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: P879589

Luminaire Tested: **MEM2-HSN-VA-180-830-U-MQ**

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:	P879589
Test Lab:	INNOVATION CENTER(G3)
Issue Date:	10/01/2024
Manufacturer:	COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line:	STREETWORKS
Catalog Number:	MEM2-HSN-VA-180-830-U-MQ
Description:	EPIC MODERN SHORT HOUSING 180W 80CRI 3000K VISUAL COMFORT FIXTURE w/ TYPE V MEDIUM DISTRIBUTION OPTIC
Light Source:	(1) 3000K CCT, 80 CRI LEDS
Ballast/Driver:	ELECTRONIC DRIVER

Summary

Lumens per Lamp:	N/A
Luminaire Lumens:	15727 lumens
Efficiency:	N/A
Efficacy:	92.5 lumens/watt
Luminous Opening:	Circular (Dia: 1.12' x H: 0')
IES Classification:	Type V - Short
BUG Rating:	B4 - U0 - G3

Input Watts (W):	170
Input Voltage (V):	120
Input Current (Ain):	NR
Voltage Rise (V):	NR
Power Factor:	0.995
Total Harmonic Distortion (THDi):	5.9%
Frequency (hertz):	60
Stabilization Time:	NR
Operation Time:	NR
Ambient Temperature (°C):	NR
Test Distance:	24 FT

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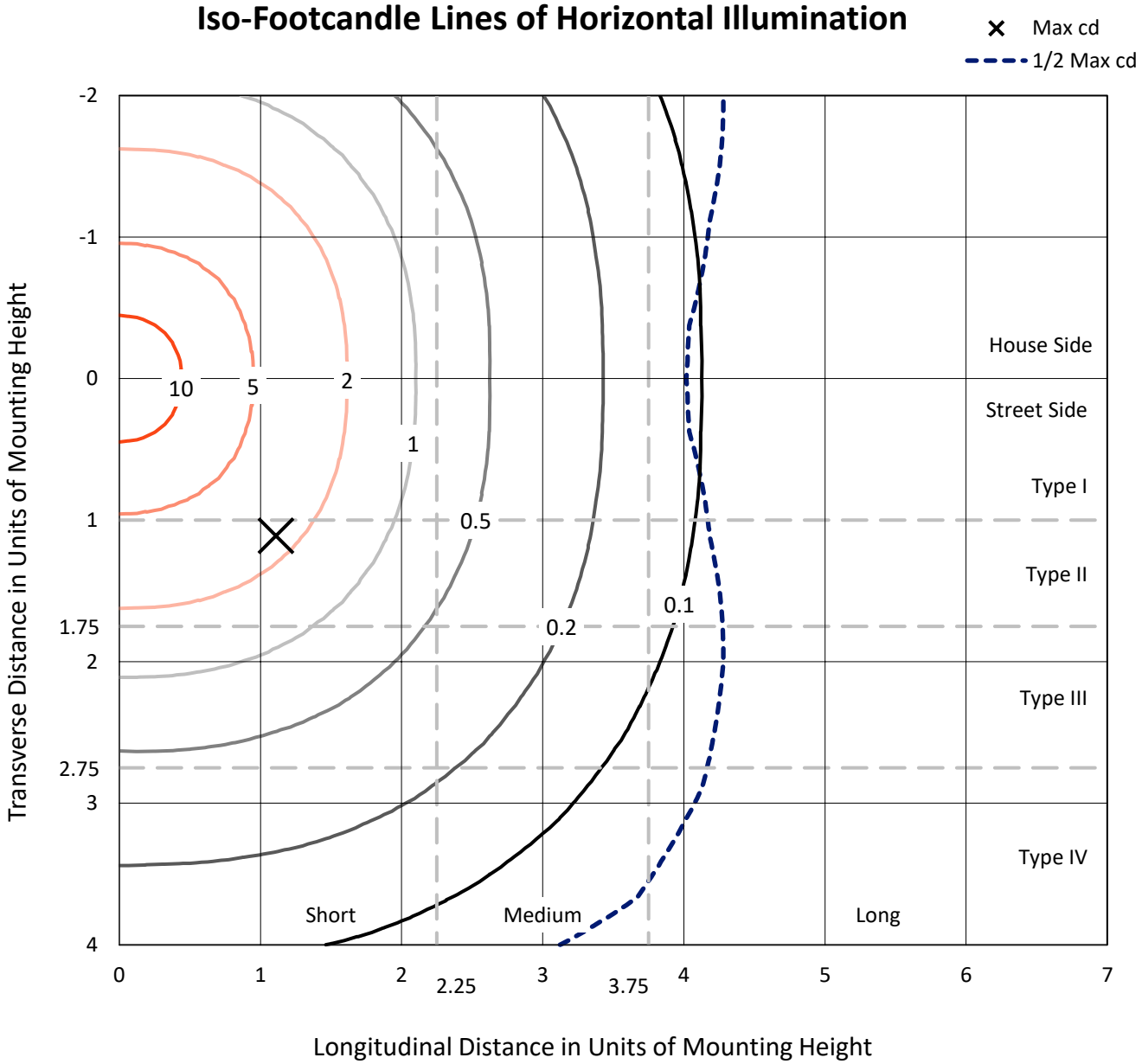
Scaled Data Report

REPORT NUMBER: P879589
CATALOG NUMBER: MEM2-HSN-VA-180-830-U-MQ

Iso-Footcandle Lines of Horizontal Illumination



Based on 15 foot mounting height. Maximum calculated value = 14.1 fc
Type V - Short - N/A

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REPORT NUMBER: P879589
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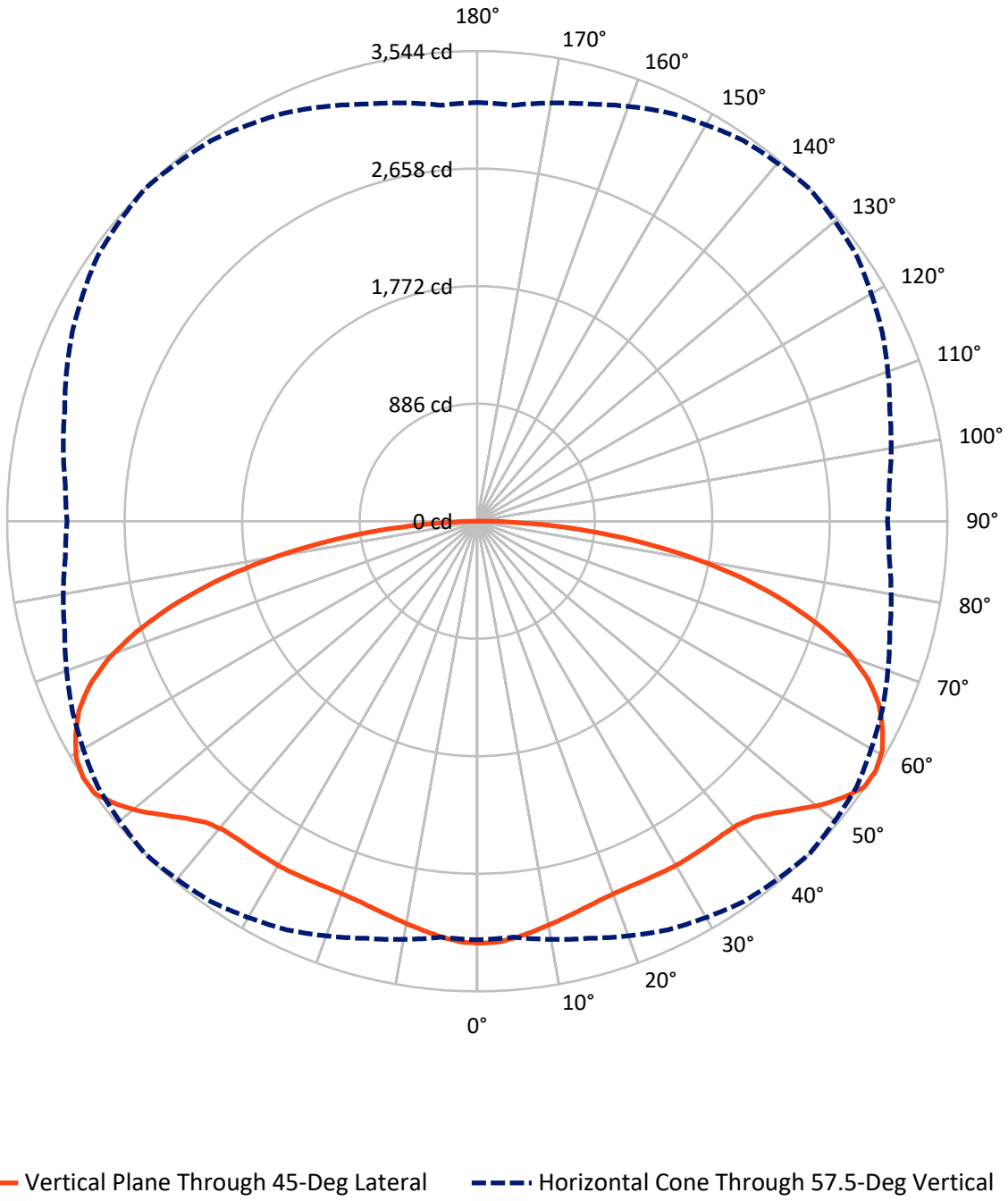
Luminous Intensity Polar Plot



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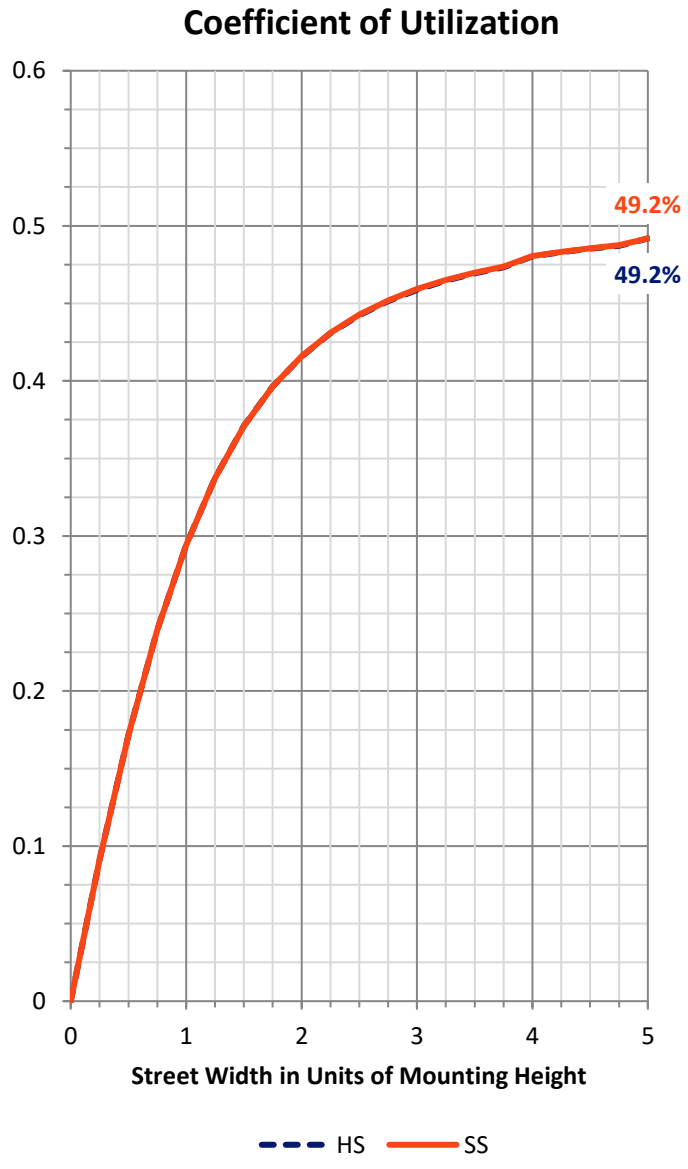
REPORT NUMBER: P879589
CATALOG NUMBER: MEM2-HSN-VA-180-830-U-MQ

FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	7863.5	0.0	7863.5
	% Fixture	50.0	0.0	50.0
Street Side	Lumens	7863.5	0.0	7863.5
	% Fixture	50.0	0.0	50.0
Total	Lumens	15727.0	0.0	15727.0
	% Fixture	100.0	0.0	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	298.7	1.9
10°-20°	856.1	5.4
20°-30°	1375.7	8.7
30°-40°	1864.9	11.9
40°-50°	2381.7	15.1
50°-60°	2968.7	18.9
60°-70°	3025.0	19.2
70°-80°	2241.4	14.3
80°-90°	714.7	4.5
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°	15727.0	100.0
0°-180°	15727.0	100.0



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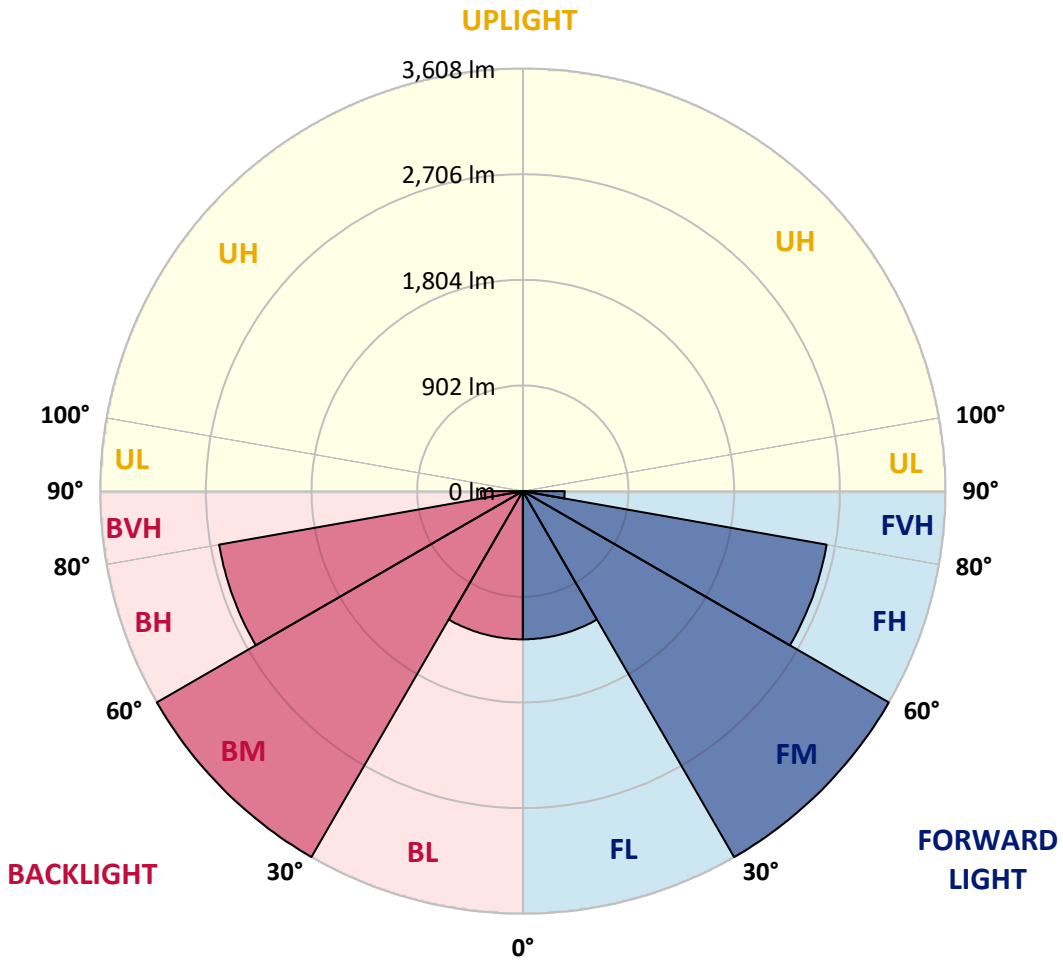
Scaled Data Report

REPORT NUMBER: P879589
CATALOG NUMBER: MEM2-HSN-VA-180-830-U-MQ

LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit B	U	G
FL	(0°-30°)	1265.3	8.0			
FM	(30°-60°)	3607.7	22.9			
FH	(60°-80°)	2633.2	16.7			G2/5000
FVH	(80°-90°)	357.4	2.3			G3/500
BL	(0°-30°)	1265.3	8.0	B3/2500		
BM	(30°-60°)	3607.7	22.9	B3/5000		
BH	(60°-80°)	2633.2	16.7	B4/5000		G2/5000
BVH	(80°-90°)	357.4	2.3			G3/500
UL	(90°-100°)	0.0	0.0		U0/0	
UH	(100°-180°)	0.0	0.0		U0/0	

BUG Rating: B4-U0-G3
Type V Short



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REPORT NUMBER: P879589
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CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	45°	55°	65°	75°	85°	90°
0°	3181.5	3181.5	3181.5	3181.5	3181.5	3181.5	3181.5	3181.5	3181.5	3181.5	3181.5
2.5°	3176.0	3176.0	3175.2	3175.2	3174.4	3175.2	3176.0	3176.0	3175.2	3174.4	3173.7
5°	3153.3	3154.1	3154.1	3152.5	3151.0	3151.0	3151.0	3151.7	3150.2	3151.0	3150.2
7.5°	3120.4	3118.1	3120.4	3119.6	3120.4	3118.1	3122.0	3120.4	3118.1	3119.6	3119.6
10°	3083.6	3084.4	3085.2	3084.4	3086.8	3086.0	3085.2	3084.4	3082.8	3084.4	3082.1
12.5°	3049.2	3050.0	3052.3	3053.1	3055.4	3054.7	3055.4	3053.9	3053.1	3050.0	3049.2
15°	3016.3	3017.9	3021.0	3023.4	3025.7	3026.5	3024.9	3024.1	3020.2	3017.9	3016.3
17.5°	2988.9	2988.9	2993.6	2997.5	3001.4	3002.2	3001.4	2997.5	2992.0	2986.6	2987.3
20°	2970.1	2970.1	2975.6	2981.9	2987.3	2988.9	2986.6	2979.5	2970.9	2967.0	2966.2
22.5°	2961.5	2962.3	2967.8	2974.8	2982.6	2984.2	2979.5	2970.9	2961.5	2954.5	2953.7
25°	2962.3	2960.7	2965.4	2976.4	2985.0	2986.6	2982.6	2970.9	2959.9	2953.7	2951.3
27.5°	2959.9	2960.7	2966.2	2977.2	2988.1	2991.3	2985.0	2970.9	2956.0	2950.5	2949.0
30°	2959.2	2959.9	2961.5	2979.5	2992.0	2997.5	2988.1	2969.3	2956.8	2948.2	2947.4
32.5°	2956.0	2952.1	2963.1	2974.0	2989.7	2996.7	2987.3	2970.1	2949.8	2943.5	2940.4
35°	2943.5	2947.4	2956.8	2975.6	2993.6	2998.3	2987.3	2966.2	2948.2	2935.7	2934.9
37.5°	2941.2	2941.2	2956.0	2975.6	2993.6	3000.6	2991.3	2967.8	2942.7	2927.1	2927.1
40°	2938.0	2937.2	2956.8	2981.1	3004.6	3014.0	3001.4	2972.5	2941.9	2927.1	2919.2
42.5°	2946.6	2951.3	2974.0	3009.3	3039.0	3054.7	3036.7	3004.6	2968.6	2940.4	2939.6
45°	2987.3	2997.5	3021.0	3080.5	3120.4	3139.2	3118.1	3062.5	3006.1	2968.6	2966.2
47.5°	3050.7	3047.6	3103.2	3165.8	3224.5	3244.9	3214.4	3149.4	3068.0	3022.6	3010.8
50°	3094.6	3102.4	3159.6	3250.4	3338.1	3361.5	3316.9	3233.2	3144.7	3082.1	3071.1
52.5°	3154.1	3155.7	3228.5	3343.5	3433.6	3459.4	3416.3	3312.2	3193.2	3114.9	3109.5
55°	3161.1	3187.0	3275.4	3400.7	3508.7	3539.2	3486.0	3374.8	3236.3	3139.2	3129.8
57.5°	3155.7	3147.8	3255.1	3399.1	3500.9	3543.9	3491.5	3368.6	3219.8	3117.3	3092.2
60°	3042.9	3075.8	3194.0	3334.9	3465.7	3508.7	3447.7	3322.4	3159.6	3046.8	3036.7
62.5°	2966.2	2980.3	3088.3	3277.8	3385.0	3428.1	3381.1	3233.9	3060.1	2942.7	2928.6
65°	2846.4	2857.4	2984.2	3140.0	3289.5	3327.9	3267.6	3143.9	2957.6	2828.4	2802.6
67.5°	2655.4	2685.2	2810.4	3008.5	3111.8	3177.6	3123.6	2949.8	2780.7	2653.8	2635.1
70°	2433.1	2473.0	2602.2	2764.2	2936.5	2969.3	2895.0	2776.8	2587.3	2451.9	2419.0
72.5°	2218.6	2221.7	2342.3	2532.5	2641.3	2702.4	2660.1	2504.3	2318.8	2203.7	2183.4
75°	1918.8	1919.5	2051.8	2207.6	2345.4	2385.3	2318.0	2208.4	2043.2	1914.1	1901.5
77.5°	1571.2	1592.3	1709.7	1860.0	1968.9	2026.8	1979.0	1855.3	1701.1	1590.7	1578.2
80°	1232.2	1258.8	1341.8	1476.4	1570.4	1621.3	1569.6	1461.6	1344.1	1236.1	1237.7
82.5°	869.7	889.3	967.6	1059.2	1150.8	1188.4	1166.4	1086.6	979.3	884.6	858.8
85°	485.4	510.4	562.9	643.5	704.6	753.1	725.7	663.1	569.9	510.4	508.8
87.5°	142.5	154.2	175.4	229.4	287.3	308.4	302.2	286.5	251.3	225.5	209.0
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: SP1-2407-176-11

Test Date: 09/26/2024

Luminaire Tested: MEM2-HTN-VA-130-830-U-RW

Data in this report applies to families of products including MEM2-HTN-VA-130-830-U-RW

Report Generated By FNC07603 / LDUCLS01DT446
Version: v7.04

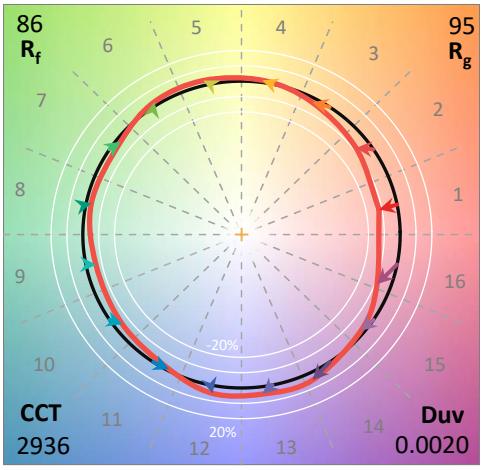
Test Information

Test Method:	LM-79-2019
Report Number:	SP1-2407-176-11
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-130-830-U-RW**
Description:	EPIC MODERN VISUAL COMFORT 130W WAVESTREAM RECTANGULAR WIDE

Spectral Parameters

CCT (K):	2936
CIE u':	0.2522
CIE v':	0.5255
Duv:	0.0020
CIE x:	0.4446
CIE y:	0.4117
CIE z:	0.1436
Peak Wavelength (nm):	601
Dominant Wavelength (nm):	582
Purity:	57.05514
Rf:	85.6
Rg:	95.3

CRI (Ra):	82.0
R1:	79.9
R2:	90.0
R3:	96.9
R4:	80.9
R5:	80.4
R6:	88.8
R7:	82.7
R8:	56.8
R9:	1.5
R10:	78.0
R11:	80.9
R12:	73.9
R13:	82.1
R14:	98.8
R15:	71.1



Test Conditions

Stabilization Time:	54M
Operation Time:	1H 54M
Sphere Temperature (°C):	25.2

REPORT NUMBER: SP1-2407-176-11

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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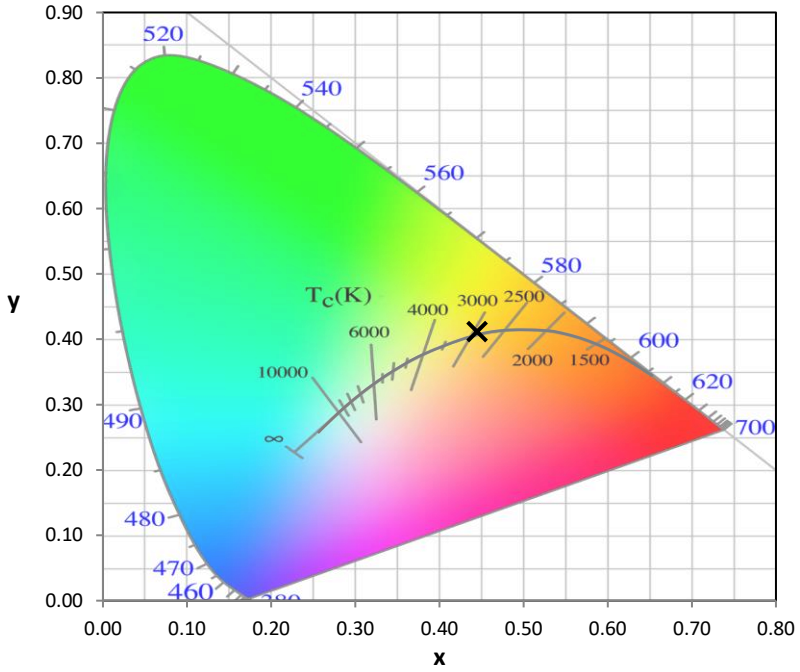
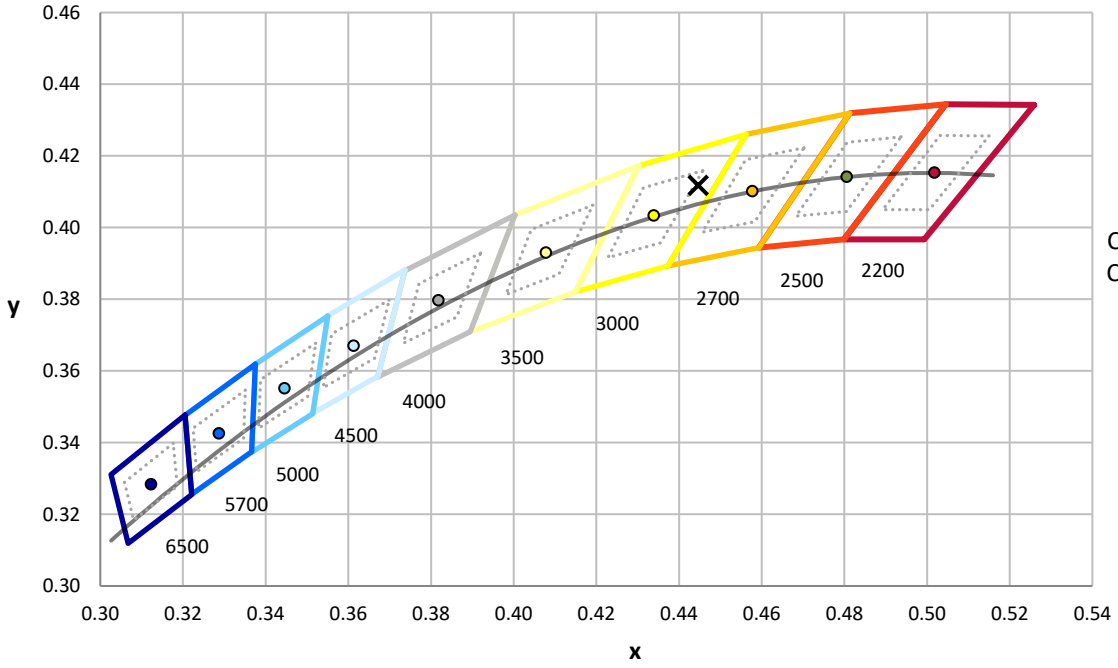
CIE 1931 Chromaticity Diagram



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



CCT = 2936K
CIE x = 0.4446
CIE y = 0.4117
Duv = 0.0020

Point lies inside the ANSI 3000K 7-step quadrangle

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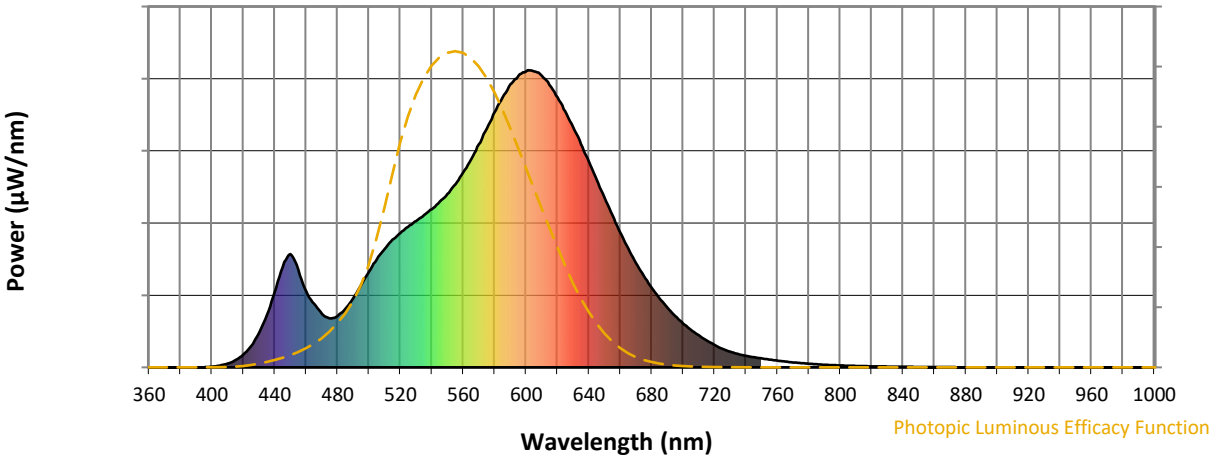
Photopic Flux vs. Wavelength

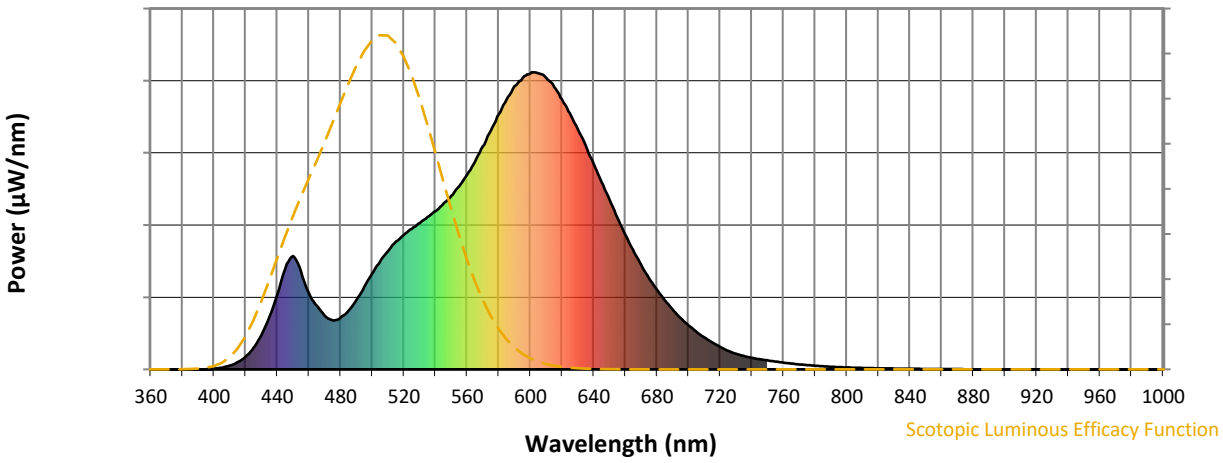


Photopic Lumens: NR

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	234	NR	620	908	NR	750	30	NR	880	0	NR
365	0	NR	495	276	NR	625	861	NR	755	26	NR	885	0	NR
370	0	NR	500	322	NR	630	808	NR	760	23	NR	890	0	NR
375	0	NR	505	363	NR	635	751	NR	765	20	NR	895	0	NR
380	0	NR	510	398	NR	640	692	NR	770	17	NR	900	0	NR
385	0	NR	515	429	NR	645	630	NR	775	14	NR	905	0	NR
390	0	NR	520	453	NR	650	570	NR	780	12	NR	910	0	NR
395	0	NR	525	473	NR	655	511	NR	785	10	NR	915	0	NR
400	2	NR	530	492	NR	660	453	NR	790	9	NR	920	0	NR
405	6	NR	535	512	NR	665	401	NR	795	8	NR	925	0	NR
410	13	NR	540	532	NR	670	351	NR	800	6	NR	930	0	NR
415	24	NR	545	557	NR	675	306	NR	805	5	NR	935	0	NR
420	43	NR	550	583	NR	680	268	NR	810	5	NR	940	0	NR
425	73	NR	555	616	NR	685	232	NR	815	4	NR	945	0	NR
430	115	NR	560	656	NR	690	201	NR	820	4	NR	950	0	NR
435	176	NR	565	700	NR	695	173	NR	825	3	NR	955	0	NR
440	254	NR	570	750	NR	700	148	NR	830	3	NR	960	0	NR
445	337	NR	575	803	NR	705	126	NR	835	2	NR	965	0	NR
450	381	NR	580	859	NR	710	107	NR	840	2	NR	970	0	NR
455	328	NR	585	907	NR	715	90	NR	845	2	NR	975	0	NR
460	257	NR	590	953	NR	720	76	NR	850	1	NR	980	0	NR
465	214	NR	595	980	NR	725	62	NR	855	1	NR	985	0	NR
470	180	NR	600	996	NR	730	53	NR	860	1	NR	990	0	NR
475	165	NR	605	995	NR	735	45	NR	865	1	NR	995	0	NR
480	173	NR	610	981	NR	740	39	NR	870	1	NR	1000	0	NR
485	197	NR	615	950	NR	745	34	NR	875	1	NR			

REPORT NUMBER: SP1-2407-176-11

Scotopic Flux vs. Wavelength



Scotopic Lumens: NR **S/P: 1.3**

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	234	NR	620	908	NR	750	30	NR	880	0	NR
365	0	NR	495	276	NR	625	861	NR	755	26	NR	885	0	NR
370	0	NR	500	322	NR	630	808	NR	760	23	NR	890	0	NR
375	0	NR	505	363	NR	635	751	NR	765	20	NR	895	0	NR
380	0	NR	510	398	NR	640	692	NR	770	17	NR	900	0	NR
385	0	NR	515	429	NR	645	630	NR	775	14	NR	905	0	NR
390	0	NR	520	453	NR	650	570	NR	780	12	NR	910	0	NR
395	0	NR	525	473	NR	655	511	NR	785	10	NR	915	0	NR
400	2	NR	530	492	NR	660	453	NR	790	9	NR	920	0	NR
405	6	NR	535	512	NR	665	401	NR	795	8	NR	925	0	NR
410	13	NR	540	532	NR	670	351	NR	800	6	NR	930	0	NR
415	24	NR	545	557	NR	675	306	NR	805	5	NR	935	0	NR
420	43	NR	550	583	NR	680	268	NR	810	5	NR	940	0	NR
425	73	NR	555	616	NR	685	232	NR	815	4	NR	945	0	NR
430	115	NR	560	656	NR	690	201	NR	820	4	NR	950	0	NR
435	176	NR	565	700	NR	695	173	NR	825	3	NR	955	0	NR
440	254	NR	570	750	NR	700	148	NR	830	3	NR	960	0	NR
445	337	NR	575	803	NR	705	126	NR	835	2	NR	965	0	NR
450	381	NR	580	859	NR	710	107	NR	840	2	NR	970	0	NR
455	328	NR	585	907	NR	715	90	NR	845	2	NR	975	0	NR
460	257	NR	590	953	NR	720	76	NR	850	1	NR	980	0	NR
465	214	NR	595	980	NR	725	62	NR	855	1	NR	985	0	NR
470	180	NR	600	996	NR	730	53	NR	860	1	NR	990	0	NR
475	165	NR	605	995	NR	735	45	NR	865	1	NR	995	0	NR
480	173	NR	610	981	NR	740	39	NR	870	1	NR	1000	0	NR
485	197	NR	615	950	NR	745	34	NR	875	1	NR			

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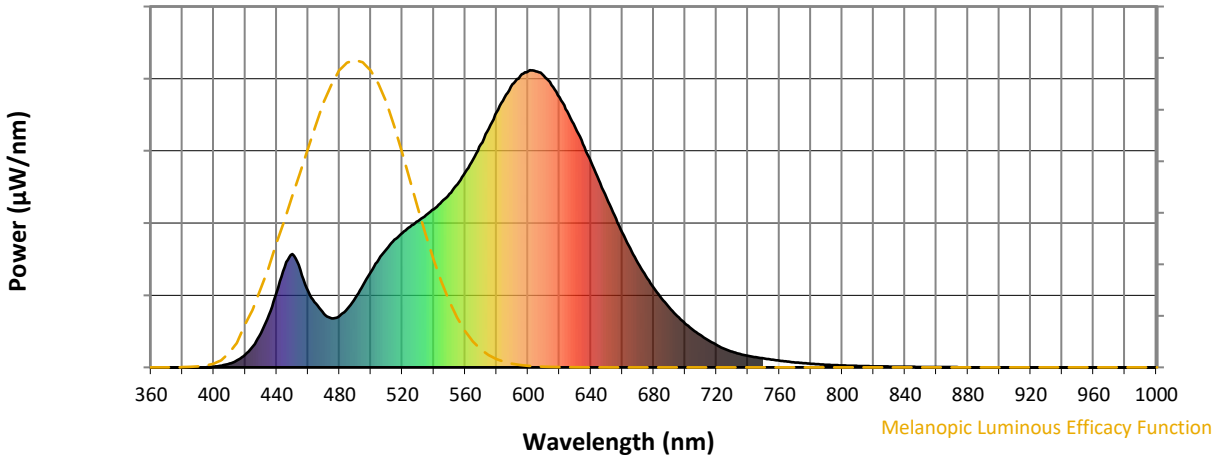
Melanopic Flux vs. Wavelength



Melanopic Lumens: NR **M/P: 2.46**

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	234	NR	620	908	NR	750	30	NR	880	0	NR
365	0	NR	495	276	NR	625	861	NR	755	26	NR	885	0	NR
370	0	NR	500	322	NR	630	808	NR	760	23	NR	890	0	NR
375	0	NR	505	363	NR	635	751	NR	765	20	NR	895	0	NR
380	0	NR	510	398	NR	640	692	NR	770	17	NR	900	0	NR
385	0	NR	515	429	NR	645	630	NR	775	14	NR	905	0	NR
390	0	NR	520	453	NR	650	570	NR	780	12	NR	910	0	NR
395	0	NR	525	473	NR	655	511	NR	785	10	NR	915	0	NR
400	2	NR	530	492	NR	660	453	NR	790	9	NR	920	0	NR
405	6	NR	535	512	NR	665	401	NR	795	8	NR	925	0	NR
410	13	NR	540	532	NR	670	351	NR	800	6	NR	930	0	NR
415	24	NR	545	557	NR	675	306	NR	805	5	NR	935	0	NR
420	43	NR	550	583	NR	680	268	NR	810	5	NR	940	0	NR
425	73	NR	555	616	NR	685	232	NR	815	4	NR	945	0	NR
430	115	NR	560	656	NR	690	201	NR	820	4	NR	950	0	NR
435	176	NR	565	700	NR	695	173	NR	825	3	NR	955	0	NR
440	254	NR	570	750	NR	700	148	NR	830	3	NR	960	0	NR
445	337	NR	575	803	NR	705	126	NR	835	2	NR	965	0	NR
450	381	NR	580	859	NR	710	107	NR	840	2	NR	970	0	NR
455	328	NR	585	907	NR	715	90	NR	845	2	NR	975	0	NR
460	257	NR	590	953	NR	720	76	NR	850	1	NR	980	0	NR
465	214	NR	595	980	NR	725	62	NR	855	1	NR	985	0	NR
470	180	NR	600	996	NR	730	53	NR	860	1	NR	990	0	NR
475	165	NR	605	995	NR	735	45	NR	865	1	NR	995	0	NR
480	173	NR	610	981	NR	740	39	NR	870	1	NR	1000	0	NR
485	197	NR	615	950	NR	745	34	NR	875	1	NR			

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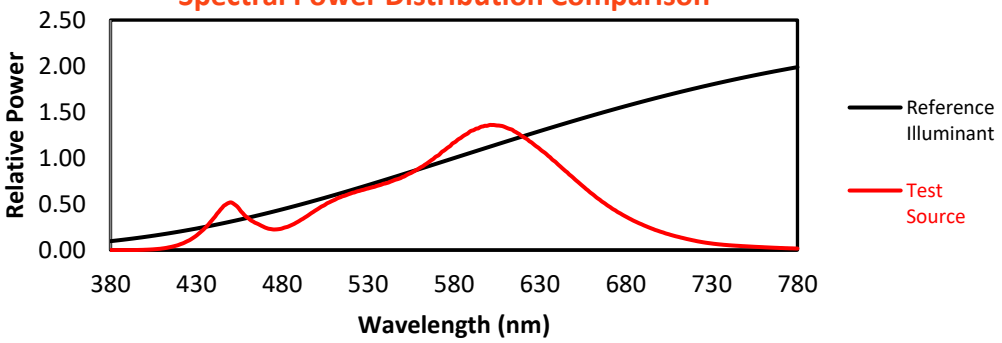
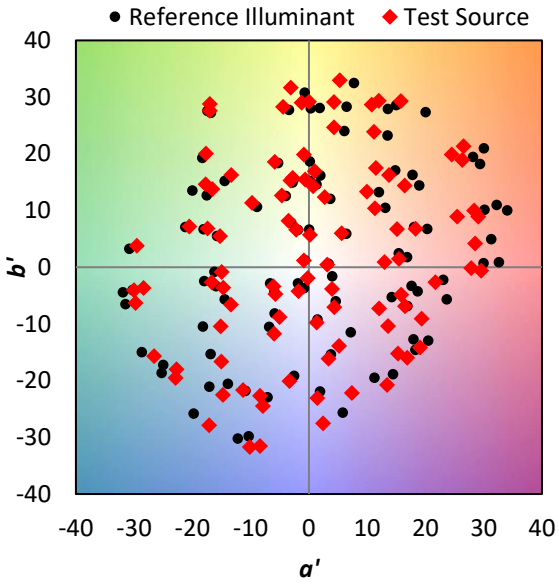
Summary

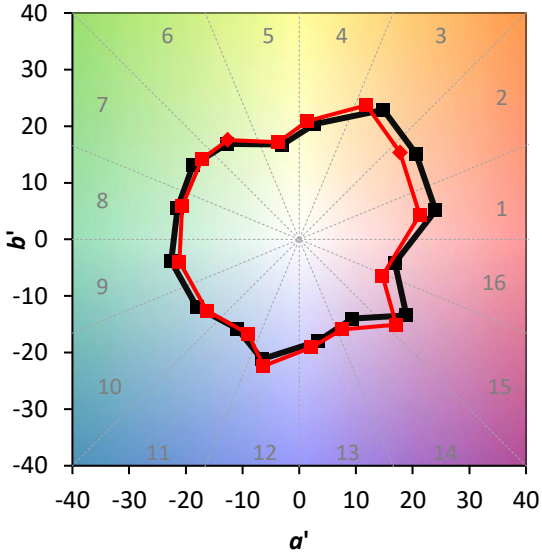
R_f = 85.6
R_g = 95.3
CIE R_a = 82.0
R_9 = 1.5

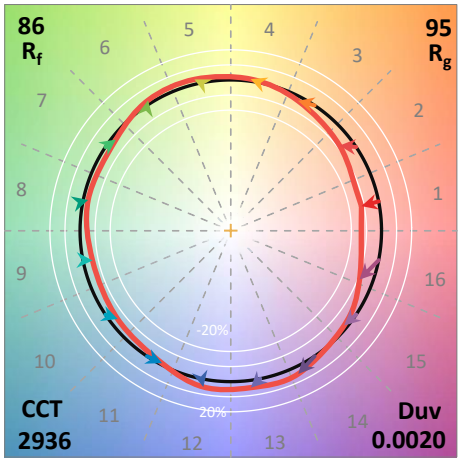
Spectral Power Distribution Comparison

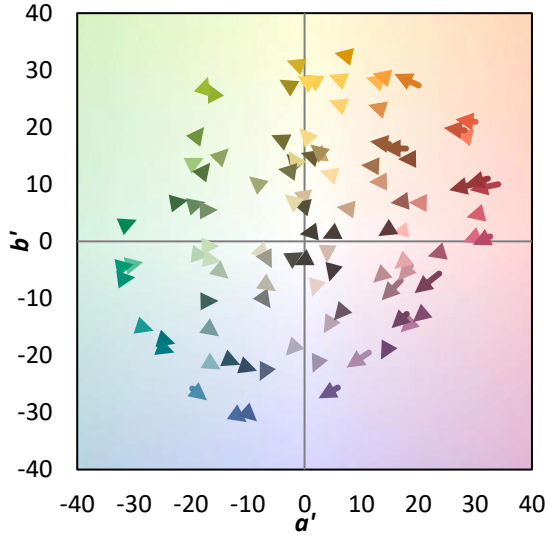


Color Vector Graphics









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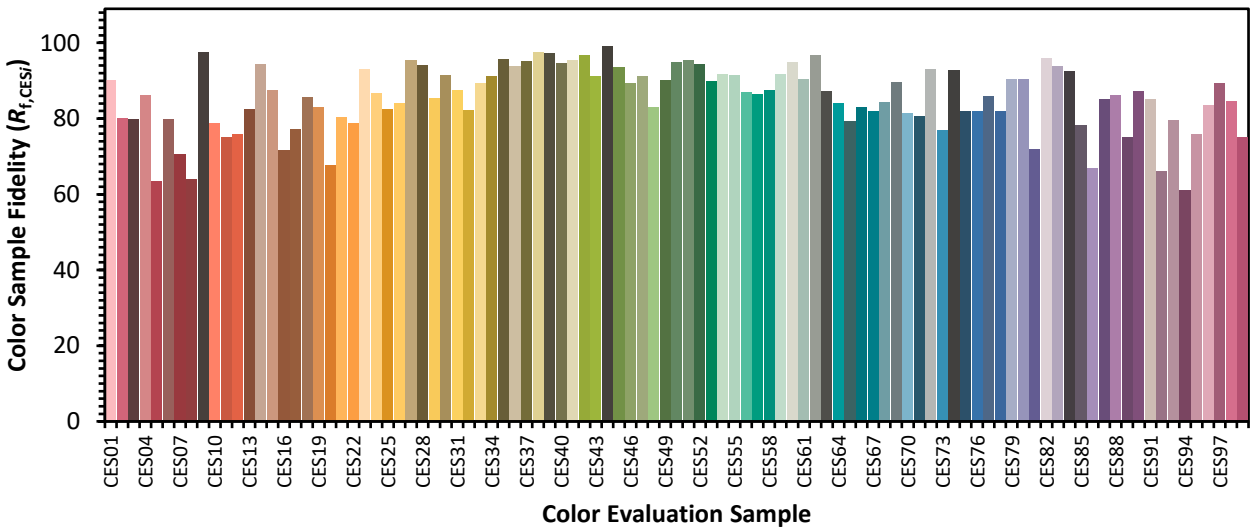
Individual Sample Fidelity Index ($R_{f,i}$)

CES01 = 86	CES26 = 84	CES51 = 95	CES76 = 82
CES02 = 63	CES27 = 95	CES52 = 94	CES77 = 86
CES03 = 31	CES28 = 94	CES53 = 90	CES78 = 82
CES04 = 71	CES29 = 85	CES54 = 92	CES79 = 90
CES05 = 50	CES30 = 91	CES55 = 92	CES80 = 90
CES06 = 51	CES31 = 87	CES56 = 87	CES81 = 72
CES07 = 42	CES32 = 82	CES57 = 87	CES82 = 96
CES08 = 41	CES33 = 89	CES58 = 88	CES83 = 94
CES09 = 29	CES34 = 91	CES59 = 92	CES84 = 93
CES10 = 76	CES35 = 96	CES60 = 95	CES85 = 78
CES11 = 59	CES36 = 94	CES61 = 90	CES86 = 67
CES12 = 65	CES37 = 95	CES62 = 97	CES87 = 85
CES13 = 44	CES38 = 98	CES63 = 87	CES88 = 86
CES14 = 74	CES39 = 97	CES64 = 84	CES89 = 75
CES15 = 72	CES40 = 95	CES65 = 79	CES90 = 87
CES16 = 48	CES41 = 95	CES66 = 83	CES91 = 85
CES17 = 50	CES42 = 97	CES67 = 82	CES92 = 66
CES18 = 57	CES43 = 91	CES68 = 84	CES93 = 80
CES19 = 72	CES44 = 99	CES69 = 90	CES94 = 61
CES20 = 67	CES45 = 93	CES70 = 81	CES95 = 76
CES21 = 87	CES46 = 89	CES71 = 81	CES96 = 84
CES22 = 79	CES47 = 91	CES72 = 93	CES97 = 89
CES23 = 92	CES48 = 83	CES73 = 77	CES98 = 85
CES24 = 91	CES49 = 90	CES74 = 93	CES99 = 75
CES25 = 72	CES50 = 95	CES75 = 82	



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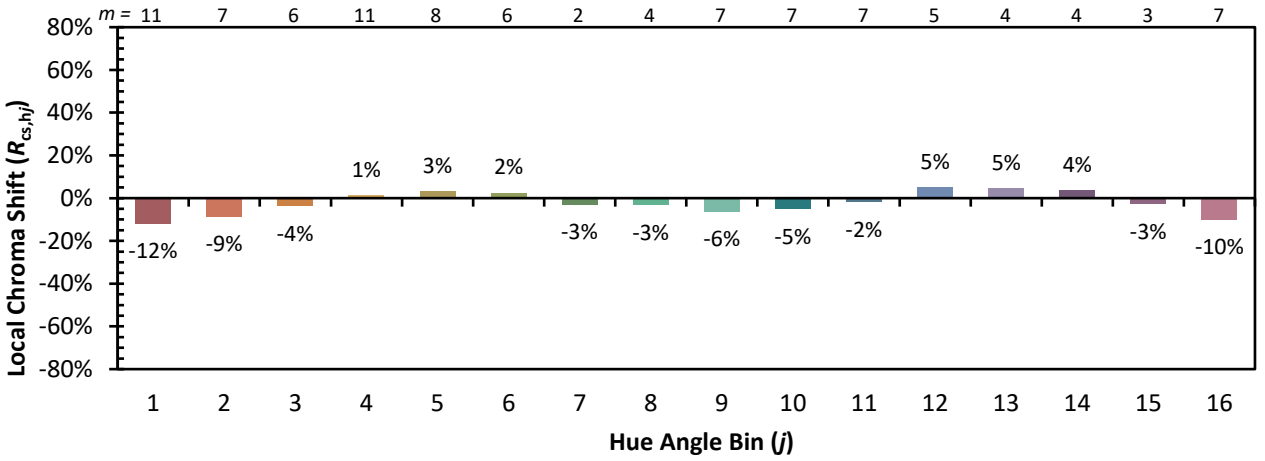
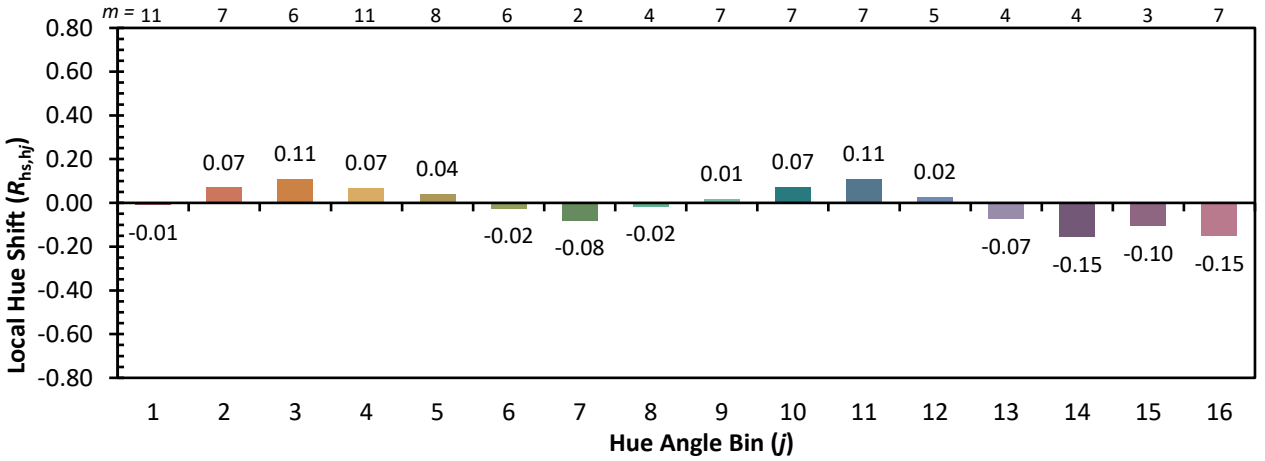
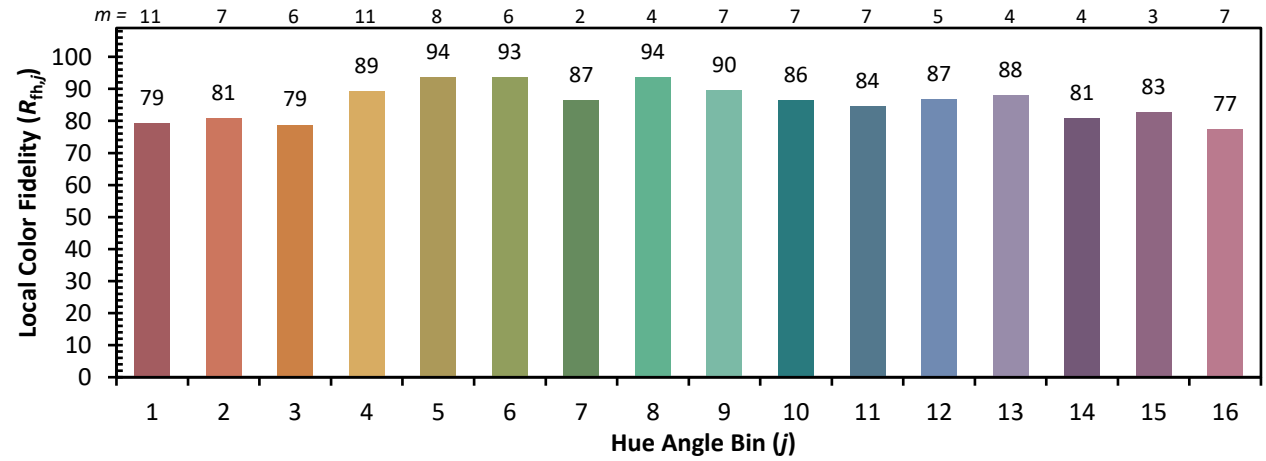
Color Rendition by Hue-Angle Bin







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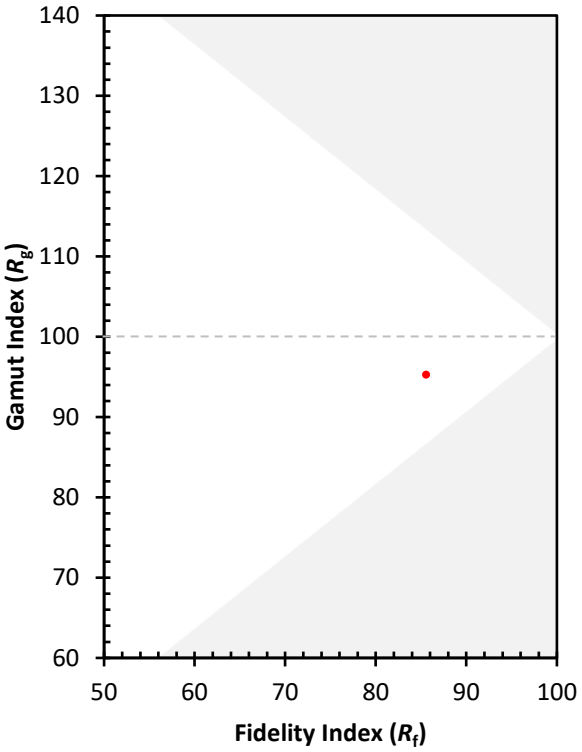
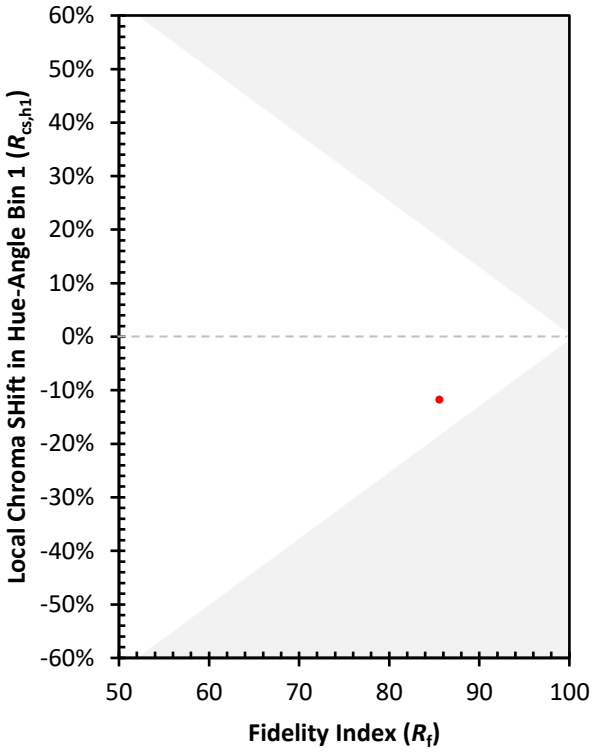
Measure Comparisons





(END OF REPORT)