

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: P868704

Luminaire Tested: EMM2-HTN-SA1A-730-U-5MQ

Issue Date: 08/22/2024

Test Information

Test Method: LM-79-2024
Report Number: P868704
Test Lab: INNOVATION CENTER(G3)
Issue Date: 5/20/2026
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: INVUE
Catalog Number: EMM2-HTN-SA1A-730-U-5MQ
Description: EPIC MODERN TALL HOUSING DISCRETE LED ARRAYS 40W 70CRI 3000K FIXTURE w/ TYPE V SQUARE MEDIUM DISTRIBUTION OPTIC
Light Source: (10) 3000K CCT, 70 CRI LEDS
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4851.9 lumens
Efficiency: N/A
Efficacy: 147.9 lumens/watt
Luminous Opening: Rectangular (W 0.33' x L: 0.33' x H: 0')
IES Classification: Type V - Short
BUG Rating: B2 - U0 - G1

Input Watts (W): 32.8
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: 0.99
Total Harmonic Distortion (THDi): 9.76%
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 28.75 FT

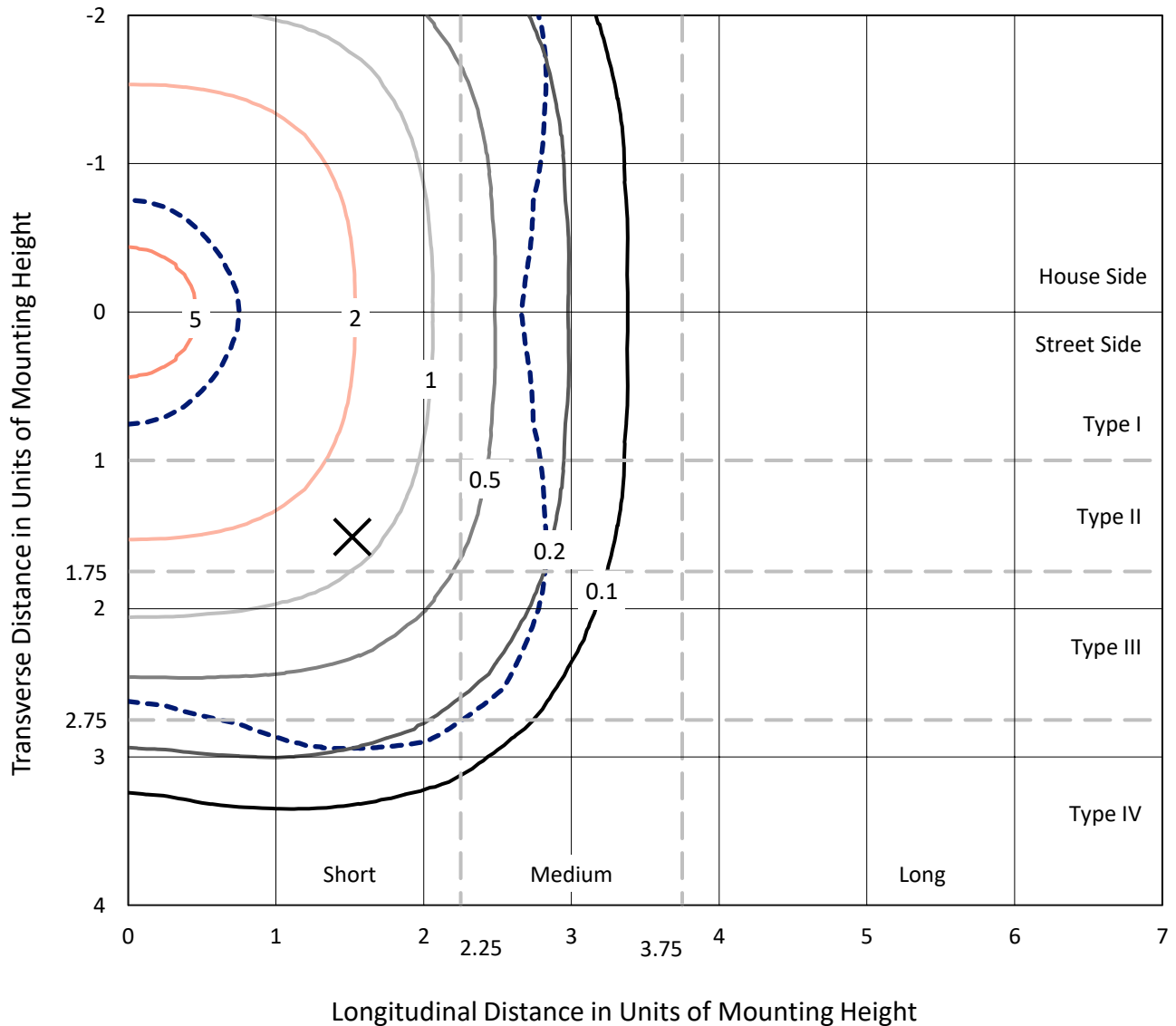


REPORT NUMBER: P868704

CATALOG NUMBER: EMM2-HTN-SA1A-730-U-5MQ

Iso-Footcandle Lines of Horizontal Illumination

× Max cd
 - - - 1/2 Max cd

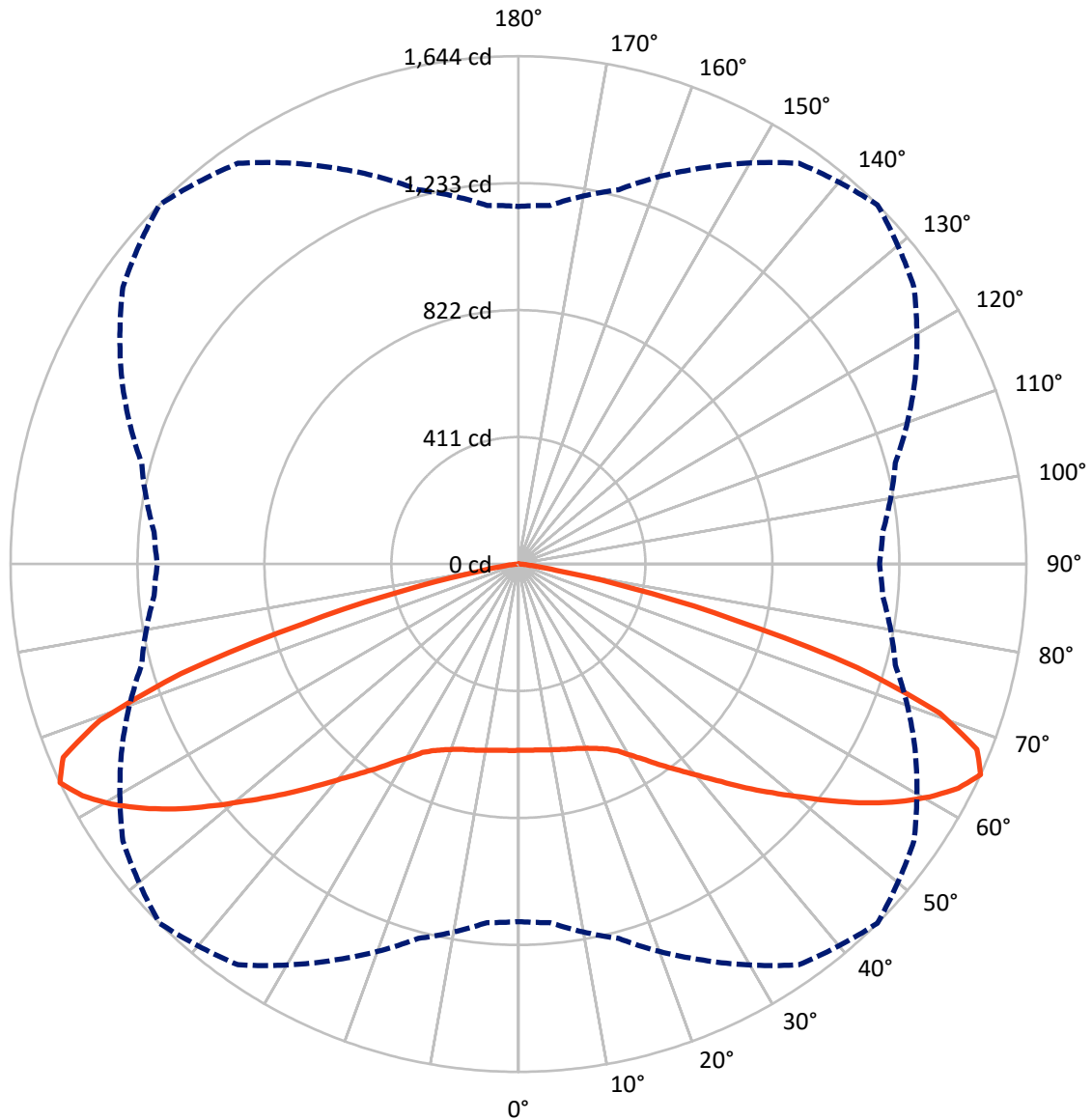


Based on 10 foot mounting height. Maximum calculated value = 6 fc
 Type V - Short - N/A

REPORT NUMBER: P868704

CATALOG NUMBER: EMM2-HTN-SA1A-730-U-5MQ

Luminous Intensity Polar Plot



— Vertical Plane Through 45-Deg Lateral - - - Horizontal Cone Through 65-Deg Vertical

REPORT NUMBER: P868704

CATALOG NUMBER: EMM2-HTN-SA1A-730-U-5MQ

FLUX DISTRIBUTION:

| | | Downward | Upward | Total |
|--------------------|-----------|----------|--------|--------|
| House Side | Lumens | 2425.9 | 0.0 | 2425.9 |
| | % Fixture | 50.0 | 0.0 | 50.0 |
| Street Side | Lumens | 2425.9 | 0.0 | 2425.9 |
| | % Fixture | 50.0 | 0.0 | 50.0 |
| Total | Lumens | 4851.9 | 0.0 | 4851.9 |
| | % Fixture | 100.0 | 0.0 | 100.0 |

Coefficient of Utilization

ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 58.0 | 1.2 |
| 10°-20° | 176.5 | 3.6 |
| 20°-30° | 310.4 | 6.4 |
| 30°-40° | 502.0 | 10.3 |
| 40°-50° | 781.9 | 16.1 |
| 50°-60° | 1143.3 | 23.6 |
| 60°-70° | 1316.5 | 27.1 |
| 70°-80° | 537.7 | 11.1 |
| 80°-90° | 25.7 | 0.5 |
| 90°-100° | 0.0 | 0.0 |
| 100°-110° | 0.0 | 0.0 |
| 110°-120° | 0.0 | 0.0 |
| 120°-130° | 0.0 | 0.0 |
| 130°-140° | 0.0 | 0.0 |
| 140°-150° | 0.0 | 0.0 |
| 150°-160° | 0.0 | 0.0 |
| 160°-170° | 0.0 | 0.0 |
| 170°-180° | 0.0 | 0.0 |
| 0°-90° | 4851.9 | 100.0 |
| 0°-180° | 4851.9 | 100.0 |



REPORT NUMBER: P868704

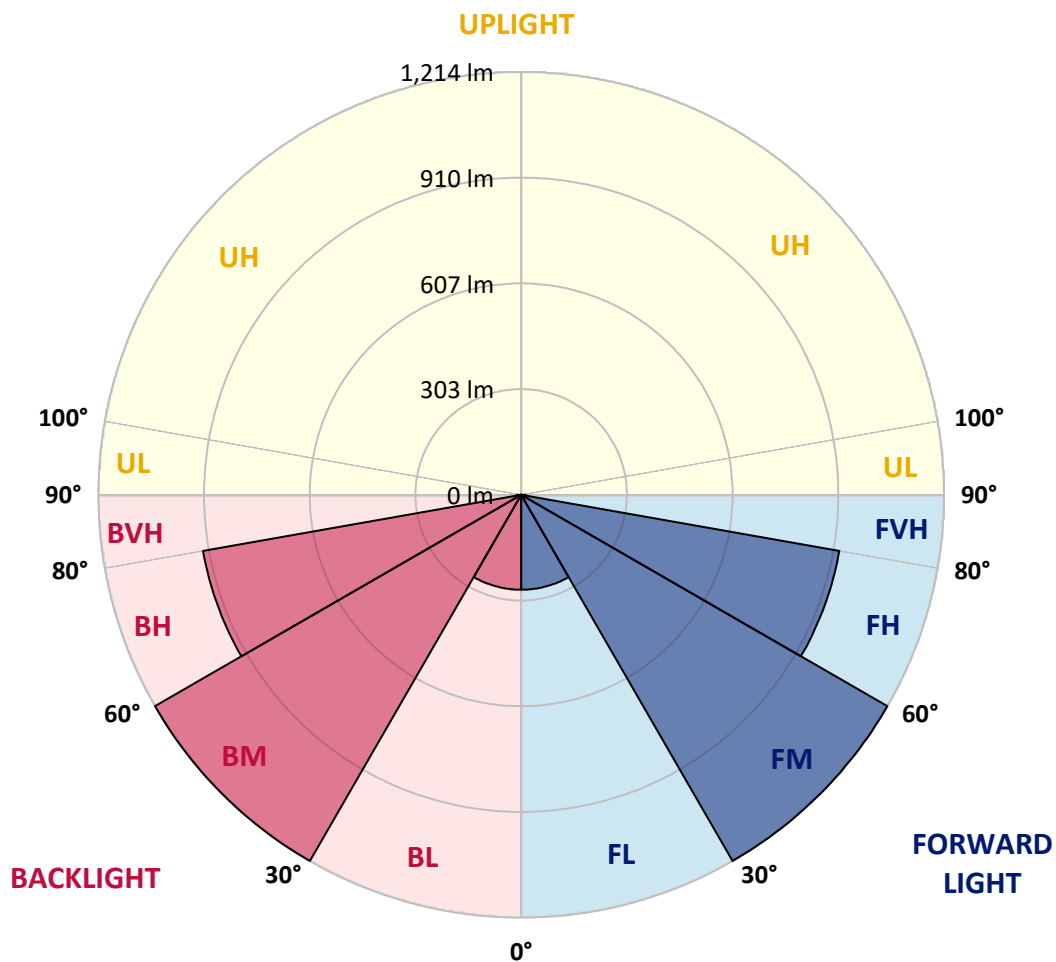
CATALOG NUMBER: EMM2-HTN-SA1A-730-U-5MQ

LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

| Zone | | Lumens | % Fixture | Zone Rating/Lumen Limit | | |
|------|-------------|--------|-----------|-------------------------|------|---------|
| | | | | B | U | G |
| FL | (0°-30°) | 272.4 | 5.6 | | | |
| FM | (30°-60°) | 1213.6 | 25.0 | | | |
| FH | (60°-80°) | 927.1 | 19.1 | | | G1/1800 |
| FVH | (80°-90°) | 12.9 | 0.3 | | | G1/100 |
| BL | (0°-30°) | 272.4 | 5.6 | B1/500 | | |
| BM | (30°-60°) | 1213.6 | 25.0 | B2/2500 | | |
| BH | (60°-80°) | 927.1 | 19.1 | B2/1000 | | G1/1800 |
| BVH | (80°-90°) | 12.9 | 0.3 | | | G1/100 |
| UL | (90°-100°) | 0.0 | 0.0 | | U0/0 | |
| UH | (100°-180°) | 0.0 | 0.0 | | U0/0 | |

BUG Rating: B2-U0-G1

Type V Short





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CATALOG NUMBER: EMM2-HTN-SA1A-730-U-5MQ

CANDELA DISTRIBUTION (FULL):

| | 0° | 5° | 15° | 25° | 35° | 45° | 55° | 65° | 75° | 85° | 90° |
|-------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 0° | 602.9 | 602.9 | 602.9 | 602.9 | 602.9 | 602.9 | 602.9 | 602.9 | 602.9 | 602.9 | 602.9 |
| 2.5° | 604.7 | 604.7 | 603.8 | 603.8 | 601.9 | 603.8 | 602.9 | 603.8 | 602.9 | 602.9 | 603.8 |
| 5° | 606.6 | 606.6 | 604.7 | 605.7 | 603.8 | 604.7 | 603.8 | 605.7 | 604.7 | 603.8 | 605.7 |
| 7.5° | 609.4 | 609.4 | 607.5 | 608.5 | 606.6 | 607.5 | 606.6 | 608.5 | 607.5 | 607.5 | 608.5 |
| 10° | 612.2 | 613.1 | 611.3 | 610.3 | 610.3 | 611.3 | 612.2 | 613.1 | 612.2 | 612.2 | 614.1 |
| 12.5° | 616.8 | 617.8 | 615.9 | 615.0 | 615.0 | 615.9 | 616.8 | 618.7 | 615.9 | 615.9 | 615.9 |
| 15° | 621.5 | 621.5 | 620.6 | 619.6 | 620.6 | 621.5 | 621.5 | 623.4 | 621.5 | 619.6 | 619.6 |
| 17.5° | 623.4 | 624.3 | 623.4 | 625.2 | 626.2 | 627.1 | 628.0 | 628.0 | 625.2 | 624.3 | 624.3 |
| 20° | 629.9 | 630.8 | 629.0 | 629.9 | 632.7 | 636.4 | 636.4 | 636.4 | 636.4 | 633.6 | 633.6 |
| 22.5° | 641.1 | 642.0 | 641.1 | 641.1 | 644.8 | 648.5 | 648.5 | 651.3 | 647.6 | 645.7 | 645.7 |
| 25° | 659.7 | 659.7 | 658.8 | 659.7 | 661.6 | 663.4 | 667.2 | 669.0 | 669.0 | 668.1 | 669.0 |
| 27.5° | 682.1 | 683.0 | 682.1 | 682.1 | 681.1 | 684.9 | 690.5 | 693.3 | 694.2 | 695.1 | 695.1 |
| 30° | 711.9 | 713.8 | 712.8 | 713.8 | 715.6 | 718.4 | 720.3 | 721.2 | 721.2 | 719.3 | 719.3 |
| 32.5° | 744.5 | 746.4 | 744.5 | 749.2 | 755.7 | 755.7 | 753.8 | 757.6 | 754.8 | 752.9 | 751.0 |
| 35° | 782.7 | 782.7 | 784.6 | 786.4 | 795.8 | 800.4 | 800.4 | 798.6 | 793.0 | 790.2 | 792.0 |
| 37.5° | 826.5 | 827.4 | 829.3 | 830.2 | 838.6 | 847.0 | 846.1 | 841.4 | 834.9 | 827.4 | 827.4 |
| 40° | 878.7 | 876.8 | 877.8 | 884.3 | 890.8 | 901.0 | 902.0 | 895.5 | 884.3 | 876.8 | 876.8 |
| 42.5° | 926.2 | 927.1 | 930.9 | 939.3 | 954.2 | 962.5 | 957.9 | 946.7 | 934.6 | 925.3 | 924.3 |
| 45° | 976.5 | 975.6 | 985.8 | 1003.5 | 1023.1 | 1033.4 | 1025.9 | 1010.1 | 991.4 | 979.3 | 979.3 |
| 47.5° | 1027.8 | 1026.8 | 1043.6 | 1072.5 | 1097.7 | 1106.0 | 1098.6 | 1078.1 | 1052.9 | 1035.2 | 1032.4 |
| 50° | 1080.9 | 1084.6 | 1102.3 | 1143.3 | 1175.9 | 1185.2 | 1175.9 | 1148.9 | 1115.4 | 1092.1 | 1088.3 |
| 52.5° | 1141.5 | 1144.2 | 1167.5 | 1212.3 | 1252.3 | 1273.8 | 1259.8 | 1219.7 | 1176.9 | 1148.9 | 1145.2 |
| 55° | 1197.4 | 1199.2 | 1232.8 | 1286.8 | 1336.2 | 1365.1 | 1342.7 | 1291.5 | 1237.4 | 1202.0 | 1198.3 |
| 57.5° | 1236.5 | 1241.2 | 1284.0 | 1353.9 | 1417.3 | 1450.8 | 1417.3 | 1362.3 | 1290.5 | 1246.7 | 1243.9 |
| 60° | 1261.7 | 1269.1 | 1318.5 | 1406.1 | 1493.7 | 1530.0 | 1495.5 | 1419.1 | 1330.6 | 1273.8 | 1271.0 |
| 62.5° | 1248.6 | 1258.9 | 1322.2 | 1436.8 | 1558.9 | 1598.0 | 1553.3 | 1446.1 | 1325.9 | 1254.2 | 1246.7 |
| 65° | 1157.3 | 1164.7 | 1254.2 | 1414.5 | 1583.1 | 1643.7 | 1562.6 | 1416.3 | 1262.6 | 1183.4 | 1168.5 |
| 67.5° | 968.1 | 981.2 | 1099.5 | 1306.4 | 1530.9 | 1600.8 | 1498.3 | 1309.2 | 1123.7 | 1026.8 | 1010.1 |
| 70° | 743.6 | 766.9 | 896.4 | 1121.0 | 1367.9 | 1447.1 | 1334.3 | 1105.1 | 887.1 | 788.3 | 757.6 |
| 72.5° | 429.6 | 465.9 | 656.0 | 875.0 | 1088.3 | 1148.0 | 989.6 | 772.5 | 588.9 | 519.0 | 510.6 |
| 75° | 142.6 | 155.6 | 312.2 | 504.1 | 694.2 | 724.0 | 618.7 | 487.3 | 387.6 | 331.7 | 334.5 |
| 77.5° | 69.9 | 69.9 | 94.1 | 184.5 | 315.9 | 372.7 | 338.2 | 235.7 | 169.6 | 128.6 | 124.9 |
| 80° | 55.9 | 55.9 | 65.2 | 90.4 | 106.2 | 124.9 | 106.2 | 77.3 | 63.4 | 57.8 | 60.6 |
| 82.5° | 27.0 | 26.1 | 30.7 | 43.8 | 44.7 | 42.9 | 40.1 | 40.1 | 38.2 | 35.4 | 34.5 |
| 85° | 1.9 | 1.9 | 3.7 | 8.4 | 14.0 | 18.6 | 21.4 | 20.5 | 19.6 | 16.8 | 18.6 |
| 87.5° | 0.9 | 0.9 | 0.9 | 0.9 | 0.9 | 0.9 | 0.9 | 1.9 | 1.9 | 1.9 | 1.9 |
| 90° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

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



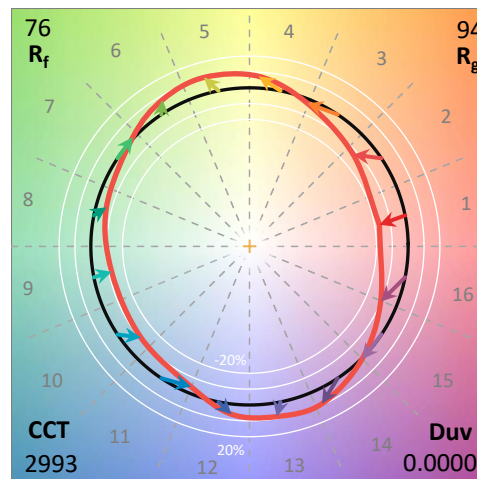
Test Information

Test Method: LM-79-2008
 Report Number: SP1-1908-441-2-R4
 Test Lab: COOPER LIGHTING SOLUTIONS
 Photometer: SP1 - 76IN SPHERE
 Measurement Geometry: 4π
 Issue Date: 10/28/2024
 Manufacturer: COOPER LIGHTING SOLUTIONS
 Product Line: McGRAW-EDISON
 Catalog Number: **SA1C-730-U-5WQ**
 Description: McGRAW EDISON ROADWAY AND AREA LUMINAIRE

THIS IS A REVISION OF SP1-1908-441-2-R3. TO UPDATE THE CATALOG INFORMATION.TESTED IN SITU. (1) 70 CRI, 3000K, 1050MA LIGHTSQUARE WITH 16 LEDS AND TYPE V WIDE OPTICS.

Spectral Parameters

| | | | | | |
|---------------------------|--------|-----------|------|------|-------|
| CCT (K): | 2993 | CRI (Ra): | 71.8 | R9: | -38.3 |
| CIE u': | 0.2508 | R1: | 67.5 | R10: | 62.5 |
| CIE v': | 0.5215 | R2: | 82.9 | R11: | 63.7 |
| Duv: | 0.0000 | R3: | 94.7 | R12: | 57.8 |
| CIE x: | 0.4374 | R4: | 67.7 | R13: | 70.4 |
| CIE y: | 0.4043 | R5: | 67.9 | R14: | 97.3 |
| CIE z: | 0.1583 | R6: | 77.6 | | |
| Peak Wavelength (nm): | 593 | R7: | 76.0 | | |
| Dominant Wavelength (nm): | 582 | R8: | 40.5 | | |
| Purity: | 53 | | | | |
| Rf: | 75.7 | | | | |
| Rg: | 93.9 | | | | |



Test Conditions

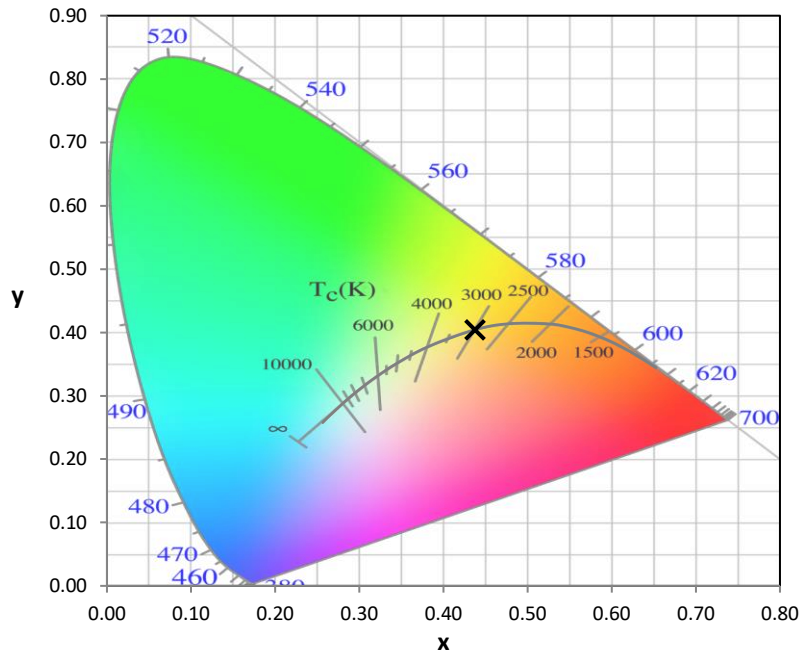
Stabilization Time: 53M
 Operation Time: 12H
 Room Temperature (°C) / RH%: 25.0./44%
 Sphere Temperature (°C): 25.7

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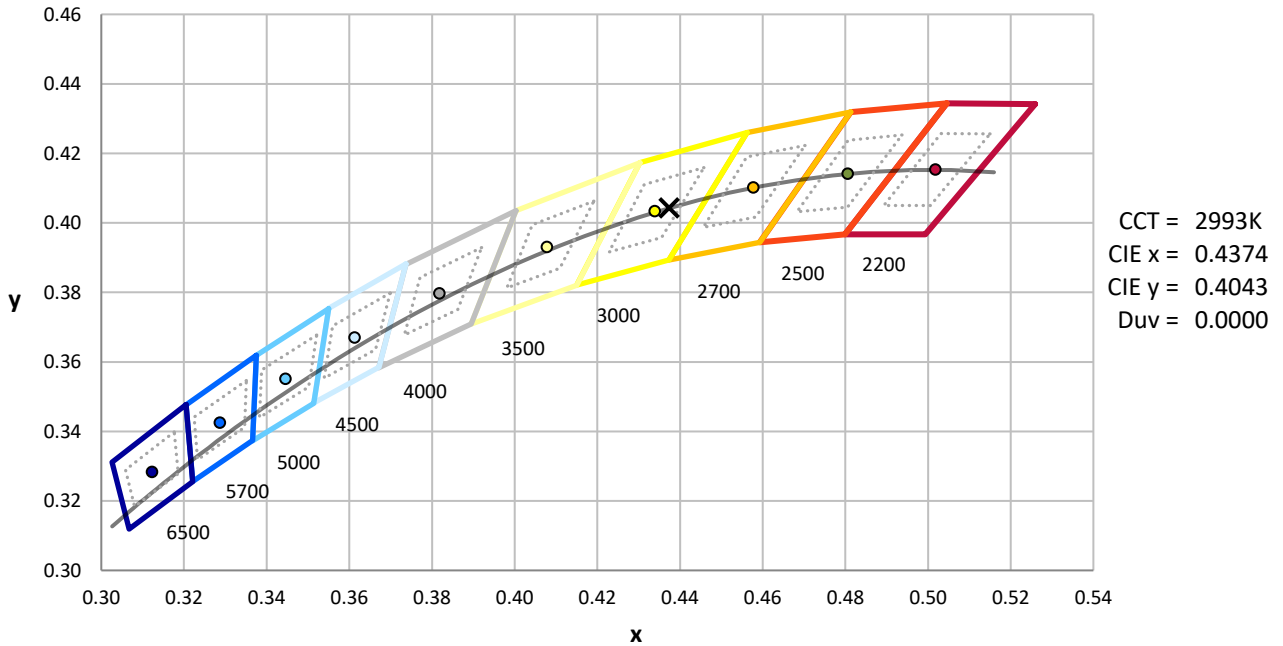
| Measurement and Test Equipment | | | |
|--------------------------------|-----------------------|------------------|----------------------|
| Instrument | Identification Number | Calibration Date | Calibration Due Date |
| Photometer | IN0058 | 6/28/2019 | 12/28/2019 |
| Power Meter | IN0071 | 12/5/2018 | 12/5/2019 |
| AC Power Source | IN0063 | 12/5/2018 | 12/5/2019 |
| DC Power Source | IN0208 | 12/5/2018 | 12/5/2019 |
| Sphere Thermometer | IN0085 | 12/5/2018 | 12/5/2019 |
| Room Thermometer | IN0046 | 12/5/2018 | 12/5/2019 |

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CIE 1931 Chromaticity Diagram



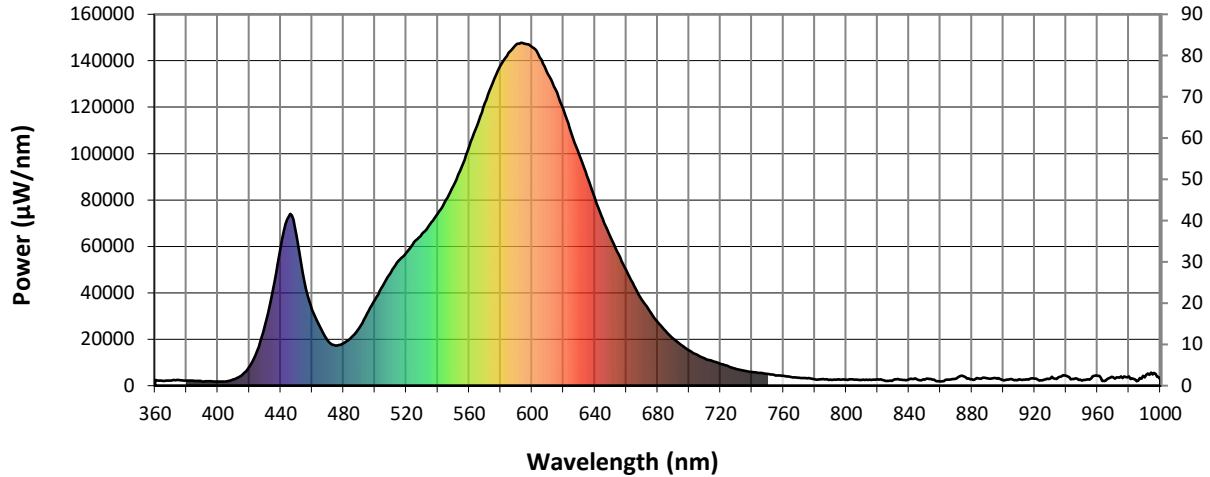
CIE 1931 Chromaticity Diagram with 2017 ANSI 7-Step and 4-Step Quadrangles



Point lies inside the ANSI 3000K 4-step quadrangle

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Photopic Flux vs. Wavelength



#####

| λ (nm) | Power (µW/nm) | Lumens (φ/nm) | λ (nm) | Power (µW/nm) | Lumens (φ/nm) | λ (nm) | Power (µW/nm) | Lumens (φ/nm) | λ (nm) | Power (µW/nm) | Lumens (φ/nm) | λ (nm) | Power (µW/nm) | Lumens (φ/nm) |
|--------|---------------|---------------|--------|---------------|---------------|--------|---------------|---------------|--------|---------------|---------------|--------|---------------|---------------|
| 360 | 2397 | NR | 490 | 24908 | NR | 620 | 118784 | NR | 750 | 5037 | NR | 880 | 2677 | NR |
| 365 | 2084 | NR | 495 | 30998 | NR | 625 | 108951 | NR | 755 | 4413 | NR | 885 | 2940 | NR |
| 370 | 2143 | NR | 500 | 37103 | NR | 630 | 99573 | NR | 760 | 4189 | NR | 890 | 3116 | NR |
| 375 | 2413 | NR | 505 | 42987 | NR | 635 | 90444 | NR | 765 | 3677 | NR | 895 | 3345 | NR |
| 380 | 2172 | NR | 510 | 48702 | NR | 640 | 80749 | NR | 770 | 3366 | NR | 900 | 2312 | NR |
| 385 | 1997 | NR | 515 | 53741 | NR | 645 | 71664 | NR | 775 | 3211 | NR | 905 | 2829 | NR |
| 390 | 1830 | NR | 520 | 57283 | NR | 650 | 63936 | NR | 780 | 2682 | NR | 910 | 2783 | NR |
| 395 | 1861 | NR | 525 | 61876 | NR | 655 | 56611 | NR | 785 | 2804 | NR | 915 | 2662 | NR |
| 400 | 1717 | NR | 530 | 65398 | NR | 660 | 49763 | NR | 790 | 2581 | NR | 920 | 3047 | NR |
| 405 | 1761 | NR | 535 | 69597 | NR | 665 | 42891 | NR | 795 | 2711 | NR | 925 | 2256 | NR |
| 410 | 2680 | NR | 540 | 74214 | NR | 670 | 36939 | NR | 800 | 2609 | NR | 930 | 2976 | NR |
| 415 | 4374 | NR | 545 | 79911 | NR | 675 | 31946 | NR | 805 | 2581 | NR | 935 | 3503 | NR |
| 420 | 8071 | NR | 550 | 86153 | NR | 680 | 27385 | NR | 810 | 2404 | NR | 940 | 4226 | NR |
| 425 | 15169 | NR | 555 | 93952 | NR | 685 | 23504 | NR | 815 | 2556 | NR | 945 | 2930 | NR |
| 430 | 26038 | NR | 560 | 102904 | NR | 690 | 20210 | NR | 820 | 2742 | NR | 950 | 2115 | NR |
| 435 | 41316 | NR | 565 | 112009 | NR | 695 | 17459 | NR | 825 | 2014 | NR | 955 | 2634 | NR |
| 440 | 59674 | NR | 570 | 121662 | NR | 700 | 15207 | NR | 830 | 2488 | NR | 960 | 4200 | NR |
| 445 | 72751 | NR | 575 | 130476 | NR | 705 | 13322 | NR | 835 | 2625 | NR | 965 | 1982 | NR |
| 450 | 65091 | NR | 580 | 137926 | NR | 710 | 11676 | NR | 840 | 2754 | NR | 970 | 3613 | NR |
| 455 | 44894 | NR | 585 | 143406 | NR | 715 | 10626 | NR | 845 | 2708 | NR | 975 | 4034 | NR |
| 460 | 32712 | NR | 590 | 147039 | NR | 720 | 9416 | NR | 850 | 2608 | NR | 980 | 3922 | NR |
| 465 | 25296 | NR | 595 | 147365 | NR | 725 | 8333 | NR | 855 | 2605 | NR | 985 | 1909 | NR |
| 470 | 19318 | NR | 600 | 145800 | NR | 730 | 7134 | NR | 860 | 1765 | NR | 990 | 3617 | NR |
| 475 | 17265 | NR | 605 | 141363 | NR | 735 | 6437 | NR | 865 | 2581 | NR | 995 | 4767 | NR |
| 480 | 18260 | NR | 610 | 134199 | NR | 740 | 5834 | NR | 870 | 3016 | NR | 1000 | 2528 | NR |
| 485 | 20845 | NR | 615 | 127683 | NR | 745 | 5500 | NR | 875 | 3952 | NR | | | |

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Scotopic Flux vs. Wavelength



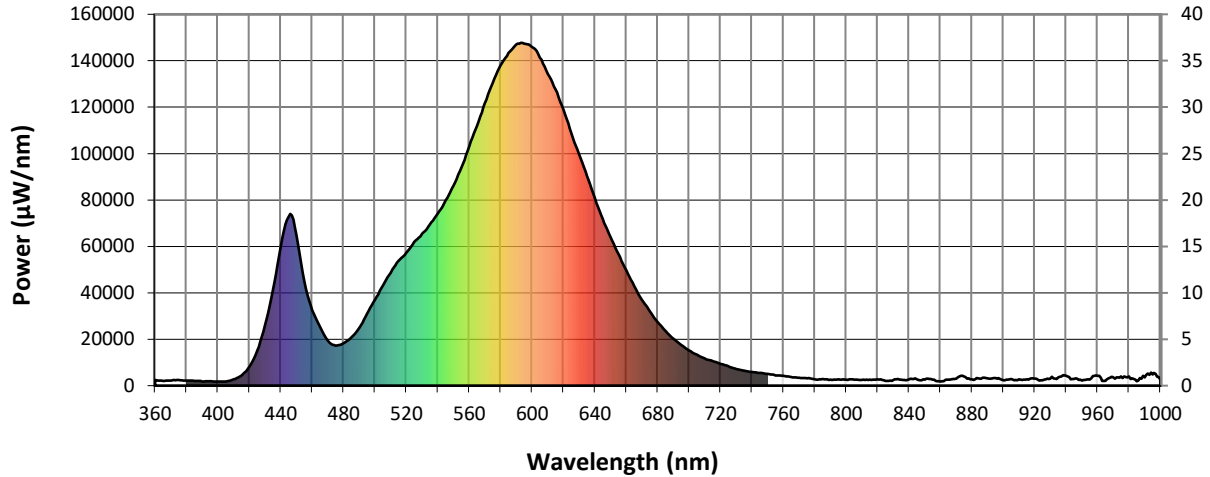
Scotopic Lumens: 8494.8

S/P: 1.23

| λ (nm) | Power (µW/nm) | Lumens (φ/nm) | λ (nm) | Power (µW/nm) | Lumens (φ/nm) | λ (nm) | Power (µW/nm) | Lumens (φ/nm) | λ (nm) | Power (µW/nm) | Lumens (φ/nm) | λ (nm) | Power (µW/nm) | Lumens (φ/nm) |
|--------|---------------|---------------|--------|---------------|---------------|--------|---------------|---------------|--------|---------------|---------------|--------|---------------|---------------|
| 360 | 2397 | NR | 490 | 24908 | NR | 620 | 118784 | NR | 750 | 5037 | NR | 880 | 2677 | NR |
| 365 | 2084 | NR | 495 | 30998 | NR | 625 | 108951 | NR | 755 | 4413 | NR | 885 | 2940 | NR |
| 370 | 2143 | NR | 500 | 37103 | NR | 630 | 99573 | NR | 760 | 4189 | NR | 890 | 3116 | NR |
| 375 | 2413 | NR | 505 | 42987 | NR | 635 | 90444 | NR | 765 | 3677 | NR | 895 | 3345 | NR |
| 380 | 2172 | NR | 510 | 48702 | NR | 640 | 80749 | NR | 770 | 3366 | NR | 900 | 2312 | NR |
| 385 | 1997 | NR | 515 | 53741 | NR | 645 | 71664 | NR | 775 | 3211 | NR | 905 | 2829 | NR |
| 390 | 1830 | NR | 520 | 57283 | NR | 650 | 63936 | NR | 780 | 2682 | NR | 910 | 2783 | NR |
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| 410 | 2680 | NR | 540 | 74214 | NR | 670 | 36939 | NR | 800 | 2609 | NR | 930 | 2976 | NR |
| 415 | 4374 | NR | 545 | 79911 | NR | 675 | 31946 | NR | 805 | 2581 | NR | 935 | 3503 | NR |
| 420 | 8071 | NR | 550 | 86153 | NR | 680 | 27385 | NR | 810 | 2404 | NR | 940 | 4226 | NR |
| 425 | 15169 | NR | 555 | 93952 | NR | 685 | 23504 | NR | 815 | 2556 | NR | 945 | 2930 | NR |
| 430 | 26038 | NR | 560 | 102904 | NR | 690 | 20210 | NR | 820 | 2742 | NR | 950 | 2115 | NR |
| 435 | 41316 | NR | 565 | 112009 | NR | 695 | 17459 | NR | 825 | 2014 | NR | 955 | 2634 | NR |
| 440 | 59674 | NR | 570 | 121662 | NR | 700 | 15207 | NR | 830 | 2488 | NR | 960 | 4200 | NR |
| 445 | 72751 | NR | 575 | 130476 | NR | 705 | 13322 | NR | 835 | 2625 | NR | 965 | 1982 | NR |
| 450 | 65091 | NR | 580 | 137926 | NR | 710 | 11676 | NR | 840 | 2754 | NR | 970 | 3613 | NR |
| 455 | 44894 | NR | 585 | 143406 | NR | 715 | 10626 | NR | 845 | 2708 | NR | 975 | 4034 | NR |
| 460 | 32712 | NR | 590 | 147039 | NR | 720 | 9416 | NR | 850 | 2608 | NR | 980 | 3922 | NR |
| 465 | 25296 | NR | 595 | 147365 | NR | 725 | 8333 | NR | 855 | 2605 | NR | 985 | 1909 | NR |
| 470 | 19318 | NR | 600 | 145800 | NR | 730 | 7134 | NR | 860 | 1765 | NR | 990 | 3617 | NR |
| 475 | 17265 | NR | 605 | 141363 | NR | 735 | 6437 | NR | 865 | 2581 | NR | 995 | 4767 | NR |
| 480 | 18260 | NR | 610 | 134199 | NR | 740 | 5834 | NR | 870 | 3016 | NR | 1000 | 2528 | NR |
| 485 | 20845 | NR | 615 | 127683 | NR | 745 | 5500 | NR | 875 | 3952 | NR | | | |

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Melanopic Flux vs. Wavelength



Melanopic Lumens: 3101.5 M/P: 0.45

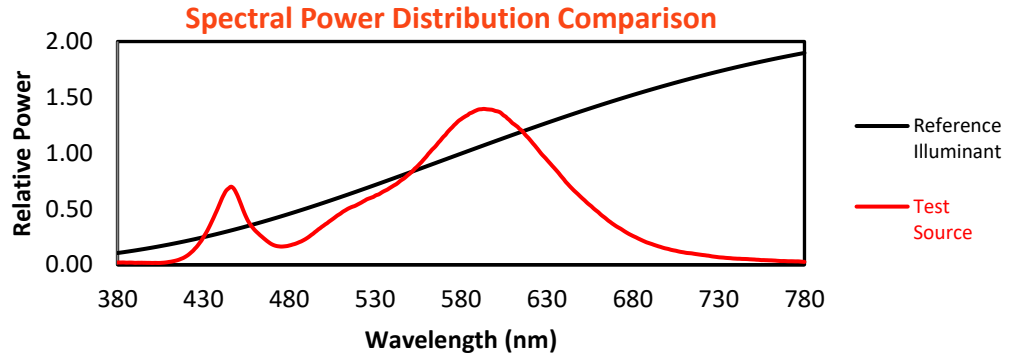
| λ (nm) | Power (µW/nm) | Lumens (φ/nm) | λ (nm) | Power (µW/nm) | Lumens (φ/nm) | λ (nm) | Power (µW/nm) | Lumens (φ/nm) | λ (nm) | Power (µW/nm) | Lumens (φ/nm) | λ (nm) | Power (µW/nm) | Lumens (φ/nm) |
|--------|---------------|---------------|--------|---------------|---------------|--------|---------------|---------------|--------|---------------|---------------|--------|---------------|---------------|
| 360 | 2397 | NR | 490 | 24908 | NR | 620 | 118784 | NR | 750 | 5037 | NR | 880 | 2677 | NR |
| 365 | 2084 | NR | 495 | 30998 | NR | 625 | 108951 | NR | 755 | 4413 | NR | 885 | 2940 | NR |
| 370 | 2143 | NR | 500 | 37103 | NR | 630 | 99573 | NR | 760 | 4189 | NR | 890 | 3116 | NR |
| 375 | 2413 | NR | 505 | 42987 | NR | 635 | 90444 | NR | 765 | 3677 | NR | 895 | 3345 | NR |
| 380 | 2172 | NR | 510 | 48702 | NR | 640 | 80749 | NR | 770 | 3366 | NR | 900 | 2312 | NR |
| 385 | 1997 | NR | 515 | 53741 | NR | 645 | 71664 | NR | 775 | 3211 | NR | 905 | 2829 | NR |
| 390 | 1830 | NR | 520 | 57283 | NR | 650 | 63936 | NR | 780 | 2682 | NR | 910 | 2783 | NR |
| 395 | 1861 | NR | 525 | 61876 | NR | 655 | 56611 | NR | 785 | 2804 | NR | 915 | 2662 | NR |
| 400 | 1717 | NR | 530 | 65398 | NR | 660 | 49763 | NR | 790 | 2581 | NR | 920 | 3047 | NR |
| 405 | 1761 | NR | 535 | 69597 | NR | 665 | 42891 | NR | 795 | 2711 | NR | 925 | 2256 | NR |
| 410 | 2680 | NR | 540 | 74214 | NR | 670 | 36939 | NR | 800 | 2609 | NR | 930 | 2976 | NR |
| 415 | 4374 | NR | 545 | 79911 | NR | 675 | 31946 | NR | 805 | 2581 | NR | 935 | 3503 | NR |
| 420 | 8071 | NR | 550 | 86153 | NR | 680 | 27385 | NR | 810 | 2404 | NR | 940 | 4226 | NR |
| 425 | 15169 | NR | 555 | 93952 | NR | 685 | 23504 | NR | 815 | 2556 | NR | 945 | 2930 | NR |
| 430 | 26038 | NR | 560 | 102904 | NR | 690 | 20210 | NR | 820 | 2742 | NR | 950 | 2115 | NR |
| 435 | 41316 | NR | 565 | 112009 | NR | 695 | 17459 | NR | 825 | 2014 | NR | 955 | 2634 | NR |
| 440 | 59674 | NR | 570 | 121662 | NR | 700 | 15207 | NR | 830 | 2488 | NR | 960 | 4200 | NR |
| 445 | 72751 | NR | 575 | 130476 | NR | 705 | 13322 | NR | 835 | 2625 | NR | 965 | 1982 | NR |
| 450 | 65091 | NR | 580 | 137926 | NR | 710 | 11676 | NR | 840 | 2754 | NR | 970 | 3613 | NR |
| 455 | 44894 | NR | 585 | 143406 | NR | 715 | 10626 | NR | 845 | 2708 | NR | 975 | 4034 | NR |
| 460 | 32712 | NR | 590 | 147039 | NR | 720 | 9416 | NR | 850 | 2608 | NR | 980 | 3922 | NR |
| 465 | 25296 | NR | 595 | 147365 | NR | 725 | 8333 | NR | 855 | 2605 | NR | 985 | 1909 | NR |
| 470 | 19318 | NR | 600 | 145800 | NR | 730 | 7134 | NR | 860 | 1765 | NR | 990 | 3617 | NR |
| 475 | 17265 | NR | 605 | 141363 | NR | 735 | 6437 | NR | 865 | 2581 | NR | 995 | 4767 | NR |
| 480 | 18260 | NR | 610 | 134199 | NR | 740 | 5834 | NR | 870 | 3016 | NR | 1000 | 2528 | NR |
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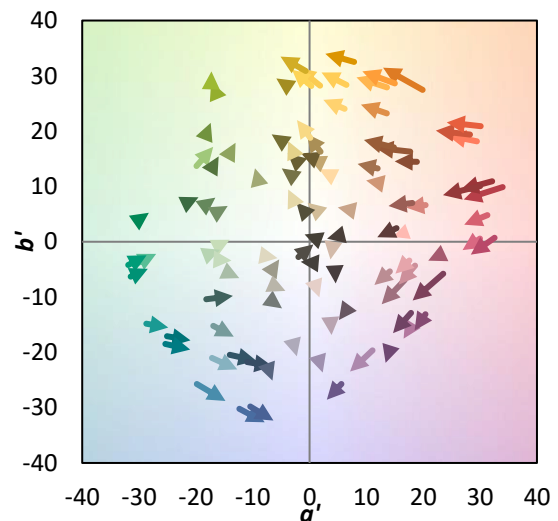
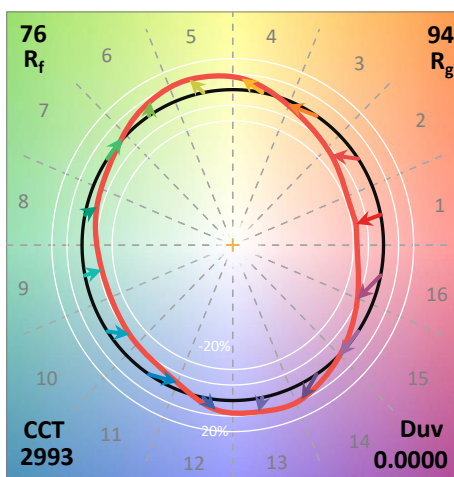
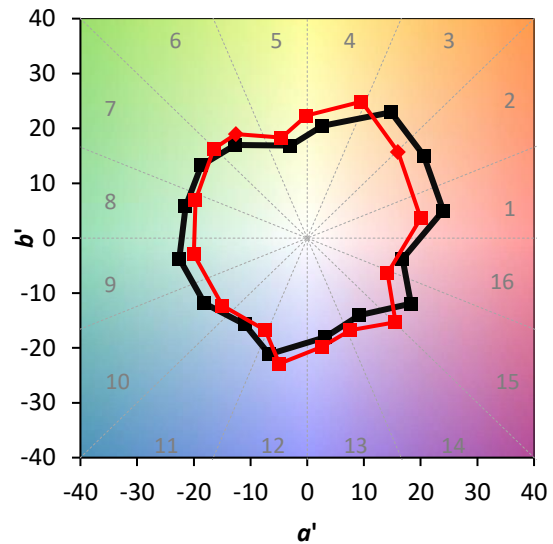
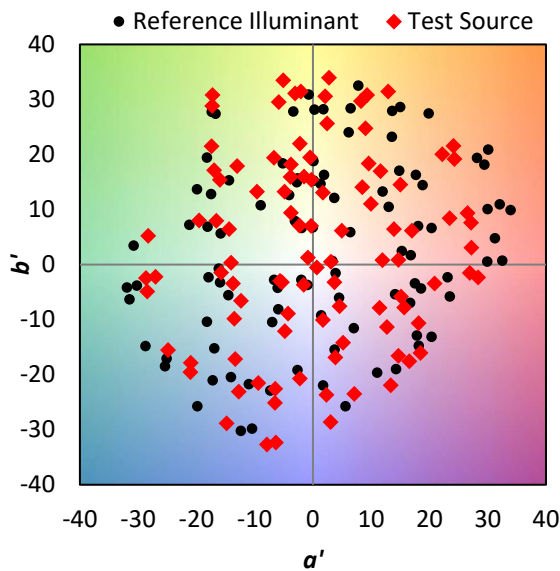
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Summary

$R_f = 75.7$
 $R_g = 93.9$
 CIE $R_a = 71.8$
 $R_9 = -38.3$



Color Vector Graphics

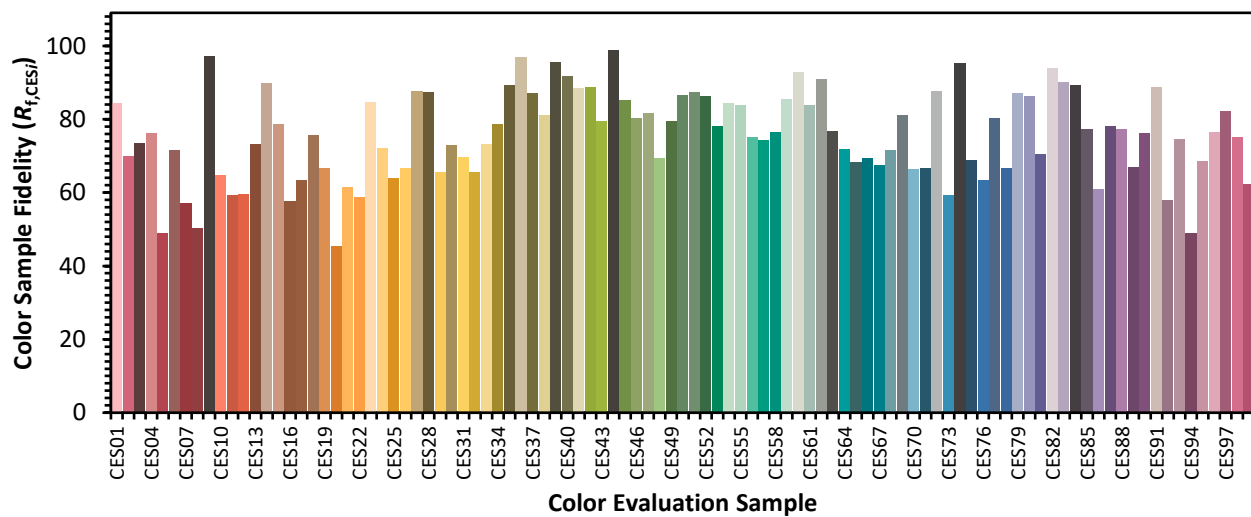


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Individual Sample Fidelity Index ($R_{f,i}$)

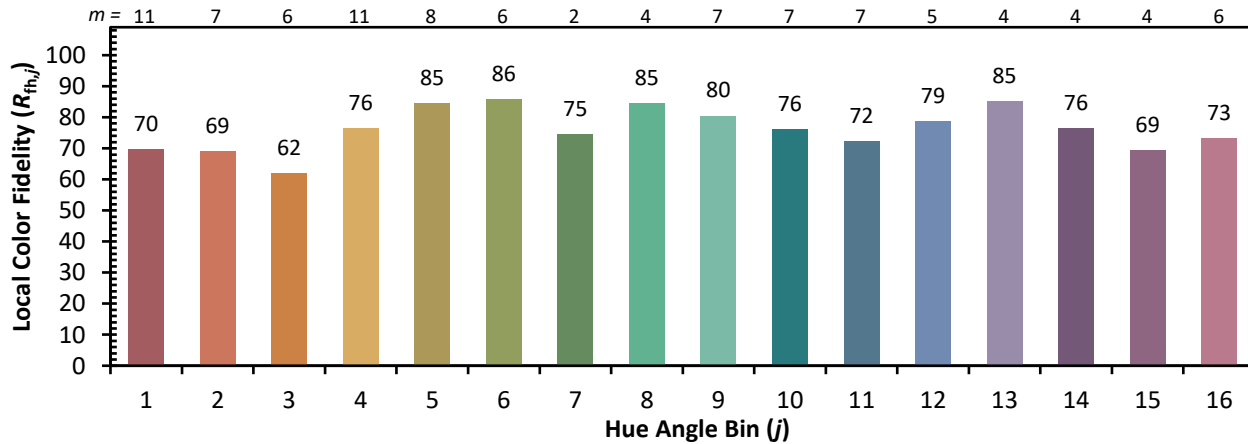
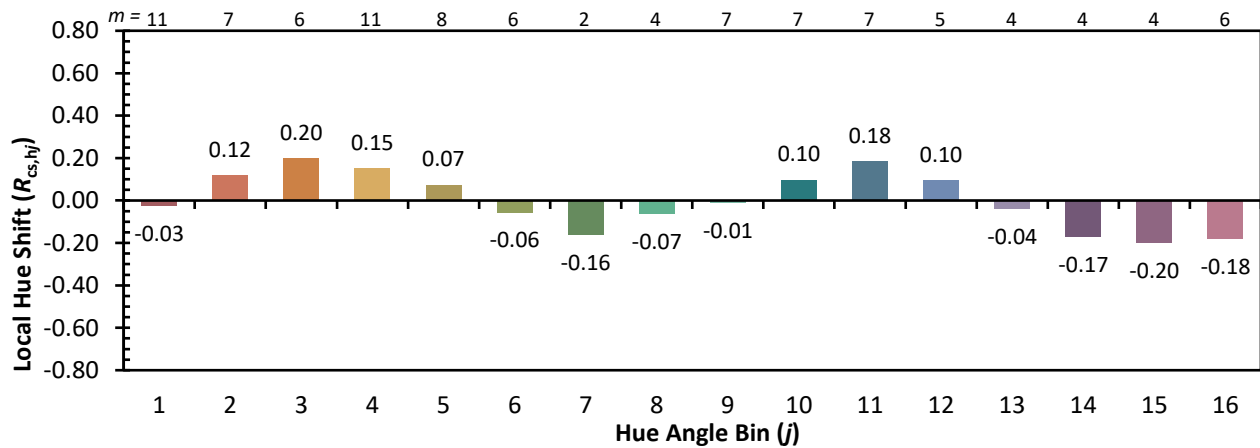
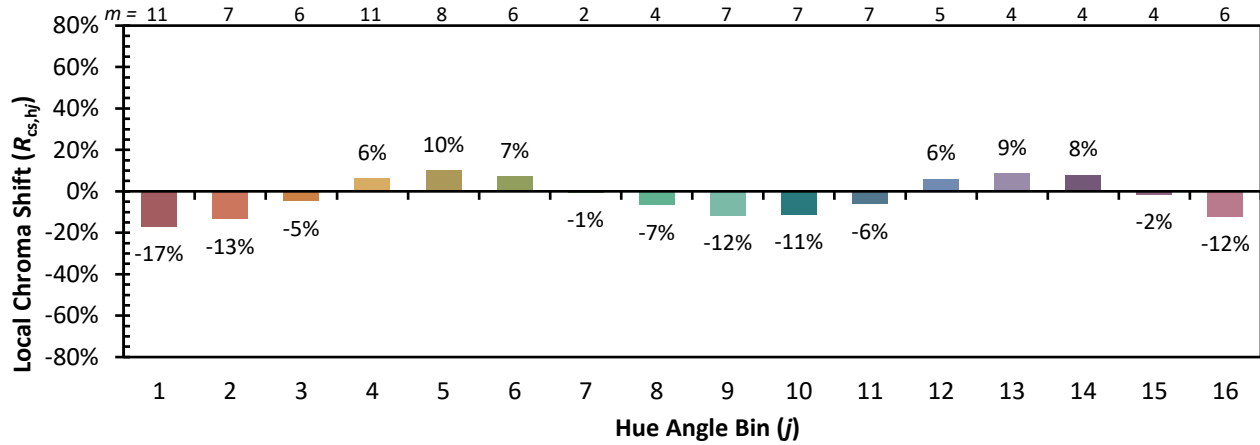
| | | | |
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| CES02 = 63 | CES27 = 88 | CES52 = 86 | CES77 = 80 |
| CES03 = 31 | CES28 = 87 | CES53 = 78 | CES78 = 67 |
| CES04 = 71 | CES29 = 66 | CES54 = 84 | CES79 = 87 |
| CES05 = 49 | CES30 = 73 | CES55 = 84 | CES80 = 86 |
| CES06 = 51 | CES31 = 70 | CES56 = 75 | CES81 = 71 |
| CES07 = 41 | CES32 = 65 | CES57 = 74 | CES82 = 94 |
| CES08 = 40 | CES33 = 73 | CES58 = 76 | CES83 = 90 |
| CES09 = 29 | CES34 = 79 | CES59 = 85 | CES84 = 89 |
| CES10 = 76 | CES35 = 89 | CES60 = 93 | CES85 = 77 |
| CES11 = 59 | CES36 = 97 | CES61 = 84 | CES86 = 61 |
| CES12 = 65 | CES37 = 87 | CES62 = 91 | CES87 = 78 |
| CES13 = 43 | CES38 = 81 | CES63 = 77 | CES88 = 77 |
| CES14 = 74 | CES39 = 95 | CES64 = 72 | CES89 = 67 |
| CES15 = 71 | CES40 = 92 | CES65 = 68 | CES90 = 76 |
| CES16 = 47 | CES41 = 88 | CES66 = 69 | CES91 = 89 |
| CES17 = 50 | CES42 = 89 | CES67 = 67 | CES92 = 58 |
| CES18 = 56 | CES43 = 79 | CES68 = 72 | CES93 = 74 |
| CES19 = 73 | CES44 = 99 | CES69 = 81 | CES94 = 49 |
| CES20 = 66 | CES45 = 85 | CES70 = 66 | CES95 = 68 |
| CES21 = 87 | CES46 = 80 | CES71 = 67 | CES96 = 76 |
| CES22 = 79 | CES47 = 82 | CES72 = 88 | CES97 = 82 |
| CES23 = 92 | CES48 = 69 | CES73 = 59 | CES98 = 75 |
| CES24 = 91 | CES49 = 80 | CES74 = 95 | CES99 = 62 |
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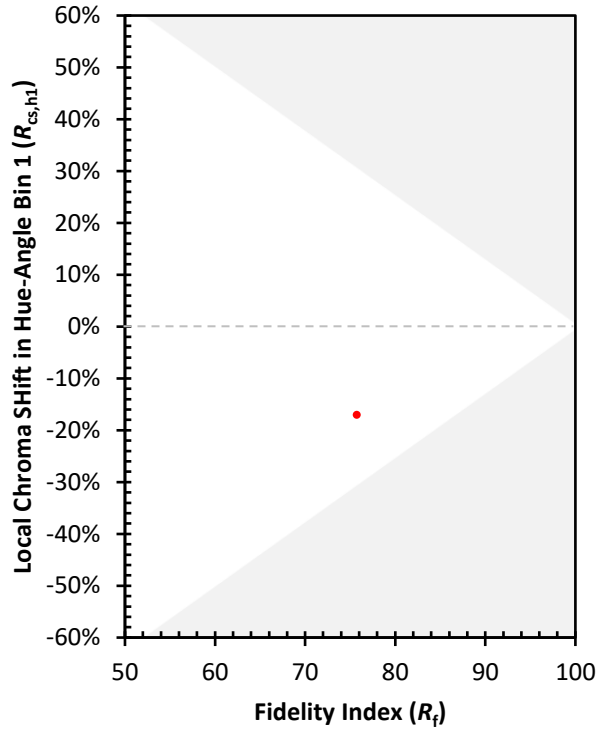
Color Rendition by Hue-Angle Bin



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Measure Comparisons



(END OF REPORT)