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: P868186

Luminaire Tested: **MEM2-HSN-SA-60-740-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:	P868186
Test Lab:	INNOVATION CENTER(G3)
Issue Date:	08/21/2024
Manufacturer:	COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line:	STREETWORKS
Catalog Number:	MEM2-HSN-SA-60-740-U-T5R
Description:	EPIC MODERN SHORT HOUSING DISCRETE LED ARRAYS 60W 70CRI 4000K FIXTURE w/ TYPE V ROUND DISTRIBUTION OPTIC
Light Source:	(20) 4000K CCT, 70 CRI LEDS
Ballast/Driver:	ELECTRONIC DRIVER

Summary

Lumens per Lamp:	N/A
Luminaire Lumens:	9569.2 lumens
Efficiency:	N/A
Efficacy:	156.9 lumens/watt
Luminous Opening:	Rectangular (W 0.67' x L: 0.33' x H: 0')
IES Classification:	Type V - Short
BUG Rating:	B3 - U0 - G2

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

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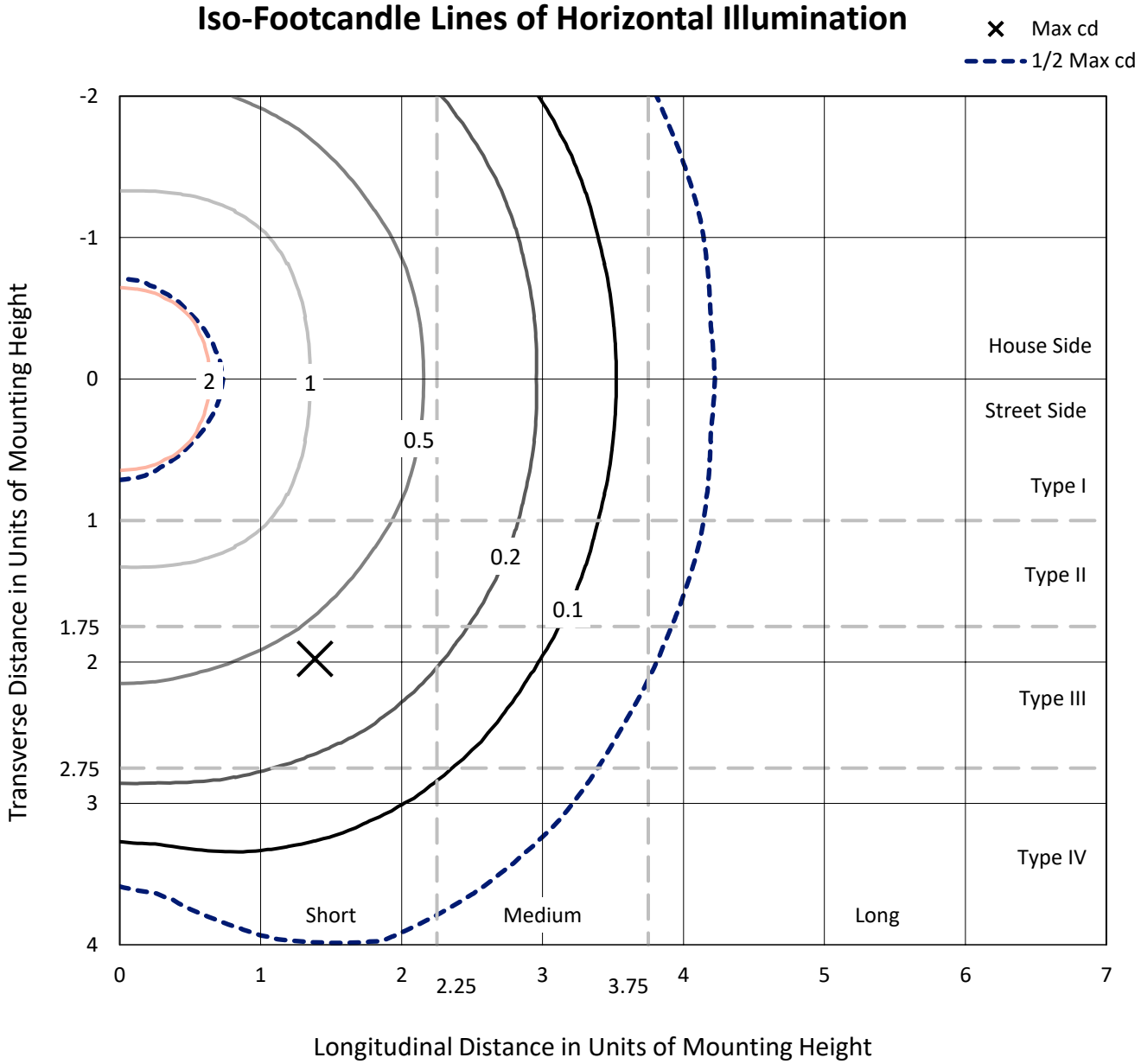
REPORT NUMBER: P868186
CATALOG NUMBER: MEM2-HSN-SA-60-740-U-T5R

Iso-Footcandle Lines of Horizontal Illumination



Based on 20 foot mounting height. Maximum calculated value = 2.3 fc
Type V - Short - N/A

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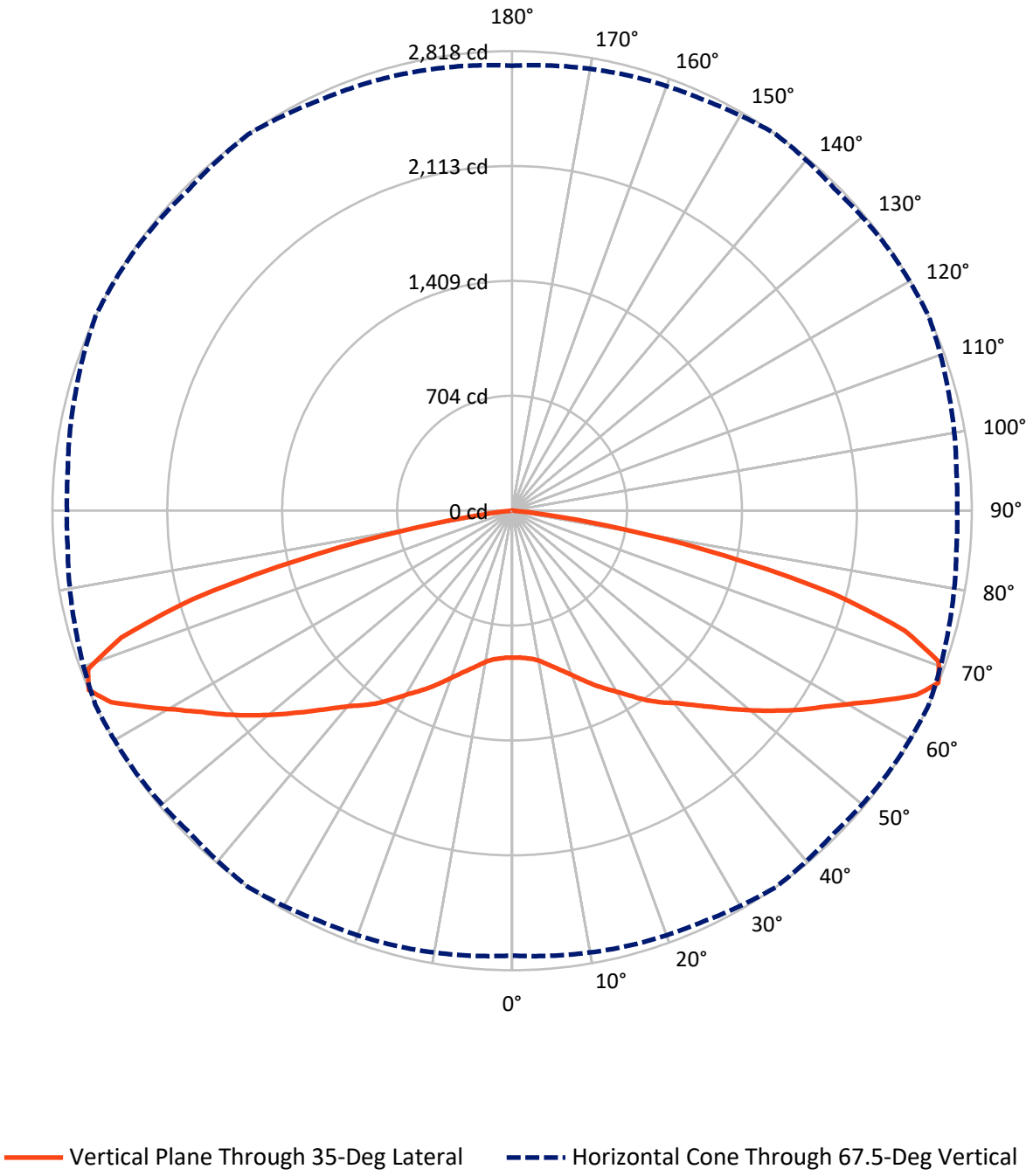
Luminous Intensity Polar Plot



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REPORT NUMBER: P868186
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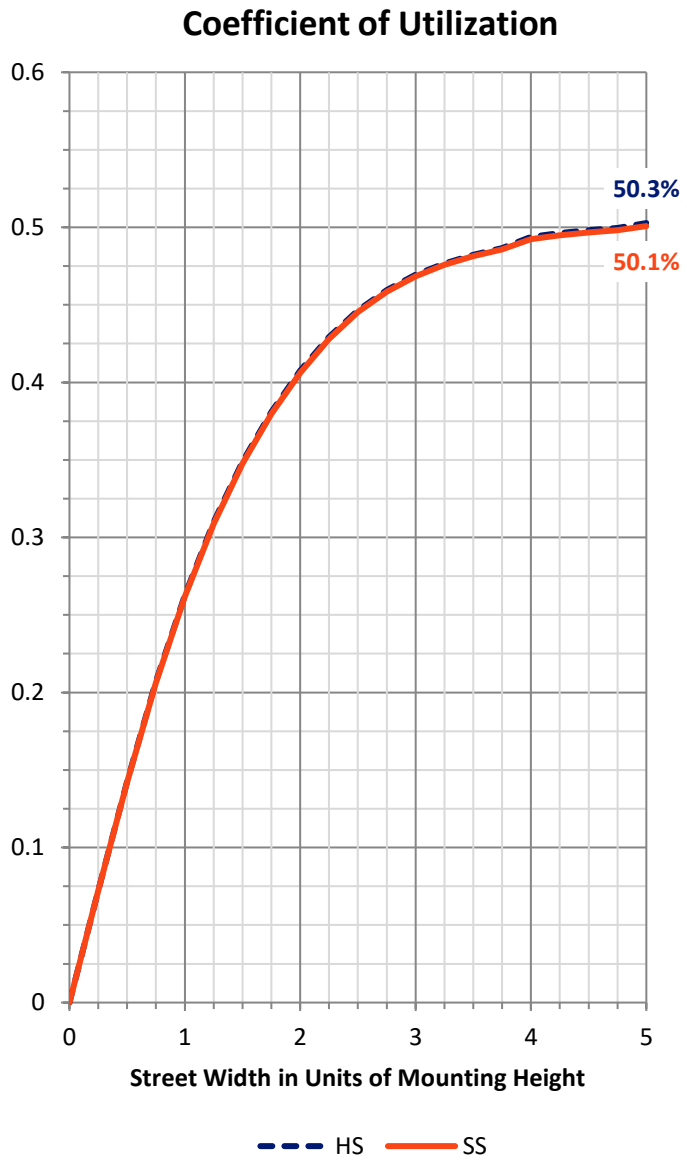
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	4784.6	0.0	4784.6
	% Fixture	50.0	0.0	50.0
Street Side	Lumens	4784.6	0.0	4784.6
	% Fixture	50.0	0.0	50.0
Total	Lumens	9569.2	0.0	9569.2
	% Fixture	100.0	0.0	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	87.6	0.9
10°-20°	287.3	3.0
20°-30°	549.1	5.7
30°-40°	887.3	9.3
40°-50°	1298.7	13.6
50°-60°	1862.3	19.5
60°-70°	2610.2	27.3
70°-80°	1841.7	19.2
80°-90°	145.0	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°	9569.2	100.0
0°-180°	9569.2	100.0



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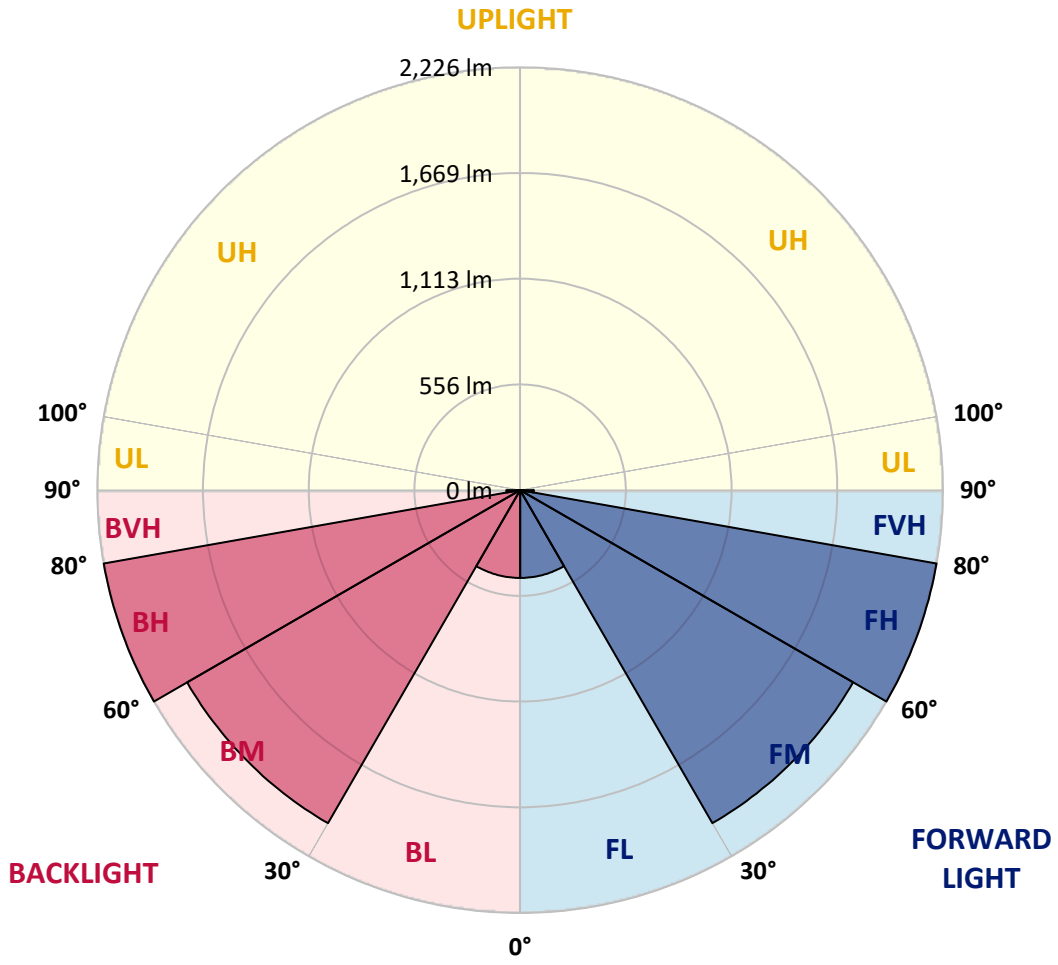
CATALOG NUMBER: MEM2-HSN-SA-60-740-U-T5R

LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit B	U	G
FL	(0°-30°)	462.0	4.8			
FM	(30°-60°)	2024.1	21.2			
FH	(60°-80°)	2225.9	23.3			G2/5000
FVH	(80°-90°)	72.5	0.8			G1/100
BL	(0°-30°)	462.0	4.8	B1/500		
BM	(30°-60°)	2024.1	21.2	B2/2500		
BH	(60°-80°)	2225.9	23.3	B3/2500		G2/5000
BVH	(80°-90°)	72.5	0.8			G1/100
UL	(90°-100°)	0.0	0.0		U0/0	
UH	(100°-180°)	0.0	0.0		U0/0	

BUG Rating: B3-U0-G2
Type V Short



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CATALOG NUMBER: MEM2-HSN-SA-60-740-U-T5R

CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	45°	55°	65°	75°	85°	90°
0°	901.4	901.4	901.4	901.4	*901.4*	901.4	901.4	901.4	901.4	901.4	901.4
2.5°	907.0	905.1	903.3	903.3	*901.4*	903.3	901.4	903.3	901.4	901.4	901.4
5°	912.6	910.7	910.7	910.7	*908.8*	908.8	908.8	908.8	907.0	905.1	907.0
7.5°	918.2	918.2	916.3	920.0	*918.2*	920.0	920.0	921.9	918.2	916.3	918.2
10°	933.1	933.1	933.1	936.8	*936.8*	942.4	942.4	944.2	942.4	938.6	938.6
12.5°	964.7	962.9	962.9	962.9	*966.6*	970.3	974.0	974.0	972.2	966.6	966.6
15°	1000.1	1003.8	1000.1	998.2	*1000.1*	1003.8	1007.5	1007.5	1005.7	1003.8	1003.8
17.5°	1042.9	1044.8	1041.1	1037.3	*1037.3*	1042.9	1044.8	1044.8	1042.9	1039.2	1039.2
20°	1080.2	1082.0	1082.0	1080.2	*1082.0*	1085.8	1087.6	1089.5	1083.9	1078.3	1078.3
22.5°	1111.8	1113.7	1117.4	1124.9	*1132.3*	1136.1	1134.2	1134.2	1124.9	1119.3	1117.4
25°	1151.0	1156.5	1164.0	1173.3	*1186.3*	1195.6	1191.9	1184.5	1177.0	1165.9	1164.0
27.5°	1227.3	1227.3	1219.9	1223.6	*1238.5*	1247.8	1244.1	1238.5	1223.6	1216.1	1214.3
30°	1286.9	1286.9	1286.9	1283.2	*1292.5*	1303.7	1299.9	1290.6	1283.2	1279.5	1279.5
32.5°	1344.6	1340.9	1346.5	1354.0	*1357.7*	1361.4	1361.4	1354.0	1340.9	1335.3	1335.3
35°	1398.6	1402.4	1408.0	1419.1	*1428.4*	1422.9	1413.5	1408.0	1394.9	1383.7	1383.7
37.5°	1450.8	1454.5	1460.1	1476.9	*1491.8*	1489.9	1478.7	1463.8	1447.1	1437.8	1432.2
40°	1488.0	1489.9	1504.8	1530.9	*1551.4*	1558.8	1549.5	1529.0	1502.9	1484.3	1486.2
42.5°	1532.7	1536.5	1560.7	1597.9	*1627.7*	1638.9	1625.9	1597.9	1560.7	1536.5	1536.5
45°	1597.9	1599.8	1631.4	1678.0	*1717.1*	1735.7	1717.1	1678.0	1629.6	1605.4	1603.5
47.5°	1663.1	1668.7	1704.1	1759.9	*1817.7*	1840.0	1819.5	1769.3	1711.5	1681.7	1678.0
50°	1737.6	1741.3	1784.2	1860.5	*1925.7*	1955.5	1929.4	1866.1	1802.8	1765.5	1767.4
52.5°	1810.2	1821.4	1879.1	1959.2	*2037.4*	2071.0	2033.7	1964.8	1897.8	1862.4	1860.5
55°	1918.3	1931.3	1981.6	2071.0	*2152.9*	2190.2	2154.8	2078.4	2005.8	1966.7	1959.2
57.5°	2054.2	2061.7	2106.4	2197.6	*2266.5*	2301.9	2281.4	2210.6	2141.7	2093.3	2084.0
60°	2208.8	2216.2	2251.6	2344.7	*2400.6*	2426.7	2419.2	2378.3	2331.7	2309.4	2303.8
62.5°	2428.5	2430.4	2449.0	2503.0	*2558.9*	2570.1	2551.5	2542.1	2557.0	2532.8	2538.4
65°	2680.0	2680.0	2674.4	2681.8	*2724.7*	2711.6	2698.6	2739.6	2732.1	2691.1	2683.7
67.5°	*2728.4*	*2739.6*	*2761.9*	*2778.7*	*2817.8*	*2793.6*	*2810.3*	*2817.8*	*2771.2*	*2734.0*	*2728.4*
70°	2441.6	2454.6	2579.4	2655.8	*2774.9*	2797.3	2743.3	2715.4	2663.2	2594.3	2575.7
72.5°	1665.0	1730.2	2089.6	2335.4	*2517.9*	2545.9	2516.1	2480.7	2376.4	2322.4	2285.1
75°	1329.7	1365.1	1685.5	1927.6	*2035.6*	2033.7	1914.5	1875.4	1793.5	1786.0	1793.5
77.5°	812.0	819.4	1134.2	1324.2	*1337.2*	1329.7	1281.3	1251.5	1262.7	1206.8	1216.1
80°	247.7	270.0	428.3	646.2	*694.7*	672.3	663.0	674.2	685.4	702.1	728.2
82.5°	50.3	63.3	85.7	186.2	*212.3*	210.4	208.6	230.9	251.4	260.7	316.6
85°	5.6	5.6	7.4	14.9	*31.7*	50.3	52.1	46.6	70.8	68.9	48.4
87.5°	1.9	1.9	1.9	1.9	*1.9*	3.7	3.7	3.7	3.7	3.7	3.7
90°	0.0	0.0	0.0	0.0	*0.0*	0.0	0.0	0.0	0.0	0.0	0.0

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

Report Prepared for

Cooper Lighting Solutions

Streetworks

Report Number: SP1-2407-157-5

Test Date: 08/07/2024

Luminaire Tested: MEM2-HTN-SA-30-740-U-5WQ-2

Data in this report applies to families of products including MEM2-HTN-SA-30-740-U-5WQ-2

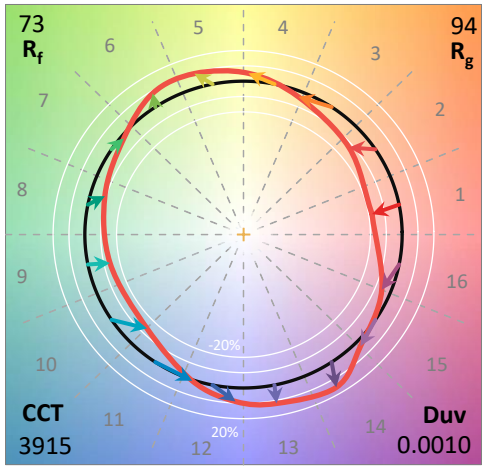
Report Generated By FNC07603 / LDUCLS01DT446
Version: v7.04

Test Information

Test Method:	LM-79-2019
Report Number:	SP1-2407-157-5
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-30-740-U-5WQ-2**
Description:	Epic Modern Light Square 30W 5WQ Optic and Flare Trim

Spectral Parameters

CCT (K):	3915	CRI (Ra):	71.0		
CIE u':	0.2262	R1:	67.6	R9:	-38.4
CIE v':	0.5044	R2:	78.3	R10:	48.9
Duv:	0.0010	R3:	87.1	R11:	65.3
CIE x:	0.3850	R4:	69.7	R12:	40.4
CIE y:	0.3816	R5:	67.4	R13:	69.3
CIE z:	0.2334	R6:	69.3	R14:	92.6
Peak Wavelength (nm):	449	R7:	79.7	R15:	59.9
Dominant Wavelength (nm):	578	R8:	48.7		
Purity:	30.05482				
Rf:	73.2				
Rg:	93.9				



Test Conditions

Stabilization Time:	21M
Operation Time:	1H 21M
Sphere Temperature (°C):	24.2

REPORT NUMBER: SP1-2407-157-5

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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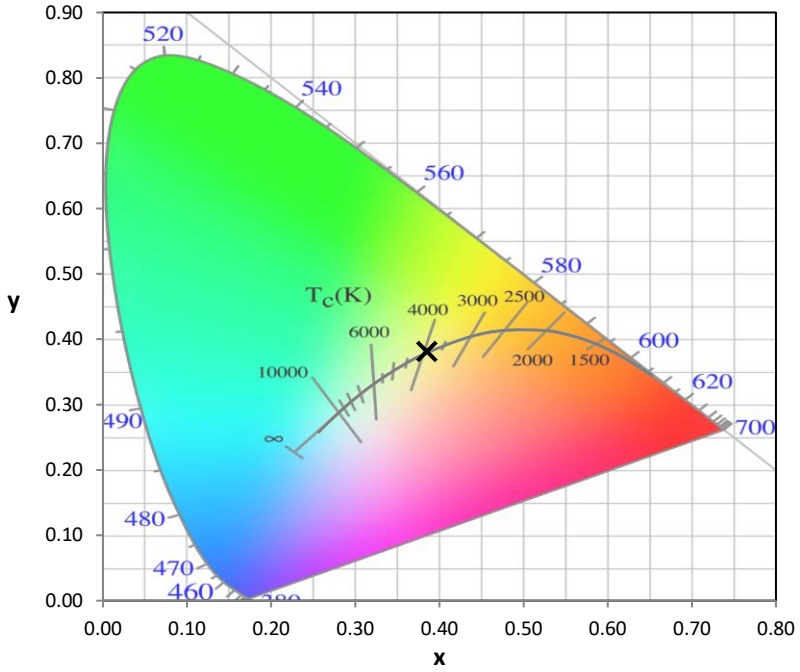
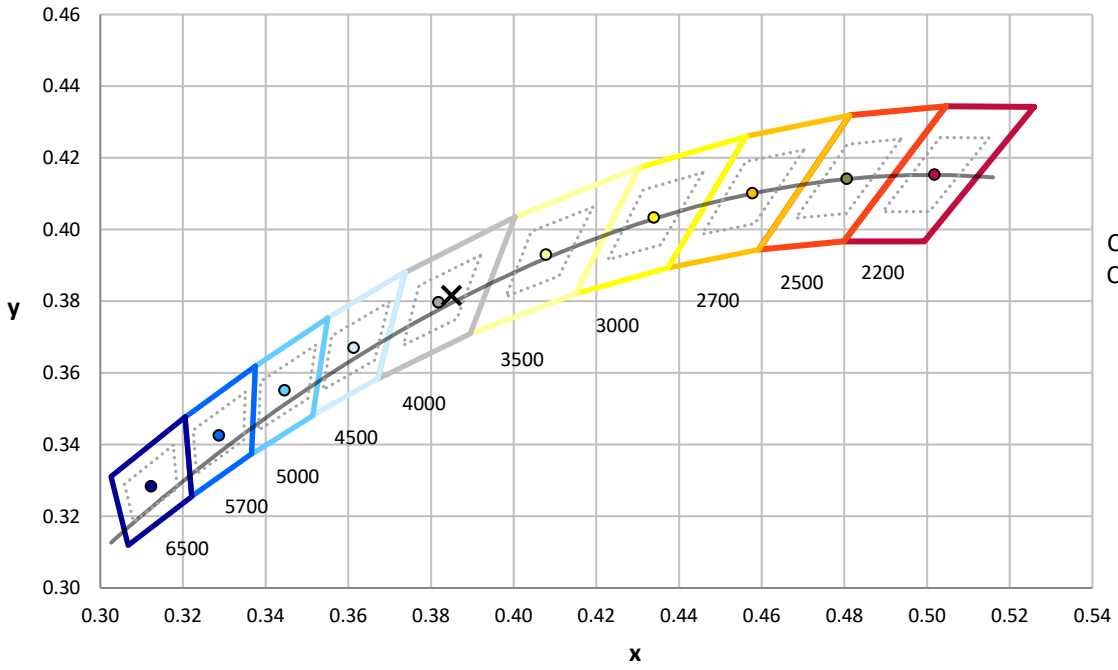
CIE 1931 Chromaticity Diagram



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



CCT = 3915K
CIE x = 0.3850
CIE y = 0.3816
Duv = 0.0010

Point lies inside the ANSI 4000K 4-step quadrangle

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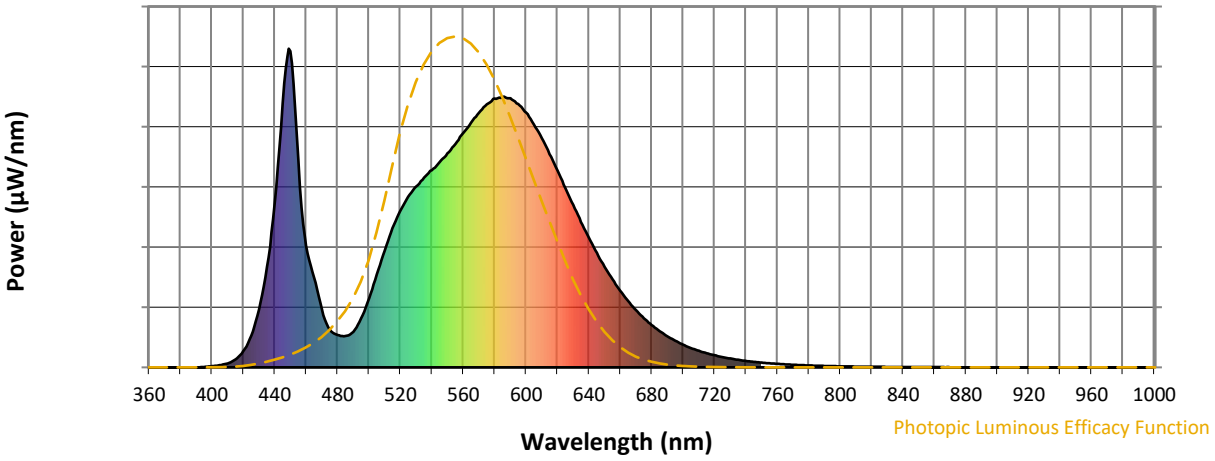
Photopic Flux vs. Wavelength

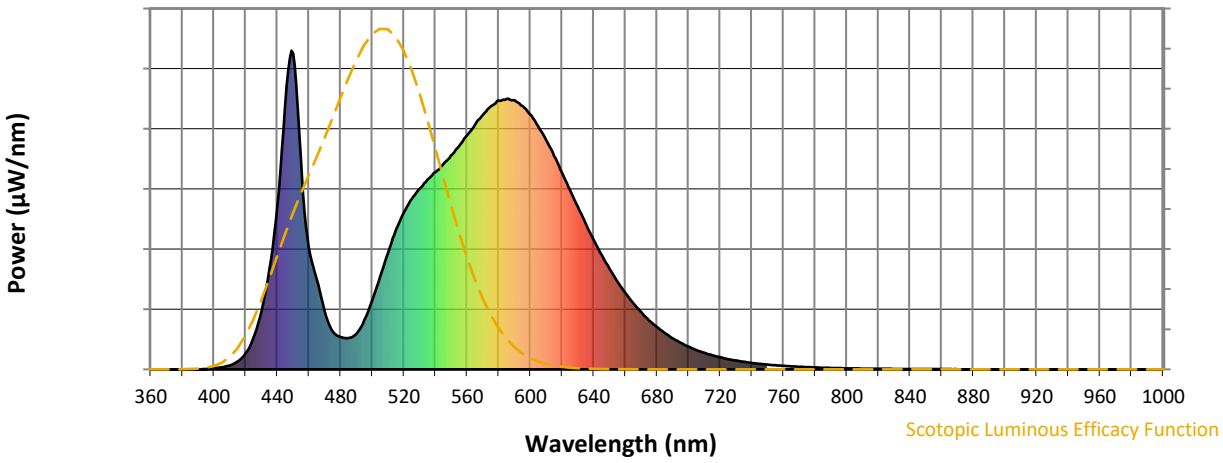


Photopic Lumens: NR

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	112	NR	620	618	NR	750	15	NR	880	0	NR
365	0	NR	495	153	NR	625	563	NR	755	13	NR	885	0	NR
370	0	NR	500	216	NR	630	510	NR	760	11	NR	890	0	NR
375	0	NR	505	291	NR	635	456	NR	765	9	NR	895	0	NR
380	0	NR	510	366	NR	640	407	NR	770	8	NR	900	0	NR
385	0	NR	515	436	NR	645	359	NR	775	7	NR	905	0	NR
390	0	NR	520	492	NR	650	316	NR	780	6	NR	910	0	NR
395	2	NR	525	536	NR	655	277	NR	785	5	NR	915	0	NR
400	4	NR	530	567	NR	660	240	NR	790	4	NR	920	0	NR
405	7	NR	535	596	NR	665	208	NR	795	4	NR	925	0	NR
410	12	NR	540	619	NR	670	179	NR	800	3	NR	930	0	NR
415	25	NR	545	644	NR	675	154	NR	805	3	NR	935	0	NR
420	51	NR	550	671	NR	680	133	NR	810	3	NR	940	0	NR
425	100	NR	555	701	NR	685	114	NR	815	2	NR	945	0	NR
430	180	NR	560	735	NR	690	98	NR	820	2	NR	950	0	NR
435	315	NR	565	768	NR	695	83	NR	825	2	NR	955	0	NR
440	514	NR	570	798	NR	700	71	NR	830	1	NR	960	0	NR
445	828	NR	575	825	NR	705	61	NR	835	1	NR	965	0	NR
450	992	NR	580	843	NR	710	52	NR	840	1	NR	970	0	NR
455	652	NR	585	848	NR	715	44	NR	845	1	NR	975	0	NR
460	382	NR	590	844	NR	720	38	NR	850	1	NR	980	0	NR
465	282	NR	595	826	NR	725	32	NR	855	1	NR	985	0	NR
470	180	NR	600	800	NR	730	28	NR	860	1	NR	990	0	NR
475	119	NR	605	762	NR	735	24	NR	865	1	NR	995	0	NR
480	101	NR	610	719	NR	740	20	NR	870	1	NR	1000	0	NR
485	98	NR	615	669	NR	745	17	NR	875	0	NR			

REPORT NUMBER: SP1-2407-157-5

Scotopic Flux vs. Wavelength

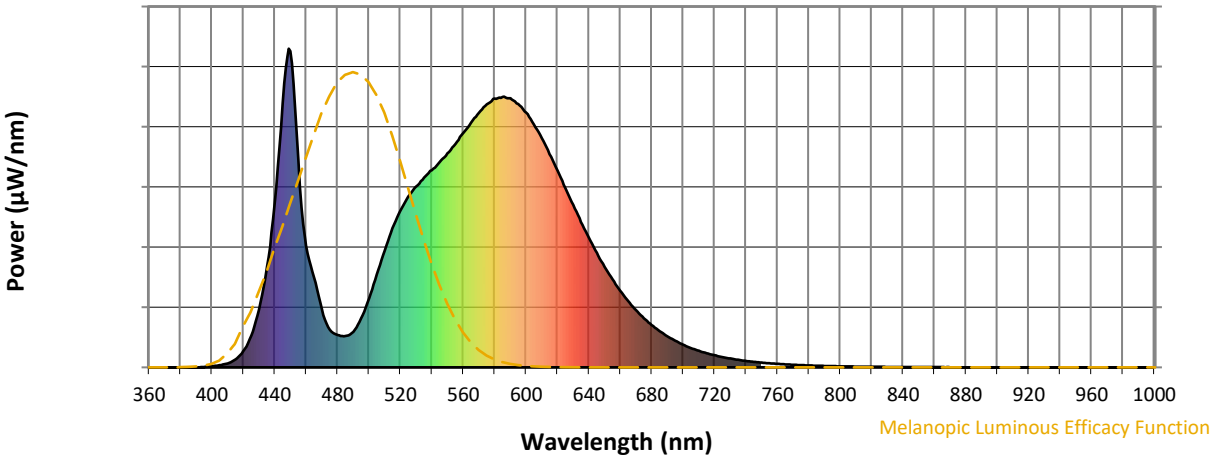


Scotopic Lumens: NR **S/P: 1.49**

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	112	NR	620	618	NR	750	15	NR	880	0	NR
365	0	NR	495	153	NR	625	563	NR	755	13	NR	885	0	NR
370	0	NR	500	216	NR	630	510	NR	760	11	NR	890	0	NR
375	0	NR	505	291	NR	635	456	NR	765	9	NR	895	0	NR
380	0	NR	510	366	NR	640	407	NR	770	8	NR	900	0	NR
385	0	NR	515	436	NR	645	359	NR	775	7	NR	905	0	NR
390	0	NR	520	492	NR	650	316	NR	780	6	NR	910	0	NR
395	2	NR	525	536	NR	655	277	NR	785	5	NR	915	0	NR
400	4	NR	530	567	NR	660	240	NR	790	4	NR	920	0	NR
405	7	NR	535	596	NR	665	208	NR	795	4	NR	925	0	NR
410	12	NR	540	619	NR	670	179	NR	800	3	NR	930	0	NR
415	25	NR	545	644	NR	675	154	NR	805	3	NR	935	0	NR
420	51	NR	550	671	NR	680	133	NR	810	3	NR	940	0	NR
425	100	NR	555	701	NR	685	114	NR	815	2	NR	945	0	NR
430	180	NR	560	735	NR	690	98	NR	820	2	NR	950	0	NR
435	315	NR	565	768	NR	695	83	NR	825	2	NR	955	0	NR
440	514	NR	570	798	NR	700	71	NR	830	1	NR	960	0	NR
445	828	NR	575	825	NR	705	61	NR	835	1	NR	965	0	NR
450	992	NR	580	843	NR	710	52	NR	840	1	NR	970	0	NR
455	652	NR	585	848	NR	715	44	NR	845	1	NR	975	0	NR
460	382	NR	590	844	NR	720	38	NR	850	1	NR	980	0	NR
465	282	NR	595	826	NR	725	32	NR	855	1	NR	985	0	NR
470	180	NR	600	800	NR	730	28	NR	860	1	NR	990	0	NR
475	119	NR	605	762	NR	735	24	NR	865	1	NR	995	0	NR
480	101	NR	610	719	NR	740	20	NR	870	1	NR	1000	0	NR
485	98	NR	615	669	NR	745	17	NR	875	0	NR			

REPORT NUMBER: SP1-2407-157-5

Melanopic Flux vs. Wavelength



Melanopic Lumens: NR **M/P: 2.88**

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	112	NR	620	618	NR	750	15	NR	880	0	NR
365	0	NR	495	153	NR	625	563	NR	755	13	NR	885	0	NR
370	0	NR	500	216	NR	630	510	NR	760	11	NR	890	0	NR
375	0	NR	505	291	NR	635	456	NR	765	9	NR	895	0	NR
380	0	NR	510	366	NR	640	407	NR	770	8	NR	900	0	NR
385	0	NR	515	436	NR	645	359	NR	775	7	NR	905	0	NR
390	0	NR	520	492	NR	650	316	NR	780	6	NR	910	0	NR
395	2	NR	525	536	NR	655	277	NR	785	5	NR	915	0	NR
400	4	NR	530	567	NR	660	240	NR	790	4	NR	920	0	NR
405	7	NR	535	596	NR	665	208	NR	795	4	NR	925	0	NR
410	12	NR	540	619	NR	670	179	NR	800	3	NR	930	0	NR
415	25	NR	545	644	NR	675	154	NR	805	3	NR	935	0	NR
420	51	NR	550	671	NR	680	133	NR	810	3	NR	940	0	NR
425	100	NR	555	701	NR	685	114	NR	815	2	NR	945	0	NR
430	180	NR	560	735	NR	690	98	NR	820	2	NR	950	0	NR
435	315	NR	565	768	NR	695	83	NR	825	2	NR	955	0	NR
440	514	NR	570	798	NR	700	71	NR	830	1	NR	960	0	NR
445	828	NR	575	825	NR	705	61	NR	835	1	NR	965	0	NR
450	992	NR	580	843	NR	710	52	NR	840	1	NR	970	0	NR
455	652	NR	585	848	NR	715	44	NR	845	1	NR	975	0	NR
460	382	NR	590	844	NR	720	38	NR	850	1	NR	980	0	NR
465	282	NR	595	826	NR	725	32	NR	855	1	NR	985	0	NR
470	180	NR	600	800	NR	730	28	NR	860	1	NR	990	0	NR
475	119	NR	605	762	NR	735	24	NR	865	1	NR	995	0	NR
480	101	NR	610	719	NR	740	20	NR	870	1	NR	1000	0	NR
485	98	NR	615	669	NR	745	17	NR	875	0	NR			

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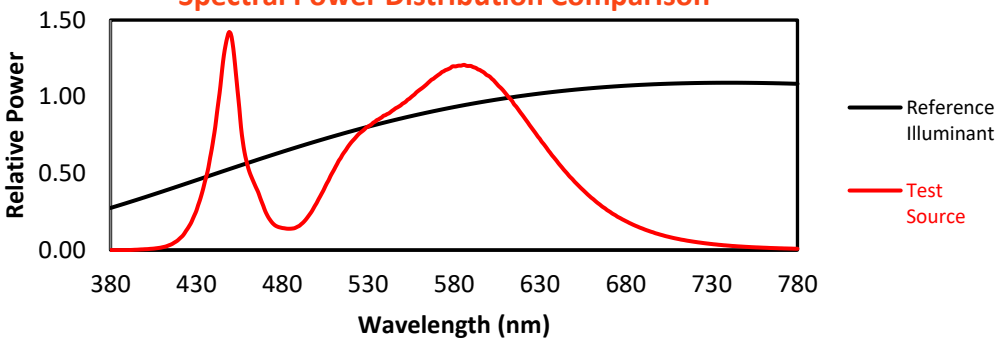
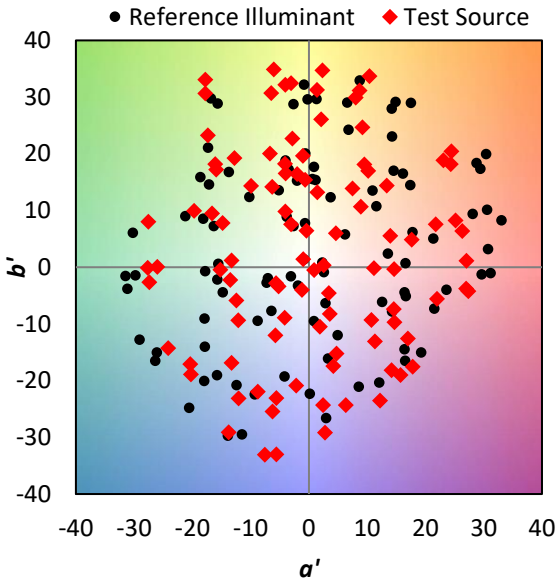
Summary

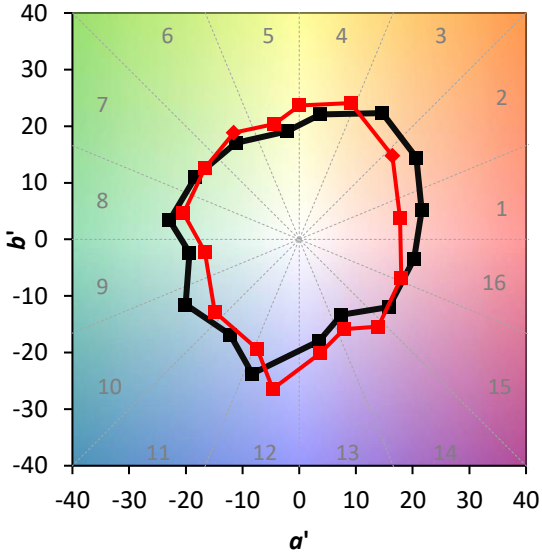
R_f = 73.2
R_g = 93.9
CIE R_a = 71.0
R_9 = -38.4

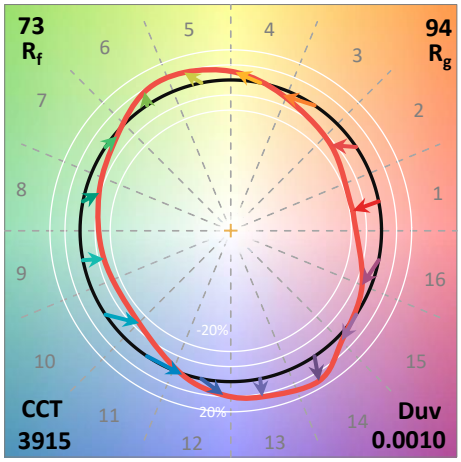
Spectral Power Distribution Comparison

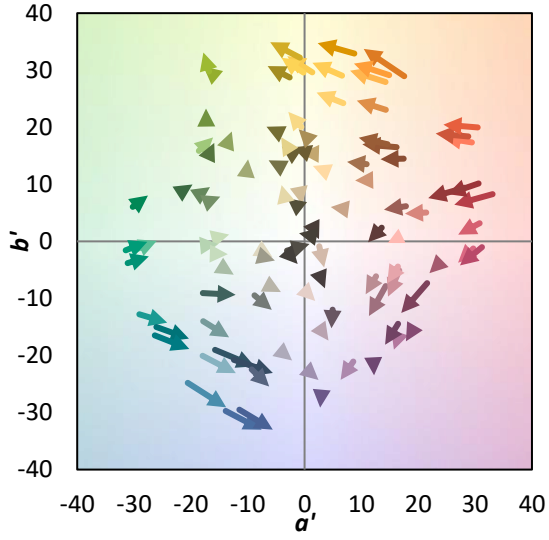


Color Vector Graphics









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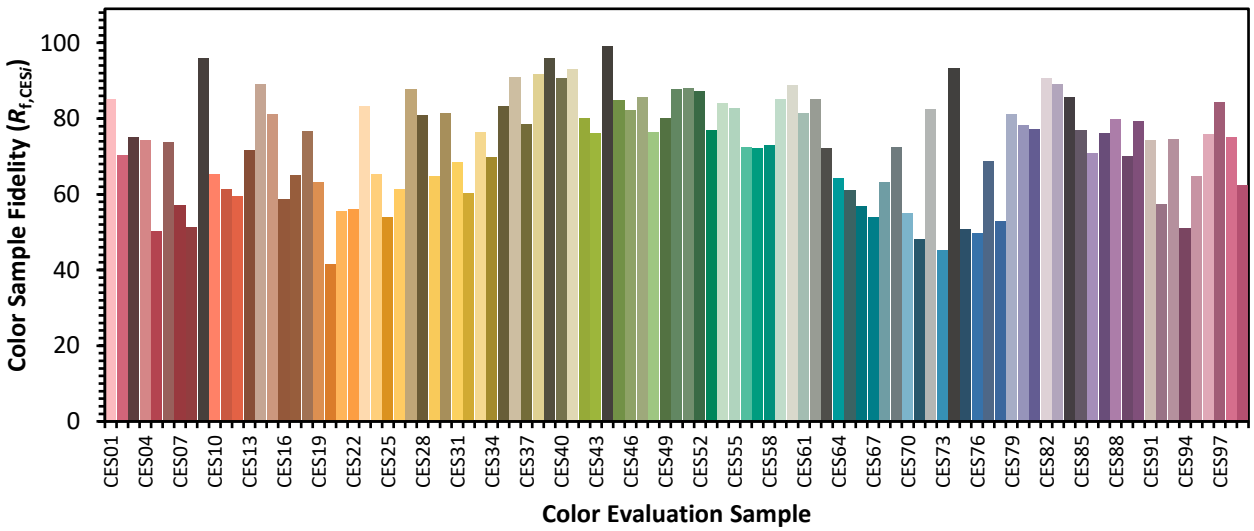
Individual Sample Fidelity Index ($R_{f,i}$)

CES01 = 85	CES26 = 61	CES51 = 88	CES76 = 50
CES02 = 61	CES27 = 88	CES52 = 87	CES77 = 69
CES03 = 30	CES28 = 81	CES53 = 77	CES78 = 53
CES04 = 70	CES29 = 65	CES54 = 84	CES79 = 81
CES05 = 47	CES30 = 81	CES55 = 83	CES80 = 78
CES06 = 50	CES31 = 69	CES56 = 73	CES81 = 77
CES07 = 40	CES32 = 60	CES57 = 72	CES82 = 91
CES08 = 39	CES33 = 76	CES58 = 73	CES83 = 89
CES09 = 29	CES34 = 70	CES59 = 85	CES84 = 86
CES10 = 74	CES35 = 83	CES60 = 89	CES85 = 77
CES11 = 57	CES36 = 91	CES61 = 81	CES86 = 71
CES12 = 63	CES37 = 79	CES62 = 85	CES87 = 76
CES13 = 42	CES38 = 92	CES63 = 72	CES88 = 80
CES14 = 74	CES39 = 96	CES64 = 64	CES89 = 70
CES15 = 71	CES40 = 91	CES65 = 61	CES90 = 79
CES16 = 46	CES41 = 93	CES66 = 57	CES91 = 74
CES17 = 49	CES42 = 80	CES67 = 54	CES92 = 57
CES18 = 56	CES43 = 76	CES68 = 63	CES93 = 74
CES19 = 72	CES44 = 99	CES69 = 73	CES94 = 51
CES20 = 65	CES45 = 85	CES70 = 55	CES95 = 65
CES21 = 86	CES46 = 82	CES71 = 48	CES96 = 76
CES22 = 78	CES47 = 86	CES72 = 83	CES97 = 84
CES23 = 92	CES48 = 77	CES73 = 45	CES98 = 75
CES24 = 91	CES49 = 80	CES74 = 93	CES99 = 62
CES25 = 72	CES50 = 88	CES75 = 51	



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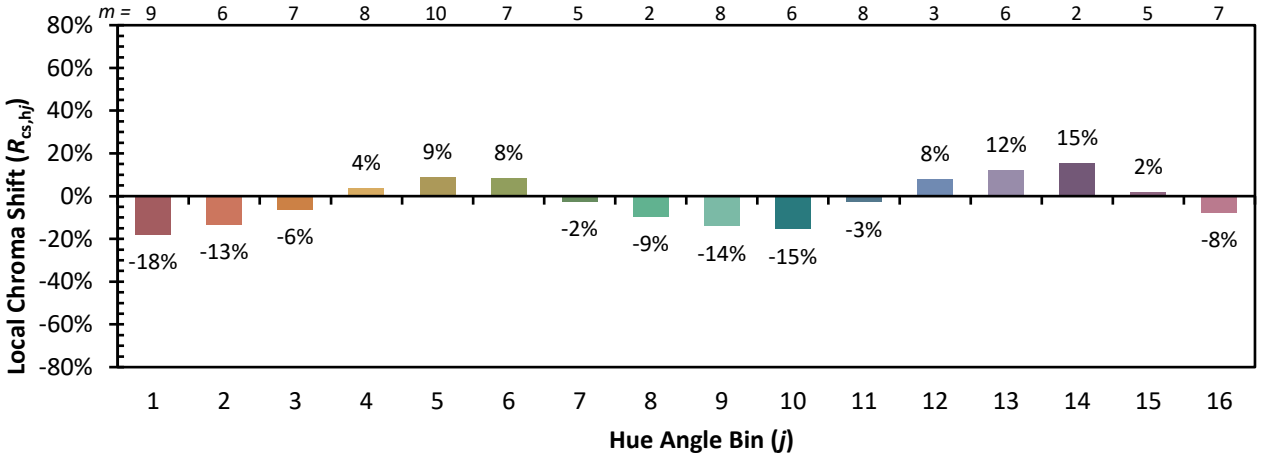
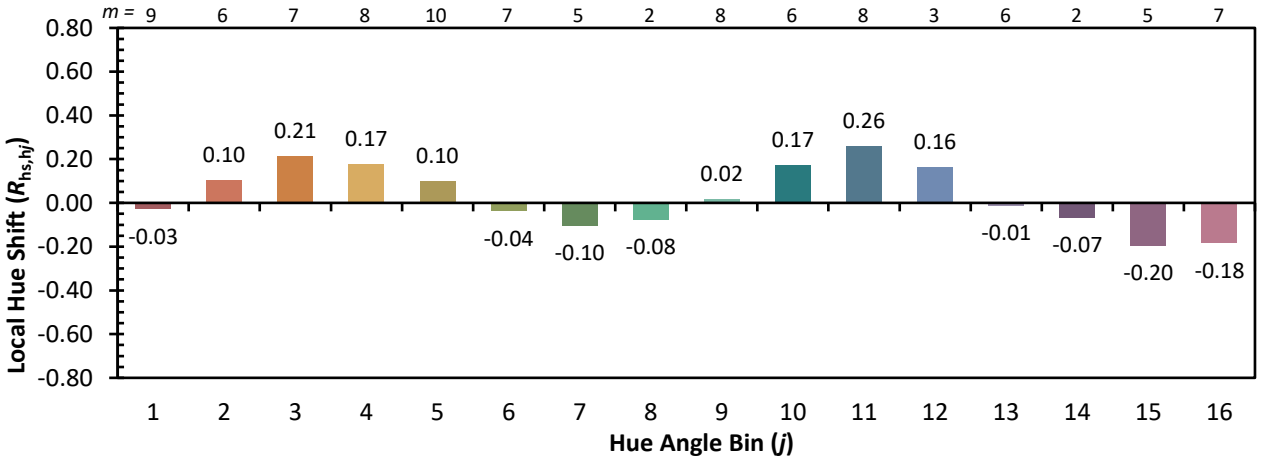
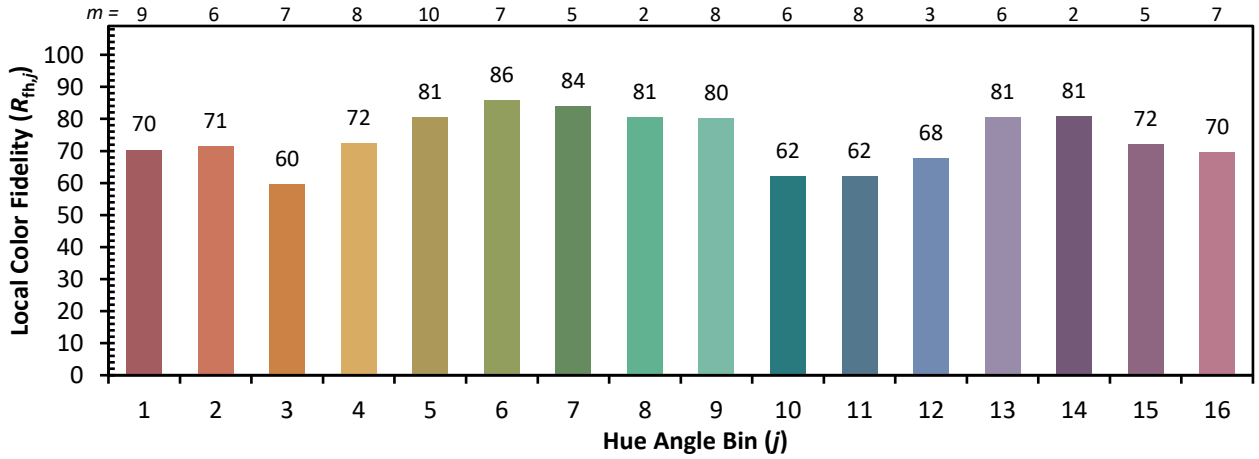
Color Rendition by Hue-Angle Bin







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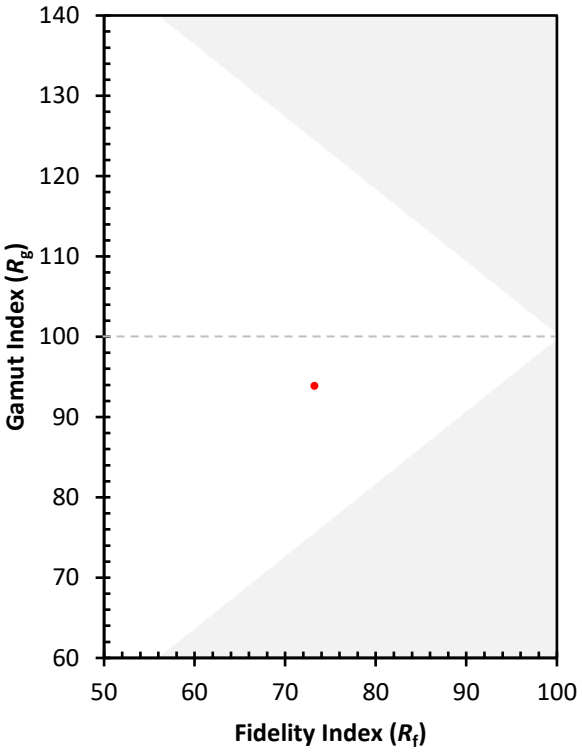
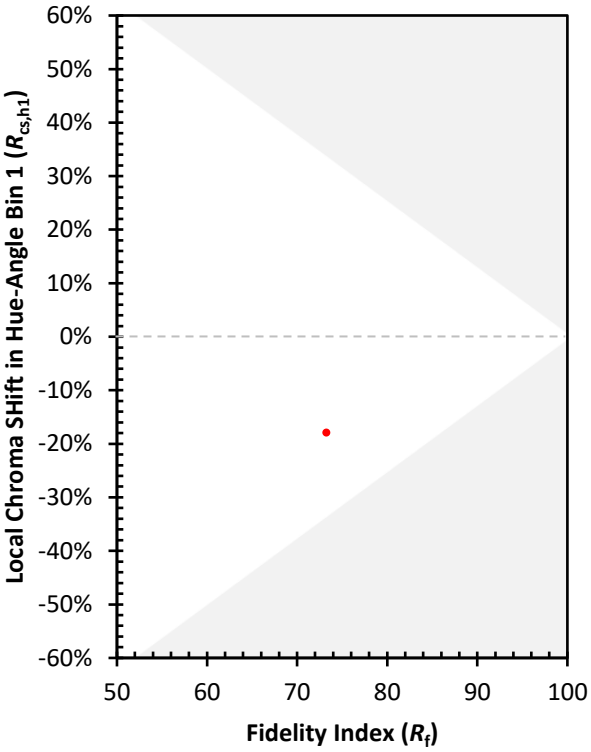
Measure Comparisons





(END OF REPORT)