

Cooper Lighting Solutions Photometric Lab
1121 Highway 74 South
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: INVUE

Report Number: P1442105

Luminaire Tested: LXB-C2-827-X-U-A-GM

Issue Date: 4/23/2026

Test Information

Test Method: LM-79-2024
Report Number: P1442105
TEST IS SCALED FROM IESNA LM-79-24 TEST DATA (G2-2509-539-27)
Test Lab: COOPER LIGHTING SOLUTIONS
Issue Date: 4/24/2026
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: INVUE
Catalog Number: LXB-C2-827-X-U-A-GM
Description: LuxeScape OUTDOOR ARCHITECTURAL BOLLARD LUMINAIRE
ASYMMETRIC OPTIC, GRAPHITE METALLIC PAINTED FINISH
Light Source: 2200K CCT, 80 CRI LEDS
Ballast/Driver: -

Summary

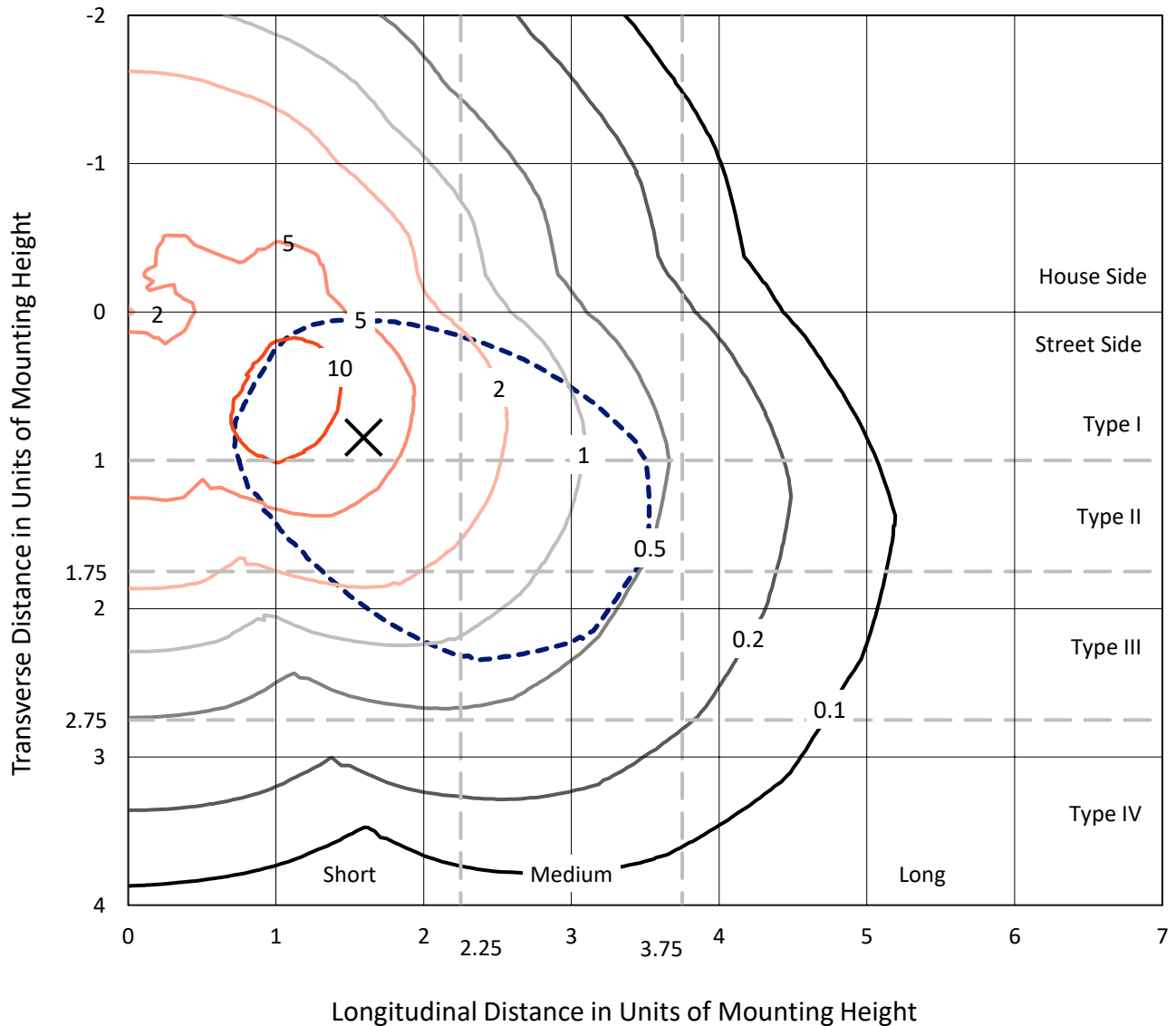
Lumens per Lamp: N/A
Luminaire Lumens: 851.1 lumens
Efficiency: N/A
Efficacy: 44.8 lumens/watt
Luminous Opening: Circular (Dia: 0.4' x H: 0')
IES Classification: Type III - Short
BUG Rating: B0 - U0 - G1

Input Watts (W): 19
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: 0.991
Total Harmonic Distortion (THDi): 0.090488
Frequency (hertz): 60
Stabilization Time: 0.5 HR
Operation Time: 3 HR
Ambient Temperature (°C): NR
Test Distance: 28.75 FT

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Iso-Footcandle Lines of Horizontal Illumination

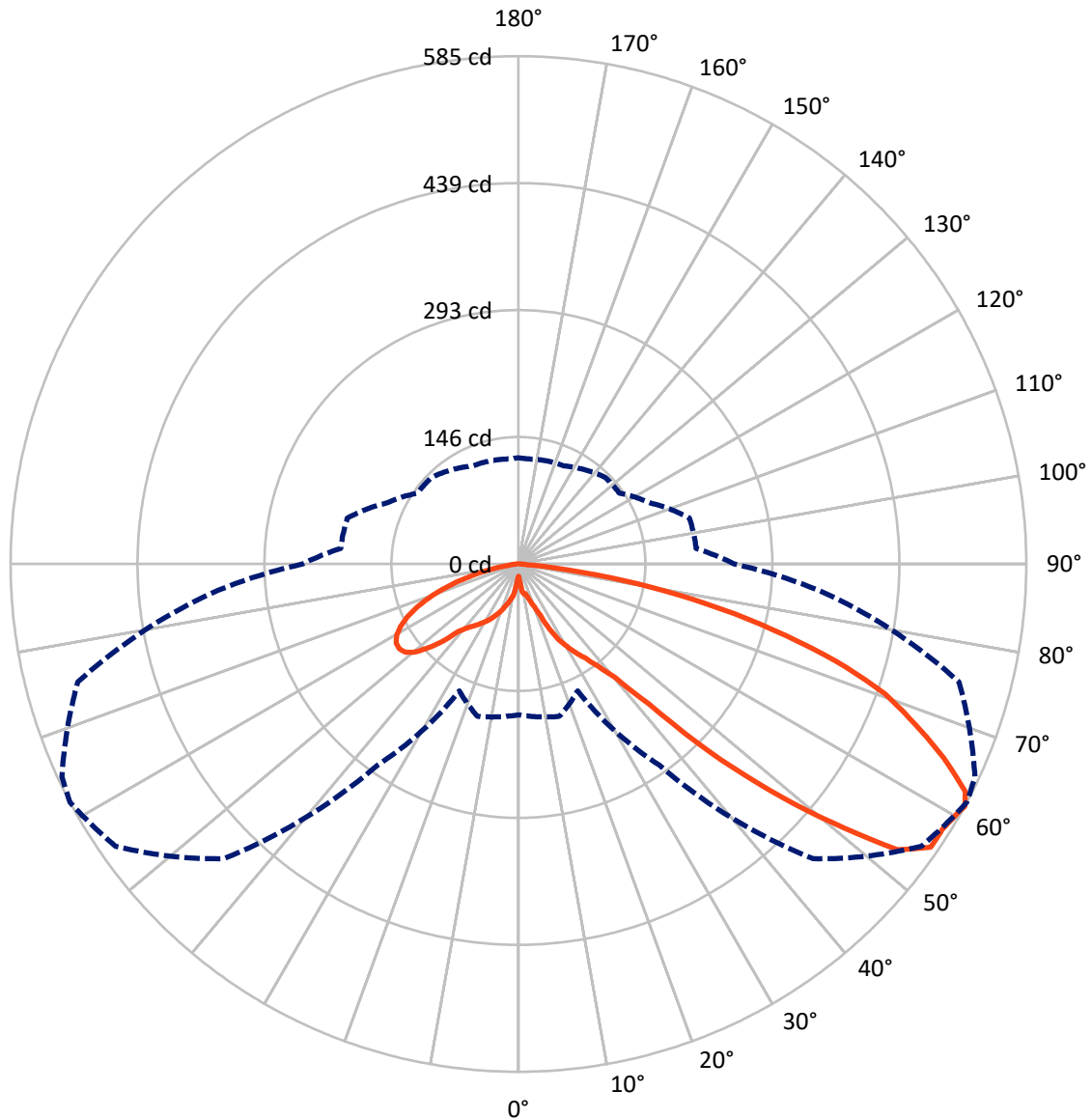
✕ Max cd
 - - - 1/2 Max cd



Based on 3 foot mounting height. Maximum calculated value = 13.7 fc
 Type III - Short - N/A

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Luminous Intensity Polar Plot



— Vertical Plane Through 62-Deg Lateral - - - Horizontal Cone Through 61-Deg Vertical

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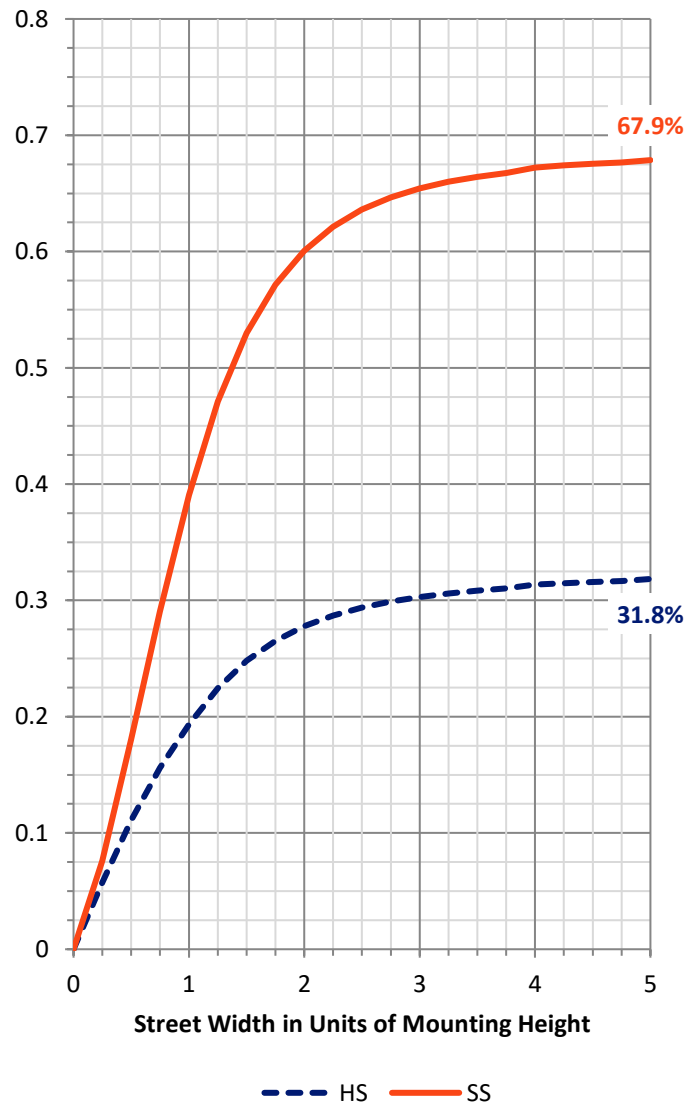
FLUX DISTRIBUTION:

| | | Downward | Upward | Total |
|--------------------|-----------|----------|--------|-------|
| House Side | Lumens | 272.6 | 0.0 | 272.6 |
| | % Fixture | 32.0 | 0.0 | 32.0 |
| Street Side | Lumens | 578.5 | 0.0 | 578.5 |
| | % Fixture | 68.0 | 0.0 | 68.0 |
| Total | Lumens | 851.1 | 0.0 | 851.1 |
| | % Fixture | 100.0 | 0.0 | 100.0 |

Coefficient of Utilization

ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 2.9 | 0.3 |
| 10°-20° | 14.2 | 1.7 |
| 20°-30° | 33.3 | 3.9 |
| 30°-40° | 61.7 | 7.2 |
| 40°-50° | 131.7 | 15.5 |
| 50°-60° | 231.4 | 27.2 |
| 60°-70° | 229.4 | 26.9 |
| 70°-80° | 130.0 | 15.3 |
| 80°-90° | 16.5 | 1.9 |
| 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° | 851.1 | 100.0 |
| 0°-180° | 851.1 | 100.0 |



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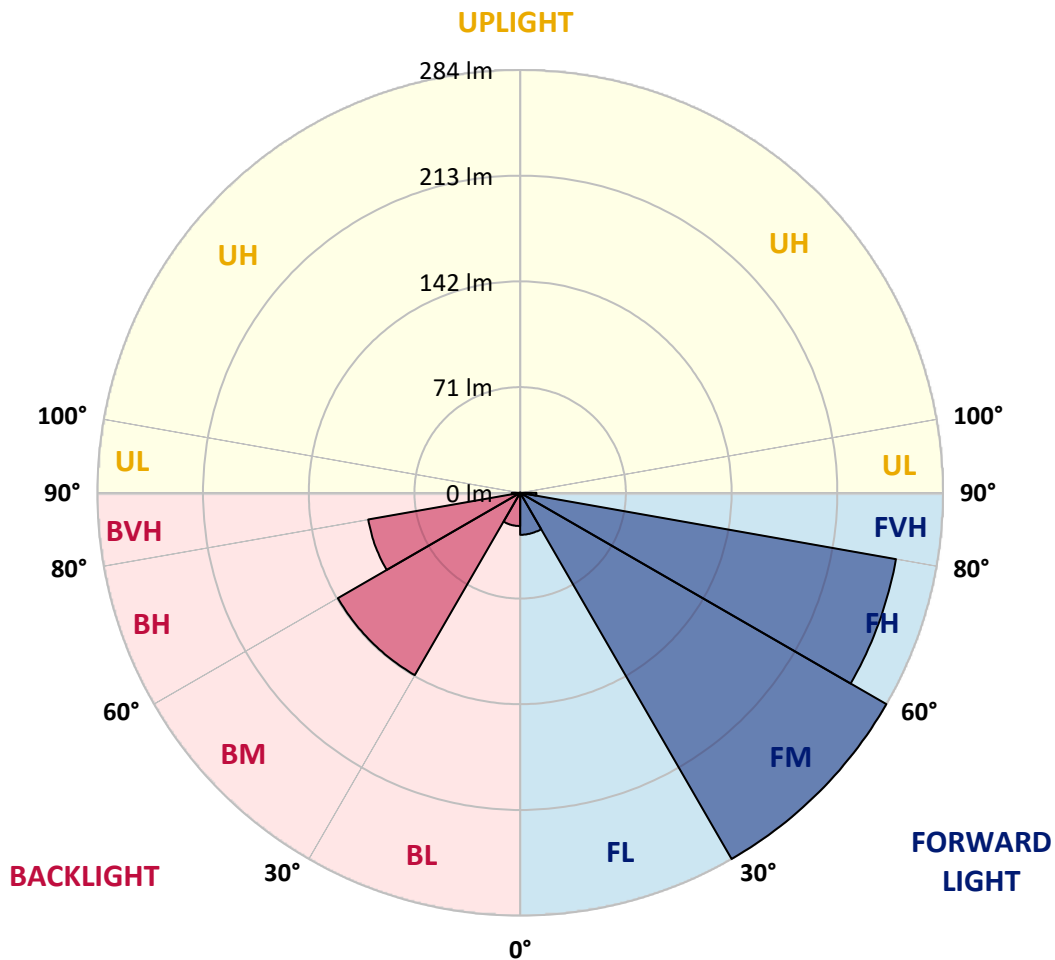
CATALOG NUMBER: LXB-C2-827-X-U-A-GM

LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

| Zone | | Lumens | % Fixture | Zone Rating/Lumen Limit | | |
|------|-------------|--------|-----------|-------------------------|------|--------|
| | | | | B | U | G |
| FL | (0°-30°) | 28.2 | 3.3 | | | |
| FM | (30°-60°) | 283.6 | 33.3 | | | |
| FH | (60°-80°) | 255.9 | 30.1 | | | G0/660 |
| FVH | (80°-90°) | 10.9 | 1.3 | | | G1/100 |
| BL | (0°-30°) | 22.3 | 2.6 | B0/110 | | |
| BM | (30°-60°) | 141.2 | 16.6 | B0/220 | | |
| BH | (60°-80°) | 103.5 | 12.2 | B0/110 | | G0/110 |
| BVH | (80°-90°) | 5.6 | 0.7 | | | G0/10 |
| UL | (90°-100°) | 0.0 | 0.0 | | U0/0 | |
| UH | (100°-180°) | 0.0 | 0.0 | | U0/0 | |

BUG Rating: B0-U0-G1

Type III Short





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CANDELA DISTRIBUTION (FULL):

| | 0° | 5° | 15° | 25° | 35° | 45° | 55° | 62° | 65° | 75° | 85° |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 0° | 14.3 | 14.3 | 14.3 | 14.3 | 14.3 | 14.3 | 14.3 | 14.3 | 14.3 | 14.3 | 14.3 |
| 2.5° | 17.5 | 17.5 | 18.3 | 19.1 | 17.5 | 16.7 | 16.7 | 16.7 | 16.7 | 15.1 | 15.1 |
| 5° | 29.4 | 30.2 | 31.0 | 27.8 | 27.8 | 28.6 | 24.6 | 23.8 | 22.2 | 21.4 | 19.1 |
| 7.5° | 47.6 | 44.5 | 50.0 | 46.1 | 41.3 | 37.3 | 34.1 | 32.6 | 31.8 | 29.4 | 28.6 |
| 10° | 58.0 | 61.1 | 55.6 | 54.0 | 51.6 | 44.5 | 38.9 | 34.9 | 34.1 | 32.6 | 30.2 |
| 12.5° | 68.3 | 63.5 | 62.7 | 62.7 | 55.6 | 47.6 | 39.7 | 34.9 | 34.1 | 32.6 | 31.0 |
| 15° | 71.5 | 73.0 | 72.3 | 68.3 | 61.1 | 50.0 | 42.1 | 38.9 | 37.3 | 34.9 | 36.5 |
| 17.5° | 79.4 | 79.4 | 79.4 | 69.9 | 63.5 | 53.2 | 47.6 | 45.3 | 44.5 | 40.5 | 41.3 |
| 20° | 86.5 | 86.5 | 86.5 | 73.0 | 66.7 | 59.6 | 55.6 | 53.2 | 52.4 | 48.4 | 45.3 |
| 22.5° | 91.3 | 93.7 | 91.3 | 79.4 | 72.3 | 65.1 | 64.3 | 63.5 | 61.9 | 56.4 | 53.2 |
| 25° | 97.7 | 98.5 | 95.3 | 82.6 | 77.8 | 74.6 | 81.8 | 82.6 | 81.0 | 66.7 | 63.5 |
| 27.5° | 103.2 | 104.0 | 99.2 | 89.7 | 83.4 | 85.8 | 98.5 | 98.5 | 97.7 | 80.2 | 72.3 |
| 30° | 108.8 | 108.8 | 104.0 | 93.7 | 88.1 | 98.5 | 109.6 | 110.4 | 109.6 | 97.7 | 81.0 |
| 32.5° | 112.7 | 112.0 | 108.0 | 97.7 | 93.7 | 110.4 | 120.7 | 122.3 | 122.3 | 109.6 | 88.9 |
| 35° | 115.9 | 115.9 | 112.0 | 100.8 | 99.2 | 120.7 | 132.6 | 133.4 | 133.4 | 122.3 | 97.7 |
| 37.5° | 120.7 | 119.9 | 116.7 | 104.8 | 107.2 | 135.8 | 148.5 | 150.1 | 150.1 | 138.2 | 108.8 |
| 40° | 126.2 | 124.7 | 122.3 | 111.2 | 117.5 | 154.8 | 168.3 | 172.3 | 170.7 | 158.8 | 123.1 |
| 42.5° | 135.8 | 133.4 | 135.8 | 120.7 | 135.8 | 192.9 | 212.8 | 219.9 | 212.8 | 198.5 | 151.7 |
| 45° | 158.0 | 156.4 | 162.0 | 146.1 | 173.1 | 270.8 | 304.9 | 308.9 | 308.1 | 276.3 | 199.3 |
| 47.5° | 169.1 | 168.3 | 178.6 | 158.8 | 204.9 | 335.9 | 376.4 | 389.9 | 381.9 | 355.7 | 245.3 |
| 50° | 183.4 | 182.6 | 194.5 | 175.5 | 244.6 | 404.9 | 458.9 | 468.5 | 466.9 | 428.0 | 289.0 |
| 52.5° | 186.6 | 189.0 | 203.3 | 184.2 | 270.8 | 457.3 | 532.0 | 547.1 | 543.1 | 485.1 | 320.0 |
| 55° | 189.0 | 192.1 | 203.3 | 182.6 | 281.9 | 482.8 | 564.5 | 576.4 | 573.3 | 516.1 | 340.6 |
| 57.5° | 186.6 | 189.8 | 196.1 | 173.9 | 288.2 | 487.5 | 564.5 | 576.4 | 573.3 | 524.8 | 350.2 |
| 60° | 178.6 | 181.0 | 186.6 | 165.2 | 285.0 | 482.8 | 563.7 | 582.0 | 576.4 | 525.6 | 350.2 |
| 61° | 173.9 | 176.3 | 181.8 | 161.2 | 282.7 | 480.4 | 566.9 | 585.2 | 580.4 | 525.6 | 347.0 |
| 62.5° | 166.7 | 168.3 | 172.3 | 152.4 | 274.7 | 472.4 | 562.9 | 578.0 | 576.4 | 518.5 | 339.0 |
| 65° | 150.1 | 151.7 | 154.0 | 136.6 | 258.8 | 447.0 | 532.0 | 538.3 | 539.9 | 489.9 | 317.6 |
| 67.5° | 131.8 | 132.6 | 134.2 | 119.1 | 239.0 | 411.3 | 484.3 | 493.1 | 491.5 | 450.2 | 291.4 |
| 70° | 110.4 | 110.4 | 112.0 | 99.2 | 212.8 | 365.2 | 436.7 | 447.8 | 445.4 | 402.6 | 259.6 |
| 72.5° | 86.5 | 87.3 | 87.3 | 79.4 | 179.4 | 310.5 | 374.0 | 382.7 | 384.3 | 346.2 | 218.4 |
| 75° | 61.9 | 61.1 | 61.9 | 58.0 | 140.5 | 244.6 | 300.1 | 303.3 | 308.1 | 278.7 | 169.9 |
| 77.5° | 39.7 | 39.7 | 38.1 | 38.1 | 99.2 | 175.5 | 220.7 | 223.1 | 227.1 | 204.1 | 116.7 |
| 80° | 21.4 | 20.6 | 19.8 | 21.4 | 55.6 | 104.0 | 140.5 | 140.5 | 145.3 | 131.8 | 65.1 |
| 82.5° | 10.3 | 9.5 | 8.7 | 9.5 | 19.1 | 33.3 | 58.8 | 58.8 | 63.5 | 55.6 | 22.2 |
| 85° | 4.8 | 4.8 | 4.8 | 3.2 | 4.8 | 5.6 | 11.1 | 10.3 | 11.9 | 11.1 | 4.8 |
| 87.5° | 3.2 | 3.2 | 3.2 | 1.6 | 3.2 | 4.0 | 4.8 | 4.8 | 4.8 | 4.8 | 3.2 |
| 90° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |



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CATALOG NUMBER: LXB-C2-827-X-U-A-GM

CANDELA DISTRIBUTION (continued):

| | 90° | 95° | 105° | 115° | 125° | 135° | 145° | 155° | 165° | 175° | 180° |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 0° | 14.3 | 14.3 | 14.3 | 14.3 | 14.3 | 14.3 | 14.3 | 14.3 | 14.3 | 14.3 | 14.3 |
| 2.5° | 14.3 | 15.1 | 15.9 | 15.9 | 16.7 | 16.7 | 15.9 | 15.1 | 14.3 | 13.5 | 12.7 |
| 5° | 19.1 | 18.3 | 18.3 | 22.2 | 22.2 | 23.8 | 24.6 | 24.6 | 23.0 | 22.2 | 22.2 |
| 7.5° | 28.6 | 27.0 | 27.0 | 28.6 | 31.8 | 36.5 | 37.3 | 34.1 | 29.4 | 28.6 | 28.6 |
| 10° | 30.2 | 29.4 | 31.0 | 34.9 | 44.5 | 46.1 | 46.1 | 41.3 | 38.1 | 36.5 | 35.7 |
| 12.5° | 31.0 | 31.0 | 33.3 | 37.3 | 48.4 | 49.2 | 49.2 | 46.1 | 41.3 | 38.1 | 37.3 |
| 15° | 36.5 | 36.5 | 38.1 | 44.5 | 50.8 | 53.2 | 53.2 | 51.6 | 46.1 | 36.5 | 36.5 |
| 17.5° | 41.3 | 42.9 | 46.1 | 49.2 | 54.0 | 58.0 | 56.4 | 54.0 | 46.1 | 38.9 | 37.3 |
| 20° | 46.1 | 49.2 | 55.6 | 55.6 | 57.2 | 60.3 | 59.6 | 55.6 | 46.1 | 38.9 | 38.1 |
| 22.5° | 53.2 | 56.4 | 61.1 | 61.1 | 60.3 | 61.9 | 64.3 | 58.0 | 46.1 | 40.5 | 38.9 |
| 25° | 62.7 | 64.3 | 67.5 | 65.9 | 65.9 | 65.1 | 67.5 | 62.7 | 52.4 | 45.3 | 44.5 |
| 27.5° | 71.5 | 71.5 | 73.8 | 71.5 | 70.7 | 69.1 | 69.9 | 65.9 | 55.6 | 50.0 | 49.2 |
| 30° | 77.8 | 77.8 | 81.0 | 77.0 | 73.8 | 72.3 | 73.0 | 69.1 | 58.8 | 54.0 | 53.2 |
| 32.5° | 85.0 | 85.0 | 85.8 | 81.8 | 77.8 | 75.4 | 75.4 | 71.5 | 61.1 | 58.0 | 57.2 |
| 35° | 91.3 | 91.3 | 91.3 | 87.3 | 81.0 | 78.6 | 77.8 | 73.0 | 64.3 | 61.1 | 60.3 |
| 37.5° | 97.7 | 97.7 | 97.7 | 92.1 | 85.8 | 82.6 | 81.0 | 75.4 | 67.5 | 65.1 | 64.3 |
| 40° | 107.2 | 106.4 | 105.6 | 98.5 | 91.3 | 87.3 | 84.2 | 78.6 | 71.5 | 69.9 | 69.1 |
| 42.5° | 125.5 | 122.3 | 121.5 | 108.0 | 100.0 | 96.1 | 90.5 | 84.2 | 78.6 | 76.2 | 76.2 |
| 45° | 161.2 | 150.9 | 150.9 | 129.4 | 117.5 | 115.1 | 108.8 | 100.0 | 94.5 | 91.3 | 91.3 |
| 47.5° | 192.1 | 176.3 | 176.3 | 146.1 | 131.0 | 127.8 | 120.7 | 111.2 | 104.8 | 102.4 | 102.4 |
| 50° | 221.5 | 198.5 | 198.5 | 162.0 | 142.9 | 139.7 | 132.6 | 124.7 | 117.5 | 114.3 | 115.1 |
| 52.5° | 244.6 | 213.6 | 213.6 | 171.5 | 150.1 | 147.7 | 139.7 | 131.0 | 123.9 | 121.5 | 121.5 |
| 55° | 254.1 | 219.1 | 219.1 | 175.5 | 152.4 | 150.9 | 142.9 | 134.2 | 127.0 | 125.5 | 124.7 |
| 57.5° | 254.1 | 215.2 | 214.4 | 175.5 | 150.1 | 148.5 | 140.5 | 130.2 | 127.0 | 125.5 | 125.5 |
| 60° | 250.1 | 208.0 | 207.2 | 170.7 | 144.5 | 142.9 | 135.8 | 126.2 | 124.7 | 123.1 | 123.1 |
| 61° | 248.5 | 205.6 | 204.1 | 166.7 | 142.1 | 141.3 | 132.6 | 124.7 | 123.1 | 121.5 | 122.3 |
| 62.5° | 243.0 | 200.1 | 196.9 | 161.2 | 137.4 | 136.6 | 128.6 | 121.5 | 119.9 | 118.3 | 118.3 |
| 65° | 226.3 | 183.4 | 180.2 | 148.5 | 125.5 | 125.5 | 119.1 | 113.5 | 112.0 | 111.2 | 111.2 |
| 67.5° | 204.9 | 164.4 | 159.6 | 132.6 | 112.0 | 112.0 | 107.2 | 103.2 | 102.4 | 102.4 | 102.4 |
| 70° | 179.4 | 142.1 | 137.4 | 113.5 | 96.1 | 96.9 | 93.7 | 91.3 | 92.1 | 91.3 | 91.3 |
| 72.5° | 150.9 | 117.5 | 112.0 | 92.1 | 78.6 | 81.0 | 78.6 | 79.4 | 79.4 | 79.4 | 79.4 |
| 75° | 117.5 | 88.9 | 85.0 | 69.9 | 60.3 | 61.9 | 62.7 | 65.1 | 65.9 | 65.1 | 65.1 |
| 77.5° | 81.0 | 61.1 | 56.4 | 47.6 | 42.9 | 45.3 | 46.1 | 48.4 | 50.0 | 50.0 | 49.2 |
| 80° | 46.1 | 35.7 | 31.8 | 27.8 | 26.2 | 28.6 | 30.2 | 32.6 | 34.1 | 34.1 | 34.1 |
| 82.5° | 17.5 | 15.1 | 14.3 | 13.5 | 13.5 | 14.3 | 15.1 | 17.5 | 19.1 | 19.8 | 19.1 |
| 85° | 4.8 | 4.8 | 5.6 | 5.6 | 5.6 | 5.6 | 4.8 | 5.6 | 7.9 | 7.9 | 7.9 |
| 87.5° | 1.6 | 2.4 | 3.2 | 4.0 | 4.0 | 4.0 | 2.4 | 4.0 | 5.6 | 6.4 | 6.4 |
| 90° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 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

Invue

Report Number: SP1-2509-539-6

Test Date: 04/15/2026

Luminaire Tested: Luxscape Bollard

Data in this report applies to families of products including ;Luxscape

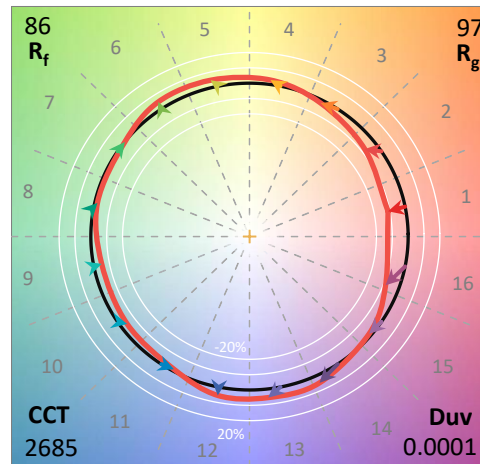
Test Information

Test Method: LM-79-2019
 Report Number: SP1-2509-539-6
 Test Lab: COOPER LIGHTING SOLUTIONS
 Photometer: SP1 - 76IN SPHERE
 Measurement Geometry: 4π
 Issue Date: 04/15/2026
 Manufacturer: COOPER LIGHTING SOLUTIONS
 Product Line: Invue
 Catalog Number: **Luxscape Bollard**
 Description: ARB-C1-827-LED-XX-Dx-S-GM-SPECULAR REFLECTOR

Spectral Parameters

CCT (K): 2685
 CIE u': 0.2631
 CIE v': 0.5278
 Duv: 0.0001
 CIE x: 0.4613
 CIE y: 0.4112
 CIE z: 0.1276
 Peak Wavelength (nm): 607
 Dominant Wavelength (nm): 584
 Purity: 61.87869
 Rf: 85.8
 Rg: 97.1

| | | | |
|-----------|------|------|------|
| CRI (Ra): | 83.3 | | |
| R1: | 82.0 | R9: | 7.2 |
| R2: | 92.1 | R10: | 83.2 |
| R3: | 95.4 | R11: | 84.1 |
| R4: | 82.6 | R12: | 80.9 |
| R5: | 82.9 | R13: | 84.4 |
| R6: | 92.4 | R14: | 98.1 |
| R7: | 81.6 | R15: | 73.2 |
| R8: | 57.2 | | |



Test Conditions

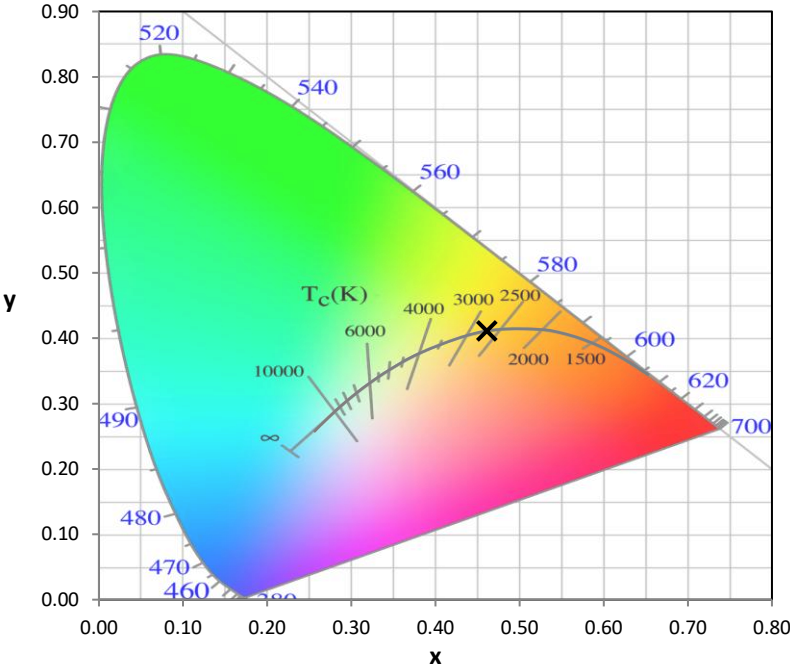
Stabilization Time: 29M
 Operation Time: 1H 29M
 Sphere Temperature (°C): 25.1

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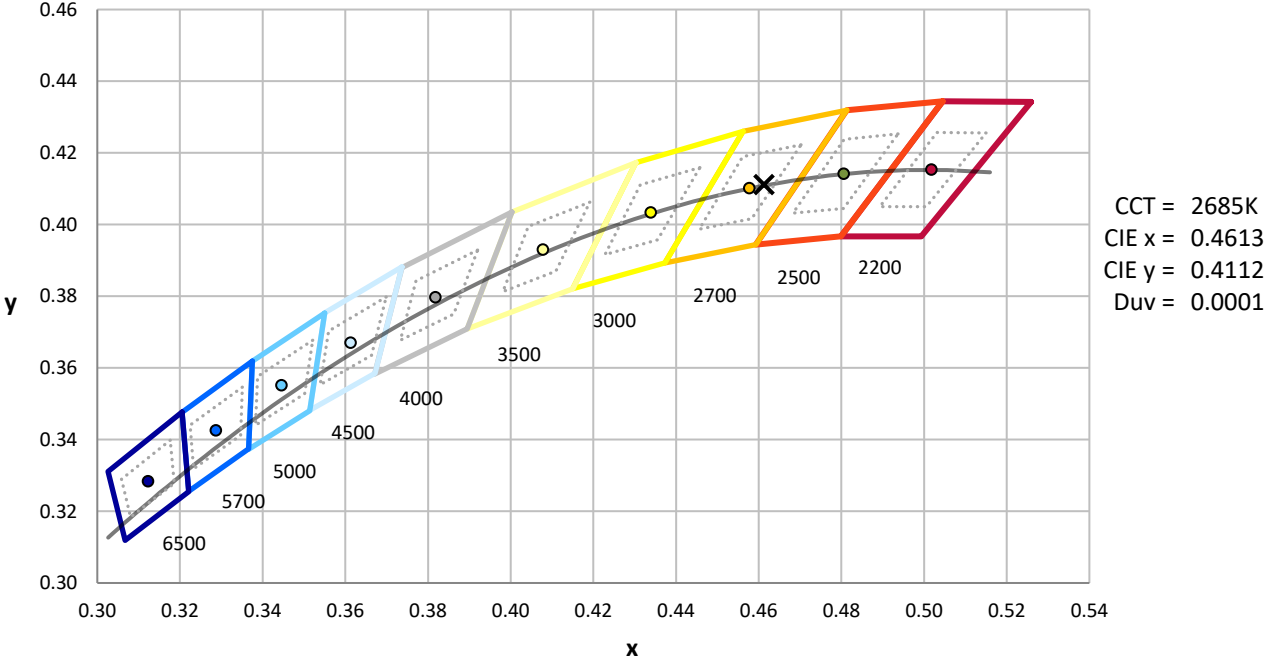
| Measurement and Test Equipment | | | |
|--------------------------------|-----------------------|------------------|----------------------|
| Instrument | Identification Number | Calibration Date | Calibration Due Date |
| Photometer | 76INCH SPHERE IN0058 | 12/16/2025 | 6/16/2026 |
| Power Meter |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

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CIE 1931 Chromaticity Diagram



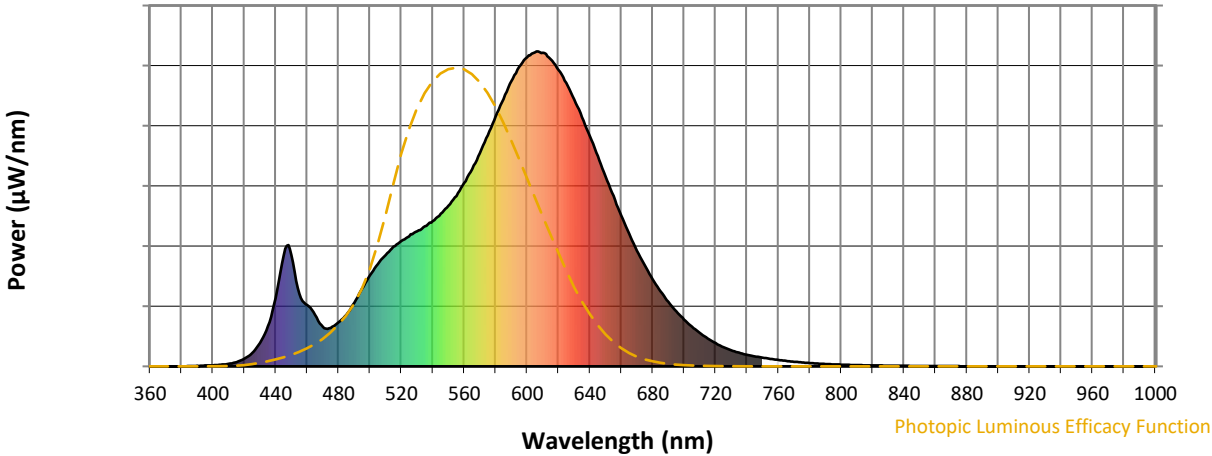
CIE 1931 Chromaticity Diagram with 2017 ANSI 7-Step and 4-Step Quadrangles



Point lies inside the ANSI 2700K 4-step quadrangle

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Photopic Flux vs. Wavelength

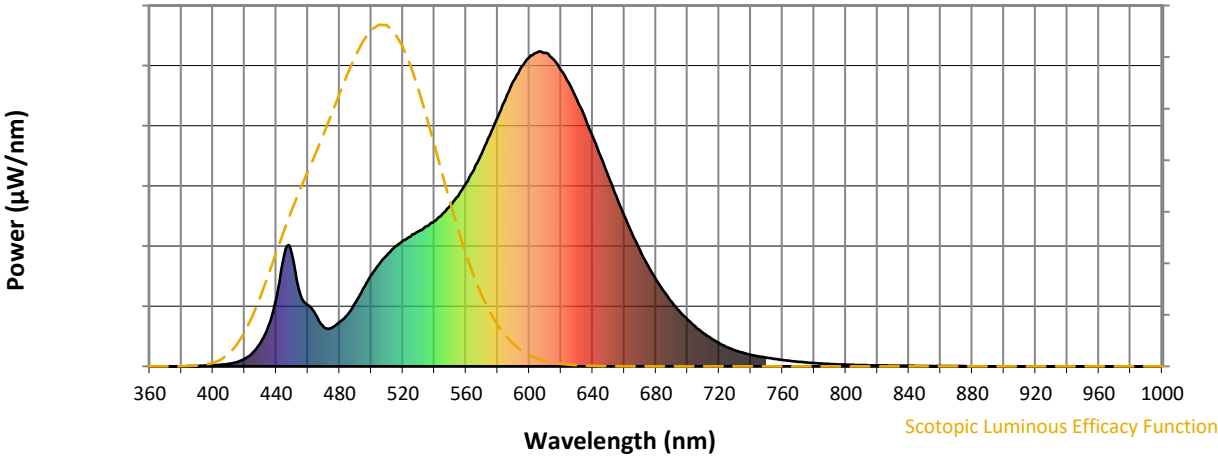


Photopic Lumens: NR

| 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 | 202 | NR | 620 | 941 | NR | 750 | 28 | NR | 880 | 0 | NR |
| 365 | 0 | NR | 495 | 247 | NR | 625 | 900 | NR | 755 | 24 | NR | 885 | 0 | NR |
| 370 | 0 | NR | 500 | 290 | NR | 630 | 847 | NR | 760 | 20 | NR | 890 | 0 | NR |
| 375 | 0 | NR | 505 | 324 | NR | 635 | 791 | NR | 765 | 17 | NR | 895 | 0 | NR |
| 380 | 0 | NR | 510 | 354 | NR | 640 | 730 | NR | 770 | 15 | NR | 900 | 0 | NR |
| 385 | 1 | NR | 515 | 380 | NR | 645 | 668 | NR | 775 | 13 | NR | 905 | 0 | NR |
| 390 | 2 | NR | 520 | 398 | NR | 650 | 602 | NR | 780 | 11 | NR | 910 | 0 | NR |
| 395 | 3 | NR | 525 | 413 | NR | 655 | 541 | NR | 785 | 9 | NR | 915 | 0 | NR |
| 400 | 3 | NR | 530 | 428 | NR | 660 | 478 | NR | 790 | 8 | NR | 920 | 0 | NR |
| 405 | 5 | NR | 535 | 445 | NR | 665 | 421 | NR | 795 | 6 | NR | 925 | 0 | NR |
| 410 | 8 | NR | 540 | 461 | NR | 670 | 367 | NR | 800 | 5 | NR | 930 | 0 | NR |
| 415 | 14 | NR | 545 | 485 | NR | 675 | 320 | NR | 805 | 5 | NR | 935 | 0 | NR |
| 420 | 24 | NR | 550 | 510 | NR | 680 | 277 | NR | 810 | 4 | NR | 940 | 0 | NR |
| 425 | 43 | NR | 555 | 541 | NR | 685 | 238 | NR | 815 | 3 | NR | 945 | 0 | NR |
| 430 | 74 | NR | 560 | 582 | NR | 690 | 205 | NR | 820 | 3 | NR | 950 | 0 | NR |
| 435 | 128 | NR | 565 | 626 | NR | 695 | 175 | NR | 825 | 3 | NR | 955 | 0 | NR |
| 440 | 218 | NR | 570 | 677 | NR | 700 | 148 | NR | 830 | 2 | NR | 960 | 0 | NR |
| 445 | 352 | NR | 575 | 734 | NR | 705 | 126 | NR | 835 | 2 | NR | 965 | 0 | NR |
| 450 | 354 | NR | 580 | 793 | NR | 710 | 106 | NR | 840 | 2 | NR | 970 | 0 | NR |
| 455 | 230 | NR | 585 | 849 | NR | 715 | 89 | NR | 845 | 1 | NR | 975 | 0 | NR |
| 460 | 195 | NR | 590 | 907 | NR | 720 | 74 | NR | 850 | 1 | NR | 980 | 0 | NR |
| 465 | 164 | NR | 595 | 951 | NR | 725 | 61 | NR | 855 | 1 | NR | 985 | 0 | NR |
| 470 | 125 | NR | 600 | 981 | NR | 730 | 51 | NR | 860 | 1 | NR | 990 | 0 | NR |
| 475 | 122 | NR | 605 | 997 | NR | 735 | 43 | NR | 865 | 1 | NR | 995 | 0 | NR |
| 480 | 140 | NR | 610 | 996 | NR | 740 | 37 | NR | 870 | 1 | NR | 1000 | 0 | NR |
| 485 | 164 | NR | 615 | 976 | NR | 745 | 32 | NR | 875 | 1 | NR | | | |

REPORT NUMBER: SP1-2509-539-6

Scotopic Flux vs. Wavelength



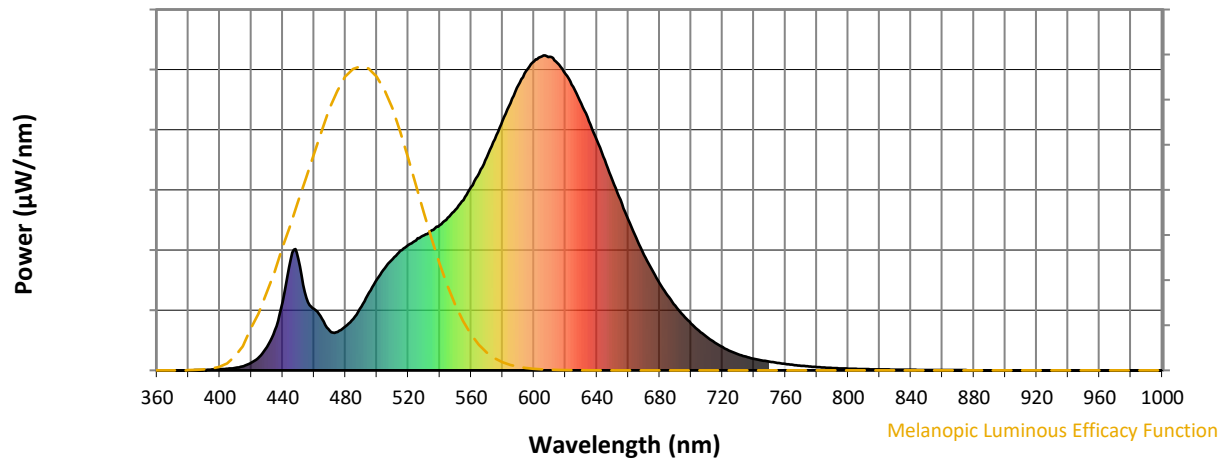
Scotopic Lumens: NR

S/P: 1.22

| 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 | 202 | NR | 620 | 941 | NR | 750 | 28 | NR | 880 | 0 | NR |
| 365 | 0 | NR | 495 | 247 | NR | 625 | 900 | NR | 755 | 24 | NR | 885 | 0 | NR |
| 370 | 0 | NR | 500 | 290 | NR | 630 | 847 | NR | 760 | 20 | NR | 890 | 0 | NR |
| 375 | 0 | NR | 505 | 324 | NR | 635 | 791 | NR | 765 | 17 | NR | 895 | 0 | NR |
| 380 | 0 | NR | 510 | 354 | NR | 640 | 730 | NR | 770 | 15 | NR | 900 | 0 | NR |
| 385 | 1 | NR | 515 | 380 | NR | 645 | 668 | NR | 775 | 13 | NR | 905 | 0 | NR |
| 390 | 2 | NR | 520 | 398 | NR | 650 | 602 | NR | 780 | 11 | NR | 910 | 0 | NR |
| 395 | 3 | NR | 525 | 413 | NR | 655 | 541 | NR | 785 | 9 | NR | 915 | 0 | NR |
| 400 | 3 | NR | 530 | 428 | NR | 660 | 478 | NR | 790 | 8 | NR | 920 | 0 | NR |
| 405 | 5 | NR | 535 | 445 | NR | 665 | 421 | NR | 795 | 6 | NR | 925 | 0 | NR |
| 410 | 8 | NR | 540 | 461 | NR | 670 | 367 | NR | 800 | 5 | NR | 930 | 0 | NR |
| 415 | 14 | NR | 545 | 485 | NR | 675 | 320 | NR | 805 | 5 | NR | 935 | 0 | NR |
| 420 | 24 | NR | 550 | 510 | NR | 680 | 277 | NR | 810 | 4 | NR | 940 | 0 | NR |
| 425 | 43 | NR | 555 | 541 | NR | 685 | 238 | NR | 815 | 3 | NR | 945 | 0 | NR |
| 430 | 74 | NR | 560 | 582 | NR | 690 | 205 | NR | 820 | 3 | NR | 950 | 0 | NR |
| 435 | 128 | NR | 565 | 626 | NR | 695 | 175 | NR | 825 | 3 | NR | 955 | 0 | NR |
| 440 | 218 | NR | 570 | 677 | NR | 700 | 148 | NR | 830 | 2 | NR | 960 | 0 | NR |
| 445 | 352 | NR | 575 | 734 | NR | 705 | 126 | NR | 835 | 2 | NR | 965 | 0 | NR |
| 450 | 354 | NR | 580 | 793 | NR | 710 | 106 | NR | 840 | 2 | NR | 970 | 0 | NR |
| 455 | 230 | NR | 585 | 849 | NR | 715 | 89 | NR | 845 | 1 | NR | 975 | 0 | NR |
| 460 | 195 | NR | 590 | 907 | NR | 720 | 74 | NR | 850 | 1 | NR | 980 | 0 | NR |
| 465 | 164 | NR | 595 | 951 | NR | 725 | 61 | NR | 855 | 1 | NR | 985 | 0 | NR |
| 470 | 125 | NR | 600 | 981 | NR | 730 | 51 | NR | 860 | 1 | NR | 990 | 0 | NR |
| 475 | 122 | NR | 605 | 997 | NR | 735 | 43 | NR | 865 | 1 | NR | 995 | 0 | NR |
| 480 | 140 | NR | 610 | 996 | NR | 740 | 37 | NR | 870 | 1 | NR | 1000 | 0 | NR |
| 485 | 164 | NR | 615 | 976 | NR | 745 | 32 | NR | 875 | 1 | NR | | | |

REPORT NUMBER: SP1-2509-539-6

Melanopic Flux vs. Wavelength



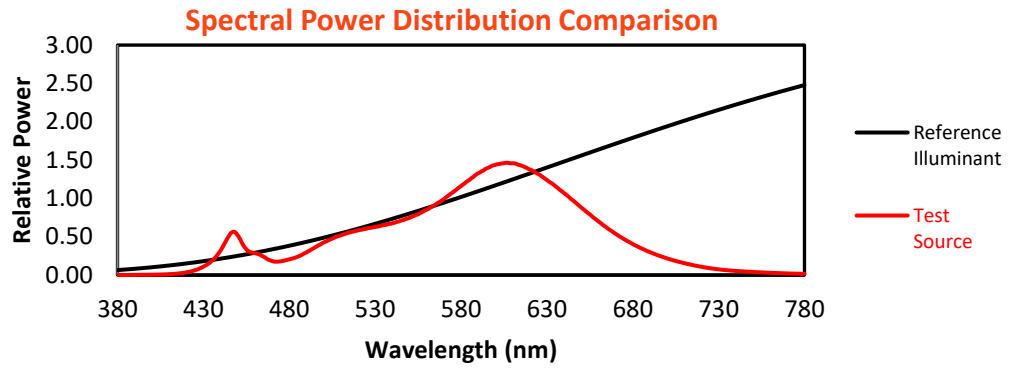
Melanopic Lumens: NR

M/P: 2.26

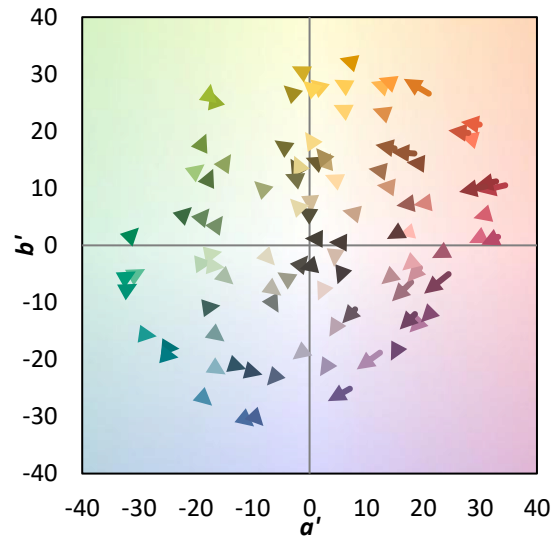
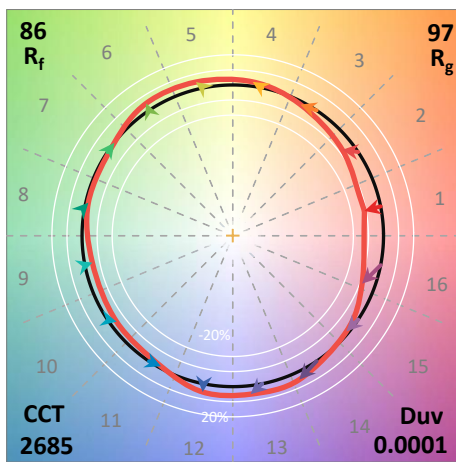
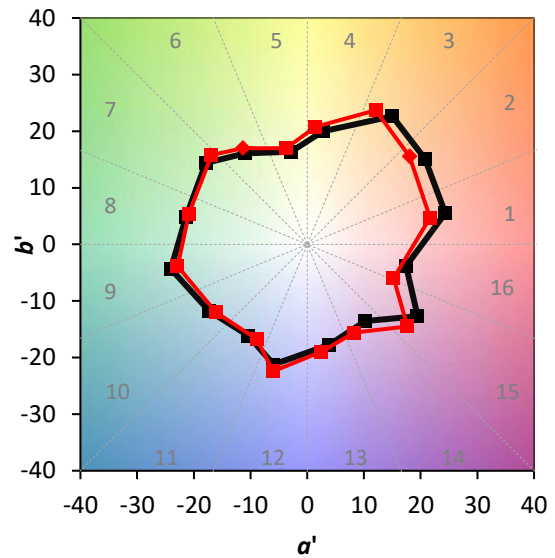
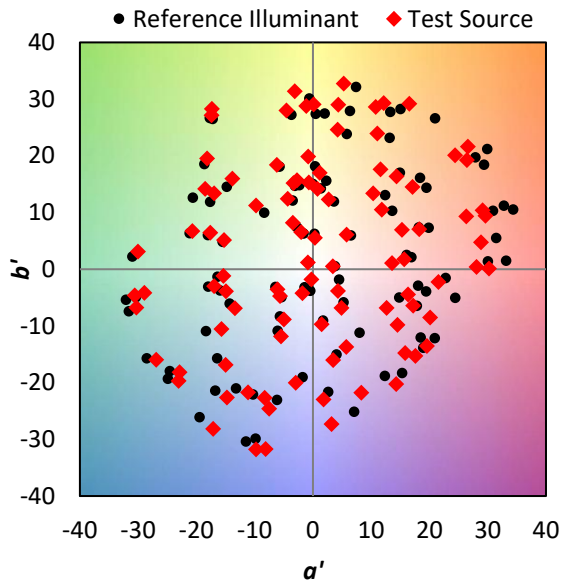
| λ (nm) | Power W [^] /nm | Lumens (φ/nm) | λ (nm) | Power W [^] /nm | Lumens (φ/nm) | λ (nm) | Power W [^] /nm | Lumens (φ/nm) | λ (nm) | Power W [^] /nm | Lumens (φ/nm) | λ (nm) | Power W [^] /nm | Lumens (φ/nm) |
|--------|--------------------------|---------------|--------|--------------------------|---------------|--------|--------------------------|---------------|--------|--------------------------|---------------|--------|--------------------------|---------------|
| 360 | 0 | NR | 490 | 202 | NR | 620 | 941 | NR | 750 | 28 | NR | 880 | 0 | NR |
| 365 | 0 | NR | 495 | 247 | NR | 625 | 900 | NR | 755 | 24 | NR | 885 | 0 | NR |
| 370 | 0 | NR | 500 | 290 | NR | 630 | 847 | NR | 760 | 20 | NR | 890 | 0 | NR |
| 375 | 0 | NR | 505 | 324 | NR | 635 | 791 | NR | 765 | 17 | NR | 895 | 0 | NR |
| 380 | 0 | NR | 510 | 354 | NR | 640 | 730 | NR | 770 | 15 | NR | 900 | 0 | NR |
| 385 | 1 | NR | 515 | 380 | NR | 645 | 668 | NR | 775 | 13 | NR | 905 | 0 | NR |
| 390 | 2 | NR | 520 | 398 | NR | 650 | 602 | NR | 780 | 11 | NR | 910 | 0 | NR |
| 395 | 3 | NR | 525 | 413 | NR | 655 | 541 | NR | 785 | 9 | NR | 915 | 0 | NR |
| 400 | 3 | NR | 530 | 428 | NR | 660 | 478 | NR | 790 | 8 | NR | 920 | 0 | NR |
| 405 | 5 | NR | 535 | 445 | NR | 665 | 421 | NR | 795 | 6 | NR | 925 | 0 | NR |
| 410 | 8 | NR | 540 | 461 | NR | 670 | 367 | NR | 800 | 5 | NR | 930 | 0 | NR |
| 415 | 14 | NR | 545 | 485 | NR | 675 | 320 | NR | 805 | 5 | NR | 935 | 0 | NR |
| 420 | 24 | NR | 550 | 510 | NR | 680 | 277 | NR | 810 | 4 | NR | 940 | 0 | NR |
| 425 | 43 | NR | 555 | 541 | NR | 685 | 238 | NR | 815 | 3 | NR | 945 | 0 | NR |
| 430 | 74 | NR | 560 | 582 | NR | 690 | 205 | NR | 820 | 3 | NR | 950 | 0 | NR |
| 435 | 128 | NR | 565 | 626 | NR | 695 | 175 | NR | 825 | 3 | NR | 955 | 0 | NR |
| 440 | 218 | NR | 570 | 677 | NR | 700 | 148 | NR | 830 | 2 | NR | 960 | 0 | NR |
| 445 | 352 | NR | 575 | 734 | NR | 705 | 126 | NR | 835 | 2 | NR | 965 | 0 | NR |
| 450 | 354 | NR | 580 | 793 | NR | 710 | 106 | NR | 840 | 2 | NR | 970 | 0 | NR |
| 455 | 230 | NR | 585 | 849 | NR | 715 | 89 | NR | 845 | 1 | NR | 975 | 0 | NR |
| 460 | 195 | NR | 590 | 907 | NR | 720 | 74 | NR | 850 | 1 | NR | 980 | 0 | NR |
| 465 | 164 | NR | 595 | 951 | NR | 725 | 61 | NR | 855 | 1 | NR | 985 | 0 | NR |
| 470 | 125 | NR | 600 | 981 | NR | 730 | 51 | NR | 860 | 1 | NR | 990 | 0 | NR |
| 475 | 122 | NR | 605 | 997 | NR | 735 | 43 | NR | 865 | 1 | NR | 995 | 0 | NR |
| 480 | 140 | NR | 610 | 996 | NR | 740 | 37 | NR | 870 | 1 | NR | 1000 | 0 | NR |
| 485 | 164 | NR | 615 | 976 | NR | 745 | 32 | NR | 875 | 1 | NR | | | |

Summary

$R_f = 85.8$
 $R_g = 97.1$
 $CIE R_a = 83.3$
 $R_9 = 7.2$

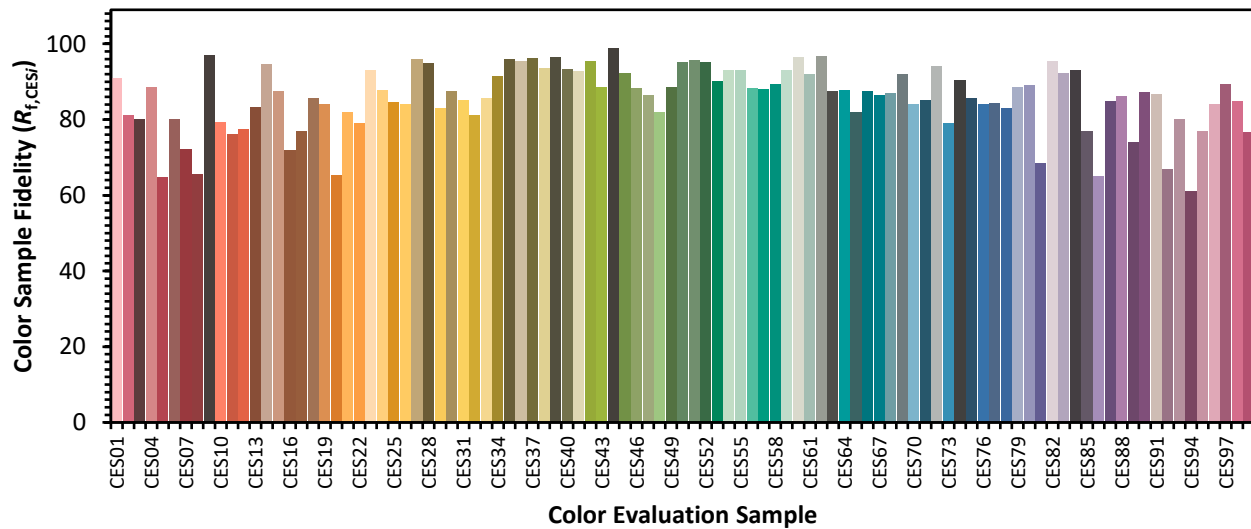


Color Vector Graphics

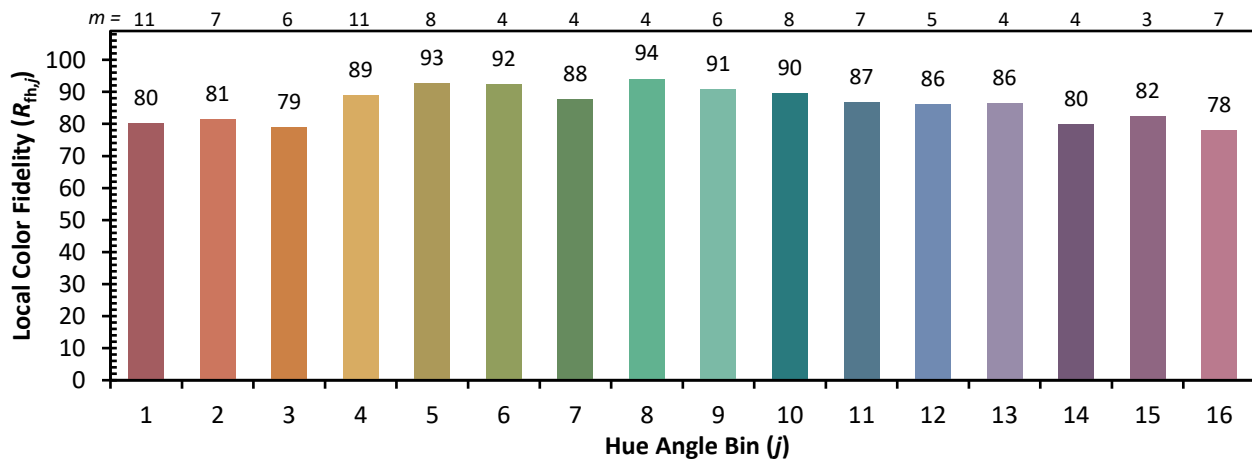
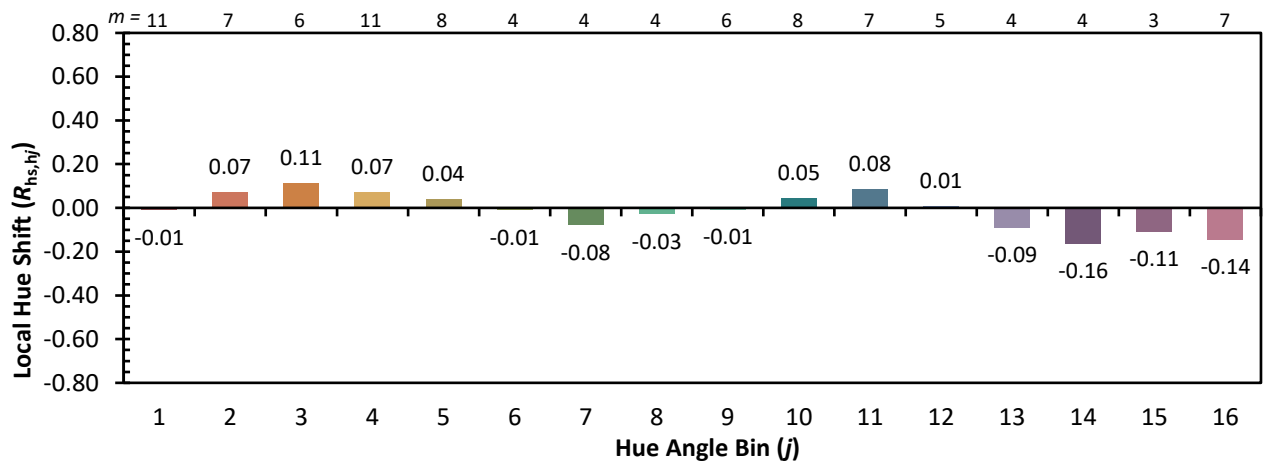
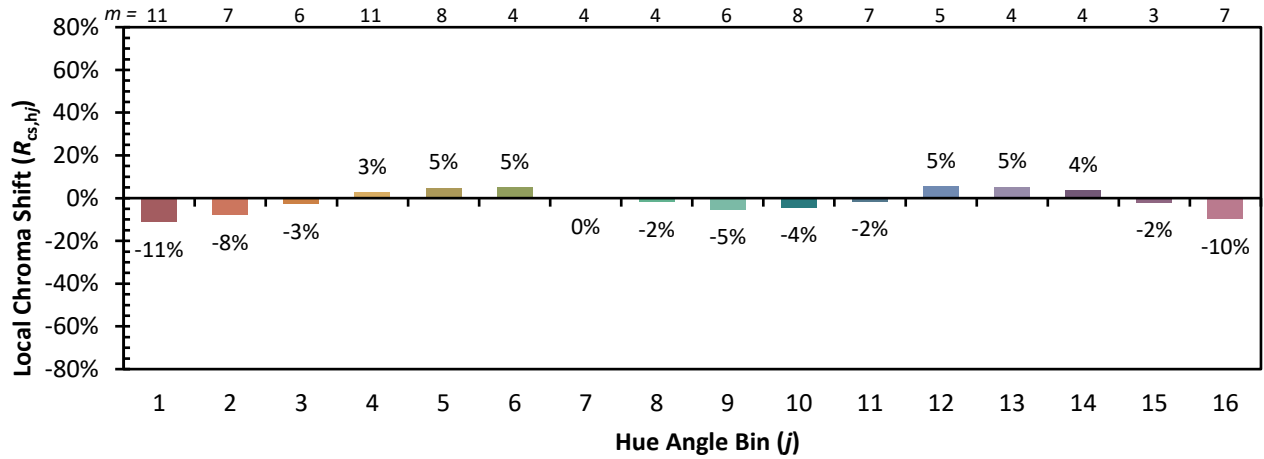


Individual Sample Fidelity Index ($R_{f,i}$)

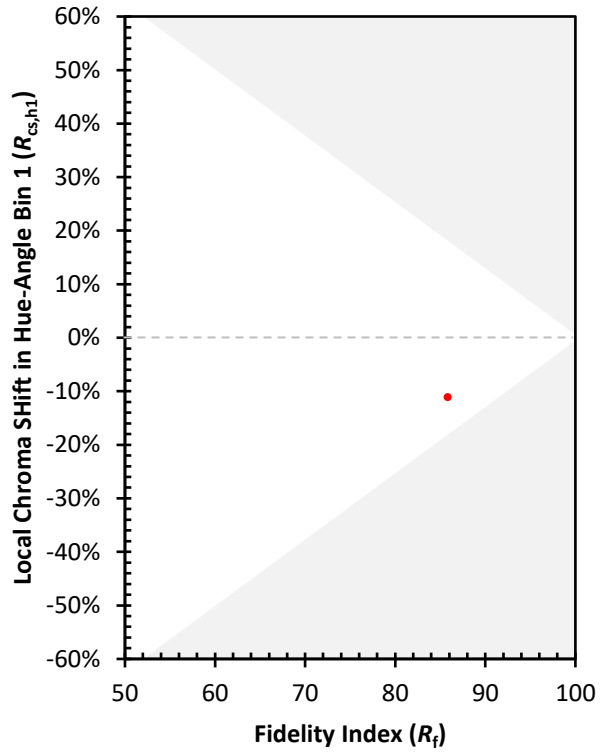
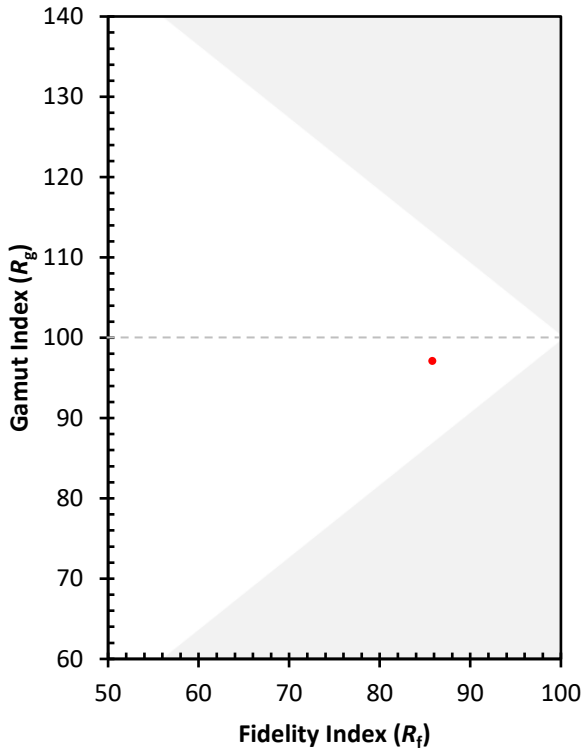
| | | | |
|------------|------------|------------|------------|
| CES01 = 86 | CES26 = 84 | CES51 = 96 | CES76 = 84 |
| CES02 = 64 | CES27 = 96 | CES52 = 95 | CES77 = 84 |
| CES03 = 32 | CES28 = 95 | CES53 = 90 | CES78 = 83 |
| CES04 = 71 | CES29 = 83 | CES54 = 93 | CES79 = 89 |
| CES05 = 51 | CES30 = 87 | CES55 = 93 | CES80 = 89 |
| CES06 = 52 | CES31 = 85 | CES56 = 88 | CES81 = 69 |
| CES07 = 43 | CES32 = 81 | CES57 = 88 | CES82 = 95 |
| CES08 = 42 | CES33 = 86 | CES58 = 89 | CES83 = 92 |
| CES09 = 29 | CES34 = 91 | CES59 = 93 | CES84 = 93 |
| CES10 = 77 | CES35 = 96 | CES60 = 97 | CES85 = 77 |
| CES11 = 60 | CES36 = 95 | CES61 = 92 | CES86 = 65 |
| CES12 = 66 | CES37 = 96 | CES62 = 97 | CES87 = 85 |
| CES13 = 44 | CES38 = 94 | CES63 = 87 | CES88 = 86 |
| CES14 = 74 | CES39 = 96 | CES64 = 88 | CES89 = 74 |
| CES15 = 72 | CES40 = 93 | CES65 = 82 | CES90 = 87 |
| CES16 = 48 | CES41 = 93 | CES66 = 87 | CES91 = 87 |
| CES17 = 50 | CES42 = 95 | CES67 = 86 | CES92 = 67 |
| CES18 = 57 | CES43 = 89 | CES68 = 87 | CES93 = 80 |
| CES19 = 73 | CES44 = 99 | CES69 = 92 | CES94 = 61 |
| CES20 = 67 | CES45 = 92 | CES70 = 84 | CES95 = 77 |
| CES21 = 87 | CES46 = 88 | CES71 = 85 | CES96 = 84 |
| CES22 = 79 | CES47 = 86 | CES72 = 94 | CES97 = 89 |
| CES23 = 92 | CES48 = 82 | CES73 = 79 | CES98 = 85 |
| CES24 = 91 | CES49 = 89 | CES74 = 90 | CES99 = 77 |
| CES25 = 72 | CES50 = 95 | CES75 = 86 | |



Color Rendition by Hue-Angle Bin



Measure Comparisons



(END OF REPORT)