | 1697 | 2221 | 2326 | 2340 | 1931 | 1691 | 1213 |
| 77.5° | 134  | 139  | 207  | 514  | 1190 | 1898 | 1850 | 1813 | 1428 | 1142 | 703  |
| 80°   | 71   | 71   | 80   | 152  | 594  | 1377 | 1437 | 1239 | 823  | 549  | 304  |
| 82.5° | 50   | 52   | 55   | 64   | 201  | 776  | 816  | 737  | 348  | 186  | 70   |
| 85°   | 25   | 25   | 28   | 31   | 41   | 228  | 291  | 243  | 93   | 46   | 26   |
| 87.5° | 1    | 1    | 1    | 2    | 4    | 8    | 10   | 7    | 5    | 3    | 2    |
| 90°   | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    |

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**CANDELA DISTRIBUTION (continued):**

|       | 90°  | 95°  | 105° | 115° | 125° | 135° | 145° | 155° | 165° | 175° | 180° |
|-------|------|------|------|------|------|------|------|------|------|------|------|
| 0°    | 436  | 436  | 436  | 436  | 436  | 436  | 436  | 436  | 436  | 436  | 436  |
| 2.5°  | 436  | 436  | 436  | 436  | 436  | 435  | 435  | 434  | 435  | 437  | 436  |
| 5°    | 436  | 437  | 436  | 436  | 435  | 433  | 432  | 434  | 436  | 436  | 437  |
| 7.5°  | 439  | 440  | 439  | 438  | 440  | 441  | 443  | 448  | 451  | 455  | 455  |
| 10°   | 445  | 446  | 447  | 449  | 455  | 464  | 473  | 480  | 486  | 490  | 487  |
| 12.5° | 455  | 459  | 464  | 472  | 487  | 498  | 505  | 516  | 525  | 524  | 529  |
| 15°   | 474  | 478  | 489  | 505  | 521  | 532  | 544  | 557  | 563  | 567  | 567  |
| 17.5° | 496  | 503  | 523  | 542  | 555  | 568  | 579  | 586  | 588  | 589  | 590  |
| 20°   | 521  | 533  | 562  | 579  | 593  | 601  | 600  | 599  | 595  | 594  | 597  |
| 22.5° | 554  | 572  | 601  | 615  | 620  | 616  | 606  | 598  | 592  | 591  | 592  |
| 25°   | 593  | 617  | 643  | 642  | 631  | 615  | 604  | 599  | 594  | 594  | 596  |
| 27.5° | 639  | 663  | 680  | 655  | 627  | 611  | 608  | 608  | 600  | 597  | 599  |
| 30°   | 693  | 713  | 707  | 650  | 615  | 615  | 614  | 606  | 590  | 582  | 583  |
| 32.5° | 755  | 764  | 721  | 633  | 614  | 619  | 604  | 579  | 556  | 547  | 549  |
| 35°   | 831  | 825  | 724  | 623  | 623  | 607  | 568  | 538  | 516  | 504  | 502  |
| 37.5° | 934  | 892  | 721  | 630  | 621  | 565  | 518  | 492  | 469  | 453  | 454  |
| 40°   | 1082 | 975  | 726  | 643  | 587  | 514  | 472  | 450  | 436  | 420  | 421  |
| 42.5° | 1235 | 1080 | 764  | 645  | 534  | 466  | 438  | 430  | 415  | 399  | 396  |
| 45°   | 1361 | 1175 | 862  | 616  | 475  | 426  | 421  | 412  | 391  | 367  | 365  |
| 47.5° | 1473 | 1246 | 986  | 555  | 409  | 406  | 403  | 386  | 359  | 331  | 329  |
| 50°   | 1560 | 1303 | 1080 | 488  | 371  | 389  | 375  | 347  | 312  | 285  | 282  |
| 52.5° | 1631 | 1354 | 1133 | 418  | 346  | 358  | 330  | 301  | 280  | 260  | 258  |
| 55°   | 1698 | 1424 | 1167 | 366  | 309  | 307  | 282  | 271  | 260  | 242  | 238  |
| 57.5° | 1788 | 1531 | 1233 | 352  | 262  | 251  | 252  | 251  | 245  | 231  | 228  |
| 60°   | 1961 | 1724 | 1301 | 326  | 213  | 211  | 236  | 239  | 230  | 214  | 211  |
| 62.5° | 2105 | 1886 | 1186 | 240  | 180  | 190  | 220  | 225  | 209  | 199  | 196  |
| 65°   | 2083 | 1909 | 888  | 166  | 156  | 174  | 205  | 205  | 190  | 185  | 181  |
| 67.5° | 1921 | 1765 | 619  | 137  | 135  | 159  | 190  | 185  | 171  | 167  | 165  |
| 70°   | 1662 | 1508 | 403  | 122  | 118  | 146  | 172  | 164  | 151  | 146  | 146  |
| 71°   | 1531 | 1404 | 305  | 116  | 112  | 140  | 166  | 157  | 143  | 138  | 137  |
| 72.5° | 1333 | 1177 | 208  | 108  | 106  | 132  | 155  | 147  | 132  | 124  | 121  |
| 75°   | 969  | 809  | 103  | 92   | 95   | 120  | 132  | 128  | 123  | 106  | 104  |
| 77.5° | 563  | 468  | 76   | 77   | 83   | 104  | 110  | 102  | 89   | 73   | 70   |
| 80°   | 242  | 190  | 61   | 63   | 69   | 82   | 82   | 72   | 51   | 34   | 33   |
| 82.5° | 59   | 57   | 47   | 47   | 46   | 49   | 50   | 39   | 25   | 10   | 2    |
| 85°   | 21   | 22   | 20   | 19   | 21   | 19   | 16   | 7    | 4    | 2    | 0    |
| 87.5° | 2    | 2    | 2    | 1    | 1    | 1    | 1    | 1    | 0    | 0    | 0    |
| 90°   | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    |

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

Report Prepared for

Cooper Lighting Solutions

McGraw-Edison

Report Number: SP2-2501-321-5

Test Date: 04/10/2025

Luminaire Tested: GKO-PB1E-750-U-T4W

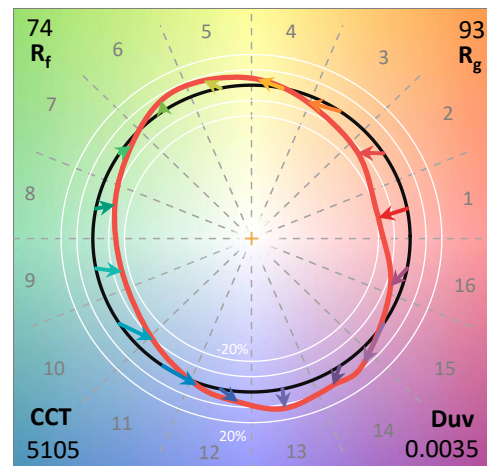
Data in this report applies to families of products including GKO-PB1E-750-U-T4W

### Test Information

Test Method: LM-79-2019  
 Report Number: SP2-2501-321-5  
 Test Lab: COOPER LIGHTING SOLUTIONS  
 Photometer: SP2 - 165CM SPHERE  
 Measurement Geometry:  $4\pi$   
 Issue Date: 04/10/2025  
 Manufacturer: COOPER LIGHTING SOLUTIONS  
 Product Line: McGraw-Edison  
 Catalog Number: **GKO-PB1E-750-U-T4W**  
 Description: Gekko Wedge Wall Pack Fixture 1 SQ w/ T4W distribution

### Spectral Parameters

|                           |          |           |      |      |       |
|---------------------------|----------|-----------|------|------|-------|
| CCT (K):                  | 5105     | CRI (Ra): | 72.2 |      |       |
| CIE u':                   | 0.2079   | R1:       | 68.8 | R9:  | -38.2 |
| CIE v':                   | 0.4868   | R2:       | 78.3 | R10: | 48.2  |
| Duv:                      | 0.0035   | R3:       | 84.9 | R11: | 68.1  |
| CIE x:                    | 0.3428   | R4:       | 71.7 | R12: | 42.9  |
| CIE y:                    | 0.3567   | R5:       | 69.8 | R13: | 70.6  |
| CIE z:                    | 0.3005   | R6:       | 69.8 | R14: | 91.6  |
| Peak Wavelength (nm):     | 451      | R7:       | 81.2 | R15: | 61.7  |
| Dominant Wavelength (nm): | 567      | R8:       | 53.5 |      |       |
| Purity:                   | 9.884628 |           |      |      |       |
| Rf:                       | 74.2     |           |      |      |       |
| Rg:                       | 92.7     |           |      |      |       |



### Test Conditions

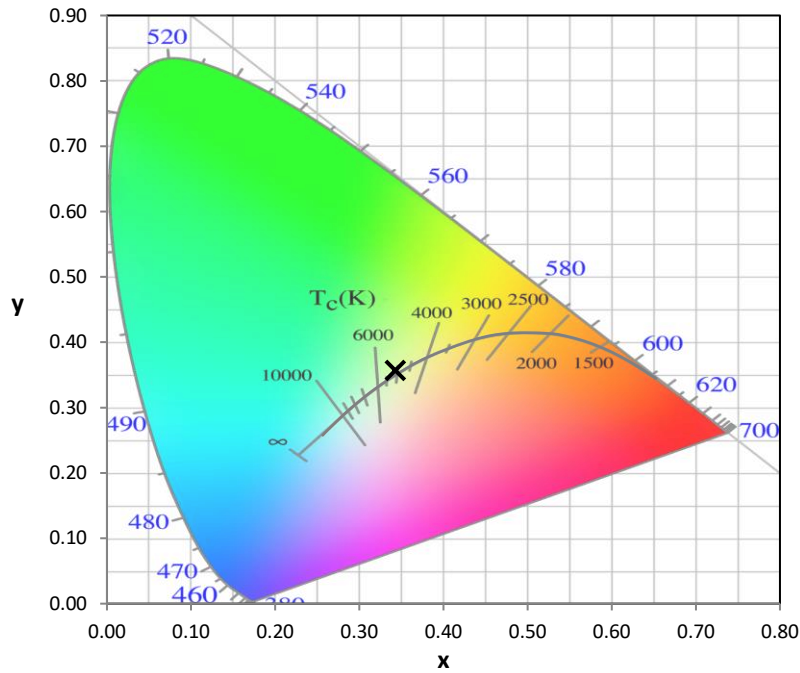
Stabilization Time: 30M  
 Operation Time: 1H 30M  
 Sphere Temperature (°C): 25.0

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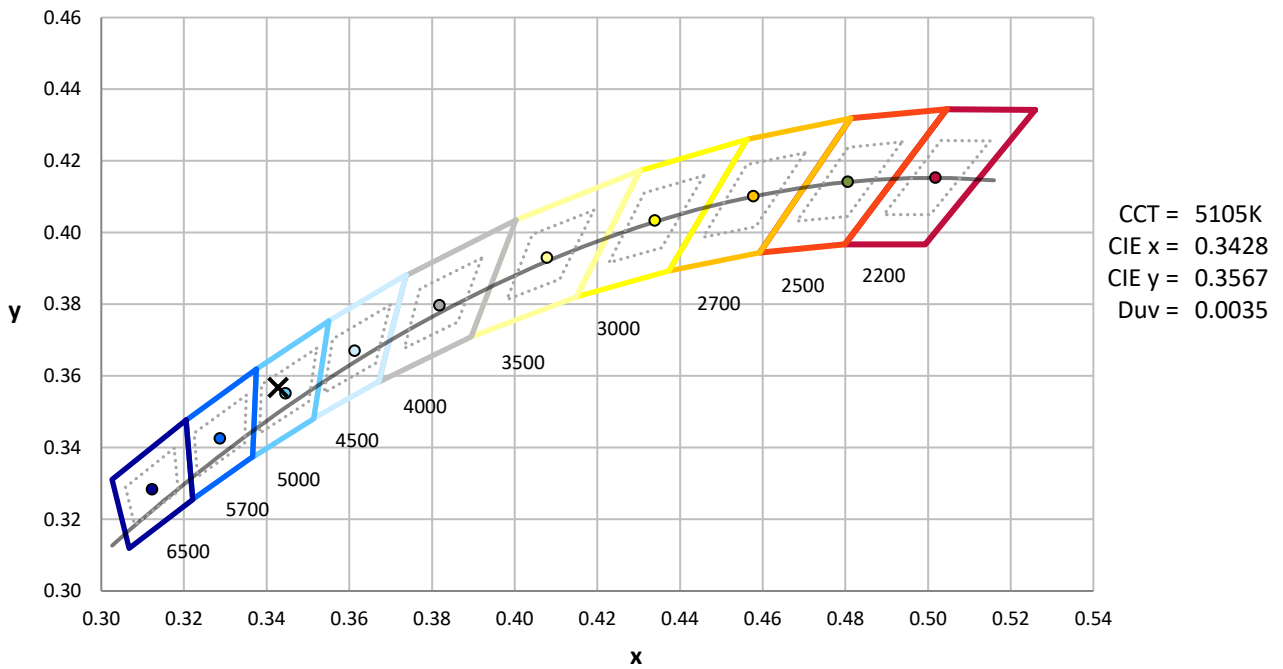
| Measurement and Test Equipment |                       |                  |                      |
|--------------------------------|-----------------------|------------------|----------------------|
| Instrument                     | Identification Number | Calibration Date | Calibration Due Date |
| Photometer                     | IN2187                | 1/6/2025         | 7/6/2025             |
| Power Meter                    | INXT2011002           | 1/21/2025        | 1/21/2026            |
| AC Power Source                | IN0458                | 10/22/2024       | 10/22/2025           |
| DC Power Source                | IN0212                | 10/22/2024       | 10/22/2025           |
| Sphere Thermometer             | IN4036B               | 10/22/2024       | 10/22/2025           |
| Room Thermometer               | IN0046                | 10/22/2024       | 10/22/2025           |

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**CIE 1931 Chromaticity Diagram**



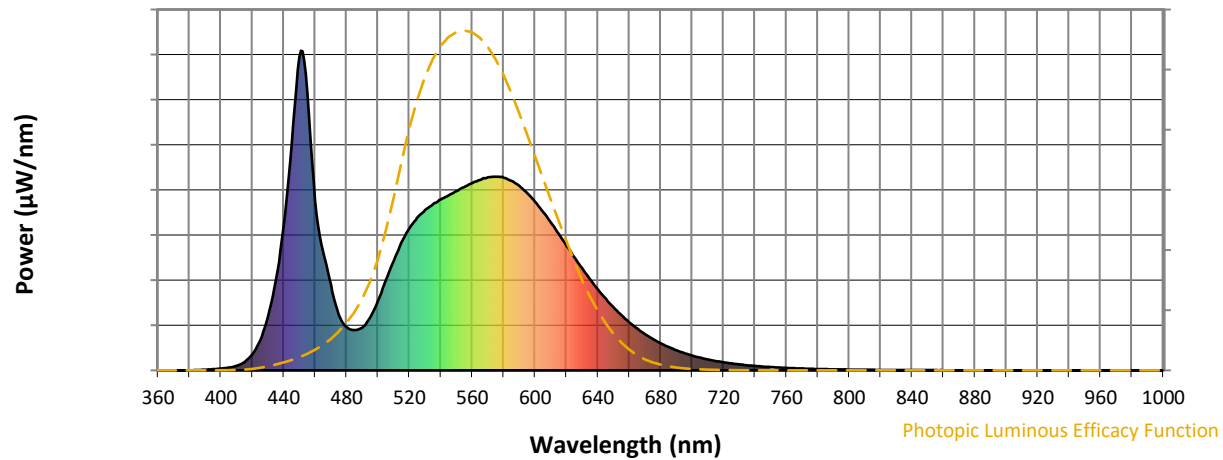
**CIE 1931 Chromaticity Diagram with 2017 ANSI 7-Step and 4-Step Quadrangles**



Point lies inside the ANSI 5000K 4-step quadrangle

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### Photopic Flux vs. Wavelength

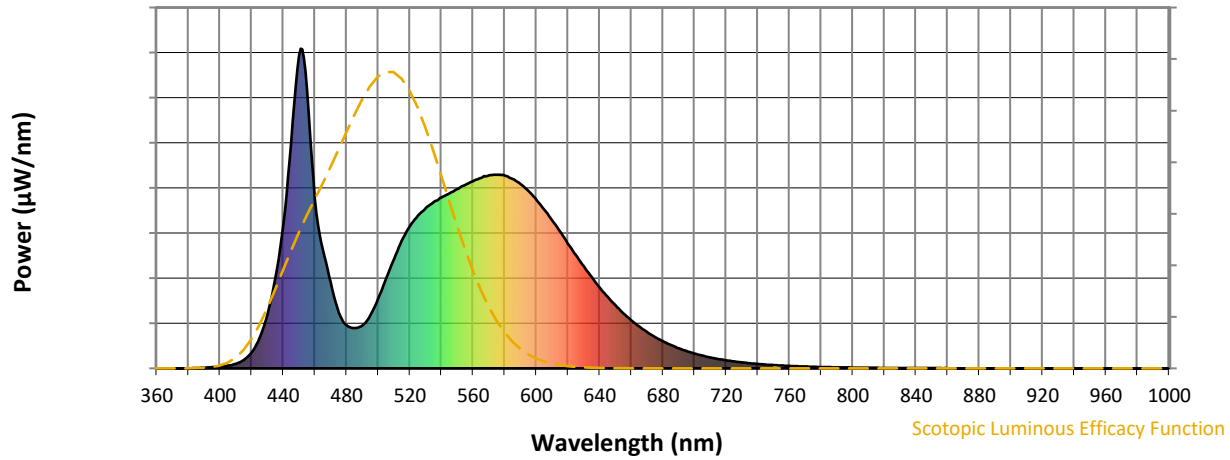


### Photopic Lumens: NR

| λ<br>(nm) | Power<br>W <sup>^</sup> /nm | Lumens<br>(φ/nm) | λ<br>(nm) | Power<br>W <sup>^</sup> /nm | Lumens<br>(φ/nm) | λ<br>(nm) | Power<br>W <sup>^</sup> /nm | Lumens<br>(φ/nm) | λ<br>(nm) | Power<br>W <sup>^</sup> /nm | Lumens<br>(φ/nm) | λ<br>(nm) | Power<br>W <sup>^</sup> /nm | Lumens<br>(φ/nm) |
|-----------|-----------------------------|------------------|-----------|-----------------------------|------------------|-----------|-----------------------------|------------------|-----------|-----------------------------|------------------|-----------|-----------------------------|------------------|
| 360       | 0                           | NR               | 490       | 134                         | NR               | 620       | 390                         | NR               | 750       | 10                          | NR               | 880       | 0                           | NR               |
| 365       | 0                           | NR               | 495       | 165                         | NR               | 625       | 354                         | NR               | 755       | 9                           | NR               | 885       | 0                           | NR               |
| 370       | 0                           | NR               | 500       | 218                         | NR               | 630       | 319                         | NR               | 760       | 8                           | NR               | 890       | 0                           | NR               |
| 375       | 0                           | NR               | 505       | 281                         | NR               | 635       | 285                         | NR               | 765       | 7                           | NR               | 895       | 0                           | NR               |
| 380       | 0                           | NR               | 510       | 343                         | NR               | 640       | 254                         | NR               | 770       | 6                           | NR               | 900       | 0                           | NR               |
| 385       | 1                           | NR               | 515       | 400                         | NR               | 645       | 224                         | NR               | 775       | 5                           | NR               | 905       | 0                           | NR               |
| 390       | 2                           | NR               | 520       | 444                         | NR               | 650       | 197                         | NR               | 780       | 4                           | NR               | 910       | 0                           | NR               |
| 395       | 4                           | NR               | 525       | 477                         | NR               | 655       | 173                         | NR               | 785       | 4                           | NR               | 915       | 0                           | NR               |
| 400       | 6                           | NR               | 530       | 501                         | NR               | 660       | 150                         | NR               | 790       | 3                           | NR               | 920       | 0                           | NR               |
| 405       | 9                           | NR               | 535       | 520                         | NR               | 665       | 131                         | NR               | 795       | 3                           | NR               | 925       | 0                           | NR               |
| 410       | 14                          | NR               | 540       | 534                         | NR               | 670       | 113                         | NR               | 800       | 2                           | NR               | 930       | 0                           | NR               |
| 415       | 26                          | NR               | 545       | 547                         | NR               | 675       | 98                          | NR               | 805       | 2                           | NR               | 935       | 0                           | NR               |
| 420       | 50                          | NR               | 550       | 561                         | NR               | 680       | 85                          | NR               | 810       | 2                           | NR               | 940       | 0                           | NR               |
| 425       | 95                          | NR               | 555       | 574                         | NR               | 685       | 73                          | NR               | 815       | 2                           | NR               | 945       | 0                           | NR               |
| 430       | 168                         | NR               | 560       | 586                         | NR               | 690       | 63                          | NR               | 820       | 1                           | NR               | 950       | 0                           | NR               |
| 435       | 284                         | NR               | 565       | 596                         | NR               | 695       | 54                          | NR               | 825       | 1                           | NR               | 955       | 0                           | NR               |
| 440       | 452                         | NR               | 570       | 604                         | NR               | 700       | 46                          | NR               | 830       | 1                           | NR               | 960       | 0                           | NR               |
| 445       | 705                         | NR               | 575       | 606                         | NR               | 705       | 40                          | NR               | 835       | 1                           | NR               | 965       | 0                           | NR               |
| 450       | 980                         | NR               | 580       | 603                         | NR               | 710       | 34                          | NR               | 840       | 1                           | NR               | 970       | 0                           | NR               |
| 455       | 869                         | NR               | 585       | 592                         | NR               | 715       | 29                          | NR               | 845       | 1                           | NR               | 975       | 0                           | NR               |
| 460       | 531                         | NR               | 590       | 577                         | NR               | 720       | 25                          | NR               | 850       | 1                           | NR               | 980       | 0                           | NR               |
| 465       | 372                         | NR               | 595       | 554                         | NR               | 725       | 22                          | NR               | 855       | 1                           | NR               | 985       | 0                           | NR               |
| 470       | 268                         | NR               | 600       | 527                         | NR               | 730       | 19                          | NR               | 860       | 1                           | NR               | 990       | 0                           | NR               |
| 475       | 174                         | NR               | 605       | 497                         | NR               | 735       | 16                          | NR               | 865       | 0                           | NR               | 995       | 0                           | NR               |
| 480       | 135                         | NR               | 610       | 462                         | NR               | 740       | 14                          | NR               | 870       | 0                           | NR               | 1000      | 0                           | NR               |
| 485       | 126                         | NR               | 615       | 428                         | NR               | 745       | 12                          | NR               | 875       | 0                           | NR               |           |                             |                  |

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### Scotopic Flux vs. Wavelength



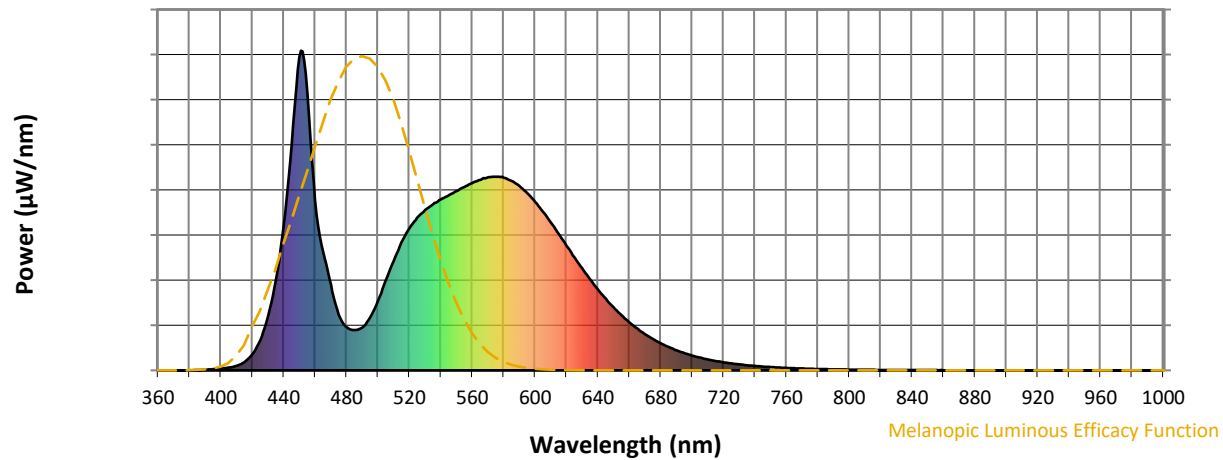
Scotopic Lumens: NR

S/P: 1.82

| 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    | 134                      | NR            | 620    | 390                      | NR            | 750    | 10                       | NR            | 880    | 0                        | NR            |
| 365    | 0                        | NR            | 495    | 165                      | NR            | 625    | 354                      | NR            | 755    | 9                        | NR            | 885    | 0                        | NR            |
| 370    | 0                        | NR            | 500    | 218                      | NR            | 630    | 319                      | NR            | 760    | 8                        | NR            | 890    | 0                        | NR            |
| 375    | 0                        | NR            | 505    | 281                      | NR            | 635    | 285                      | NR            | 765    | 7                        | NR            | 895    | 0                        | NR            |
| 380    | 0                        | NR            | 510    | 343                      | NR            | 640    | 254                      | NR            | 770    | 6                        | NR            | 900    | 0                        | NR            |
| 385    | 1                        | NR            | 515    | 400                      | NR            | 645    | 224                      | NR            | 775    | 5                        | NR            | 905    | 0                        | NR            |
| 390    | 2                        | NR            | 520    | 444                      | NR            | 650    | 197                      | NR            | 780    | 4                        | NR            | 910    | 0                        | NR            |
| 395    | 4                        | NR            | 525    | 477                      | NR            | 655    | 173                      | NR            | 785    | 4                        | NR            | 915    | 0                        | NR            |
| 400    | 6                        | NR            | 530    | 501                      | NR            | 660    | 150                      | NR            | 790    | 3                        | NR            | 920    | 0                        | NR            |
| 405    | 9                        | NR            | 535    | 520                      | NR            | 665    | 131                      | NR            | 795    | 3                        | NR            | 925    | 0                        | NR            |
| 410    | 14                       | NR            | 540    | 534                      | NR            | 670    | 113                      | NR            | 800    | 2                        | NR            | 930    | 0                        | NR            |
| 415    | 26                       | NR            | 545    | 547                      | NR            | 675    | 98                       | NR            | 805    | 2                        | NR            | 935    | 0                        | NR            |
| 420    | 50                       | NR            | 550    | 561                      | NR            | 680    | 85                       | NR            | 810    | 2                        | NR            | 940    | 0                        | NR            |
| 425    | 95                       | NR            | 555    | 574                      | NR            | 685    | 73                       | NR            | 815    | 2                        | NR            | 945    | 0                        | NR            |
| 430    | 168                      | NR            | 560    | 586                      | NR            | 690    | 63                       | NR            | 820    | 1                        | NR            | 950    | 0                        | NR            |
| 435    | 284                      | NR            | 565    | 596                      | NR            | 695    | 54                       | NR            | 825    | 1                        | NR            | 955    | 0                        | NR            |
| 440    | 452                      | NR            | 570    | 604                      | NR            | 700    | 46                       | NR            | 830    | 1                        | NR            | 960    | 0                        | NR            |
| 445    | 705                      | NR            | 575    | 606                      | NR            | 705    | 40                       | NR            | 835    | 1                        | NR            | 965    | 0                        | NR            |
| 450    | 980                      | NR            | 580    | 603                      | NR            | 710    | 34                       | NR            | 840    | 1                        | NR            | 970    | 0                        | NR            |
| 455    | 869                      | NR            | 585    | 592                      | NR            | 715    | 29                       | NR            | 845    | 1                        | NR            | 975    | 0                        | NR            |
| 460    | 531                      | NR            | 590    | 577                      | NR            | 720    | 25                       | NR            | 850    | 1                        | NR            | 980    | 0                        | NR            |
| 465    | 372                      | NR            | 595    | 554                      | NR            | 725    | 22                       | NR            | 855    | 1                        | NR            | 985    | 0                        | NR            |
| 470    | 268                      | NR            | 600    | 527                      | NR            | 730    | 19                       | NR            | 860    | 1                        | NR            | 990    | 0                        | NR            |
| 475    | 174                      | NR            | 605    | 497                      | NR            | 735    | 16                       | NR            | 865    | 0                        | NR            | 995    | 0                        | NR            |
| 480    | 135                      | NR            | 610    | 462                      | NR            | 740    | 14                       | NR            | 870    | 0                        | NR            | 1000   | 0                        | NR            |
| 485    | 126                      | NR            | 615    | 428                      | NR            | 745    | 12                       | NR            | 875    | 0                        | NR            |        |                          |               |

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### Melanopic Flux vs. Wavelength



Melanopic Lumens: NR

M/P: 3.75

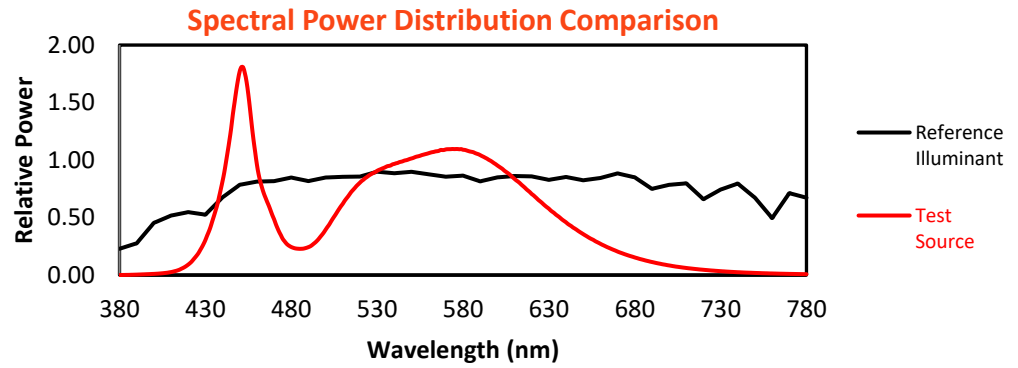
| λ<br>(nm) | Power<br>W <sup>^</sup> /nm | Lumens<br>(φ/nm) | λ<br>(nm) | Power<br>W <sup>^</sup> /nm | Lumens<br>(φ/nm) | λ<br>(nm) | Power<br>W <sup>^</sup> /nm | Lumens<br>(φ/nm) | λ<br>(nm) | Power<br>W <sup>^</sup> /nm | Lumens<br>(φ/nm) | λ<br>(nm) | Power<br>W <sup>^</sup> /nm | Lumens<br>(φ/nm) |
|-----------|-----------------------------|------------------|-----------|-----------------------------|------------------|-----------|-----------------------------|------------------|-----------|-----------------------------|------------------|-----------|-----------------------------|------------------|
| 360       | 0                           | NR               | 490       | 134                         | NR               | 620       | 390                         | NR               | 750       | 10                          | NR               | 880       | 0                           | NR               |
| 365       | 0                           | NR               | 495       | 165                         | NR               | 625       | 354                         | NR               | 755       | 9                           | NR               | 885       | 0                           | NR               |
| 370       | 0                           | NR               | 500       | 218                         | NR               | 630       | 319                         | NR               | 760       | 8                           | NR               | 890       | 0                           | NR               |
| 375       | 0                           | NR               | 505       | 281                         | NR               | 635       | 285                         | NR               | 765       | 7                           | NR               | 895       | 0                           | NR               |
| 380       | 0                           | NR               | 510       | 343                         | NR               | 640       | 254                         | NR               | 770       | 6                           | NR               | 900       | 0                           | NR               |
| 385       | 1                           | NR               | 515       | 400                         | NR               | 645       | 224                         | NR               | 775       | 5                           | NR               | 905       | 0                           | NR               |
| 390       | 2                           | NR               | 520       | 444                         | NR               | 650       | 197                         | NR               | 780       | 4                           | NR               | 910       | 0                           | NR               |
| 395       | 4                           | NR               | 525       | 477                         | NR               | 655       | 173                         | NR               | 785       | 4                           | NR               | 915       | 0                           | NR               |
| 400       | 6                           | NR               | 530       | 501                         | NR               | 660       | 150                         | NR               | 790       | 3                           | NR               | 920       | 0                           | NR               |
| 405       | 9                           | NR               | 535       | 520                         | NR               | 665       | 131                         | NR               | 795       | 3                           | NR               | 925       | 0                           | NR               |
| 410       | 14                          | NR               | 540       | 534                         | NR               | 670       | 113                         | NR               | 800       | 2                           | NR               | 930       | 0                           | NR               |
| 415       | 26                          | NR               | 545       | 547                         | NR               | 675       | 98                          | NR               | 805       | 2                           | NR               | 935       | 0                           | NR               |
| 420       | 50                          | NR               | 550       | 561                         | NR               | 680       | 85                          | NR               | 810       | 2                           | NR               | 940       | 0                           | NR               |
| 425       | 95                          | NR               | 555       | 574                         | NR               | 685       | 73                          | NR               | 815       | 2                           | NR               | 945       | 0                           | NR               |
| 430       | 168                         | NR               | 560       | 586                         | NR               | 690       | 63                          | NR               | 820       | 1                           | NR               | 950       | 0                           | NR               |
| 435       | 284                         | NR               | 565       | 596                         | NR               | 695       | 54                          | NR               | 825       | 1                           | NR               | 955       | 0                           | NR               |
| 440       | 452                         | NR               | 570       | 604                         | NR               | 700       | 46                          | NR               | 830       | 1                           | NR               | 960       | 0                           | NR               |
| 445       | 705                         | NR               | 575       | 606                         | NR               | 705       | 40                          | NR               | 835       | 1                           | NR               | 965       | 0                           | NR               |
| 450       | 980                         | NR               | 580       | 603                         | NR               | 710       | 34                          | NR               | 840       | 1                           | NR               | 970       | 0                           | NR               |
| 455       | 869                         | NR               | 585       | 592                         | NR               | 715       | 29                          | NR               | 845       | 1                           | NR               | 975       | 0                           | NR               |
| 460       | 531                         | NR               | 590       | 577                         | NR               | 720       | 25                          | NR               | 850       | 1                           | NR               | 980       | 0                           | NR               |
| 465       | 372                         | NR               | 595       | 554                         | NR               | 725       | 22                          | NR               | 855       | 1                           | NR               | 985       | 0                           | NR               |
| 470       | 268                         | NR               | 600       | 527                         | NR               | 730       | 19                          | NR               | 860       | 1                           | NR               | 990       | 0                           | NR               |
| 475       | 174                         | NR               | 605       | 497                         | NR               | 735       | 16                          | NR               | 865       | 0                           | NR               | 995       | 0                           | NR               |
| 480       | 135                         | NR               | 610       | 462                         | NR               | 740       | 14                          | NR               | 870       | 0                           | NR               | 1000      | 0                           | NR               |
| 485       | 126                         | NR               | 615       | 428                         | NR               | 745       | 12                          | NR               | 875       | 0                           | NR               |           |                             |                  |

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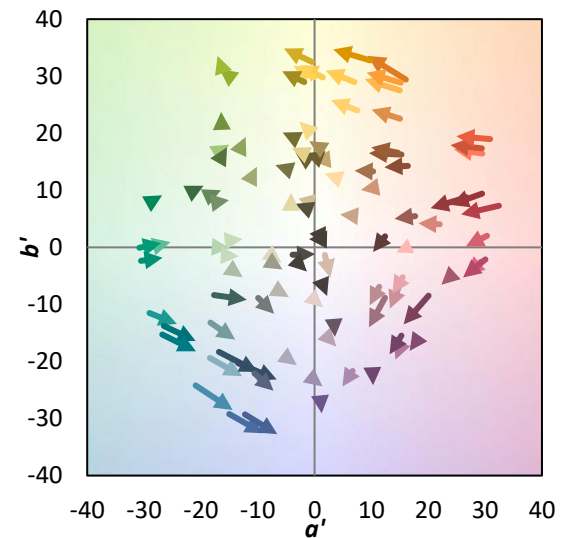
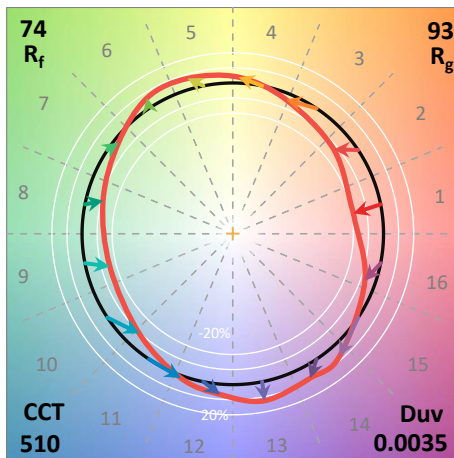
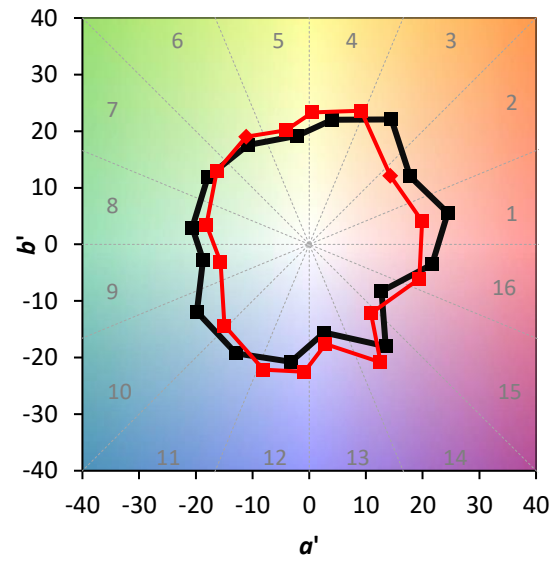
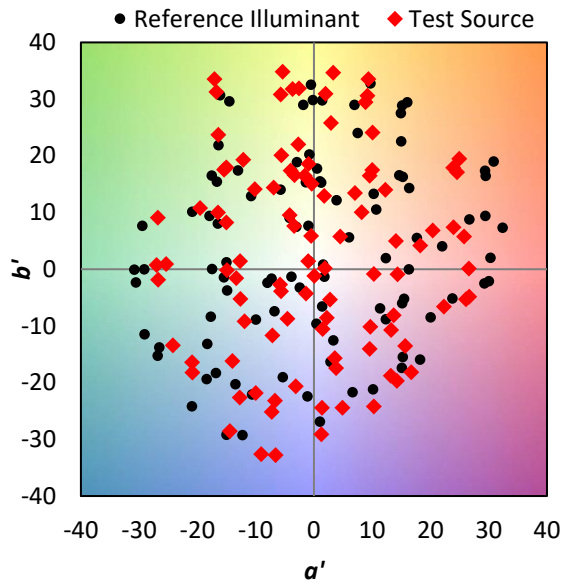
TM-30-18

### Summary

$R_f = 74.2$   
 $R_g = 92.7$   
 $\text{CIE } R_a = 72.2$   
 $R_g = -38.2$

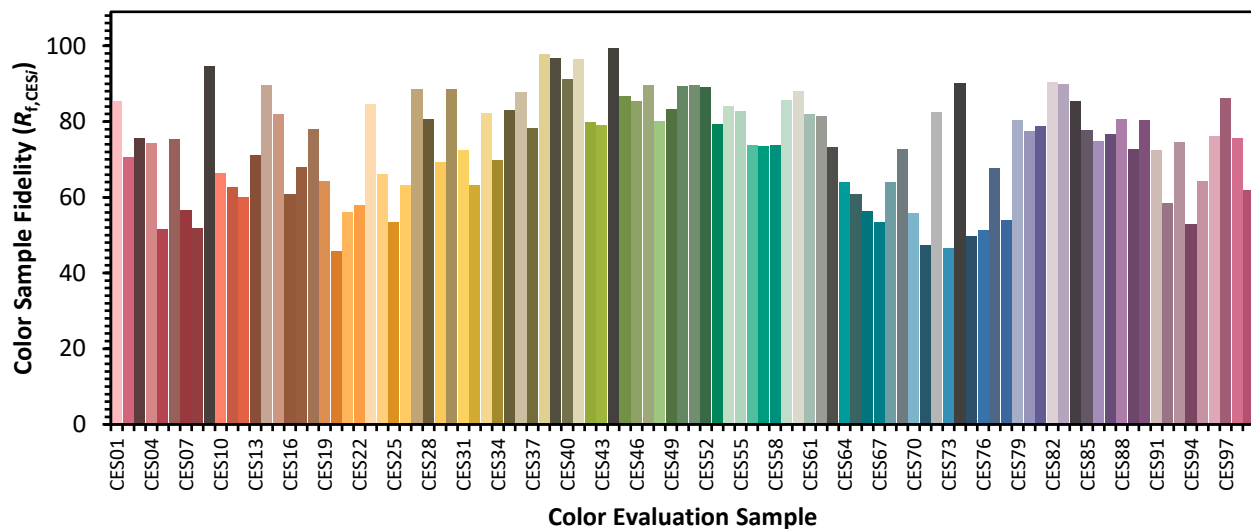


### Color Vector Graphics

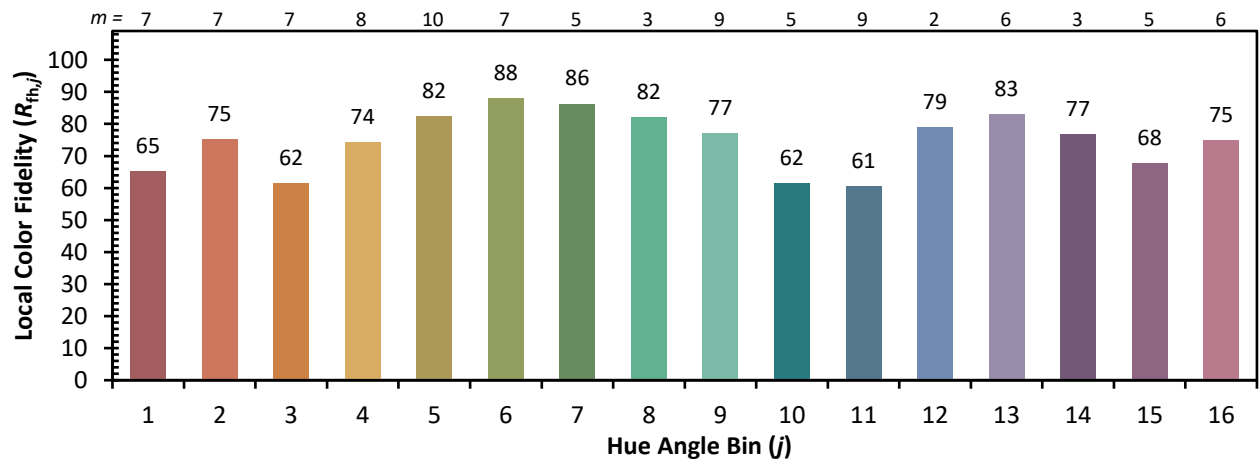
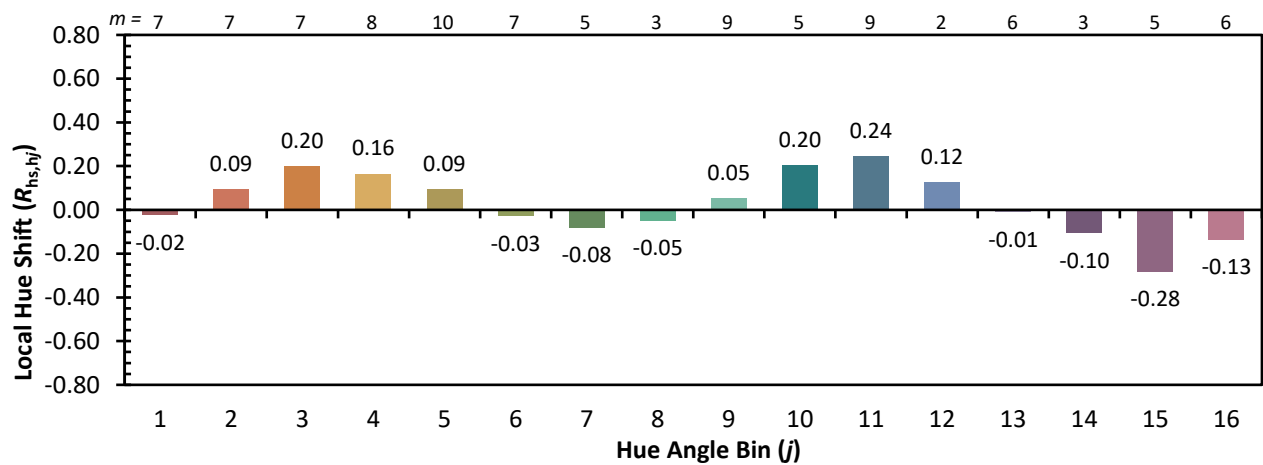
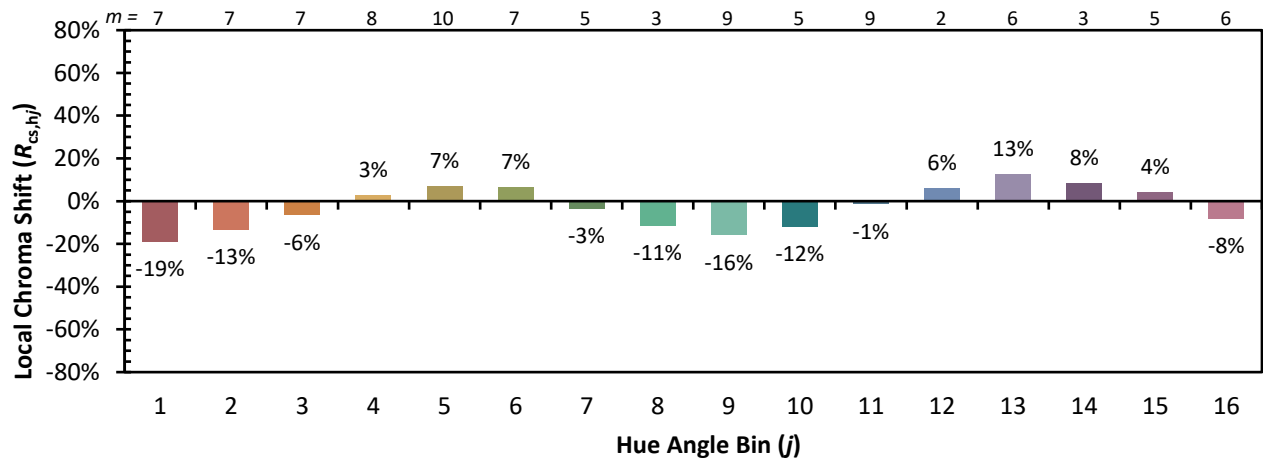


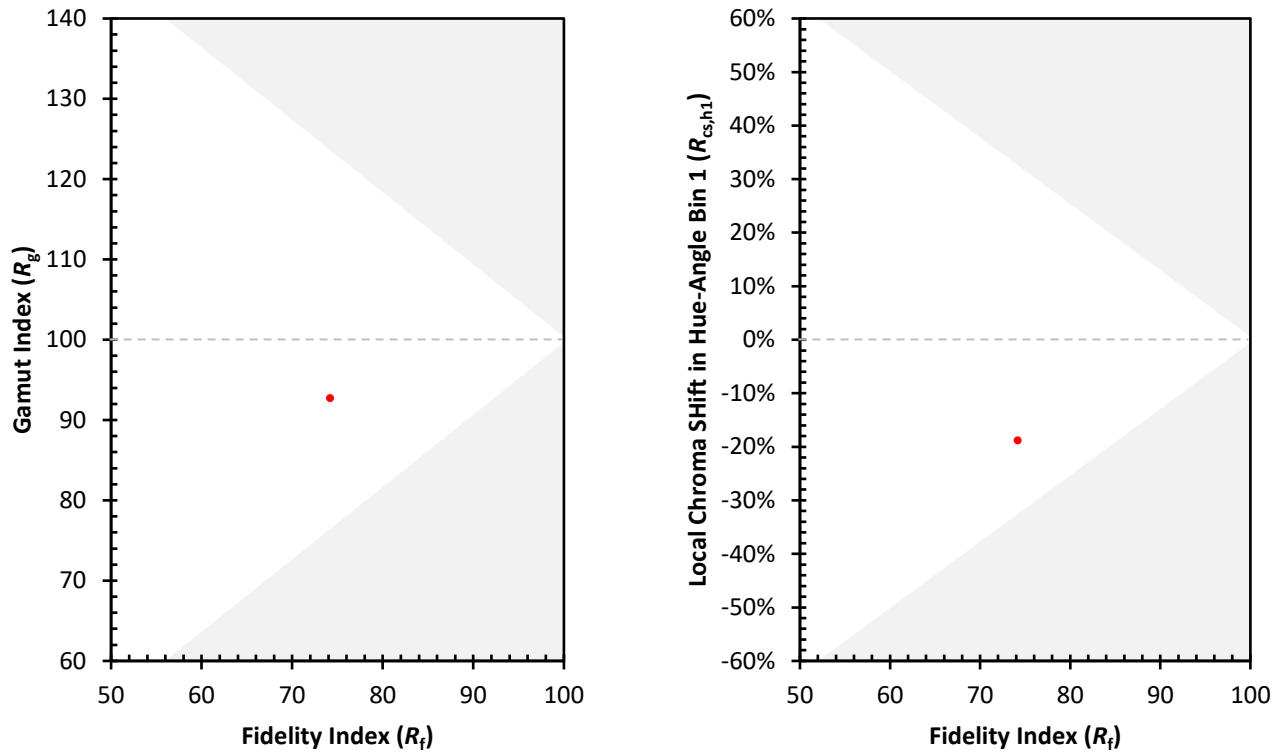
**Individual Sample Fidelity Index ( $R_{f,i}$ )**

|            |            |            |            |
|------------|------------|------------|------------|
| CES01 = 85 | CES26 = 63 | CES51 = 89 | CES76 = 51 |
| CES02 = 59 | CES27 = 89 | CES52 = 89 | CES77 = 68 |
| CES03 = 30 | CES28 = 81 | CES53 = 79 | CES78 = 54 |
| CES04 = 69 | CES29 = 69 | CES54 = 84 | CES79 = 80 |
| CES05 = 46 | CES30 = 88 | CES55 = 83 | CES80 = 77 |
| CES06 = 50 | CES31 = 72 | CES56 = 74 | CES81 = 79 |
| CES07 = 38 | CES32 = 63 | CES57 = 73 | CES82 = 91 |
| CES08 = 38 | CES33 = 82 | CES58 = 74 | CES83 = 90 |
| CES09 = 29 | CES34 = 70 | CES59 = 86 | CES84 = 85 |
| CES10 = 72 | CES35 = 83 | CES60 = 88 | CES85 = 78 |
| CES11 = 56 | CES36 = 88 | CES61 = 82 | CES86 = 75 |
| CES12 = 61 | CES37 = 78 | CES62 = 81 | CES87 = 77 |
| CES13 = 41 | CES38 = 98 | CES63 = 73 | CES88 = 81 |
| CES14 = 74 | CES39 = 97 | CES64 = 64 | CES89 = 73 |
| CES15 = 70 | CES40 = 91 | CES65 = 61 | CES90 = 80 |
| CES16 = 46 | CES41 = 96 | CES66 = 56 | CES91 = 72 |
| CES17 = 49 | CES42 = 80 | CES67 = 54 | CES92 = 58 |
| CES18 = 55 | CES43 = 79 | CES68 = 64 | CES93 = 75 |
| CES19 = 71 | CES44 = 99 | CES69 = 73 | CES94 = 53 |
| CES20 = 63 | CES45 = 87 | CES70 = 56 | CES95 = 64 |
| CES21 = 85 | CES46 = 85 | CES71 = 47 | CES96 = 76 |
| CES22 = 77 | CES47 = 90 | CES72 = 82 | CES97 = 86 |
| CES23 = 91 | CES48 = 80 | CES73 = 47 | CES98 = 76 |
| CES24 = 90 | CES49 = 83 | CES74 = 90 | CES99 = 62 |
| CES25 = 71 | CES50 = 89 | CES75 = 50 |            |



Color Rendition by Hue-Angle Bin



**Measure Comparisons**


(END OF REPORT)