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: P867787

Luminaire Tested: **MEM2-HTN-SA-60-727-U-5MQ**

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:	P867787
Test Lab:	INNOVATION CENTER(G3)
Issue Date:	08/21/2024
Manufacturer:	COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line:	STREETWORKS
Catalog Number:	MEM2-HTN-SA-60-727-U-5MQ
Description:	EPIC MODERN TALL HOUSING DISCRETE LED ARRAYS 60W 70CRI 2700K FIXTURE w/ TYPE V SQUARE MEDIUM DISTRIBUTION OPTIC
Light Source:	(20) 2700K CCT, 70 CRI LEDS
Ballast/Driver:	ELECTRONIC DRIVER

Summary

Lumens per Lamp:	N/A
Luminaire Lumens:	8951.5 lumens
Efficiency:	N/A
Efficacy:	146.7 lumens/watt
Luminous Opening:	Rectangular (W 0.67' x L: 0.33' x H: 0')
IES Classification:	Type V - Short
BUG Rating:	B3 - U0 - G1

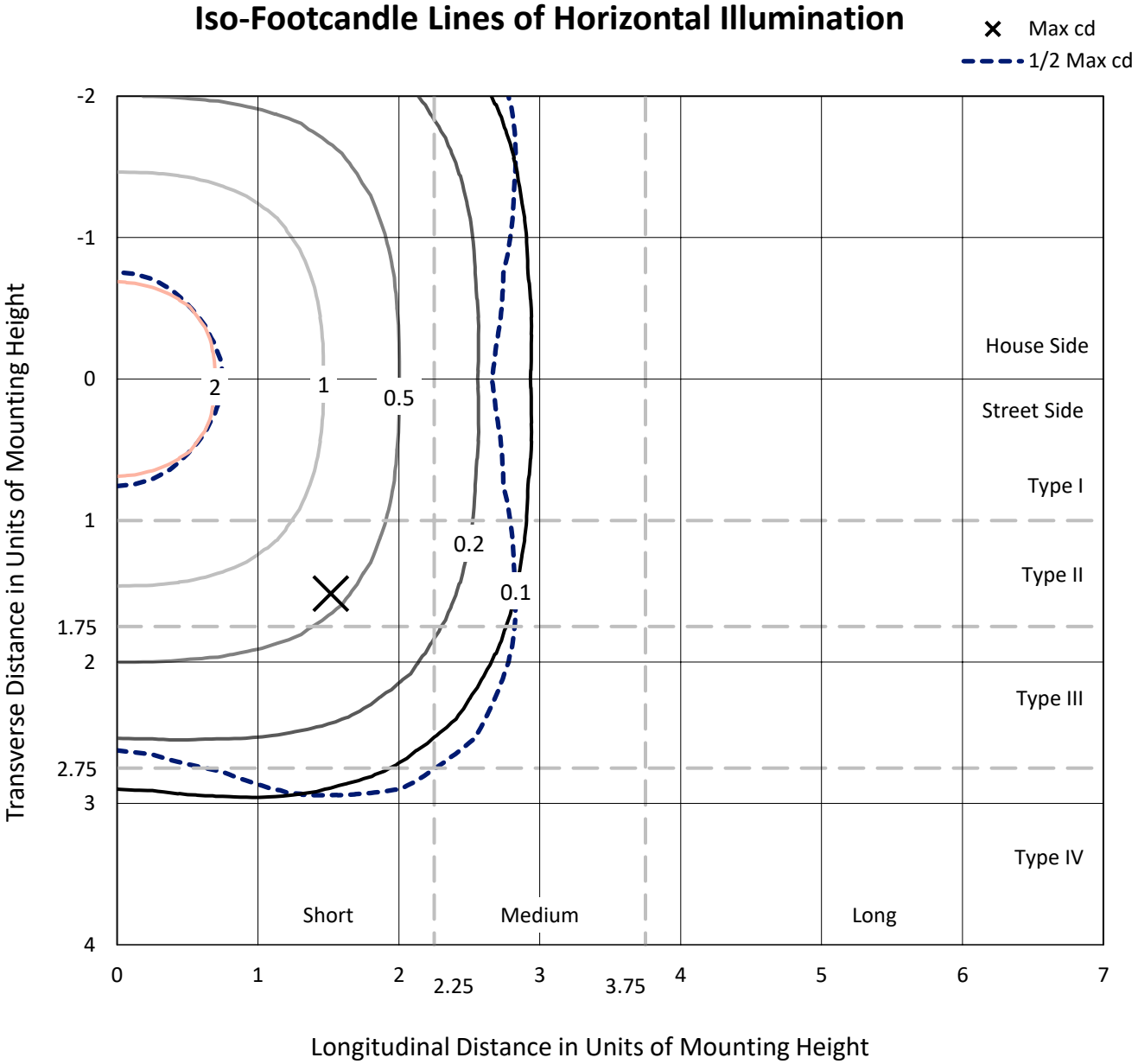
Input Watts (W):	61
Input Voltage (V):	120
Input Current (Ain):	NR
Voltage Rise (V):	NR
Power Factor:	0.99
Total Harmonic Distortion (THDi):	9.89%
Frequency (hertz):	60
Stabilization Time:	NR
Operation Time:	NR
Ambient Temperature (°C):	NR
Test Distance:	24 FT

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

Scaled Data Report

REPORT NUMBER: P867787
CATALOG NUMBER: MEM2-HTN-SA-60-727-U-5MQ

Iso-Footcandle Lines of Horizontal Illumination



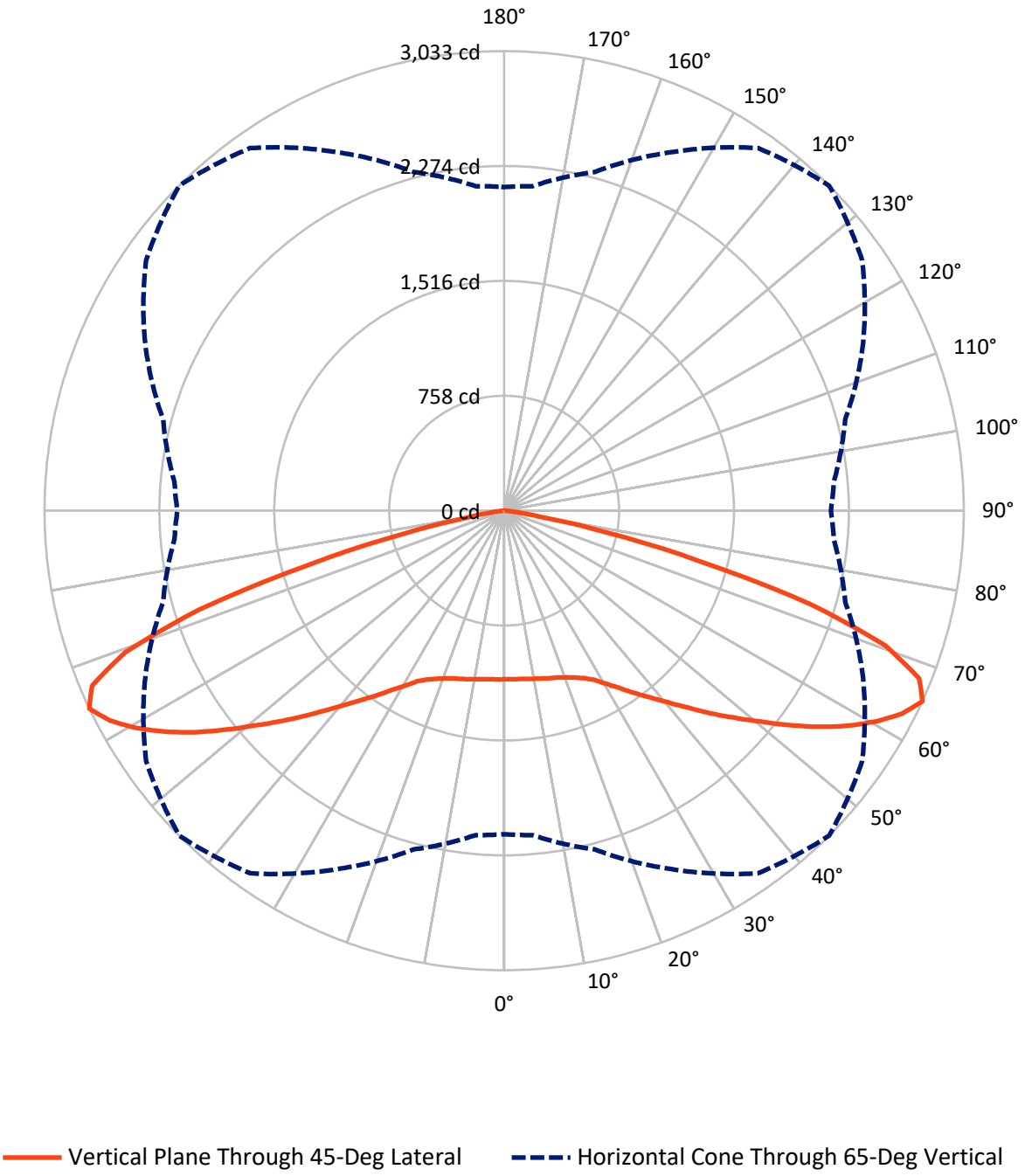
Based on 20 foot mounting height. Maximum calculated value = 2.8 fc
Type V - Short - N/A

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

Scaled Data Report

REPORT NUMBER: P867787
CATALOG NUMBER: MEM2-HTN-SA-60-727-U-5MQ

Luminous Intensity Polar Plot



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

Scaled Data Report

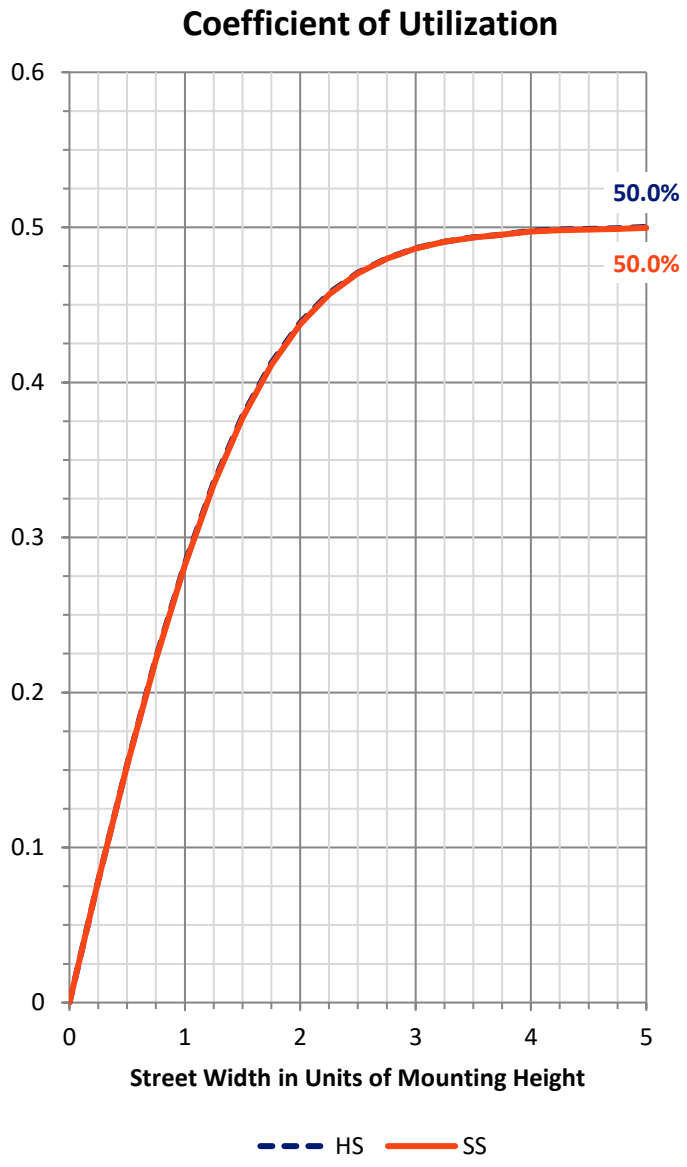
REPORT NUMBER: P867787
CATALOG NUMBER: MEM2-HTN-SA-60-727-U-5MQ

FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	4475.8	0.0	4475.8
	% Fixture	50.0	0.0	50.0
Street Side	Lumens	4475.8	0.0	4475.8
	% Fixture	50.0	0.0	50.0
Total	Lumens	8951.5	0.0	8951.5
	% Fixture	100.0	0.0	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	106.9	1.2
10°-20°	325.6	3.6
20°-30°	572.6	6.4
30°-40°	926.1	10.3
40°-50°	1442.5	16.1
50°-60°	2109.3	23.6
60°-70°	2429.0	27.1
70°-80°	992.0	11.1
80°-90°	47.5	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°	8951.5	100.0
0°-180°	8951.5	100.0



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

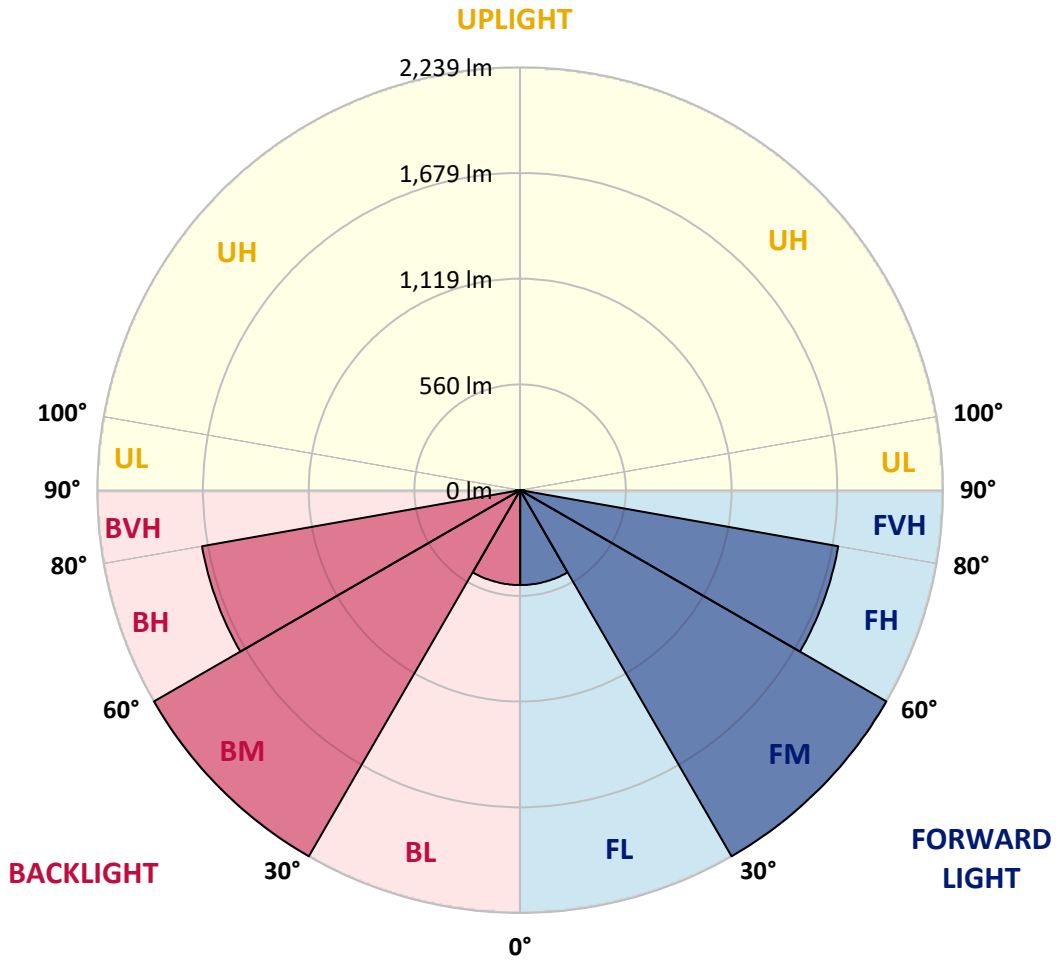
Scaled Data Report

REPORT NUMBER: P867787
CATALOG NUMBER: MEM2-HTN-SA-60-727-U-5MQ

LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit B	U	G
FL	(0°-30°)	502.6	5.6			
FM	(30°-60°)	2239.0	25.0			
FH	(60°-80°)	1710.5	19.1			G1/1800
FVH	(80°-90°)	23.7	0.3			G1/100
BL	(0°-30°)	502.6	5.6	B2/1000		
BM	(30°-60°)	2239.0	25.0	B2/2500		
BH	(60°-80°)	1710.5	19.1	B3/2500		G1/1800
BVH	(80°-90°)	23.7	0.3			G1/100
UL	(90°-100°)	0.0	0.0		U0/0	
UH	(100°-180°)	0.0	0.0		U0/0	

BUG Rating: B3-U0-G1
Type V Short



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

Scaled Data Report

REPORT NUMBER: P867787
CATALOG NUMBER: MEM2-HTN-SA-60-727-U-5MQ

CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	45°	55°	65°	75°	85°	90°
0°	1112.3	1112.3	1112.3	1112.3	1112.3	*1112.3*	1112.3	1112.3	1112.3	1112.3	1112.3
2.5°	1115.7	1115.7	1114.0	1114.0	1110.6	*1114.0*	1112.3	1114.0	1112.3	1112.3	1114.0
5°	1119.2	1119.2	1115.7	1117.4	1114.0	*1115.7*	1114.0	1117.4	1115.7	1114.0	1117.4
7.5°	1124.3	1124.3	1120.9	1122.6	1119.2	*1120.9*	1119.2	1122.6	1120.9	1120.9	1122.6
10°	1129.5	1131.2	1127.8	1126.0	1126.0	*1127.8*	1129.5	1131.2	1129.5	1129.5	1132.9
12.5°	1138.1	1139.8	1136.3	1134.6	1134.6	*1136.3*	1138.1	1141.5	1136.3	1136.3	1136.3
15°	1146.7	1146.7	1144.9	1143.2	1144.9	*1146.7*	1146.7	1150.1	1146.7	1143.2	1143.2
17.5°	1150.1	1151.8	1150.1	1153.5	1155.3	*1157.0*	1158.7	1158.7	1153.5	1151.8	1151.8
20°	1162.1	1163.9	1160.4	1162.1	1167.3	*1174.2*	1174.2	1174.2	1174.2	1169.0	1169.0
22.5°	1182.8	1184.5	1182.8	1182.8	1189.6	*1196.5*	1196.5	1201.7	1194.8	1191.4	1191.4
25°	1217.1	1217.1	1215.4	1217.1	1220.6	*1224.0*	1230.9	1234.3	1234.3	1232.6	1234.3
27.5°	1258.4	1260.1	1258.4	1258.4	1256.7	*1263.6*	1273.9	1279.0	1280.8	1282.5	1282.5
30°	1313.4	1316.9	1315.1	1316.9	1320.3	*1325.5*	1328.9	1330.6	1330.6	1327.2	1327.2
32.5°	1373.6	1377.0	1373.6	1382.2	1394.2	*1394.2*	1390.8	1397.7	1392.5	1389.1	1385.6
35°	1444.1	1444.1	1447.5	1450.9	1468.1	*1476.7*	1476.7	1473.3	1463.0	1457.8	1461.3
37.5°	1524.9	1526.6	1530.0	1531.7	1547.2	*1562.7*	1561.0	1552.4	1540.3	1526.6	1526.6
40°	1621.1	1617.7	1619.4	1631.5	1643.5	*1662.4*	1664.1	1652.1	1631.5	1617.7	1617.7
42.5°	1708.8	1710.5	1717.4	1732.9	1760.4	*1775.9*	1767.3	1746.6	1724.3	1707.1	1705.4
45°	1801.7	1799.9	1818.8	1851.5	1887.6	*1906.5*	1892.8	1863.5	1829.2	1806.8	1806.8
47.5°	1896.2	1894.5	1925.4	1978.7	2025.1	*2040.6*	2026.9	1989.0	1942.6	1910.0	1904.8
50°	1994.2	2001.1	2033.7	2109.4	2169.5	*2186.7*	2169.5	2119.7	2057.8	2014.8	2007.9
52.5°	2105.9	2111.1	2154.1	2236.6	2310.5	*2350.1*	2324.3	2250.3	2171.3	2119.7	2112.8
55°	2209.1	2212.5	2274.4	2374.1	2465.2	*2518.5*	2477.3	2382.7	2283.0	2217.7	2210.8
57.5°	2281.3	2289.9	2369.0	2497.9	2614.8	*2676.7*	2614.8	2513.4	2381.0	2300.2	2295.0
60°	2327.7	2341.5	2432.6	2594.2	2755.8	*2822.8*	2759.2	2618.2	2454.9	2350.1	2344.9
62.5°	2303.6	2322.5	2439.5	2650.9	2876.1	*2948.3*	2865.8	2668.1	2446.3	2314.0	2300.2
65°	*2135.2*	*2148.9*	*2314.0*	*2609.6*	*2920.8*	*3032.6*	*2883.0*	*2613.1*	*2329.4*	*2183.3*	*2155.8*
67.5°	1786.2	1810.2	2028.6	2410.2	2824.5	*2953.5*	2764.4	2415.4	2073.3	1894.5	1863.5
70°	1371.9	1414.8	1653.8	2068.1	2523.7	*2669.8*	2461.8	2038.9	1636.6	1454.4	1397.7
72.5°	792.5	859.6	1210.3	1614.3	2007.9	*2118.0*	1825.7	1425.2	1086.5	957.6	942.1
75°	263.0	287.1	575.9	930.1	1280.8	*1335.8*	1141.5	899.1	715.2	612.0	617.2
77.5°	128.9	128.9	173.6	340.4	582.8	*687.7*	624.0	434.9	312.9	237.2	230.4
80°	103.1	103.1	120.3	166.8	196.0	*230.4*	196.0	142.7	116.9	106.6	111.7
82.5°	49.9	48.1	56.7	80.8	82.5	*79.1*	73.9	73.9	70.5	65.3	63.6
85°	3.4	3.4	6.9	15.5	25.8	*34.4*	39.5	37.8	36.1	30.9	34.4
87.5°	1.7	1.7	1.7	1.7	1.7	*1.7*	1.7	3.4	3.4	3.4	3.4
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: SP1-2407-157-3

Test Date: 08/07/2024

Luminaire Tested: MEM2-HTN-SA-30-727-U-5WQ-2

Data in this report applies to families of products including MEM2-HTN-SA-30-727-U-5WQ-2

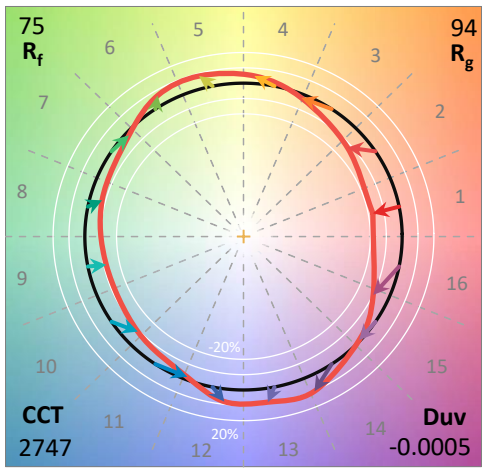
Report Generated By FNC07603 / LDUCLS01DT446
Version: v7.04

Test Information

Test Method:	LM-79-2019
Report Number:	SP1-2407-157-3
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-30-727-U-5WQ-2**
Description:	Epic Modern Light Square 30W 5WQ Optic and Flare Trim

Spectral Parameters

CCT (K):	2747	CRI (Ra):	71.7		
CIE u':	0.2606	R1:	68.1	R9:	-35.3
CIE v':	0.5257	R2:	83.9	R10:	64.2
Duv:	-0.0005	R3:	94.7	R11:	61.7
CIE x:	0.4552	R4:	66.3	R12:	53.9
CIE y:	0.4082	R5:	67.4	R13:	71.2
CIE z:	0.1366	R6:	78.7	R14:	97.6
Peak Wavelength (nm):	597	R7:	75.0	R15:	59.3
Dominant Wavelength (nm):	584	R8:	39.4		
Purity:	59.16856				
Rf:	75.5				
Rg:	93.6				



Test Conditions

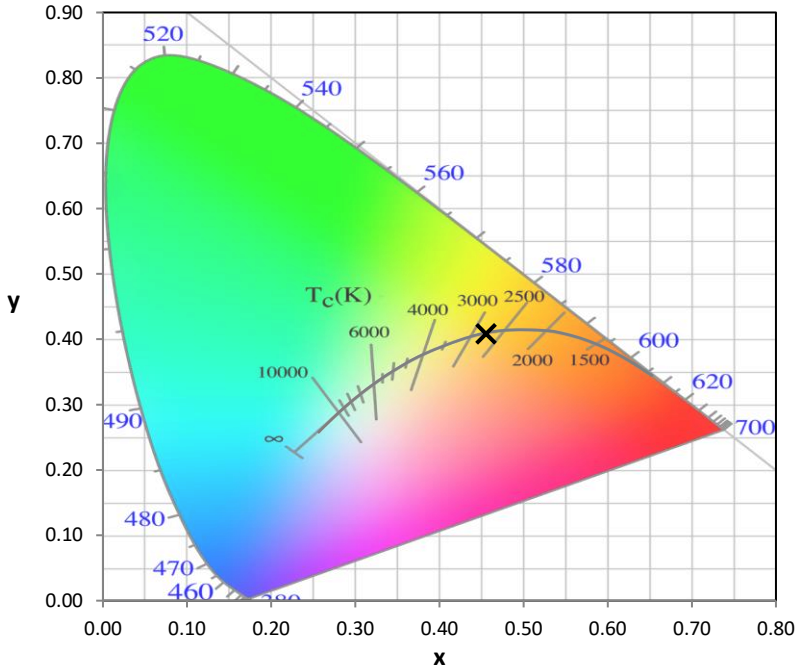
Stabilization Time:	22M
Operation Time:	1H 22M
Sphere Temperature (°C):	24.2

REPORT NUMBER: SP1-2407-157-3

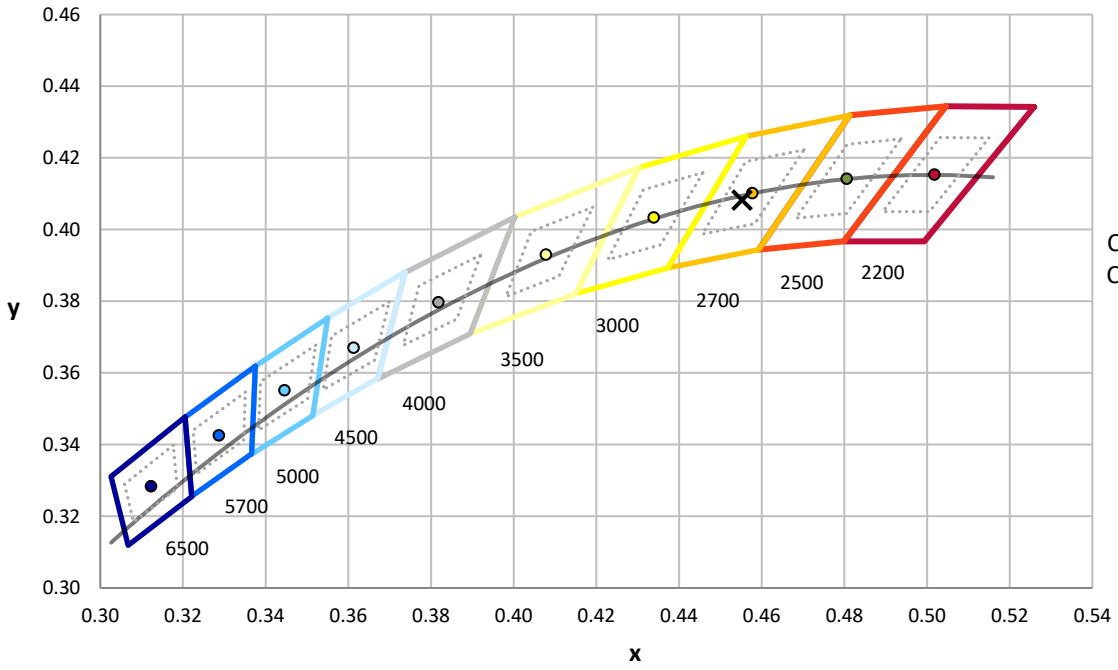
Measurement and Test Equipment			
Instrument	Identification Number	Calibration Date	Calibration Due Date
Photometer	IN0058	6/18/2024	12/18/2024
Power Meter	INXT2011004	2/8/2024	2/8/2025
AC Power Source	IN0063	10/24/2023	10/24/2024
DC Power Source	IN0208	10/24/2023	10/24/2024
Sphere Thermometer	IN0085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

REPORT NUMBER: SP1-2407-157-3

CIE 1931 Chromaticity Diagram



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

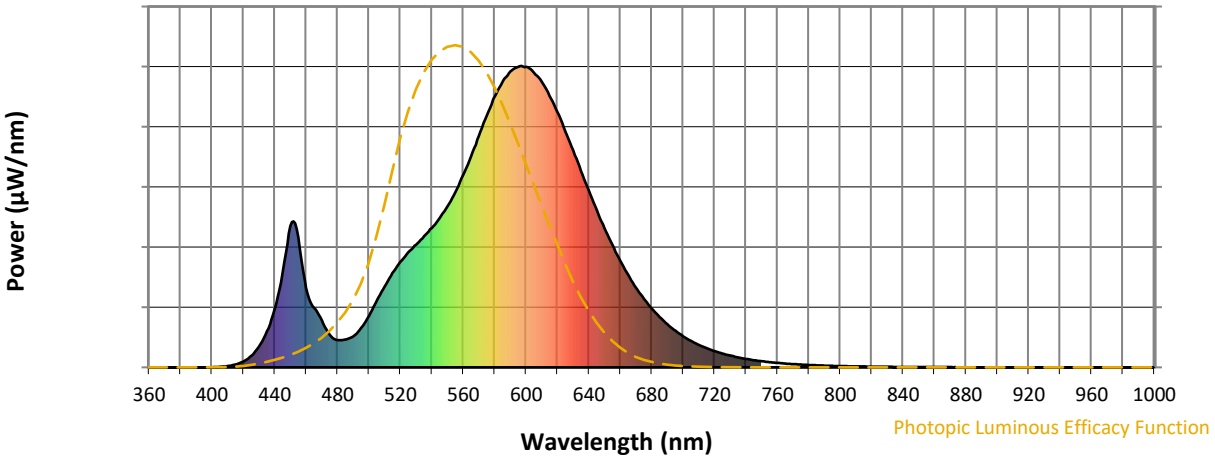


CCT = 2747K
CIE x = 0.4552
CIE y = 0.4082
Duv = -0.0005

Point lies inside the ANSI 2700K 4-step quadrangle

REPORT NUMBER: SP1-2407-157-3

Photopic Flux vs. Wavelength

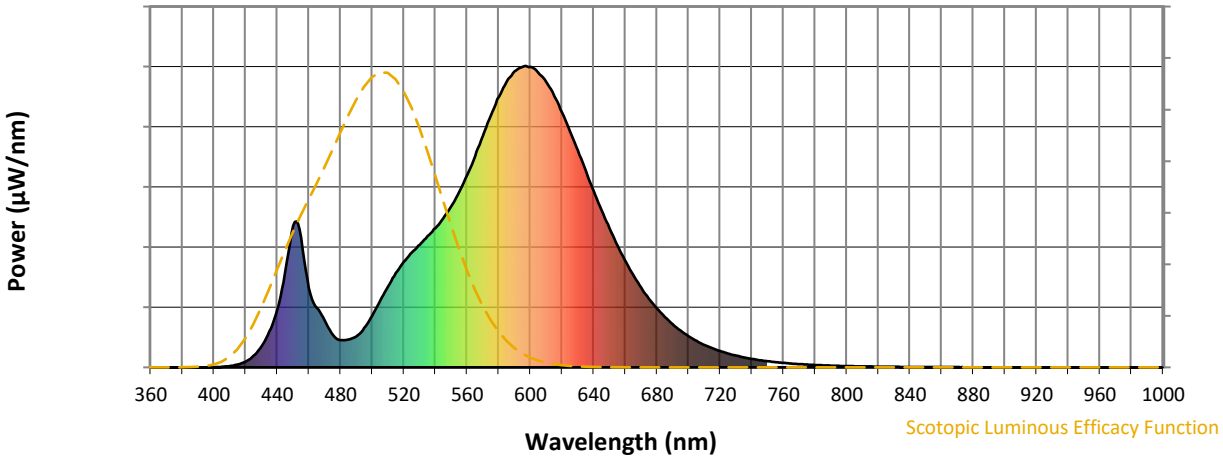


Photopic Lumens: NR

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	103	NR	620	846	NR	750	20	NR	880	0	NR
365	0	NR	495	130	NR	625	784	NR	755	17	NR	885	1	NR
370	0	NR	500	171	NR	630	720	NR	760	15	NR	890	0	NR
375	0	NR	505	221	NR	635	652	NR	765	13	NR	895	0	NR
380	0	NR	510	268	NR	640	587	NR	770	11	NR	900	0	NR
385	0	NR	515	313	NR	645	521	NR	775	9	NR	905	0	NR
390	0	NR	520	350	NR	650	461	NR	780	8	NR	910	0	NR
395	0	NR	525	381	NR	655	406	NR	785	7	NR	915	0	NR
400	0	NR	530	407	NR	660	353	NR	790	6	NR	920	0	NR
405	2	NR	535	435	NR	665	307	NR	795	5	NR	925	0	NR
410	4	NR	540	462	NR	670	264	NR	800	4	NR	930	0	NR
415	9	NR	545	496	NR	675	227	NR	805	4	NR	935	0	NR
420	20	NR	550	534	NR	680	196	NR	810	3	NR	940	0	NR
425	38	NR	555	582	NR	685	167	NR	815	3	NR	945	0	NR
430	69	NR	560	638	NR	690	144	NR	820	2	NR	950	0	NR
435	120	NR	565	700	NR	695	122	NR	825	2	NR	955	0	NR
440	193	NR	570	767	NR	700	103	NR	830	2	NR	960	0	NR
445	316	NR	575	836	NR	705	88	NR	835	2	NR	965	0	NR
450	469	NR	580	898	NR	710	74	NR	840	1	NR	970	0	NR
455	431	NR	585	947	NR	715	63	NR	845	1	NR	975	0	NR
460	264	NR	590	982	NR	720	54	NR	850	1	NR	980	0	NR
465	197	NR	595	997	NR	725	46	NR	855	1	NR	985	0	NR
470	155	NR	600	997	NR	730	39	NR	860	1	NR	990	0	NR
475	108	NR	605	978	NR	735	33	NR	865	1	NR	995	0	NR
480	90	NR	610	947	NR	740	28	NR	870	1	NR	1000	0	NR
485	92	NR	615	900	NR	745	24	NR	875	1	NR			

REPORT NUMBER: SP1-2407-157-3

Scotopic Flux vs. Wavelength

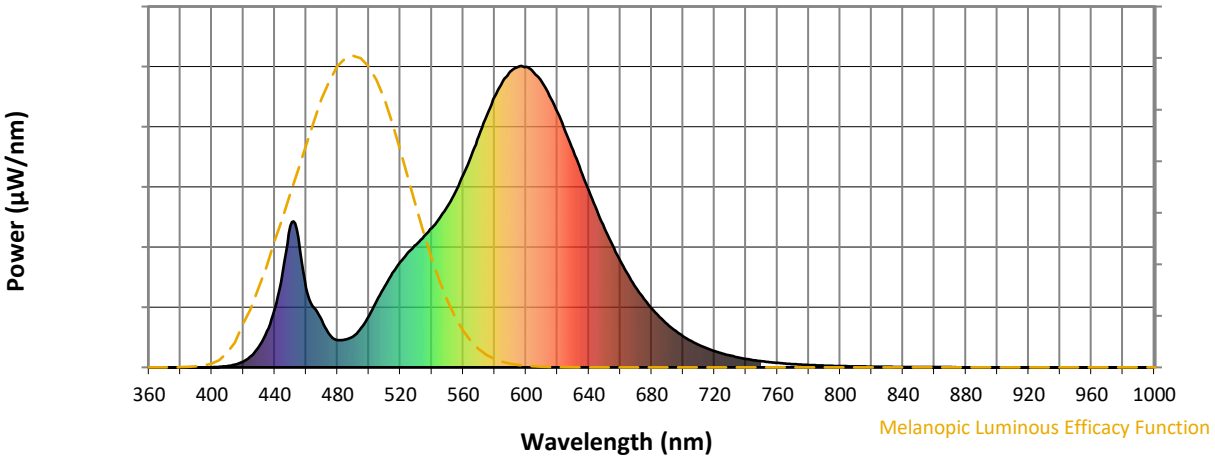


Scotopic Lumens: NR **S/P: 1.13**

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	103	NR	620	846	NR	750	20	NR	880	0	NR
365	0	NR	495	130	NR	625	784	NR	755	17	NR	885	1	NR
370	0	NR	500	171	NR	630	720	NR	760	15	NR	890	0	NR
375	0	NR	505	221	NR	635	652	NR	765	13	NR	895	0	NR
380	0	NR	510	268	NR	640	587	NR	770	11	NR	900	0	NR
385	0	NR	515	313	NR	645	521	NR	775	9	NR	905	0	NR
390	0	NR	520	350	NR	650	461	NR	780	8	NR	910	0	NR
395	0	NR	525	381	NR	655	406	NR	785	7	NR	915	0	NR
400	0	NR	530	407	NR	660	353	NR	790	6	NR	920	0	NR
405	2	NR	535	435	NR	665	307	NR	795	5	NR	925	0	NR
410	4	NR	540	462	NR	670	264	NR	800	4	NR	930	0	NR
415	9	NR	545	496	NR	675	227	NR	805	4	NR	935	0	NR
420	20	NR	550	534	NR	680	196	NR	810	3	NR	940	0	NR
425	38	NR	555	582	NR	685	167	NR	815	3	NR	945	0	NR
430	69	NR	560	638	NR	690	144	NR	820	2	NR	950	0	NR
435	120	NR	565	700	NR	695	122	NR	825	2	NR	955	0	NR
440	193	NR	570	767	NR	700	103	NR	830	2	NR	960	0	NR
445	316	NR	575	836	NR	705	88	NR	835	2	NR	965	0	NR
450	469	NR	580	898	NR	710	74	NR	840	1	NR	970	0	NR
455	431	NR	585	947	NR	715	63	NR	845	1	NR	975	0	NR
460	264	NR	590	982	NR	720	54	NR	850	1	NR	980	0	NR
465	197	NR	595	997	NR	725	46	NR	855	1	NR	985	0	NR
470	155	NR	600	997	NR	730	39	NR	860	1	NR	990	0	NR
475	108	NR	605	978	NR	735	33	NR	865	1	NR	995	0	NR
480	90	NR	610	947	NR	740	28	NR	870	1	NR	1000	0	NR
485	92	NR	615	900	NR	745	24	NR	875	1	NR			

REPORT NUMBER: SP1-2407-157-3

Melanopic Flux vs. Wavelength



Melanopic Lumens: NR **M/P: 2.04**

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	103	NR	620	846	NR	750	20	NR	880	0	NR
365	0	NR	495	130	NR	625	784	NR	755	17	NR	885	1	NR
370	0	NR	500	171	NR	630	720	NR	760	15	NR	890	0	NR
375	0	NR	505	221	NR	635	652	NR	765	13	NR	895	0	NR
380	0	NR	510	268	NR	640	587	NR	770	11	NR	900	0	NR
385	0	NR	515	313	NR	645	521	NR	775	9	NR	905	0	NR
390	0	NR	520	350	NR	650	461	NR	780	8	NR	910	0	NR
395	0	NR	525	381	NR	655	406	NR	785	7	NR	915	0	NR
400	0	NR	530	407	NR	660	353	NR	790	6	NR	920	0	NR
405	2	NR	535	435	NR	665	307	NR	795	5	NR	925	0	NR
410	4	NR	540	462	NR	670	264	NR	800	4	NR	930	0	NR
415	9	NR	545	496	NR	675	227	NR	805	4	NR	935	0	NR
420	20	NR	550	534	NR	680	196	NR	810	3	NR	940	0	NR
425	38	NR	555	582	NR	685	167	NR	815	3	NR	945	0	NR
430	69	NR	560	638	NR	690	144	NR	820	2	NR	950	0	NR
435	120	NR	565	700	NR	695	122	NR	825	2	NR	955	0	NR
440	193	NR	570	767	NR	700	103	NR	830	2	NR	960	0	NR
445	316	NR	575	836	NR	705	88	NR	835	2	NR	965	0	NR
450	469	NR	580	898	NR	710	74	NR	840	1	NR	970	0	NR
455	431	NR	585	947	NR	715	63	NR	845	1	NR	975	0	NR
460	264	NR	590	982	NR	720	54	NR	850	1	NR	980	0	NR
465	197	NR	595	997	NR	725	46	NR	855	1	NR	985	0	NR
470	155	NR	600	997	NR	730	39	NR	860	1	NR	990	0	NR
475	108	NR	605	978	NR	735	33	NR	865	1	NR	995	0	NR
480	90	NR	610	947	NR	740	28	NR	870	1	NR	1000	0	NR
485	92	NR	615	900	NR	745	24	NR	875	1	NR			

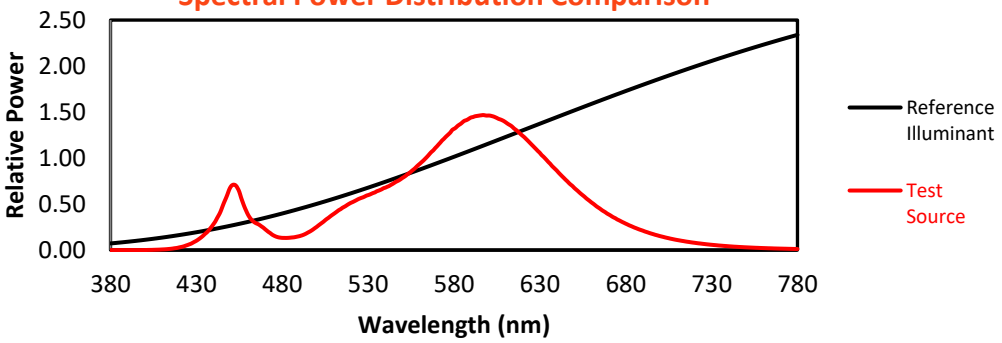
REPORT NUMBER: SP1-2407-157-3

TM-30-18

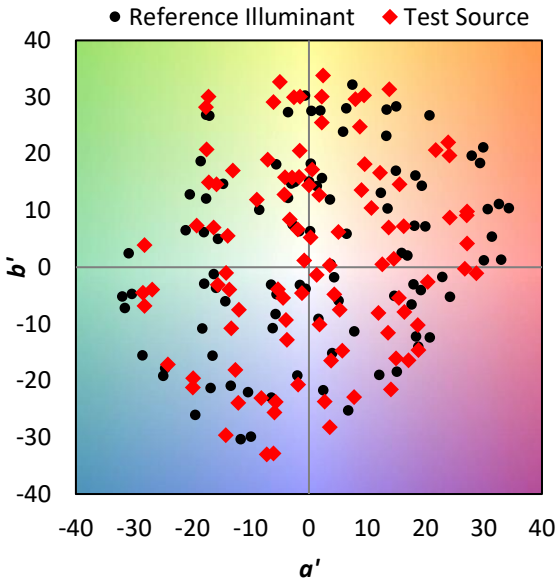
Summary

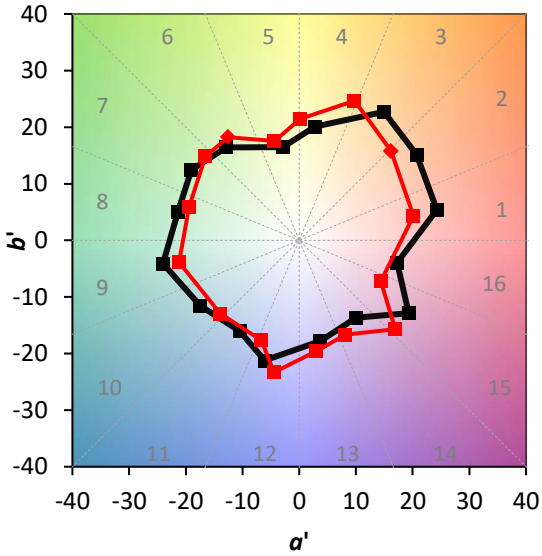
R_f = 75.5
R_g = 93.6
CIE R_a = 71.7
R_9 = -35.3

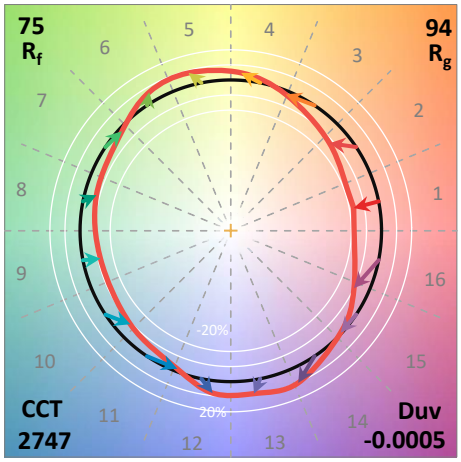
Spectral Power Distribution Comparison

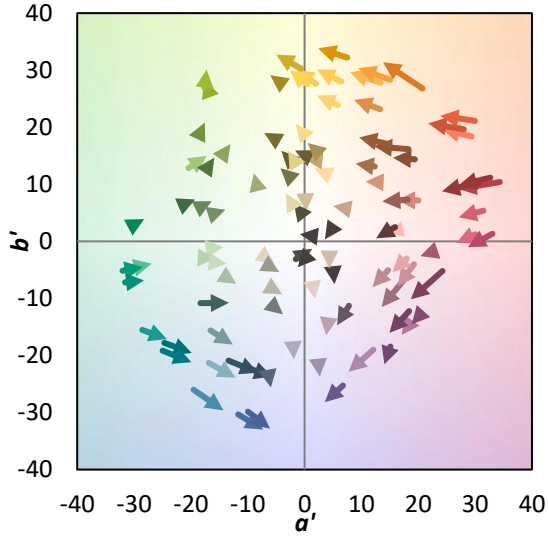


Color Vector Graphics







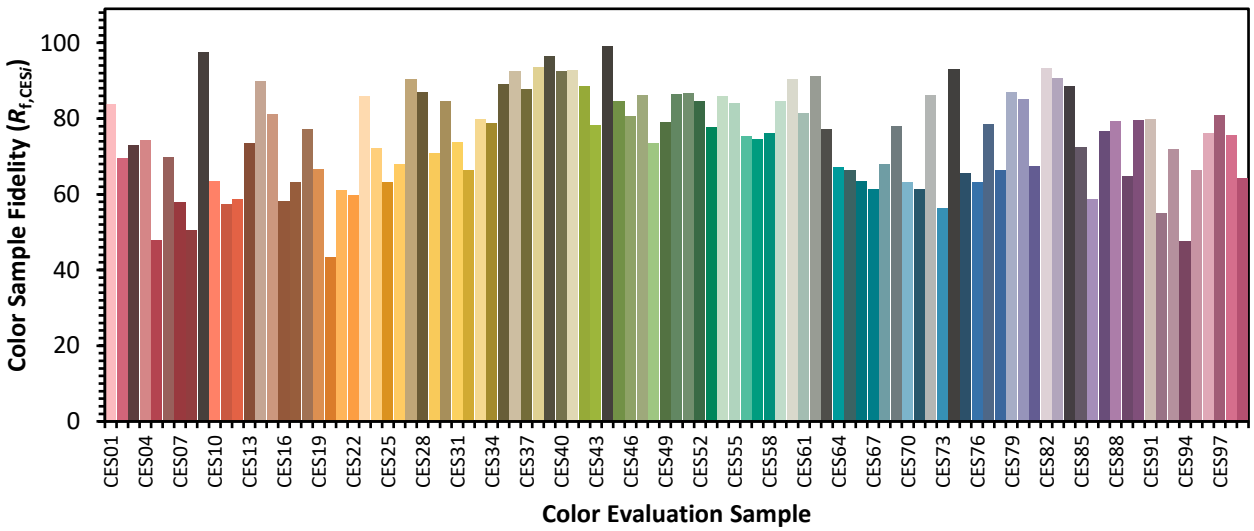


REPORT NUMBER: SP1-2407-157-3

TM-30-18

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

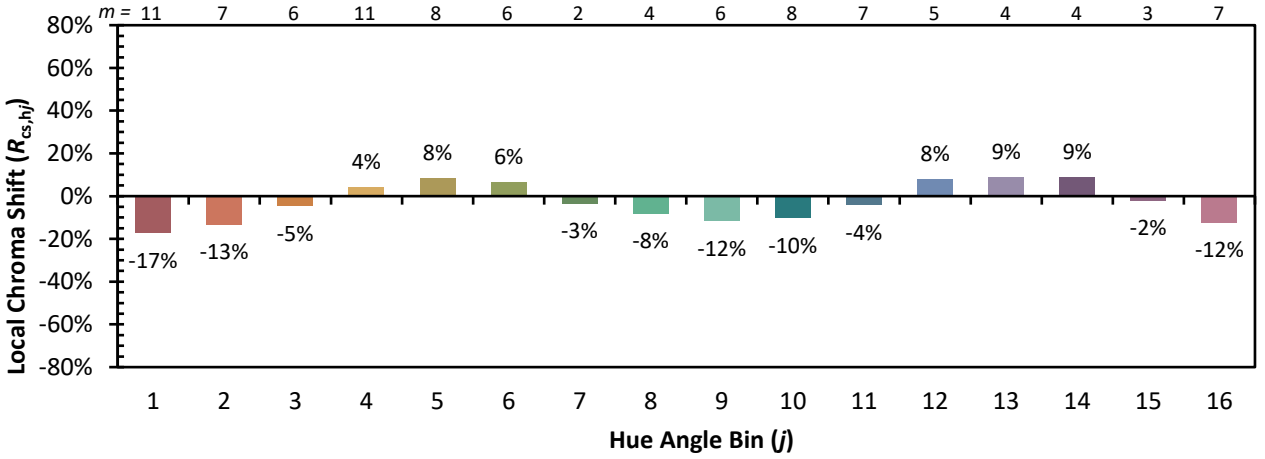
CES01 = 86	CES26 = 68	CES51 = 87	CES76 = 63
CES02 = 63	CES27 = 90	CES52 = 85	CES77 = 79
CES03 = 31	CES28 = 87	CES53 = 78	CES78 = 66
CES04 = 71	CES29 = 71	CES54 = 86	CES79 = 87
CES05 = 50	CES30 = 85	CES55 = 84	CES80 = 85
CES06 = 52	CES31 = 74	CES56 = 75	CES81 = 67
CES07 = 42	CES32 = 66	CES57 = 75	CES82 = 93
CES08 = 41	CES33 = 80	CES58 = 76	CES83 = 91
CES09 = 29	CES34 = 79	CES59 = 85	CES84 = 89
CES10 = 77	CES35 = 89	CES60 = 90	CES85 = 72
CES11 = 60	CES36 = 93	CES61 = 81	CES86 = 59
CES12 = 66	CES37 = 88	CES62 = 91	CES87 = 77
CES13 = 43	CES38 = 93	CES63 = 77	CES88 = 79
CES14 = 74	CES39 = 97	CES64 = 67	CES89 = 65
CES15 = 72	CES40 = 93	CES65 = 66	CES90 = 80
CES16 = 48	CES41 = 93	CES66 = 63	CES91 = 80
CES17 = 51	CES42 = 89	CES67 = 61	CES92 = 55
CES18 = 57	CES43 = 78	CES68 = 68	CES93 = 72
CES19 = 73	CES44 = 99	CES69 = 78	CES94 = 48
CES20 = 67	CES45 = 85	CES70 = 63	CES95 = 66
CES21 = 88	CES46 = 81	CES71 = 61	CES96 = 76
CES22 = 80	CES47 = 86	CES72 = 86	CES97 = 81
CES23 = 92	CES48 = 74	CES73 = 56	CES98 = 76
CES24 = 91	CES49 = 79	CES74 = 93	CES99 = 64
CES25 = 73	CES50 = 86	CES75 = 66	

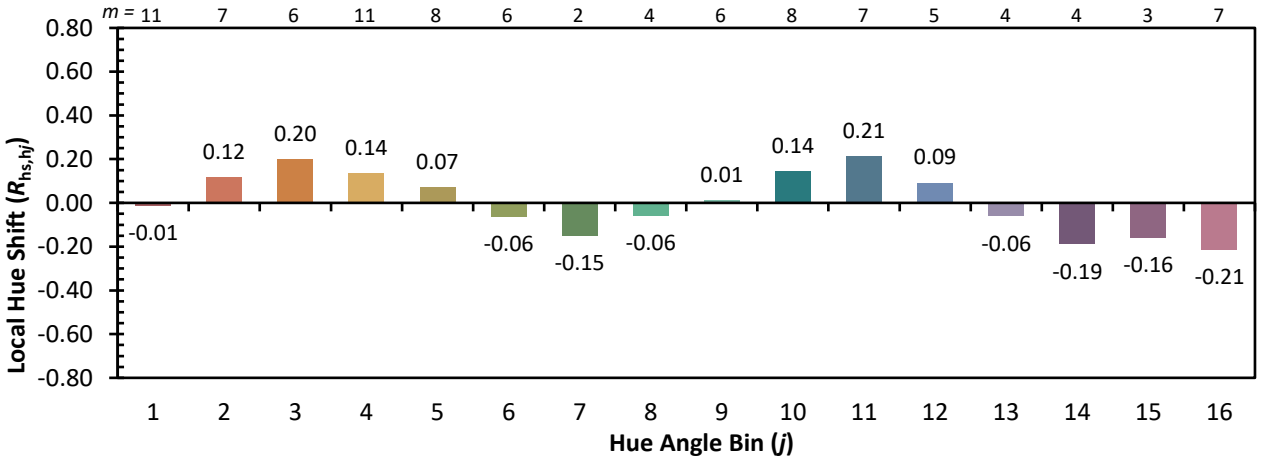


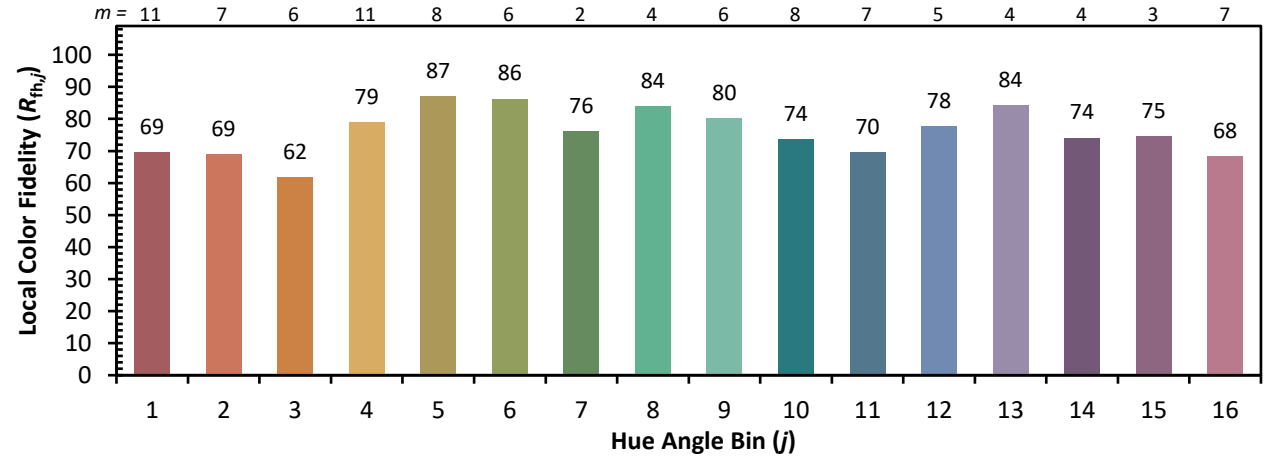
REPORT NUMBER: SP1-2407-157-3

TM-30-18

Color Rendition by Hue-Angle Bin



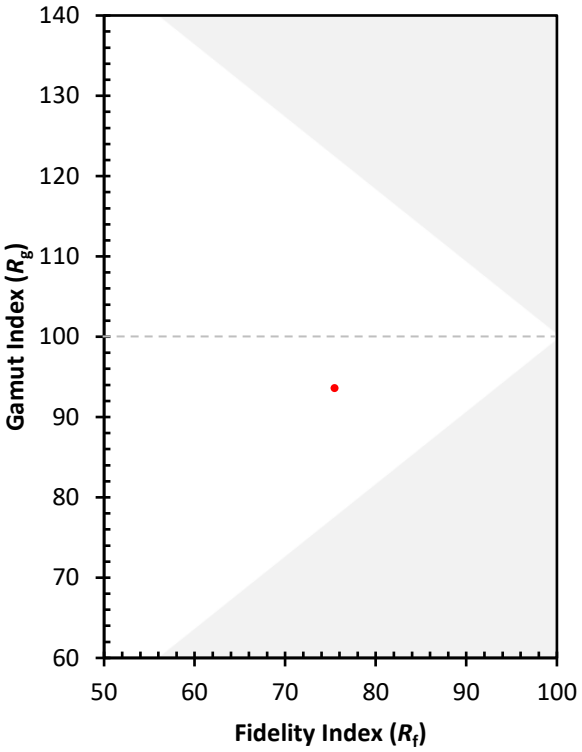


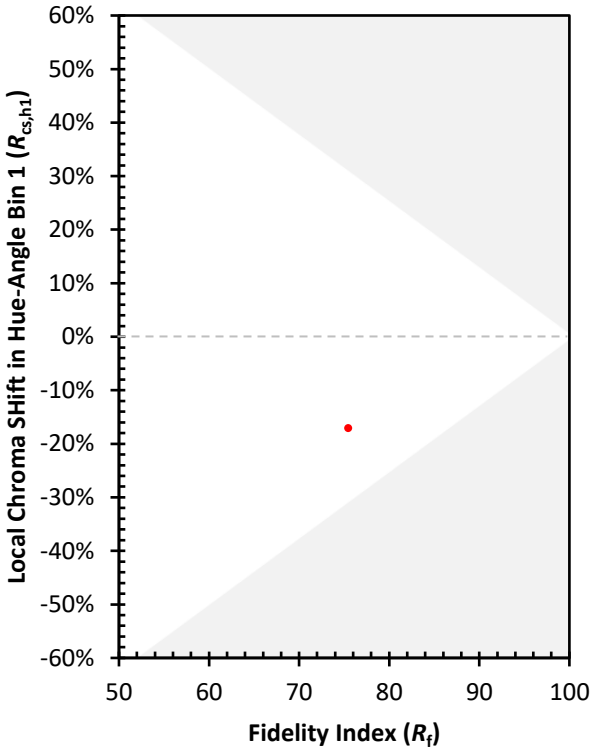


REPORT NUMBER: SP1-2407-157-3

TM-30-18

Measure Comparisons





(END OF REPORT)