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: P879624

Luminaire Tested: **MEM2-HSN-VA-160-830-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:	P879624
Test Lab:	INNOVATION CENTER(G3)
Issue Date:	10/01/2024
Manufacturer:	COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line:	STREETWORKS
Catalog Number:	MEM2-HSN-VA-160-830-U-CQ
Description:	EPIC MODERN SHORT HOUSING 160W 80CRI 3000K VISUAL COMFORT FIXTURE w/ TYPE V CONCENTRATED DISTRIBUTION OPTIC
Light Source:	(1) 3000K CCT, 80 CRI LEDS
Ballast/Driver:	ELECTRONIC DRIVER

Summary

Lumens per Lamp:	N/A
Luminaire Lumens:	11575.8 lumens
Efficiency:	N/A
Efficacy:	74.2 lumens/watt
Luminous Opening:	Circular (Dia: 1.12' x H: 0')
IES Classification:	Type V - Short
BUG Rating:	B3 - U0 - G2

Input Watts (W):	156
Input Voltage (V):	120
Input Current (Ain):	NR
Voltage Rise (V):	NR
Power Factor:	0.995
Total Harmonic Distortion (THDi):	6.6%
Frequency (hertz):	60
Stabilization Time:	NR
Operation Time:	NR
Ambient Temperature (°C):	NR
Test Distance:	24 FT

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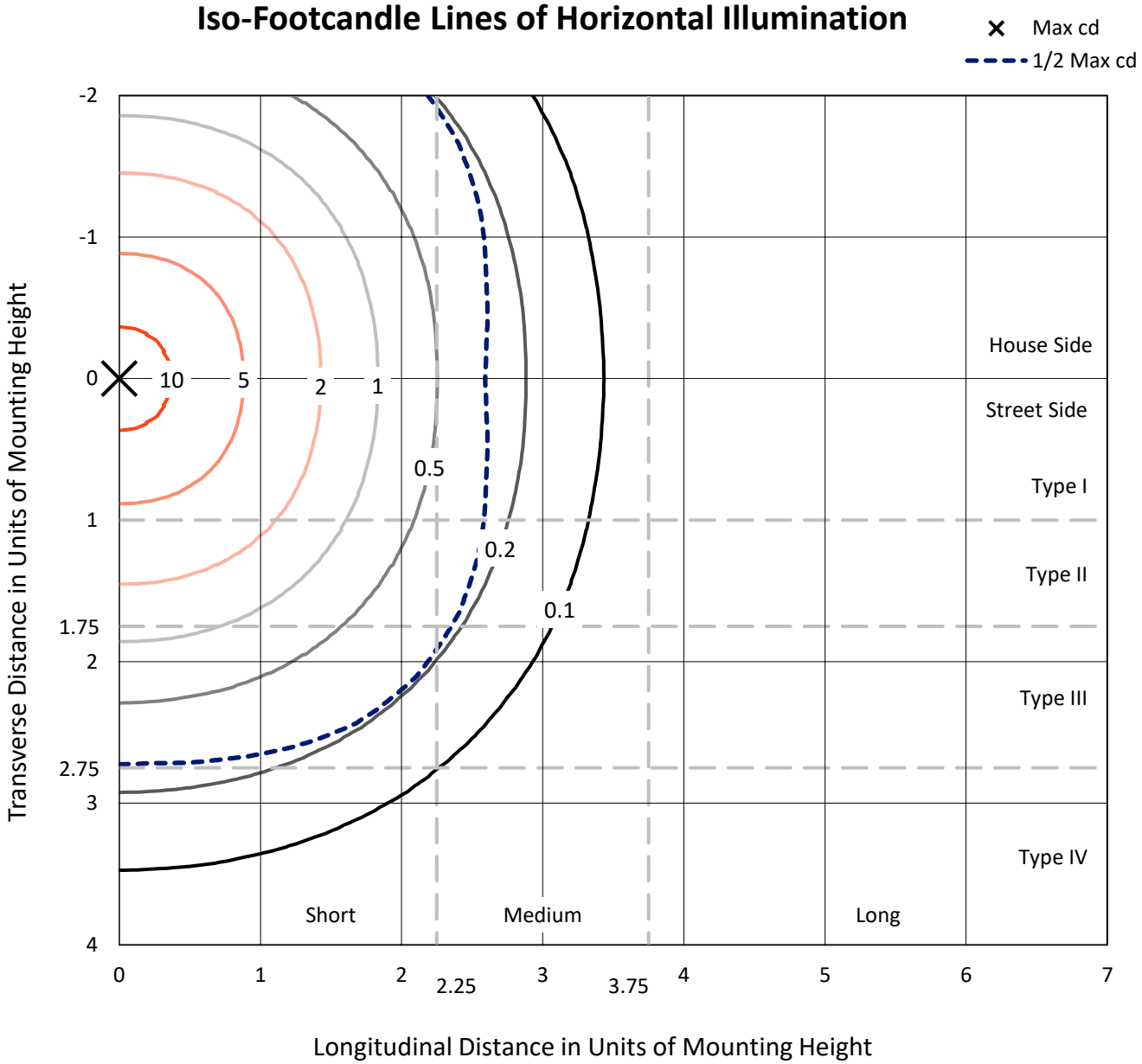
Scaled Data Report

REPORT NUMBER: P879624
CATALOG NUMBER: MEM2-HSN-VA-160-830-U-CQ

Iso-Footcandle Lines of Horizontal Illumination



Based on 15 foot mounting height. Maximum calculated value = 12.8 fc
Type V - Short - N/A

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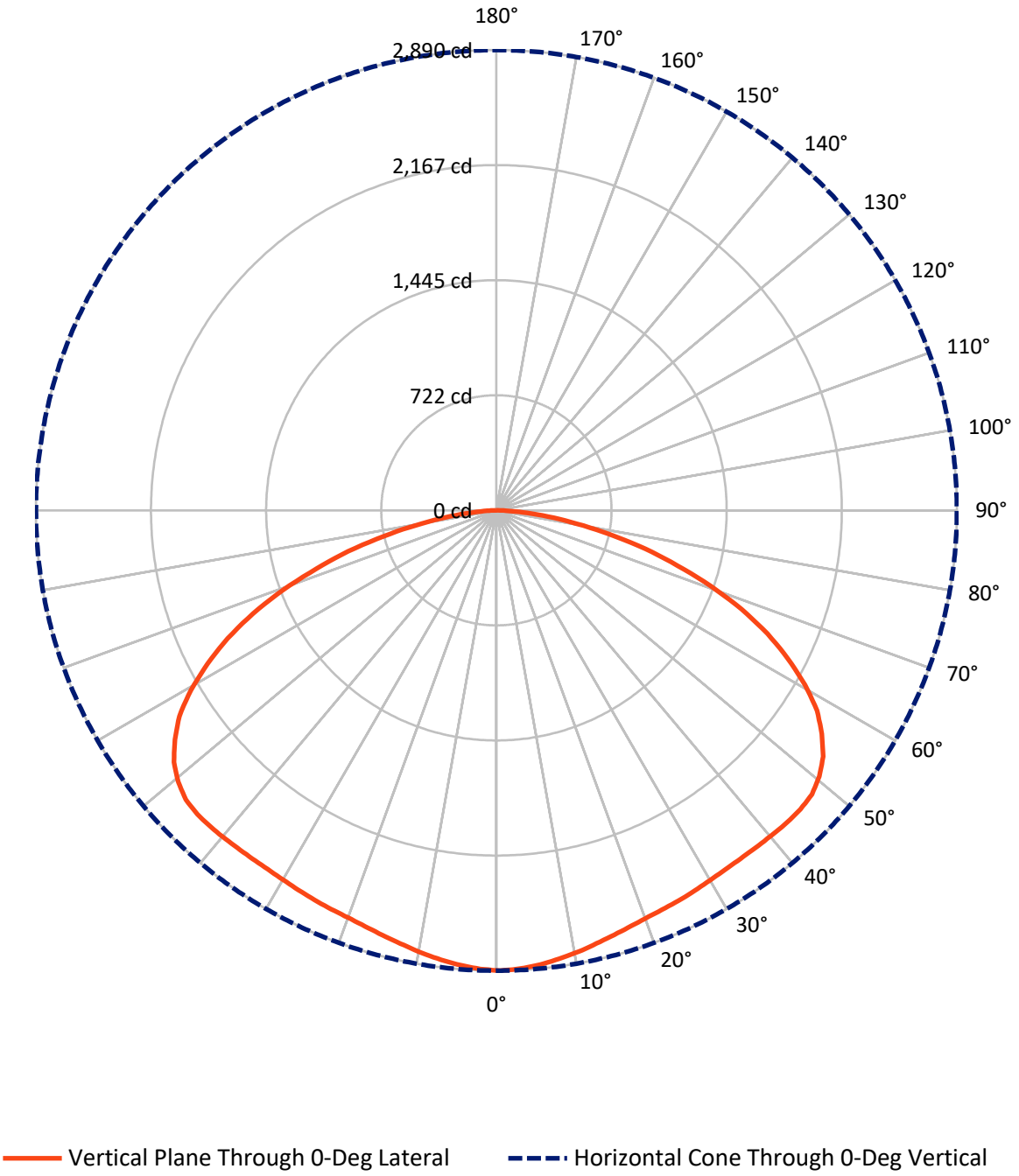
Luminous Intensity Polar Plot



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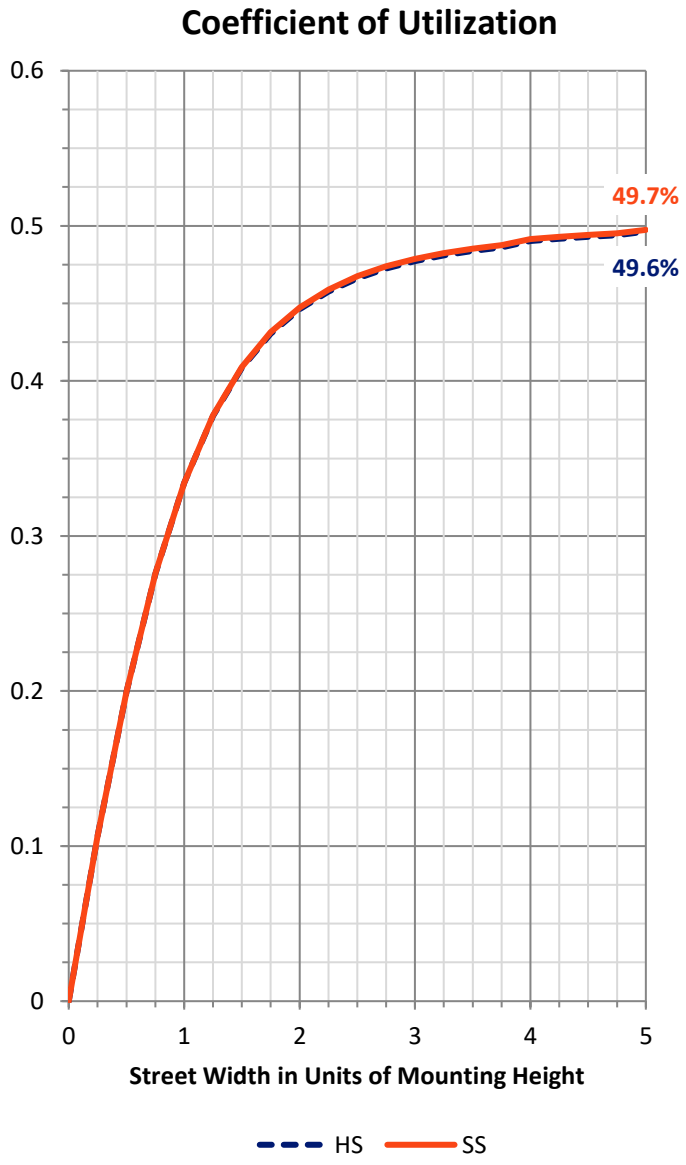
REPORT NUMBER: P879624
CATALOG NUMBER: MEM2-HSN-VA-160-830-U-CQ

FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	5787.9	0.0	5787.9
	% Fixture	50.0	0.0	50.0
Street Side	Lumens	5787.9	0.0	5787.9
	% Fixture	50.0	0.0	50.0
Total	Lumens	11575.8	0.0	11575.8
	% Fixture	100.0	0.0	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	272.3	2.4
10°-20°	785.6	6.8
20°-30°	1257.9	10.9
30°-40°	1704.0	14.7
40°-50°	2104.3	18.2
50°-60°	2260.8	19.5
60°-70°	1901.2	16.4
70°-80°	1061.6	9.2
80°-90°	228.1	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°	11575.8	100.0
0°-180°	11575.8	100.0



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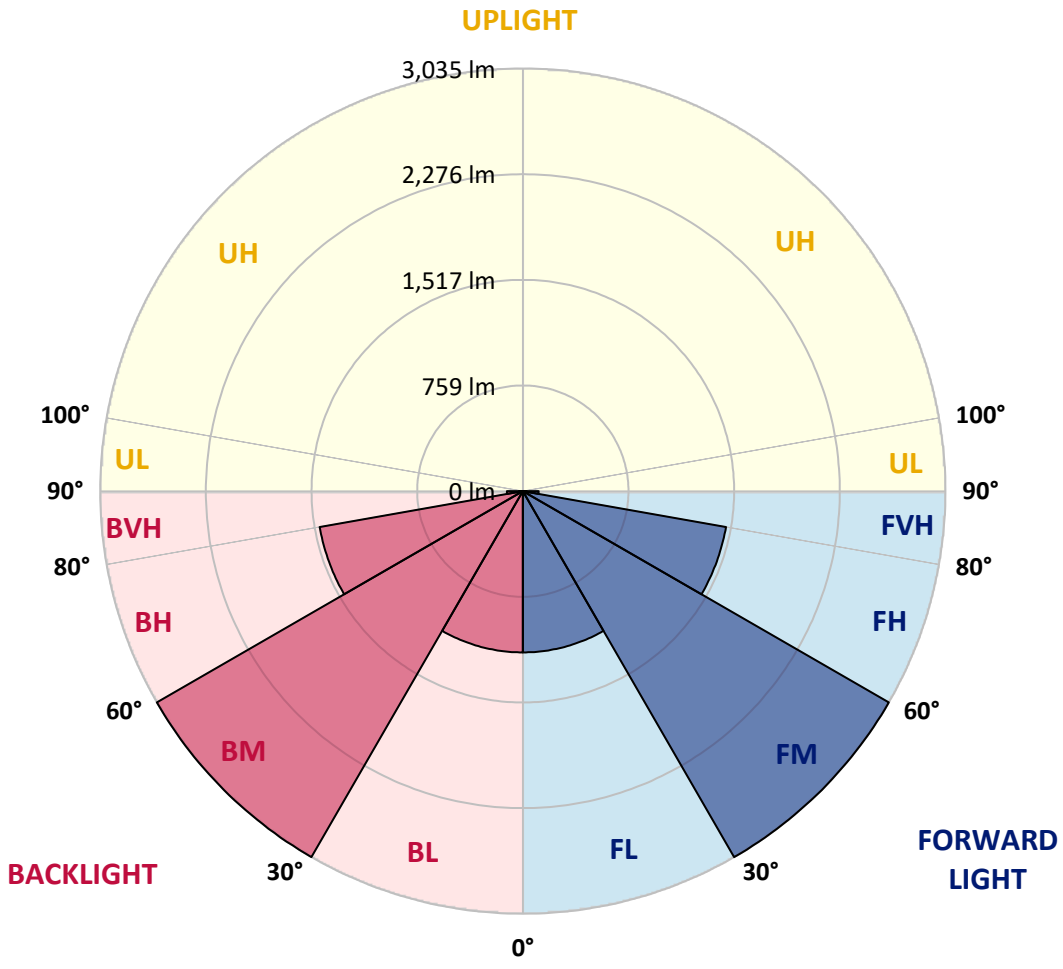
Scaled Data Report

REPORT NUMBER: P879624
CATALOG NUMBER: MEM2-HSN-VA-160-830-U-CQ

LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit B	U	G
FL	(0°-30°)	1157.9	10.0			
FM	(30°-60°)	3034.5	26.2			
FH	(60°-80°)	1481.4	12.8			G1/1800
FVH	(80°-90°)	114.0	1.0			G2/225
BL	(0°-30°)	1157.9	10.0	B3/2500		
BM	(30°-60°)	3034.5	26.2	B3/5000		
BH	(60°-80°)	1481.4	12.8	B3/2500		G1/1800
BVH	(80°-90°)	114.0	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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REPORT NUMBER: P879624
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CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	45°	55°	65°	75°	85°	90°
0°	2889.5	2889.5	2889.5	2889.5	2889.5	2889.5	2889.5	2889.5	2889.5	2889.5	2889.5
2.5°	2880.8	2883.7	2883.0	2883.0	2883.0	2884.4	2884.4	2884.4	2885.2	2885.2	2885.9
5°	2864.3	2866.5	2866.5	2866.5	2867.9	2868.6	2868.6	2869.4	2870.8	2870.1	2869.4
7.5°	2842.1	2844.2	2844.2	2844.2	2845.7	2847.1	2847.1	2846.4	2848.5	2848.5	2847.8
10°	2818.4	2819.1	2819.8	2821.3	2823.4	2824.1	2823.4	2823.4	2822.7	2823.4	2823.4
12.5°	2790.4	2794.0	2794.7	2796.2	2799.7	2800.5	2800.5	2799.7	2799.0	2799.0	2798.3
15°	2765.3	2766.7	2768.9	2771.8	2776.1	2777.5	2778.2	2776.1	2773.9	2773.2	2773.9
17.5°	2742.3	2744.5	2747.4	2750.2	2756.0	2758.8	2758.8	2756.0	2753.1	2751.7	2751.7
20°	2723.7	2725.8	2729.4	2733.7	2741.6	2745.2	2743.8	2740.9	2735.9	2733.7	2734.4
22.5°	2711.5	2714.3	2717.2	2723.7	2732.3	2736.6	2735.2	2730.1	2724.4	2720.8	2720.8
25°	2701.4	2703.6	2707.9	2716.5	2725.8	2730.8	2728.7	2722.2	2714.3	2710.0	2709.3
27.5°	2689.9	2692.8	2698.6	2710.0	2721.5	2725.8	2724.4	2715.1	2705.7	2700.0	2698.6
30°	2679.2	2682.0	2689.9	2702.9	2717.2	2723.7	2720.1	2710.0	2698.6	2691.4	2690.7
32.5°	2672.0	2675.6	2684.9	2701.4	2718.6	2728.0	2724.4	2712.2	2697.1	2687.8	2687.1
35°	2669.1	2672.7	2686.3	2706.4	2728.0	2740.9	2735.9	2720.8	2702.1	2690.7	2689.2
37.5°	2669.8	2674.1	2691.4	2717.9	2745.2	2758.8	2752.4	2733.0	2709.3	2693.5	2691.4
40°	2672.7	2677.7	2700.0	2733.0	2765.3	2778.2	2768.2	2739.5	2707.2	2684.9	2680.6
42.5°	2676.3	2684.2	2711.5	2750.2	2784.0	2794.7	2776.8	2734.4	2689.2	2660.5	2656.9
45°	2675.6	2682.0	2713.6	2759.6	2795.4	2801.2	2771.8	2718.6	2665.5	2628.2	2625.3
47.5°	2663.4	2669.8	2705.7	2756.7	2791.9	2793.3	2758.1	2697.1	2634.7	2591.6	2587.3
50°	2625.3	2634.0	2674.1	2730.1	2769.6	2770.3	2731.6	2664.1	2591.6	2541.4	2534.2
52.5°	2567.2	2573.7	2620.3	2680.6	2725.1	2730.8	2688.5	2610.3	2527.7	2473.9	2468.9
55°	2476.8	2489.7	2539.2	2602.4	2651.2	2657.6	2615.3	2530.6	2445.9	2384.2	2378.5
57.5°	2372.0	2374.2	2426.5	2495.4	2546.4	2553.6	2507.6	2421.5	2333.2	2275.8	2261.5
60°	2224.2	2232.8	2282.3	2349.7	2403.6	2412.9	2369.1	2285.9	2194.0	2128.7	2128.0
62.5°	2053.3	2063.4	2113.6	2185.4	2239.9	2249.3	2202.6	2121.5	2029.7	1973.7	1953.6
65°	1868.2	1871.0	1921.3	1992.3	2041.9	2046.9	2010.3	1933.5	1838.7	1781.3	1768.4
67.5°	1660.0	1662.9	1701.7	1768.4	1821.5	1828.7	1791.4	1721.0	1635.6	1575.4	1568.9
70°	1429.7	1430.4	1468.4	1523.0	1576.1	1591.1	1557.4	1489.9	1408.1	1360.0	1347.1
72.5°	1187.1	1193.5	1227.3	1284.0	1329.2	1332.8	1305.5	1247.4	1180.6	1141.1	1134.0
75°	965.3	961.0	989.7	1024.2	1059.3	1070.8	1048.6	1009.1	947.4	912.9	920.1
77.5°	724.9	726.3	748.6	780.1	802.4	822.5	797.4	778.7	729.2	689.7	691.1
80°	512.4	511.0	531.8	546.9	572.0	574.9	561.2	536.1	504.5	488.0	486.6
82.5°	324.4	317.9	333.7	353.1	363.9	358.8	361.7	345.2	320.1	311.5	303.6
85°	165.8	164.4	173.0	180.1	188.0	188.0	183.7	170.8	165.8	155.7	152.9
87.5°	56.7	58.9	61.7	59.6	63.2	61.7	60.3	51.0	45.2	42.3	39.5
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

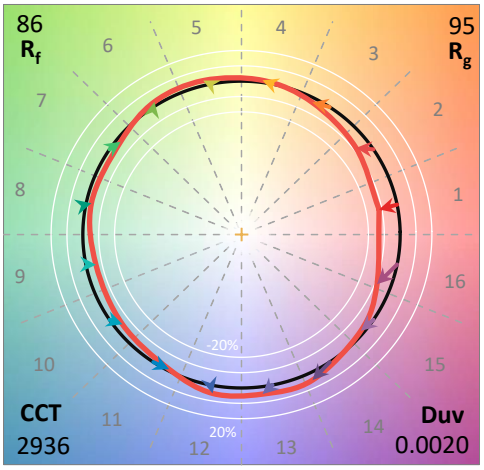
Test Information

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

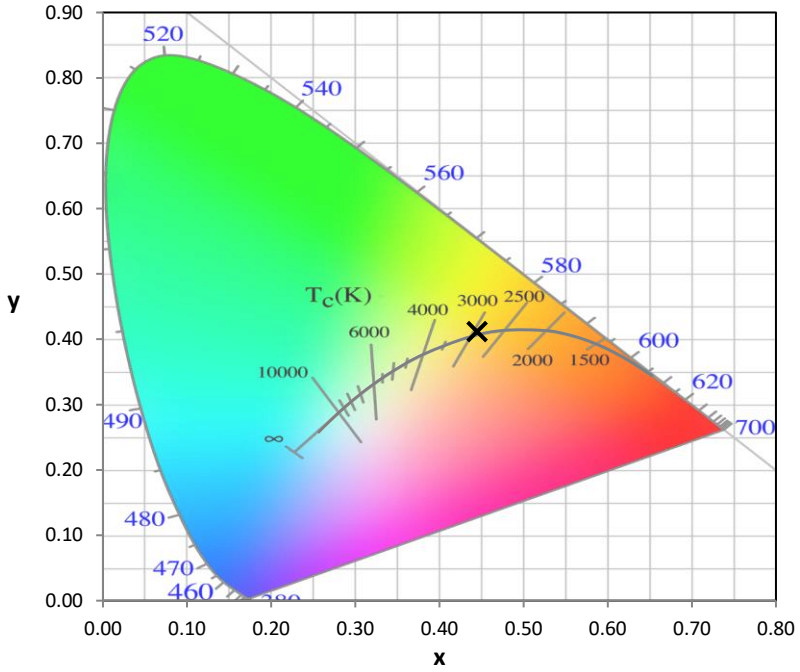
Stabilization Time:	54M
Operation Time:	1H 54M
Sphere Temperature (°C):	25.2

REPORT NUMBER: SP1-2407-176-11

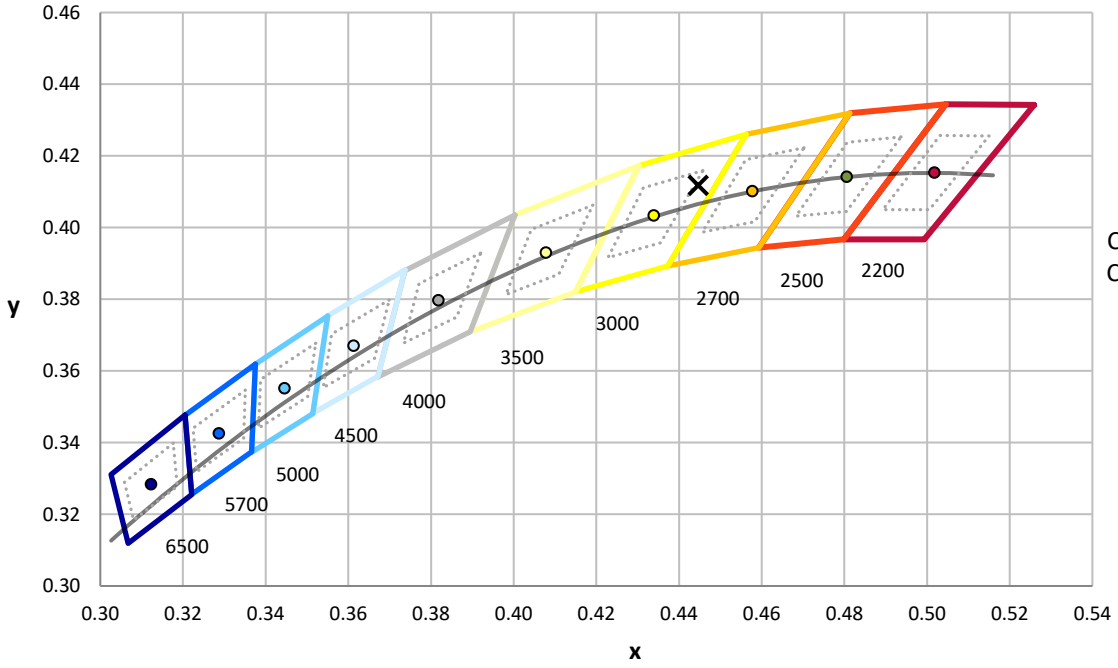
Measurement and Test Equipment			
Instrument	Identification Number	Calibration Date	Calibration Due Date
Photometer	IN0058	6/18/2024	12/18/2024
Power Meter	INXT2011004	2/8/2024	2/8/2025
AC Power Source	IN0063	10/24/2023	10/24/2024
DC Power Source	IN0208	10/24/2023	10/24/2024
Sphere Thermometer	IN0085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

REPORT NUMBER: SP1-2407-176-11

CIE 1931 Chromaticity Diagram



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

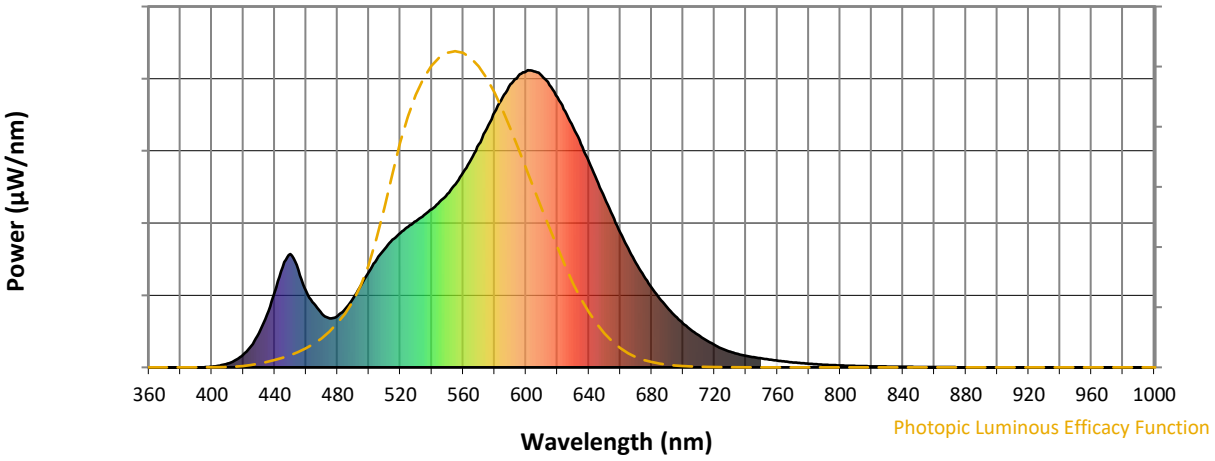


CCT = 2936K
CIE x = 0.4446
CIE y = 0.4117
Duv = 0.0020

Point lies inside the ANSI 3000K 7-step quadrangle

REPORT NUMBER: SP1-2407-176-11

Photopic Flux vs. Wavelength

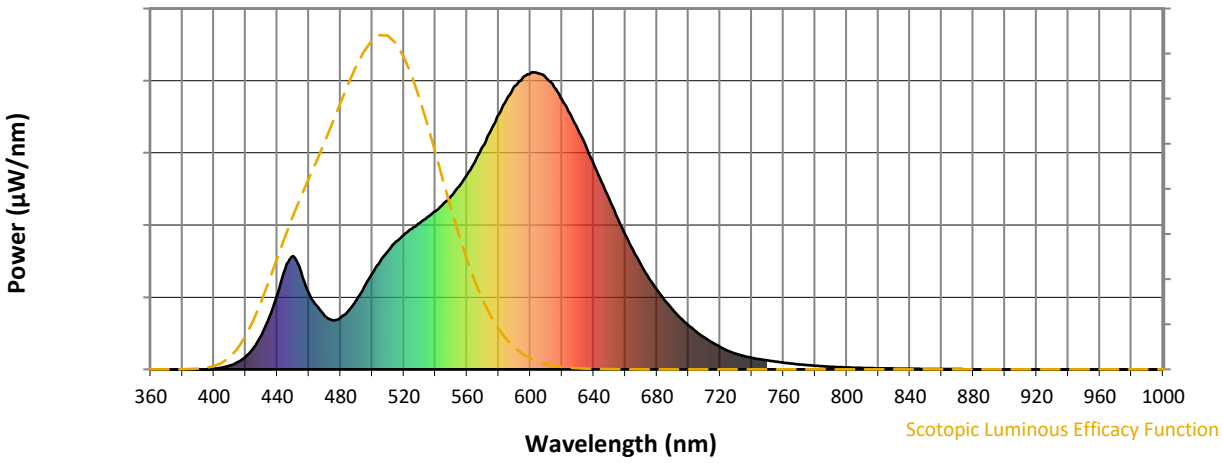


Photopic Lumens: NR

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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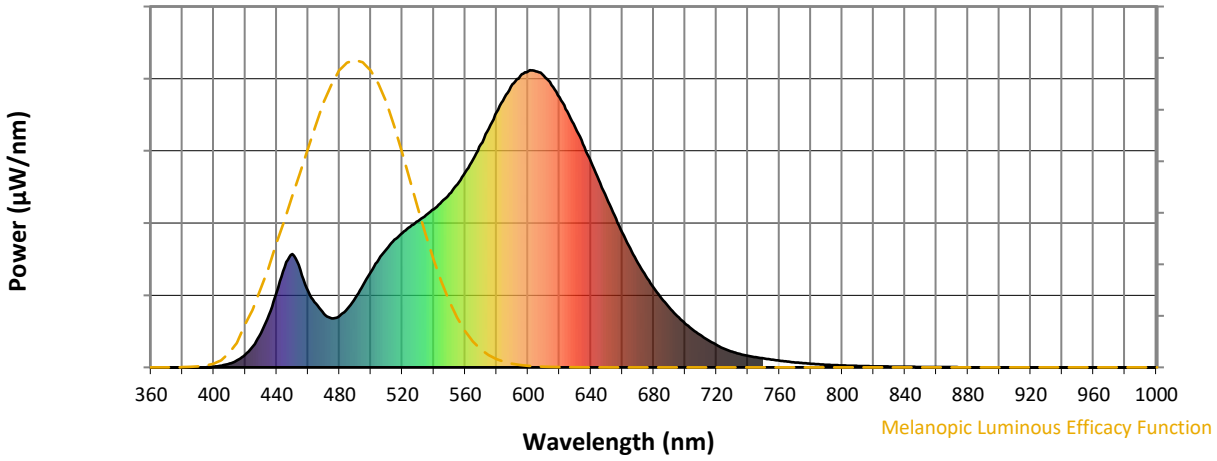
Melanopic Flux vs. Wavelength



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			

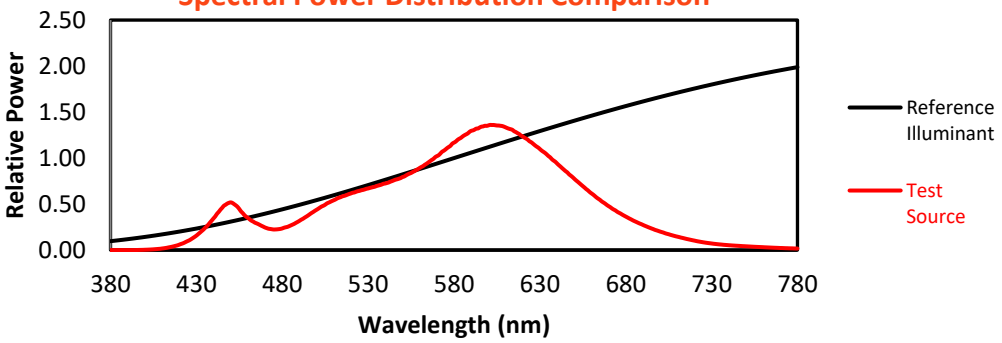
REPORT NUMBER: SP1-2407-176-11

TM-30-18

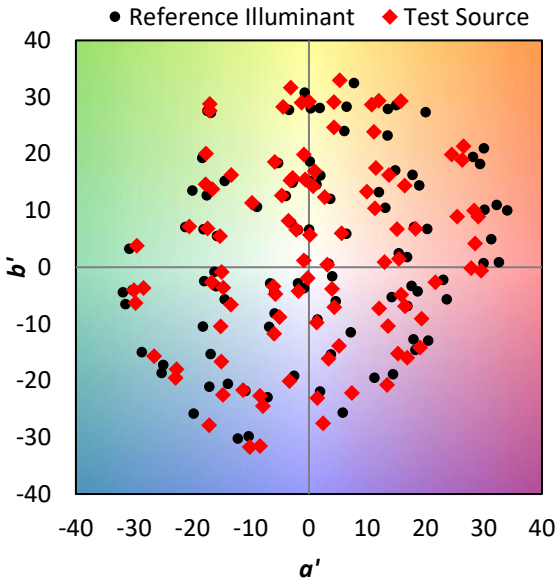
Summary

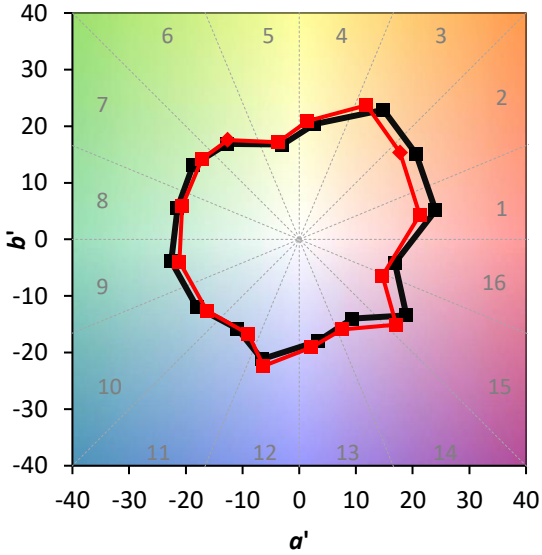
R_f = 85.6
R_g = 95.3
CIE R_a = 82.0
R_9 = 1.5

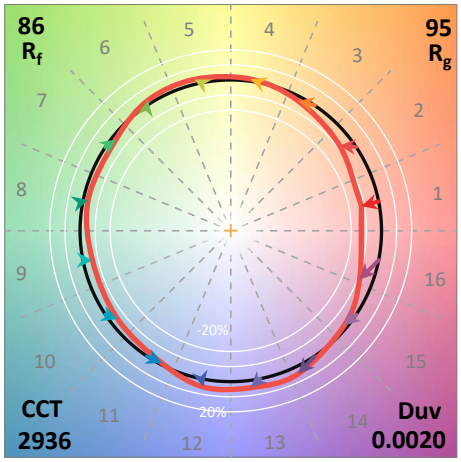
Spectral Power Distribution Comparison

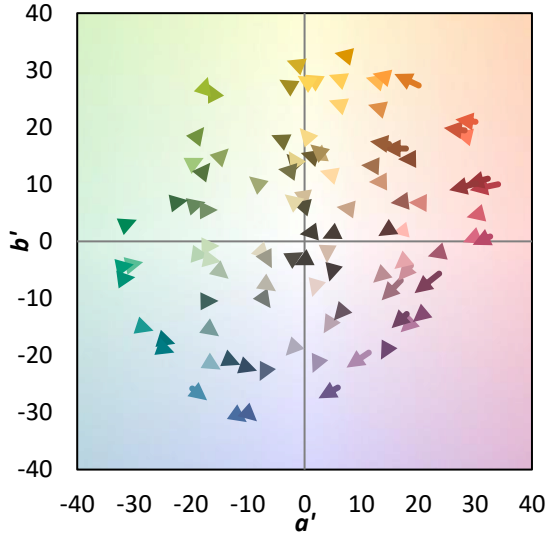


Color Vector Graphics







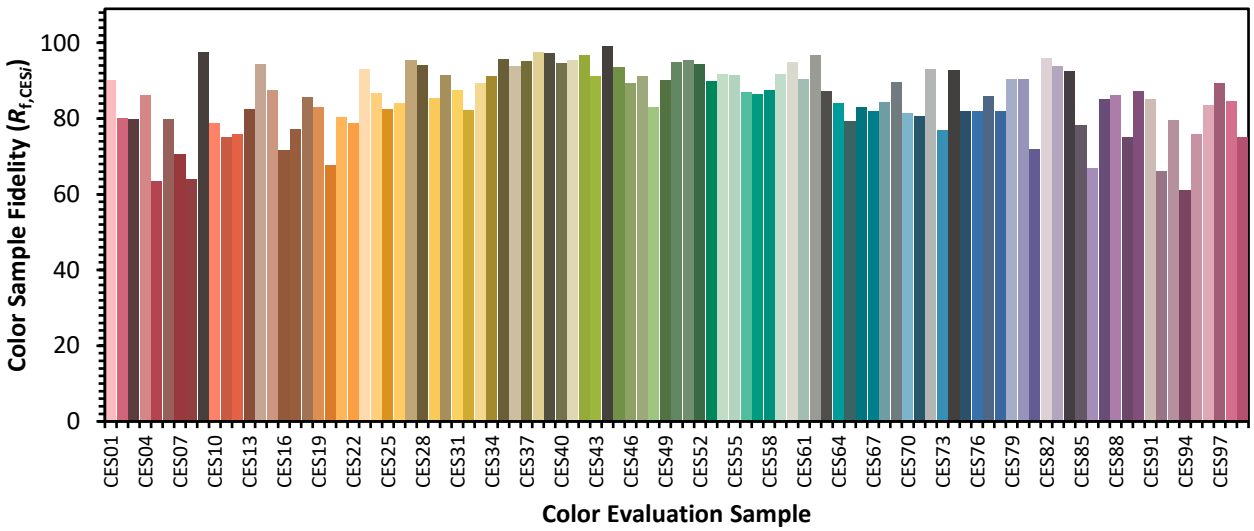


REPORT NUMBER: SP1-2407-176-11

TM-30-18

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

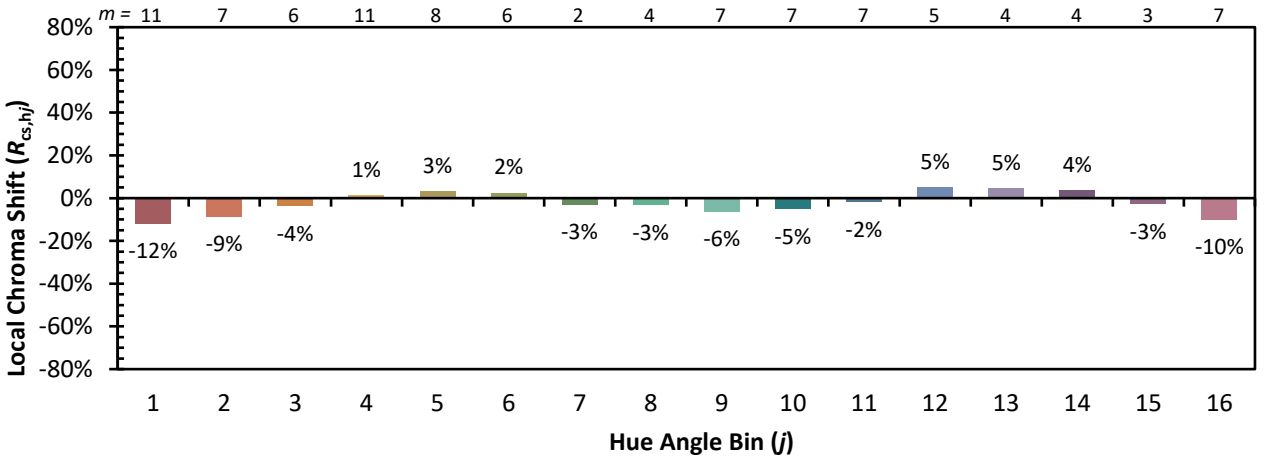
CES01 = 86	CES26 = 84	CES51 = 95	CES76 = 82
CES02 = 63	CES27 = 95	CES52 = 94	CES77 = 86
CES03 = 31	CES28 = 94	CES53 = 90	CES78 = 82
CES04 = 71	CES29 = 85	CES54 = 92	CES79 = 90
CES05 = 50	CES30 = 91	CES55 = 92	CES80 = 90
CES06 = 51	CES31 = 87	CES56 = 87	CES81 = 72
CES07 = 42	CES32 = 82	CES57 = 87	CES82 = 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	

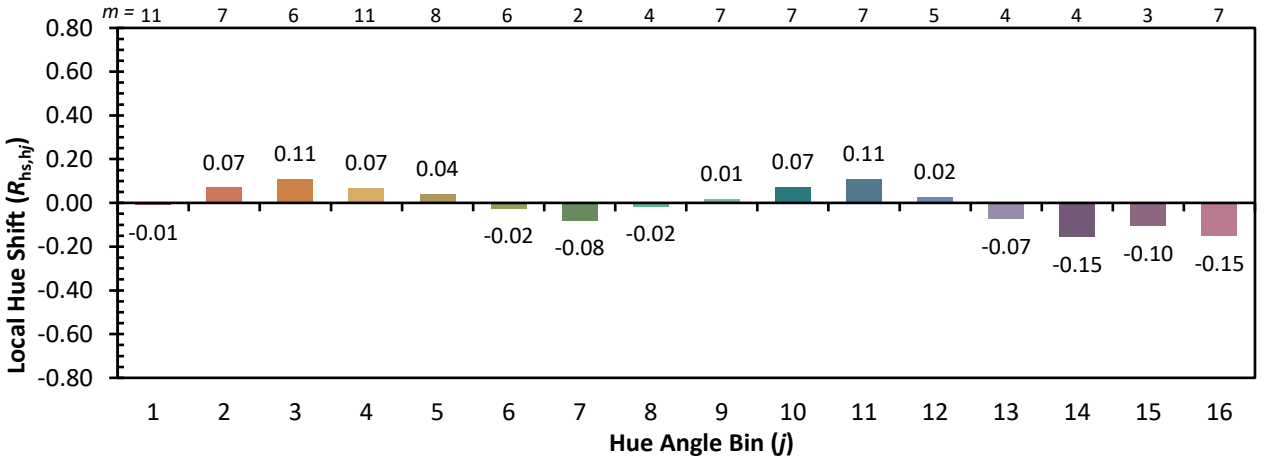


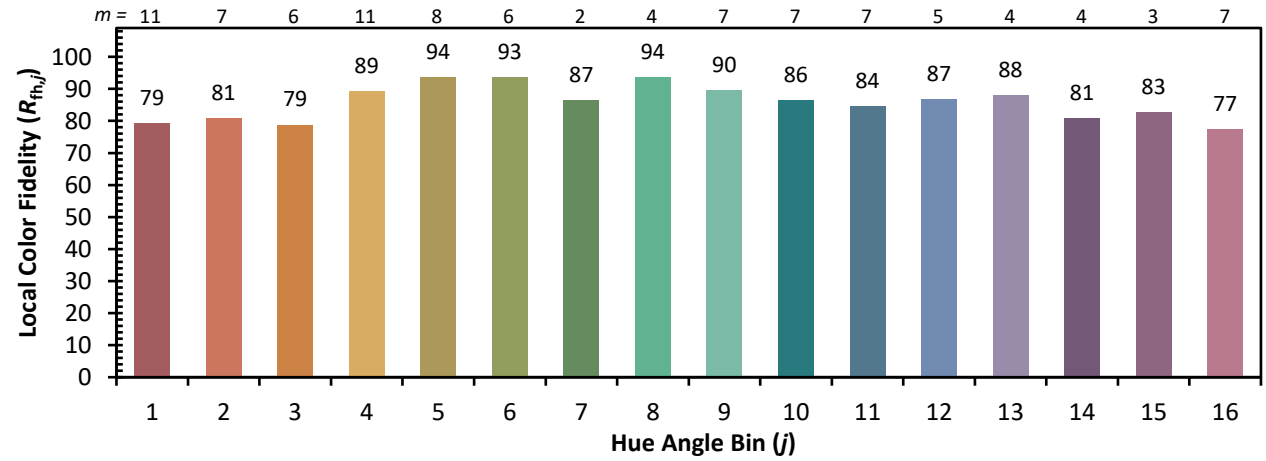
REPORT NUMBER: SP1-2407-176-11

TM-30-18

Color Rendition by Hue-Angle Bin



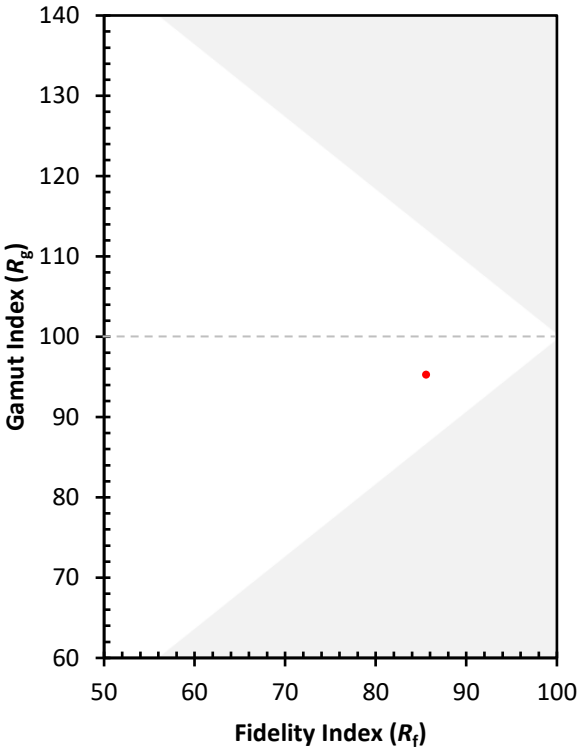


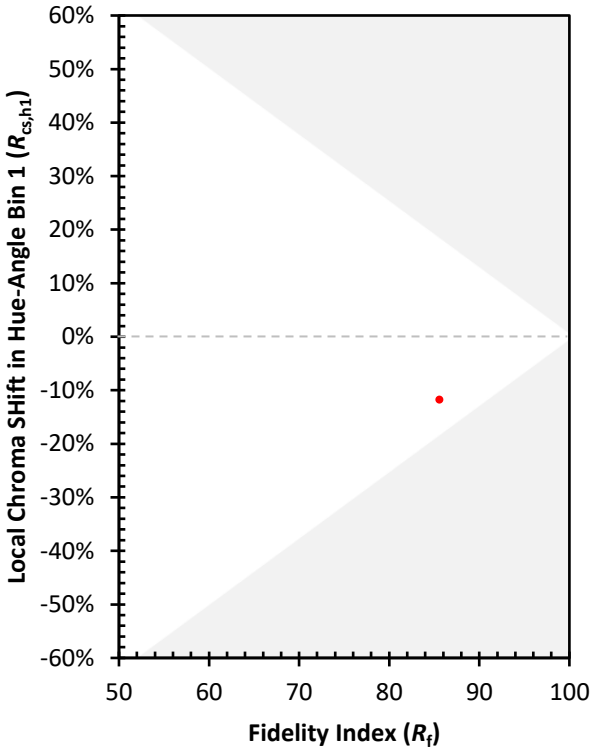


REPORT NUMBER: SP1-2407-176-11

TM-30-18

Measure Comparisons





(END OF REPORT)