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: P879614

Luminaire Tested: **MEM2-HSN-VA-130-735-U-CQ**

Issue Date: 10/01/2024

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:	P879614
Test Lab:	INNOVATION CENTER(G3)
Issue Date:	10/01/2024
Manufacturer:	COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line:	STREETWORKS
Catalog Number:	MEM2-HSN-VA-130-735-U-CQ
Description:	EPIC MODERN SHORT HOUSING 130W 70CRI 3500K VISUAL COMFORT FIXTURE w/ TYPE V CONCENTRATED DISTRIBUTION OPTIC
Light Source:	(1) 3500K CCT, 70 CRI LEDS
Ballast/Driver:	ELECTRONIC DRIVER

Summary

Lumens per Lamp:	N/A
Luminaire Lumens:	11813.5 lumens
Efficiency:	N/A
Efficacy:	90.9 lumens/watt
Luminous Opening:	Circular (Dia: 1.12' x H: 0')
IES Classification:	Type V - Short
BUG Rating:	B3 - U0 - G2

Input Watts (W):	130
Input Voltage (V):	120
Input Current (Ain):	NR
Voltage Rise (V):	NR
Power Factor:	0.995
Total Harmonic Distortion (THDi):	8.1%
Frequency (hertz):	60
Stabilization Time:	NR
Operation Time:	NR
Ambient Temperature (°C):	NR
Test Distance:	24 FT

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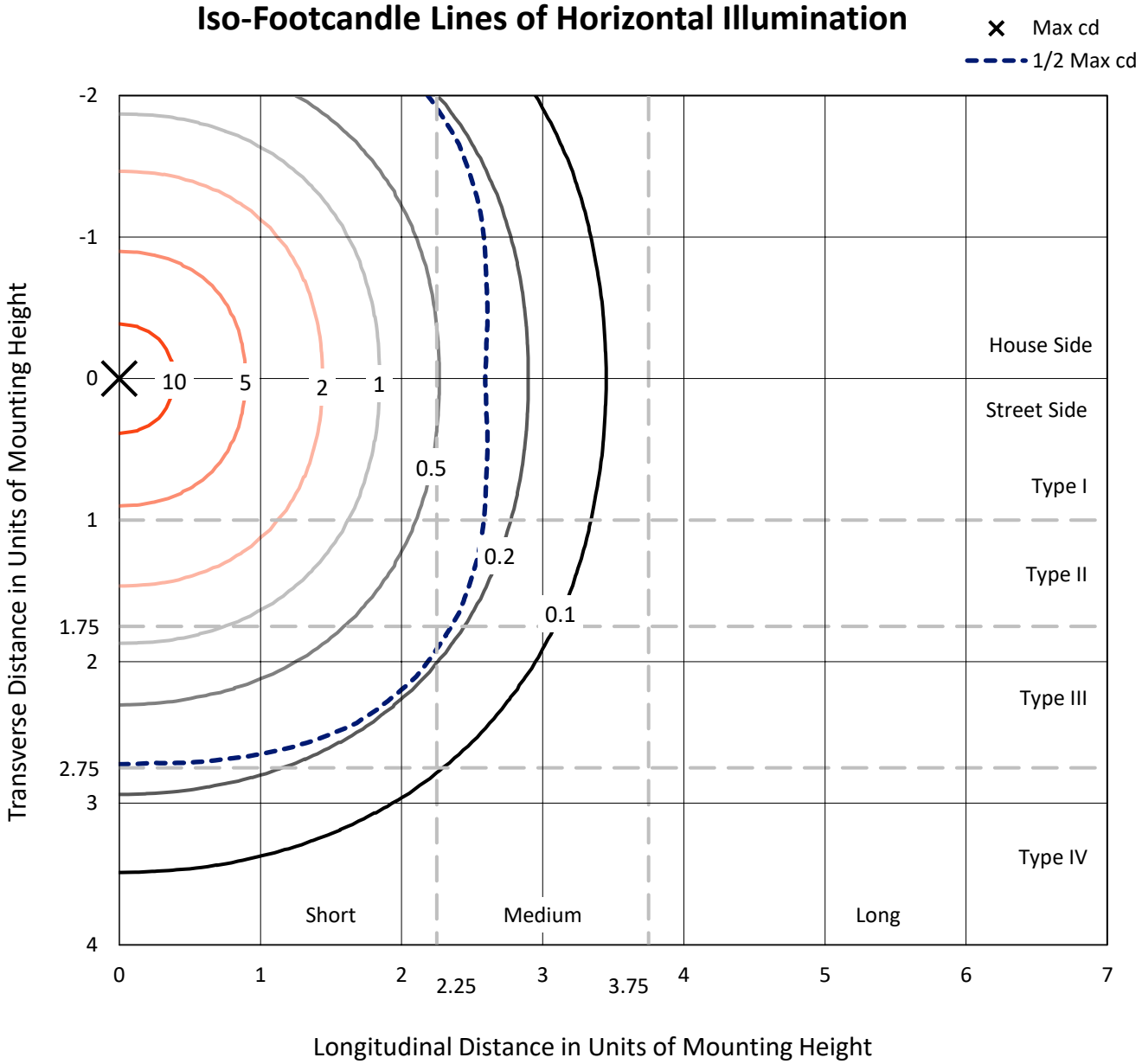
Scaled Data Report

REPORT NUMBER: P879614
CATALOG NUMBER: MEM2-HSN-VA-130-735-U-CQ

Iso-Footcandle Lines of Horizontal Illumination



Based on 15 foot mounting height. Maximum calculated value = 13.1 fc
Type V - Short - N/A

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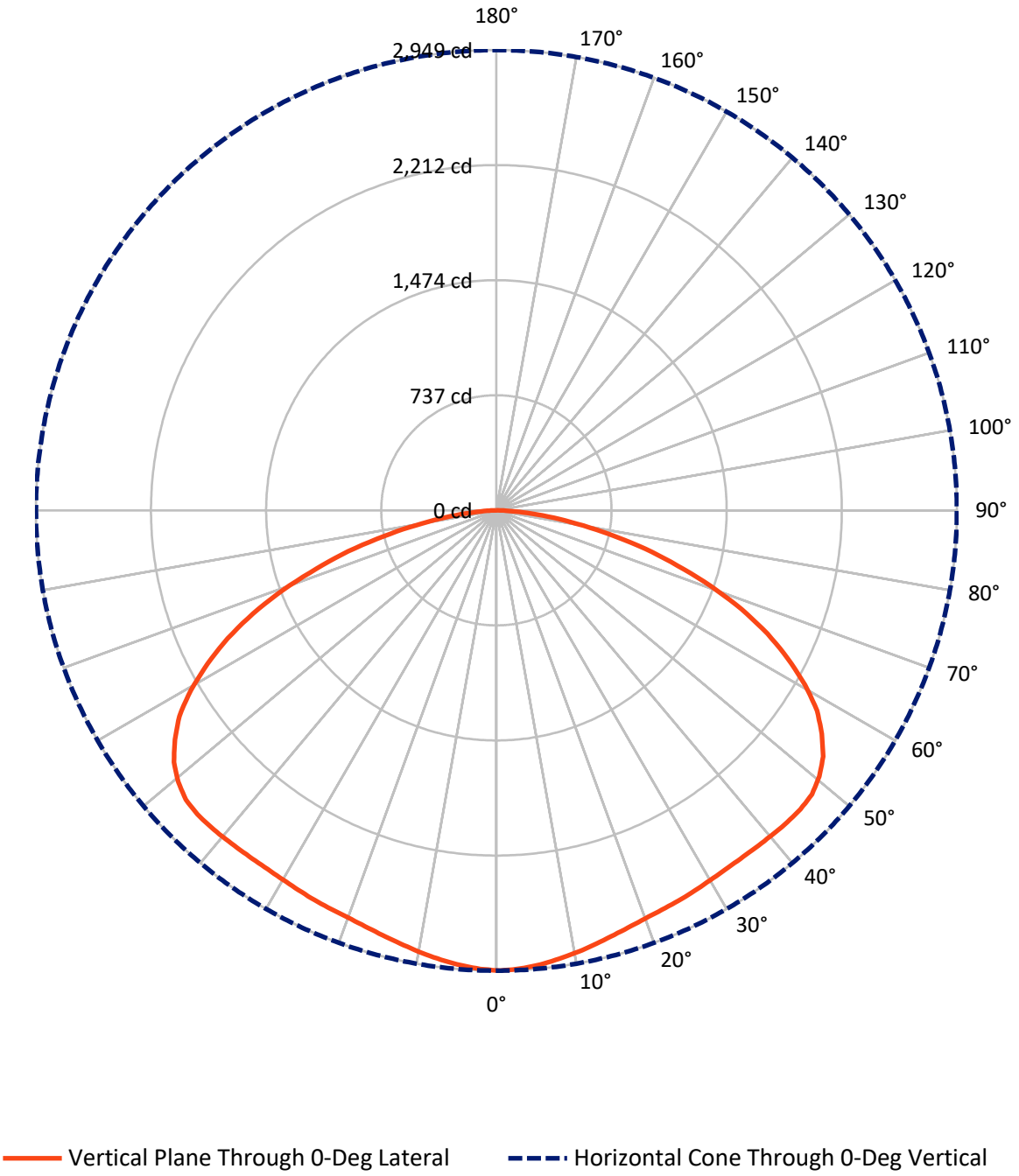
Luminous Intensity Polar Plot



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REPORT NUMBER: P879614
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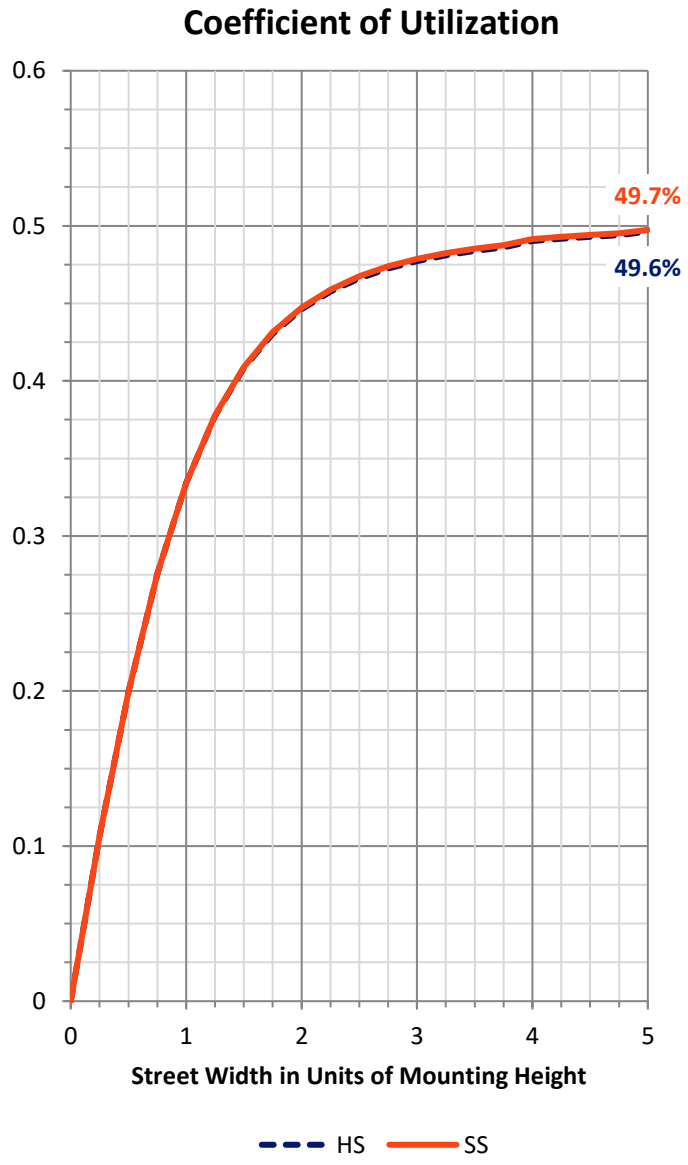
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	5906.7	0.0	5906.7
	% Fixture	50.0	0.0	50.0
Street Side	Lumens	5906.7	0.0	5906.7
	% Fixture	50.0	0.0	50.0
Total	Lumens	11813.5	0.0	11813.5
	% Fixture	100.0	0.0	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	277.9	2.4
10°-20°	801.8	6.8
20°-30°	1283.7	10.9
30°-40°	1738.9	14.7
40°-50°	2147.5	18.2
50°-60°	2307.2	19.5
60°-70°	1940.2	16.4
70°-80°	1083.4	9.2
80°-90°	232.8	2.0
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°	11813.5	100.0
0°-180°	11813.5	100.0



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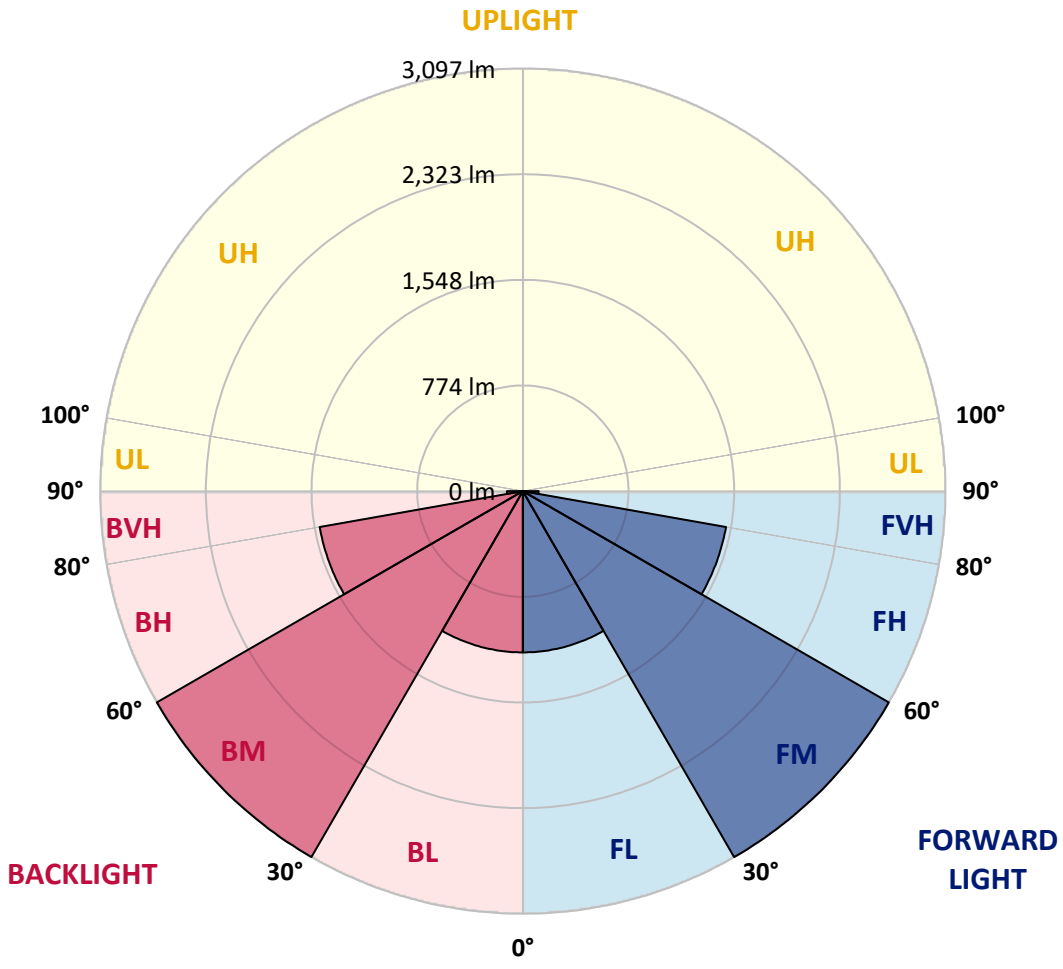
Scaled Data Report

REPORT NUMBER: P879614
CATALOG NUMBER: MEM2-HSN-VA-130-735-U-CQ

LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit B	U	G
FL	(0°-30°)	1181.7	10.0			
FM	(30°-60°)	3096.8	26.2			
FH	(60°-80°)	1511.8	12.8			G1/1800
FVH	(80°-90°)	116.4	1.0			G2/225
BL	(0°-30°)	1181.7	10.0	B3/2500		
BM	(30°-60°)	3096.8	26.2	B3/5000		
BH	(60°-80°)	1511.8	12.8	B3/2500		G1/1800
BVH	(80°-90°)	116.4	1.0			G2/225
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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CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	45°	55°	65°	75°	85°	90°
0°	*2948.8*	*2948.8*	*2948.8*	*2948.8*	*2948.8*	*2948.8*	*2948.8*	*2948.8*	*2948.8*	*2948.8*	*2948.8*
2.5°	*2940.0*	2942.9	2942.2	2942.2	2942.2	2943.7	2943.7	2943.7	2944.4	2944.4	2945.1
5°	*2923.1*	2925.3	2925.3	2925.3	2926.8	2927.5	2927.5	2928.3	2929.7	2929.0	2928.3
7.5°	*2900.4*	2902.6	2902.6	2902.6	2904.1	2905.6	2905.6	2904.8	2907.0	2907.0	2906.3
10°	*2876.3*	2877.0	2877.7	2879.2	2881.4	2882.1	2881.4	2881.4	2880.7	2881.4	2881.4
12.5°	*2847.7*	2851.4	2852.1	2853.6	2857.2	2858.0	2858.0	2857.2	2856.5	2856.5	2855.8
15°	*2822.1*	2823.5	2825.7	2828.7	2833.1	2834.5	2835.3	2833.1	2830.9	2830.1	2830.9
17.5°	*2798.6*	2800.8	2803.8	2806.7	2812.5	2815.5	2815.5	2812.5	2809.6	2808.2	2808.2
20°	*2779.6*	2781.8	2785.4	2789.8	2797.9	2801.6	2800.1	2797.2	2792.0	2789.8	2790.6
22.5°	*2767.1*	2770.1	2773.0	2779.6	2788.4	2792.8	2791.3	2786.2	2780.3	2776.7	2776.7
25°	*2756.9*	2759.1	2763.5	2772.3	2781.8	2786.9	2784.7	2778.1	2770.1	2765.7	2764.9
27.5°	*2745.2*	2748.1	2754.0	2765.7	2777.4	2781.8	2780.3	2770.8	2761.3	2755.4	2754.0
30°	*2734.2*	2737.1	2745.2	2758.3	2773.0	2779.6	2775.9	2765.7	2754.0	2746.6	2745.9
32.5°	*2726.9*	2730.5	2740.0	2756.9	2774.5	2784.0	2780.3	2767.9	2752.5	2743.0	2742.2
35°	*2723.9*	2727.6	2741.5	2762.0	2784.0	2797.2	2792.0	2776.7	2757.6	2745.9	2744.4
37.5°	*2724.7*	2729.0	2746.6	2773.7	2801.6	2815.5	2808.9	2789.1	2764.9	2748.8	2746.6
40°	*2727.6*	2732.7	2755.4	2789.1	2822.1	2835.3	2825.0	2795.7	2762.7	2740.0	2735.6
42.5°	*2731.2*	2739.3	2767.1	2806.7	2841.1	2852.1	2833.8	2790.6	2744.4	2715.1	2711.5
45°	*2730.5*	2737.1	2769.3	2816.2	2852.8	2858.7	2828.7	2774.5	2720.3	2682.2	2679.2
47.5°	*2718.1*	2724.7	2761.3	2813.3	2849.2	2850.6	2814.7	2752.5	2688.8	2644.8	2640.4
50°	*2679.2*	2688.0	2729.0	2786.2	2826.5	2827.2	2787.6	2718.8	2644.8	2593.5	2586.2
52.5°	*2619.9*	2626.5	2674.1	2735.6	2781.1	2786.9	2743.7	2663.9	2579.6	2524.7	2519.6
55°	*2527.6*	2540.8	2591.4	2655.8	2705.6	2712.2	2669.0	2582.6	2496.1	2433.1	2427.3
57.5°	*2420.7*	2422.9	2476.4	2546.7	2598.7	2606.0	2559.1	2471.2	2381.1	2322.5	2307.9
60°	*2269.8*	2278.6	2329.1	2398.0	2452.9	2462.4	2417.8	2332.8	2239.1	2172.4	2171.7
62.5°	*2095.5*	2105.7	2157.0	2230.3	2285.9	2295.4	2247.8	2165.1	2071.3	2014.2	1993.7
65°	*1906.5*	1909.5	1960.7	2033.2	2083.8	2088.9	2051.5	1973.2	1876.5	1817.9	1804.7
67.5°	*1694.1*	1697.1	1736.6	1804.7	1858.9	1866.2	1828.2	1756.4	1669.2	1607.7	1601.1
70°	*1459.0*	1459.7	1498.6	1554.2	1608.4	1623.8	1589.4	1520.5	1437.0	1388.0	1374.8
72.5°	*1211.4*	1218.0	1252.5	1310.3	1356.5	1360.1	1332.3	1273.0	1204.9	1164.6	1157.2
75°	*985.1*	980.7	1010.0	1045.2	1081.1	1092.8	1070.1	1029.8	966.8	931.7	939.0
77.5°	*739.8*	741.2	763.9	796.2	818.9	839.4	813.7	794.7	744.2	703.9	705.3
80°	*523.0*	521.5	542.7	558.1	583.8	586.7	572.8	547.1	514.9	498.1	496.6
82.5°	*331.1*	324.5	340.6	360.4	371.3	366.2	369.1	352.3	326.7	317.9	309.8
85°	*169.2*	167.7	176.5	183.8	191.9	191.9	187.5	174.3	169.2	158.9	156.0
87.5°	*57.9*	60.1	63.0	60.8	64.5	63.0	61.5	52.0	46.1	43.2	40.3
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: SP1-2407-176-8

Test Date: 09/25/2024

Luminaire Tested: MEM2-HTN-VA-130-735-U-RW

Data in this report applies to families of products including MEM2-HTN-VA-130-735-U-RW

Report Generated By FNC07603 / LDUCLS01DT446
Version: v7.04

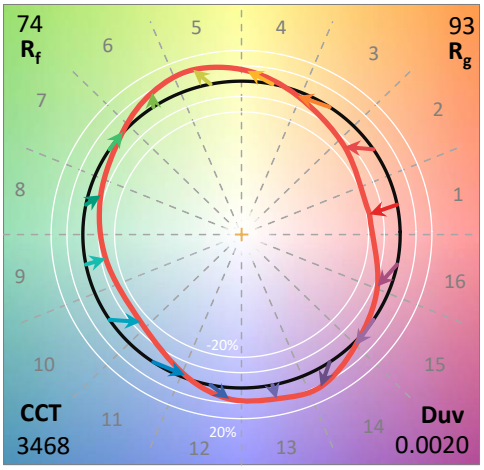
Test Information

Test Method:	LM-79-2019
Report Number:	SP1-2407-176-8
Test Lab:	COOPER LIGHTING SOLUTIONS
Photometer:	SP1 - 76IN SPHERE
Measurement Geometry:	4π
Issue Date:	09/27/2024
Manufacturer:	COOPER LIGHTING SOLUTIONS
Product Line:	Streetworks
Catalog Number:	**MEM2-HTN-VA-130-735-U-RW**
Description:	EPIC MODERN VISUAL COMFORT 130W WAVESTREAM RECTANGULAR WIDE

Spectral Parameters

CCT (K):	3468
CIE u':	0.2356
CIE v':	0.5145
Duv:	0.0020
CIE x:	0.4092
CIE y:	0.3972
CIE z:	0.1936
Peak Wavelength (nm):	590
Dominant Wavelength (nm):	580
Purity:	42.03411
Rf:	74.1
Rg:	93.4

CRI (Ra):	70.6
R1:	66.2
R2:	79.1
R3:	90.8
R4:	68.4
R5:	66.3
R6:	71.1
R7:	78.4
R8:	44.5
R9:	-41.3
R10:	52.2
R11:	63.6
R12:	47.5
R13:	68.3
R14:	94.8
R15:	57.6



Test Conditions

Stabilization Time:	46M
Operation Time:	1H 46M
Sphere Temperature (°C):	25.2

REPORT NUMBER: SP1-2407-176-8

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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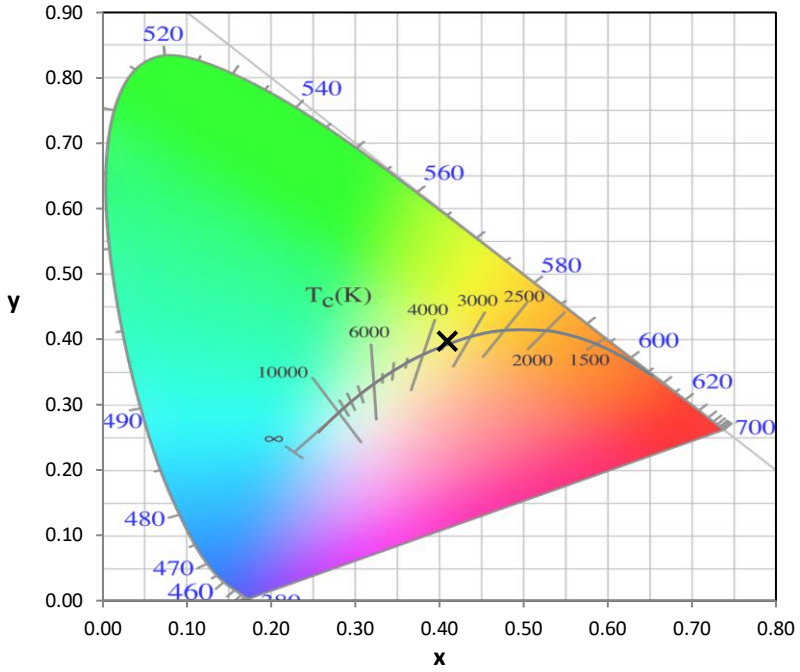
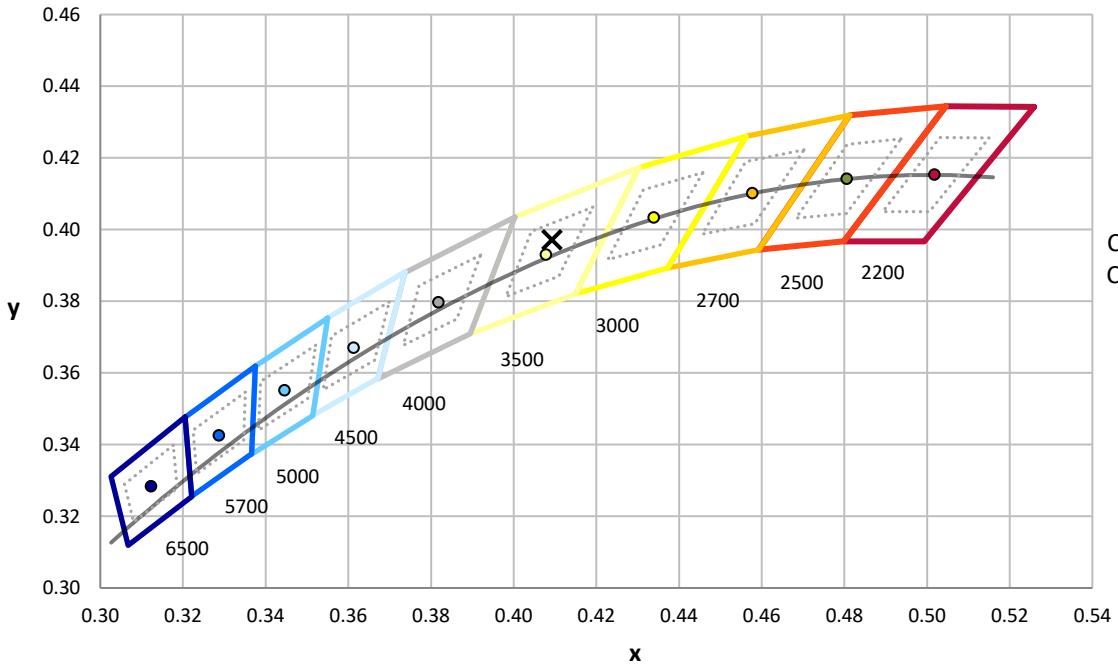
CIE 1931 Chromaticity Diagram



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



CCT = 3468K
CIE x = 0.4092
CIE y = 0.3972
Duv = 0.0020

Point lies inside the ANSI 3500K 4-step quadrangle

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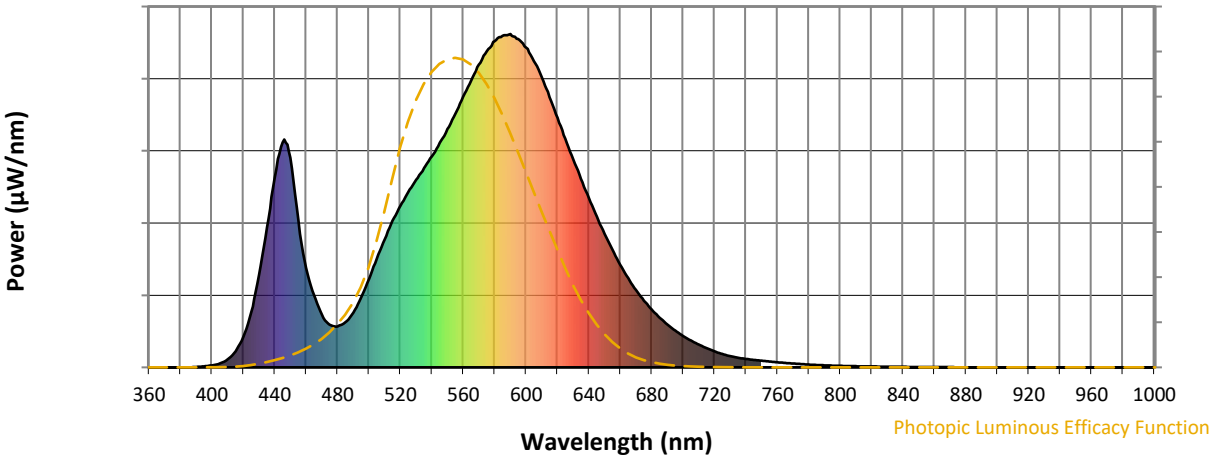
Photopic Flux vs. Wavelength

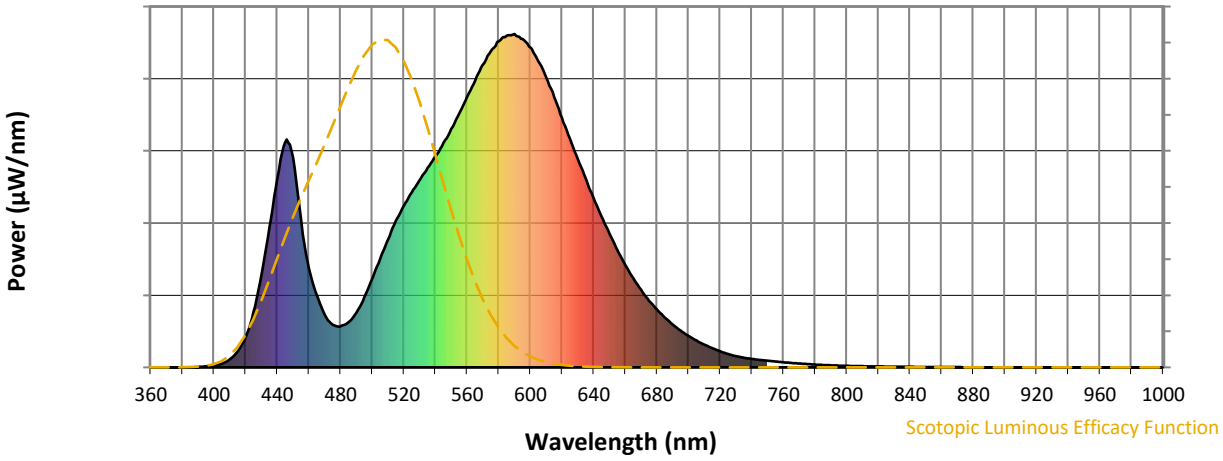


Photopic Lumens: NR

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	164	NR	620	749	NR	750	20	NR	880	0	NR
365	0	NR	495	209	NR	625	686	NR	755	17	NR	885	0	NR
370	0	NR	500	265	NR	630	624	NR	760	15	NR	890	0	NR
375	0	NR	505	325	NR	635	566	NR	765	13	NR	895	0	NR
380	0	NR	510	384	NR	640	508	NR	770	11	NR	900	0	NR
385	0	NR	515	439	NR	645	452	NR	775	10	NR	905	0	NR
390	1	NR	520	485	NR	650	401	NR	780	8	NR	910	0	NR
395	3	NR	525	526	NR	655	353	NR	785	7	NR	915	0	NR
400	6	NR	530	562	NR	660	308	NR	790	6	NR	920	0	NR
405	11	NR	535	598	NR	665	268	NR	795	5	NR	925	0	NR
410	24	NR	540	633	NR	670	232	NR	800	5	NR	930	0	NR
415	48	NR	545	674	NR	675	200	NR	805	4	NR	935	0	NR
420	91	NR	550	715	NR	680	174	NR	810	3	NR	940	0	NR
425	166	NR	555	761	NR	685	149	NR	815	3	NR	945	0	NR
430	276	NR	560	812	NR	690	129	NR	820	3	NR	950	0	NR
435	420	NR	565	860	NR	695	110	NR	825	2	NR	955	0	NR
440	568	NR	570	908	NR	700	94	NR	830	2	NR	960	0	NR
445	675	NR	575	948	NR	705	80	NR	835	2	NR	965	0	NR
450	629	NR	580	978	NR	710	68	NR	840	2	NR	970	0	NR
455	443	NR	585	994	NR	715	58	NR	845	1	NR	975	0	NR
460	299	NR	590	1000	NR	720	48	NR	850	1	NR	980	0	NR
465	217	NR	595	985	NR	725	40	NR	855	1	NR	985	0	NR
470	157	NR	600	959	NR	730	34	NR	860	1	NR	990	0	NR
475	127	NR	605	918	NR	735	29	NR	865	1	NR	995	0	NR
480	123	NR	610	869	NR	740	25	NR	870	1	NR	1000	0	NR
485	135	NR	615	810	NR	745	22	NR	875	0	NR			

REPORT NUMBER: SP1-2407-176-8

Scotopic Flux vs. Wavelength



Scotopic Lumens: NR **S/P: 1.35**

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	164	NR	620	749	NR	750	20	NR	880	0	NR
365	0	NR	495	209	NR	625	686	NR	755	17	NR	885	0	NR
370	0	NR	500	265	NR	630	624	NR	760	15	NR	890	0	NR
375	0	NR	505	325	NR	635	566	NR	765	13	NR	895	0	NR
380	0	NR	510	384	NR	640	508	NR	770	11	NR	900	0	NR
385	0	NR	515	439	NR	645	452	NR	775	10	NR	905	0	NR
390	1	NR	520	485	NR	650	401	NR	780	8	NR	910	0	NR
395	3	NR	525	526	NR	655	353	NR	785	7	NR	915	0	NR
400	6	NR	530	562	NR	660	308	NR	790	6	NR	920	0	NR
405	11	NR	535	598	NR	665	268	NR	795	5	NR	925	0	NR
410	24	NR	540	633	NR	670	232	NR	800	5	NR	930	0	NR
415	48	NR	545	674	NR	675	200	NR	805	4	NR	935	0	NR
420	91	NR	550	715	NR	680	174	NR	810	3	NR	940	0	NR
425	166	NR	555	761	NR	685	149	NR	815	3	NR	945	0	NR
430	276	NR	560	812	NR	690	129	NR	820	3	NR	950	0	NR
435	420	NR	565	860	NR	695	110	NR	825	2	NR	955	0	NR
440	568	NR	570	908	NR	700	94	NR	830	2	NR	960	0	NR
445	675	NR	575	948	NR	705	80	NR	835	2	NR	965	0	NR
450	629	NR	580	978	NR	710	68	NR	840	2	NR	970	0	NR
455	443	NR	585	994	NR	715	58	NR	845	1	NR	975	0	NR
460	299	NR	590	1000	NR	720	48	NR	850	1	NR	980	0	NR
465	217	NR	595	985	NR	725	40	NR	855	1	NR	985	0	NR
470	157	NR	600	959	NR	730	34	NR	860	1	NR	990	0	NR
475	127	NR	605	918	NR	735	29	NR	865	1	NR	995	0	NR
480	123	NR	610	869	NR	740	25	NR	870	1	NR	1000	0	NR
485	135	NR	615	810	NR	745	22	NR	875	0	NR			

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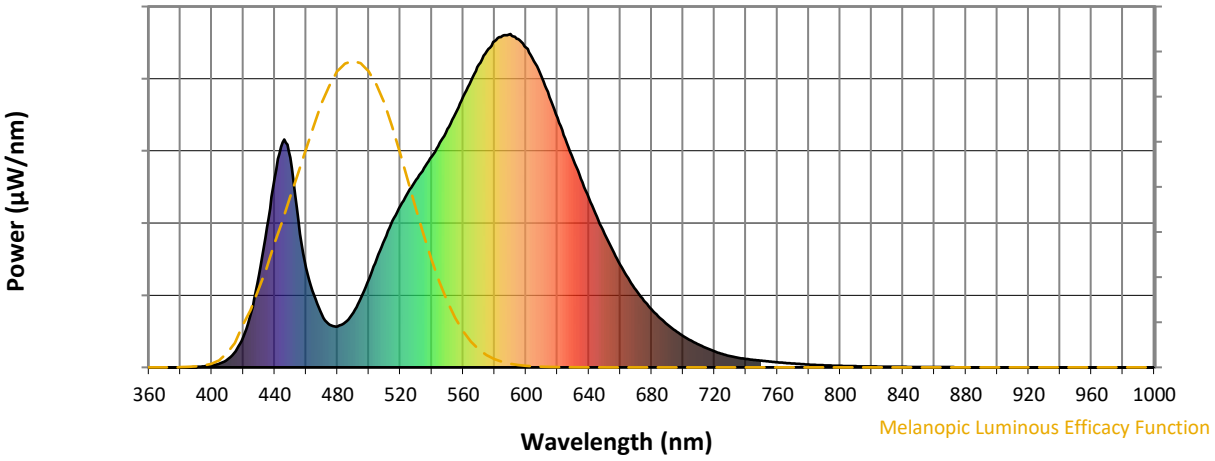
Melanopic Flux vs. Wavelength



Melanopic Lumens: NR **M/P: 2.54**

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	164	NR	620	749	NR	750	20	NR	880	0	NR
365	0	NR	495	209	NR	625	686	NR	755	17	NR	885	0	NR
370	0	NR	500	265	NR	630	624	NR	760	15	NR	890	0	NR
375	0	NR	505	325	NR	635	566	NR	765	13	NR	895	0	NR
380	0	NR	510	384	NR	640	508	NR	770	11	NR	900	0	NR
385	0	NR	515	439	NR	645	452	NR	775	10	NR	905	0	NR
390	1	NR	520	485	NR	650	401	NR	780	8	NR	910	0	NR
395	3	NR	525	526	NR	655	353	NR	785	7	NR	915	0	NR
400	6	NR	530	562	NR	660	308	NR	790	6	NR	920	0	NR
405	11	NR	535	598	NR	665	268	NR	795	5	NR	925	0	NR
410	24	NR	540	633	NR	670	232	NR	800	5	NR	930	0	NR
415	48	NR	545	674	NR	675	200	NR	805	4	NR	935	0	NR
420	91	NR	550	715	NR	680	174	NR	810	3	NR	940	0	NR
425	166	NR	555	761	NR	685	149	NR	815	3	NR	945	0	NR
430	276	NR	560	812	NR	690	129	NR	820	3	NR	950	0	NR
435	420	NR	565	860	NR	695	110	NR	825	2	NR	955	0	NR
440	568	NR	570	908	NR	700	94	NR	830	2	NR	960	0	NR
445	675	NR	575	948	NR	705	80	NR	835	2	NR	965	0	NR
450	629	NR	580	978	NR	710	68	NR	840	2	NR	970	0	NR
455	443	NR	585	994	NR	715	58	NR	845	1	NR	975	0	NR
460	299	NR	590	1000	NR	720	48	NR	850	1	NR	980	0	NR
465	217	NR	595	985	NR	725	40	NR	855	1	NR	985	0	NR
470	157	NR	600	959	NR	730	34	NR	860	1	NR	990	0	NR
475	127	NR	605	918	NR	735	29	NR	865	1	NR	995	0	NR
480	123	NR	610	869	NR	740	25	NR	870	1	NR	1000	0	NR
485	135	NR	615	810	NR	745	22	NR	875	0	NR			

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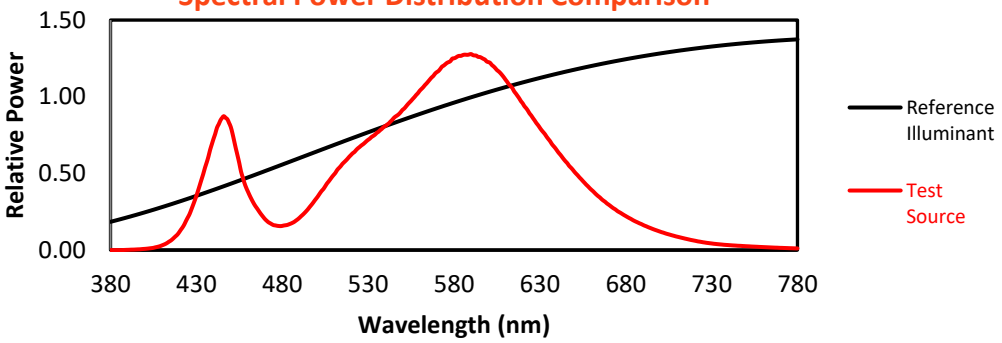
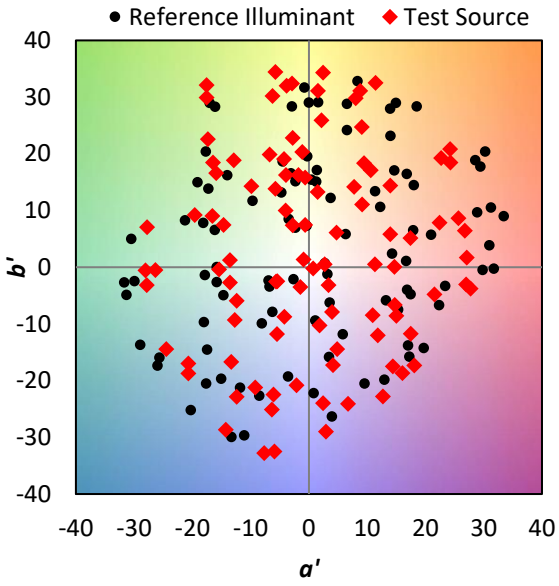
Summary

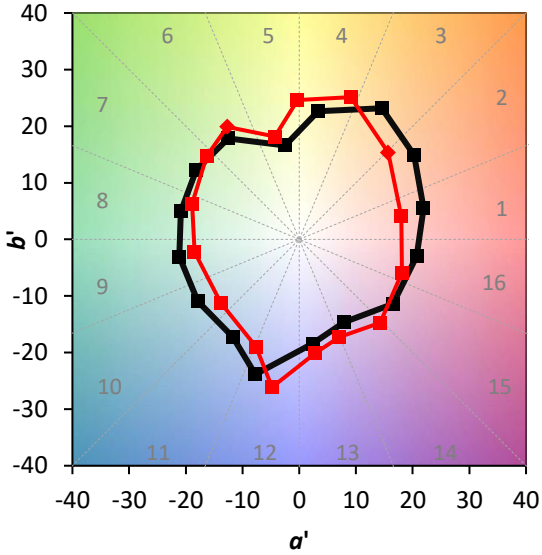
R_f = 74.1
R_g = 93.4
CIE R_a = 70.6
R_9 = -41.3

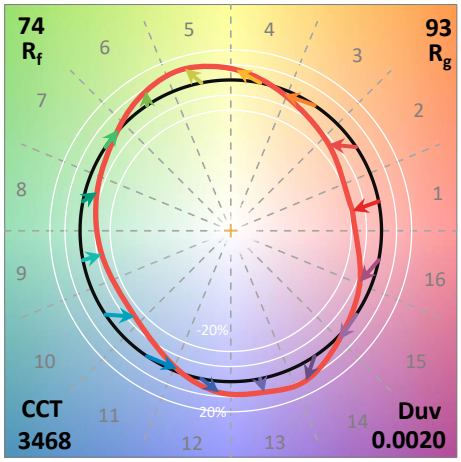
Spectral Power Distribution Comparison

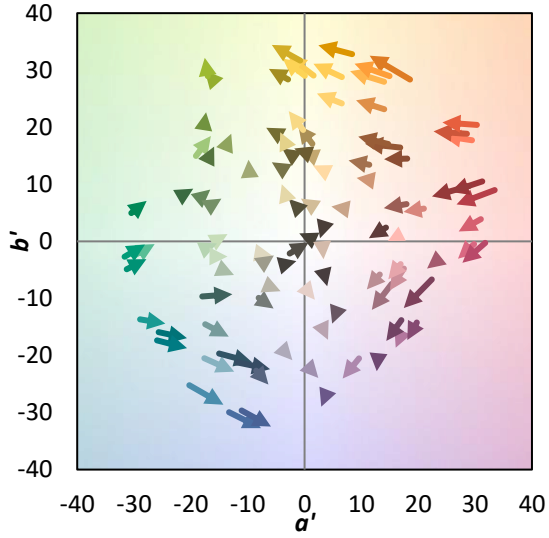


Color Vector Graphics









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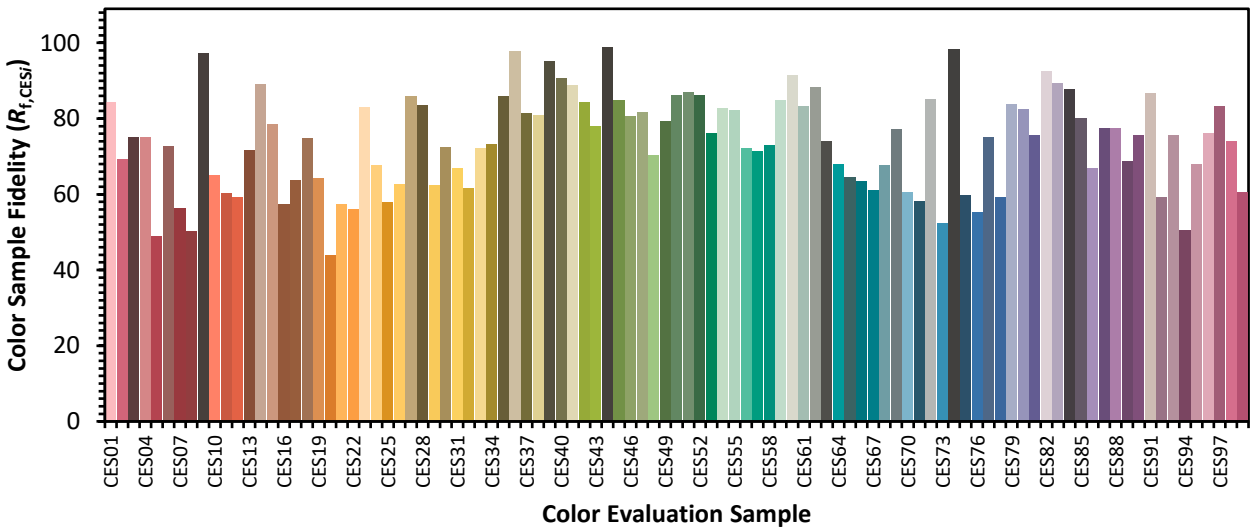
Individual Sample Fidelity Index ($R_{f,i}$)

CES01 = 86	CES26 = 63	CES51 = 87	CES76 = 55
CES02 = 61	CES27 = 86	CES52 = 86	CES77 = 75
CES03 = 31	CES28 = 84	CES53 = 76	CES78 = 59
CES04 = 70	CES29 = 62	CES54 = 83	CES79 = 84
CES05 = 48	CES30 = 72	CES55 = 82	CES80 = 82
CES06 = 51	CES31 = 67	CES56 = 72	CES81 = 76
CES07 = 40	CES32 = 62	CES57 = 71	CES82 = 93
CES08 = 39	CES33 = 72	CES58 = 73	CES83 = 89
CES09 = 29	CES34 = 73	CES59 = 85	CES84 = 88
CES10 = 75	CES35 = 86	CES60 = 92	CES85 = 80
CES11 = 58	CES36 = 98	CES61 = 83	CES86 = 67
CES12 = 64	CES37 = 82	CES62 = 88	CES87 = 78
CES13 = 42	CES38 = 81	CES63 = 74	CES88 = 77
CES14 = 74	CES39 = 95	CES64 = 68	CES89 = 69
CES15 = 71	CES40 = 91	CES65 = 64	CES90 = 76
CES16 = 47	CES41 = 89	CES66 = 63	CES91 = 87
CES17 = 50	CES42 = 84	CES67 = 61	CES92 = 59
CES18 = 56	CES43 = 78	CES68 = 68	CES93 = 76
CES19 = 72	CES44 = 99	CES69 = 77	CES94 = 50
CES20 = 65	CES45 = 85	CES70 = 61	CES95 = 68
CES21 = 87	CES46 = 81	CES71 = 58	CES96 = 76
CES22 = 79	CES47 = 82	CES72 = 85	CES97 = 83
CES23 = 92	CES48 = 70	CES73 = 52	CES98 = 74
CES24 = 91	CES49 = 79	CES74 = 98	CES99 = 61
CES25 = 72	CES50 = 86	CES75 = 60	



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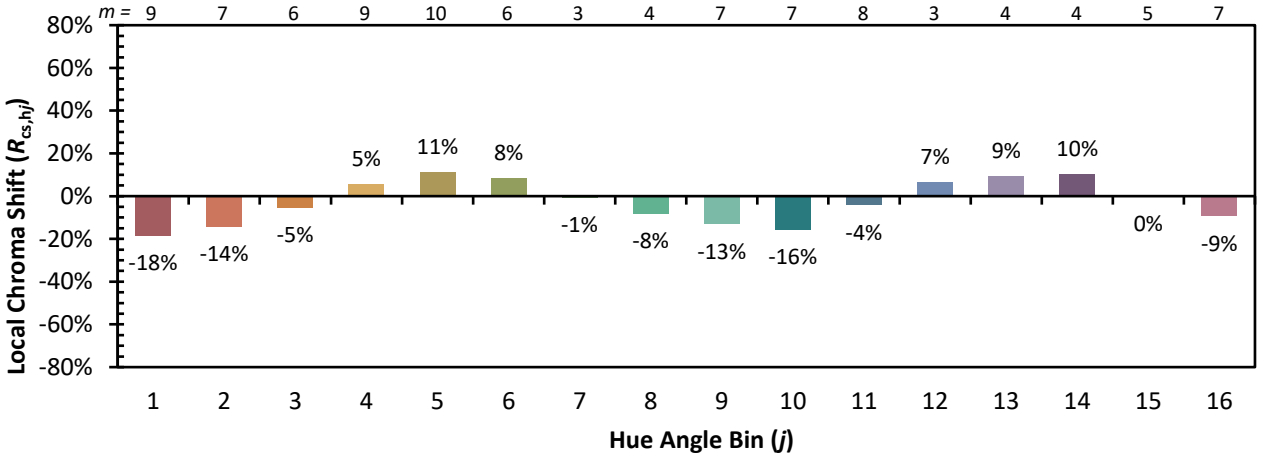
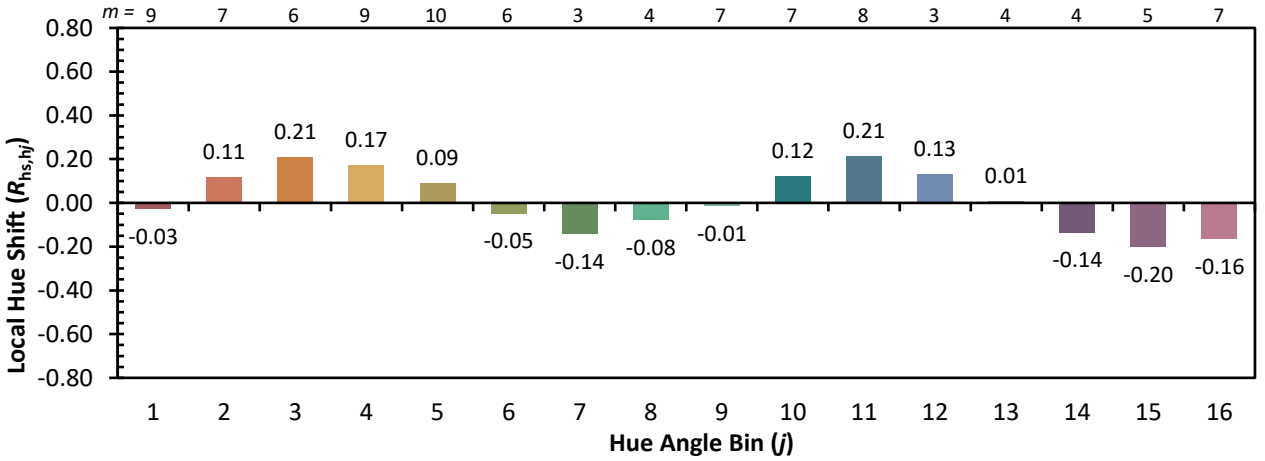
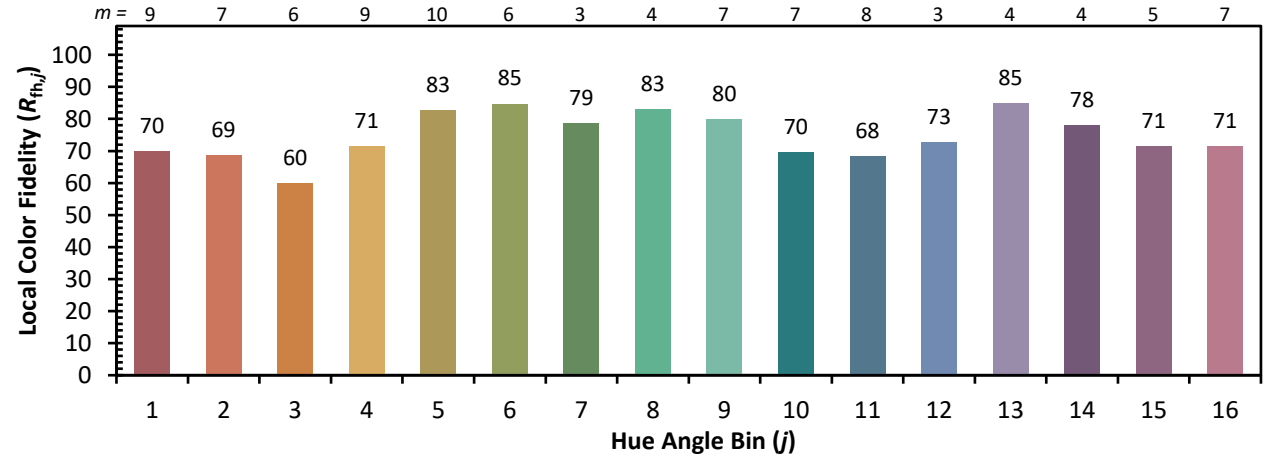
Color Rendition by Hue-Angle Bin







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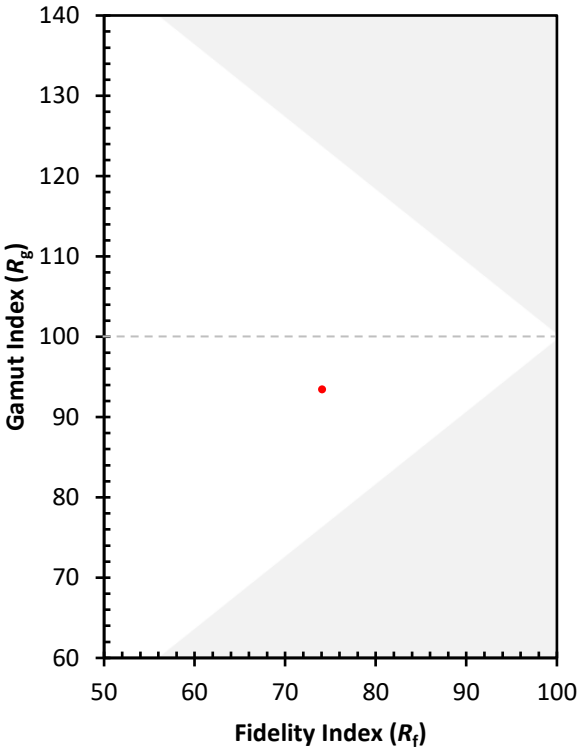
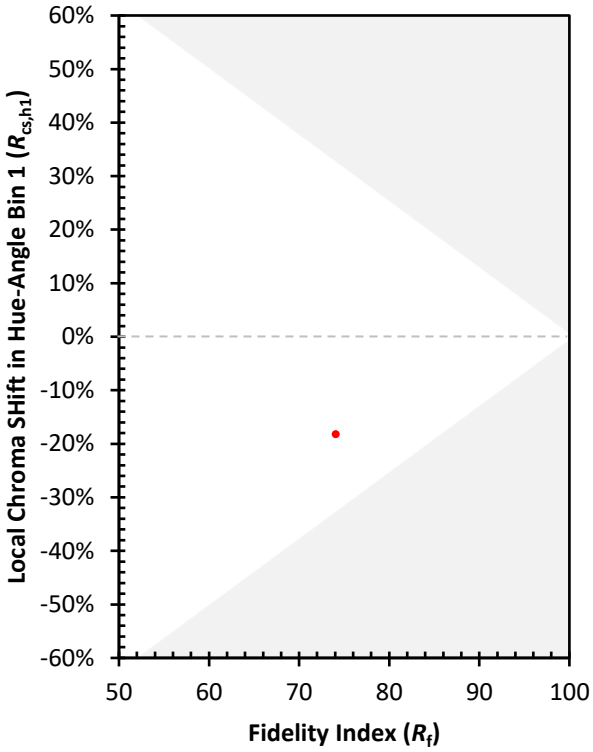
Measure Comparisons





(END OF REPORT)