

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: IRiS

Report Number: P1261116

Luminaire Tested: P3A24R459050D010 E3CB1MMS

Issue Date: 1/30/2026

**Test Information**

Test Method: LM-79-2019  
Report Number: P1261116  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G1-2601-647-28)  
Test Lab: INNOVATION CENTER  
Issue Date: 1/30/2026  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: IRiS  
Catalog Number: P3A24R459050D010 E3CB1MMS  
Description: 3in Adjustable LED luminaire with, R45 optic, 5000K CCT AND, 90CRI , E3CB1MMS TRIM  
Light Source: -  
Ballast/Driver: -

**Summary**

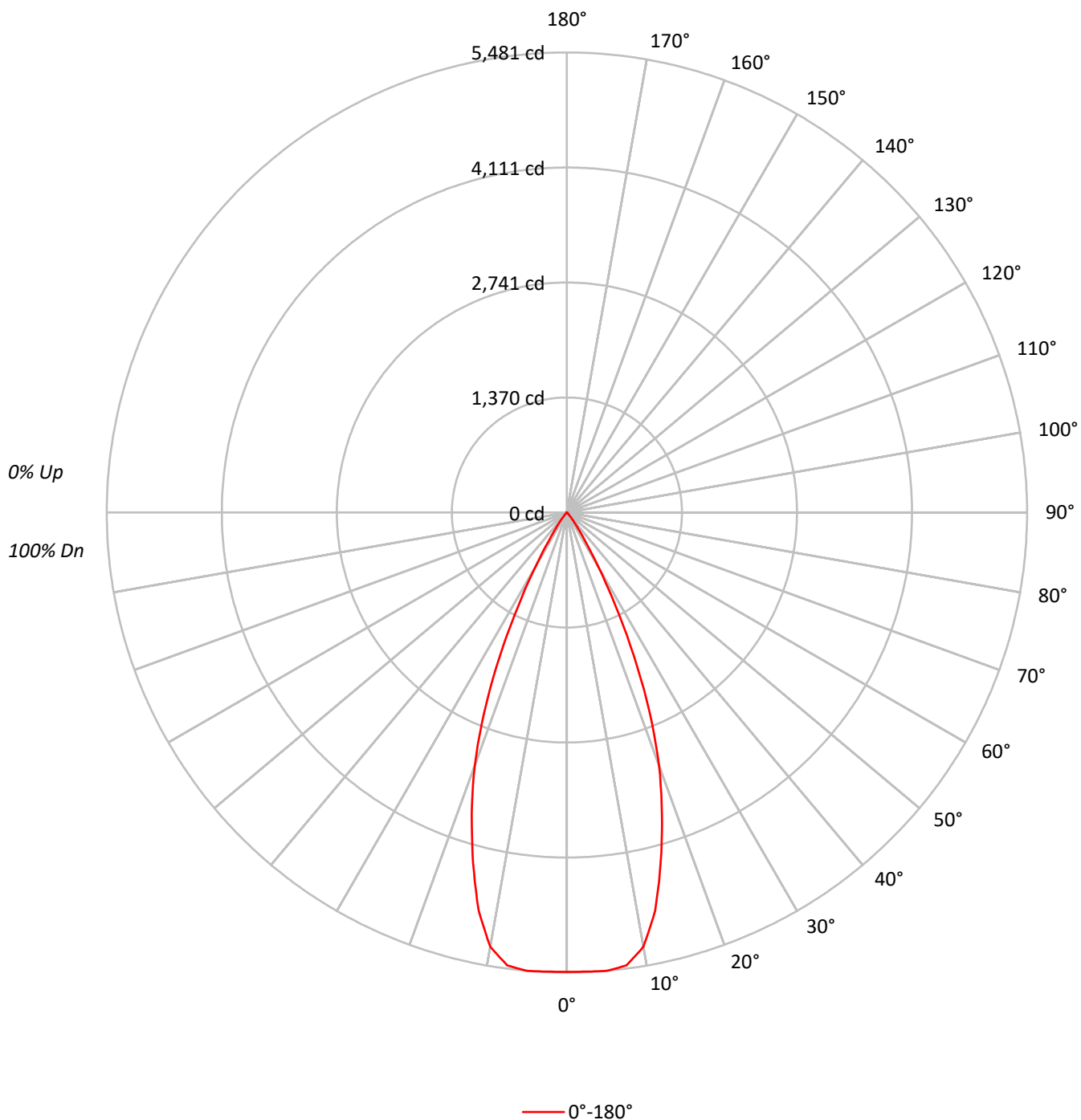
Lumens per Lamp: N/A  
Luminaire Lumens: 2768.1 lumens  
Efficiency: N/A  
Efficacy: 96.1 lumens/watt  
Spacing Criteria (0/90/45): 0.72 / 0.72 / 0.66  
Luminous Opening: Circular (Dia: 0.25' x H: 0')  
CIE Type: Direct

Input Watts (W): 28.8  
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: P1261116

CATALOG NUMBER: P3A24R459050D010 E3CB1MMS

### Luminous Intensity Polar Plot



TEST NUMBER: P1261116

CATALOG NUMBER: P3A24R459050D010 E3CB1MMS

**COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:**

|     |     |     |     |     |     |     |     |     |     |     |     |  |     |     |     |  |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|-----|-----|-----|--|-----|
| RF  | 20  |     |     |     | 20  |     |     |     | 20  |     |     |  | 20  |     |     |  | 20  |
| RC  | 80  |     |     |     | 70  |     |     |     | 50  |     |     |  | 30  |     |     |  | 10  |
| RW  | 70  | 50  | 30  | 10  | 70  | 50  | 30  | 10  | 50  | 30  | 10  |  | 50  | 30  | 10  |  | 50  |
| RCR |     |     |     |     |     |     |     |     |     |     |     |  |     |     |     |  |     |
| 0   | 119 | 119 | 119 | 119 | 116 | 116 | 116 | 116 | 111 | 111 | 111 |  | 106 | 106 | 106 |  | 102 |
| 1   | 114 | 112 | 110 | 108 | 112 | 110 | 108 | 106 | 106 | 104 | 103 |  | 102 | 101 | 100 |  | 99  |
| 2   | 110 | 106 | 102 | 100 | 108 | 104 | 101 | 98  | 101 | 98  | 96  |  | 98  | 96  | 94  |  | 95  |
| 3   | 106 | 100 | 96  | 93  | 104 | 99  | 95  | 92  | 96  | 93  | 91  |  | 94  | 91  | 89  |  | 92  |
| 4   | 102 | 95  | 91  | 87  | 100 | 94  | 90  | 87  | 92  | 89  | 86  |  | 90  | 87  | 85  |  | 88  |
| 5   | 98  | 91  | 86  | 82  | 96  | 90  | 85  | 82  | 88  | 84  | 81  |  | 87  | 83  | 81  |  | 85  |
| 6   | 94  | 87  | 82  | 78  | 93  | 86  | 81  | 78  | 85  | 80  | 77  |  | 83  | 80  | 77  |  | 82  |
| 7   | 90  | 83  | 78  | 74  | 89  | 82  | 78  | 74  | 81  | 77  | 74  |  | 80  | 76  | 74  |  | 79  |
| 8   | 87  | 79  | 74  | 71  | 86  | 79  | 74  | 71  | 78  | 74  | 71  |  | 77  | 73  | 70  |  | 76  |
| 9   | 84  | 76  | 71  | 68  | 83  | 76  | 71  | 68  | 75  | 71  | 68  |  | 74  | 70  | 67  |  | 73  |
| 10  | 81  | 73  | 68  | 65  | 80  | 73  | 68  | 65  | 72  | 68  | 65  |  | 71  | 67  | 65  |  | 71  |

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

|     |         |
|-----|---------|
|     | 0°      |
| 0°  | 1200079 |
| 5°  | 1206490 |
| 10° | 1169406 |
| 15° | 979960  |
| 20° | 749112  |
| 25° | 456026  |
| 30° | 189751  |
| 35° | 60793   |
| 40° | 18921   |
| 45° | 3845    |
| 50° | 2831    |
| 55° | 3173    |
| 60° | 2719    |
| 65° | 3217    |
| 70° | 2629    |
| 75° | 3474    |
| 80° | 2652    |
| 85° | 0       |

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 3845 cd/sqm

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CATALOG NUMBER: P3A24R459050D010 E3CB1MMS

**ZONAL LUMENS:**

| Zone      | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10°    | 516.9  | 18.7      |
| 10°-20°   | 1186.4 | 42.9      |
| 20°-30°   | 854.3  | 30.9      |
| 30°-40°   | 177.7  | 6.4       |
| 40°-50°   | 16.3   | 0.6       |
| 50°-60°   | 6.7    | 0.2       |
| 60°-70°   | 5.4    | 0.2       |
| 70°-80°   | 3.5    | 0.1       |
| 80°-90°   | 0.9    | 0.0       |
| 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       |
| <hr/>     |        |           |
| 0°-30°    | 2557.6 | 92.4      |
| 0°-40°    | 2735.3 | 98.8      |
| 0°-60°    | 2758.3 | 99.6      |
| 0°-90°    | 2768.1 | 100.0     |
| 90°-120°  | 0.0    | 0.0       |
| 90°-150°  | 0.0    | 0.0       |
| 90°-180°  | 0.0    | 0.0       |
| 0°-180°   | 2768.1 | 100.0     |

**CANDELA DISTRIBUTION:**

|     | 0°   | Flux |
|-----|------|------|
| 0°  | 5473 |      |
| 5°  | 5481 | 517  |
| 15° | 4317 | 1186 |
| 25° | 1885 | 854  |
| 35° | 227  | 178  |
| 45° | 12   | 16   |
| 55° | 8    | 7    |
| 65° | 6    | 5    |
| 75° | 4    | 4    |
| 85° | 0    | 1    |
| 90° | 0    |      |

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CATALOG NUMBER: P3A24R459050D010 E3CB1MMS

**CANDELA DISTRIBUTION (FULL):**

| 0°    |        |
|-------|--------|
| 0°    | 5472.8 |
| 2.5°  | 5474.9 |
| 5°    | 5481.1 |
| 7.5°  | 5441.8 |
| 10°   | 5251.9 |
| 12.5° | 4855.5 |
| 15°   | 4316.7 |
| 17.5° | 3765.5 |
| 20°   | 3210.2 |
| 22.5° | 2572.3 |
| 25°   | 1884.8 |
| 27.5° | 1242.8 |
| 30°   | 749.4  |
| 32.5° | 419.1  |
| 35°   | 227.1  |
| 37.5° | 128.0  |
| 40°   | 66.1   |
| 42.5° | 28.9   |
| 45°   | 12.4   |
| 47.5° | 8.3    |
| 50°   | 8.3    |
| 52.5° | 8.3    |
| 55°   | 8.3    |
| 57.5° | 6.2    |
| 60°   | 6.2    |
| 62.5° | 6.2    |
| 65°   | 6.2    |
| 67.5° | 4.1    |
| 70°   | 4.1    |
| 72.5° | 4.1    |
| 75°   | 4.1    |
| 77.5° | 2.1    |
| 80°   | 2.1    |
| 82.5° | 2.1    |
| 85°   | 0.0    |
| 87.5° | 0.0    |
| 90°   | 0.0    |

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

Report Prepared for

Cooper Lighting Solutions

IRiS

Report Number: SP1-2508-518-5

Test Date: 09/11/2025

Luminaire Tested: LD3A24R159050D010 E3D1LI

Data in this report applies to families of products including LD3A24R159050D010 E3D1LI

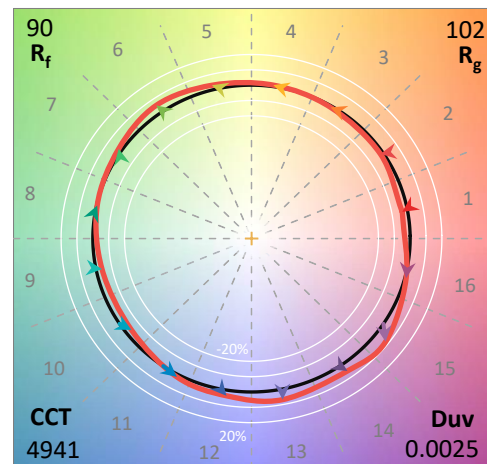
### Test Information

Test Method: LM-79-2019  
 Report Number: SP1-2508-518-5  
 Test Lab: COOPER LIGHTING SOLUTIONS  
 Photometer: SP1 - 76IN SPHERE  
 Measurement Geometry:  $4\pi$   
 Issue Date: 09/16/2025  
 Manufacturer: COOPER LIGHTING SOLUTIONS  
 Product Line: IRiS  
 Catalog Number: **LD3A24R159050D010 E3D1LI**  
 Description: 3in Adjustable LED luminaire with, R15 optic, 5000K CCT AND, 90CRI , E3D1LI TRIM

### Spectral Parameters

CCT (K): 4941  
 CIE  $u'$ : 0.2103  
 CIE  $v'$ : 0.4882  
 Duv: 0.0025  
 CIE x: 0.3473  
 CIE y: 0.3583  
 CIE z: 0.2944  
 Peak Wavelength (nm): 630  
 Dominant Wavelength (nm): 571  
 Purity: 11.7232  
 R<sub>f</sub>: 90.3  
 R<sub>g</sub>: 102.5

CRI (Ra): 92.8  
 R1: 95.7  
 R2: 92.6  
 R3: 86.9  
 R4: 93.9  
 R5: 93.3  
 R6: 89.1  
 R7: 95.4  
 R8: 95.4  
 R9: 82.3  
 R10: 79.2  
 R11: 92.0  
 R12: 66.8  
 R13: 94.2  
 R14: 91.7  
 R15: 95.4



### Test Conditions

Stabilization Time: 76M  
 Operation Time: 2H 16M  
 Sphere Temperature (°C): 25.2

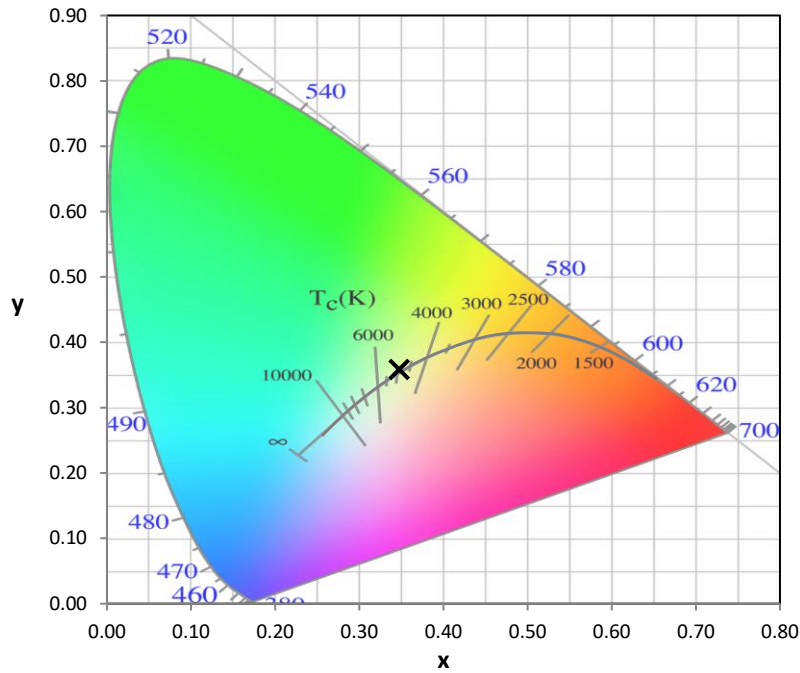


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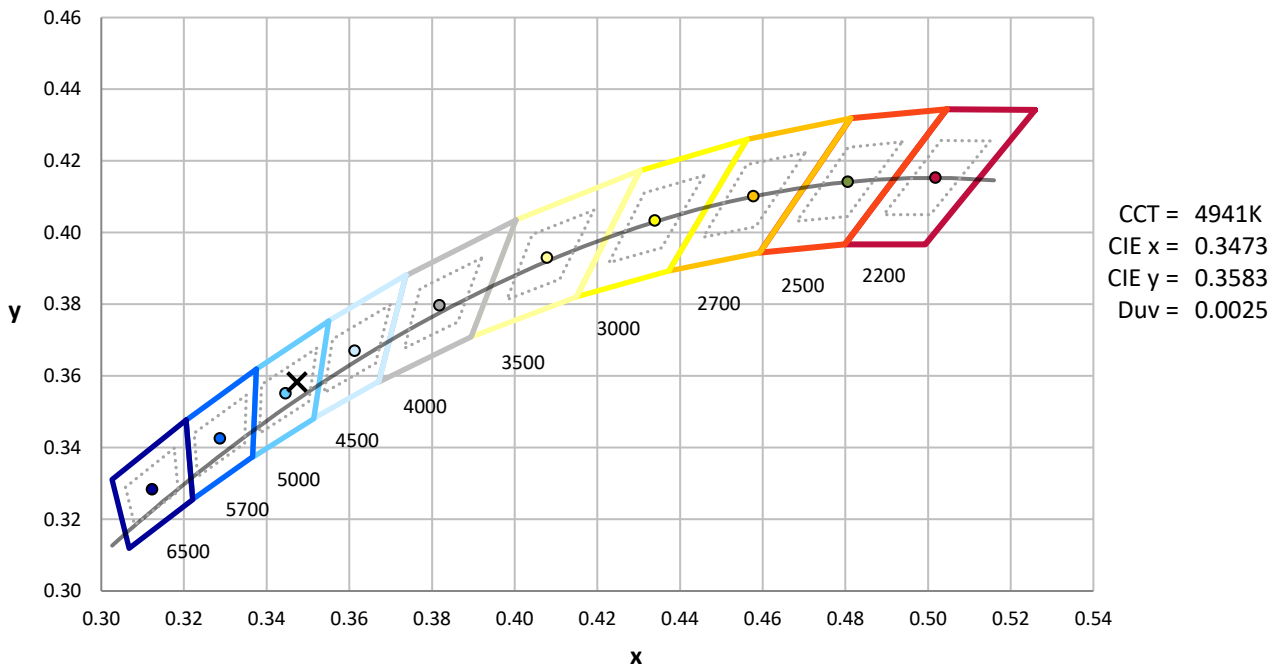
| Measurement and Test Equipment |                       |                  |                      |
|--------------------------------|-----------------------|------------------|----------------------|
| Instrument                     | Identification Number | Calibration Date | Calibration Due Date |
| Photometer                     | 76INCH SPHERE IN0058  | 6/16/2025        | 12/16/2025           |
| Power Meter                    | XITRON INXT2011004    | 1/21/2025        | 1/21/2026            |
| AC Power Source                | CHROMA 61603 IN0063   | 10/22/2024       | 10/22/2025           |
| DC Power Source                | AGILENT E3634A IN0208 | 10/22/2024       | 10/22/2025           |
| Sphere Thermometer             | ONSET IN0085          | 10/22/2024       | 10/22/2025           |
| Room Thermometer               | ONSET IN0046          | 10/22/2024       | 10/22/2025           |

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**CIE 1931 Chromaticity Diagram**



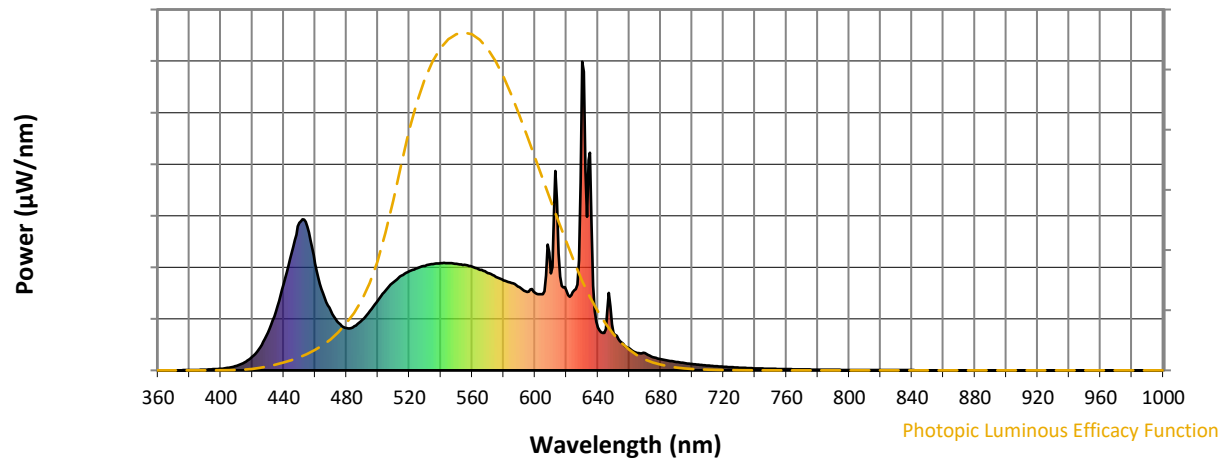
**CIE 1931 Chromaticity Diagram with 2017 ANSI 7-Step and 4-Step Quadrangles**



Point lies inside the ANSI 5000K 4-step quadrangle

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### Photopic Flux vs. Wavelength

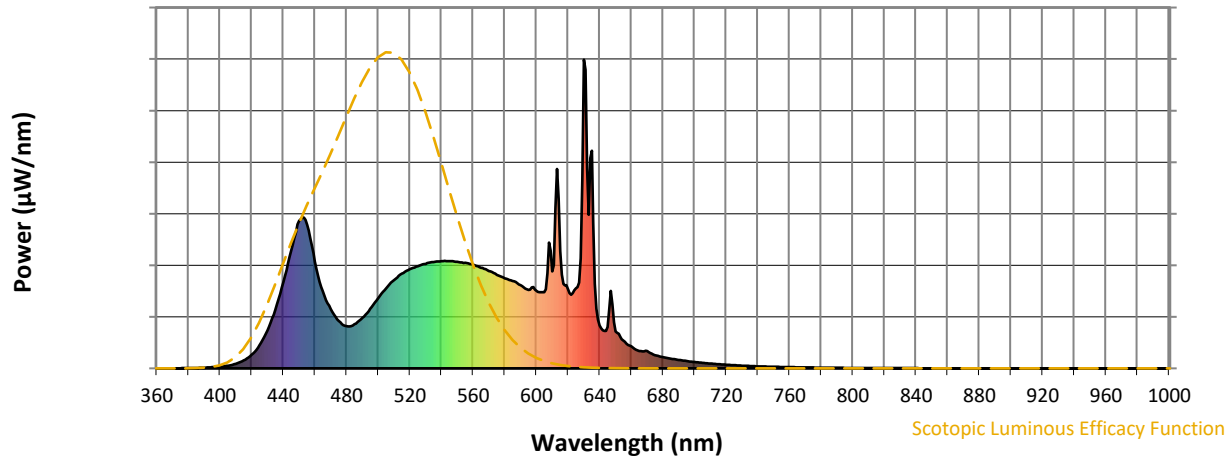


### Photopic Lumens: NR

| 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    | 164                      | NR            | 620    | 257                      | NR            | 750    | 5                        | NR            | 880    | 0                        | NR            |
| 365    | 0                        | NR            | 495    | 193                      | NR            | 625    | 259                      | NR            | 755    | 5                        | NR            | 885    | 0                        | NR            |
| 370    | 0                        | NR            | 500    | 227                      | NR            | 630    | 1000                     | NR            | 760    | 4                        | NR            | 890    | 0                        | NR            |
| 375    | 0                        | NR            | 505    | 260                      | NR            | 635    | 705                      | NR            | 765    | 3                        | NR            | 895    | 0                        | NR            |
| 380    | 1                        | NR            | 510    | 286                      | NR            | 640    | 139                      | NR            | 770    | 3                        | NR            | 900    | 0                        | NR            |
| 385    | 2                        | NR            | 515    | 307                      | NR            | 645    | 134                      | NR            | 775    | 3                        | NR            | 905    | 0                        | NR            |
| 390    | 2                        | NR            | 520    | 321                      | NR            | 650    | 120                      | NR            | 780    | 2                        | NR            | 910    | 0                        | NR            |
| 395    | 4                        | NR            | 525    | 331                      | NR            | 655    | 90                       | NR            | 785    | 2                        | NR            | 915    | 0                        | NR            |
| 400    | 5                        | NR            | 530    | 338                      | NR            | 660    | 72                       | NR            | 790    | 2                        | NR            | 920    | 0                        | NR            |
| 405    | 9                        | NR            | 535    | 344                      | NR            | 665    | 56                       | NR            | 795    | 2                        | NR            | 925    | 0                        | NR            |
| 410    | 15                       | NR            | 540    | 347                      | NR            | 670    | 56                       | NR            | 800    | 1                        | NR            | 930    | 0                        | NR            |
| 415    | 26                       | NR            | 545    | 347                      | NR            | 675    | 43                       | NR            | 805    | 1                        | NR            | 935    | 0                        | NR            |
| 420    | 44                       | NR            | 550    | 345                      | NR            | 680    | 36                       | NR            | 810    | 1                        | NR            | 940    | 0                        | NR            |
| 425    | 75                       | NR            | 555    | 342                      | NR            | 685    | 32                       | NR            | 815    | 1                        | NR            | 945    | 0                        | NR            |
| 430    | 122                      | NR            | 560    | 336                      | NR            | 690    | 27                       | NR            | 820    | 1                        | NR            | 950    | 0                        | NR            |
| 435    | 191                      | NR            | 565    | 326                      | NR            | 695    | 24                       | NR            | 825    | 1                        | NR            | 955    | 0                        | NR            |
| 440    | 280                      | NR            | 570    | 315                      | NR            | 700    | 20                       | NR            | 830    | 1                        | NR            | 960    | 0                        | NR            |
| 445    | 380                      | NR            | 575    | 303                      | NR            | 705    | 18                       | NR            | 835    | 1                        | NR            | 965    | 0                        | NR            |
| 450    | 477                      | NR            | 580    | 292                      | NR            | 710    | 15                       | NR            | 840    | 1                        | NR            | 970    | 0                        | NR            |
| 455    | 466                      | NR            | 585    | 283                      | NR            | 715    | 14                       | NR            | 845    | 0                        | NR            | 975    | 0                        | NR            |
| 460    | 346                      | NR            | 590    | 269                      | NR            | 720    | 12                       | NR            | 850    | 0                        | NR            | 980    | 0                        | NR            |
| 465    | 250                      | NR            | 595    | 254                      | NR            | 725    | 10                       | NR            | 855    | 0                        | NR            | 985    | 0                        | NR            |
| 470    | 192                      | NR            | 600    | 251                      | NR            | 730    | 9                        | NR            | 860    | 0                        | NR            | 990    | 0                        | NR            |
| 475    | 153                      | NR            | 605    | 247                      | NR            | 735    | 8                        | NR            | 865    | 0                        | NR            | 995    | 0                        | NR            |
| 480    | 136                      | NR            | 610    | 314                      | NR            | 740    | 7                        | NR            | 870    | 0                        | NR            | 1000   | 0                        | NR            |
| 485    | 143                      | NR            | 615    | 380                      | NR            | 745    | 6                        | NR            | 875    | 0                        | NR            |        |                          |               |

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### Scotopic Flux vs. Wavelength



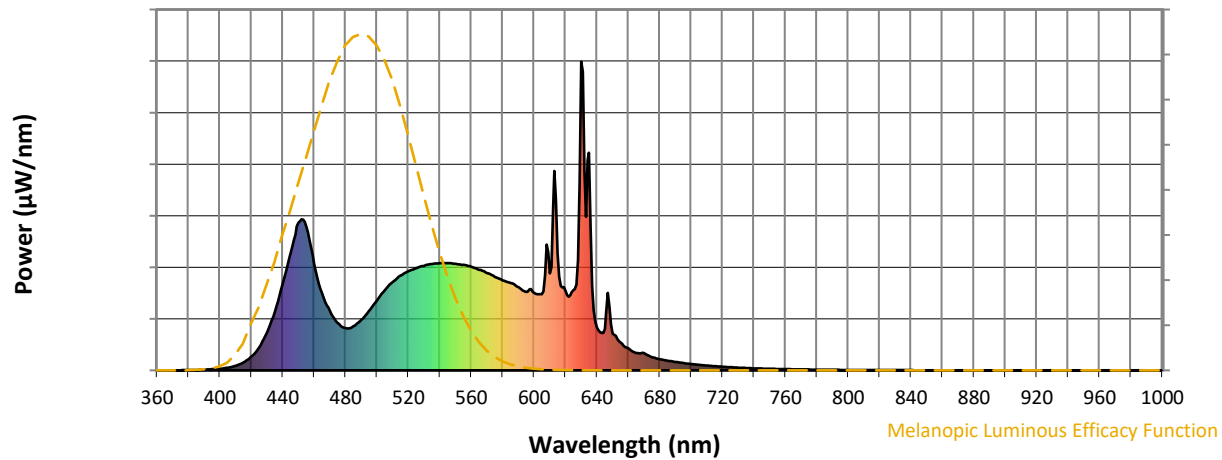
Scotopic Lumens: NR

S/P: 2

| $\lambda$<br>(nm) | Power<br>$\text{W}^\wedge/\text{nm}$ | Lumens<br>( $\phi/\text{nm}$ ) | $\lambda$<br>(nm) | Power<br>$\text{W}^\wedge/\text{nm}$ | Lumens<br>( $\phi/\text{nm}$ ) | $\lambda$<br>(nm) | Power<br>$\text{W}^\wedge/\text{nm}$ | Lumens<br>( $\phi/\text{nm}$ ) | $\lambda$<br>(nm) | Power<br>$\text{W}^\wedge/\text{nm}$ | Lumens<br>( $\phi/\text{nm}$ ) | $\lambda$<br>(nm) | Power<br>$\text{W}^\wedge/\text{nm}$ | Lumens<br>( $\phi/\text{nm}$ ) |
|-------------------|--------------------------------------|--------------------------------|-------------------|--------------------------------------|--------------------------------|-------------------|--------------------------------------|--------------------------------|-------------------|--------------------------------------|--------------------------------|-------------------|--------------------------------------|--------------------------------|
| 360               | 0                                    | NR                             | 490               | 164                                  | NR                             | 620               | 257                                  | NR                             | 750               | 5                                    | NR                             | 880               | 0                                    | NR                             |
| 365               | 0                                    | NR                             | 495               | 193                                  | NR                             | 625               | 259                                  | NR                             | 755               | 5                                    | NR                             | 885               | 0                                    | NR                             |
| 370               | 0                                    | NR                             | 500               | 227                                  | NR                             | 630               | 1000                                 | NR                             | 760               | 4                                    | NR                             | 890               | 0                                    | NR                             |
| 375               | 0                                    | NR                             | 505               | 260                                  | NR                             | 635               | 705                                  | NR                             | 765               | 3                                    | NR                             | 895               | 0                                    | NR                             |
| 380               | 1                                    | NR                             | 510               | 286                                  | NR                             | 640               | 139                                  | NR                             | 770               | 3                                    | NR                             | 900               | 0                                    | NR                             |
| 385               | 2                                    | NR                             | 515               | 307                                  | NR                             | 645               | 134                                  | NR                             | 775               | 3                                    | NR                             | 905               | 0                                    | NR                             |
| 390               | 2                                    | NR                             | 520               | 321                                  | NR                             | 650               | 120                                  | NR                             | 780               | 2                                    | NR                             | 910               | 0                                    | NR                             |
| 395               | 4                                    | NR                             | 525               | 331                                  | NR                             | 655               | 90                                   | NR                             | 785               | 2                                    | NR                             | 915               | 0                                    | NR                             |
| 400               | 5                                    | NR                             | 530               | 338                                  | NR                             | 660               | 72                                   | NR                             | 790               | 2                                    | NR                             | 920               | 0                                    | NR                             |
| 405               | 9                                    | NR                             | 535               | 344                                  | NR                             | 665               | 56                                   | NR                             | 795               | 2                                    | NR                             | 925               | 0                                    | NR                             |
| 410               | 15                                   | NR                             | 540               | 347                                  | NR                             | 670               | 56                                   | NR                             | 800               | 1                                    | NR                             | 930               | 0                                    | NR                             |
| 415               | 26                                   | NR                             | 545               | 347                                  | NR                             | 675               | 43                                   | NR                             | 805               | 1                                    | NR                             | 935               | 0                                    | NR                             |
| 420               | 44                                   | NR                             | 550               | 345                                  | NR                             | 680               | 36                                   | NR                             | 810               | 1                                    | NR                             | 940               | 0                                    | NR                             |
| 425               | 75                                   | NR                             | 555               | 342                                  | NR                             | 685               | 32                                   | NR                             | 815               | 1                                    | NR                             | 945               | 0                                    | NR                             |
| 430               | 122                                  | NR                             | 560               | 336                                  | NR                             | 690               | 27                                   | NR                             | 820               | 1                                    | NR                             | 950               | 0                                    | NR                             |
| 435               | 191                                  | NR                             | 565               | 326                                  | NR                             | 695               | 24                                   | NR                             | 825               | 1                                    | NR                             | 955               | 0                                    | NR                             |
| 440               | 280                                  | NR                             | 570               | 315                                  | NR                             | 700               | 20                                   | NR                             | 830               | 1                                    | NR                             | 960               | 0                                    | NR                             |
| 445               | 380                                  | NR                             | 575               | 303                                  | NR                             | 705               | 18                                   | NR                             | 835               | 1                                    | NR                             | 965               | 0                                    | NR                             |
| 450               | 477                                  | NR                             | 580               | 292                                  | NR                             | 710               | 15                                   | NR                             | 840               | 1                                    | NR                             | 970               | 0                                    | NR                             |
| 455               | 466                                  | NR                             | 585               | 283                                  | NR                             | 715               | 14                                   | NR                             | 845               | 0                                    | NR                             | 975               | 0                                    | NR                             |
| 460               | 346                                  | NR                             | 590               | 269                                  | NR                             | 720               | 12                                   | NR                             | 850               | 0                                    | NR                             | 980               | 0                                    | NR                             |
| 465               | 250                                  | NR                             | 595               | 254                                  | NR                             | 725               | 10                                   | NR                             | 855               | 0                                    | NR                             | 985               | 0                                    | NR                             |
| 470               | 192                                  | NR                             | 600               | 251                                  | NR                             | 730               | 9                                    | NR                             | 860               | 0                                    | NR                             | 990               | 0                                    | NR                             |
| 475               | 153                                  | NR                             | 605               | 247                                  | NR                             | 735               | 8                                    | NR                             | 865               | 0                                    | NR                             | 995               | 0                                    | NR                             |
| 480               | 136                                  | NR                             | 610               | 314                                  | NR                             | 740               | 7                                    | NR                             | 870               | 0                                    | NR                             | 1000              | 0                                    | NR                             |
| 485               | 143                                  | NR                             | 615               | 380                                  | NR                             | 745               | 6                                    | NR                             | 875               | 0                                    | NR                             |                   |                                      |                                |

REPORT NUMBER: SP1-2508-518-5

### Melanopic Flux vs. Wavelength



Melanopic Lumens: NR

M/P: 4.22

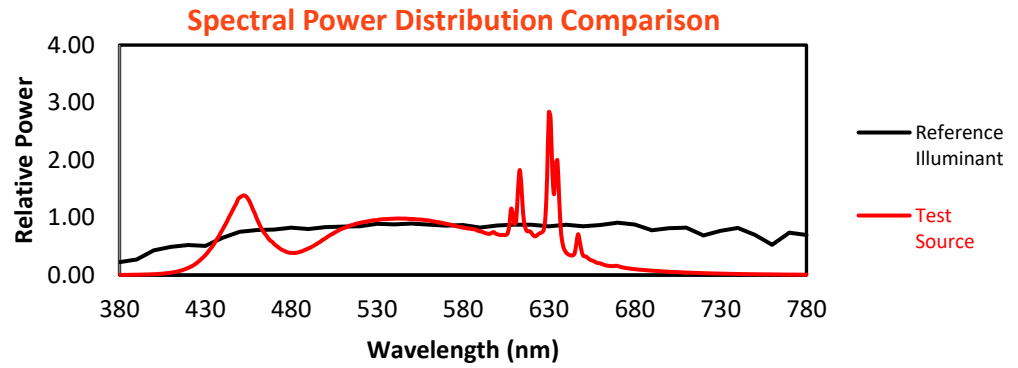
| λ (nm) | Power W <sup>^</sup> /nm | Lumens (φ/nm) | λ (nm) | Power W <sup>^</sup> /nm | Lumens (φ/nm) | λ (nm) | Power W <sup>^</sup> /nm | Lumens (φ/nm) | λ (nm) | Power W <sup>^</sup> /nm | Lumens (φ/nm) | λ (nm) | Power W <sup>^</sup> /nm | Lumens (φ/nm) |
|--------|--------------------------|---------------|--------|--------------------------|---------------|--------|--------------------------|---------------|--------|--------------------------|---------------|--------|--------------------------|---------------|
| 360    | 0                        | NR            | 490    | 164                      | NR            | 620    | 257                      | NR            | 750    | 5                        | NR            | 880    | 0                        | NR            |
| 365    | 0                        | NR            | 495    | 193                      | NR            | 625    | 259                      | NR            | 755    | 5                        | NR            | 885    | 0                        | NR            |
| 370    | 0                        | NR            | 500    | 227                      | NR            | 630    | 1000                     | NR            | 760    | 4                        | NR            | 890    | 0                        | NR            |
| 375    | 0                        | NR            | 505    | 260                      | NR            | 635    | 705                      | NR            | 765    | 3                        | NR            | 895    | 0                        | NR            |
| 380    | 1                        | NR            | 510    | 286                      | NR            | 640    | 139                      | NR            | 770    | 3                        | NR            | 900    | 0                        | NR            |
| 385    | 2                        | NR            | 515    | 307                      | NR            | 645    | 134                      | NR            | 775    | 3                        | NR            | 905    | 0                        | NR            |
| 390    | 2                        | NR            | 520    | 321                      | NR            | 650    | 120                      | NR            | 780    | 2                        | NR            | 910    | 0                        | NR            |
| 395    | 4                        | NR            | 525    | 331                      | NR            | 655    | 90                       | NR            | 785    | 2                        | NR            | 915    | 0                        | NR            |
| 400    | 5                        | NR            | 530    | 338                      | NR            | 660    | 72                       | NR            | 790    | 2                        | NR            | 920    | 0                        | NR            |
| 405    | 9                        | NR            | 535    | 344                      | NR            | 665    | 56                       | NR            | 795    | 2                        | NR            | 925    | 0                        | NR            |
| 410    | 15                       | NR            | 540    | 347                      | NR            | 670    | 56                       | NR            | 800    | 1                        | NR            | 930    | 0                        | NR            |
| 415    | 26                       | NR            | 545    | 347                      | NR            | 675    | 43                       | NR            | 805    | 1                        | NR            | 935    | 0                        | NR            |
| 420    | 44                       | NR            | 550    | 345                      | NR            | 680    | 36                       | NR            | 810    | 1                        | NR            | 940    | 0                        | NR            |
| 425    | 75                       | NR            | 555    | 342                      | NR            | 685    | 32                       | NR            | 815    | 1                        | NR            | 945    | 0                        | NR            |
| 430    | 122                      | NR            | 560    | 336                      | NR            | 690    | 27                       | NR            | 820    | 1                        | NR            | 950    | 0                        | NR            |
| 435    | 191                      | NR            | 565    | 326                      | NR            | 695    | 24                       | NR            | 825    | 1                        | NR            | 955    | 0                        | NR            |
| 440    | 280                      | NR            | 570    | 315                      | NR            | 700    | 20                       | NR            | 830    | 1                        | NR            | 960    | 0                        | NR            |
| 445    | 380                      | NR            | 575    | 303                      | NR            | 705    | 18                       | NR            | 835    | 1                        | NR            | 965    | 0                        | NR            |
| 450    | 477                      | NR            | 580    | 292                      | NR            | 710    | 15                       | NR            | 840    | 1                        | NR            | 970    | 0                        | NR            |
| 455    | 466                      | NR            | 585    | 283                      | NR            | 715    | 14                       | NR            | 845    | 0                        | NR            | 975    | 0                        | NR            |
| 460    | 346                      | NR            | 590    | 269                      | NR            | 720    | 12                       | NR            | 850    | 0                        | NR            | 980    | 0                        | NR            |
| 465    | 250                      | NR            | 595    | 254                      | NR            | 725    | 10                       | NR            | 855    | 0                        | NR            | 985    | 0                        | NR            |
| 470    | 192                      | NR            | 600    | 251                      | NR            | 730    | 9                        | NR            | 860    | 0                        | NR            | 990    | 0                        | NR            |
| 475    | 153                      | NR            | 605    | 247                      | NR            | 735    | 8                        | NR            | 865    | 0                        | NR            | 995    | 0                        | NR            |
| 480    | 136                      | NR            | 610    | 314                      | NR            | 740    | 7                        | NR            | 870    | 0                        | NR            | 1000   | 0                        | NR            |
| 485    | 143                      | NR            | 615    | 380                      | NR            | 745    | 6                        | NR            | 875    | 0                        | NR            |        |                          |               |

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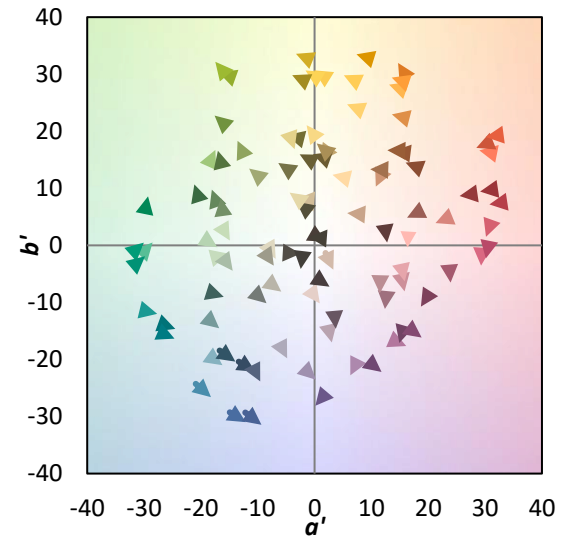
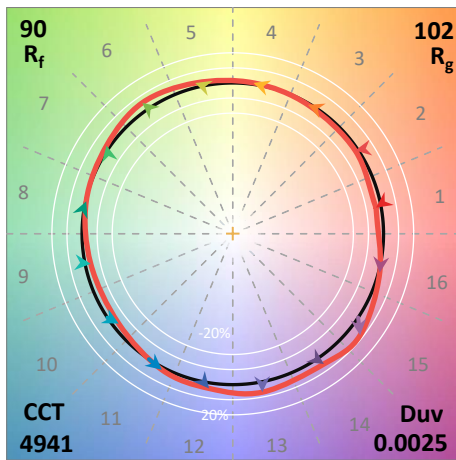
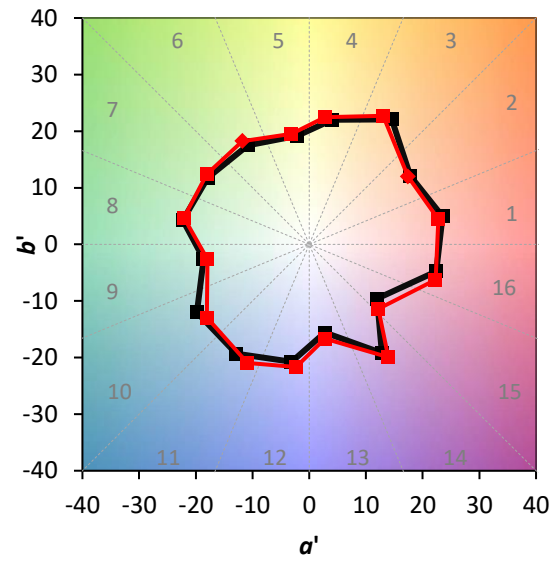
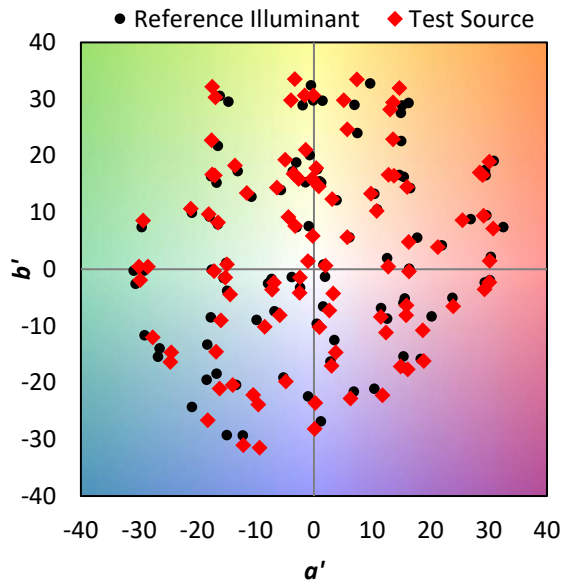
TM-30-18

### Summary

$R_f = 90.3$   
 $R_g = 102.5$   
 $\text{CIE } R_a = 92.8$   
 $R_9 = 82.3$

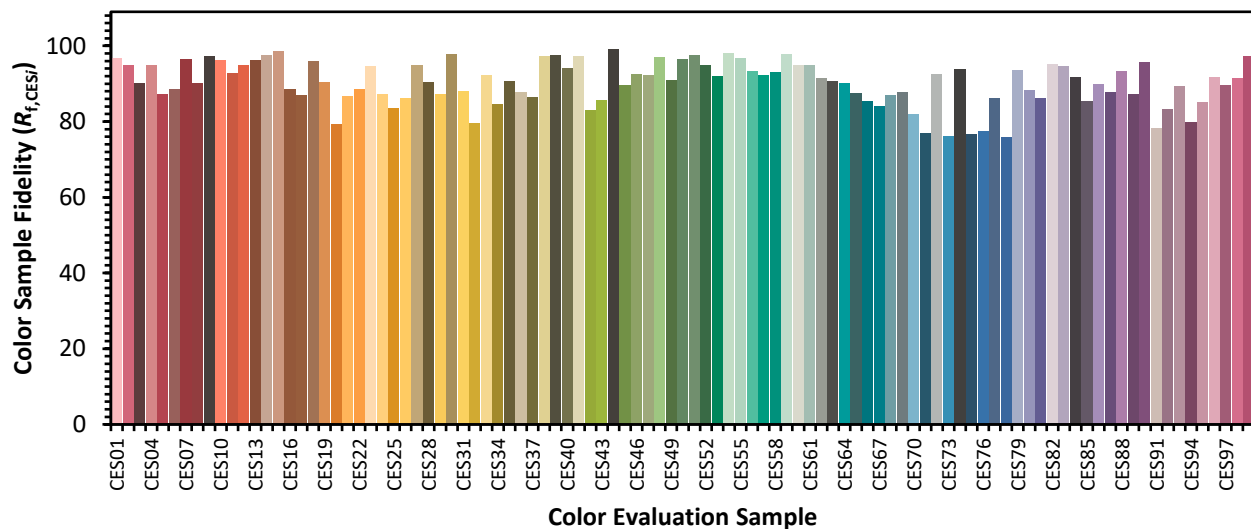


### Color Vector Graphics

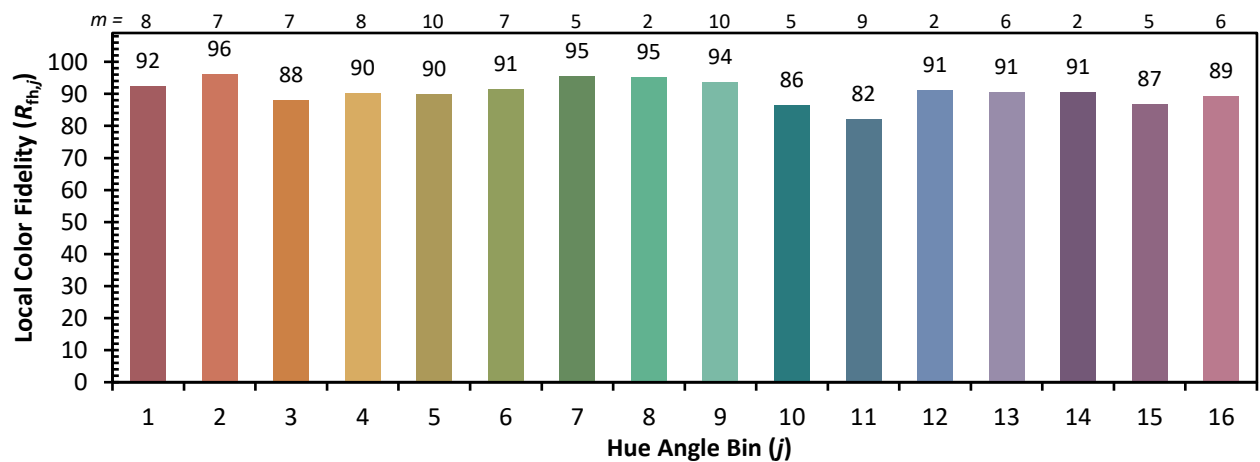
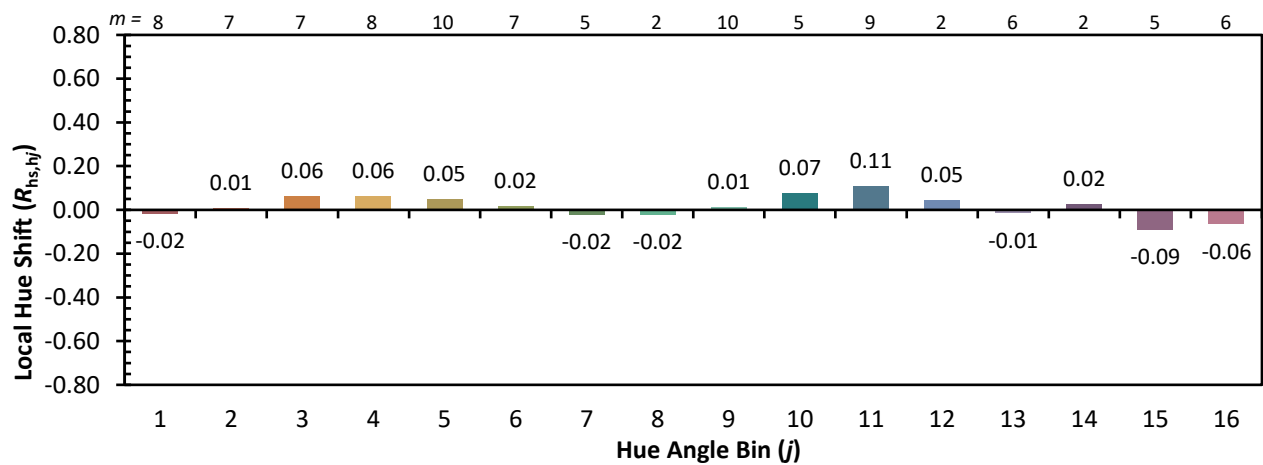
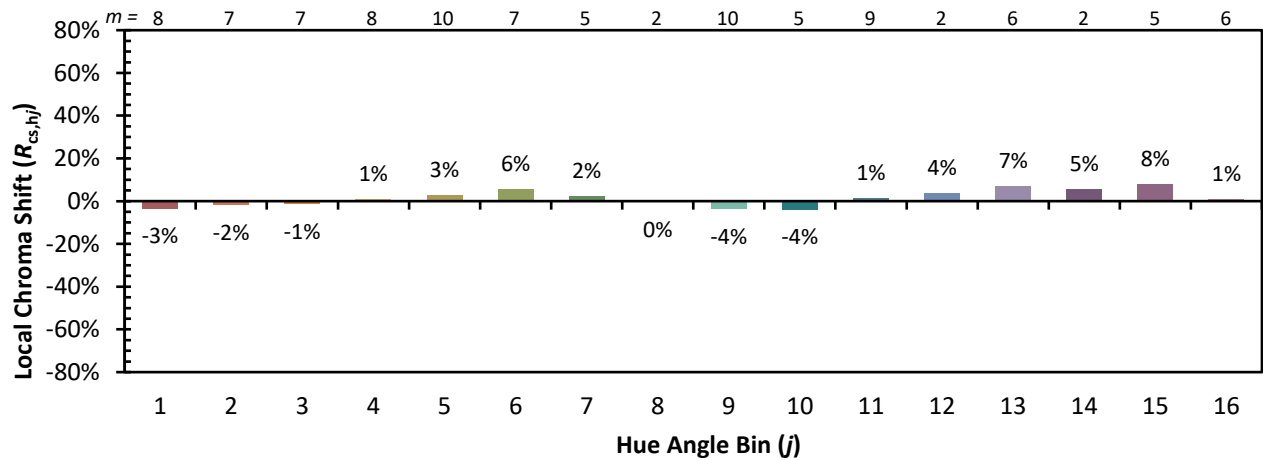


**Individual Sample Fidelity Index ( $R_{f,i}$ )**

|            |            |            |            |
|------------|------------|------------|------------|
| CES01 = 85 | CES26 = 86 | CES51 = 98 | CES76 = 77 |
| CES02 = 61 | CES27 = 95 | CES52 = 95 | CES77 = 86 |
| CES03 = 31 | CES28 = 91 | CES53 = 92 | CES78 = 76 |
| CES04 = 68 | CES29 = 87 | CES54 = 98 | CES79 = 94 |
| CES05 = 48 | CES30 = 98 | CES55 = 97 | CES80 = 88 |
| CES06 = 50 | CES31 = 88 | CES56 = 93 | CES81 = 86 |
| CES07 = 41 | CES32 = 80 | CES57 = 92 | CES82 = 95 |
| CES08 = 40 | CES33 = 92 | CES58 = 93 | CES83 = 95 |
| CES09 = 29 | CES34 = 85 | CES59 = 98 | CES84 = 92 |
| CES10 = 73 | CES35 = 91 | CES60 = 95 | CES85 = 85 |
| CES11 = 55 | CES36 = 88 | CES61 = 95 | CES86 = 90 |
| CES12 = 62 | CES37 = 86 | CES62 = 91 | CES87 = 88 |
| CES13 = 43 | CES38 = 97 | CES63 = 91 | CES88 = 93 |
| CES14 = 74 | CES39 = 98 | CES64 = 90 | CES89 = 87 |
| CES15 = 71 | CES40 = 94 | CES65 = 88 | CES90 = 96 |
| CES16 = 47 | CES41 = 97 | CES66 = 85 | CES91 = 78 |
| CES17 = 48 | CES42 = 83 | CES67 = 84 | CES92 = 83 |
| CES18 = 56 | CES43 = 86 | CES68 = 87 | CES93 = 89 |
| CES19 = 70 | CES44 = 99 | CES69 = 88 | CES94 = 80 |
| CES20 = 65 | CES45 = 90 | CES70 = 82 | CES95 = 85 |
| CES21 = 85 | CES46 = 92 | CES71 = 77 | CES96 = 92 |
| CES22 = 77 | CES47 = 92 | CES72 = 93 | CES97 = 90 |
| CES23 = 91 | CES48 = 97 | CES73 = 76 | CES98 = 92 |
| CES24 = 90 | CES49 = 91 | CES74 = 94 | CES99 = 97 |
| CES25 = 70 | CES50 = 97 | CES75 = 77 |            |

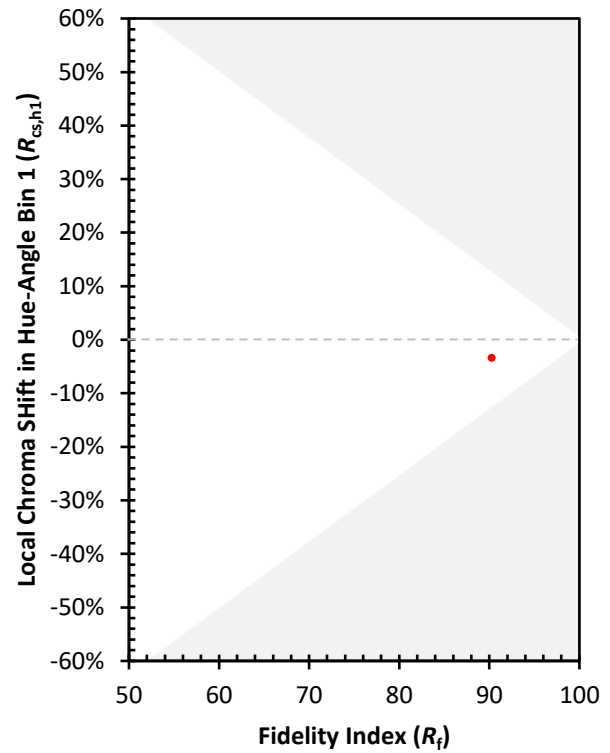
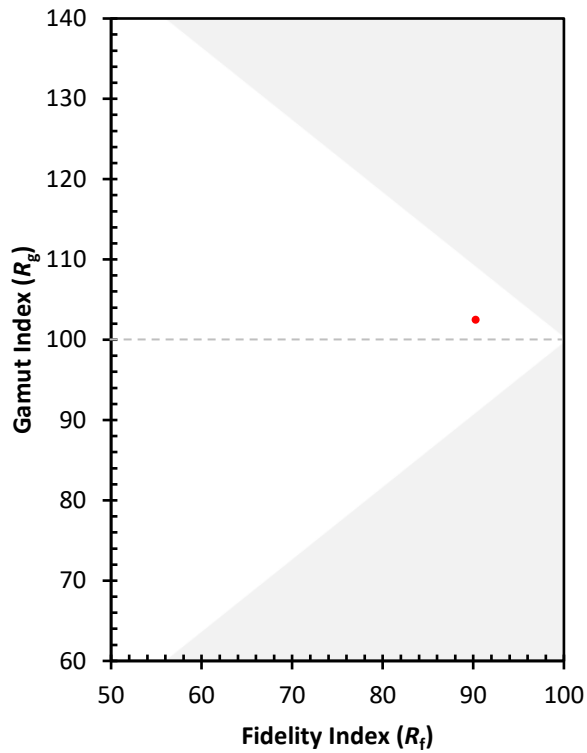


Color Rendition by Hue-Angle Bin





**Measure Comparisons**



(END OF REPORT)