

Signify Classified - Internal
Cooper Lighting Solutions Photometric Lab
1121 Highway 74 South
Peachtree City, GA 30269



Scaled data based on original data using
LM-79-08 Approved Method: Electrical and Photometric Measurements of Solid-
State Lighting Products

Test Report Prepared for
Cooper Lighting Solutions
(formerly Eaton)

Brand: INVUE

Report Number: P880145

Luminaire Tested: **EMM2-HTN-VA4-727-U-RW**

Issue Date: 10/01/2024



Test Information

Test Method: LM-79-08
Report Number: P880145
Test Lab: INNOVATION CENTER(G3)
Issue Date: 10/01/2024
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: INVUE
Catalog Number: EMM2-HTN-VA4-727-U-RW
Description: EPIC MODERN TALL HOUSING 4W 70CRI 2700K VISUAL COMFORT FIXTURE w/
RECTANGULAR WIDE DISTRIBUTION OPTIC
Light Source: (1) 2700K CCT, 70 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

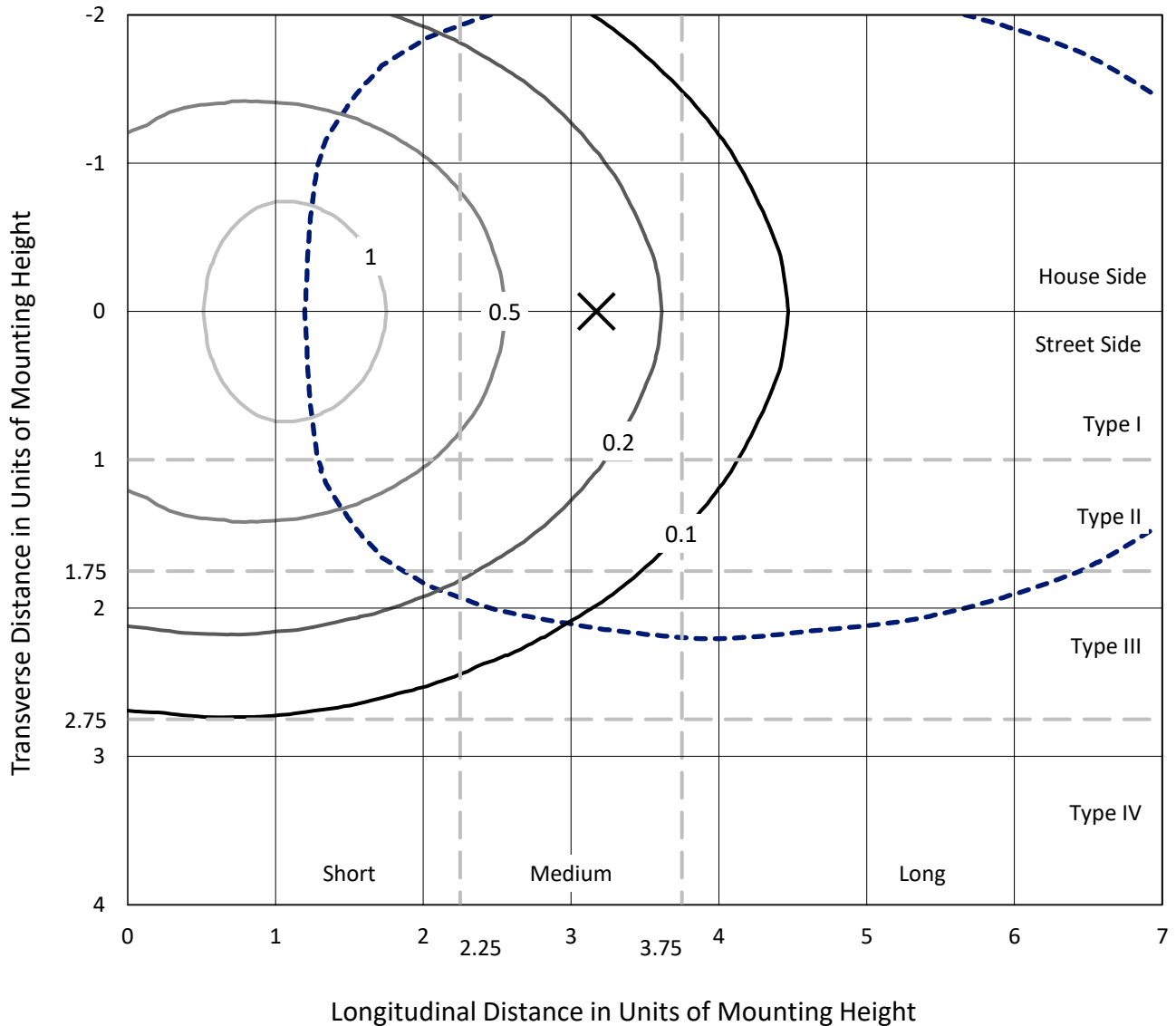
Lumens per Lamp: N/A
Luminaire Lumens: 4549.6 lumens
Efficiency: N/A
Efficacy: 77.1 lumens/watt
Luminous Opening: Circular (Dia: 1.12' x H: 0')
IES Classification: Type III - Short
BUG Rating: B3 - U0 - G3

Input Watts (W): 59
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: 0.99
Total Harmonic Distortion (THDi): 8%
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT

REPORT NUMBER: P880145
 CATALOG NUMBER: EMM2-HTN-VA4-727-U-RW

Iso-Footcandle Lines of Horizontal Illumination

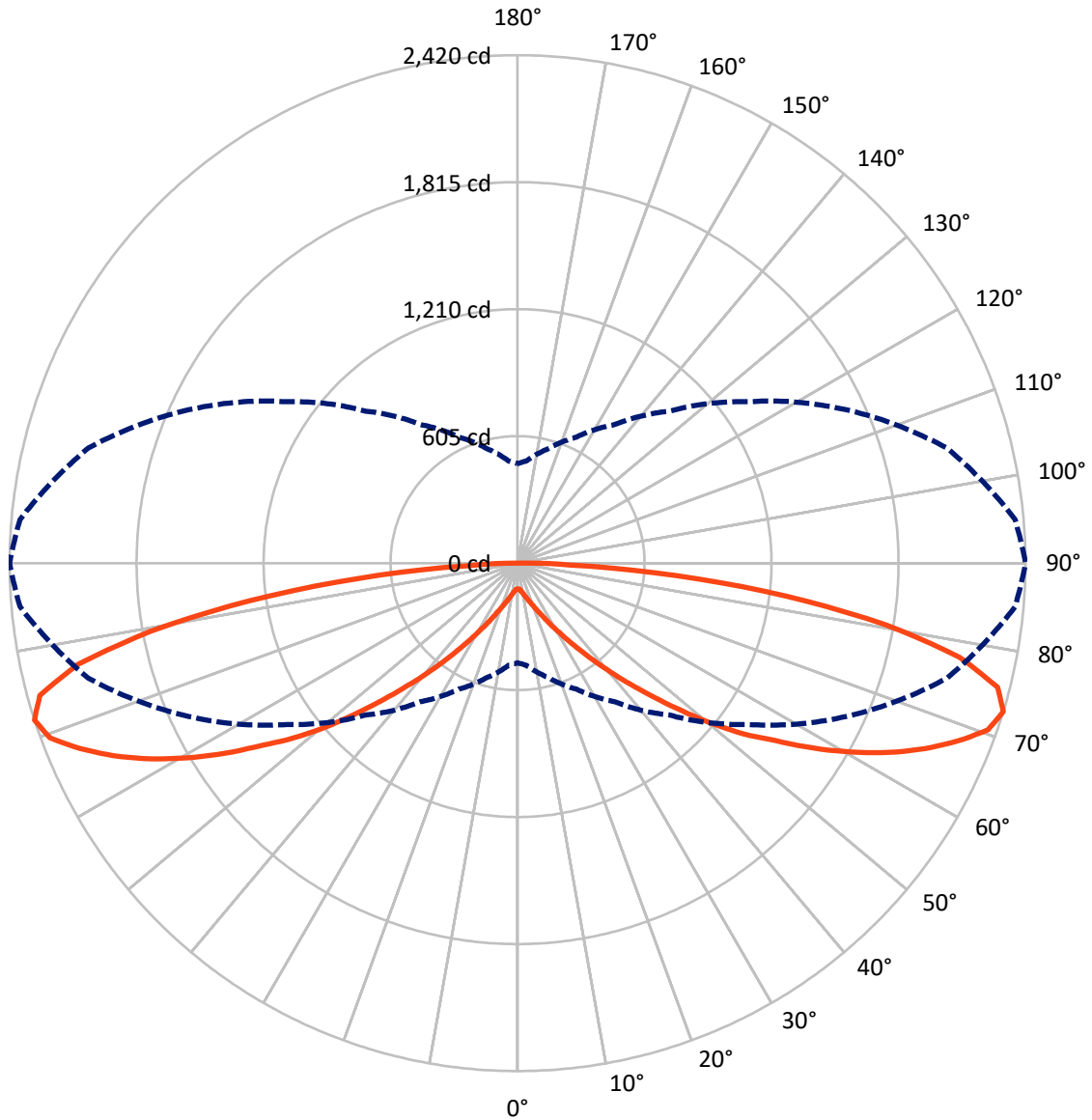
× Max cd
 - - - 1/2 Max cd



Based on 15 foot mounting height. Maximum calculated value = 1.4 fc
 Type III - Short - N/A

REPORT NUMBER: P880145
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Luminous Intensity Polar Plot



— Vertical Plane Through 90-Deg Lateral - - - Horizontal Cone Through 72.5-Deg Vertical

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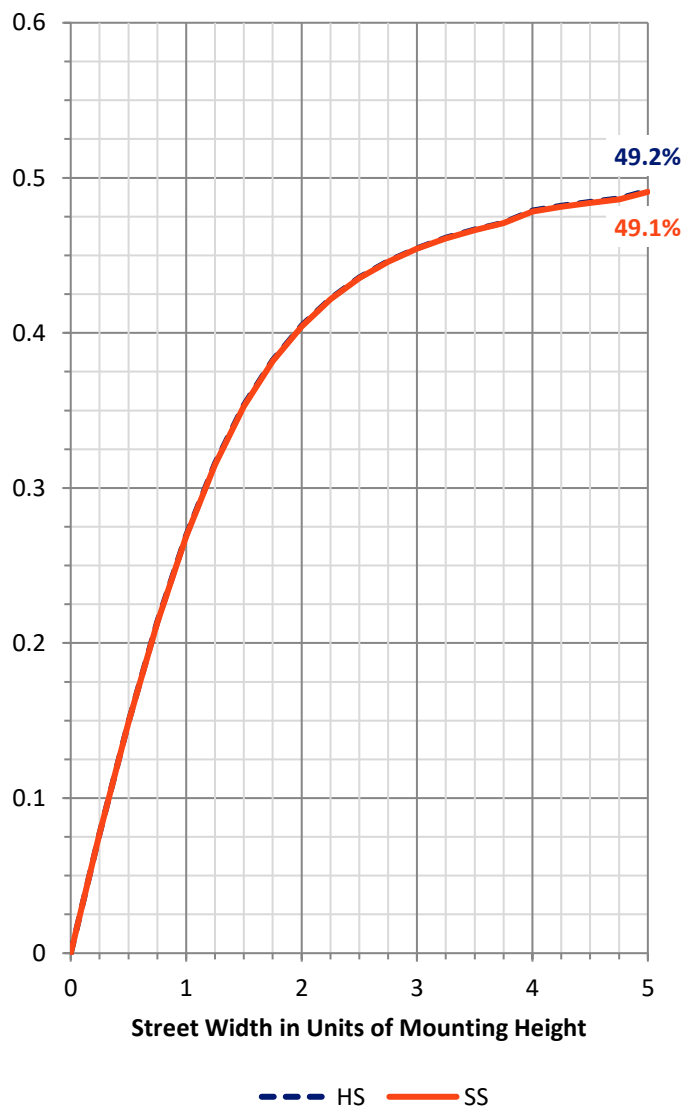
FLUX DISTRIBUTION:

| | | Downward | Upward | Total |
|--------------------|-----------|----------|--------|--------|
| House Side | Lumens | 2274.8 | 0.0 | 2274.8 |
| | % Fixture | 50.0 | 0.0 | 50.0 |
| Street Side | Lumens | 2274.8 | 0.0 | 2274.8 |
| | % Fixture | 50.0 | 0.0 | 50.0 |
| Total | Lumens | 4549.6 | 0.0 | 4549.6 |
| | % Fixture | 100.0 | 0.0 | 100.0 |

Coefficient of Utilization

ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 12.5 | 0.3 |
| 10°-20° | 46.6 | 1.0 |
| 20°-30° | 107.6 | 2.4 |
| 30°-40° | 230.6 | 5.1 |
| 40°-50° | 476.1 | 10.5 |
| 50°-60° | 874.4 | 19.2 |
| 60°-70° | 1246.8 | 27.4 |
| 70°-80° | 1159.7 | 25.5 |
| 80°-90° | 395.4 | 8.7 |
| 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° | 4549.6 | 100.0 |
| 0°-180° | 4549.6 | 100.0 |



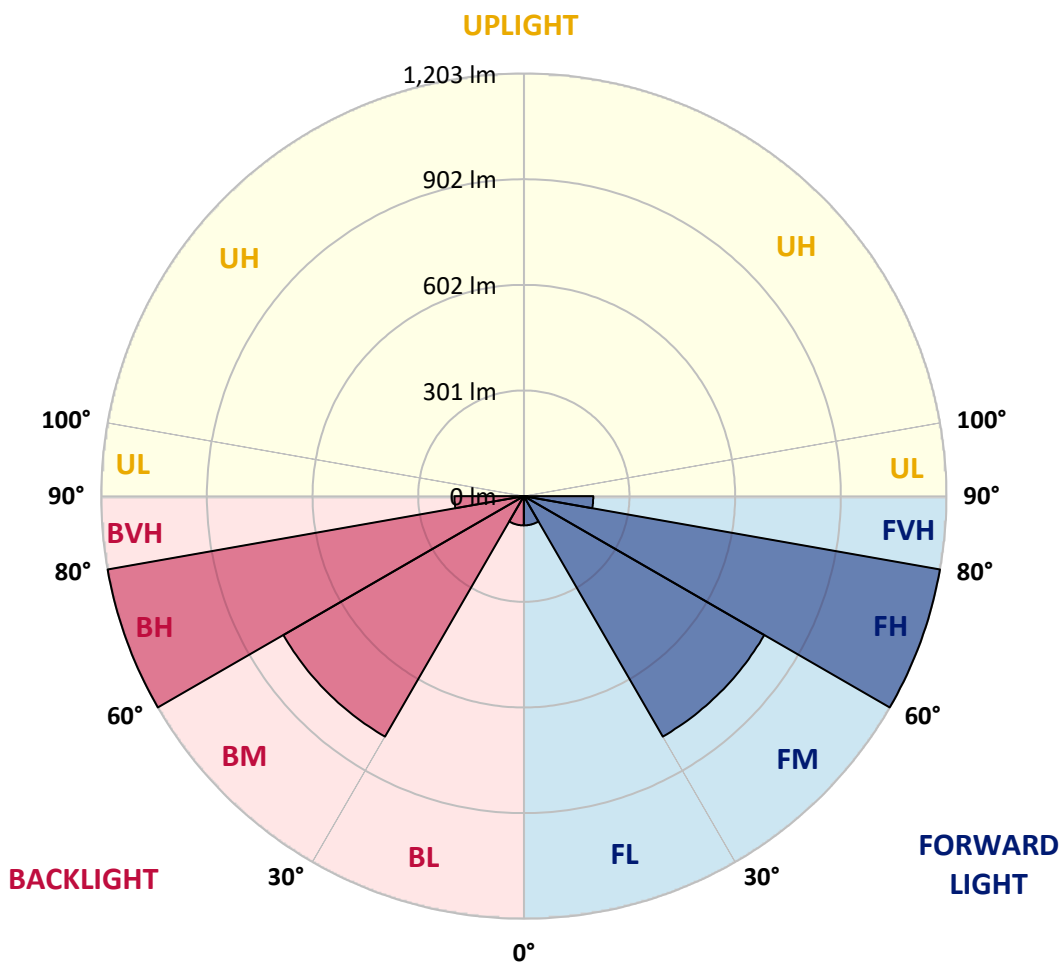
REPORT NUMBER: P880145
 CATALOG NUMBER: EMM2-HTN-VA4-727-U-RW

LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

| Zone | Lumens | % Fixture | Zone Rating/Lumen Limit | | |
|----------------|--------|-----------|-------------------------|------|---------|
| | | | B | U | G |
| FL (0°-30°) | 83.4 | 1.8 | | | |
| FM (30°-60°) | 790.5 | 17.4 | | | |
| FH (60°-80°) | 1203.2 | 26.4 | | | G1/1800 |
| FVH (80°-90°) | 197.7 | 4.3 | | | G2/225 |
| BL (0°-30°) | 83.4 | 1.8 | B0/110 | | |
| BM (30°-60°) | 790.5 | 17.4 | B1/1000 | | |
| BH (60°-80°) | 1203.2 | 26.4 | B3/2500 | | G3/2500 |
| BVH (80°-90°) | 197.7 | 4.3 | | | G2/225 |
| UL (90°-100°) | 0.0 | 0.0 | | U0/0 | |
| UH (100°-180°) | 0.0 | 0.0 | | U0/0 | |

BUG Rating: B3-U0-G3

Type III Short





REPORT NUMBER: P880145

CATALOG NUMBER: EMM2-HTN-VA4-727-U-RW

CANDELA DISTRIBUTION (FULL):

| | 0° | 5° | 15° | 25° | 35° | 45° | 55° | 65° | 75° | 85° | 90° |
|-------|-------|-------|-------|-------|-------|--------|--------|--------|--------|--------|--------|
| 0° | 122.5 | 122.5 | 122.5 | 122.5 | 122.5 | 122.5 | 122.5 | 122.5 | 122.5 | 122.5 | 122.5 |
| 2.5° | 123.0 | 123.0 | 123.0 | 123.0 | 123.6 | 123.6 | 123.6 | 123.6 | 123.6 | 123.6 | 123.6 |
| 5° | 124.8 | 124.8 | 124.8 | 125.3 | 126.5 | 127.1 | 127.6 | 127.6 | 128.2 | 128.2 | 128.2 |
| 7.5° | 127.6 | 127.6 | 128.2 | 130.0 | 131.1 | 132.8 | 134.6 | 135.2 | 136.9 | 136.9 | 136.9 |
| 10° | 131.7 | 131.7 | 132.8 | 134.6 | 137.5 | 140.9 | 143.8 | 146.1 | 147.3 | 147.9 | 148.4 |
| 12.5° | 136.9 | 136.9 | 138.6 | 141.5 | 146.1 | 150.2 | 154.8 | 157.7 | 160.6 | 161.7 | 161.7 |
| 15° | 143.2 | 143.2 | 145.6 | 149.6 | 154.8 | 160.6 | 166.9 | 172.1 | 176.2 | 177.9 | 178.5 |
| 17.5° | 149.6 | 150.2 | 153.1 | 158.3 | 165.2 | 172.7 | 180.8 | 187.7 | 194.1 | 196.4 | 197.5 |
| 20° | 157.7 | 157.7 | 161.1 | 168.1 | 176.7 | 187.1 | 198.1 | 207.4 | 215.4 | 220.1 | 220.6 |
| 22.5° | 166.9 | 167.5 | 171.0 | 179.6 | 190.6 | 203.9 | 218.3 | 231.0 | 242.6 | 248.4 | 247.8 |
| 25° | 176.2 | 176.7 | 181.9 | 192.3 | 206.2 | 224.7 | 243.2 | 259.9 | 275.5 | 282.4 | 282.4 |
| 27.5° | 187.1 | 187.7 | 194.1 | 206.2 | 224.7 | 247.8 | 272.0 | 296.3 | 311.9 | 322.3 | 325.8 |
| 30° | 200.4 | 201.0 | 208.5 | 224.1 | 245.5 | 274.4 | 306.7 | 337.9 | 358.7 | 373.7 | 374.3 |
| 32.5° | 214.9 | 216.0 | 225.3 | 243.2 | 270.9 | 307.3 | 347.7 | 386.4 | 415.3 | 434.4 | 433.8 |
| 35° | 234.5 | 235.7 | 248.4 | 268.6 | 302.1 | 345.4 | 394.5 | 447.1 | 480.6 | 502.5 | 504.8 |
| 37.5° | 254.7 | 257.0 | 271.5 | 298.0 | 338.5 | 390.5 | 452.3 | 511.2 | 560.8 | 581.1 | 586.8 |
| 40° | 278.4 | 280.7 | 298.6 | 331.0 | 377.7 | 444.2 | 520.4 | 592.6 | 649.8 | 677.5 | 681.6 |
| 42.5° | 305.5 | 309.6 | 330.4 | 367.9 | 426.8 | 503.7 | 592.6 | 681.6 | 753.8 | 790.2 | 787.8 |
| 45° | 344.2 | 347.7 | 374.3 | 416.4 | 482.9 | 571.2 | 679.3 | 790.7 | 868.7 | 910.9 | 910.3 |
| 47.5° | 381.2 | 385.8 | 417.6 | 470.7 | 547.6 | 650.4 | 777.4 | 904.5 | 994.0 | 1040.8 | 1048.9 |
| 50° | 419.3 | 425.7 | 466.1 | 525.6 | 616.9 | 742.8 | 885.5 | 1021.8 | 1130.4 | 1188.1 | 1202.0 |
| 52.5° | 484.0 | 489.8 | 532.5 | 594.9 | 692.5 | 831.7 | 995.8 | 1148.8 | 1269.0 | 1330.2 | 1352.7 |
| 55° | 527.9 | 537.2 | 591.5 | 669.4 | 780.3 | 927.6 | 1107.8 | 1284.6 | 1420.3 | 1480.4 | 1493.1 |
| 57.5° | 542.4 | 552.2 | 617.5 | 713.9 | 851.4 | 1028.7 | 1225.1 | 1414.5 | 1561.8 | 1643.3 | 1663.5 |
| 60° | 542.9 | 555.1 | 625.5 | 730.1 | 886.0 | 1099.7 | 1329.6 | 1554.3 | 1721.2 | 1810.8 | 1828.1 |
| 62.5° | 561.4 | 575.3 | 650.4 | 748.0 | 903.4 | 1132.7 | 1400.7 | 1672.7 | 1877.2 | 1967.9 | 1986.9 |
| 65° | 582.2 | 598.4 | 678.1 | 786.7 | 942.6 | 1167.9 | 1445.7 | 1758.2 | 2017.6 | 2123.3 | 2132.5 |
| 67.5° | 560.8 | 574.7 | 658.5 | 771.1 | 933.4 | 1174.8 | 1477.5 | 1811.3 | 2101.9 | 2254.9 | 2262.5 |
| 70° | 525.6 | 540.1 | 619.8 | 722.6 | 882.0 | 1122.3 | 1441.1 | 1811.3 | 2151.6 | 2343.9 | 2378.5 |
| 72.5° | 474.2 | 488.6 | 564.3 | 662.5 | 805.7 | 1023.5 | 1340.0 | 1728.2 | 2117.5 | 2379.7 | 2420.1 |
| 75° | 411.2 | 424.5 | 494.4 | 584.0 | 709.3 | 906.3 | 1193.3 | 1569.9 | 1984.6 | 2313.3 | 2361.8 |
| 77.5° | 343.1 | 355.2 | 414.7 | 486.9 | 593.2 | 768.2 | 1014.3 | 1355.0 | 1752.4 | 2089.2 | 2152.1 |
| 80° | 269.7 | 281.9 | 327.5 | 384.1 | 469.6 | 603.6 | 807.5 | 1089.9 | 1433.6 | 1715.5 | 1777.3 |
| 82.5° | 202.2 | 207.9 | 240.3 | 281.3 | 336.2 | 435.5 | 585.7 | 805.7 | 1062.8 | 1264.9 | 1292.7 |
| 85° | 127.1 | 132.3 | 154.2 | 182.5 | 215.4 | 267.4 | 361.0 | 493.3 | 642.3 | 756.1 | 757.8 |
| 87.5° | 39.3 | 45.6 | 52.6 | 69.3 | 79.1 | 95.3 | 114.4 | 161.1 | 212.0 | 267.4 | 251.3 |
| 90° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

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



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

Report Prepared for

Cooper Lighting Solutions

Streetworks

Report Number: SP1-2407-176-2

Test Date: 09/24/2024

Luminaire Tested: MEM2-HTN-VA-30-727-U-WQ

Data in this report applies to families of products including MEM2-HTN-VA-30-727-U-WQ

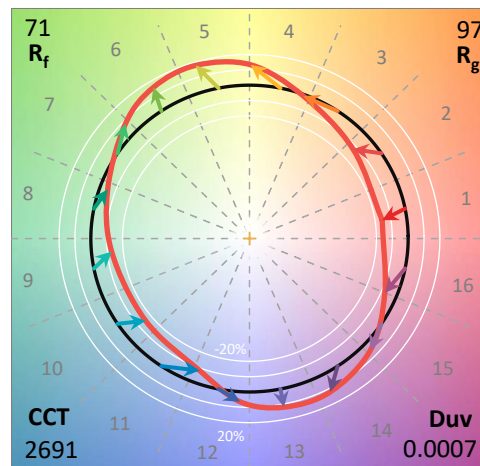
Test Information

Test Method: LM-79-2019
 Report Number: SP1-2407-176-2
 Test Lab: COOPER LIGHTING SOLUTIONS
 Photometer: SP1 - 76IN SPHERE
 Measurement Geometry: 4π
 Issue Date: 09/27/2024
 Manufacturer: COOPER LIGHTING SOLUTIONS
 Product Line: Streetworks
 Catalog Number: **MEM2-HTN-VA-30-727-U-WQ**
 Description: EPIC MODERN VISUAL COMFORT 30W WAVESTREAM WIDE

Spectral Parameters

CCT (K): 2691
 CIE u': 0.2627
 CIE v': 0.5285
 Duv: 0.0007
 CIE x: 0.4618
 CIE y: 0.4129
 CIE z: 0.1254
 Peak Wavelength (nm): 601
 Dominant Wavelength (nm): 584
 Purity: 62.54863
 Rf: 70.6
 Rg: 97.2

| | | | |
|-----------|------|------|-------|
| CRI (Ra): | 70.6 | | |
| R1: | 67.7 | R9: | -27.1 |
| R2: | 79.8 | R10: | 53.1 |
| R3: | 90.6 | R11: | 61.9 |
| R4: | 67.7 | R12: | 42.2 |
| R5: | 65.3 | R13: | 69.4 |
| R6: | 71.1 | R14: | 94.1 |
| R7: | 78.1 | R15: | 60.4 |
| R8: | 44.7 | | |



Test Conditions

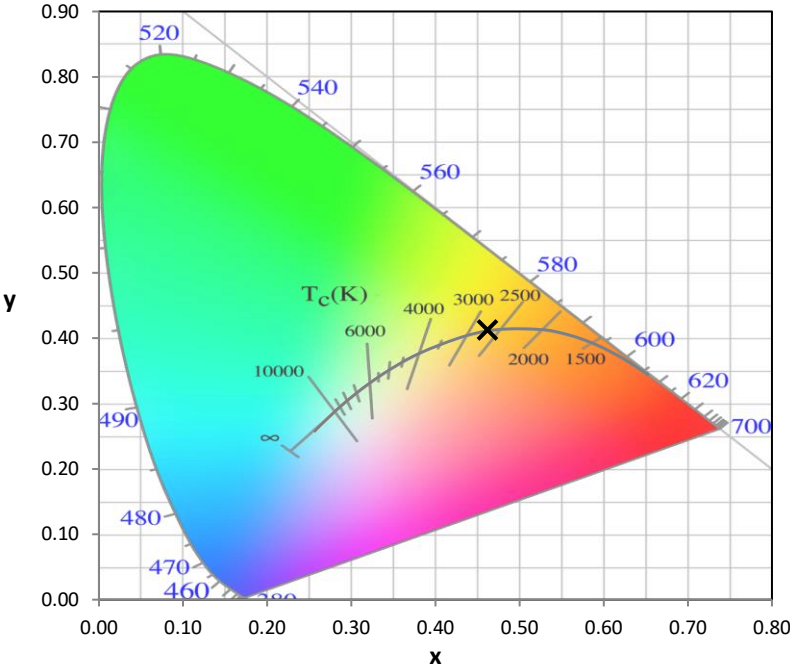
Stabilization Time: 28M
 Operation Time: 1H 28M
 Sphere Temperature (°C): 25.2

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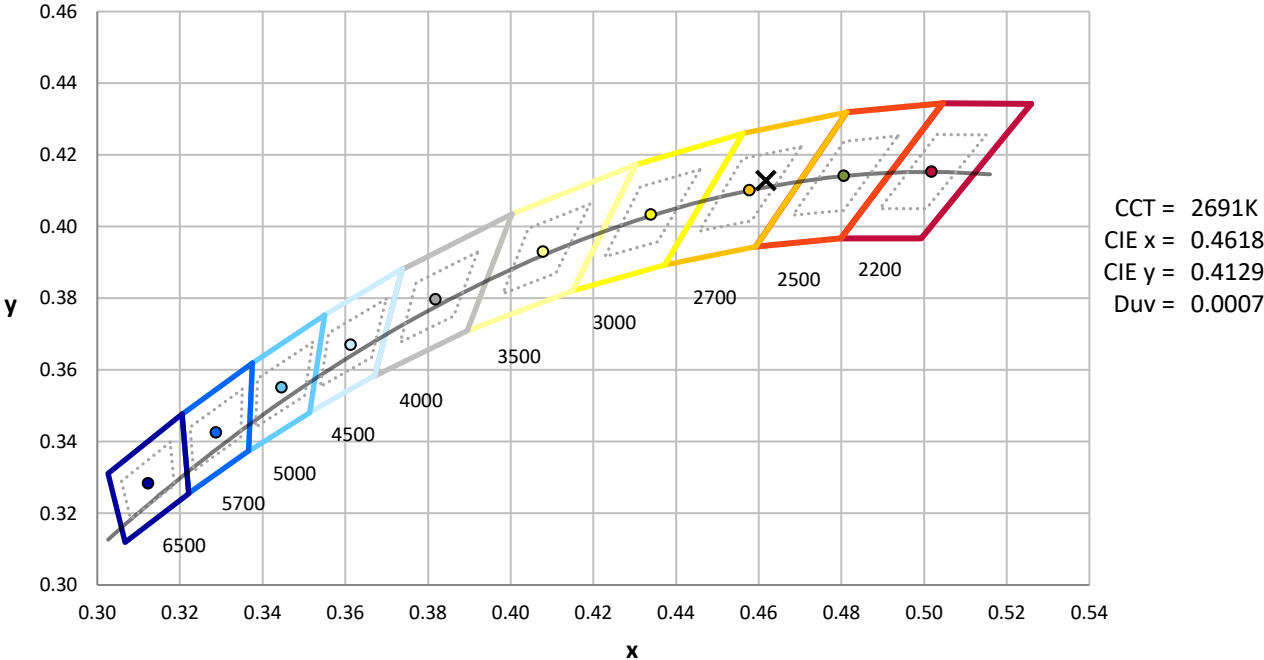
| Measurement and Test Equipment | | | |
|--------------------------------|-----------------------|------------------|----------------------|
| Instrument | Identification Number | Calibration Date | Calibration Due Date |
| Photometer | IN0058 | 6/18/2024 | 12/18/2024 |
| Power Meter | INXT2011004 |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

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CIE 1931 Chromaticity Diagram



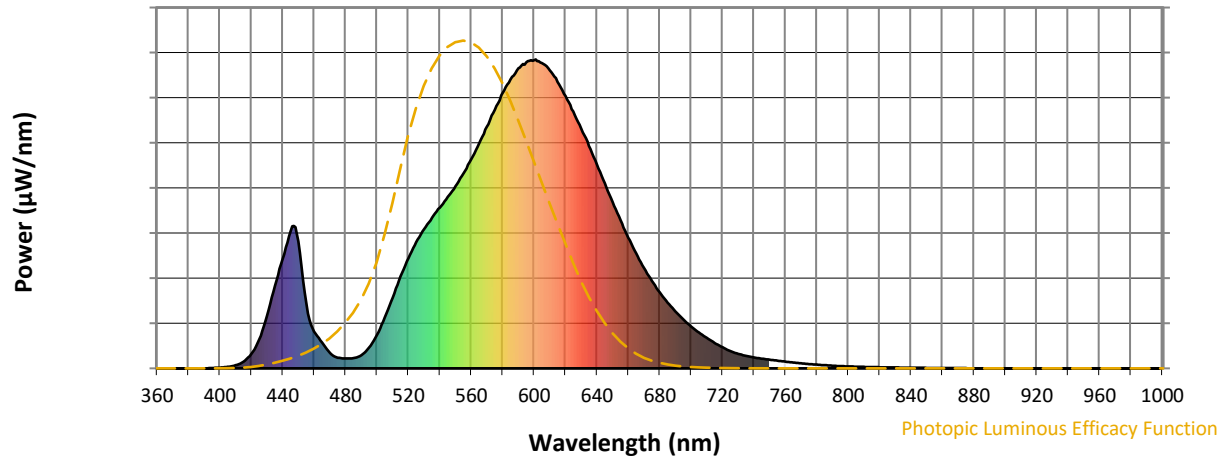
CIE 1931 Chromaticity Diagram with 2017 ANSI 7-Step and 4-Step Quadrangles



Point lies inside the ANSI 2700K 4-step quadrangle

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Photopic Flux vs. Wavelength

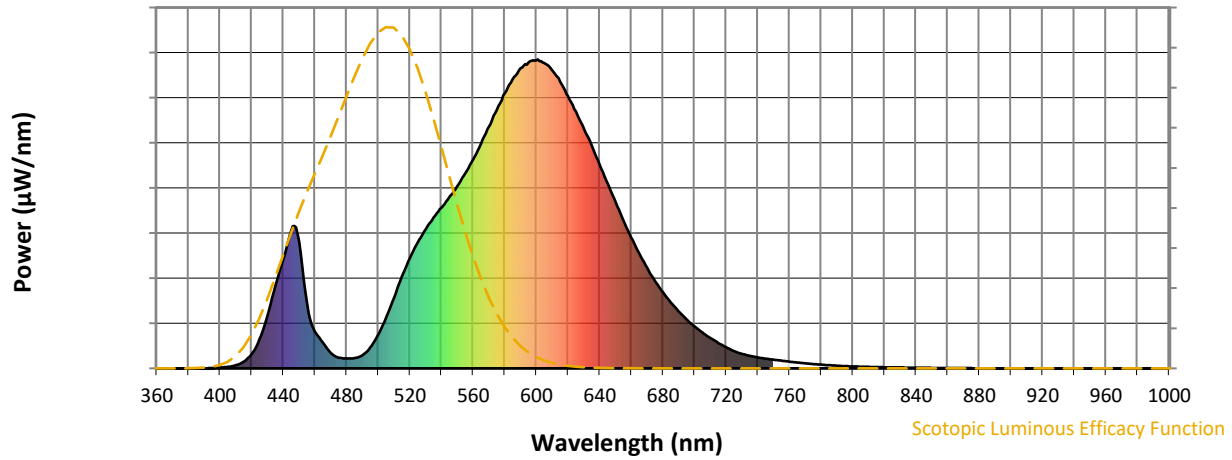


Photopic Lumens: NR

| λ (nm) | Power W^{\wedge}/nm | Lumens (ϕ/nm) | λ (nm) | Power W^{\wedge}/nm | Lumens (ϕ/nm) | λ (nm) | Power W^{\wedge}/nm | Lumens (ϕ/nm) | λ (nm) | Power W^{\wedge}/nm | Lumens (ϕ/nm) | λ (nm) | Power W^{\wedge}/nm | Lumens (ϕ/nm) |
|----------------|-----------------------|----------------------|----------------|-----------------------|----------------------|----------------|-----------------------|----------------------|----------------|-----------------------|----------------------|----------------|-----------------------|----------------------|
| 360 | 0 | NR | 490 | 43 | NR | 620 | 881 | NR | 750 | 28 | NR | 880 | 0 | NR |
| 365 | 0 | NR | 495 | 67 | NR | 625 | 832 | NR | 755 | 25 | NR | 885 | 0 | NR |
| 370 | 0 | NR | 500 | 108 | NR | 630 | 776 | NR | 760 | 22 | NR | 890 | 0 | NR |
| 375 | 0 | NR | 505 | 165 | NR | 635 | 720 | NR | 765 | 19 | NR | 895 | 0 | NR |
| 380 | 0 | NR | 510 | 229 | NR | 640 | 660 | NR | 770 | 16 | NR | 900 | 0 | NR |
| 385 | 0 | NR | 515 | 297 | NR | 645 | 599 | NR | 775 | 14 | NR | 905 | 0 | NR |
| 390 | 0 | NR | 520 | 357 | NR | 650 | 538 | NR | 780 | 12 | NR | 910 | 0 | NR |
| 395 | 1 | NR | 525 | 408 | NR | 655 | 480 | NR | 785 | 10 | NR | 915 | 0 | NR |
| 400 | 3 | NR | 530 | 451 | NR | 660 | 423 | NR | 790 | 9 | NR | 920 | 0 | NR |
| 405 | 5 | NR | 535 | 488 | NR | 665 | 372 | NR | 795 | 7 | NR | 925 | 0 | NR |
| 410 | 10 | NR | 540 | 521 | NR | 670 | 325 | NR | 800 | 6 | NR | 930 | 0 | NR |
| 415 | 21 | NR | 545 | 555 | NR | 675 | 282 | NR | 805 | 5 | NR | 935 | 0 | NR |
| 420 | 46 | NR | 550 | 590 | NR | 680 | 246 | NR | 810 | 5 | NR | 940 | 0 | NR |
| 425 | 94 | NR | 555 | 631 | NR | 685 | 213 | NR | 815 | 4 | NR | 945 | 0 | NR |
| 430 | 169 | NR | 560 | 677 | NR | 690 | 185 | NR | 820 | 4 | NR | 950 | 0 | NR |
| 435 | 268 | NR | 565 | 728 | NR | 695 | 158 | NR | 825 | 3 | NR | 955 | 0 | NR |
| 440 | 354 | NR | 570 | 782 | NR | 700 | 136 | NR | 830 | 3 | NR | 960 | 0 | NR |
| 445 | 445 | NR | 575 | 838 | NR | 705 | 116 | NR | 835 | 2 | NR | 965 | 0 | NR |
| 450 | 411 | NR | 580 | 891 | NR | 710 | 98 | NR | 840 | 2 | NR | 970 | 0 | NR |
| 455 | 210 | NR | 585 | 935 | NR | 715 | 82 | NR | 845 | 2 | NR | 975 | 0 | NR |
| 460 | 119 | NR | 590 | 972 | NR | 720 | 68 | NR | 850 | 2 | NR | 980 | 0 | NR |
| 465 | 84 | NR | 595 | 991 | NR | 725 | 56 | NR | 855 | 1 | NR | 985 | 0 | NR |
| 470 | 50 | NR | 600 | 997 | NR | 730 | 47 | NR | 860 | 1 | NR | 990 | 0 | NR |
| 475 | 35 | NR | 605 | 988 | NR | 735 | 40 | NR | 865 | 1 | NR | 995 | 0 | NR |
| 480 | 32 | NR | 610 | 965 | NR | 740 | 35 | NR | 870 | 1 | NR | 1000 | 0 | NR |
| 485 | 33 | NR | 615 | 927 | NR | 745 | 31 | NR | 875 | 1 | NR | | | |

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Scotopic Flux vs. Wavelength



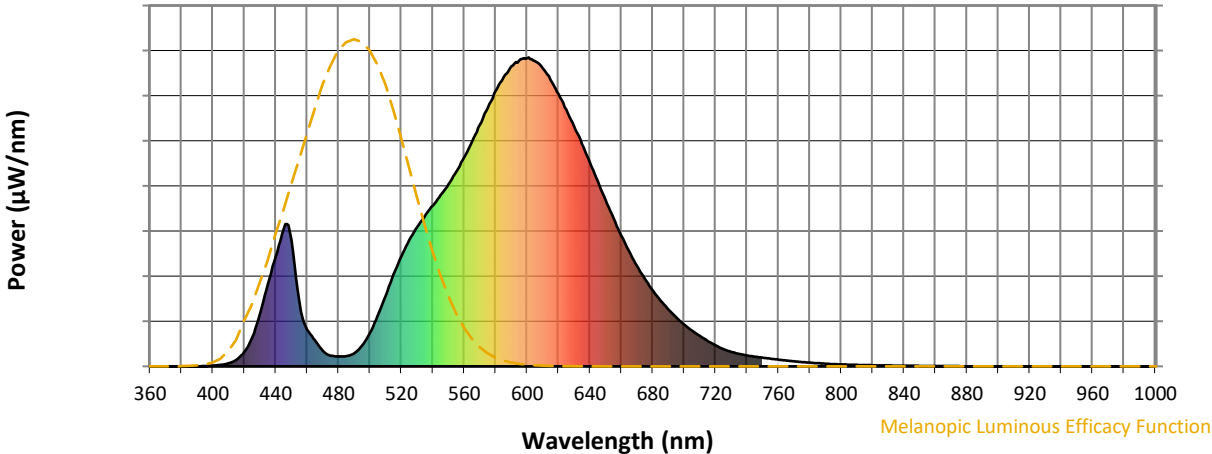
Scotopic Lumens: NR

S/P: 1.03

| 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 | 43 | NR | 620 | 881 | NR | 750 | 28 | NR | 880 | 0 | NR |
| 365 | 0 | NR | 495 | 67 | NR | 625 | 832 | NR | 755 | 25 | NR | 885 | 0 | NR |
| 370 | 0 | NR | 500 | 108 | NR | 630 | 776 | NR | 760 | 22 | NR | 890 | 0 | NR |
| 375 | 0 | NR | 505 | 165 | NR | 635 | 720 | NR | 765 | 19 | NR | 895 | 0 | NR |
| 380 | 0 | NR | 510 | 229 | NR | 640 | 660 | NR | 770 | 16 | NR | 900 | 0 | NR |
| 385 | 0 | NR | 515 | 297 | NR | 645 | 599 | NR | 775 | 14 | NR | 905 | 0 | NR |
| 390 | 0 | NR | 520 | 357 | NR | 650 | 538 | NR | 780 | 12 | NR | 910 | 0 | NR |
| 395 | 1 | NR | 525 | 408 | NR | 655 | 480 | NR | 785 | 10 | NR | 915 | 0 | NR |
| 400 | 3 | NR | 530 | 451 | NR | 660 | 423 | NR | 790 | 9 | NR | 920 | 0 | NR |
| 405 | 5 | NR | 535 | 488 | NR | 665 | 372 | NR | 795 | 7 | NR | 925 | 0 | NR |
| 410 | 10 | NR | 540 | 521 | NR | 670 | 325 | NR | 800 | 6 | NR | 930 | 0 | NR |
| 415 | 21 | NR | 545 | 555 | NR | 675 | 282 | NR | 805 | 5 | NR | 935 | 0 | NR |
| 420 | 46 | NR | 550 | 590 | NR | 680 | 246 | NR | 810 | 5 | NR | 940 | 0 | NR |
| 425 | 94 | NR | 555 | 631 | NR | 685 | 213 | NR | 815 | 4 | NR | 945 | 0 | NR |
| 430 | 169 | NR | 560 | 677 | NR | 690 | 185 | NR | 820 | 4 | NR | 950 | 0 | NR |
| 435 | 268 | NR | 565 | 728 | NR | 695 | 158 | NR | 825 | 3 | NR | 955 | 0 | NR |
| 440 | 354 | NR | 570 | 782 | NR | 700 | 136 | NR | 830 | 3 | NR | 960 | 0 | NR |
| 445 | 445 | NR | 575 | 838 | NR | 705 | 116 | NR | 835 | 2 | NR | 965 | 0 | NR |
| 450 | 411 | NR | 580 | 891 | NR | 710 | 98 | NR | 840 | 2 | NR | 970 | 0 | NR |
| 455 | 210 | NR | 585 | 935 | NR | 715 | 82 | NR | 845 | 2 | NR | 975 | 0 | NR |
| 460 | 119 | NR | 590 | 972 | NR | 720 | 68 | NR | 850 | 2 | NR | 980 | 0 | NR |
| 465 | 84 | NR | 595 | 991 | NR | 725 | 56 | NR | 855 | 1 | NR | 985 | 0 | NR |
| 470 | 50 | NR | 600 | 997 | NR | 730 | 47 | NR | 860 | 1 | NR | 990 | 0 | NR |
| 475 | 35 | NR | 605 | 988 | NR | 735 | 40 | NR | 865 | 1 | NR | 995 | 0 | NR |
| 480 | 32 | NR | 610 | 965 | NR | 740 | 35 | NR | 870 | 1 | NR | 1000 | 0 | NR |
| 485 | 33 | NR | 615 | 927 | NR | 745 | 31 | NR | 875 | 1 | NR | | | |

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Melanopic Flux vs. Wavelength



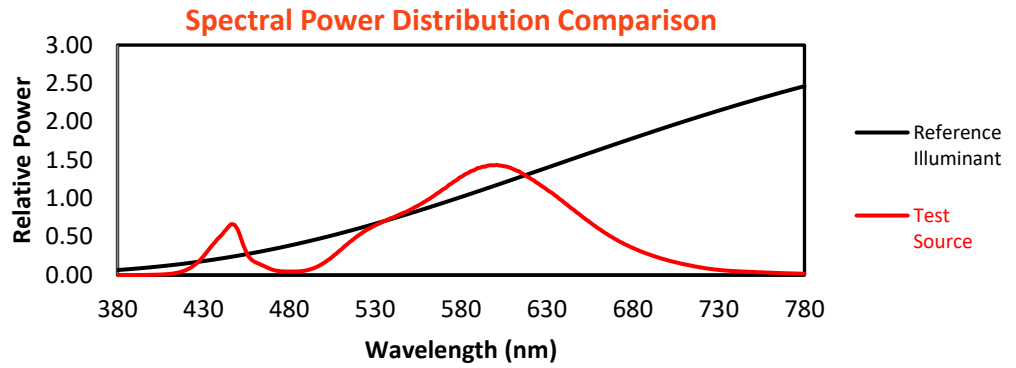
Melanopic Lumens: NR

M/P: 1.73

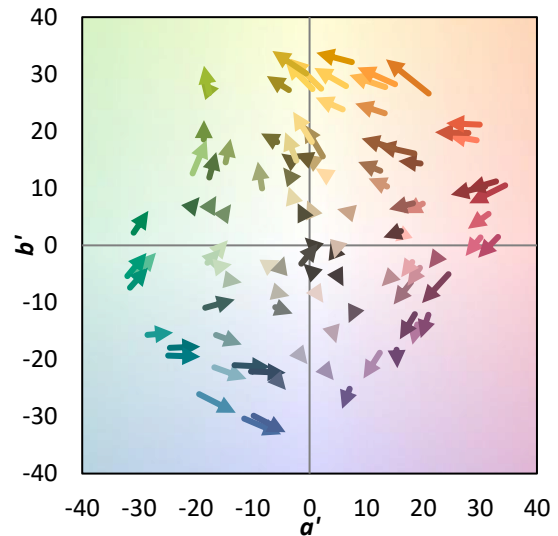
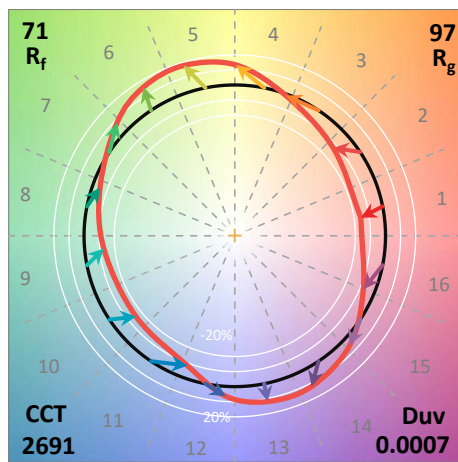
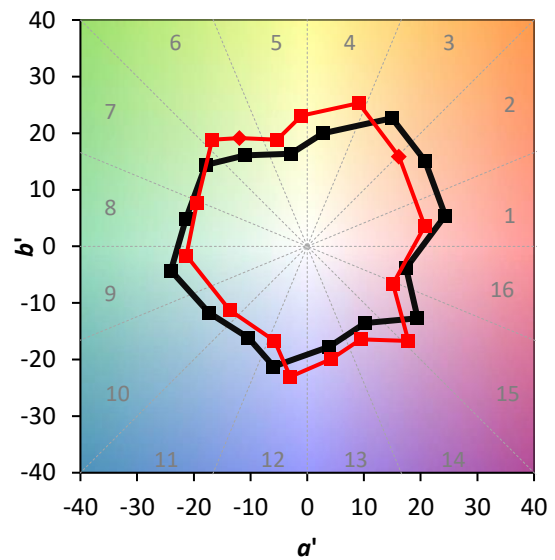
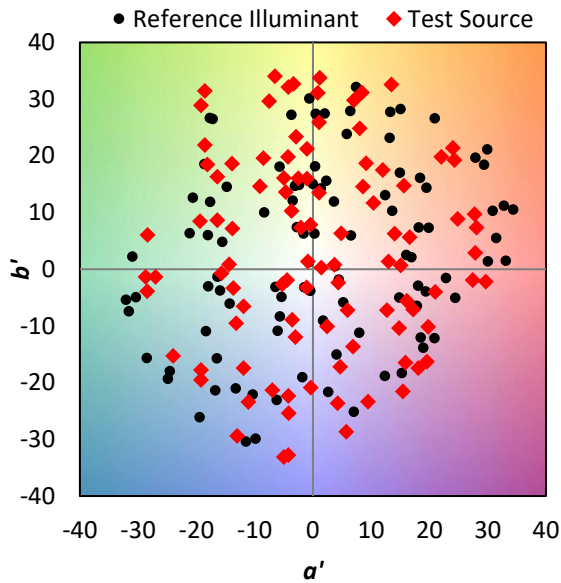
| λ (nm) | Power W [^] /nm | Lumens (φ/nm) | λ (nm) | Power W [^] /nm | Lumens (φ/nm) | λ (nm) | Power W [^] /nm | Lumens (φ/nm) | λ (nm) | Power W [^] /nm | Lumens (φ/nm) | λ (nm) | Power W [^] /nm | Lumens (φ/nm) |
|--------|--------------------------|---------------|--------|--------------------------|---------------|--------|--------------------------|---------------|--------|--------------------------|---------------|--------|--------------------------|---------------|
| 360 | 0 | NR | 490 | 43 | NR | 620 | 881 | NR | 750 | 28 | NR | 880 | 0 | NR |
| 365 | 0 | NR | 495 | 67 | NR | 625 | 832 | NR | 755 | 25 | NR | 885 | 0 | NR |
| 370 | 0 | NR | 500 | 108 | NR | 630 | 776 | NR | 760 | 22 | NR | 890 | 0 | NR |
| 375 | 0 | NR | 505 | 165 | NR | 635 | 720 | NR | 765 | 19 | NR | 895 | 0 | NR |
| 380 | 0 | NR | 510 | 229 | NR | 640 | 660 | NR | 770 | 16 | NR | 900 | 0 | NR |
| 385 | 0 | NR | 515 | 297 | NR | 645 | 599 | NR | 775 | 14 | NR | 905 | 0 | NR |
| 390 | 0 | NR | 520 | 357 | NR | 650 | 538 | NR | 780 | 12 | NR | 910 | 0 | NR |
| 395 | 1 | NR | 525 | 408 | NR | 655 | 480 | NR | 785 | 10 | NR | 915 | 0 | NR |
| 400 | 3 | NR | 530 | 451 | NR | 660 | 423 | NR | 790 | 9 | NR | 920 | 0 | NR |
| 405 | 5 | NR | 535 | 488 | NR | 665 | 372 | NR | 795 | 7 | NR | 925 | 0 | NR |
| 410 | 10 | NR | 540 | 521 | NR | 670 | 325 | NR | 800 | 6 | NR | 930 | 0 | NR |
| 415 | 21 | NR | 545 | 555 | NR | 675 | 282 | NR | 805 | 5 | NR | 935 | 0 | NR |
| 420 | 46 | NR | 550 | 590 | NR | 680 | 246 | NR | 810 | 5 | NR | 940 | 0 | NR |
| 425 | 94 | NR | 555 | 631 | NR | 685 | 213 | NR | 815 | 4 | NR | 945 | 0 | NR |
| 430 | 169 | NR | 560 | 677 | NR | 690 | 185 | NR | 820 | 4 | NR | 950 | 0 | NR |
| 435 | 268 | NR | 565 | 728 | NR | 695 | 158 | NR | 825 | 3 | NR | 955 | 0 | NR |
| 440 | 354 | NR | 570 | 782 | NR | 700 | 136 | NR | 830 | 3 | NR | 960 | 0 | NR |
| 445 | 445 | NR | 575 | 838 | NR | 705 | 116 | NR | 835 | 2 | NR | 965 | 0 | NR |
| 450 | 411 | NR | 580 | 891 | NR | 710 | 98 | NR | 840 | 2 | NR | 970 | 0 | NR |
| 455 | 210 | NR | 585 | 935 | NR | 715 | 82 | NR | 845 | 2 | NR | 975 | 0 | NR |
| 460 | 119 | NR | 590 | 972 | NR | 720 | 68 | NR | 850 | 2 | NR | 980 | 0 | NR |
| 465 | 84 | NR | 595 | 991 | NR | 725 | 56 | NR | 855 | 1 | NR | 985 | 0 | NR |
| 470 | 50 | NR | 600 | 997 | NR | 730 | 47 | NR | 860 | 1 | NR | 990 | 0 | NR |
| 475 | 35 | NR | 605 | 988 | NR | 735 | 40 | NR | 865 | 1 | NR | 995 | 0 | NR |
| 480 | 32 | NR | 610 | 965 | NR | 740 | 35 | NR | 870 | 1 | NR | 1000 | 0 | NR |
| 485 | 33 | NR | 615 | 927 | NR | 745 | 31 | NR | 875 | 1 | NR | | | |

Summary

$R_f = 70.6$
 $R_g = 97.2$
 CIE $R_a = 70.6$
 $R_9 = -27.1$

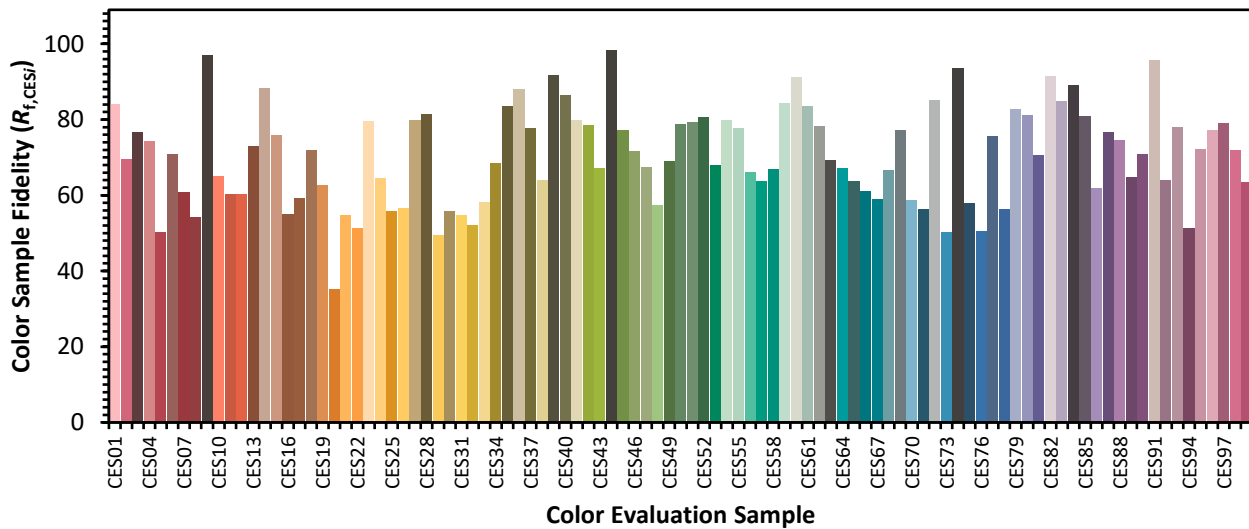


Color Vector Graphics

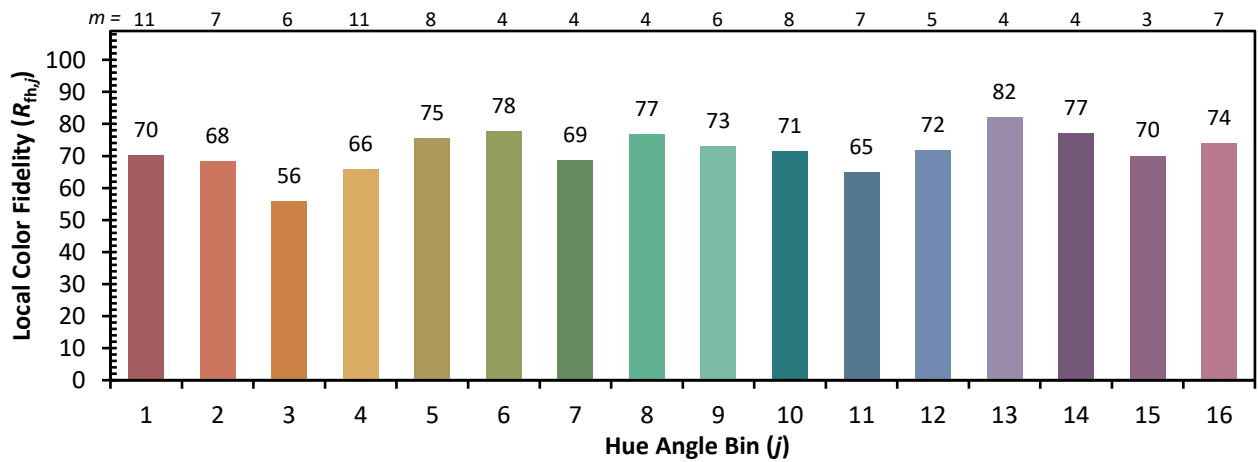
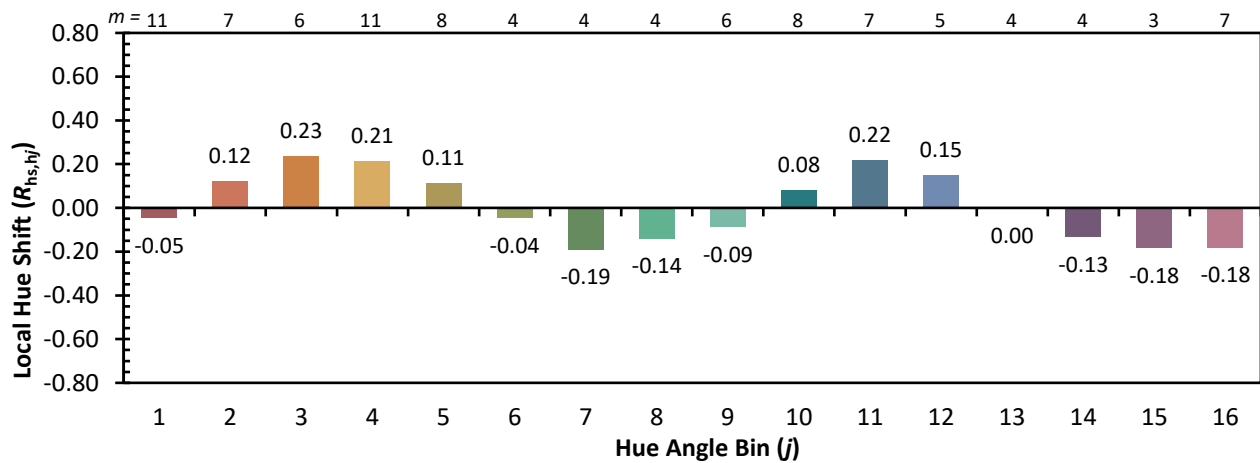
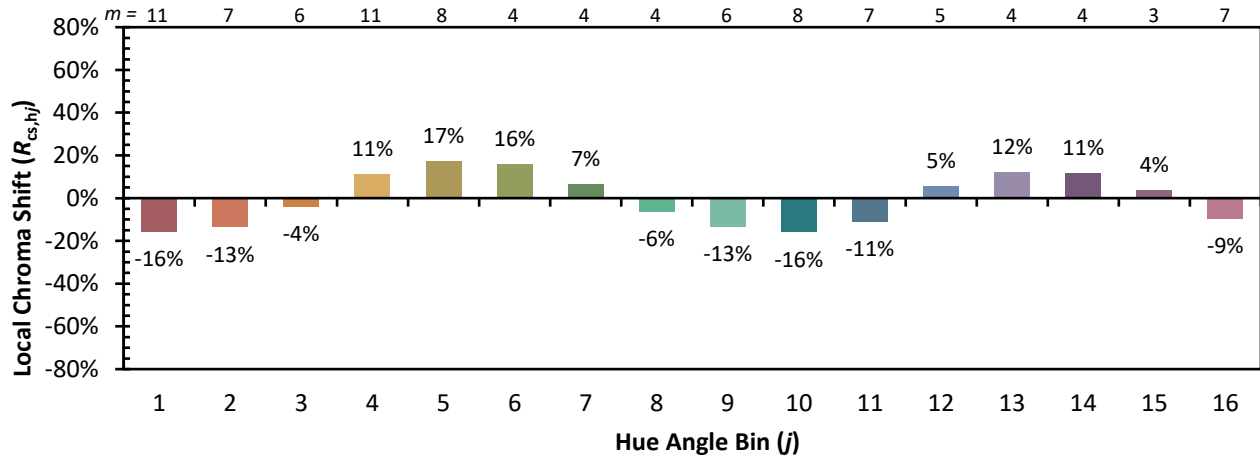


Individual Sample Fidelity Index ($R_{f,i}$)

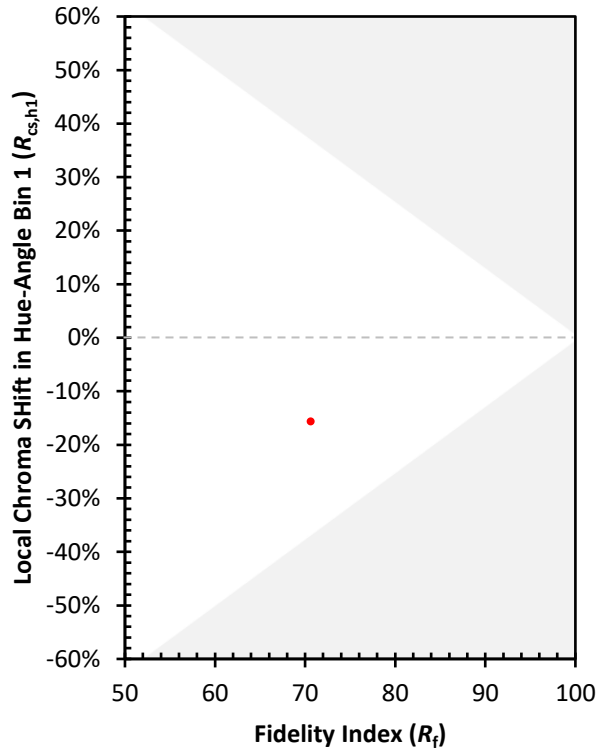
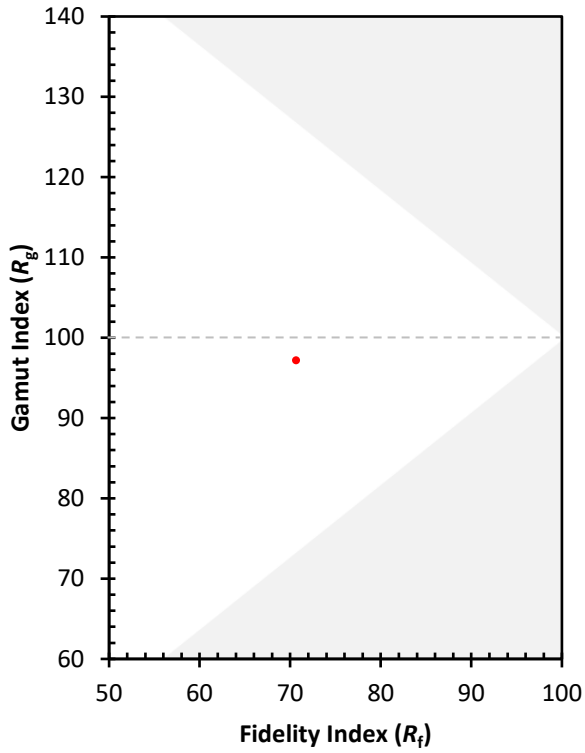
| | | | |
|------------|------------|------------|------------|
| CES01 = 86 | CES26 = 57 | CES51 = 79 | CES76 = 50 |
| CES02 = 63 | CES27 = 80 | CES52 = 81 | CES77 = 76 |
| CES03 = 31 | CES28 = 81 | CES53 = 68 | CES78 = 56 |
| CES04 = 71 | CES29 = 49 | CES54 = 80 | CES79 = 83 |
| CES05 = 50 | CES30 = 56 | CES55 = 78 | CES80 = 81 |
| CES06 = 52 | CES31 = 55 | CES56 = 66 | CES81 = 71 |
| CES07 = 42 | CES32 = 52 | CES57 = 64 | CES82 = 92 |
| CES08 = 41 | CES33 = 58 | CES58 = 67 | CES83 = 85 |
| CES09 = 29 | CES34 = 69 | CES59 = 84 | CES84 = 89 |
| CES10 = 77 | CES35 = 84 | CES60 = 91 | CES85 = 81 |
| CES11 = 60 | CES36 = 88 | CES61 = 84 | CES86 = 62 |
| CES12 = 66 | CES37 = 78 | CES62 = 78 | CES87 = 77 |
| CES13 = 44 | CES38 = 64 | CES63 = 69 | CES88 = 75 |
| CES14 = 74 | CES39 = 92 | CES64 = 67 | CES89 = 65 |
| CES15 = 72 | CES40 = 86 | CES65 = 64 | CES90 = 71 |
| CES16 = 48 | CES41 = 80 | CES66 = 61 | CES91 = 96 |
| CES17 = 51 | CES42 = 79 | CES67 = 59 | CES92 = 64 |
| CES18 = 57 | CES43 = 67 | CES68 = 67 | CES93 = 78 |
| CES19 = 73 | CES44 = 98 | CES69 = 77 | CES94 = 51 |
| CES20 = 67 | CES45 = 77 | CES70 = 59 | CES95 = 72 |
| CES21 = 88 | CES46 = 72 | CES71 = 56 | CES96 = 77 |
| CES22 = 80 | CES47 = 67 | CES72 = 85 | CES97 = 79 |
| CES23 = 92 | CES48 = 57 | CES73 = 50 | CES98 = 72 |
| CES24 = 92 | CES49 = 69 | CES74 = 94 | CES99 = 63 |
| CES25 = 73 | CES50 = 79 | CES75 = 58 | |



Color Rendition by Hue-Angle Bin



Measure Comparisons



(END OF REPORT)