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: INVUE

Report Number: P880165

Luminaire Tested: **EMM2-HTN-VA6-740-U-RW**

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:	P880165
Test Lab:	INNOVATION CENTER(G3)
Issue Date:	10/01/2024
Manufacturer:	COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line:	INVUE
Catalog Number:	EMM2-HTN-VA6-740-U-RW
Description:	EPIC MODERN TALL HOUSING 6W 70CRI 4000K VISUAL COMFORT FIXTURE w/ RECTANGULAR WIDE DISTRIBUTION OPTIC
Light Source:	(1) 4000K CCT, 70 CRI LEDS
Ballast/Driver:	ELECTRONIC DRIVER

Summary

Lumens per Lamp:	N/A
Luminaire Lumens:	7805.9 lumens
Efficiency:	N/A
Efficacy:	73.6 lumens/watt
Luminous Opening:	Circular (Dia: 1.12' x H: 0')
IES Classification:	Type III - Short
BUG Rating:	B3 - U0 - G3

Input Watts (W):	106
Input Voltage (V):	120
Input Current (Ain):	NR
Voltage Rise (V):	NR
Power Factor:	0.99
Total Harmonic Distortion (THDi):	5%
Frequency (hertz):	60
Stabilization Time:	NR
Operation Time:	NR
Ambient Temperature (°C):	NR
Test Distance:	24 FT

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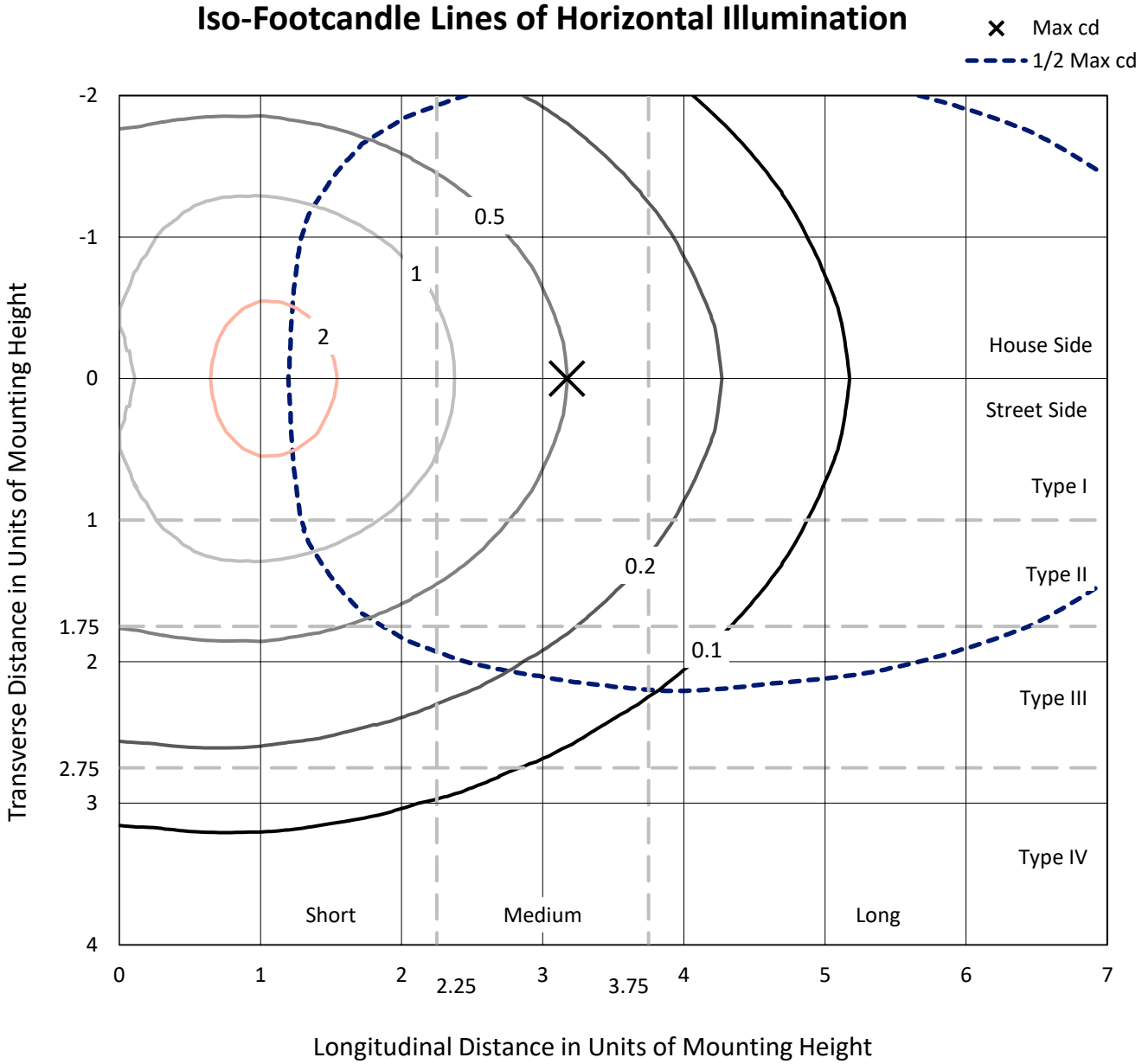
Scaled Data Report

REPORT NUMBER: P880165
CATALOG NUMBER: EMM2-HTN-VA6-740-U-RW

Iso-Footcandle Lines of Horizontal Illumination



Based on 15 foot mounting height. Maximum calculated value = 2.5 fc
Type III - Short - N/A

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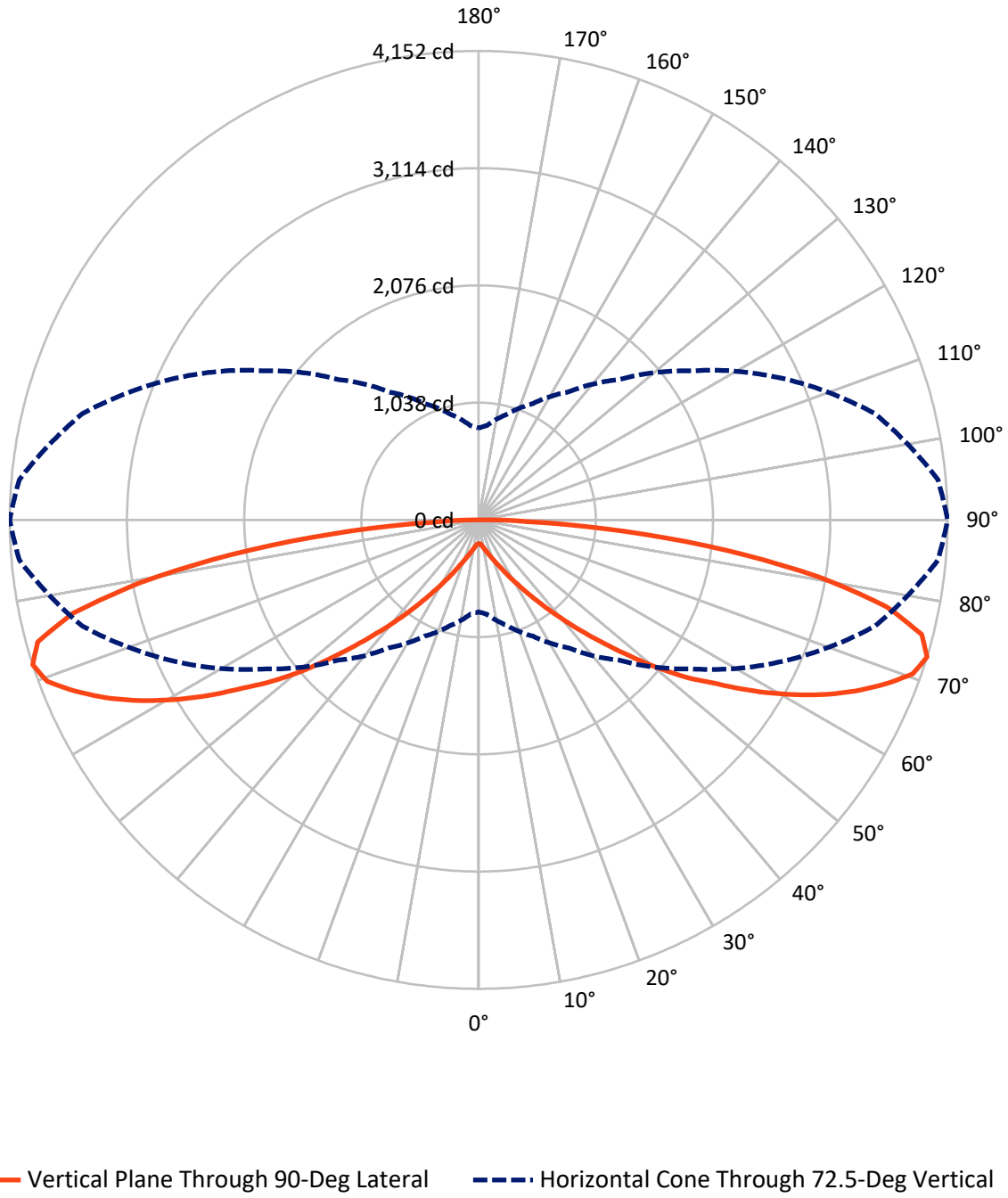
Luminous Intensity Polar Plot



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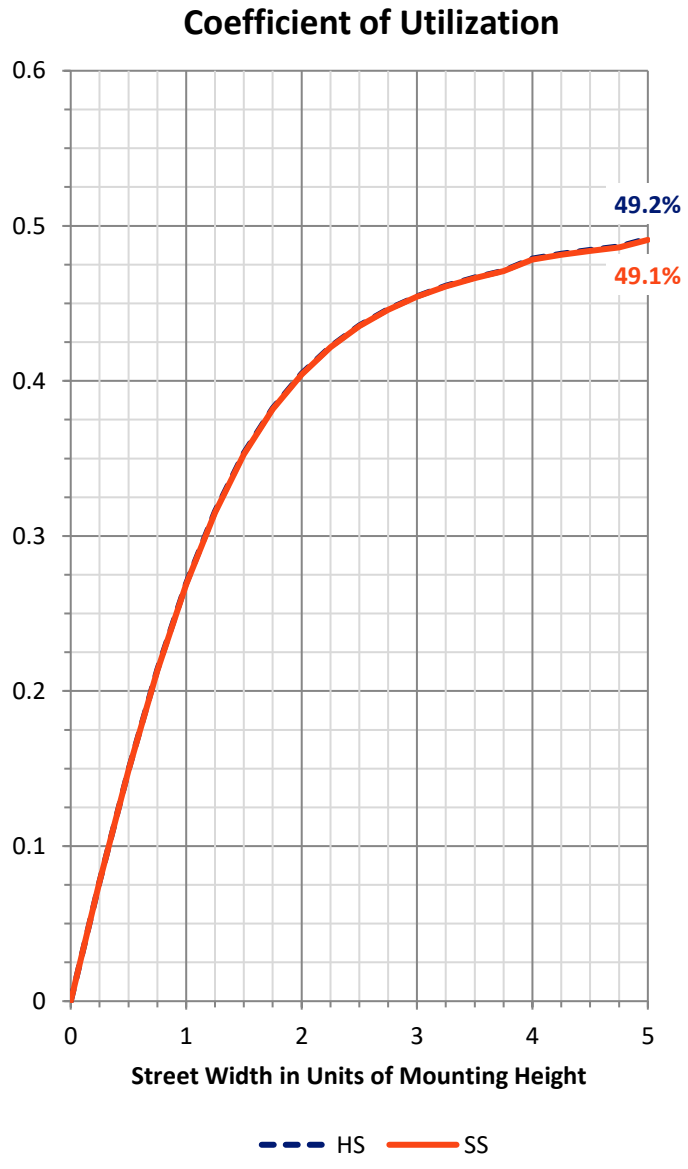
REPORT NUMBER: P880165
CATALOG NUMBER: EMM2-HTN-VA6-740-U-RW

FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	3902.9	0.0	3902.9
	% Fixture	50.0	0.0	50.0
Street Side	Lumens	3902.9	0.0	3902.9
	% Fixture	50.0	0.0	50.0
Total	Lumens	7805.9	0.0	7805.9
	% Fixture	100.0	0.0	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	21.5	0.3
10°-20°	79.9	1.0
20°-30°	184.6	2.4
30°-40°	395.5	5.1
40°-50°	816.8	10.5
50°-60°	1500.3	19.2
60°-70°	2139.1	27.4
70°-80°	1989.7	25.5
80°-90°	678.4	8.7
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°	7805.9	100.0
0°-180°	7805.9	100.0



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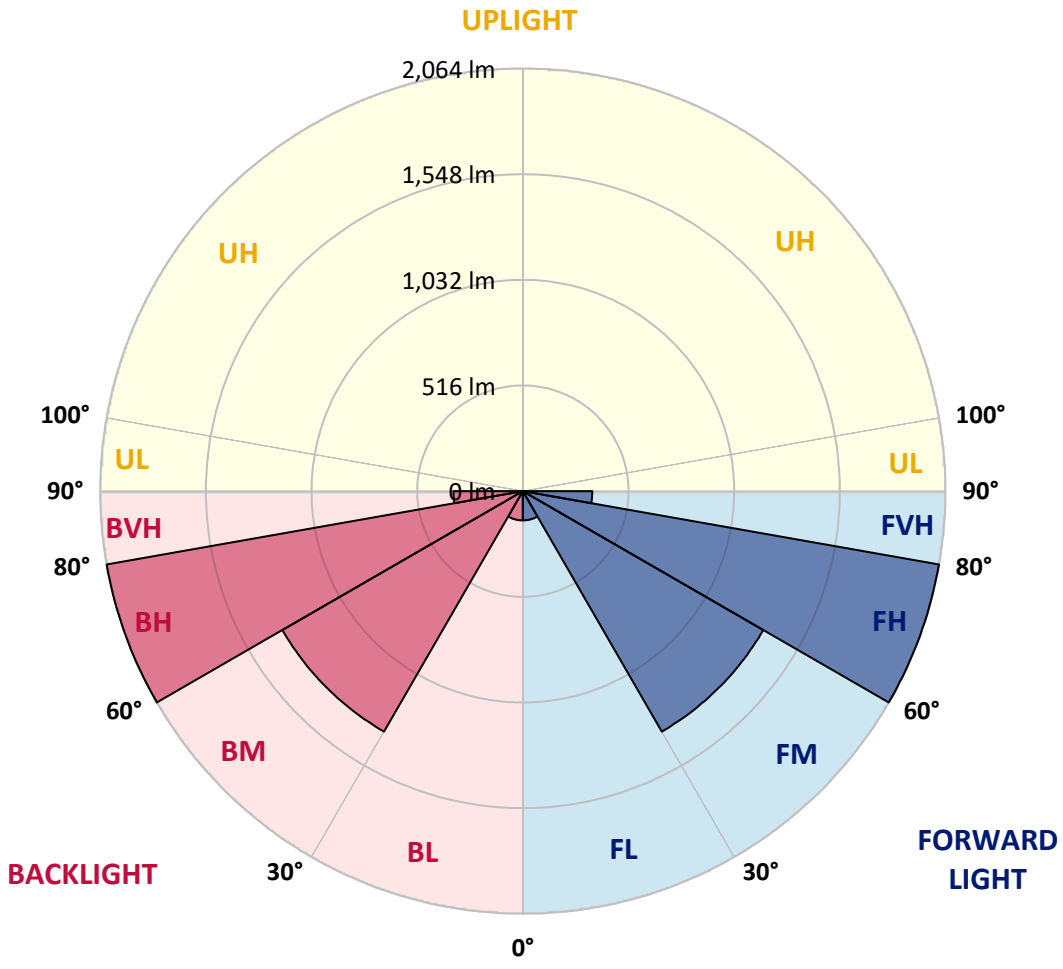
Scaled Data Report

REPORT NUMBER: P880165
CATALOG NUMBER: EMM2-HTN-VA6-740-U-RW

LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit B	U	G
FL	(0°-30°)	143.0	1.8			
FM	(30°-60°)	1356.3	17.4			
FH	(60°-80°)	2064.4	26.4			G2/5000
FVH	(80°-90°)	339.2	4.3			G3/500
BL	(0°-30°)	143.0	1.8	B1/500		
BM	(30°-60°)	1356.3	17.4	B2/2500		
BH	(60°-80°)	2064.4	26.4	B3/2500		G3/2500
BVH	(80°-90°)	339.2	4.3			G3/500
UL	(90°-100°)	0.0	0.0		U0/0	
UH	(100°-180°)	0.0	0.0		U0/0	

BUG Rating: B3-U0-G3
Type III Short



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Scaled Data Report

REPORT NUMBER: P880165
CATALOG NUMBER: EMM2-HTN-VA6-740-U-RW

CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	45°	55°	65°	75°	85°	90°
0°	210.1	210.1	210.1	210.1	210.1	210.1	210.1	210.1	210.1	210.1	*210.1*
2.5°	211.1	211.1	211.1	211.1	212.1	212.1	212.1	212.1	212.1	212.1	*212.1*
5°	214.1	214.1	214.1	215.0	217.0	218.0	219.0	219.0	220.0	220.0	*220.0*
7.5°	219.0	219.0	220.0	223.0	225.0	227.9	230.9	231.9	234.9	234.9	*234.9*
10°	225.9	225.9	227.9	230.9	235.9	241.8	246.8	250.7	252.7	253.7	*254.7*
12.5°	234.9	234.9	237.8	242.8	250.7	257.7	265.6	270.5	275.5	277.5	*277.5*
15°	245.8	245.8	249.7	256.7	265.6	275.5	286.4	295.3	302.3	305.2	*306.2*
17.5°	256.7	257.7	262.6	271.5	283.4	296.3	310.2	322.1	333.0	336.9	*338.9*
20°	270.5	270.5	276.5	288.4	303.2	321.1	339.9	355.8	369.6	377.6	*378.6*
22.5°	286.4	287.4	293.3	308.2	327.0	349.8	374.6	396.4	416.2	426.1	*425.1*
25°	302.3	303.2	312.2	330.0	353.8	385.5	417.2	445.9	472.7	484.6	*484.6*
27.5°	321.1	322.1	333.0	353.8	385.5	425.1	466.8	508.4	535.1	553.0	*558.9*
30°	343.9	344.9	357.7	384.5	421.2	470.7	526.2	579.7	615.4	641.2	*642.2*
32.5°	368.6	370.6	386.5	417.2	464.8	527.2	596.6	663.0	712.5	745.2	*744.2*
35°	402.3	404.3	426.1	460.8	518.3	592.6	676.8	767.0	824.5	862.2	*866.1*
37.5°	437.0	441.0	465.8	511.3	580.7	669.9	775.9	877.0	962.2	996.9	*1006.8*
40°	477.7	481.6	512.3	567.8	648.1	762.1	892.9	1016.8	1114.9	1162.4	*1169.4*
42.5°	524.2	531.2	566.8	631.3	732.3	864.1	1016.8	1169.4	1293.2	1355.7	*1351.7*
45°	590.6	596.6	642.2	714.5	828.5	980.1	1165.4	1356.7	1490.4	1562.8	*1561.8*
47.5°	654.1	662.0	716.5	807.7	939.5	1115.9	1333.9	1551.9	1705.5	1785.8	*1799.6*
50°	719.5	730.4	799.7	901.8	1058.4	1274.4	1519.2	1753.1	1939.4	2038.5	*2062.2*
52.5°	830.4	840.4	913.7	1020.7	1188.2	1427.0	1708.5	1971.1	2177.2	2282.2	*2320.9*
55°	905.8	921.6	1014.8	1148.6	1338.8	1591.5	1900.7	2204.0	2436.8	2539.9	*2561.7*
57.5°	930.5	947.4	1059.4	1224.9	1460.7	1764.9	2101.9	2426.9	2679.6	2819.4	*2854.0*
60°	931.5	952.3	1073.2	1252.6	1520.2	1886.8	2281.3	2666.7	2953.1	3106.7	*3136.5*
62.5°	963.2	987.0	1115.9	1283.3	1549.9	1943.3	2403.1	2869.9	3220.7	3376.3	*3409.0*
65°	998.9	1026.7	1163.4	1349.7	1617.3	2003.8	2480.4	3016.6	3461.5	3642.9	*3658.7*
67.5°	962.2	986.0	1129.7	1323.0	1601.4	2015.7	2534.9	3107.7	3606.2	3868.8	*3881.7*
70°	901.8	926.6	1063.3	1239.7	1513.2	1925.5	2472.5	3107.7	3691.4	4021.4	*4080.9*
72.5°	*813.6*	*838.4*	*968.2*	*1136.7*	*1382.4*	*1756.0*	*2299.1*	*2965.0*	*3633.0*	*4082.9*	*4152.2*
75°	705.6	728.4	848.3	1001.9	1216.9	1554.9	2047.4	2693.5	3405.0	3968.9	*4052.1*
77.5°	588.6	609.5	711.5	835.4	1017.7	1318.0	1740.2	2324.9	3006.7	3584.4	*3692.4*
80°	462.8	483.6	561.9	659.0	805.7	1035.6	1385.4	1870.0	2459.6	2943.2	*3049.3*
82.5°	346.8	356.8	412.3	482.6	576.8	747.2	1004.9	1382.4	1823.4	2170.3	*2217.8*
85°	218.0	226.9	264.6	313.2	369.6	458.8	619.4	846.3	1102.0	1297.2	*1300.2*
87.5°	67.4	78.3	90.2	118.9	135.8	163.5	196.2	276.5	363.7	458.8	*431.1*
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: SP1-2407-176-5

Test Date: 09/24/2024

Luminaire Tested: MEM2-HTN-VA-30-740-U-WQ

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

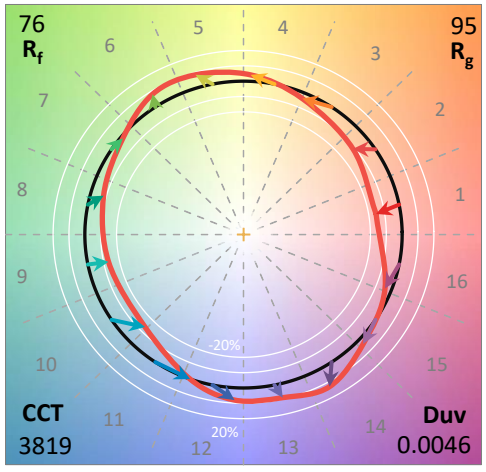
Report Generated By FNC07603 / LDUCLS01DT446
Version: v7.04

Test Information

Test Method:	LM-79-2019
Report Number:	SP1-2407-176-5
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-30-740-U-WQ**
Description:	EPIC MODERN VISUAL COMFORT 30W WAVESTREAM WIDE

Spectral Parameters

CCT (K):	3819	CRI (Ra):	72.9		
CIE u':	0.2261	R1:	70.1	R9:	-21.5
CIE v':	0.5108	R2:	78.4	R10:	48.5
Duv:	0.0046	R3:	85.0	R11:	68.4
CIE x:	0.3926	R4:	72.9	R12:	39.0
CIE y:	0.3942	R5:	69.1	R13:	71.1
CIE z:	0.2132	R6:	69.2	R14:	91.3
Peak Wavelength (nm):	450	R7:	82.8	R15:	63.2
Dominant Wavelength (nm):	577	R8:	55.4		
Purity:	36.15483				
Rf:	75.6				
Rg:	94.8				



Test Conditions

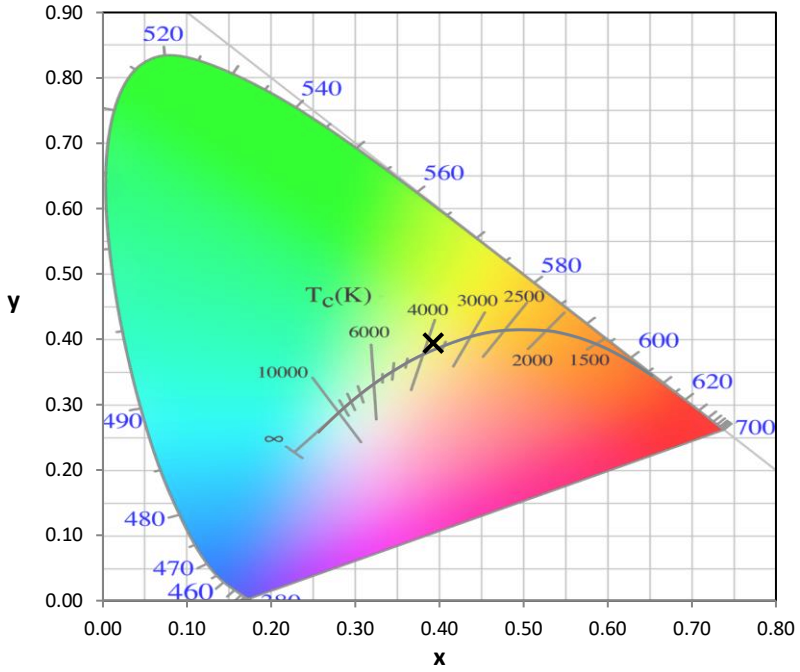
Stabilization Time:	30M
Operation Time:	1H 30M
Sphere Temperature (°C):	25.2

REPORT NUMBER: SP1-2407-176-5

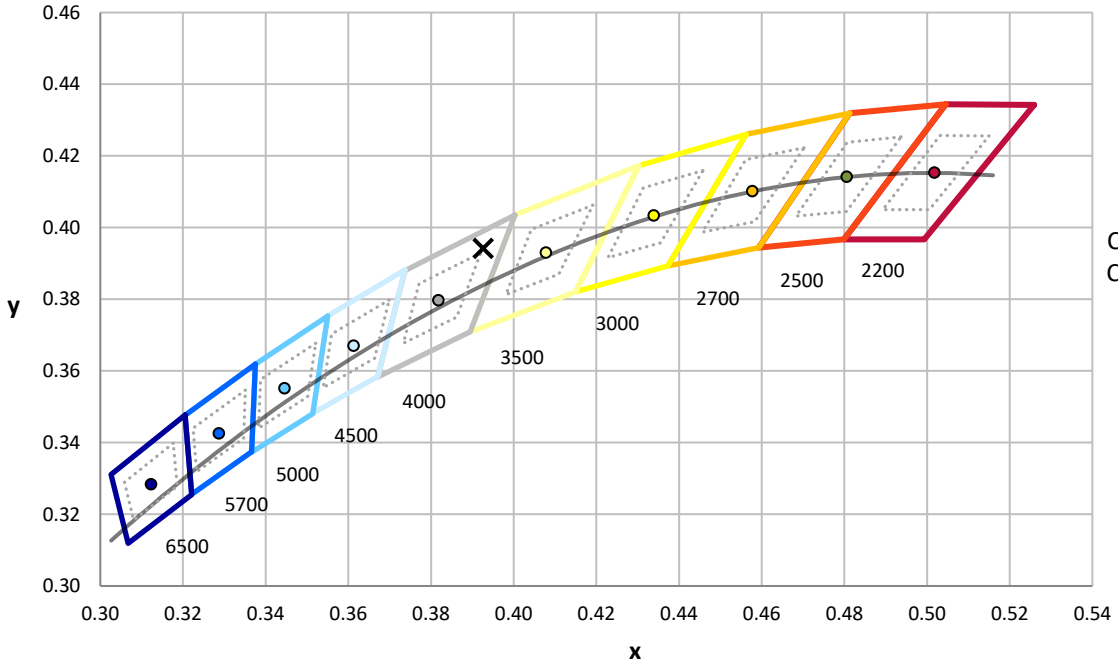
Measurement and Test Equipment			
Instrument	Identification Number	Calibration Date	Calibration Due Date
Photometer	IN0058	6/18/2024	12/18/2024
Power Meter	INXT2011004	2/8/2024	2/8/2025
AC Power Source	IN0063	10/24/2023	10/24/2024
DC Power Source	IN0208	10/24/2023	10/24/2024
Sphere Thermometer	IN0085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

REPORT NUMBER: SP1-2407-176-5

CIE 1931 Chromaticity Diagram



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

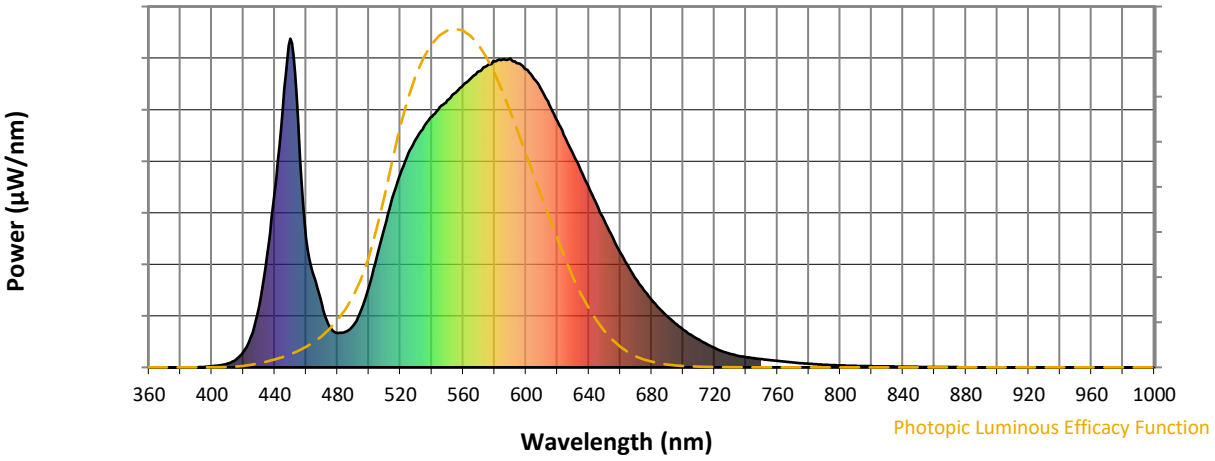


CCT = 3819K
CIE x = 0.3926
CIE y = 0.3942
Duv = 0.0046

Point lies inside the ANSI 4000K 7-step quadrangle

REPORT NUMBER: SP1-2407-176-5

Photopic Flux vs. Wavelength

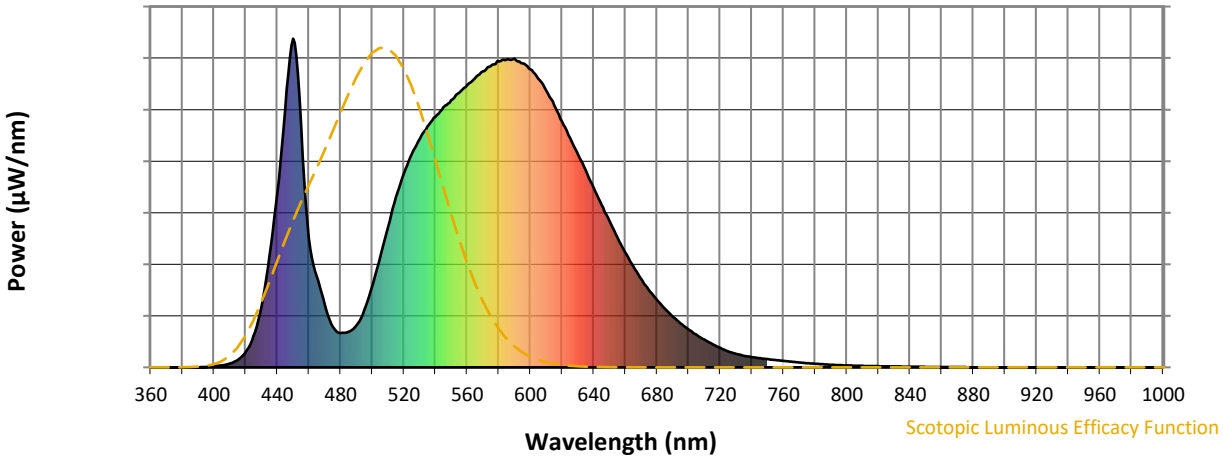


Photopic Lumens: NR

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	127	NR	620	748	NR	750	25	NR	880	0	NR
365	0	NR	495	173	NR	625	699	NR	755	22	NR	885	0	NR
370	0	NR	500	246	NR	630	648	NR	760	20	NR	890	0	NR
375	0	NR	505	335	NR	635	599	NR	765	17	NR	895	0	NR
380	0	NR	510	427	NR	640	547	NR	770	15	NR	900	0	NR
385	0	NR	515	517	NR	645	495	NR	775	13	NR	905	0	NR
390	0	NR	520	589	NR	650	445	NR	780	11	NR	910	0	NR
395	1	NR	525	649	NR	655	396	NR	785	9	NR	915	0	NR
400	4	NR	530	695	NR	660	349	NR	790	8	NR	920	0	NR
405	6	NR	535	733	NR	665	308	NR	795	7	NR	925	0	NR
410	11	NR	540	763	NR	670	269	NR	800	6	NR	930	0	NR
415	23	NR	545	792	NR	675	235	NR	805	5	NR	935	0	NR
420	46	NR	550	813	NR	680	205	NR	810	5	NR	940	0	NR
425	95	NR	555	835	NR	685	178	NR	815	4	NR	945	0	NR
430	183	NR	560	859	NR	690	155	NR	820	3	NR	950	0	NR
435	338	NR	565	880	NR	695	134	NR	825	3	NR	955	0	NR
440	534	NR	570	900	NR	700	115	NR	830	3	NR	960	0	NR
445	782	NR	575	918	NR	705	99	NR	835	2	NR	965	0	NR
450	1000	NR	580	931	NR	710	84	NR	840	2	NR	970	0	NR
455	739	NR	585	937	NR	715	71	NR	845	2	NR	975	0	NR
460	393	NR	590	939	NR	720	59	NR	850	1	NR	980	0	NR
465	276	NR	595	925	NR	725	49	NR	855	1	NR	985	0	NR
470	190	NR	600	907	NR	730	41	NR	860	1	NR	990	0	NR
475	123	NR	605	878	NR	735	35	NR	865	1	NR	995	0	NR
480	105	NR	610	842	NR	740	31	NR	870	1	NR	1000	0	NR
485	108	NR	615	797	NR	745	28	NR	875	1	NR			

REPORT NUMBER: SP1-2407-176-5

Scotopic Flux vs. Wavelength

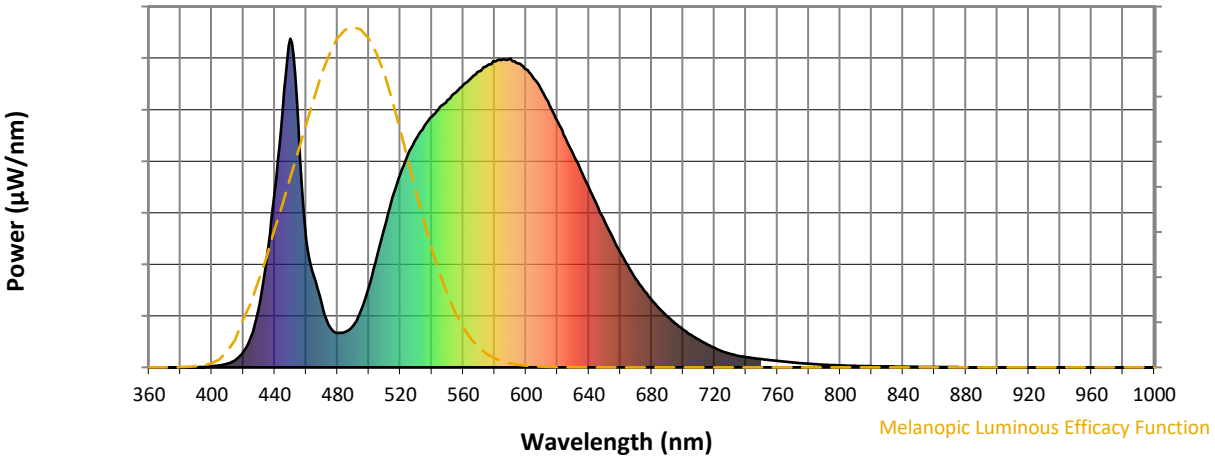


Scotopic Lumens: NR **S/P: 1.45**

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	127	NR	620	748	NR	750	25	NR	880	0	NR
365	0	NR	495	173	NR	625	699	NR	755	22	NR	885	0	NR
370	0	NR	500	246	NR	630	648	NR	760	20	NR	890	0	NR
375	0	NR	505	335	NR	635	599	NR	765	17	NR	895	0	NR
380	0	NR	510	427	NR	640	547	NR	770	15	NR	900	0	NR
385	0	NR	515	517	NR	645	495	NR	775	13	NR	905	0	NR
390	0	NR	520	589	NR	650	445	NR	780	11	NR	910	0	NR
395	1	NR	525	649	NR	655	396	NR	785	9	NR	915	0	NR
400	4	NR	530	695	NR	660	349	NR	790	8	NR	920	0	NR
405	6	NR	535	733	NR	665	308	NR	795	7	NR	925	0	NR
410	11	NR	540	763	NR	670	269	NR	800	6	NR	930	0	NR
415	23	NR	545	792	NR	675	235	NR	805	5	NR	935	0	NR
420	46	NR	550	813	NR	680	205	NR	810	5	NR	940	0	NR
425	95	NR	555	835	NR	685	178	NR	815	4	NR	945	0	NR
430	183	NR	560	859	NR	690	155	NR	820	3	NR	950	0	NR
435	338	NR	565	880	NR	695	134	NR	825	3	NR	955	0	NR
440	534	NR	570	900	NR	700	115	NR	830	3	NR	960	0	NR
445	782	NR	575	918	NR	705	99	NR	835	2	NR	965	0	NR
450	1000	NR	580	931	NR	710	84	NR	840	2	NR	970	0	NR
455	739	NR	585	937	NR	715	71	NR	845	2	NR	975	0	NR
460	393	NR	590	939	NR	720	59	NR	850	1	NR	980	0	NR
465	276	NR	595	925	NR	725	49	NR	855	1	NR	985	0	NR
470	190	NR	600	907	NR	730	41	NR	860	1	NR	990	0	NR
475	123	NR	605	878	NR	735	35	NR	865	1	NR	995	0	NR
480	105	NR	610	842	NR	740	31	NR	870	1	NR	1000	0	NR
485	108	NR	615	797	NR	745	28	NR	875	1	NR			

REPORT NUMBER: SP1-2407-176-5

Melanopic Flux vs. Wavelength



Melanopic Lumens: NR **M/P: 2.76**

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	127	NR	620	748	NR	750	25	NR	880	0	NR
365	0	NR	495	173	NR	625	699	NR	755	22	NR	885	0	NR
370	0	NR	500	246	NR	630	648	NR	760	20	NR	890	0	NR
375	0	NR	505	335	NR	635	599	NR	765	17	NR	895	0	NR
380	0	NR	510	427	NR	640	547	NR	770	15	NR	900	0	NR
385	0	NR	515	517	NR	645	495	NR	775	13	NR	905	0	NR
390	0	NR	520	589	NR	650	445	NR	780	11	NR	910	0	NR
395	1	NR	525	649	NR	655	396	NR	785	9	NR	915	0	NR
400	4	NR	530	695	NR	660	349	NR	790	8	NR	920	0	NR
405	6	NR	535	733	NR	665	308	NR	795	7	NR	925	0	NR
410	11	NR	540	763	NR	670	269	NR	800	6	NR	930	0	NR
415	23	NR	545	792	NR	675	235	NR	805	5	NR	935	0	NR
420	46	NR	550	813	NR	680	205	NR	810	5	NR	940	0	NR
425	95	NR	555	835	NR	685	178	NR	815	4	NR	945	0	NR
430	183	NR	560	859	NR	690	155	NR	820	3	NR	950	0	NR
435	338	NR	565	880	NR	695	134	NR	825	3	NR	955	0	NR
440	534	NR	570	900	NR	700	115	NR	830	3	NR	960	0	NR
445	782	NR	575	918	NR	705	99	NR	835	2	NR	965	0	NR
450	1000	NR	580	931	NR	710	84	NR	840	2	NR	970	0	NR
455	739	NR	585	937	NR	715	71	NR	845	2	NR	975	0	NR
460	393	NR	590	939	NR	720	59	NR	850	1	NR	980	0	NR
465	276	NR	595	925	NR	725	49	NR	855	1	NR	985	0	NR
470	190	NR	600	907	NR	730	41	NR	860	1	NR	990	0	NR
475	123	NR	605	878	NR	735	35	NR	865	1	NR	995	0	NR
480	105	NR	610	842	NR	740	31	NR	870	1	NR	1000	0	NR
485	108	NR	615	797	NR	745	28	NR	875	1	NR			

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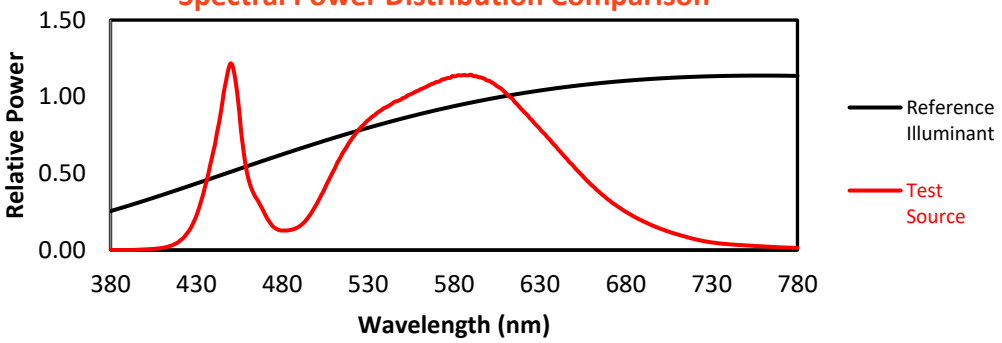
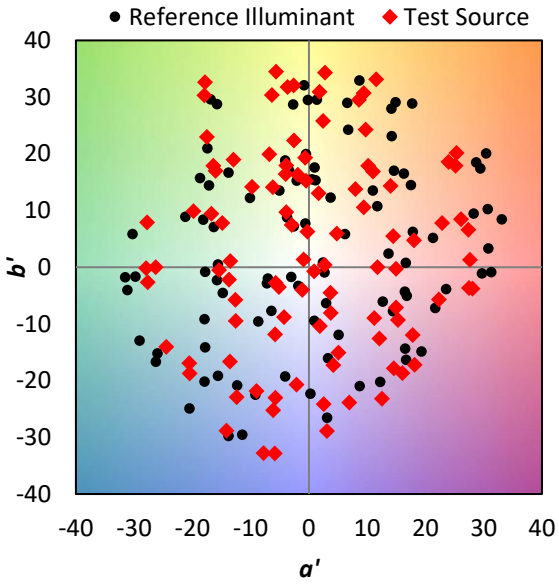
Summary

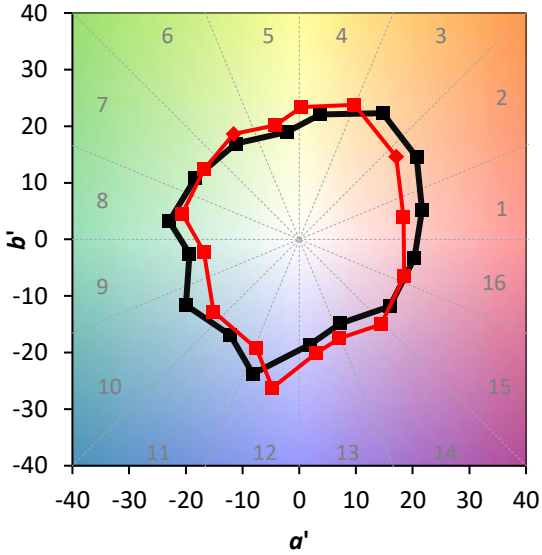
R_f = 75.6
R_g = 94.8
CIE R_a = 72.9
R_9 = -21.5

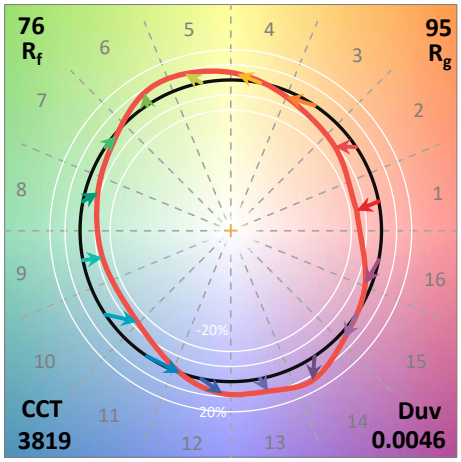
Spectral Power Distribution Comparison

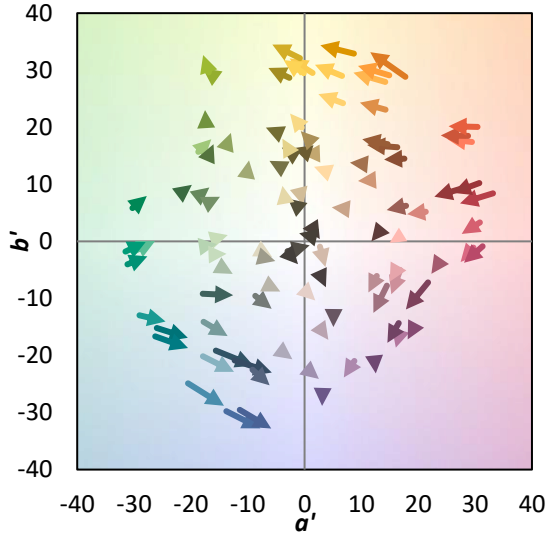


Color Vector Graphics









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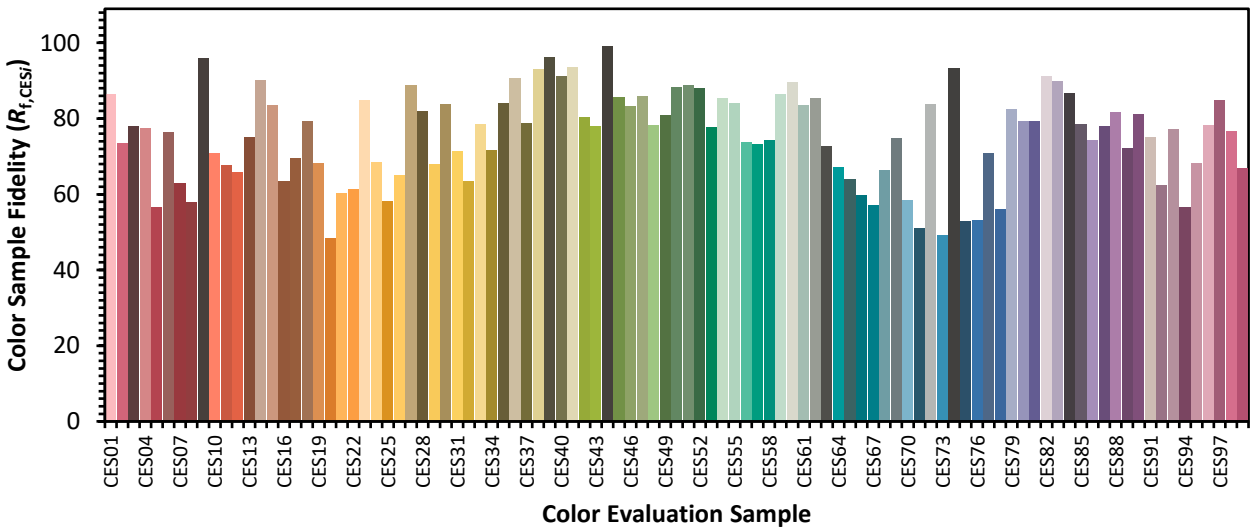
Individual Sample Fidelity Index ($R_{f,i}$)

CES01 = 85	CES26 = 65	CES51 = 89	CES76 = 53
CES02 = 61	CES27 = 89	CES52 = 88	CES77 = 71
CES03 = 30	CES28 = 82	CES53 = 78	CES78 = 56
CES04 = 70	CES29 = 68	CES54 = 85	CES79 = 83
CES05 = 48	CES30 = 84	CES55 = 84	CES80 = 79
CES06 = 50	CES31 = 71	CES56 = 74	CES81 = 79
CES07 = 40	CES32 = 63	CES57 = 73	CES82 = 91
CES08 = 39	CES33 = 79	CES58 = 74	CES83 = 90
CES09 = 29	CES34 = 72	CES59 = 86	CES84 = 87
CES10 = 74	CES35 = 84	CES60 = 90	CES85 = 78
CES11 = 57	CES36 = 91	CES61 = 84	CES86 = 74
CES12 = 63	CES37 = 79	CES62 = 85	CES87 = 78
CES13 = 42	CES38 = 93	CES63 = 73	CES88 = 82
CES14 = 74	CES39 = 96	CES64 = 67	CES89 = 72
CES15 = 71	CES40 = 91	CES65 = 64	CES90 = 81
CES16 = 47	CES41 = 93	CES66 = 60	CES91 = 75
CES17 = 49	CES42 = 80	CES67 = 57	CES92 = 62
CES18 = 56	CES43 = 78	CES68 = 66	CES93 = 77
CES19 = 72	CES44 = 99	CES69 = 75	CES94 = 57
CES20 = 65	CES45 = 86	CES70 = 58	CES95 = 68
CES21 = 86	CES46 = 83	CES71 = 51	CES96 = 78
CES22 = 78	CES47 = 86	CES72 = 84	CES97 = 85
CES23 = 92	CES48 = 78	CES73 = 49	CES98 = 77
CES24 = 91	CES49 = 81	CES74 = 93	CES99 = 67
CES25 = 72	CES50 = 88	CES75 = 53	



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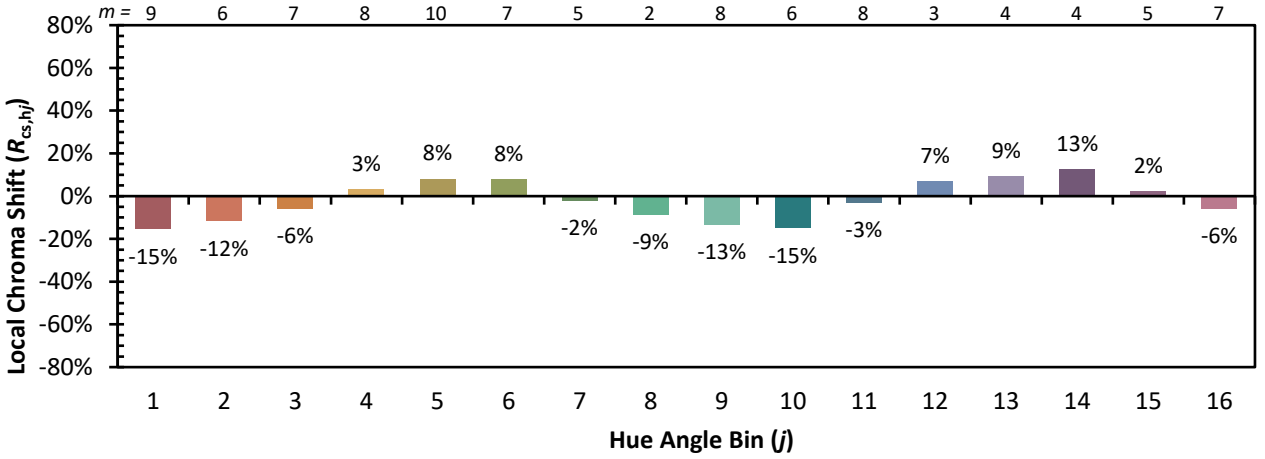
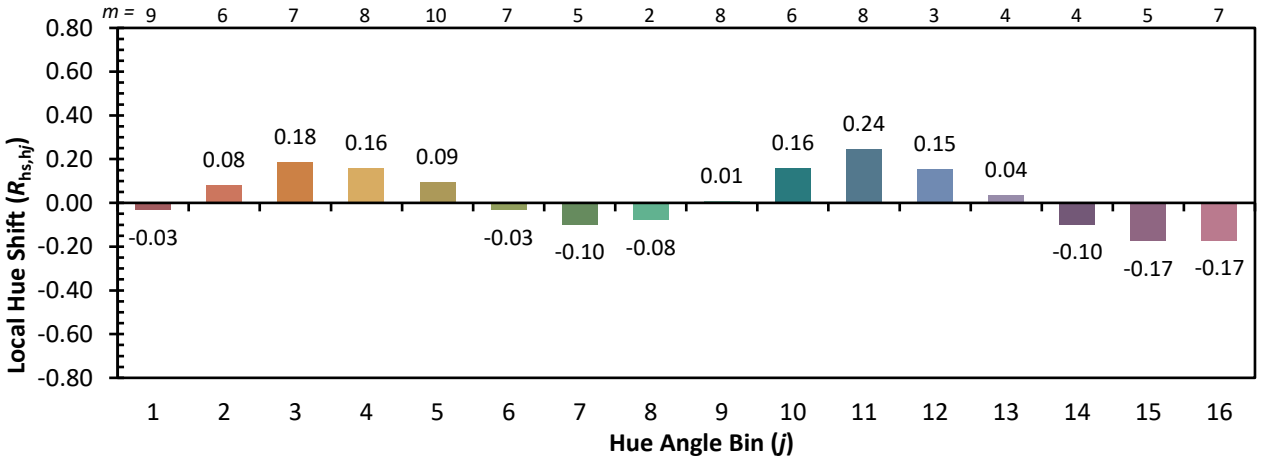
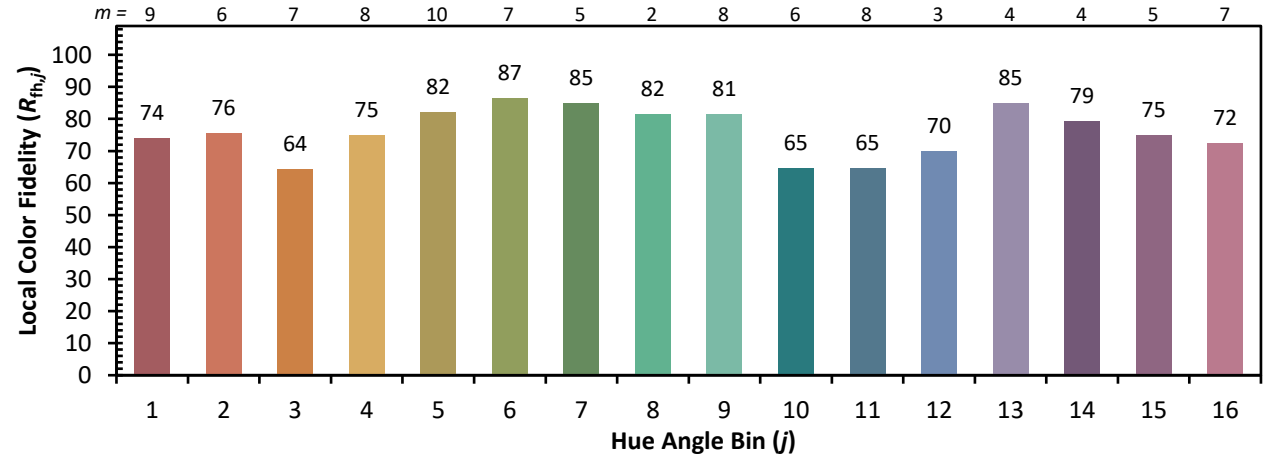
Color Rendition by Hue-Angle Bin







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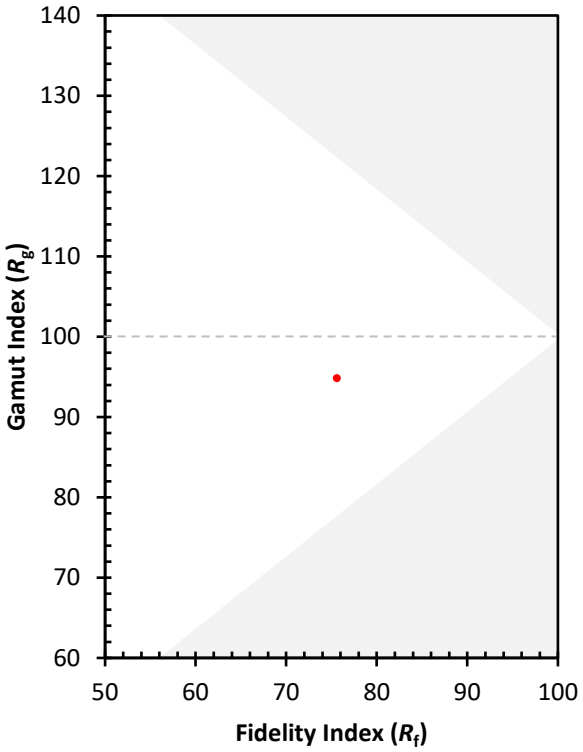
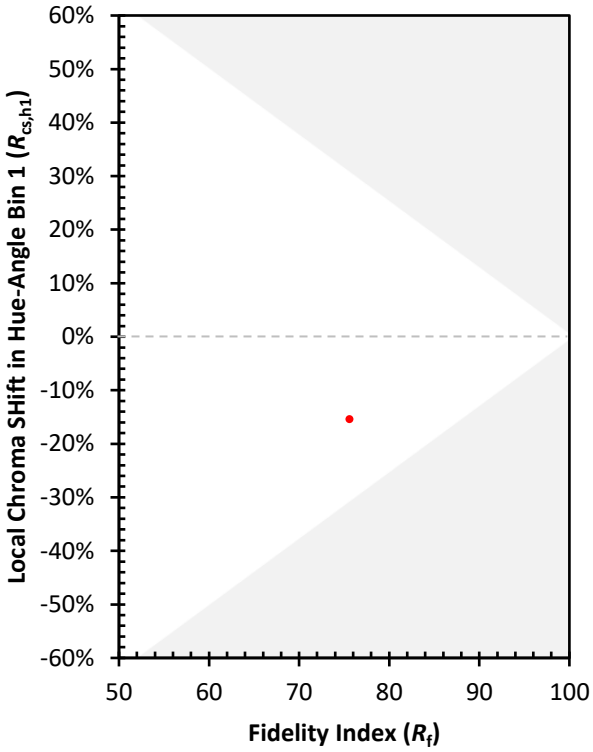
Measure Comparisons





(END OF REPORT)