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: STREETWORKS

Report Number: P868167

Luminaire Tested: **MEM2-HSN-SA-100-722-U-T5R**

Issue Date: 08/21/2024

Report Generated By 670245763

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

Scaled Data Report

Test Information

Test Method:	LM-79-08
Report Number:	P868167
Test Lab:	INNOVATION CENTER(G3)
Issue Date:	08/21/2024
Manufacturer:	COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line:	STREETWORKS
Catalog Number:	MEM2-HSN-SA-100-722-U-T5R
Description:	EPIC MODERN SHORT HOUSING DISCRETE LED ARRAYS 100W 70CRI 2200K FIXTURE w/ TYPE V ROUND DISTRIBUTION OPTIC
Light Source:	(20) 2200K CCT, 70 CRI LEDS
Ballast/Driver:	ELECTRONIC DRIVER

Summary

Lumens per Lamp:	N/A
Luminaire Lumens:	12122 lumens
Efficiency:	N/A
Efficacy:	120.0 lumens/watt
Luminous Opening:	Rectangular (W 0.67' x L: 0.33' x H: 0')
IES Classification:	Type V - Short
BUG Rating:	B4 - U0 - G2

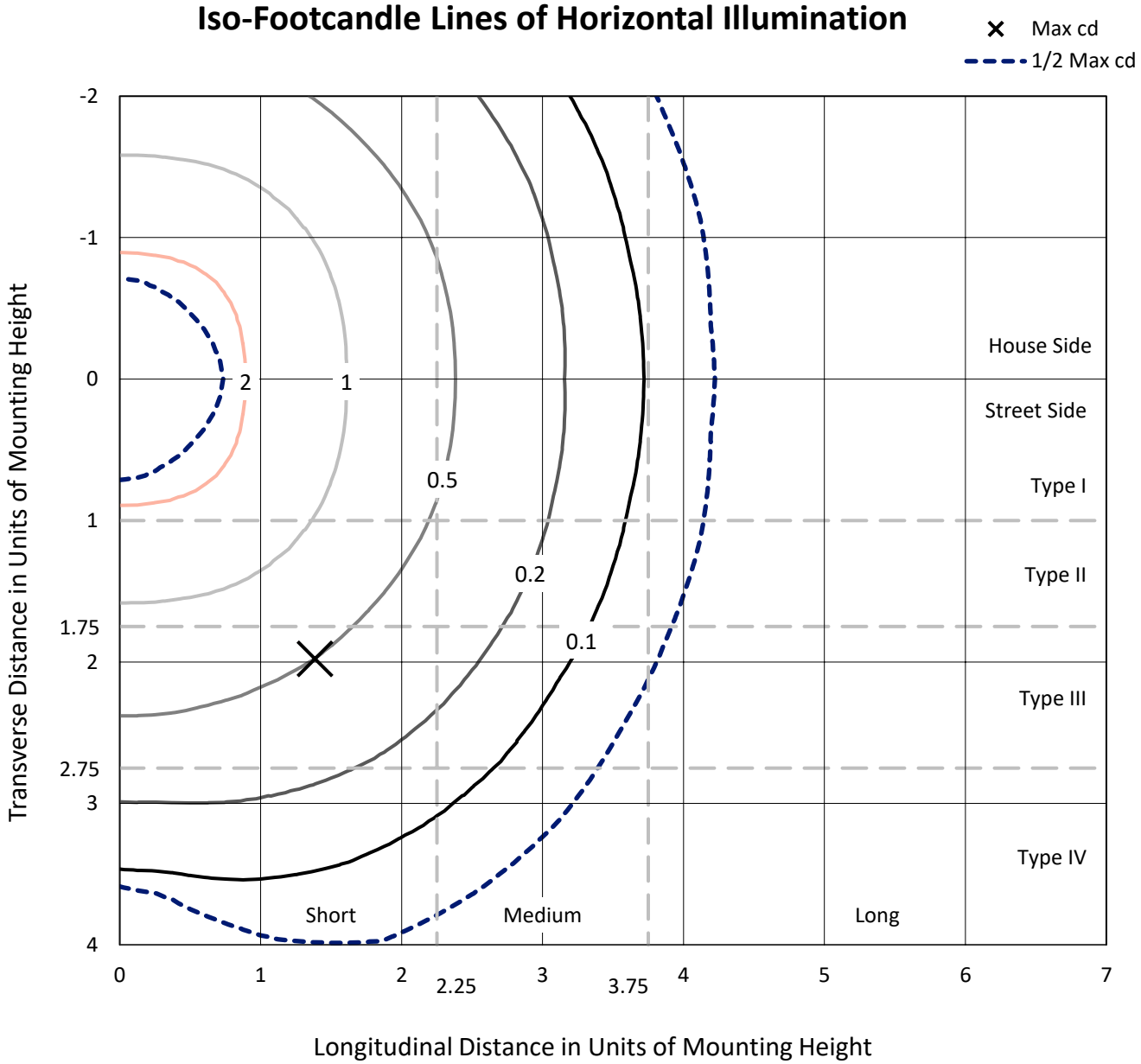
Input Watts (W):	101
Input Voltage (V):	120
Input Current (Ain):	NR
Voltage Rise (V):	NR
Power Factor:	0.99
Total Harmonic Distortion (THDi):	9.45%
Frequency (hertz):	60
Stabilization Time:	NR
Operation Time:	NR
Ambient Temperature (°C):	NR
Test Distance:	24 FT

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

Scaled Data Report

REPORT NUMBER: P868167
CATALOG NUMBER: MEM2-HSN-SA-100-722-U-T5R

Iso-Footcandle Lines of Horizontal Illumination



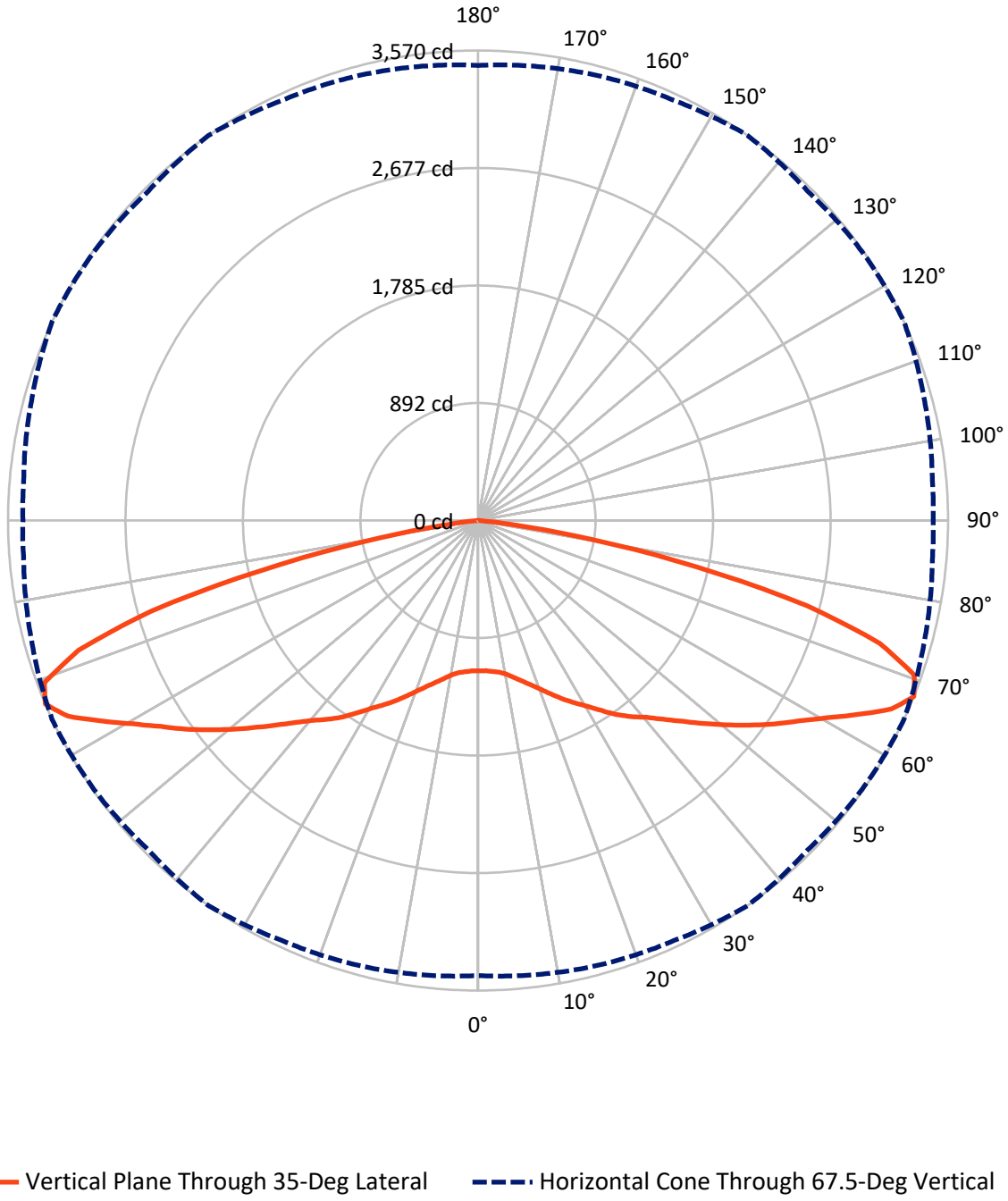
Based on 20 foot mounting height. Maximum calculated value = 2.9 fc
Type V - Short - N/A

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

Scaled Data Report

REPORT NUMBER: P868167
CATALOG NUMBER: MEM2-HSN-SA-100-722-U-T5R

Luminous Intensity Polar Plot



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

Scaled Data Report

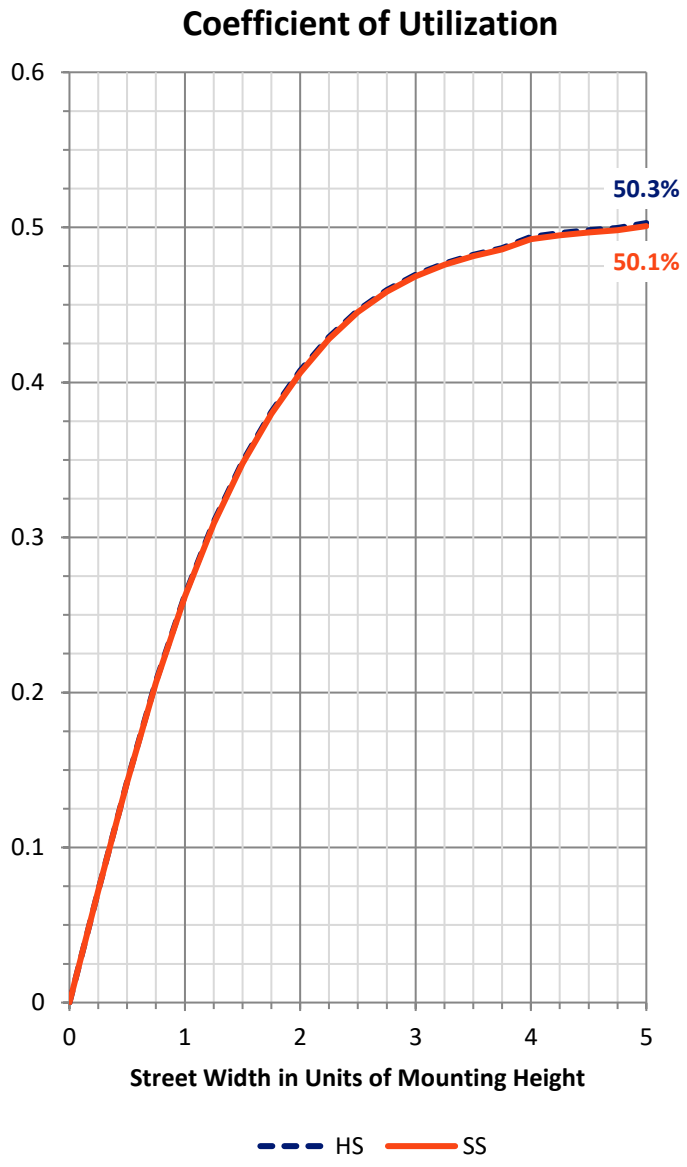
REPORT NUMBER: P868167
CATALOG NUMBER: MEM2-HSN-SA-100-722-U-T5R

FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	6061.0	0.0	6061.0
	% Fixture	50.0	0.0	50.0
Street Side	Lumens	6061.0	0.0	6061.0
	% Fixture	50.0	0.0	50.0
Total	Lumens	12122.0	0.0	12122.0
	% Fixture	100.0	0.0	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	111.0	0.9
10°-20°	363.9	3.0
20°-30°	695.6	5.7
30°-40°	1124.0	9.3
40°-50°	1645.2	13.6
50°-60°	2359.1	19.5
60°-70°	3306.5	27.3
70°-80°	2333.1	19.2
80°-90°	183.7	1.5
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°	12122.0	100.0
0°-180°	12122.0	100.0



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

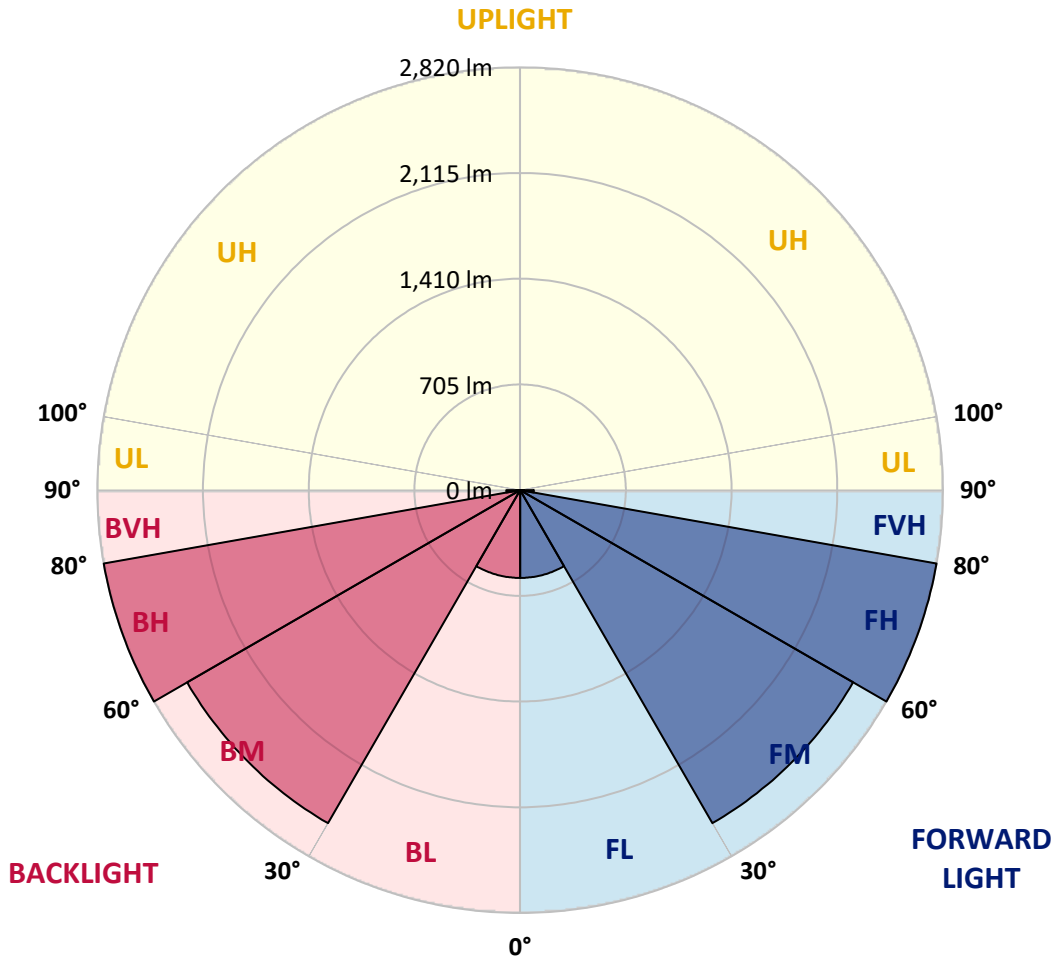
Scaled Data Report

REPORT NUMBER: P868167
CATALOG NUMBER: MEM2-HSN-SA-100-722-U-T5R

LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit B	U	G
FL	(0°-30°)	585.3	4.8			
FM	(30°-60°)	2564.2	21.2			
FH	(60°-80°)	2819.8	23.3			G2/5000
FVH	(80°-90°)	91.8	0.8			G1/100
BL	(0°-30°)	585.3	4.8	B2/1000		
BM	(30°-60°)	2564.2	21.2	B3/5000		
BH	(60°-80°)	2819.8	23.3	B4/5000		G2/5000
BVH	(80°-90°)	91.8	0.8			G1/100
UL	(90°-100°)	0.0	0.0		U0/0	
UH	(100°-180°)	0.0	0.0		U0/0	

BUG Rating: B4-U0-G2
Type V Short



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

Scaled Data Report

REPORT NUMBER: P868167
CATALOG NUMBER: MEM2-HSN-SA-100-722-U-T5R

CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	45°	55°	65°	75°	85°	90°
0°	1141.9	1141.9	1141.9	1141.9	*1141.9*	1141.9	1141.9	1141.9	1141.9	1141.9	1141.9
2.5°	1148.9	1146.6	1144.2	1144.2	*1141.9*	1144.2	1141.9	1144.2	1141.9	1141.9	1141.9
5°	1156.0	1153.7	1153.7	1153.7	*1151.3*	1151.3	1151.3	1151.3	1148.9	1146.6	1148.9
7.5°	1163.1	1163.1	1160.7	1165.5	*1163.1*	1165.5	1165.5	1167.8	1163.1	1160.7	1163.1
10°	1182.0	1182.0	1182.0	1186.7	*1186.7*	1193.8	1193.8	1196.1	1193.8	1189.0	1189.0
12.5°	1222.1	1219.7	1219.7	1219.7	*1224.4*	1229.2	1233.9	1233.9	1231.5	1224.4	1224.4
15°	1266.9	1271.6	1266.9	1264.5	*1266.9*	1271.6	1276.3	1276.3	1274.0	1271.6	1271.6
17.5°	1321.2	1323.5	1318.8	1314.1	*1314.1*	1321.2	1323.5	1323.5	1321.2	1316.4	1316.4
20°	1368.3	1370.7	1370.7	1368.3	*1370.7*	1375.4	1377.8	1380.1	1373.1	1366.0	1366.0
22.5°	1408.5	1410.8	1415.5	1425.0	*1434.4*	1439.1	1436.8	1436.8	1425.0	1417.9	1415.5
25°	1458.0	1465.1	1474.5	1486.3	*1502.8*	1514.6	1509.9	1500.5	1491.0	1476.9	1474.5
27.5°	1554.7	1554.7	1545.3	1550.0	*1568.9*	1580.7	1576.0	1568.9	1550.0	1540.6	1538.2
30°	1630.2	1630.2	1630.2	1625.5	*1637.3*	1651.5	1646.7	1634.9	1625.5	1620.8	1620.8
32.5°	1703.4	1698.6	1705.7	1715.2	*1719.9*	1724.6	1724.6	1715.2	1698.6	1691.6	1691.6
35°	1771.8	1776.5	1783.6	1797.7	*1809.5*	1802.4	1790.7	1783.6	1767.1	1752.9	1752.9
37.5°	1837.8	1842.6	1849.6	1870.9	*1889.7*	1887.4	1873.2	1854.3	1833.1	1821.3	1814.2
40°	1885.0	1887.4	1906.3	1939.3	*1965.2*	1974.7	1962.9	1936.9	1903.9	1880.3	1882.7
42.5°	1941.6	1946.4	1977.0	2024.2	*2062.0*	2076.1	2059.6	2024.2	1977.0	1946.4	1946.4
45°	2024.2	2026.6	2066.7	2125.7	*2175.2*	2198.8	2175.2	2125.7	2064.3	2033.7	2031.3
47.5°	2106.8	2113.9	2158.7	2229.5	*2302.6*	2330.9	2305.0	2241.3	2168.1	2130.4	2125.7
50°	2201.2	2205.9	2260.1	2356.9	*2439.4*	2477.2	2444.2	2363.9	2283.7	2236.5	2238.9
52.5°	2293.2	2307.3	2380.5	2481.9	*2581.0*	2623.5	2576.3	2489.0	2404.0	2359.2	2356.9
55°	2430.0	2446.5	2510.2	2623.5	*2727.3*	2774.4	2729.6	2632.9	2540.9	2491.3	2481.9
57.5°	2602.2	2611.7	2668.3	2783.9	*2871.2*	2916.0	2890.0	2800.4	2713.1	2651.8	2640.0
60°	2798.0	2807.5	2852.3	2970.3	*3041.0*	3074.1	3064.6	3012.7	2953.7	2925.4	2918.4
62.5°	3076.4	3078.8	3102.4	3170.8	*3241.6*	3255.7	3232.1	3220.3	3239.2	3208.5	3215.6
65°	3394.9	3394.9	3387.8	3397.3	*3451.5*	3435.0	3418.5	3470.4	3461.0	3409.1	3399.6
67.5°	*3456.3*	*3470.4*	*3498.7*	*3520.0*	*3569.5*	*3538.8*	*3560.1*	*3569.5*	*3510.5*	*3463.3*	*3456.3*
70°	3092.9	3109.5	3267.5	3364.3	*3515.2*	3543.6	3475.1	3439.7	3373.7	3286.4	3262.8
72.5°	2109.1	2191.7	2647.0	2958.5	*3189.7*	3225.1	3187.3	3142.5	3010.4	2942.0	2894.8
75°	1684.5	1729.3	2135.1	2441.8	*2578.6*	2576.3	2425.3	2375.7	2271.9	2262.5	2271.9
77.5°	1028.6	1038.1	1436.8	1677.4	*1693.9*	1684.5	1623.1	1585.4	1599.6	1528.8	1540.6
80°	313.8	342.1	542.6	818.7	*880.0*	851.7	839.9	854.0	868.2	889.4	922.5
82.5°	63.7	80.2	108.5	235.9	*269.0*	266.6	264.2	292.5	318.5	330.3	401.1
85°	7.1	7.1	9.4	18.9	*40.1*	63.7	66.1	59.0	89.7	87.3	61.3
87.5°	2.4	2.4	2.4	2.4	*2.4*	4.7	4.7	4.7	4.7	4.7	4.7
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: SP1-2407-157-2

Test Date: 08/07/2024

Luminaire Tested: MEM2-HTN-SA-30-722-U-5WQ-2

Data in this report applies to families of products including MEM2-HTN-SA-30-722-U-5WQ-2

Report Generated By FNC07603 / LDUCLS01DT446
Version: v7.04

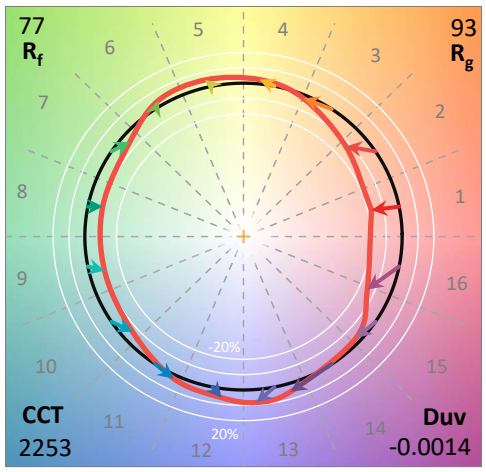
Test Information

Test Method:	LM-79-2019
Report Number:	SP1-2407-157-2
Test Lab:	COOPER LIGHTING SOLUTIONS
Photometer:	SP1 - 76IN SPHERE
Measurement Geometry:	4π
Issue Date:	08/20/2024
Manufacturer:	COOPER LIGHTING SOLUTIONS
Product Line:	Streetworks
Catalog Number:	**MEM2-HTN-SA-30-722-U-5WQ-2**
Description:	Epic Modern Light Square 30W 5WQ Optic and Flare Trim

Spectral Parameters

CCT (K):	2253	CRI (Ra):	70.6		
CIE u':	0.2868	R1:	68.4	R9:	-36.0
CIE v':	0.5332	R2:	88.7	R10:	78.2
Duv:	-0.0014	R3:	85.4	R11:	61.0
CIE x:	0.4974	R4:	63.5	R12:	74.2
CIE y:	0.4110	R5:	69.0	R13:	72.8
CIE z:	0.0915	R6:	88.9	R14:	92.2
Peak Wavelength (nm):	603	R7:	68.5	R15:	58.0
Dominant Wavelength (nm):	587	R8:	32.0		
Purity:	72.69432				

Rf:	76.9
Rg:	92.7



Test Conditions

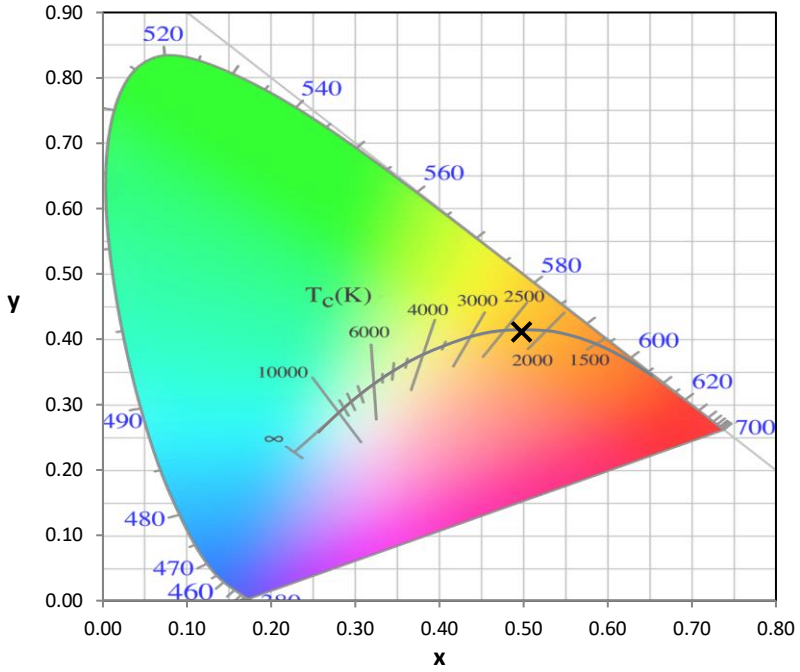
Stabilization Time:	29M
Operation Time:	1H 29M
Sphere Temperature (°C):	24.1

REPORT NUMBER: SP1-2407-157-2

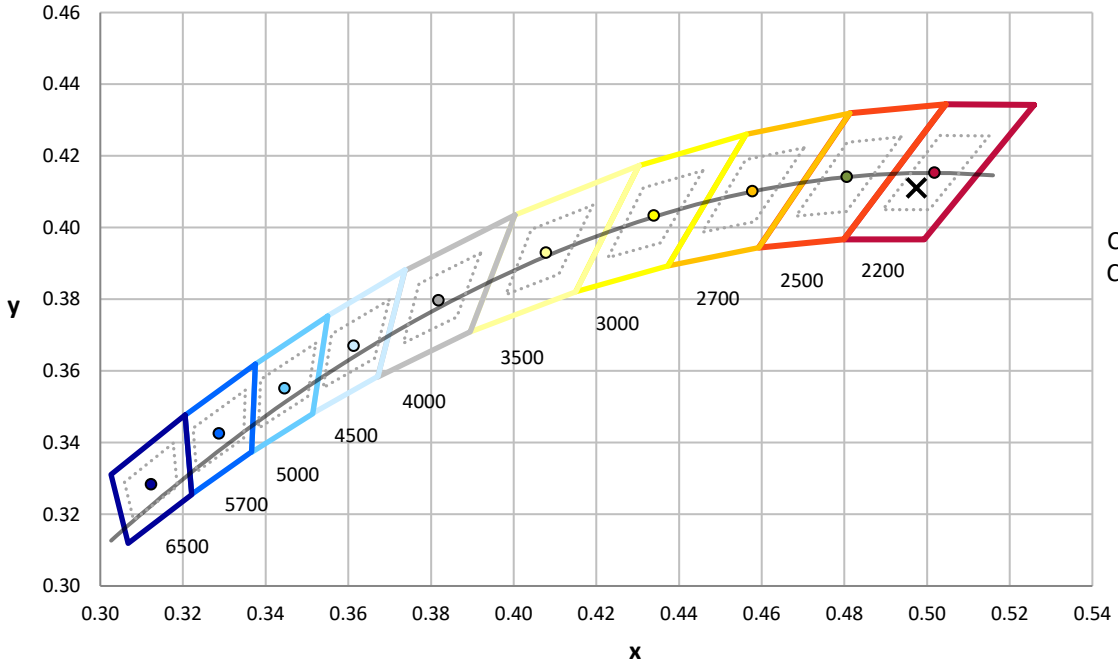
Measurement and Test Equipment			
Instrument	Identification Number	Calibration Date	Calibration Due Date
Photometer	IN0058	6/18/2024	12/18/2024
Power Meter	INXT2011004	2/8/2024	2/8/2025
AC Power Source	IN0063	10/24/2023	10/24/2024
DC Power Source	IN0208	10/24/2023	10/24/2024
Sphere Thermometer	IN0085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

REPORT NUMBER: SP1-2407-157-2

CIE 1931 Chromaticity Diagram



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

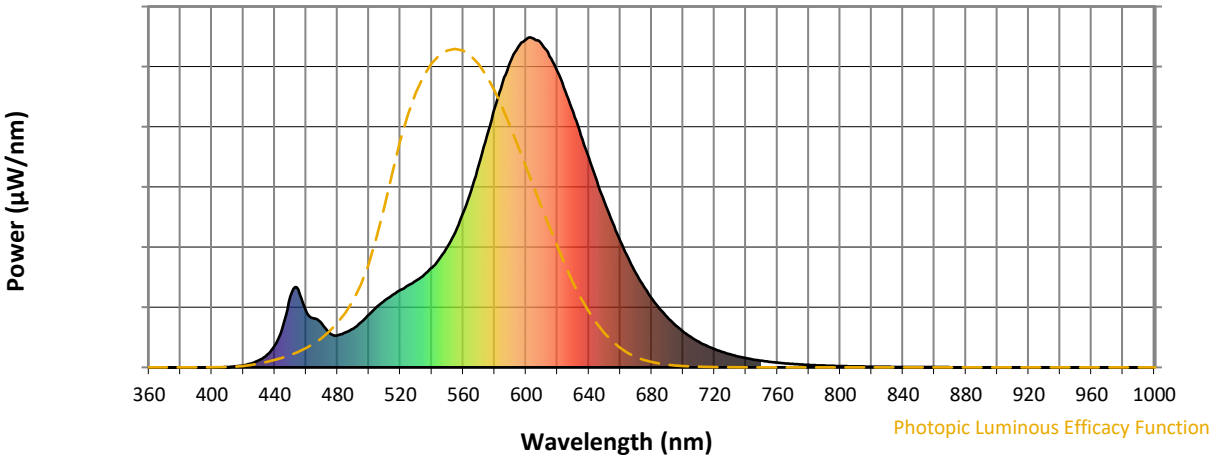


CCT = 2253K
CIE x = 0.4974
CIE y = 0.4110
Duv = -0.0014

Point lies inside the ANSI 2200K 4-step quadrangle

REPORT NUMBER: SP1-2407-157-2

Photopic Flux vs. Wavelength

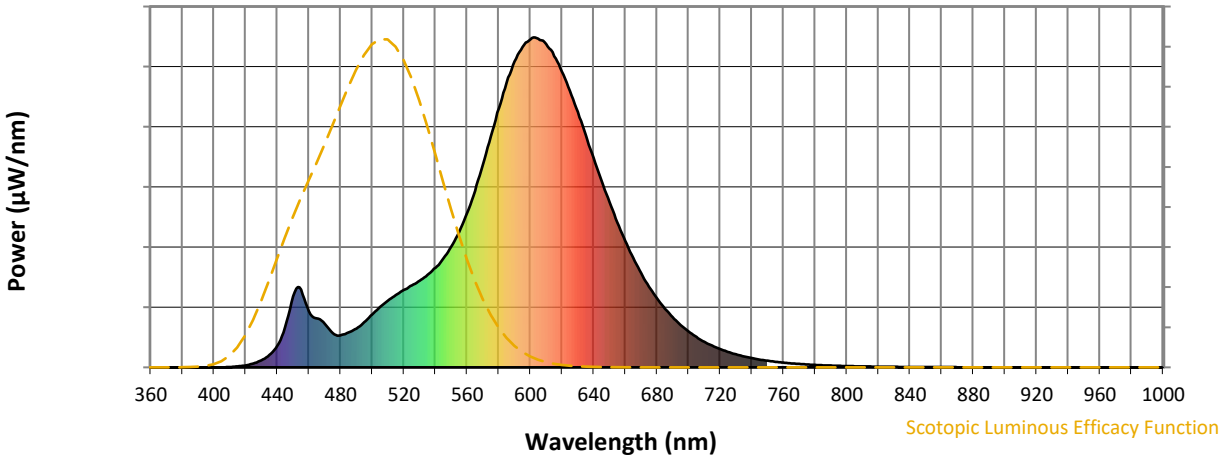


Photopic Lumens: NR

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	117	NR	620	896	NR	750	20	NR	880	0	NR
365	0	NR	495	137	NR	625	838	NR	755	17	NR	885	0	NR
370	0	NR	500	160	NR	630	774	NR	760	14	NR	890	0	NR
375	0	NR	505	183	NR	635	704	NR	765	12	NR	895	0	NR
380	0	NR	510	202	NR	640	635	NR	770	10	NR	900	0	NR
385	0	NR	515	219	NR	645	565	NR	775	9	NR	905	0	NR
390	0	NR	520	235	NR	650	501	NR	780	7	NR	910	0	NR
395	0	NR	525	249	NR	655	440	NR	785	6	NR	915	0	NR
400	0	NR	530	263	NR	660	383	NR	790	5	NR	920	0	NR
405	0	NR	535	281	NR	665	332	NR	795	5	NR	925	0	NR
410	1	NR	540	302	NR	670	286	NR	800	4	NR	930	0	NR
415	3	NR	545	331	NR	675	245	NR	805	3	NR	935	0	NR
420	6	NR	550	366	NR	680	210	NR	810	3	NR	940	0	NR
425	12	NR	555	411	NR	685	178	NR	815	3	NR	945	0	NR
430	21	NR	560	469	NR	690	152	NR	820	2	NR	950	0	NR
435	38	NR	565	536	NR	695	129	NR	825	2	NR	955	0	NR
440	66	NR	570	614	NR	700	109	NR	830	2	NR	960	0	NR
445	122	NR	575	701	NR	705	92	NR	835	1	NR	965	0	NR
450	215	NR	580	785	NR	710	77	NR	840	1	NR	970	0	NR
455	236	NR	585	863	NR	715	66	NR	845	1	NR	975	0	NR
460	170	NR	590	928	NR	720	55	NR	850	1	NR	980	0	NR
465	148	NR	595	971	NR	725	47	NR	855	1	NR	985	0	NR
470	132	NR	600	994	NR	730	40	NR	860	1	NR	990	0	NR
475	104	NR	605	996	NR	735	33	NR	865	1	NR	995	0	NR
480	97	NR	610	979	NR	740	28	NR	870	1	NR	1000	0	NR
485	105	NR	615	943	NR	745	24	NR	875	0	NR			

REPORT NUMBER: SP1-2407-157-2

Scotopic Flux vs. Wavelength

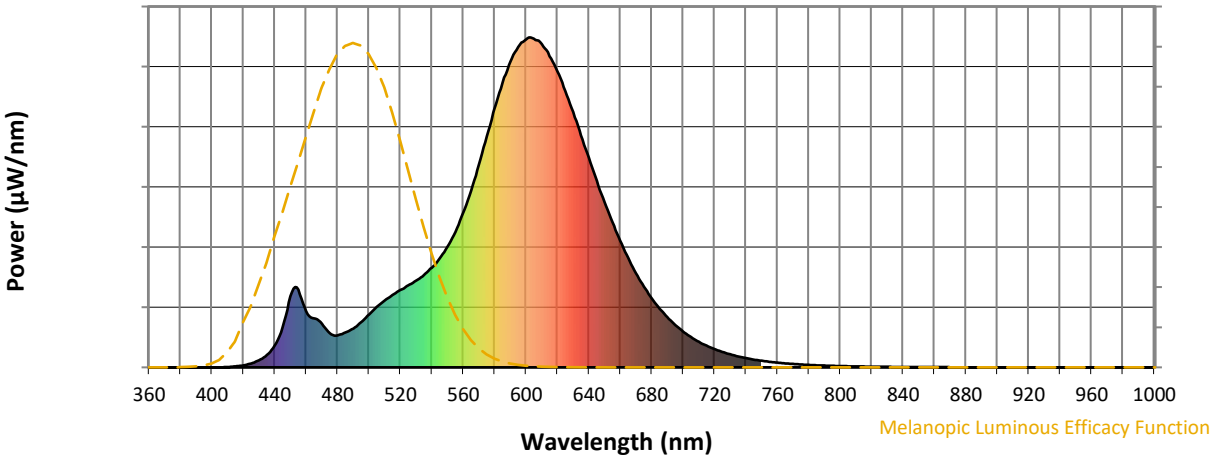


Scotopic Lumens: NR **S/P: 0.96**

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	117	NR	620	896	NR	750	20	NR	880	0	NR
365	0	NR	495	137	NR	625	838	NR	755	17	NR	885	0	NR
370	0	NR	500	160	NR	630	774	NR	760	14	NR	890	0	NR
375	0	NR	505	183	NR	635	704	NR	765	12	NR	895	0	NR
380	0	NR	510	202	NR	640	635	NR	770	10	NR	900	0	NR
385	0	NR	515	219	NR	645	565	NR	775	9	NR	905	0	NR
390	0	NR	520	235	NR	650	501	NR	780	7	NR	910	0	NR
395	0	NR	525	249	NR	655	440	NR	785	6	NR	915	0	NR
400	0	NR	530	263	NR	660	383	NR	790	5	NR	920	0	NR
405	0	NR	535	281	NR	665	332	NR	795	5	NR	925	0	NR
410	1	NR	540	302	NR	670	286	NR	800	4	NR	930	0	NR
415	3	NR	545	331	NR	675	245	NR	805	3	NR	935	0	NR
420	6	NR	550	366	NR	680	210	NR	810	3	NR	940	0	NR
425	12	NR	555	411	NR	685	178	NR	815	3	NR	945	0	NR
430	21	NR	560	469	NR	690	152	NR	820	2	NR	950	0	NR
435	38	NR	565	536	NR	695	129	NR	825	2	NR	955	0	NR
440	66	NR	570	614	NR	700	109	NR	830	2	NR	960	0	NR
445	122	NR	575	701	NR	705	92	NR	835	1	NR	965	0	NR
450	215	NR	580	785	NR	710	77	NR	840	1	NR	970	0	NR
455	236	NR	585	863	NR	715	66	NR	845	1	NR	975	0	NR
460	170	NR	590	928	NR	720	55	NR	850	1	NR	980	0	NR
465	148	NR	595	971	NR	725	47	NR	855	1	NR	985	0	NR
470	132	NR	600	994	NR	730	40	NR	860	1	NR	990	0	NR
475	104	NR	605	996	NR	735	33	NR	865	1	NR	995	0	NR
480	97	NR	610	979	NR	740	28	NR	870	1	NR	1000	0	NR
485	105	NR	615	943	NR	745	24	NR	875	0	NR			

REPORT NUMBER: SP1-2407-157-2

Melanopic Flux vs. Wavelength



Melanopic Lumens: NR **M/P: 1.71**

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	117	NR	620	896	NR	750	20	NR	880	0	NR
365	0	NR	495	137	NR	625	838	NR	755	17	NR	885	0	NR
370	0	NR	500	160	NR	630	774	NR	760	14	NR	890	0	NR
375	0	NR	505	183	NR	635	704	NR	765	12	NR	895	0	NR
380	0	NR	510	202	NR	640	635	NR	770	10	NR	900	0	NR
385	0	NR	515	219	NR	645	565	NR	775	9	NR	905	0	NR
390	0	NR	520	235	NR	650	501	NR	780	7	NR	910	0	NR
395	0	NR	525	249	NR	655	440	NR	785	6	NR	915	0	NR
400	0	NR	530	263	NR	660	383	NR	790	5	NR	920	0	NR
405	0	NR	535	281	NR	665	332	NR	795	5	NR	925	0	NR
410	1	NR	540	302	NR	670	286	NR	800	4	NR	930	0	NR
415	3	NR	545	331	NR	675	245	NR	805	3	NR	935	0	NR
420	6	NR	550	366	NR	680	210	NR	810	3	NR	940	0	NR
425	12	NR	555	411	NR	685	178	NR	815	3	NR	945	0	NR
430	21	NR	560	469	NR	690	152	NR	820	2	NR	950	0	NR
435	38	NR	565	536	NR	695	129	NR	825	2	NR	955	0	NR
440	66	NR	570	614	NR	700	109	NR	830	2	NR	960	0	NR
445	122	NR	575	701	NR	705	92	NR	835	1	NR	965	0	NR
450	215	NR	580	785	NR	710	77	NR	840	1	NR	970	0	NR
455	236	NR	585	863	NR	715	66	NR	845	1	NR	975	0	NR
460	170	NR	590	928	NR	720	55	NR	850	1	NR	980	0	NR
465	148	NR	595	971	NR	725	47	NR	855	1	NR	985	0	NR
470	132	NR	600	994	NR	730	40	NR	860	1	NR	990	0	NR
475	104	NR	605	996	NR	735	33	NR	865	1	NR	995	0	NR
480	97	NR	610	979	NR	740	28	NR	870	1	NR	1000	0	NR
485	105	NR	615	943	NR	745	24	NR	875	0	NR			

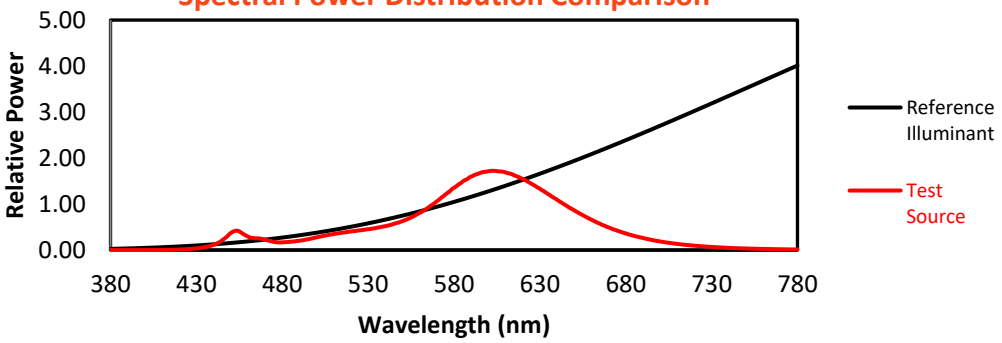
REPORT NUMBER: SP1-2407-157-2

TM-30-18

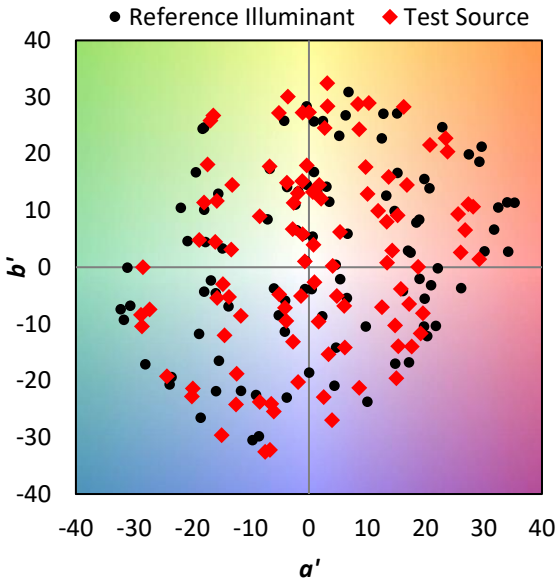
Summary

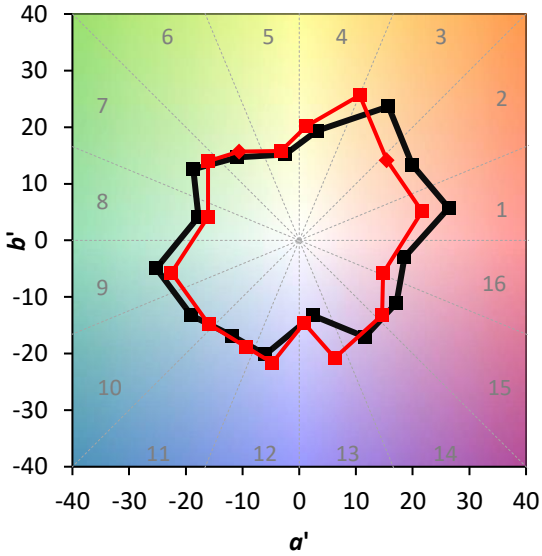
R_f = 76.9
R_g = 92.7
CIE R_a = 70.6
R_9 = -36.0

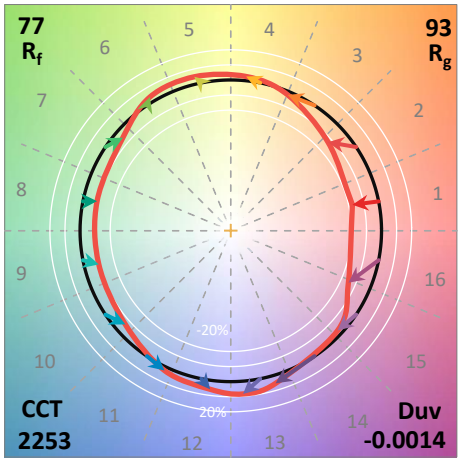
Spectral Power Distribution Comparison

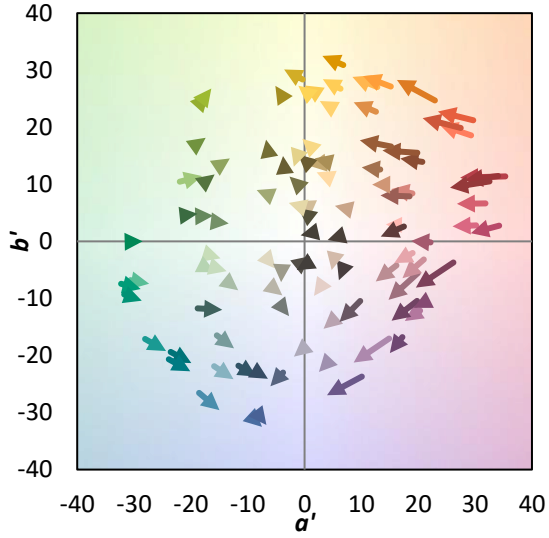


Color Vector Graphics







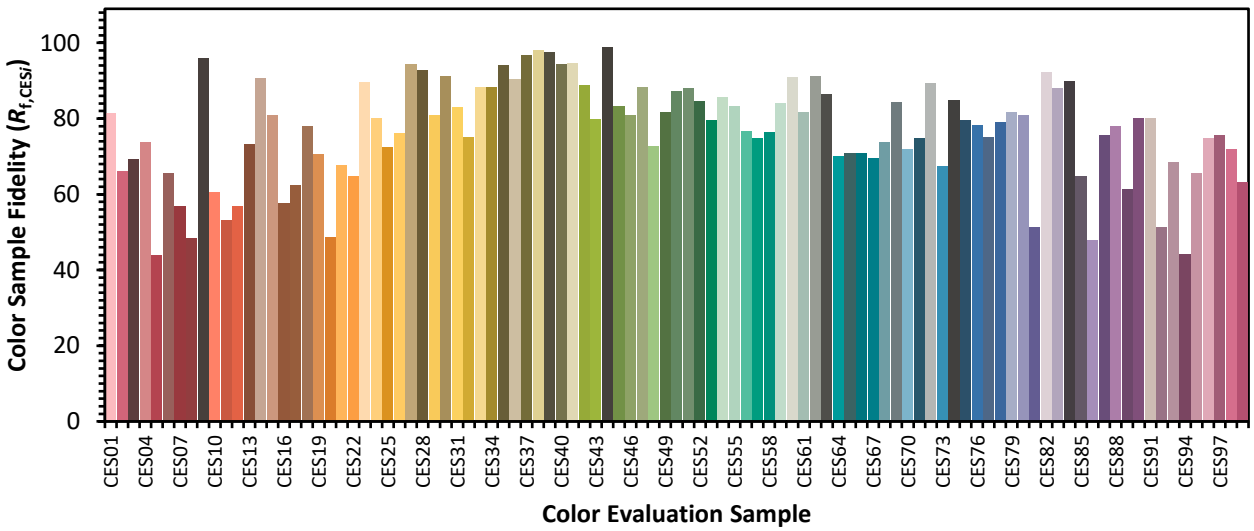


REPORT NUMBER: SP1-2407-157-2

TM-30-18

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

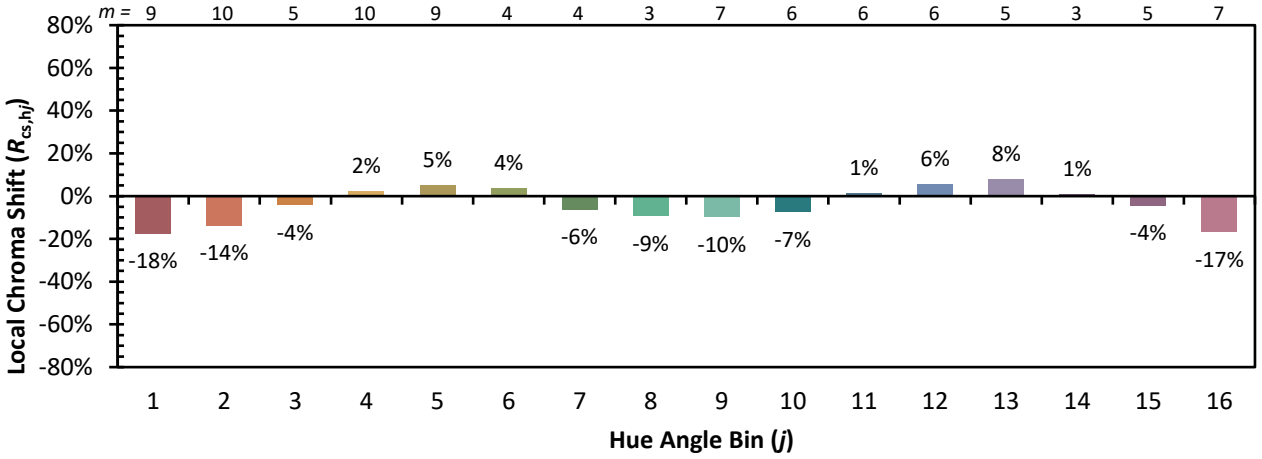
CES01 = 87	CES26 = 76	CES51 = 88	CES76 = 78
CES02 = 65	CES27 = 94	CES52 = 85	CES77 = 75
CES03 = 32	CES28 = 93	CES53 = 80	CES78 = 79
CES04 = 72	CES29 = 81	CES54 = 86	CES79 = 82
CES05 = 51	CES30 = 91	CES55 = 83	CES80 = 81
CES06 = 52	CES31 = 83	CES56 = 77	CES81 = 51
CES07 = 44	CES32 = 75	CES57 = 75	CES82 = 92
CES08 = 42	CES33 = 88	CES58 = 76	CES83 = 88
CES09 = 29	CES34 = 88	CES59 = 84	CES84 = 90
CES10 = 79	CES35 = 94	CES60 = 91	CES85 = 65
CES11 = 62	CES36 = 90	CES61 = 82	CES86 = 48
CES12 = 68	CES37 = 97	CES62 = 91	CES87 = 76
CES13 = 45	CES38 = 98	CES63 = 86	CES88 = 78
CES14 = 75	CES39 = 97	CES64 = 70	CES89 = 61
CES15 = 72	CES40 = 94	CES65 = 71	CES90 = 80
CES16 = 48	CES41 = 95	CES66 = 71	CES91 = 80
CES17 = 51	CES42 = 89	CES67 = 70	CES92 = 51
CES18 = 57	CES43 = 80	CES68 = 74	CES93 = 68
CES19 = 74	CES44 = 99	CES69 = 84	CES94 = 44
CES20 = 68	CES45 = 83	CES70 = 72	CES95 = 66
CES21 = 88	CES46 = 81	CES71 = 75	CES96 = 75
CES22 = 81	CES47 = 88	CES72 = 89	CES97 = 76
CES23 = 92	CES48 = 73	CES73 = 68	CES98 = 72
CES24 = 92	CES49 = 82	CES74 = 85	CES99 = 63
CES25 = 73	CES50 = 87	CES75 = 80	

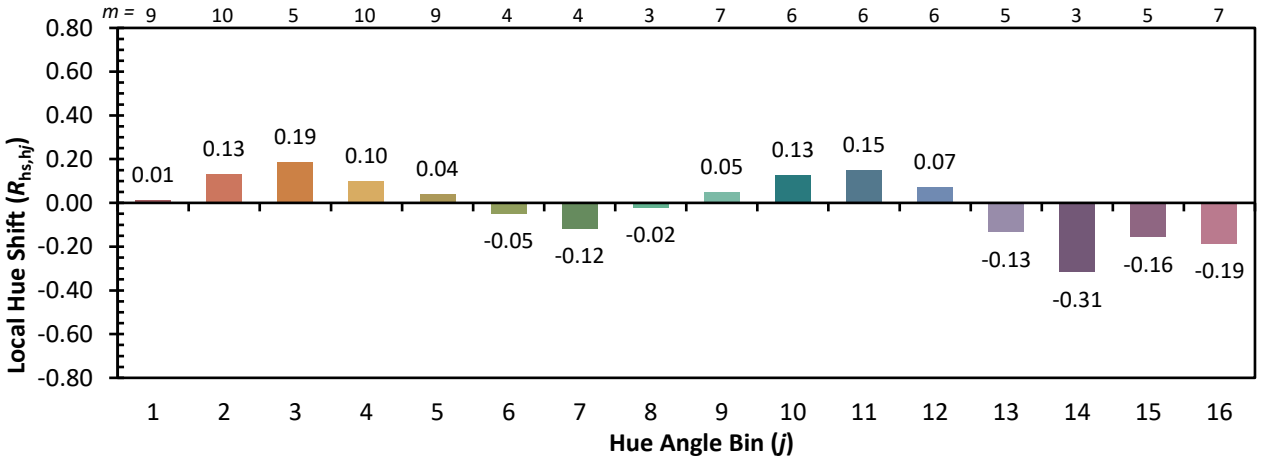


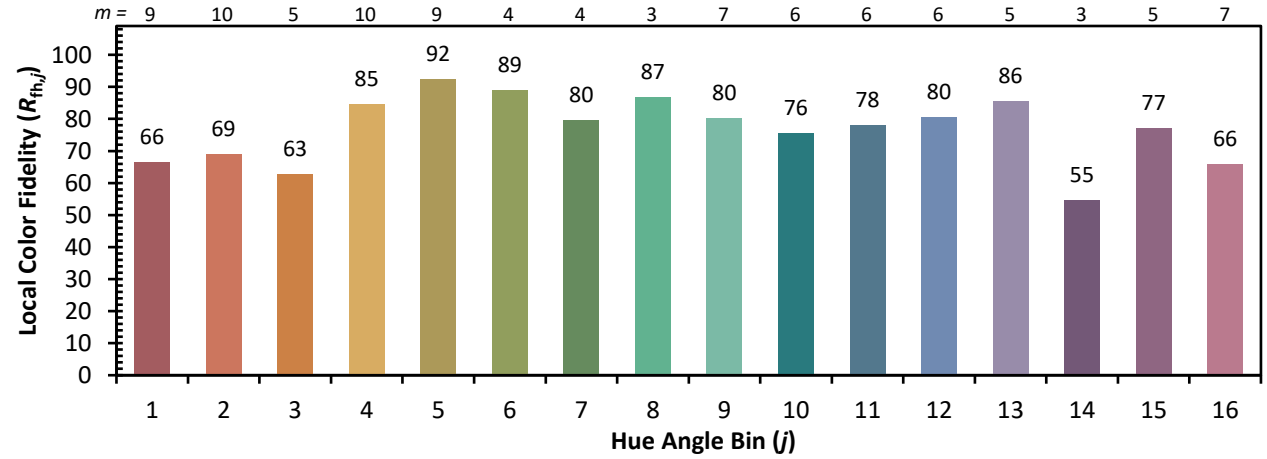
REPORT NUMBER: SP1-2407-157-2

TM-30-18

Color Rendition by Hue-Angle Bin



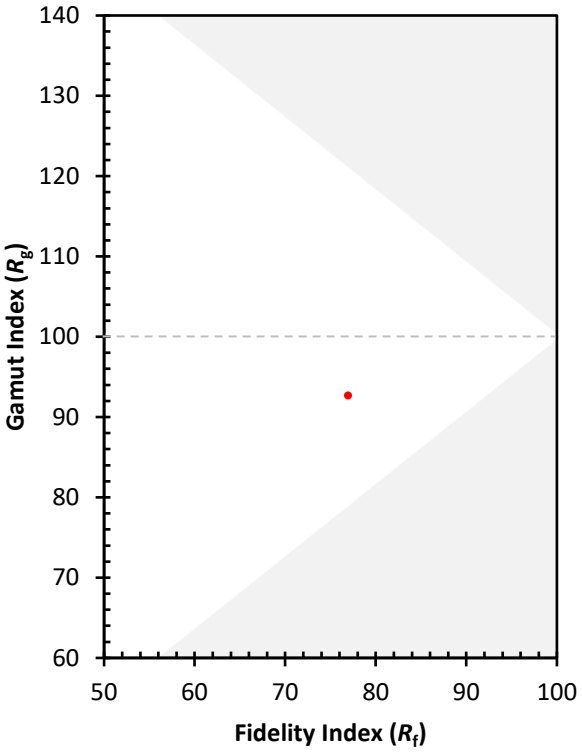


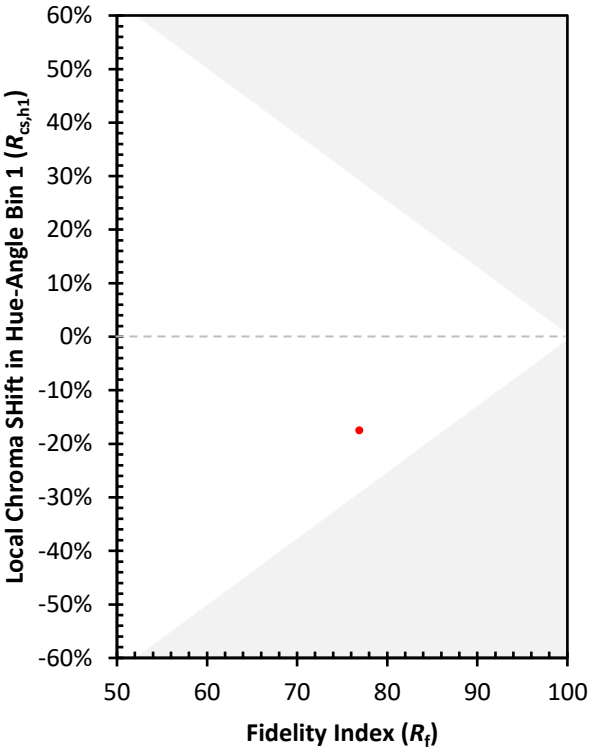


REPORT NUMBER: SP1-2407-157-2

TM-30-18

Measure Comparisons





(END OF REPORT)