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: G2-2108-353-12

Luminaire Tested: **LXS-VA1-AMB-U-SYM-S**

Test Date: 9/20/2021

Report Generated By 670246001

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:	G2-2108-353-12
Test Lab:	COOPER LIGHTING SOLUTIONS
Test Date:	9/20/2021
Issue Date:	9/20/2021
Manufacturer:	COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line:	INVUE
Catalog Number:	LXS-VA1-AMB-U-SYM-S
Description:	LUXESCAPE OUTDOOR ARCHITECTURAL LUMINAIRE NARROW BAND AMBER LEDS AND TYPE V OPTIC, SPIDER MOUNT
Light Source:	-
Ballast/Driver:	ELECTRONIC DRIVER

Summary

Lumens per Lamp:	N/A
Luminaire Lumens:	1626.3 lumens
Efficiency:	N/A
Efficacy:	24.8 lumens/watt
Luminous Opening:	Circular (Dia: 1.67' x H: 0')
IES Classification:	Type V - Short
BUG Rating:	B1 - U0 - G1

Input Watts (W):	65.6
Input Voltage (V):	NR
Input Current (Ain):	NR
Voltage Rise (V):	NR
Power Factor:	NR
Total Harmonic Distortion (THDi):	NR
Frequency (hertz):	60
Stabilization Time:	NR
Operation Time:	NR
Ambient Temperature (°C):	NR
Test Distance:	28.75 FT

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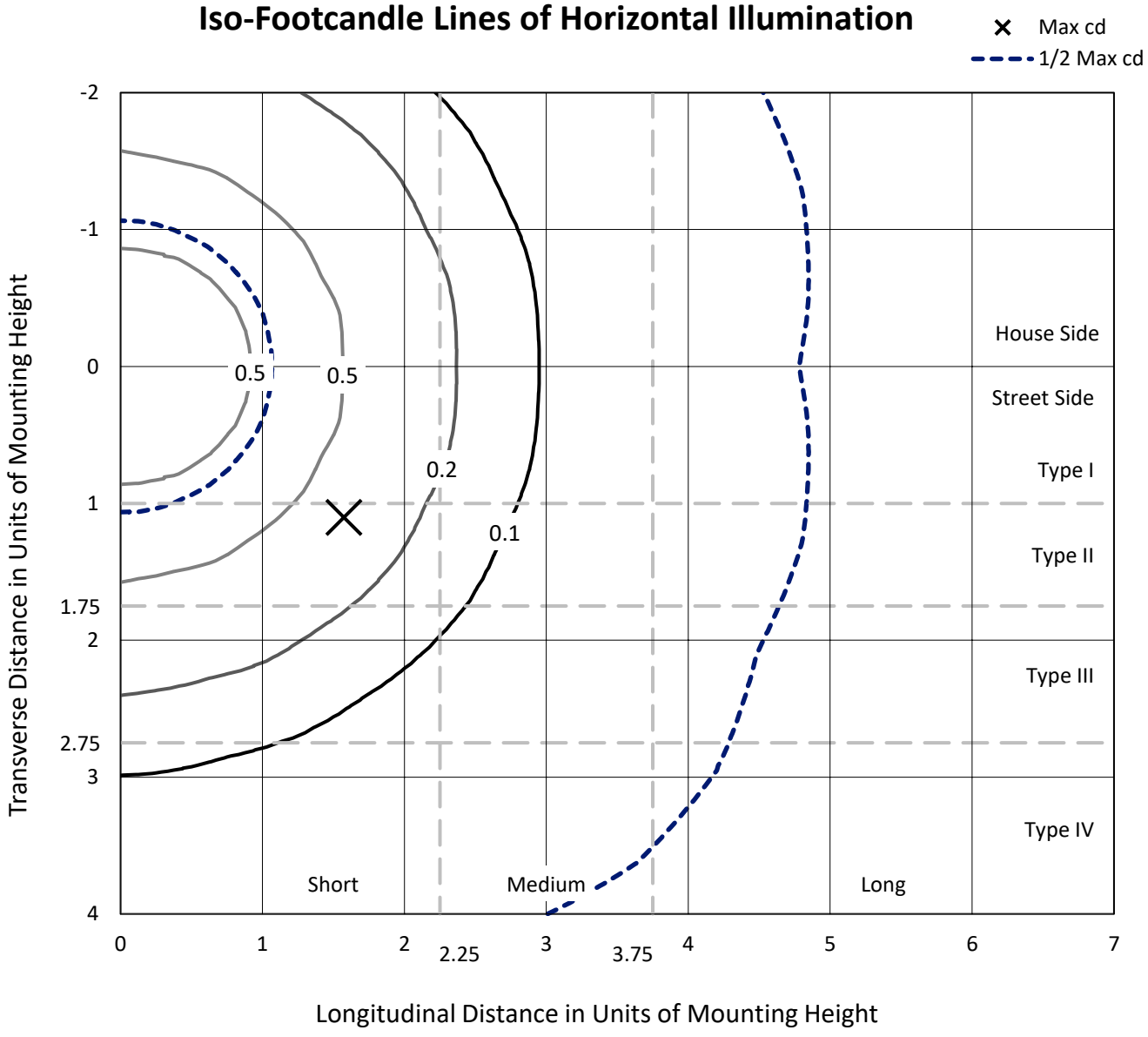
Scaled Data Report

REPORT NUMBER: G2-2108-353-12
CATALOG NUMBER: LXS-VA1-AMB-U-SYM-S

Iso-Footcandle Lines of Horizontal Illumination



Based on 12 foot mounting height. Maximum calculated value = 0.6 fc
Type V - Short - N/A

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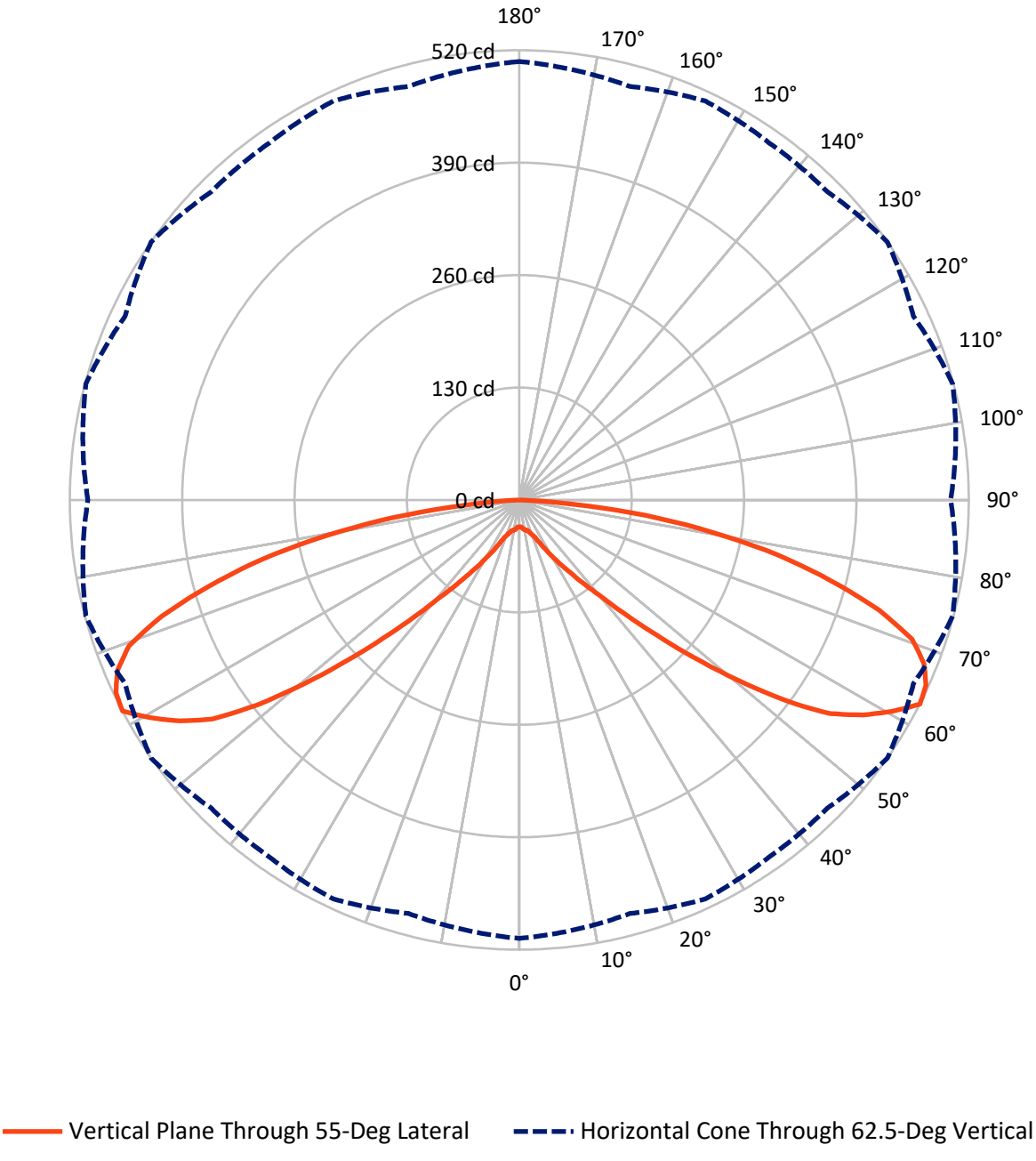
Scaled Data Report

REPORT NUMBER: G2-2108-353-12
CATALOG NUMBER: LXS-VA1-AMB-U-SYM-S

Luminous Intensity Polar Plot



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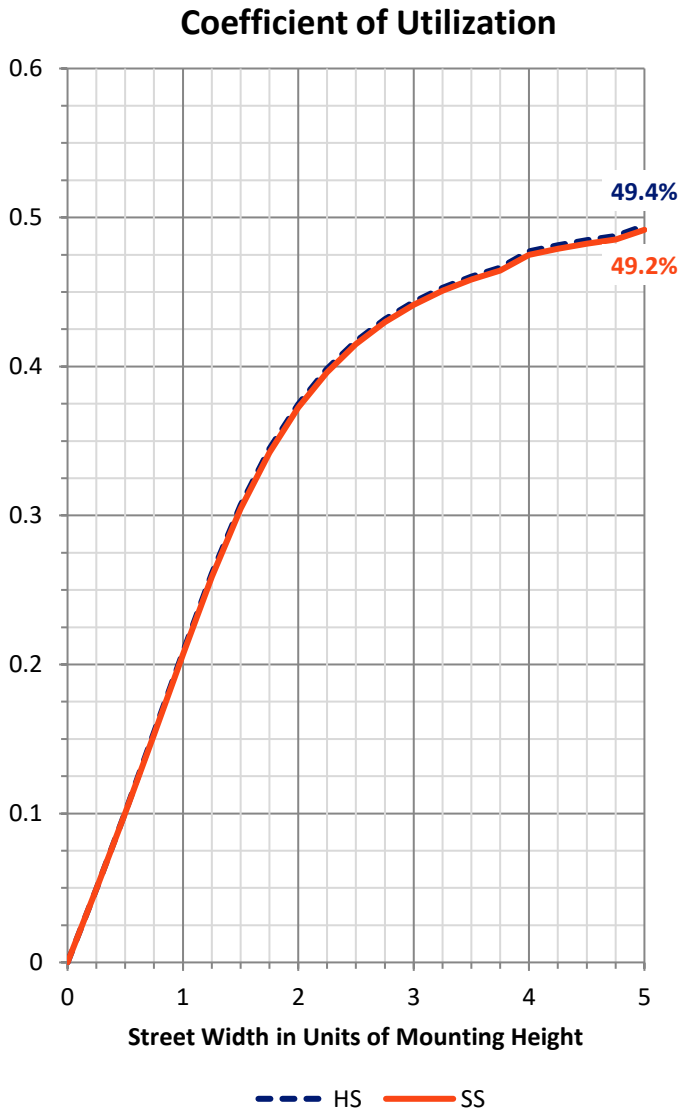
REPORT NUMBER: G2-2108-353-12
CATALOG NUMBER: LXS-VA1-AMB-U-SYM-S

FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	813.2	0.0	813.2
	% Fixture	50.0	0.0	50.0
Street Side	Lumens	813.2	0.0	813.2
	% Fixture	50.0	0.0	50.0
Total	Lumens	1626.3	0.0	1626.3
	% Fixture	100.0	0.0	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	3.2	0.2
10°-20°	11.0	0.7
20°-30°	27.2	1.7
30°-40°	69.6	4.3
40°-50°	179.0	11.0
50°-60°	379.1	23.3
60°-70°	492.9	30.3
70°-80°	377.0	23.2
80°-90°	87.4	5.4
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°	1626.3	100.0
0°-180°	1626.3	100.0



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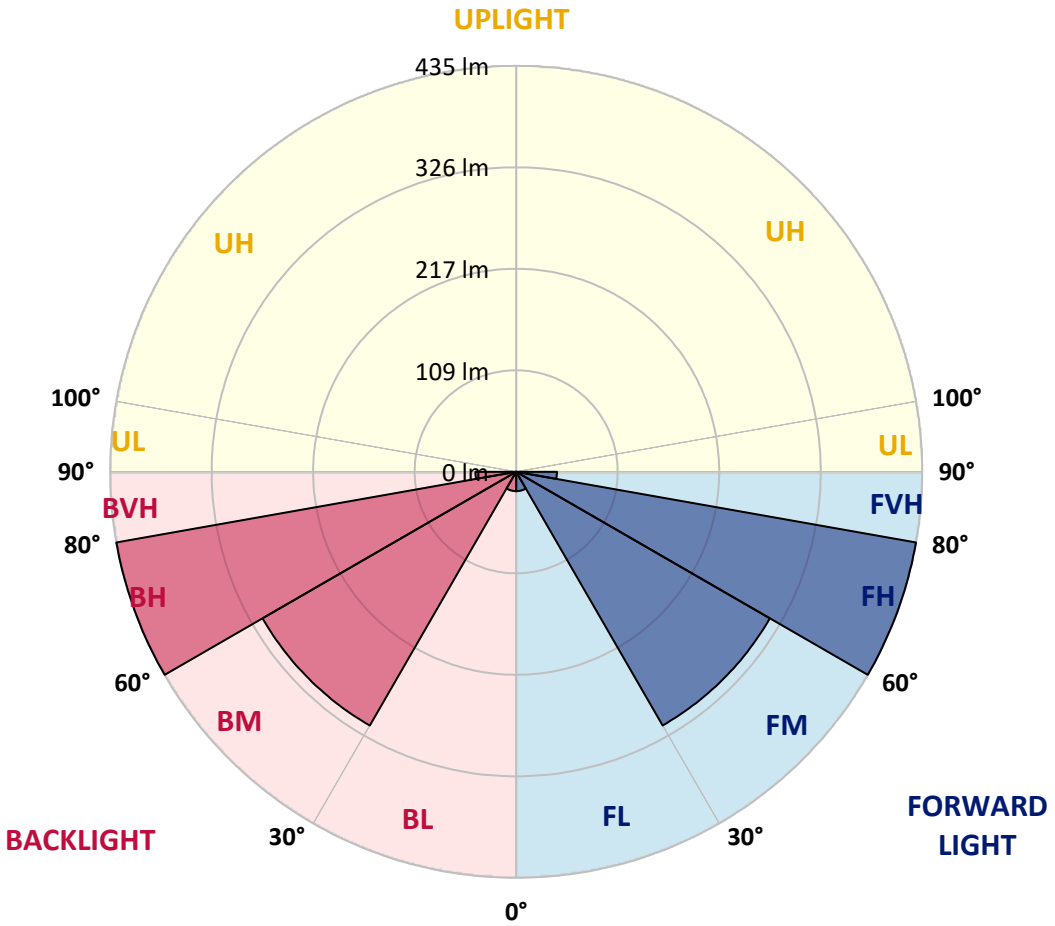
Scaled Data Report

REPORT NUMBER: G2-2108-353-12
CATALOG NUMBER: LXS-VA1-AMB-U-SYM-S

LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit B	U	G
FL	(0°-30°)	20.7	1.3			
FM	(30°-60°)	313.8	19.3			
FH	(60°-80°)	435.0	26.7			G0/660
FVH	(80°-90°)	43.7	2.7			G1/100
BL	(0°-30°)	20.7	1.3	B0/110		
BM	(30°-60°)	313.8	19.3	B1/1000		
BH	(60°-80°)	435.0	26.7	B1/500		G0/660
BVH	(80°-90°)	43.7	2.7			G1/100
UL	(90°-100°)	0.0	0.0		U0/0	
UH	(100°-180°)	0.0	0.0		U0/0	

BUG Rating: B1-U0-G1
Type V Short



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REPORT NUMBER: G2-2108-353-12
CATALOG NUMBER: LXS-VA1-AMB-U-SYM-S

CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	45°	55°	65°	75°	85°	90°
0°	31	31	31	31	31	31	31	31	31	31	31
2.5°	31	31	31	31	31	31	31	31	31	31	31
5°	32	32	32	32	32	32	32	32	32	32	32
7.5°	34	34	34	34	34	34	34	34	34	34	33
10°	36	35	35	35	35	35	35	35	35	35	35
12.5°	37	37	37	36	36	37	36	36	36	37	37
15°	39	39	38	37	37	38	37	37	37	38	38
17.5°	42	42	41	40	40	41	40	40	40	40	40
20°	45	45	45	44	44	44	43	43	43	43	43
22.5°	49	50	50	50	50	48	47	46	47	48	48
25°	58	58	59	59	58	57	55	53	54	55	55
27.5°	70	70	69	68	67	66	65	63	63	62	62
30°	84	83	81	79	78	77	76	75	73	71	71
32.5°	98	97	95	92	92	90	90	88	85	84	83
35°	114	113	113	109	109	106	105	104	101	100	99
37.5°	133	133	133	129	128	127	125	123	121	120	120
40°	156	156	157	153	153	150	148	147	146	145	146
42.5°	187	186	187	186	184	182	182	179	179	179	178
45°	226	224	225	227	224	222	223	220	221	222	221
47.5°	271	270	269	274	271	271	272	267	271	271	270
50°	326	323	322	329	325	327	327	323	331	327	330
52.5°	387	380	376	384	379	380	385	379	390	385	385
55°	434	426	423	433	428	427	436	427	440	432	429
57.5°	468	459	453	466	459	465	469	459	476	465	465
60°	495	483	477	491	483	488	496	488	502	490	489
62.5°	507	503	495	509	504	504	520	503	519	506	499
65°	514	509	493	506	501	515	517	502	516	506	500
67.5°	508	495	483	497	486	501	505	490	502	490	485
70°	472	470	459	470	463	470	482	464	473	459	455
72.5°	434	429	410	424	418	433	435	418	427	414	412
75°	381	368	357	365	362	374	372	358	367	354	353
77.5°	310	302	296	300	294	302	306	292	295	286	281
80°	230	228	218	225	218	230	227	216	216	210	202
82.5°	156	151	144	152	143	153	148	141	136	131	132
85°	76	70	69	65	65	67	63	55	59	53	54
87.5°	4	4	4	4	4	4	3	3	3	3	2
90°	0	0	0	0	0	0	0	0	0	0	0

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1121 Highway 74 South
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LM-79-08: Approved Method: Electrical and Photometric Measurements of Solid-State Lighting Products

Report Prepared for

Cooper Lighting Solutions

(formerly Eaton)

INVUE

Report Number: SP1-2201-507-1

Luminaire Tested: ARB-B1-LED-D1-T2-AMB

Test Date: 01/21/2022

Report Generated By FNC07603 / LDUCLS01DT446
Version: v6.09

Cooper Lighting Solutions Photometric Lab
1121 Highway 74 South
Peachtree City, GA 30269

Test Information

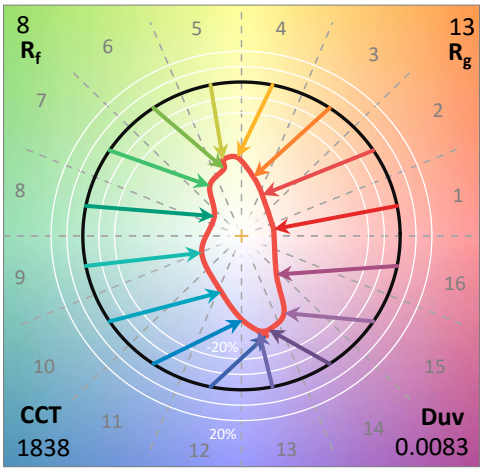
Test Method:	LM-79-08
Report Number:	SP1-2201-507-1
Test Lab:	COOPER LIGHTING SOLUTIONS
Photometer:	SP1
Measurement Geometry:	4π
Issue Date:	01/21/2022
Manufacturer:	COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line:	INVUE
Catalog Number:	**ARB-B1-LED-D1-T2-AMB**
Description:	INVUE ARBOR AMBER

TESTED IN SITU. ARBOR OUTDOOR ARCHITECTURAL POST TOP. NARROW BAND AMBER LEDS AND TYPE II OPTIC, GRAPHITE METALLIC PAINTED FINISH. EACH LED BOARD AT 500MA.

Spectral Parameters

CCT (K):	1838	CRI (Ra):	-25.2		
CIE u':	0.3190	R1:	-44.1	R9:	-415.1
CIE v':	0.5510	R2:	45.5	R10:	16.1
Duv:	0.0083	R3:	23.9	R11:	-105.6
CIE x:	0.5632	R4:	-72.5	R12:	-27.5
CIE y:	0.4323	R5:	-46.4	R13:	-25.8
CIE z:	0.0045	R6:	27.4	R14:	48.6
Peak Wavelength (nm):	591	R7:	-2.2		
Dominant Wavelength (nm):	588	R8:	-133.0		
Purity:	99.4				

Rf:	8
Rg:	12.7



Test Conditions

Stabilization Time:	164M
Operation Time:	12H
Room Temperature (°C) / RH%:	24.2/26%
Sphere Temperature (°C):	24.6

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REPORT NUMBER: SP1-2201-507-1
CATALOG NUMBER: ARB-B1-LED-D1-T2-AMB

Measurement and Test Equipment			
Instrument	Identification Number	Calibration Date	Calibration Due Date
Photometer	76INCH SPHERE IN0058	8/3/2021	2/3/2022
Power Meter	XITRON 2801 IN0071	11/29/2021	11/29/2022
AC Power Source	CHROMA 61603 IN0063	11/29/2021	11/29/2022
DC Power Source	AGILENT E3634A IN0208	11/29/2021	11/29/2022
Sphere Thermometer	ONSET IN0085	11/29/2021	11/29/2022
Room Thermometer	ONSET IN0046	11/29/2021	11/29/2022

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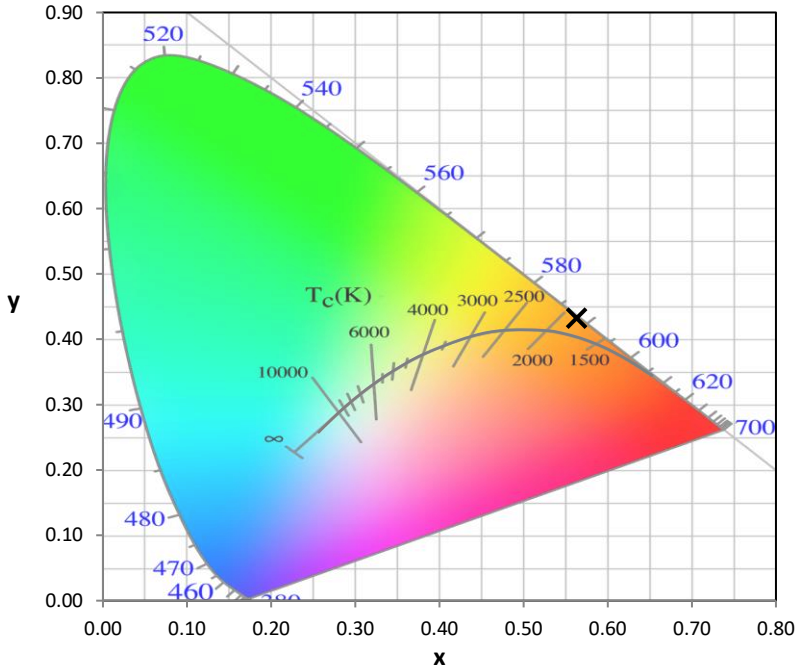
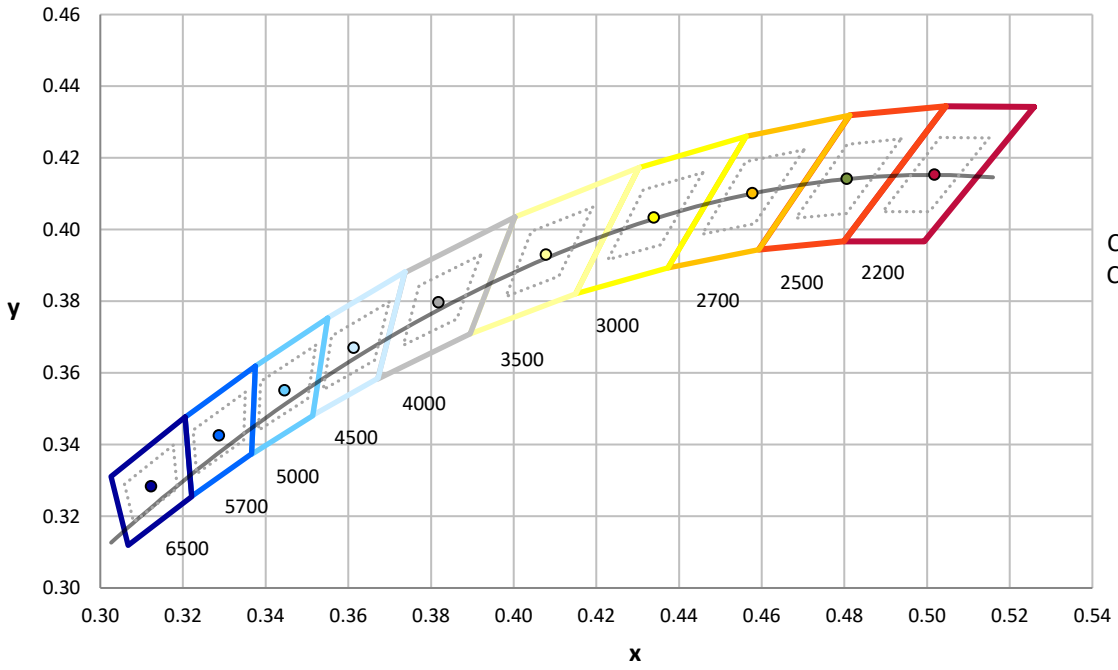
CIE 1931 Chromaticity Diagram



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



CCT = 1838K
CIE x = 0.5632
CIE y = 0.4323
Duv = 0.0083

Point lies outside the range

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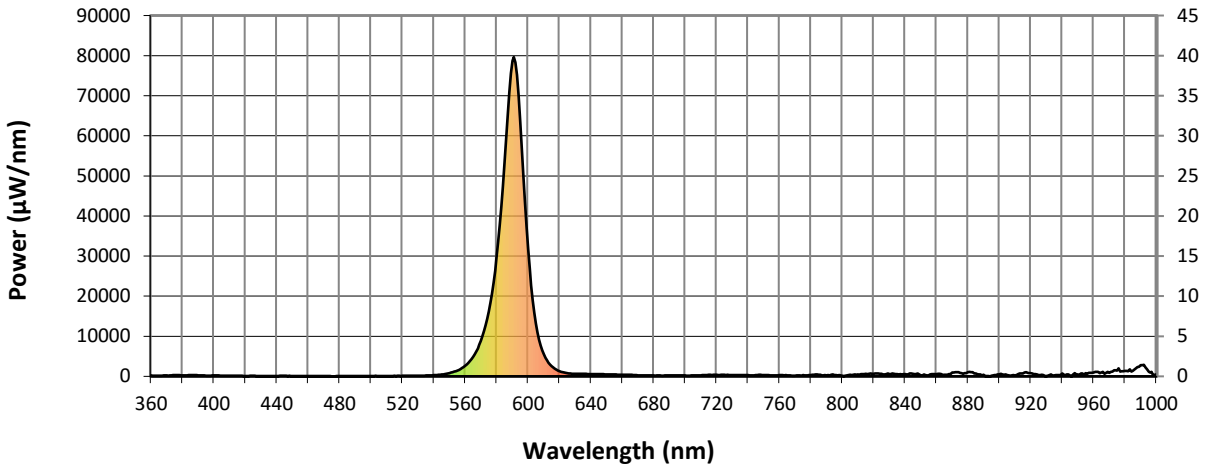
Photopic Flux vs. Wavelength



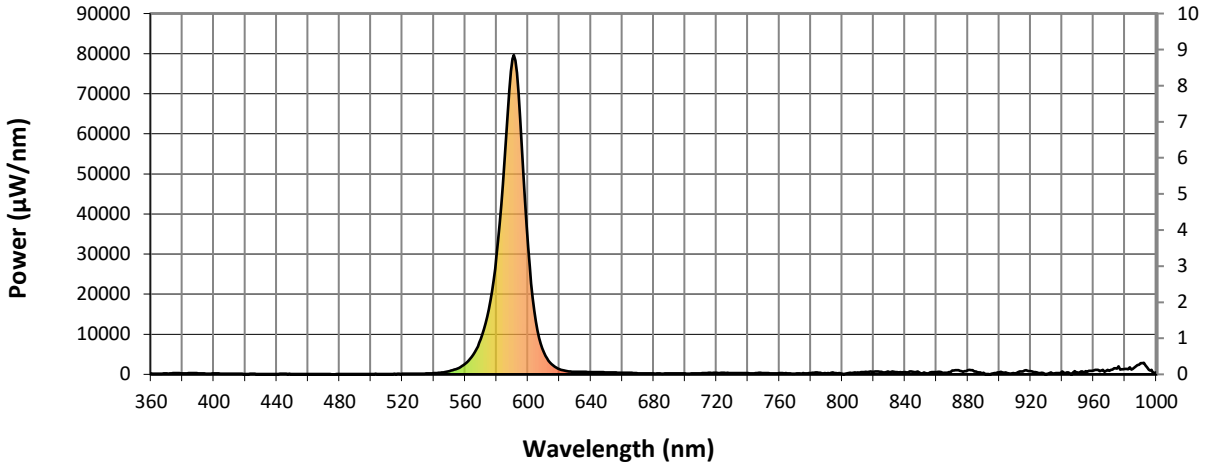
######

λ (nm)	Power (µW/nm)	Lumens (ϕ/nm)	λ (nm)	Power (µW/nm)	Lumens (ϕ/nm)	λ (nm)	Power (µW/nm)	Lumens (ϕ/nm)	λ (nm)	Power (µW/nm)	Lumens (ϕ/nm)	λ (nm)	Power (µW/nm)	Lumens (ϕ/nm)
360	232	NR	490	102	NR	620	1285	NR	750	361	NR	880	1054	NR
365	141	NR	495	91	NR	625	794	NR	755	226	NR	885	743	NR
370	221	NR	500	109	NR	630	604	NR	760	303	NR	890	375	NR
375	314	NR	505	95	NR	635	625	NR	765	277	NR	895	132	NR
380	237	NR	510	92	NR	640	568	NR	770	149	NR	900	509	NR
385	296	NR	515	131	NR	645	573	NR	775	286	NR	905	284	NR
390	260	NR	520	132	NR	650	495	NR	780	359	NR	910	225	NR
395	190	NR	525	133	NR	655	464	NR	785	390	NR	915	726	NR
400	227	NR	530	175	NR	660	397	NR	790	276	NR	920	800	NR
405	169	NR	535	205	NR	665	409	NR	795	342	NR	925	345	NR
410	152	NR	540	294	NR	670	281	NR	800	177	NR	930	77	NR
415	171	NR	545	475	NR	675	262	NR	805	373	NR	935	233	NR
420	121	NR	550	833	NR	680	208	NR	810	500	NR	940	730	NR
425	135	NR	555	1466	NR	685	193	NR	815	602	NR	945	259	NR
430	90	NR	560	2623	NR	690	213	NR	820	681	NR	950	510	NR
435	92	NR	565	4872	NR	695	267	NR	825	615	NR	955	800	NR
440	87	NR	570	8896	NR	700	218	NR	830	529	NR	960	959	NR
445	129	NR	575	16191	NR	705	234	NR	835	526	NR	965	925	NR
450	75	NR	580	29728	NR	710	280	NR	840	531	NR	970	863	NR
455	88	NR	585	53245	NR	715	393	NR	845	627	NR	975	1444	NR
460	76	NR	590	78694	NR	720	370	NR	850	248	NR	980	1342	NR
465	74	NR	595	63659	NR	725	376	NR	855	262	NR	985	1396	NR
470	87	NR	600	31696	NR	730	324	NR	860	579	NR	990	2816	NR
475	37	NR	605	13208	NR	735	359	NR	865	439	NR	995	1223	NR
480	77	NR	610	5473	NR	740	294	NR	870	923	NR	1000	487	NR
485	97	NR	615	2571	NR	745	300	NR	875	874	NR			

Cooper Lighting Solutions Photometric Lab
1121 Highway 74 South
Peachtree City, GA 30269

REPORT NUMBER: SP1-2201-507-1

Scotopic Flux vs. Wavelength



Scotopic Lumens: 236 **S/P: 0.29**

λ (nm)	Power (µW/nm)	Lumens (ϕ/nm)	λ (nm)	Power (µW/nm)	Lumens (ϕ/nm)	λ (nm)	Power (µW/nm)	Lumens (ϕ/nm)	λ (nm)	Power (µW/nm)	Lumens (ϕ/nm)	λ (nm)	Power (µW/nm)	Lumens (ϕ/nm)
360	232	NR	490	102	NR	620	1285	NR	750	361	NR	880	1054	NR
365	141	NR	495	91	NR	625	794	NR	755	226	NR	885	743	NR
370	221	NR	500	109	NR	630	604	NR	760	303	NR	890	375	NR
375	314	NR	505	95	NR	635	625	NR	765	277	NR	895	132	NR
380	237	NR	510	92	NR	640	568	NR	770	149	NR	900	509	NR
385	296	NR	515	131	NR	645	573	NR	775	286	NR	905	284	NR
390	260	NR	520	132	NR	650	495	NR	780	359	NR	910	225	NR
395	190	NR	525	133	NR	655	464	NR	785	390	NR	915	726	NR
400	227	NR	530	175	NR	660	397	NR	790	276	NR	920	800	NR
405	169	NR	535	205	NR	665	409	NR	795	342	NR	925	345	NR
410	152	NR	540	294	NR	670	281	NR	800	177	NR	930	77	NR
415	171	NR	545	475	NR	675	262	NR	805	373	NR	935	233	NR
420	121	NR	550	833	NR	680	208	NR	810	500	NR	940	730	NR
425	135	NR	555	1466	NR	685	193	NR	815	602	NR	945	259	NR
430	90	NR	560	2623	NR	690	213	NR	820	681	NR	950	510	NR
435	92	NR	565	4872	NR	695	267	NR	825	615	NR	955	800	NR
440	87	NR	570	8896	NR	700	218	NR	830	529	NR	960	959	NR
445	129	NR	575	16191	NR	705	234	NR	835	526	NR	965	925	NR
450	75	NR	580	29728	NR	710	280	NR	840	531	NR	970	863	NR
455	88	NR	585	53245	NR	715	393	NR	845	627	NR	975	1444	NR
460	76	NR	590	78694	NR	720	370	NR	850	248	NR	980	1342	NR
465	74	NR	595	63659	NR	725	376	NR	855	262	NR	985	1396	NR
470	87	NR	600	31696	NR	730	324	NR	860	579	NR	990	2816	NR
475	37	NR	605	13208	NR	735	359	NR	865	439	NR	995	1223	NR
480	77	NR	610	5473	NR	740	294	NR	870	923	NR	1000	487	NR
485	97	NR	615	2571	NR	745	300	NR	875	874	NR			

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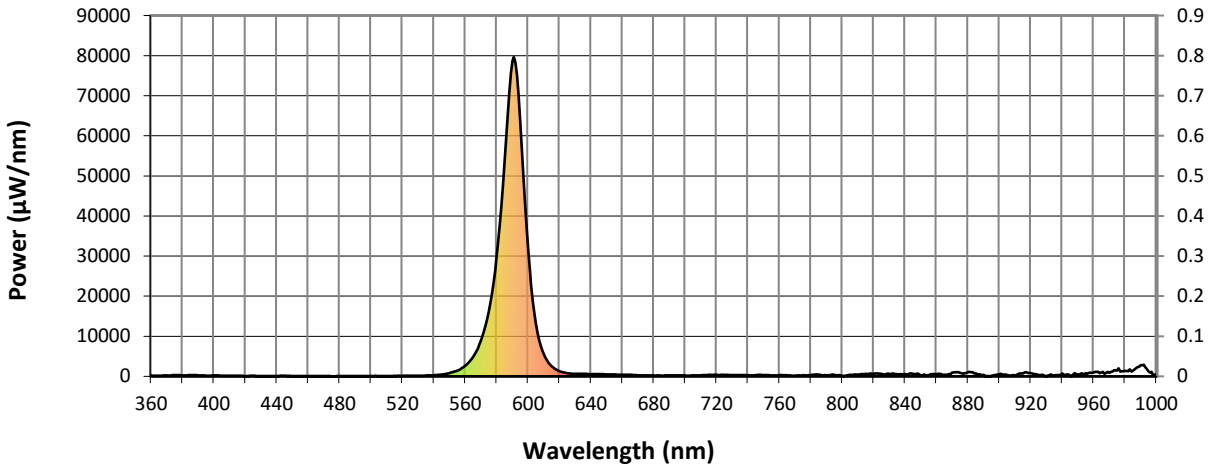
REPORT NUMBER: SP1-2201-507-1

Melanopic Flux vs. Wavelength



Melanopic Lumens: 31.6 **S/P: 0.04**

λ (nm)	Power (µW/nm)	Lumens (ϕ/nm)	λ (nm)	Power (µW/nm)	Lumens (ϕ/nm)	λ (nm)	Power (µW/nm)	Lumens (ϕ/nm)	λ (nm)	Power (µW/nm)	Lumens (ϕ/nm)	λ (nm)	Power (µW/nm)	Lumens (ϕ/nm)
360	232	NR	490	102	NR	620	1285	NR	750	361	NR	880	1054	NR
365	141	NR	495	91	NR	625	794	NR	755	226	NR	885	743	NR
370	221	NR	500	109	NR	630	604	NR	760	303	NR	890	375	NR
375	314	NR	505	95	NR	635	625	NR	765	277	NR	895	132	NR
380	237	NR	510	92	NR	640	568	NR	770	149	NR	900	509	NR
385	296	NR	515	131	NR	645	573	NR	775	286	NR	905	284	NR
390	260	NR	520	132	NR	650	495	NR	780	359	NR	910	225	NR
395	190	NR	525	133	NR	655	464	NR	785	390	NR	915	726	NR
400	227	NR	530	175	NR	660	397	NR	790	276	NR	920	800	NR
405	169	NR	535	205	NR	665	409	NR	795	342	NR	925	345	NR
410	152	NR	540	294	NR	670	281	NR	800	177	NR	930	77	NR
415	171	NR	545	475	NR	675	262	NR	805	373	NR	935	233	NR
420	121	NR	550	833	NR	680	208	NR	810	500	NR	940	730	NR
425	135	NR	555	1466	NR	685	193	NR	815	602	NR	945	259	NR
430	90	NR	560	2623	NR	690	213	NR	820	681	NR	950	510	NR
435	92	NR	565	4872	NR	695	267	NR	825	615	NR	955	800	NR
440	87	NR	570	8896	NR	700	218	NR	830	529	NR	960	959	NR
445	129	NR	575	16191	NR	705	234	NR	835	526	NR	965	925	NR
450	75	NR	580	29728	NR	710	280	NR	840	531	NR	970	863	NR
455	88	NR	585	53245	NR	715	393	NR	845	627	NR	975	1444	NR
460	76	NR	590	78694	NR	720	370	NR	850	248	NR	980	1342	NR
465	74	NR	595	63659	NR	725	376	NR	855	262	NR	985	1396	NR
470	87	NR	600	31696	NR	730	324	NR	860	579	NR	990	2816	NR
475	37	NR	605	13208	NR	735	359	NR	865	439	NR	995	1223	NR
480	77	NR	610	5473	NR	740	294	NR	870	923	NR	1000	487	NR
485	97	NR	615	2571	NR	745	300	NR	875	874	NR			

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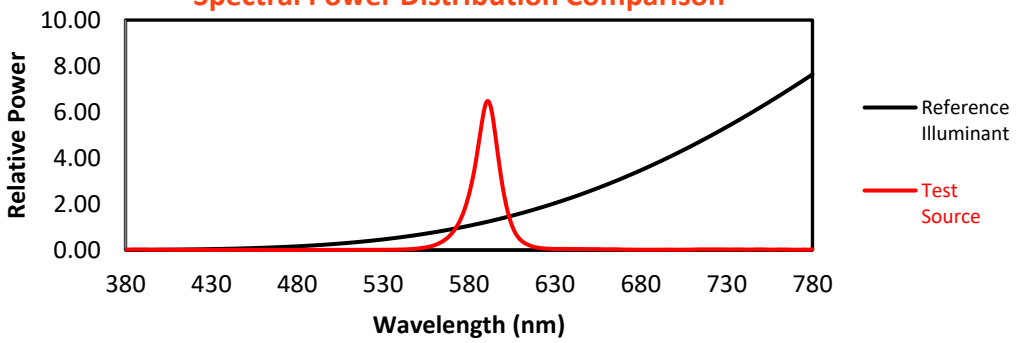
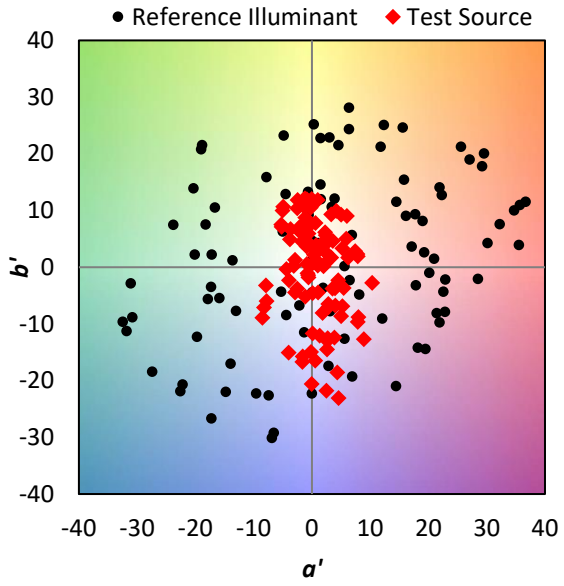
Summary

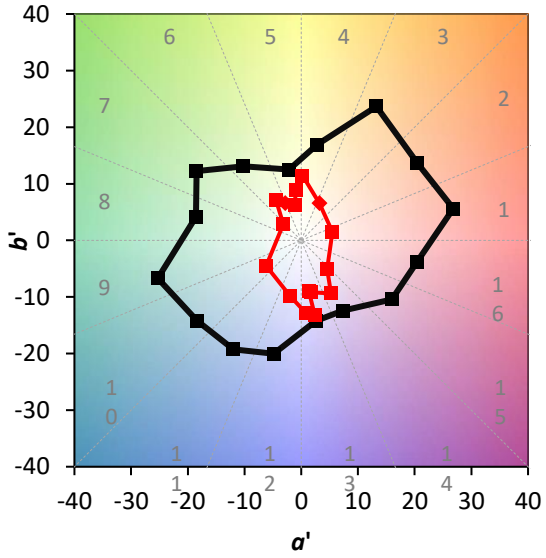
R_f = 8
R_g = 12.7
CIE R_a = -25.2
R_9 = -415.1

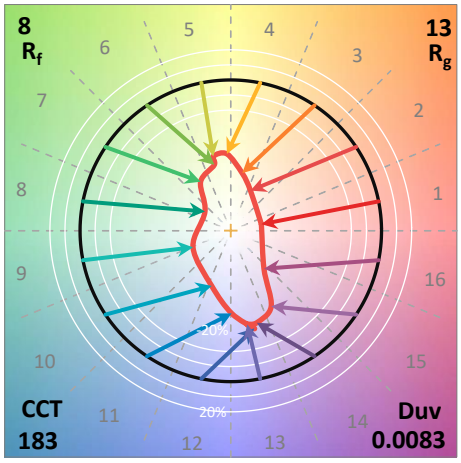
Spectral Power Distribution Comparison

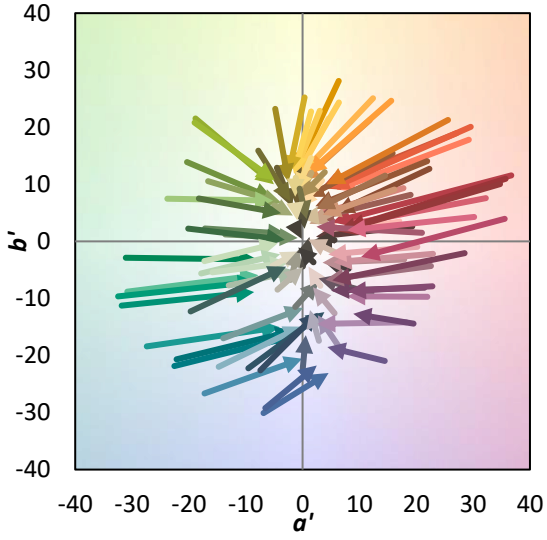


Color Vector Graphics









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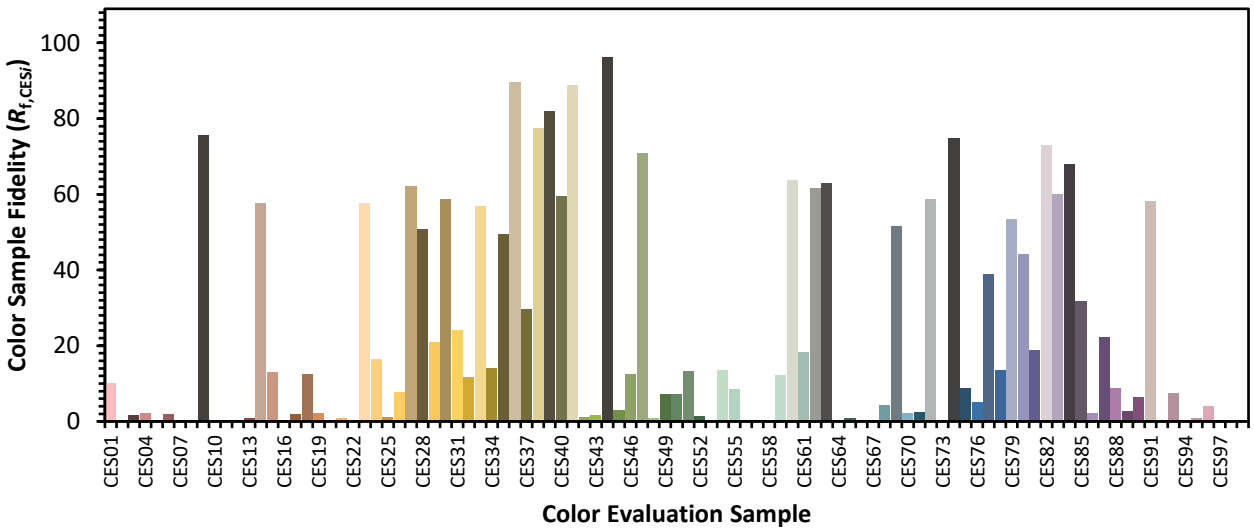
Individual Sample Fidelity Index ($R_{f,i}$)

CES01 = 89	CES26 = 8	CES51 = 13	CES76 = 5
CES02 = 66	CES27 = 62	CES52 = 1	CES77 = 39
CES03 = 30	CES28 = 51	CES53 = 0	CES78 = 14
CES04 = 76	CES29 = 21	CES54 = 14	CES79 = 53
CES05 = 50	CES30 = 59	CES55 = 9	CES80 = 44
CES06 = 55	CES31 = 24	CES56 = 0	CES81 = 19
CES07 = 37	CES32 = 12	CES57 = 0	CES82 = 73
CES08 = 36	CES33 = 57	CES58 = 0	CES83 = 60
CES09 = 29	CES34 = 14	CES59 = 12	CES84 = 68
CES10 = 84	CES35 = 49	CES60 = 64	CES85 = 32
CES11 = 68	CES36 = 90	CES61 = 18	CES86 = 2
CES12 = 72	CES37 = 30	CES62 = 62	CES87 = 22
CES13 = 43	CES38 = 78	CES63 = 63	CES88 = 9
CES14 = 76	CES39 = 82	CES64 = 0	CES89 = 3
CES15 = 72	CES40 = 60	CES65 = 1	CES90 = 7
CES16 = 47	CES41 = 89	CES66 = 0	CES91 = 58
CES17 = 55	CES42 = 1	CES67 = 0	CES92 = 0
CES18 = 58	CES43 = 2	CES68 = 4	CES93 = 7
CES19 = 79	CES44 = 96	CES69 = 52	CES94 = 0
CES20 = 68	CES45 = 3	CES70 = 2	CES95 = 1
CES21 = 93	CES46 = 13	CES71 = 2	CES96 = 4
CES22 = 85	CES47 = 71	CES72 = 59	CES97 = 0
CES23 = 93	CES48 = 1	CES73 = 0	CES98 = 0
CES24 = 95	CES49 = 7	CES74 = 75	CES99 = 0
CES25 = 78	CES50 = 7	CES75 = 9	



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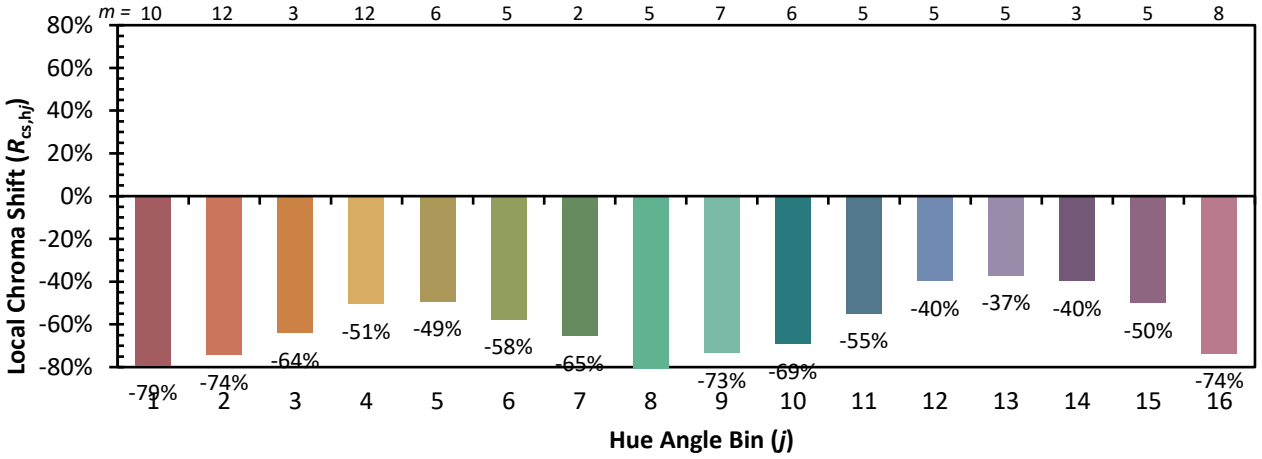
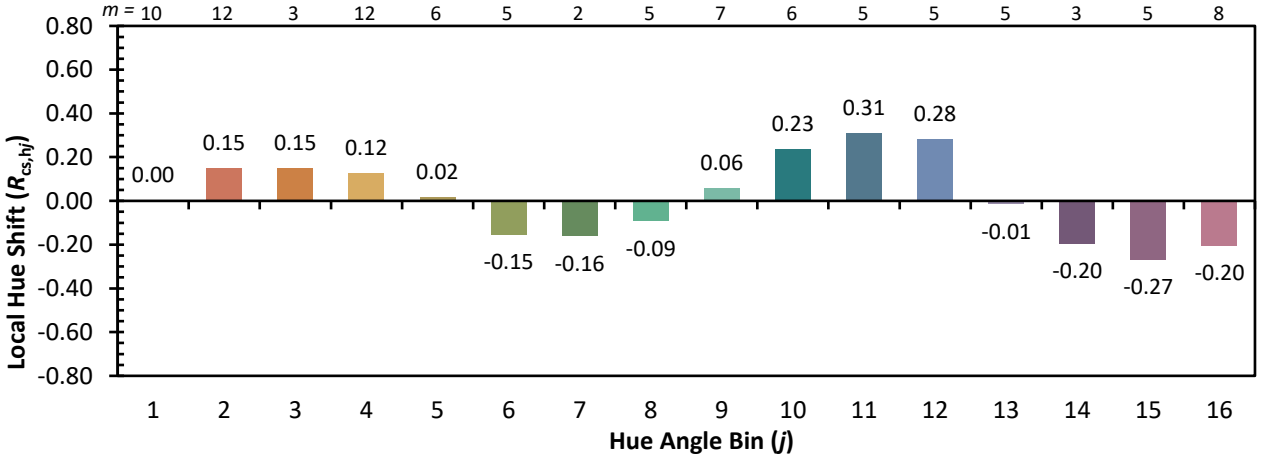
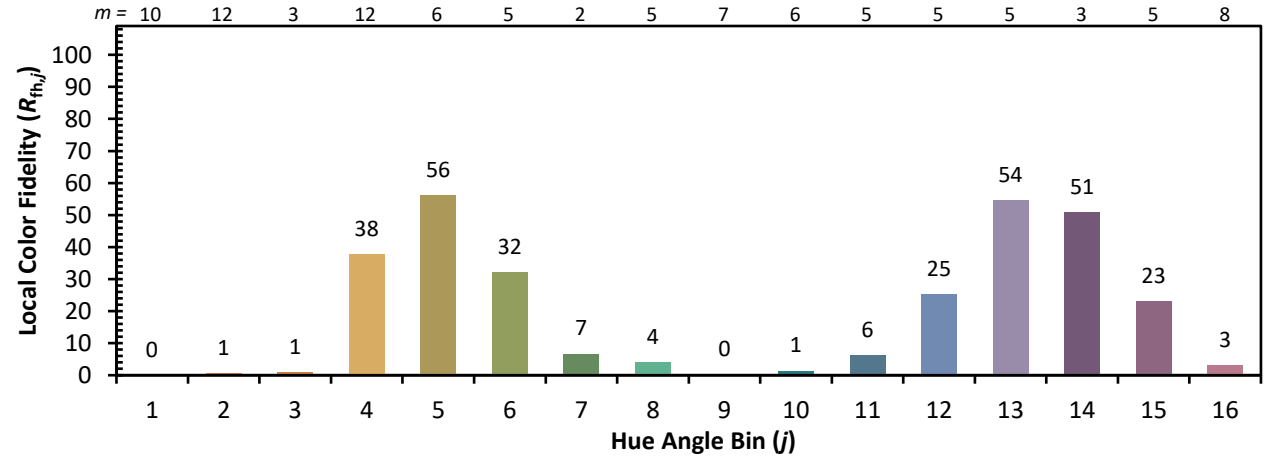
Color Rendition by Hue-Angle Bin







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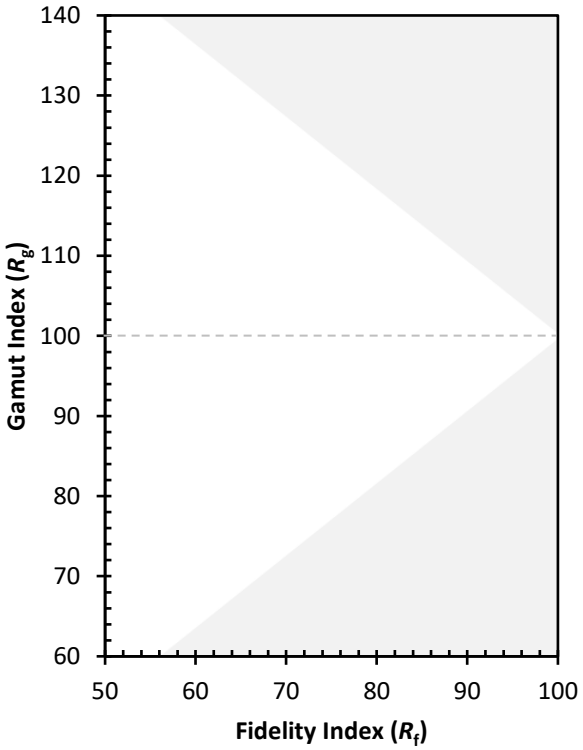
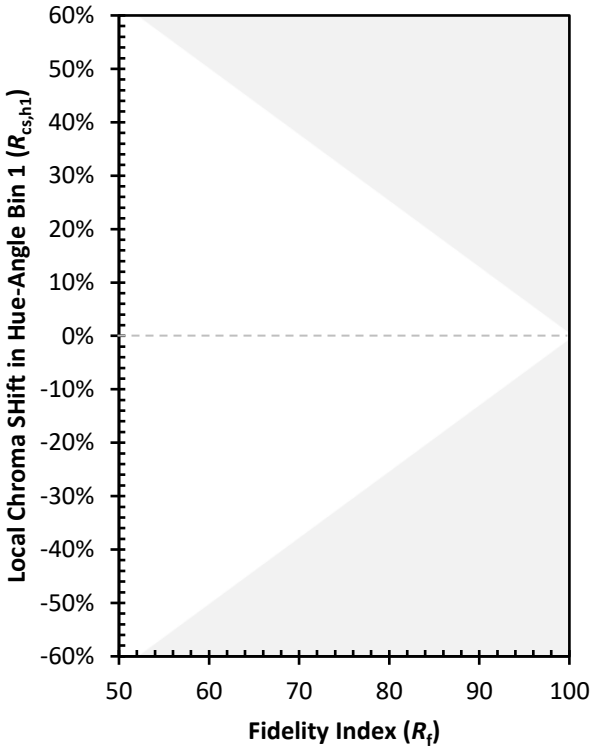
Measure Comparisons





(END OF REPORT)