

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: McGRAW-EDISON

Report Number: P438938

Luminaire Tested: **ISW-SA1F-827-U-RW**

Issue Date: 12/10/2020

Test Information

Test Method: LM-79-08
Report Number: P438938
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2011-074-24)
Test Lab: INNOVATION CENTER
Issue Date: 12/10/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: McGRAW-EDISON
Catalog Number: ISW-SA1F-827-U-RW
Description: IMPACT ELITE LED WEDGE LUMINAIRE
(1) 80 CRI, 2700K, 1200mA LIGHTSQUARE WITH 16 LEDS AND RECTANGULAR WIDE OPTICS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 5854 lumens
Efficiency: N/A
Efficacy: 88.7 lumens/watt
Luminous Opening: Rectangular (W 0.5' x L: 0.5' x H: 0')
IES Classification: Type III - Medium
BUG Rating: B3 - U0 - G3

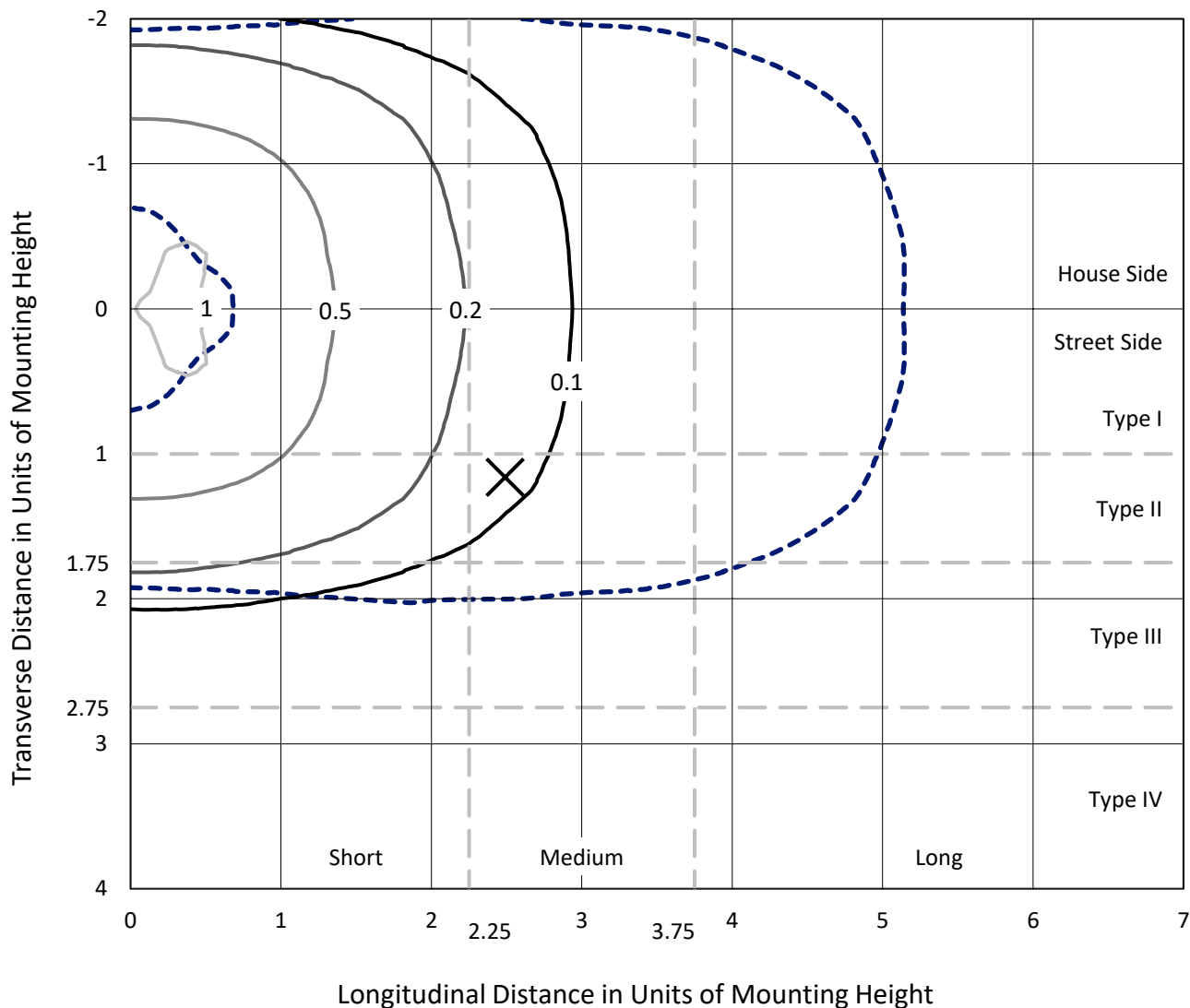
Input Watts (W): 66
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 28.75 FT



REPORT NUMBER: P438938
 CATALOG NUMBER: ISW-SA1F-827-U-RW

Iso-Footcandle Lines of Horizontal Illumination

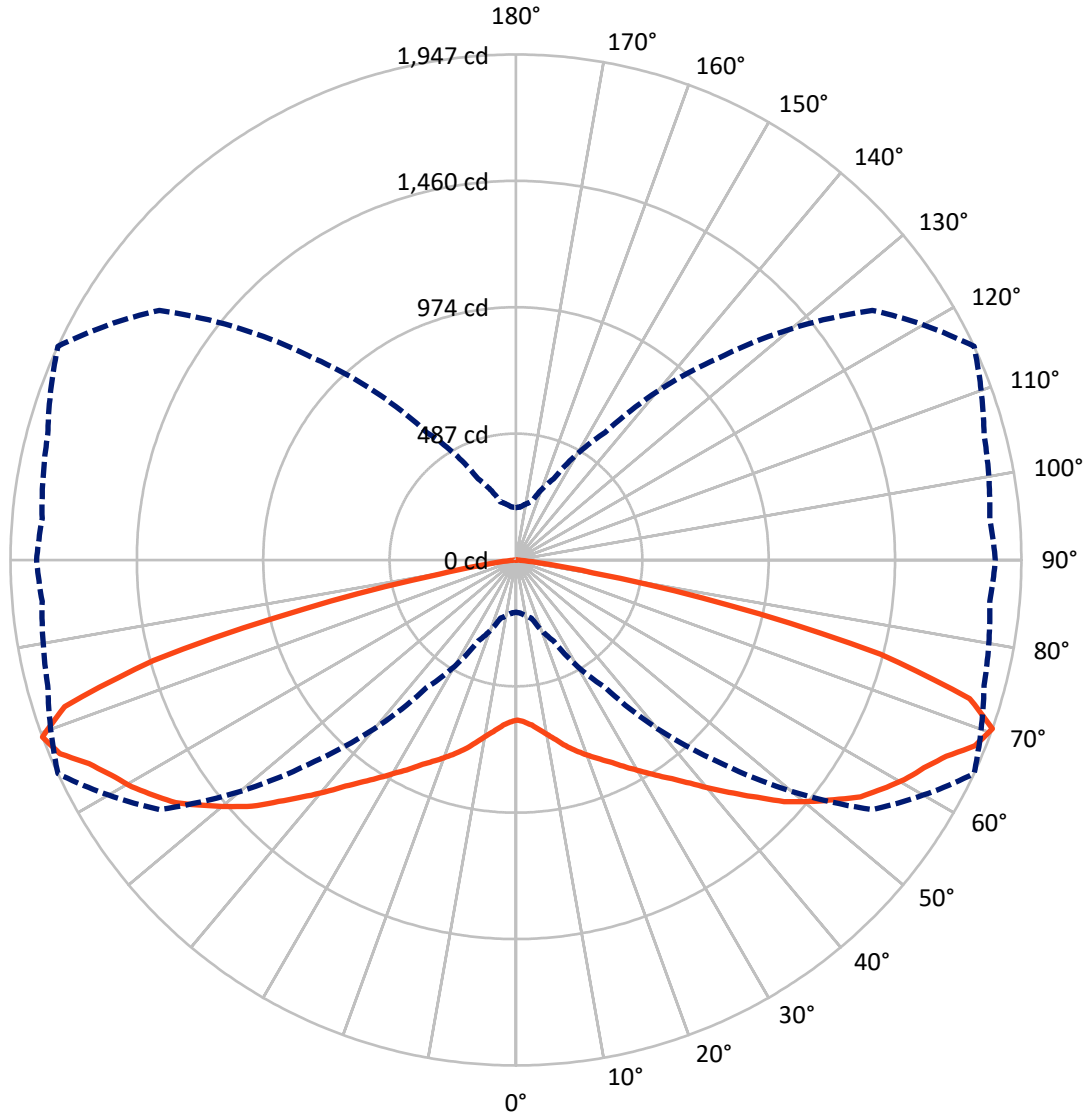
✕ Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 1.1 fc
 Type III - Medium - N/A

REPORT NUMBER: P438938
CATALOG NUMBER: ISW-SA1F-827-U-RW

Luminous Intensity Polar Plot



— Vertical Plane Through 65-Deg Lateral - - - Horizontal Cone Through 70-Deg Vertical

REPORT NUMBER: P438938
 CATALOG NUMBER: ISW-SA1F-827-U-RW

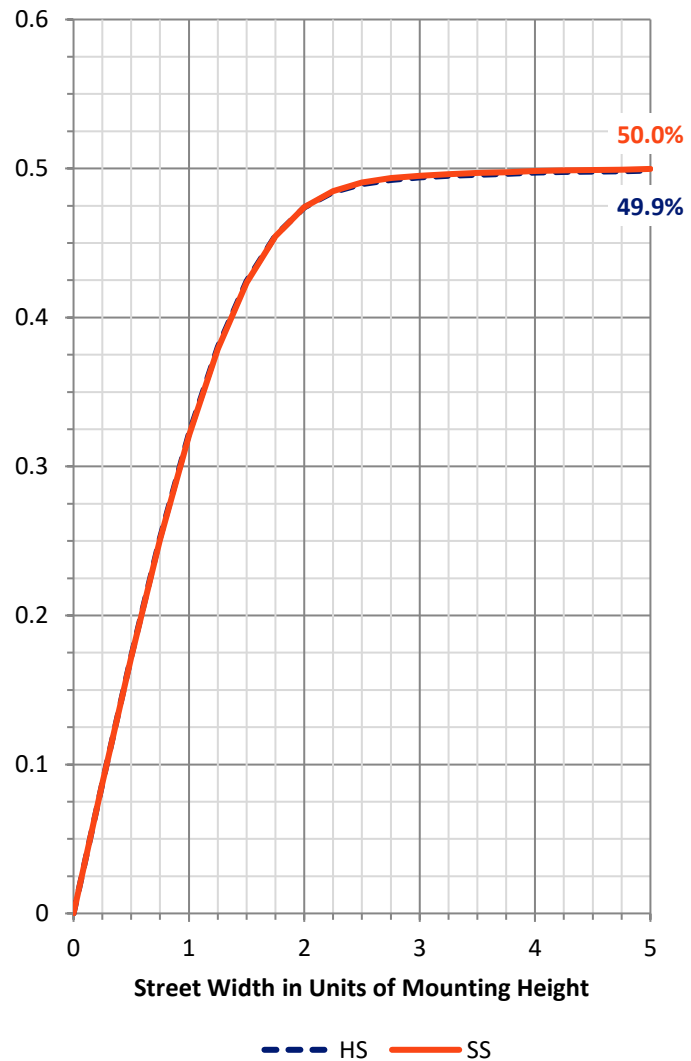
FLUX DISTRIBUTION:

| | | Downward | Upward | Total |
|--------------------|-----------|----------|--------|--------|
| House Side | Lumens | 2927.0 | 0.0 | 2927.0 |
| | % Fixture | 50.0 | 0.0 | 50.0 |
| Street Side | Lumens | 2927.0 | 0.0 | 2927.0 |
| | % Fixture | 50.0 | 0.0 | 50.0 |
| Total | Lumens | 5854.0 | 0.0 | 5854.0 |
| | % Fixture | 100.0 | 0.0 | 100.0 |

Coefficient of Utilization

ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 60.8 | 1.0 |
| 10°-20° | 202.5 | 3.5 |
| 20°-30° | 391.1 | 6.7 |
| 30°-40° | 652.7 | 11.1 |
| 40°-50° | 1021.5 | 17.4 |
| 50°-60° | 1381.1 | 23.6 |
| 60°-70° | 1362.2 | 23.3 |
| 70°-80° | 734.3 | 12.5 |
| 80°-90° | 47.8 | 0.8 |
| 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° | 5854.0 | 100.0 |
| 0°-180° | 5854.0 | 100.0 |



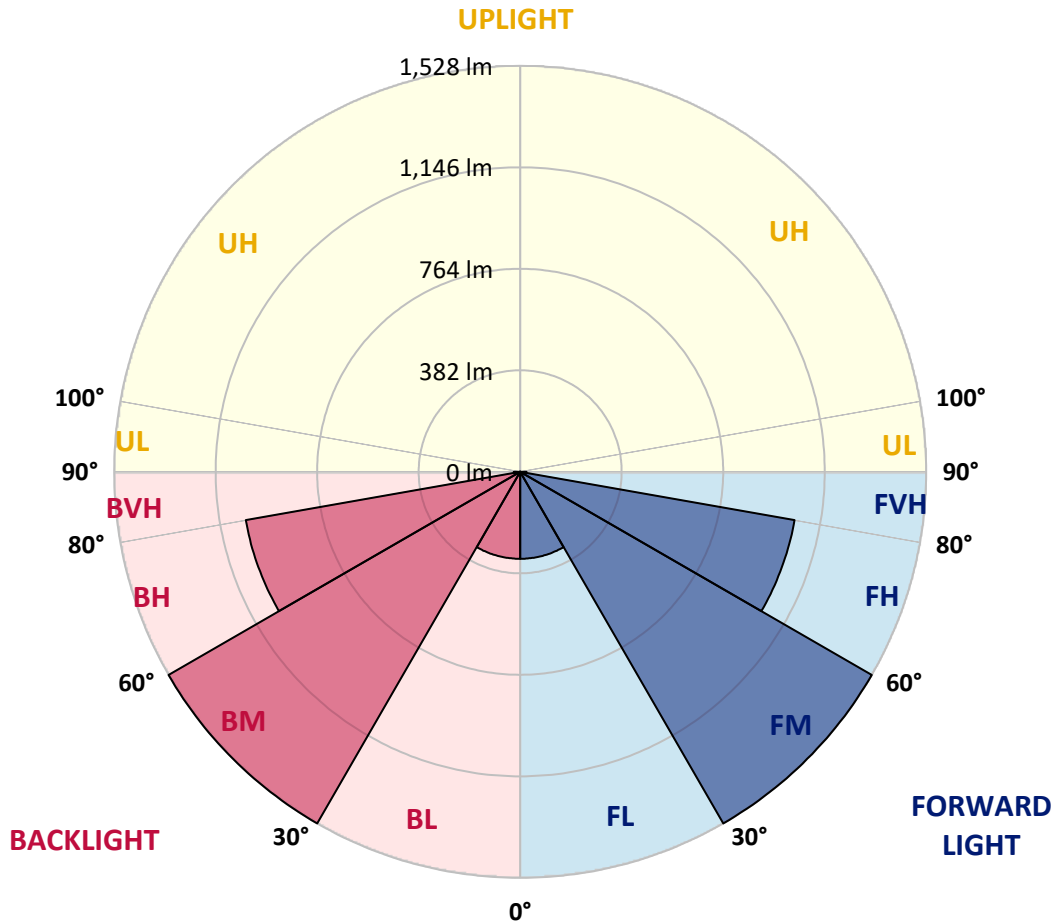
REPORT NUMBER: P438938
 CATALOG NUMBER: ISW-SA1F-827-U-RW

LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

| Zone | Lumens | % Fixture | Zone Rating/Lumen Limit | | |
|----------------|--------|-----------|-------------------------|------|---------|
| | | | B | U | G |
| FL (0°-30°) | 327.2 | 5.6 | | | |
| FM (30°-60°) | 1527.6 | 26.1 | | | |
| FH (60°-80°) | 1048.2 | 17.9 | | | G1/1800 |
| FVH (80°-90°) | 23.9 | 0.4 | | | G1/100 |
| BL (0°-30°) | 327.2 | 5.6 | B1/500 | | |
| BM (30°-60°) | 1527.6 | 26.1 | B2/2500 | | |
| BH (60°-80°) | 1048.2 | 17.9 | B3/2500 | | G3/2500 |
| BVH (80°-90°) | 23.9 | 0.4 | | | G1/100 |
| 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 Medium





REPORT NUMBER: P438938

CATALOG NUMBER: ISW-SA1F-827-U-RW

CANDELA DISTRIBUTION (FULL):

| | 0° | 5° | 15° | 25° | 35° | 45° | 55° | 65° | 75° | 85° | 90° |
|-------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 0° | 616.2 | 616.2 | 616.2 | 616.2 | 616.2 | 616.2 | 616.2 | 616.2 | 616.2 | 616.2 | 616.2 |
| 2.5° | 618.3 | 622.4 | 618.3 | 618.3 | 622.4 | 620.4 | 624.5 | 624.5 | 624.5 | 626.5 | 624.5 |
| 5° | 614.2 | 614.2 | 614.2 | 618.3 | 624.5 | 628.6 | 632.7 | 638.8 | 638.8 | 645.0 | 640.9 |
| 7.5° | 610.1 | 610.1 | 612.1 | 618.3 | 626.5 | 634.7 | 647.1 | 661.4 | 665.5 | 669.7 | 669.7 |
| 10° | 616.2 | 616.2 | 620.4 | 628.6 | 638.8 | 651.2 | 667.6 | 686.1 | 700.5 | 706.6 | 704.6 |
| 12.5° | 624.5 | 626.5 | 632.7 | 645.0 | 659.4 | 675.8 | 692.3 | 714.8 | 733.3 | 743.6 | 743.6 |
| 15° | 632.7 | 634.7 | 645.0 | 663.5 | 690.2 | 706.6 | 725.1 | 747.7 | 768.3 | 782.6 | 782.6 |
| 17.5° | 649.1 | 651.2 | 665.5 | 692.3 | 723.1 | 745.7 | 762.1 | 776.5 | 795.0 | 813.4 | 813.4 |
| 20° | 671.7 | 677.9 | 696.4 | 731.3 | 764.1 | 786.7 | 799.1 | 805.2 | 815.5 | 829.9 | 834.0 |
| 22.5° | 706.6 | 710.7 | 731.3 | 768.3 | 807.3 | 834.0 | 842.2 | 834.0 | 834.0 | 848.4 | 848.4 |
| 25° | 749.8 | 749.8 | 774.4 | 817.6 | 858.6 | 881.2 | 883.3 | 864.8 | 856.6 | 866.9 | 866.9 |
| 27.5° | 788.8 | 792.9 | 813.4 | 860.7 | 903.8 | 930.5 | 928.5 | 903.8 | 877.1 | 883.3 | 885.3 |
| 30° | 840.2 | 840.2 | 866.9 | 912.0 | 959.3 | 979.8 | 983.9 | 942.9 | 905.9 | 903.8 | 903.8 |
| 32.5° | 899.7 | 905.9 | 928.5 | 969.6 | 1014.8 | 1043.5 | 1037.4 | 988.1 | 940.8 | 932.6 | 938.8 |
| 35° | 965.5 | 969.6 | 998.3 | 1041.5 | 1076.4 | 1099.0 | 1086.7 | 1035.3 | 983.9 | 971.6 | 975.7 |
| 37.5° | 1041.5 | 1043.5 | 1066.1 | 1111.3 | 1154.4 | 1160.6 | 1142.1 | 1090.8 | 1035.3 | 1016.8 | 1025.0 |
| 40° | 1109.2 | 1123.6 | 1152.4 | 1191.4 | 1226.3 | 1242.8 | 1207.8 | 1158.5 | 1096.9 | 1086.7 | 1094.9 |
| 42.5° | 1195.5 | 1195.5 | 1228.4 | 1271.5 | 1308.5 | 1318.8 | 1288.0 | 1228.4 | 1166.8 | 1160.6 | 1168.8 |
| 45° | 1257.1 | 1265.4 | 1304.4 | 1351.6 | 1390.7 | 1400.9 | 1374.2 | 1304.4 | 1240.7 | 1232.5 | 1240.7 |
| 47.5° | 1322.9 | 1329.0 | 1359.9 | 1417.4 | 1466.7 | 1476.9 | 1452.3 | 1390.7 | 1310.6 | 1310.6 | 1316.7 |
| 50° | 1366.0 | 1374.2 | 1411.2 | 1466.7 | 1530.4 | 1552.9 | 1524.2 | 1462.6 | 1390.7 | 1382.5 | 1392.7 |
| 52.5° | 1407.1 | 1411.2 | 1448.2 | 1503.6 | 1581.7 | 1622.8 | 1596.1 | 1534.5 | 1460.5 | 1464.6 | 1468.7 |
| 55° | 1396.8 | 1403.0 | 1452.3 | 1532.4 | 1620.7 | 1668.0 | 1653.6 | 1610.5 | 1530.4 | 1540.6 | 1557.1 |
| 57.5° | 1339.3 | 1341.4 | 1405.0 | 1501.6 | 1631.0 | 1702.9 | 1709.1 | 1663.9 | 1594.0 | 1610.5 | 1631.0 |
| 60° | 1209.9 | 1226.3 | 1290.0 | 1407.1 | 1594.0 | 1727.6 | 1746.0 | 1719.3 | 1661.8 | 1690.6 | 1700.8 |
| 62.5° | 988.1 | 996.3 | 1082.5 | 1253.0 | 1487.2 | 1721.4 | 1785.1 | 1764.5 | 1715.2 | 1748.1 | 1768.6 |
| 65° | 647.1 | 673.8 | 780.6 | 988.1 | 1296.2 | 1645.4 | 1852.9 | 1822.0 | 1776.9 | 1793.3 | 1815.9 |
| 67.5° | 392.3 | 398.5 | 472.5 | 649.1 | 992.2 | 1472.8 | 1852.9 | 1908.3 | 1824.1 | 1822.0 | 1836.4 |
| 70° | 201.3 | 205.4 | 232.1 | 345.1 | 599.8 | 1096.9 | 1676.2 | 1947.3 | 1867.2 | 1832.3 | 1846.7 |
| 72.5° | 135.6 | 131.5 | 137.6 | 162.3 | 273.2 | 583.4 | 1244.8 | 1828.2 | 1941.2 | 1879.6 | 1885.7 |
| 75° | 100.7 | 100.7 | 106.8 | 110.9 | 135.6 | 260.9 | 714.8 | 1450.2 | 1863.1 | 1834.4 | 1811.8 |
| 77.5° | 73.9 | 76.0 | 80.1 | 82.2 | 88.3 | 117.1 | 287.6 | 838.1 | 1374.2 | 1596.1 | 1589.9 |
| 80° | 49.3 | 51.4 | 59.6 | 57.5 | 57.5 | 65.7 | 110.9 | 299.9 | 534.1 | 575.2 | 546.4 |
| 82.5° | 28.8 | 26.7 | 34.9 | 34.9 | 32.9 | 32.9 | 49.3 | 92.4 | 145.8 | 100.7 | 73.9 |
| 85° | 2.1 | 4.1 | 6.2 | 6.2 | 6.2 | 6.2 | 12.3 | 20.5 | 37.0 | 28.8 | 22.6 |
| 87.5° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 2.1 | 2.1 | 2.1 | 4.1 | 4.1 | 4.1 |
| 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



Test Information

Test Method: LM-79-2019
 Report Number: SP1-2407-157-9
 Test Lab: COOPER LIGHTING SOLUTIONS
 Photometer: SP1 - 76IN SPHERE
 Measurement Geometry: 4π
 Issue Date: 10/03/2024
 Manufacturer: COOPER LIGHTING SOLUTIONS
 Product Line: Invue
 Catalog Number: **EMM2-HTN-SA1A-827-U-5WQ**
 Description: Epic Modern Light Square 40W 5WQ Optic

Spectral Parameters

CCT (K): 2764
 CIE u': 0.2591
 CIE v': 0.5290
 Duv: 0.0020
 CIE x: 0.4581
 CIE y: 0.4156
 CIE z: 0.1263
 Peak Wavelength (nm): 603
 Dominant Wavelength (nm): 583
 Purity: 62.2537
 Rf: 84.7
 Rg: 94.6

| | | | |
|-----------|------|------|------|
| CRI (Ra): | 80.9 | | |
| R1: | 78.8 | R9: | -1.5 |
| R2: | 89.9 | R10: | 77.9 |
| R3: | 96.2 | R11: | 78.9 |
| R4: | 79.1 | R12: | 71.6 |
| R5: | 79.1 | R13: | 81.2 |
| R6: | 88.8 | R14: | 98.5 |
| R7: | 81.3 | R15: | 69.9 |
| R8: | 54.3 | | |



Test Conditions

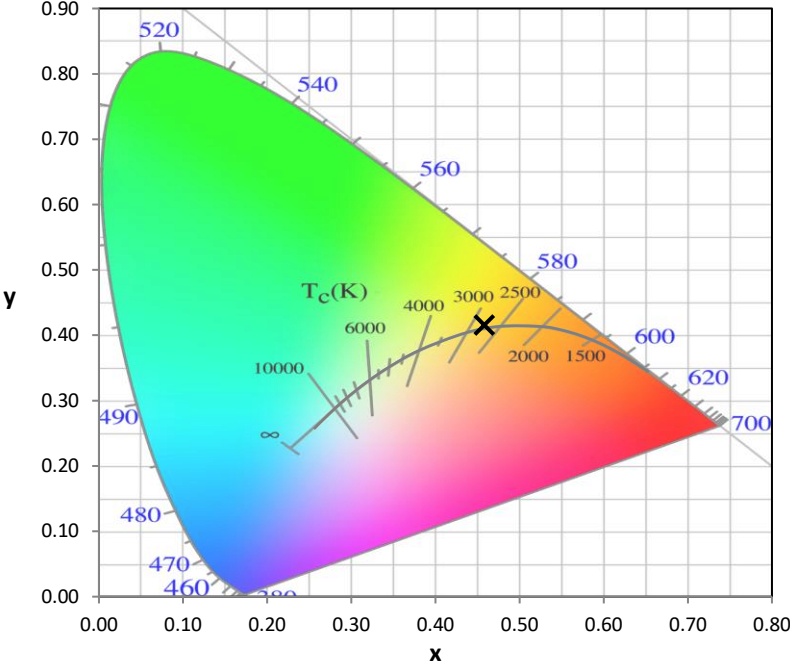
Stabilization Time: 81M
 Operation Time: 2H 21M
 Sphere Temperature (°C): 25.2

REPORT NUMBER: SP1-2407-157-9

| 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

REPORT NUMBER: SP1-2407-157-9

Photopic Flux vs. Wavelength



Photopic Lumens: 4337.9

| 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 | 0 | 0.0 | 490 | 18018 | 2.6 | 620 | 87426 | 22.8 | 750 | 2680 | 0.0 | 880 | 58 | 0.0 |
| 365 | 0 | 0.0 | 495 | 22295 | 3.9 | 625 | 83013 | 18.2 | 755 | 2287 | 0.0 | 885 | 46 | 0.0 |
| 370 | 0 | 0.0 | 500 | 26478 | 5.8 | 630 | 78077 | 14.1 | 760 | 1944 | 0.0 | 890 | 45 | 0.0 |
| 375 | 0 | 0.0 | 505 | 30524 | 8.5 | 635 | 72080 | 10.7 | 765 | 1653 | 0.0 | 895 | 41 | 0.0 |
| 380 | 0 | 0.0 | 510 | 33611 | 11.5 | 640 | 66249 | 7.9 | 770 | 1413 | 0.0 | 900 | 38 | 0.0 |
| 385 | 0 | 0.0 | 515 | 36490 | 15.2 | 645 | 59973 | 5.7 | 775 | 1198 | 0.0 | 905 | 33 | 0.0 |
| 390 | 0 | 0.0 | 520 | 38610 | 18.7 | 650 | 53972 | 3.9 | 780 | 1025 | 0.0 | 910 | 30 | 0.0 |
| 395 | 0 | 0.0 | 525 | 40511 | 21.9 | 655 | 48369 | 2.7 | 785 | 874 | 0.0 | 915 | 23 | 0.0 |
| 400 | 48 | 0.0 | 530 | 42223 | 24.9 | 660 | 42641 | 1.8 | 790 | 747 | 0.0 | 920 | 24 | 0.0 |
| 405 | 201 | 0.0 | 535 | 44137 | 27.6 | 665 | 37602 | 1.1 | 795 | 639 | 0.0 | 925 | 22 | 0.0 |
| 410 | 457 | 0.0 | 540 | 46032 | 30.0 | 670 | 32798 | 0.7 | 800 | 547 | 0.0 | 930 | 22 | 0.0 |
| 415 | 925 | 0.0 | 545 | 48553 | 32.5 | 675 | 28558 | 0.5 | 805 | 473 | 0.0 | 935 | 17 | 0.0 |
| 420 | 1816 | 0.0 | 550 | 51408 | 34.9 | 680 | 24782 | 0.3 | 810 | 401 | 0.0 | 940 | 13 | 0.0 |
| 425 | 3217 | 0.0 | 555 | 54711 | 37.4 | 685 | 21386 | 0.2 | 815 | 351 | 0.0 | 945 | 6 | 0.0 |
| 430 | 5520 | 0.0 | 560 | 58847 | 40.0 | 690 | 18413 | 0.1 | 820 | 307 | 0.0 | 950 | 10 | 0.0 |
| 435 | 9225 | 0.1 | 565 | 63386 | 42.4 | 695 | 15721 | 0.1 | 825 | 261 | 0.0 | 955 | 11 | 0.0 |
| 440 | 15522 | 0.2 | 570 | 68196 | 44.3 | 700 | 13432 | 0.0 | 830 | 228 | 0.0 | 960 | 8 | 0.0 |
| 445 | 27642 | 0.6 | 575 | 73613 | 46.0 | 705 | 11513 | 0.0 | 835 | 193 | 0.0 | 965 | 12 | 0.0 |
| 450 | 36602 | 0.9 | 580 | 79207 | 47.1 | 710 | 9780 | 0.0 | 840 | 174 | 0.0 | 970 | 3 | 0.0 |
| 455 | 28292 | 0.9 | 585 | 84248 | 47.0 | 715 | 8356 | 0.0 | 845 | 151 | 0.0 | 975 | 8 | 0.0 |
| 460 | 21166 | 0.9 | 590 | 88397 | 45.7 | 720 | 7161 | 0.0 | 850 | 123 | 0.0 | 980 | 2 | 0.0 |
| 465 | 19092 | 1.0 | 595 | 91428 | 43.4 | 725 | 6067 | 0.0 | 855 | 106 | 0.0 | 985 | 13 | 0.0 |
| 470 | 14951 | 0.9 | 600 | 93452 | 40.3 | 730 | 5164 | 0.0 | 860 | 95 | 0.0 | 990 | 16 | 0.0 |
| 475 | 12606 | 1.0 | 605 | 93959 | 36.4 | 735 | 4393 | 0.0 | 865 | 82 | 0.0 | 995 | 20 | 0.0 |
| 480 | 13323 | 1.3 | 610 | 93079 | 32.0 | 740 | 3694 | 0.0 | 870 | 77 | 0.0 | 1000 | 0 | 0.0 |
| 485 | 15164 | 1.8 | 615 | 90707 | 27.3 | 745 | 3157 | 0.0 | 875 | 65 | 0.0 | | | |

REPORT NUMBER: SP1-2407-157-9

Scotopic Flux vs. Wavelength



Scotopic Lumens: 5286.7

S/P: 1.22

| 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 | 0 | 0.0 | 490 | 18018 | 75.9 | 620 | 87426 | 0.4 | 750 | 2680 | 0.0 | 880 | 58 | 0.0 |
| 365 | 0 | 0.0 | 495 | 22295 | 93.2 | 625 | 83013 | 0.2 | 755 | 2287 | 0.0 | 885 | 46 | 0.0 |
| 370 | 0 | 0.0 | 500 | 26478 | 107.8 | 630 | 78077 | 0.1 | 760 | 1944 | 0.0 | 890 | 45 | 0.0 |
| 375 | 0 | 0.0 | 505 | 30524 | 118.7 | 635 | 72080 | 0.1 | 765 | 1653 | 0.0 | 895 | 41 | 0.0 |
| 380 | 0 | 0.0 | 510 | 33611 | 122.2 | 640 | 66249 | 0.1 | 770 | 1413 | 0.0 | 900 | 38 | 0.0 |
| 385 | 0 | 0.0 | 515 | 36490 | 120.8 | 645 | 59973 | 0.0 | 775 | 1198 | 0.0 | 905 | 33 | 0.0 |
| 390 | 0 | 0.0 | 520 | 38610 | 113.9 | 650 | 53972 | 0.0 | 780 | 1025 | 0.0 | 910 | 30 | 0.0 |
| 395 | 0 | 0.0 | 525 | 40511 | 104.1 | 655 | 48369 | 0.0 | 785 | 874 | 0.0 | 915 | 23 | 0.0 |
| 400 | 48 | 0.0 | 530 | 42223 | 92.4 | 660 | 42641 | 0.0 | 790 | 747 | 0.0 | 920 | 24 | 0.0 |
| 405 | 201 | 0.0 | 535 | 44137 | 80.5 | 665 | 37602 | 0.0 | 795 | 639 | 0.0 | 925 | 22 | 0.0 |
| 410 | 457 | 0.1 | 540 | 46032 | 68.2 | 670 | 32798 | 0.0 | 800 | 547 | 0.0 | 930 | 22 | 0.0 |
| 415 | 925 | 0.3 | 545 | 48553 | 57.1 | 675 | 28558 | 0.0 | 805 | 473 | 0.0 | 935 | 17 | 0.0 |
| 420 | 1816 | 1.1 | 550 | 51408 | 46.7 | 680 | 24782 | 0.0 | 810 | 401 | 0.0 | 940 | 13 | 0.0 |
| 425 | 3217 | 2.5 | 555 | 54711 | 37.4 | 685 | 21386 | 0.0 | 815 | 351 | 0.0 | 945 | 6 | 0.0 |
| 430 | 5520 | 5.9 | 560 | 58847 | 29.4 | 690 | 18413 | 0.0 | 820 | 307 | 0.0 | 950 | 10 | 0.0 |
| 435 | 9225 | 12.5 | 565 | 63386 | 22.5 | 695 | 15721 | 0.0 | 825 | 261 | 0.0 | 955 | 11 | 0.0 |
| 440 | 15522 | 26.3 | 570 | 68196 | 16.9 | 700 | 13432 | 0.0 | 830 | 228 | 0.0 | 960 | 8 | 0.0 |
| 445 | 27642 | 55.2 | 575 | 73613 | 12.4 | 705 | 11513 | 0.0 | 835 | 193 | 0.0 | 965 | 12 | 0.0 |
| 450 | 36602 | 85.4 | 580 | 79207 | 9.0 | 710 | 9780 | 0.0 | 840 | 174 | 0.0 | 970 | 3 | 0.0 |
| 455 | 28292 | 75.1 | 585 | 84248 | 6.3 | 715 | 8356 | 0.0 | 845 | 151 | 0.0 | 975 | 8 | 0.0 |
| 460 | 21166 | 63.2 | 590 | 88397 | 4.4 | 720 | 7161 | 0.0 | 850 | 123 | 0.0 | 980 | 2 | 0.0 |
| 465 | 19092 | 63.2 | 595 | 91428 | 3.0 | 725 | 6067 | 0.0 | 855 | 106 | 0.0 | 985 | 13 | 0.0 |
| 470 | 14951 | 54.2 | 600 | 93452 | 2.0 | 730 | 5164 | 0.0 | 860 | 95 | 0.0 | 990 | 16 | 0.0 |
| 475 | 12606 | 48.8 | 605 | 93959 | 1.3 | 735 | 4393 | 0.0 | 865 | 82 | 0.0 | 995 | 20 | 0.0 |
| 480 | 13323 | 54.2 | 610 | 93079 | 0.9 | 740 | 3694 | 0.0 | 870 | 77 | 0.0 | 1000 | 0 | 0.0 |
| 485 | 15164 | 63.3 | 615 | 90707 | 0.5 | 745 | 3157 | 0.0 | 875 | 65 | 0.0 | | | |

REPORT NUMBER: SP1-2407-157-9

Melanopic Flux vs. Wavelength



Melanopic Lumens: 9797

M/P: 2.26

| 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 | 0 | 0.0 | 490 | 18018 | 27.7 | 620 | 87426 | 1.1 | 750 | 2680 | 0.0 | 880 | 58 | 0.0 |
| 365 | 0 | 0.0 | 495 | 22295 | 36.0 | 625 | 83013 | 0.7 | 755 | 2287 | 0.0 | 885 | 46 | 0.0 |
| 370 | 0 | 0.0 | 500 | 26478 | 44.2 | 630 | 78077 | 0.4 | 760 | 1944 | 0.0 | 890 | 45 | 0.0 |
| 375 | 0 | 0.0 | 505 | 30524 | 51.8 | 635 | 72080 | 0.3 | 765 | 1653 | 0.0 | 895 | 41 | 0.0 |
| 380 | 0 | 0.0 | 510 | 33611 | 57.0 | 640 | 66249 | 0.2 | 770 | 1413 | 0.0 | 900 | 38 | 0.0 |
| 385 | 0 | 0.0 | 515 | 36490 | 60.5 | 645 | 59973 | 0.1 | 775 | 1198 | 0.0 | 905 | 33 | 0.0 |
| 390 | 0 | 0.0 | 520 | 38610 | 61.4 | 650 | 53972 | 0.1 | 780 | 1025 | 0.0 | 910 | 30 | 0.0 |
| 395 | 0 | 0.0 | 525 | 40511 | 60.6 | 655 | 48369 | 0.0 | 785 | 874 | 0.0 | 915 | 23 | 0.0 |
| 400 | 48 | 0.0 | 530 | 42223 | 58.2 | 660 | 42641 | 0.0 | 790 | 747 | 0.0 | 920 | 24 | 0.0 |
| 405 | 201 | 0.0 | 535 | 44137 | 55.0 | 665 | 37602 | 0.0 | 795 | 639 | 0.0 | 925 | 22 | 0.0 |
| 410 | 457 | 0.0 | 540 | 46032 | 50.9 | 670 | 32798 | 0.0 | 800 | 547 | 0.0 | 930 | 22 | 0.0 |
| 415 | 925 | 0.1 | 545 | 48553 | 46.6 | 675 | 28558 | 0.0 | 805 | 473 | 0.0 | 935 | 17 | 0.0 |
| 420 | 1816 | 0.3 | 550 | 51408 | 42.0 | 680 | 24782 | 0.0 | 810 | 401 | 0.0 | 940 | 13 | 0.0 |
| 425 | 3217 | 0.8 | 555 | 54711 | 37.4 | 685 | 21386 | 0.0 | 815 | 351 | 0.0 | 945 | 6 | 0.0 |
| 430 | 5520 | 1.9 | 560 | 58847 | 32.9 | 690 | 18413 | 0.0 | 820 | 307 | 0.0 | 950 | 10 | 0.0 |
| 435 | 9225 | 4.1 | 565 | 63386 | 28.4 | 695 | 15721 | 0.0 | 825 | 261 | 0.0 | 955 | 11 | 0.0 |
| 440 | 15522 | 8.7 | 570 | 68196 | 24.1 | 700 | 13432 | 0.0 | 830 | 228 | 0.0 | 960 | 8 | 0.0 |
| 445 | 27642 | 18.5 | 575 | 73613 | 20.0 | 705 | 11513 | 0.0 | 835 | 193 | 0.0 | 965 | 12 | 0.0 |
| 450 | 36602 | 28.3 | 580 | 79207 | 16.3 | 710 | 9780 | 0.0 | 840 | 174 | 0.0 | 970 | 3 | 0.0 |
| 455 | 28292 | 24.7 | 585 | 84248 | 12.9 | 715 | 8356 | 0.0 | 845 | 151 | 0.0 | 975 | 8 | 0.0 |
| 460 | 21166 | 20.4 | 590 | 88397 | 9.8 | 720 | 7161 | 0.0 | 850 | 123 | 0.0 | 980 | 2 | 0.0 |
| 465 | 19092 | 20.1 | 595 | 91428 | 7.3 | 725 | 6067 | 0.0 | 855 | 106 | 0.0 | 985 | 13 | 0.0 |
| 470 | 14951 | 17.2 | 600 | 93452 | 5.3 | 730 | 5164 | 0.0 | 860 | 95 | 0.0 | 990 | 16 | 0.0 |
| 475 | 12606 | 15.7 | 605 | 93959 | 3.7 | 735 | 4393 | 0.0 | 865 | 82 | 0.0 | 995 | 20 | 0.0 |
| 480 | 13323 | 18.0 | 610 | 93079 | 2.5 | 740 | 3694 | 0.0 | 870 | 77 | 0.0 | 1000 | 0 | 0.0 |
| 485 | 15164 | 21.9 | 615 | 90707 | 1.7 | 745 | 3157 | 0.0 | 875 | 65 | 0.0 | | | |

Summary

$R_f = 84.7$
 $R_g = 94.6$
 CIE $R_a = 80.9$
 $R_g = -1.5$



Color Vector Graphics

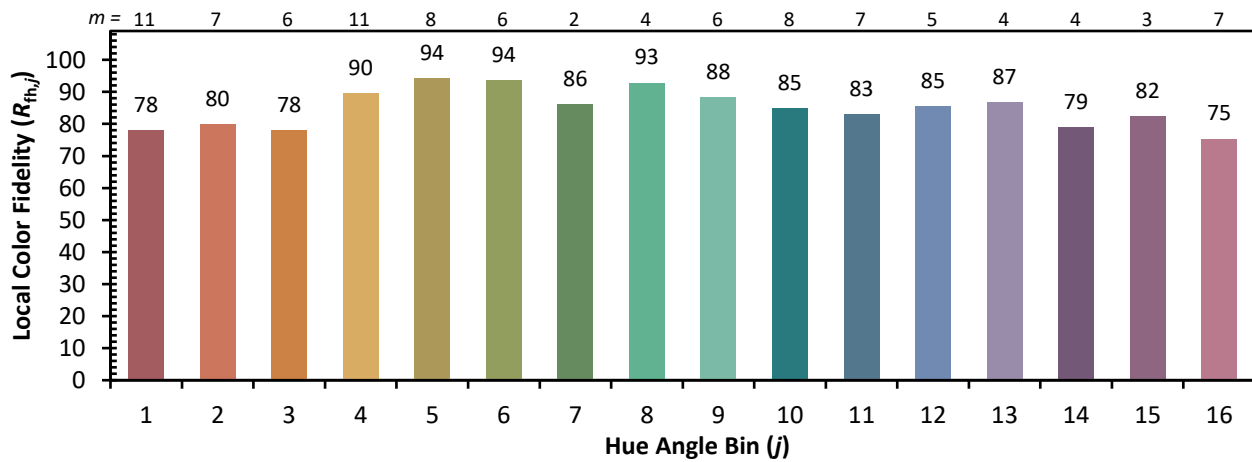
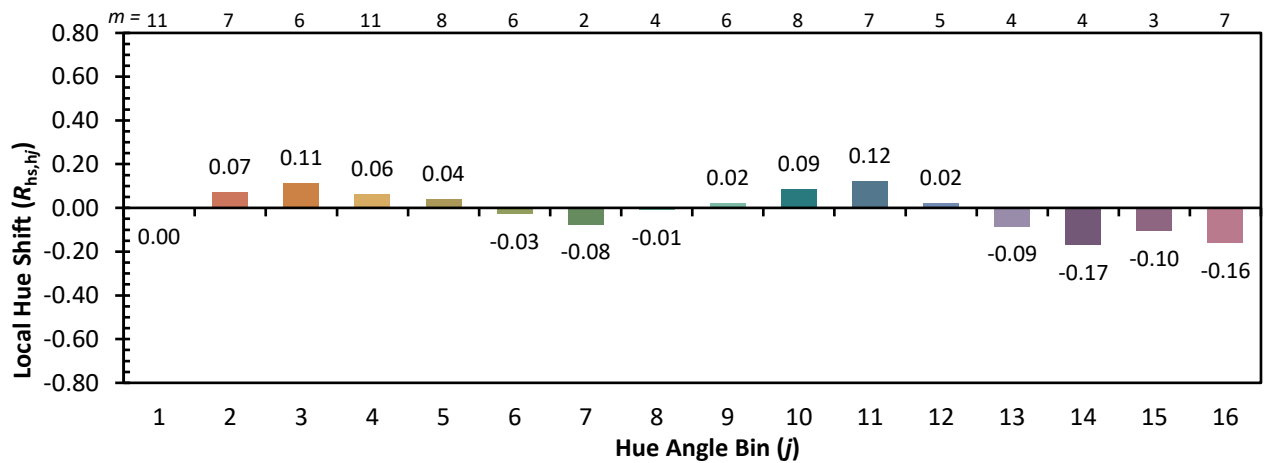
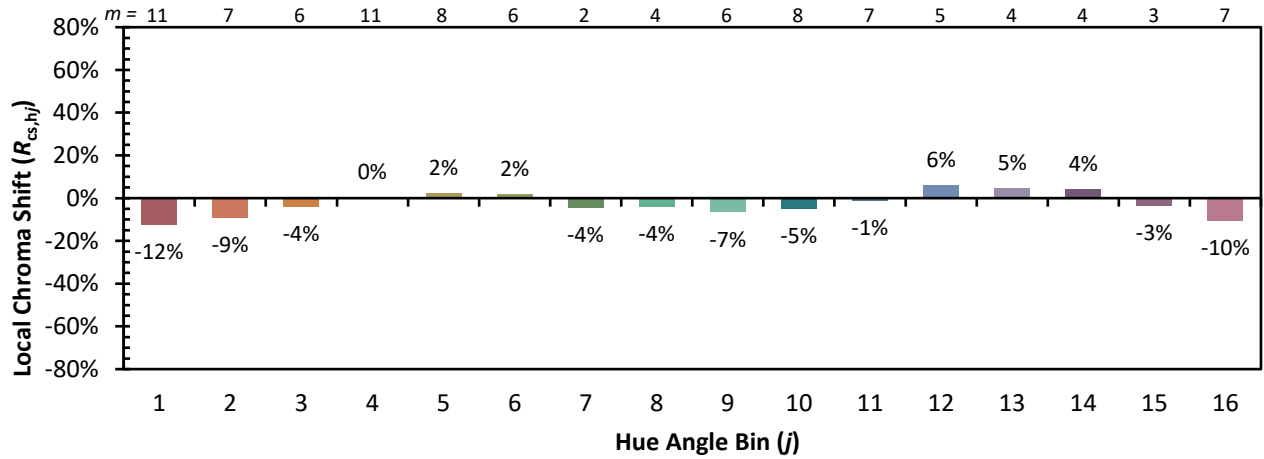


Individual Sample Fidelity Index ($R_{f,i}$)

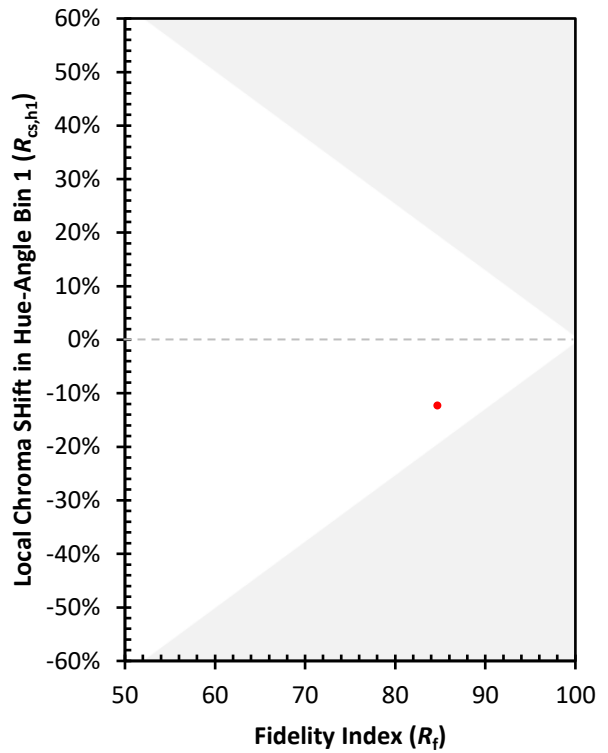
| | | | |
|------------|------------|------------|------------|
| CES01 = 86 | CES26 = 84 | CES51 = 95 | CES76 = 81 |
| CES02 = 63 | CES27 = 95 | CES52 = 94 | CES77 = 84 |
| CES03 = 31 | CES28 = 94 | CES53 = 89 | CES78 = 81 |
| CES04 = 71 | CES29 = 87 | CES54 = 91 | CES79 = 89 |
| CES05 = 50 | CES30 = 94 | CES55 = 90 | CES80 = 89 |
| CES06 = 52 | CES31 = 89 | CES56 = 86 | CES81 = 69 |
| CES07 = 43 | CES32 = 82 | CES57 = 85 | CES82 = 96 |
| CES08 = 41 | CES33 = 91 | CES58 = 86 | CES83 = 93 |
| CES09 = 29 | CES34 = 92 | CES59 = 91 | CES84 = 92 |
| CES10 = 77 | CES35 = 96 | CES60 = 94 | CES85 = 76 |
| CES11 = 60 | CES36 = 90 | CES61 = 89 | CES86 = 65 |
| CES12 = 66 | CES37 = 96 | CES62 = 94 | CES87 = 84 |
| CES13 = 44 | CES38 = 98 | CES63 = 87 | CES88 = 86 |
| CES14 = 74 | CES39 = 98 | CES64 = 82 | CES89 = 73 |
| CES15 = 72 | CES40 = 95 | CES65 = 78 | CES90 = 88 |
| CES16 = 48 | CES41 = 96 | CES66 = 81 | CES91 = 82 |
| CES17 = 50 | CES42 = 97 | CES67 = 80 | CES92 = 64 |
| CES18 = 57 | CES43 = 91 | CES68 = 83 | CES93 = 78 |
| CES19 = 73 | CES44 = 99 | CES69 = 88 | CES94 = 59 |
| CES20 = 67 | CES45 = 93 | CES70 = 80 | CES95 = 74 |
| CES21 = 87 | CES46 = 89 | CES71 = 79 | CES96 = 83 |
| CES22 = 79 | CES47 = 92 | CES72 = 92 | CES97 = 88 |
| CES23 = 92 | CES48 = 83 | CES73 = 75 | CES98 = 83 |
| CES24 = 91 | CES49 = 90 | CES74 = 91 | CES99 = 74 |
| CES25 = 72 | CES50 = 94 | CES75 = 81 | |



Color Rendition by Hue-Angle Bin



Measure Comparisons



(END OF REPORT)