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: P672664

Luminaire Tested: **CCP-SA-1A-730-U-5NQ**

Issue Date: 04/16/2023

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:	P672664
Test Lab:	INNOVATION CENTER(G2)
Issue Date:	04/16/2023
Manufacturer:	COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line:	INVUE
Catalog Number:	CCP-SA-1A-730-U-5NQ
Description:	INVUE CLEAR CURVE POLE MOUNT LIGHT SQUARE LUMINAIRE @350mA w/ 5NQ distribution lens
Light Source:	(16) 3000K CCT, 70 CRI LEDS
Ballast/Driver:	ELECTRONIC DRIVER

Summary

Lumens per Lamp:	N/A
Luminaire Lumens:	2592.4 lumens
Efficiency:	N/A
Efficacy:	144.0 lumens/watt
Luminous Opening:	Rectangular (W 1' x L: 0.5' x H: 0')
IES Classification:	Type V - Short
BUG Rating:	B1 - U0 - G0

Input Watts (W):	18
Input Voltage (V):	120
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:	25 FT

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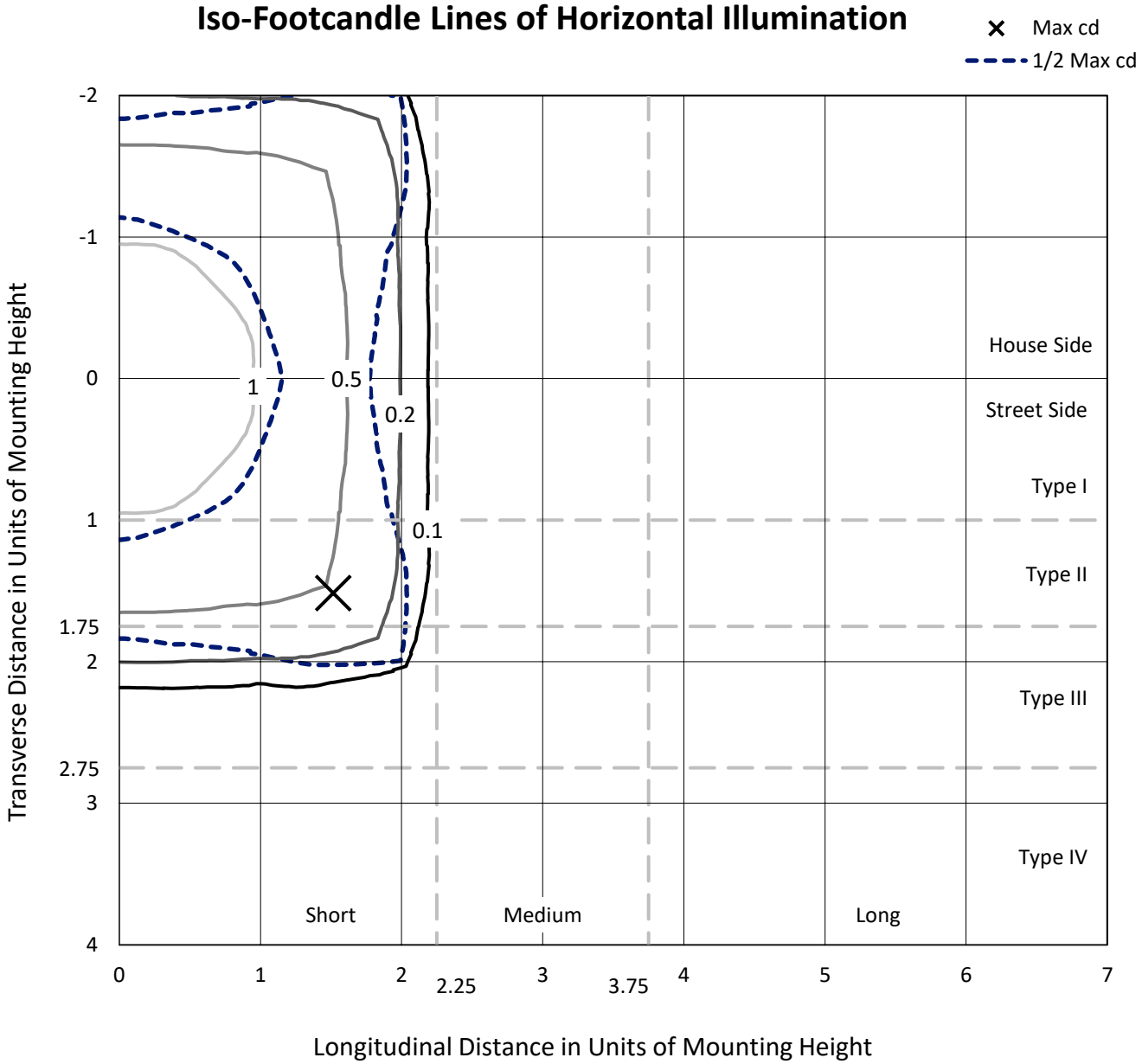
REPORT NUMBER: P672664
CATALOG NUMBER: CCP-SA-1A-730-U-5NQ

Iso-Footcandle Lines of Horizontal Illumination



Based on 15 foot mounting height. Maximum calculated value = 1.4 fc
Type V - Short - N/A

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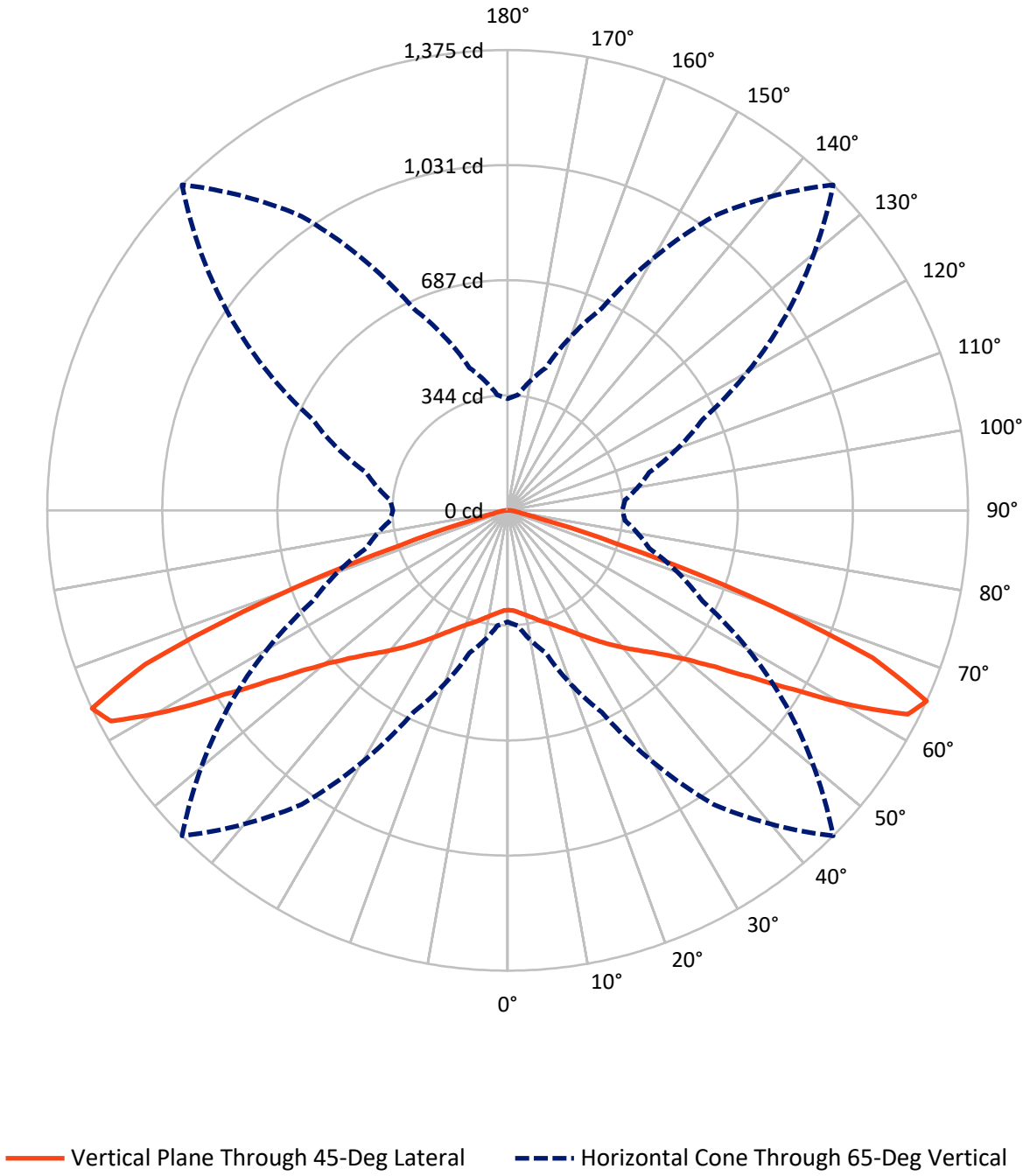
Luminous Intensity Polar Plot



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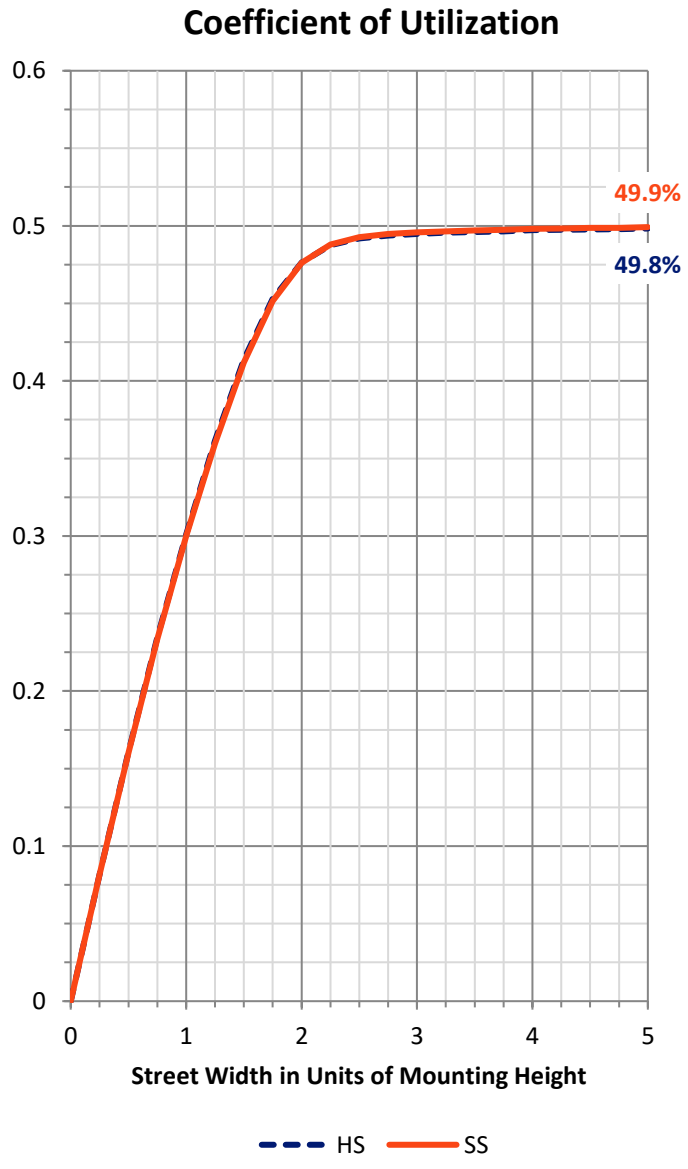
REPORT NUMBER: P672664
CATALOG NUMBER: CCP-SA-1A-730-U-5NQ

FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	1296.2	0.0	1296.2
	% Fixture	50.0	0.0	50.0
Street Side	Lumens	1296.2	0.0	1296.2
	% Fixture	50.0	0.0	50.0
Total	Lumens	2592.4	0.0	2592.4
	% Fixture	100.0	0.0	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	29.5	1.1
10°-20°	96.4	3.7
20°-30°	182.8	7.1
30°-40°	306.6	11.8
40°-50°	485.1	18.7
50°-60°	762.1	29.4
60°-70°	643.9	24.8
70°-80°	75.0	2.9
80°-90°	11.2	0.4
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°	2592.4	100.0
0°-180°	2592.4	100.0



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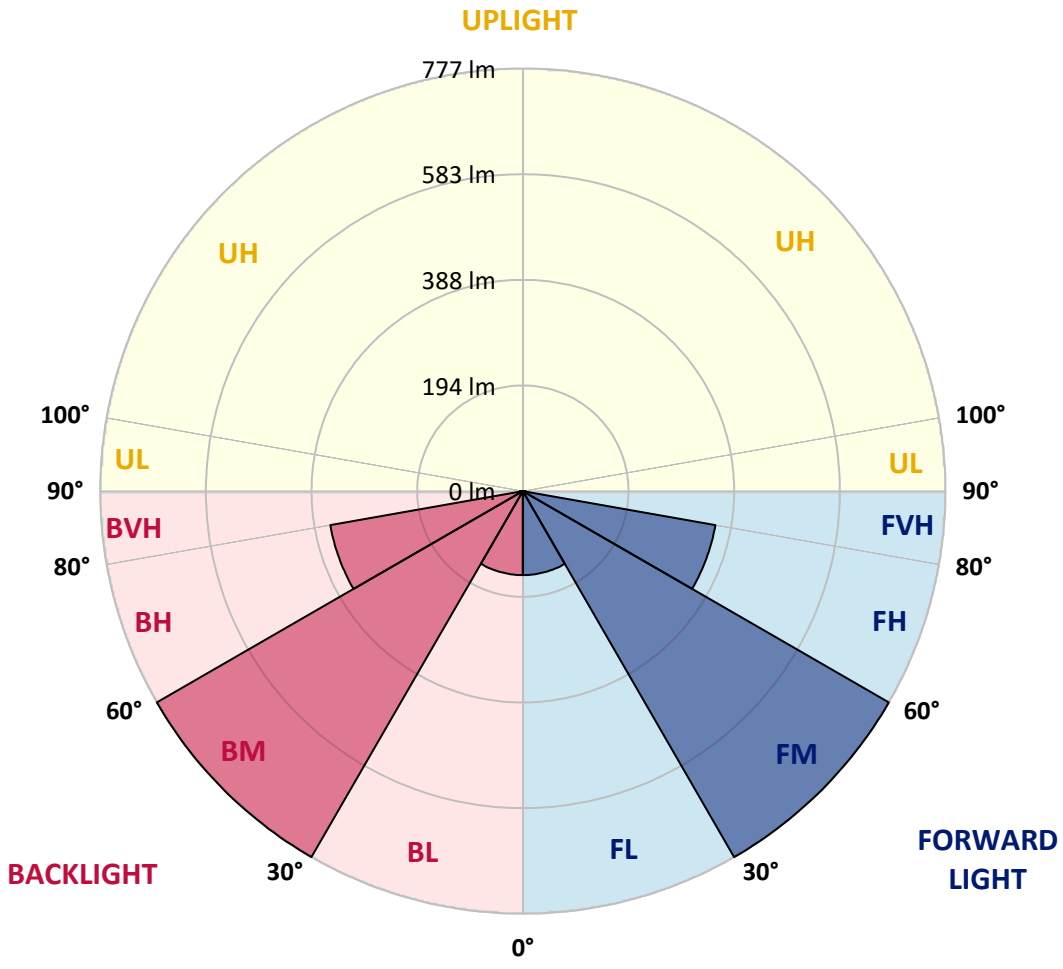
CATALOG NUMBER: CCP-SA-1A-730-U-5NQ

LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit B	U	G
FL	(0°-30°)	154.3	6.0			
FM	(30°-60°)	776.9	30.0			
FH	(60°-80°)	359.4	13.9			G0/660
FVH	(80°-90°)	5.6	0.2			G0/10
BL	(0°-30°)	154.3	6.0	B1/500		
BM	(30°-60°)	776.9	30.0	B1/1000		
BH	(60°-80°)	359.4	13.9	B1/500		G0/660
BVH	(80°-90°)	5.6	0.2			G0/10
UL	(90°-100°)	0.0	0.0		U0/0	
UH	(100°-180°)	0.0	0.0		U0/0	

BUG Rating: B1-U0-G0
Type V Short



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CATALOG NUMBER: CCP-SA-1A-730-U-5NQ

CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	45°	55°	65°	75°	85°	90°
0°	298.1	298.1	298.1	298.1	298.1	298.1	298.1	298.1	298.1	298.1	298.1
2.5°	299.7	298.8	299.7	299.7	299.2	299.4	298.6	298.4	299.4	298.6	298.4
5°	305.9	305.2	305.9	305.4	304.5	304.6	303.5	303.2	304.3	303.2	303.4
7.5°	313.0	311.7	312.1	312.7	311.7	311.7	310.8	310.3	310.8	309.7	310.5
10°	319.0	317.9	318.5	319.2	319.0	319.6	318.7	318.3	317.8	316.5	317.6
12.5°	326.9	326.5	327.2	328.1	327.8	328.5	326.5	326.0	325.8	324.3	325.6
15°	337.1	336.2	337.4	338.5	338.0	339.3	337.6	336.9	336.0	334.2	335.3
17.5°	347.3	346.5	348.4	348.9	349.1	350.2	348.9	347.8	347.5	346.2	345.5
20°	359.5	358.6	360.0	361.1	360.2	361.5	360.9	360.2	359.9	357.8	357.7
22.5°	373.2	371.9	374.1	375.3	374.1	375.3	374.2	374.1	374.2	371.3	371.7
25°	388.5	388.6	390.8	391.7	391.0	391.7	390.1	391.2	390.6	387.5	386.5
27.5°	408.1	407.4	409.8	412.5	410.7	410.7	410.0	411.0	410.9	408.0	407.2
30°	431.1	430.9	434.4	436.0	433.5	432.4	432.2	434.9	435.1	432.0	430.7
32.5°	455.1	455.1	459.3	461.3	457.7	457.0	456.2	459.9	459.3	455.1	452.4
35°	481.6	480.5	486.1	489.0	485.4	483.2	482.8	486.1	485.4	479.6	476.3
37.5°	507.6	508.3	514.9	518.2	513.8	511.1	512.0	514.2	514.4	508.0	504.5
40°	539.5	539.7	547.9	550.4	544.8	540.6	541.9	546.8	546.4	538.6	534.2
42.5°	575.2	574.5	584.7	586.9	579.2	571.2	575.0	582.7	584.5	575.8	571.2
45°	613.5	614.6	625.1	627.5	615.5	605.3	613.5	625.0	627.3	617.8	612.2
47.5°	659.9	661.2	674.0	674.9	661.2	647.9	658.8	673.8	674.7	661.6	655.0
50°	713.0	717.3	731.5	733.4	719.9	702.8	718.4	731.7	728.3	710.8	704.8
52.5°	773.1	776.5	798.8	806.4	794.6	776.2	788.8	797.0	785.8	762.9	753.6
55°	824.3	830.1	859.6	883.0	891.9	878.0	876.6	864.6	833.6	798.6	788.9
57.5°	838.7	844.3	890.1	950.2	1003.2	1010.1	978.1	917.8	851.1	797.1	787.3
60°	780.2	787.8	854.7	968.6	1120.7	1183.4	1067.5	922.3	805.7	733.4	721.0
62.5°	612.7	627.0	713.3	891.9	1168.1	1341.2	1104.3	843.8	668.9	583.4	567.0
65°	333.2	345.5	440.7	664.7	1072.1	1374.9	1014.1	642.4	437.5	351.7	342.7
67.5°	125.0	133.9	177.6	328.5	758.0	1175.4	769.8	367.9	198.6	142.5	129.9
70°	53.2	54.3	64.3	114.4	344.5	764.7	394.1	125.0	66.3	53.6	52.1
72.5°	38.3	38.4	41.2	50.7	104.9	335.4	119.2	52.5	40.4	36.4	36.4
75°	30.6	30.8	32.4	36.6	49.6	98.8	51.4	36.8	31.3	28.6	28.2
77.5°	24.1	24.4	26.1	28.6	33.2	45.2	34.8	29.0	25.1	22.6	22.2
80°	17.9	18.4	20.6	21.9	23.3	30.1	25.3	22.6	20.0	17.3	16.8
82.5°	11.8	12.4	15.3	16.2	16.0	18.9	17.5	17.3	15.3	11.5	10.9
85°	7.1	7.5	9.8	10.6	9.8	9.3	11.1	12.0	10.7	7.5	6.9
87.5°	3.1	3.1	4.4	4.6	4.4	3.5	5.3	6.2	6.4	3.8	3.5
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Cooper Lighting Solutions Photometric Lab
1121 Highway 74 South
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Report Prepared for

Cooper Lighting Solutions

(formerly Eaton)

INVUE

Report Number: SP1-2012-088-7

Luminaire Tested: WIS-SA-730-2A-U-SL3-HSS

Test Date: 01/20/2021

Report Generated By controller / USPTCWHP6086842

Test Information

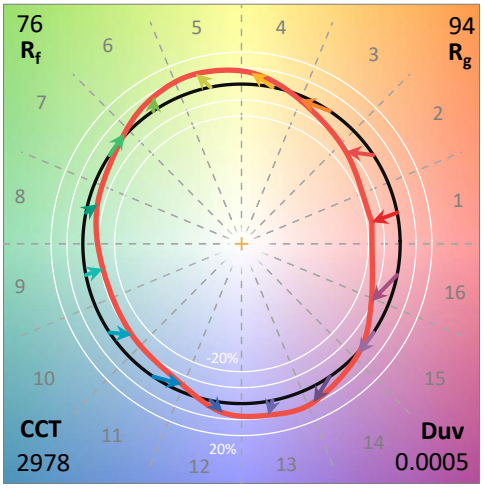
Test Method:	LM-79-08
Report Number:	SP1-2012-088-7
Test Lab:	COOPER LIGHTING SOLUTIONS
Photometer:	SP1
Measurement Geometry:	4π
Issue Date:	01/20/2021
Manufacturer:	COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line:	INVUE
Catalog Number:	**WIS-SA-730-2A-U-SL3-HSS**
Description:	INVUE WALL PACK

SHIELD

Spectral Parameters

CCT (K):	2978	CRI (Ra):	72.4		
CIE u':	0.2511	R1:	68.2	R9:	-36.8
CIE v':	0.5225	R2:	83.1	R10:	63.2
Duv:	0.0005	R3:	94.9	R11:	65.5
CIE x:	0.4391	R4:	68.7	R12:	58.5
CIE y:	0.4060	R5:	68.6	R13:	71.0
CIE z:	0.1549	R6:	78.2	R14:	97.4
Peak Wavelength (nm):	596	R7:	76.3		
Dominant Wavelength (nm):	582	R8:	41.2		
Purity:	54				

Rf:	76.2
Rg:	94.2



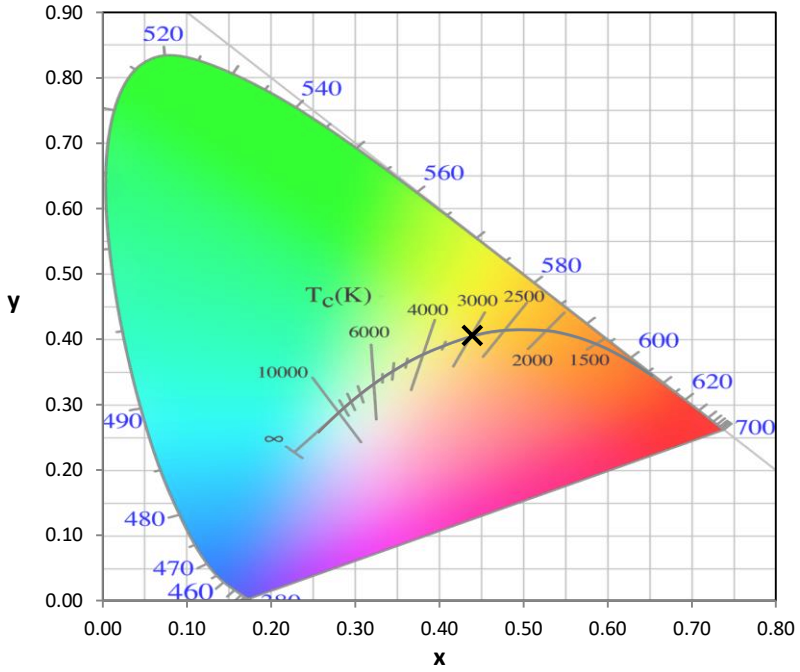
Test Conditions

Stabilization Time:	82M
Operation Time:	12H
Room Temperature (°C) / RH%:	25.6/28%
Sphere Temperature (°C):	25.5

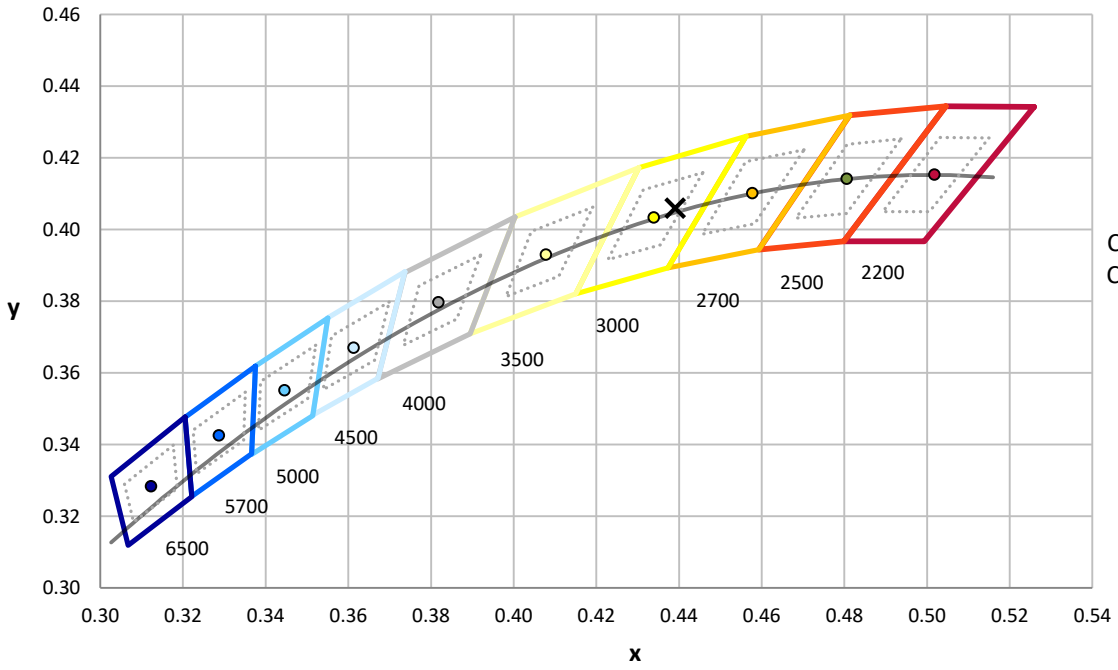
Measurement and Test Equipment			
Instrument	Identification Number	Calibration Date	Calibration Due Date
Photometer	IN0058	7/29/2020	1/29/2021
Power Meter	IN0071	12/1/2020	12/1/2021
AC Power Source	IN0063	12/1/2020	12/1/2021
DC Power Source	IN0208	12/1/2020	12/1/2021
Sphere Thermometer	IN0085	12/1/2020	12/1/2021
Room Thermometer	IN0046	12/1/2020	12/1/2021

REPORT NUMBER: SP1-2012-088-7

CIE 1931 Chromaticity Diagram



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

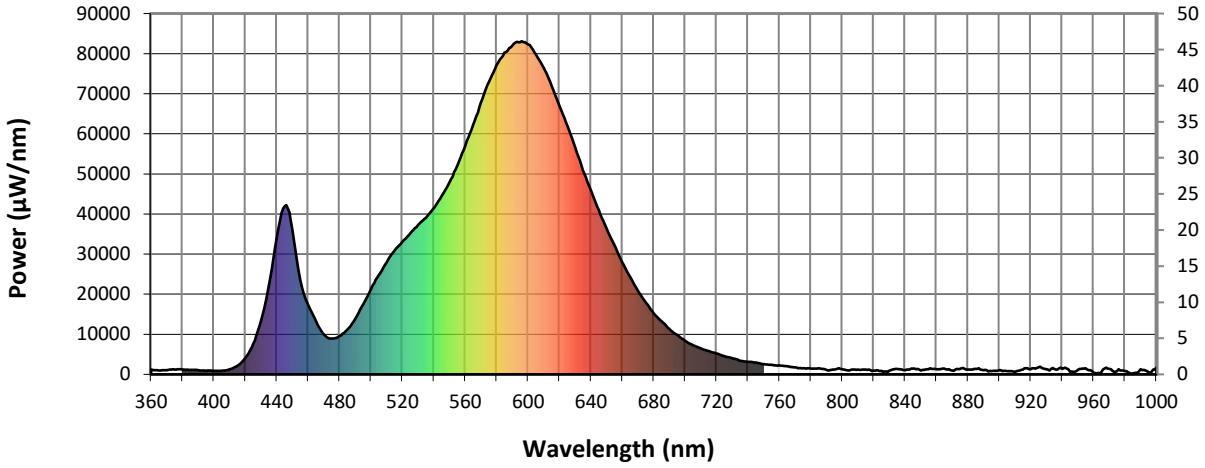


CCT = 2978K
CIE x = 0.4391
CIE y = 0.4060
Duv = 0.0005

Point lies inside the ANSI 3000K 4-step quadrangle

REPORT NUMBER: SP1-2012-088-7

Photopic Flux vs. Wavelength



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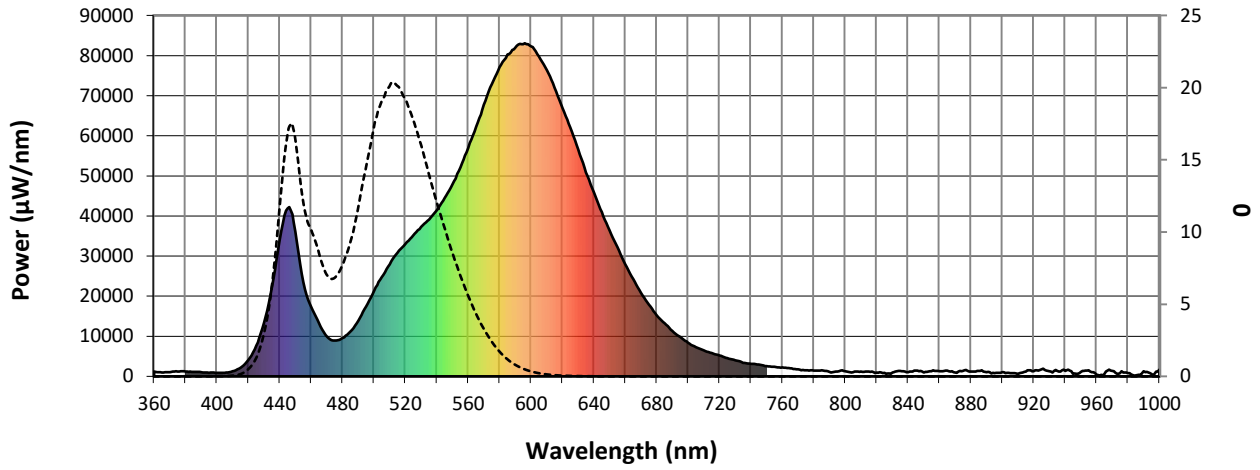
λ (nm)	Power (µW/nm)	Lumens (ϕ/nm)	λ (nm)	Power (µW/nm)	Lumens (ϕ/nm)	λ (nm)	Power (µW/nm)	Lumens (ϕ/nm)	λ (nm)	Power (µW/nm)	Lumens (ϕ/nm)	λ (nm)	Power (µW/nm)	Lumens (ϕ/nm)
360	1195	0.0	490	13880	2.0	620	66879	17.4	750	2571	0.0	880	1235	0.0
365	985	0.0	495	17408	3.2	625	62111	13.7	755	2394	0.0	885	1368	0.0
370	1066	0.0	500	21285	4.7	630	56551	10.2	760	2199	0.0	890	1027	0.0
375	1227	0.0	505	24779	6.9	635	50866	7.6	765	2031	0.0	895	822	0.0
380	1176	0.0	510	27951	9.6	640	45859	5.5	770	1735	0.0	900	1068	0.0
385	1115	0.0	515	30815	12.8	645	40924	3.9	775	1538	0.0	905	823	0.0
390	1039	0.0	520	33040	16.0	650	36434	2.7	780	1455	0.0	910	531	0.0
395	908	0.0	525	35159	18.9	655	32132	1.8	785	1506	0.0	915	1184	0.0
400	903	0.0	530	37292	22.0	660	27953	1.2	790	1154	0.0	920	1320	0.0
405	911	0.0	535	39123	24.3	665	24284	0.8	795	1232	0.0	925	1757	0.0
410	1264	0.0	540	41391	27.0	670	20822	0.5	800	1247	0.0	930	1279	0.0
415	2142	0.0	545	44515	29.6	675	17848	0.3	805	1043	0.0	935	1399	0.0
420	4052	0.0	550	47864	32.5	680	15278	0.2	810	1235	0.0	940	1325	0.0
425	7647	0.0	555	52101	35.6	685	13213	0.1	815	1173	0.0	945	612	0.0
430	13366	0.1	560	56892	38.7	690	11304	0.1	820	948	0.0	950	1094	0.0
435	22367	0.3	565	62242	41.4	695	9794	0.0	825	846	0.0	955	1493	0.0
440	34007	0.5	570	67731	44.0	700	8390	0.0	830	987	0.0	960	385	0.0
445	41889	0.9	575	72883	45.3	705	7303	0.0	835	1395	0.0	965	585	0.0
450	36090	0.9	580	77104	45.8	710	6501	0.0	840	1079	0.0	970	1360	0.0
455	23459	0.8	585	80305	44.6	715	5811	0.0	845	1430	0.0	975	805	0.0
460	17429	0.7	590	82039	42.4	720	5196	0.0	850	984	0.0	980	813	0.0
465	13265	0.7	595	82883	39.3	725	4576	0.0	855	1315	0.0	985	214	0.0
470	9887	0.6	600	82307	35.5	730	4031	0.0	860	1245	0.0	990	1247	0.0
475	8912	0.7	605	79818	30.9	735	3393	0.0	865	1445	0.0	995	597	0.0
480	9543	0.9	610	76405	26.2	740	3117	0.0	870	998	0.0	1000	1691	0.0
485	11169	1.3	615	71967	21.7	745	2946	0.0	875	1326	0.0			

REPORT NUMBER: SP1-2012-088-7

Scotopic Flux vs. Wavelength



Scotopic Lumens: 1728.4 **S/P: 0.45**

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	1195	0.0	490	13880	21.4	620	66879	0.8	750	2571	0.0	880	1235	0.0
365	985	0.0	495	17408	28.1	625	62111	0.5	755	2394	0.0	885	1368	0.0
370	1066	0.0	500	21285	35.6	630	56551	0.3	760	2199	0.0	890	1027	0.0
375	1227	0.0	505	24779	42.1	635	50866	0.2	765	2031	0.0	895	822	0.0
380	1176	0.0	510	27951	47.4	640	45859	0.1	770	1735	0.0	900	1068	0.0
385	1115	0.0	515	30815	51.1	645	40924	0.1	775	1538	0.0	905	823	0.0
390	1039	0.0	520	33040	52.5	650	36434	0.0	780	1455	0.0	910	531	0.0
395	908	0.0	525	35159	52.6	655	32132	0.0	785	1506	0.0	915	1184	0.0
400	903	0.0	530	37292	51.4	660	27953	0.0	790	1154	0.0	920	1320	0.0
405	911	0.0	535	39123	48.8	665	24284	0.0	795	1232	0.0	925	1757	0.0
410	1264	0.1	540	41391	45.7	670	20822	0.0	800	1247	0.0	930	1279	0.0
415	2142	0.2	545	44515	42.7	675	17848	0.0	805	1043	0.0	935	1399	0.0
420	4052	0.7	550	47864	39.1	680	15278	0.0	810	1235	0.0	940	1325	0.0
425	7647	1.9	555	52101	35.6	685	13213	0.0	815	1173	0.0	945	612	0.0
430	13366	4.5	560	56892	31.8	690	11304	0.0	820	948	0.0	950	1094	0.0
435	22367	10.0	565	62242	27.9	695	9794	0.0	825	846	0.0	955	1493	0.0
440	34007	19.0	570	67731	23.9	700	8390	0.0	830	987	0.0	960	385	0.0
445	41889	28.0	575	72883	19.8	705	7303	0.0	835	1395	0.0	965	585	0.0
450	36090	28.0	580	77104	15.9	710	6501	0.0	840	1079	0.0	970	1360	0.0
455	23459	20.5	585	80305	12.3	715	5811	0.0	845	1430	0.0	975	805	0.0
460	17429	16.8	590	82039	9.1	720	5196	0.0	850	984	0.0	980	813	0.0
465	13265	14.0	595	82883	6.6	725	4576	0.0	855	1315	0.0	985	214	0.0
470	9887	11.4	600	82307	4.6	730	4031	0.0	860	1245	0.0	990	1247	0.0
475	8912	11.1	605	79818	3.1	735	3393	0.0	865	1445	0.0	995	597	0.0
480	9543	12.9	610	76405	2.1	740	3117	0.0	870	998	0.0	1000	1691	0.0
485	11169	16.2	615	71967	1.3	745	2946	0.0	875	1326	0.0			

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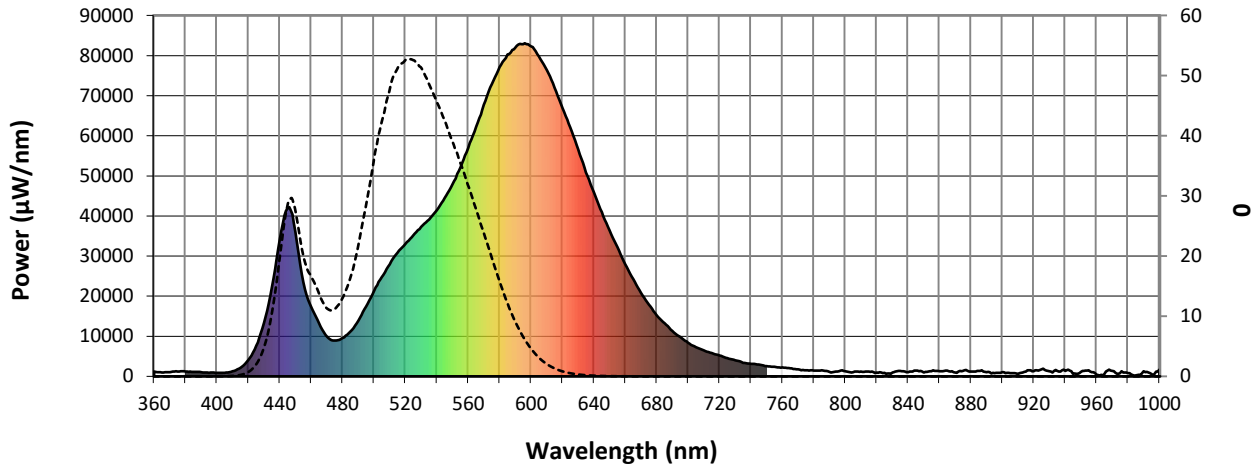
Melanopic Flux vs. Wavelength



Melanopic Lumens: 4752 **S/P: 1.23**

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	1195	0.0	490	13880	11.5	620	66879	0.1	750	2571	0.0	880	1235	0.0
365	985	0.0	495	17408	14.4	625	62111	0.0	755	2394	0.0	885	1368	0.0
370	1066	0.0	500	21285	17.1	630	56551	0.0	760	2199	0.0	890	1027	0.0
375	1227	0.0	505	24779	19.0	635	50866	0.0	765	2031	0.0	895	822	0.0
380	1176	0.0	510	27951	20.1	640	45859	0.0	770	1735	0.0	900	1068	0.0
385	1115	0.0	515	30815	20.1	645	40924	0.0	775	1538	0.0	905	823	0.0
390	1039	0.0	520	33040	19.2	650	36434	0.0	780	1455	0.0	910	531	0.0
395	908	0.0	525	35159	17.8	655	32132	0.0	785	1506	0.0	915	1184	0.0
400	903	0.0	530	37292	16.1	660	27953	0.0	790	1154	0.0	920	1320	0.0
405	911	0.0	535	39123	14.1	665	24284	0.0	795	1232	0.0	925	1757	0.0
410	1264	0.0	540	41391	12.1	670	20822	0.0	800	1247	0.0	930	1279	0.0
415	2142	0.1	545	44515	10.3	675	17848	0.0	805	1043	0.0	935	1399	0.0
420	4052	0.5	550	47864	8.6	680	15278	0.0	810	1235	0.0	940	1325	0.0
425	7647	1.2	555	52101	7.0	685	13213	0.0	815	1173	0.0	945	612	0.0
430	13366	2.8	560	56892	5.6	690	11304	0.0	820	948	0.0	950	1094	0.0
435	22367	6.0	565	62242	4.4	695	9794	0.0	825	846	0.0	955	1493	0.0
440	34007	11.4	570	67731	3.3	700	8390	0.0	830	987	0.0	960	385	0.0
445	41889	16.5	575	72883	2.4	705	7303	0.0	835	1395	0.0	965	585	0.0
450	36090	16.6	580	77104	1.7	710	6501	0.0	840	1079	0.0	970	1360	0.0
455	23459	12.3	585	80305	1.2	715	5811	0.0	845	1430	0.0	975	805	0.0
460	17429	10.3	590	82039	0.8	720	5196	0.0	850	984	0.0	980	813	0.0
465	13265	8.7	595	82883	0.5	725	4576	0.0	855	1315	0.0	985	214	0.0
470	9887	7.1	600	82307	0.3	730	4031	0.0	860	1245	0.0	990	1247	0.0
475	8912	6.8	605	79818	0.2	735	3393	0.0	865	1445	0.0	995	597	0.0
480	9543	7.7	610	76405	0.1	740	3117	0.0	870	998	0.0	1000	1691	0.0
485	11169	9.2	615	71967	0.1	745	2946	0.0	875	1326	0.0			

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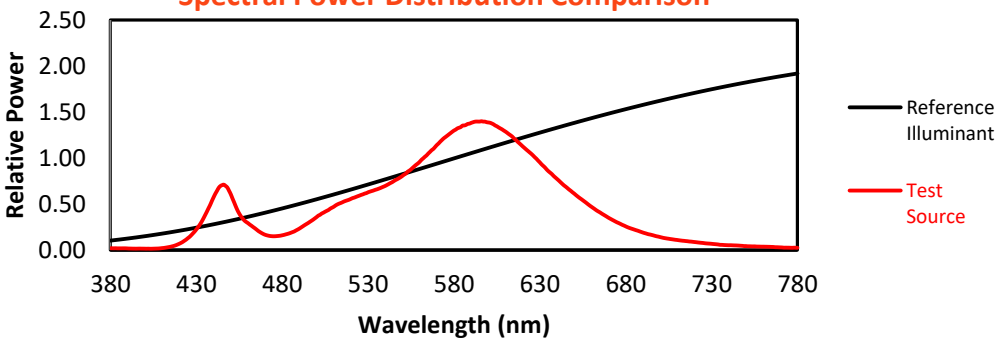
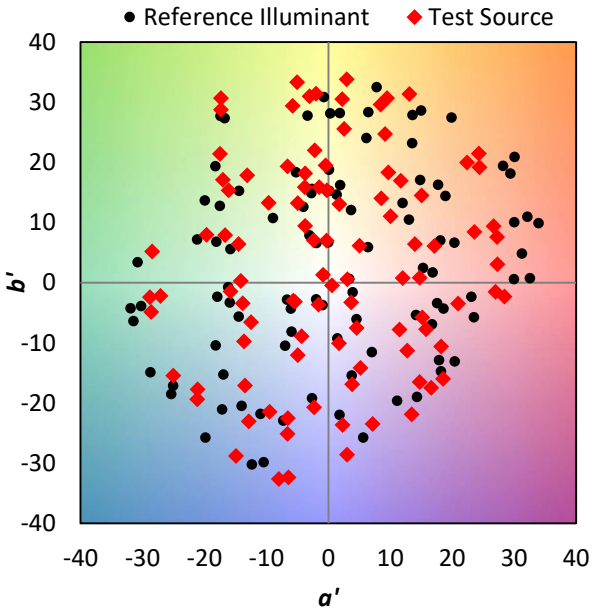
Summary

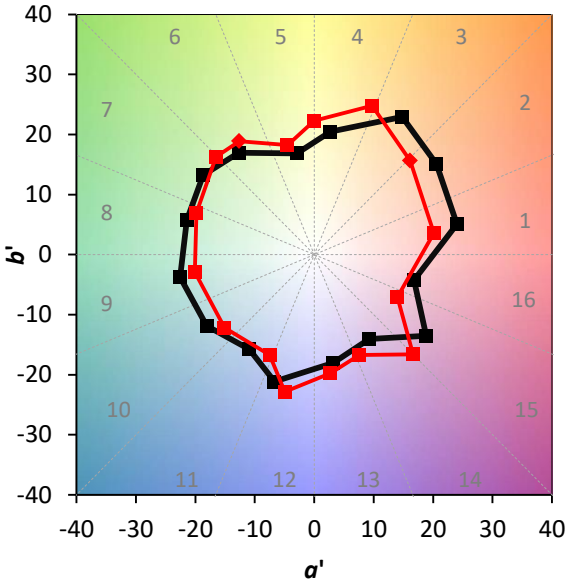
R_f = 76.2
R_g = 94.2
CIE R_a = 72.4
R_9 = -36.8

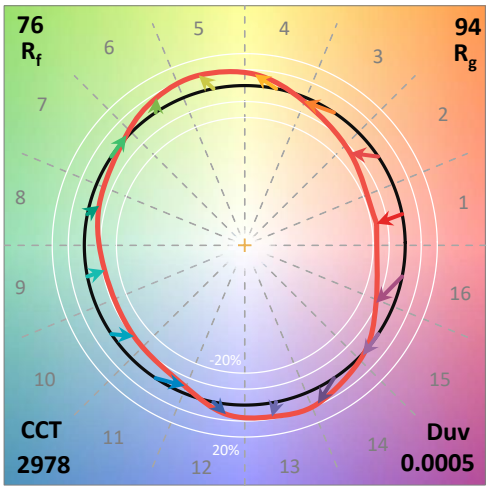
Spectral Power Distribution Comparison

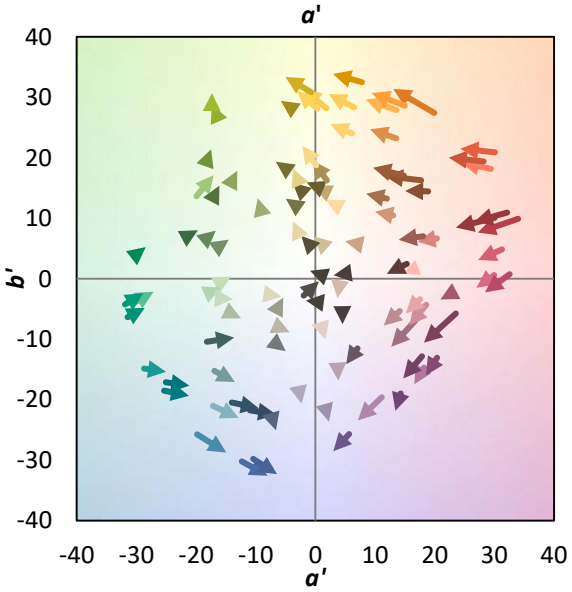


Color Vector Graphics









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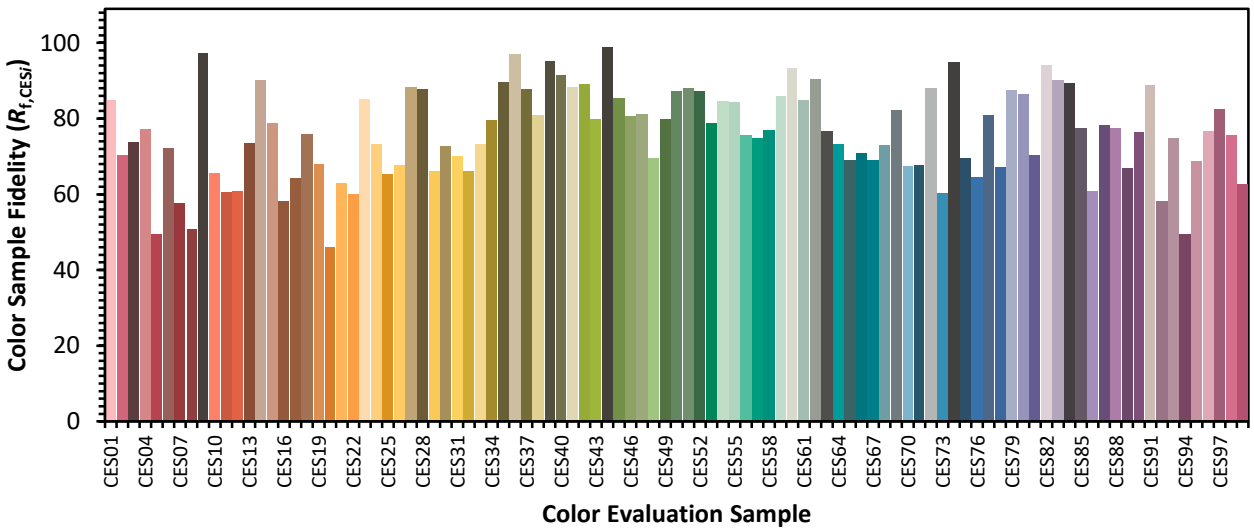
Individual Sample Fidelity Index ($R_{f,i}$)

CES01 = 86	CES26 = 68	CES51 = 88	CES76 = 65
CES02 = 63	CES27 = 88	CES52 = 87	CES77 = 81
CES03 = 31	CES28 = 88	CES53 = 79	CES78 = 67
CES04 = 71	CES29 = 66	CES54 = 85	CES79 = 87
CES05 = 49	CES30 = 73	CES55 = 84	CES80 = 87
CES06 = 51	CES31 = 70	CES56 = 76	CES81 = 70
CES07 = 41	CES32 = 66	CES57 = 75	CES82 = 94
CES08 = 40	CES33 = 73	CES58 = 77	CES83 = 90
CES09 = 29	CES34 = 80	CES59 = 86	CES84 = 89
CES10 = 76	CES35 = 90	CES60 = 93	CES85 = 77
CES11 = 59	CES36 = 97	CES61 = 85	CES86 = 61
CES12 = 65	CES37 = 88	CES62 = 90	CES87 = 78
CES13 = 43	CES38 = 81	CES63 = 77	CES88 = 78
CES14 = 74	CES39 = 95	CES64 = 73	CES89 = 67
CES15 = 71	CES40 = 91	CES65 = 69	CES90 = 76
CES16 = 47	CES41 = 88	CES66 = 71	CES91 = 89
CES17 = 50	CES42 = 89	CES67 = 69	CES92 = 58
CES18 = 56	CES43 = 80	CES68 = 73	CES93 = 75
CES19 = 73	CES44 = 99	CES69 = 82	CES94 = 49
CES20 = 66	CES45 = 85	CES70 = 67	CES95 = 69
CES21 = 87	CES46 = 81	CES71 = 68	CES96 = 77
CES22 = 79	CES47 = 81	CES72 = 88	CES97 = 83
CES23 = 92	CES48 = 69	CES73 = 60	CES98 = 75
CES24 = 91	CES49 = 80	CES74 = 95	CES99 = 63
CES25 = 73	CES50 = 87	CES75 = 69	



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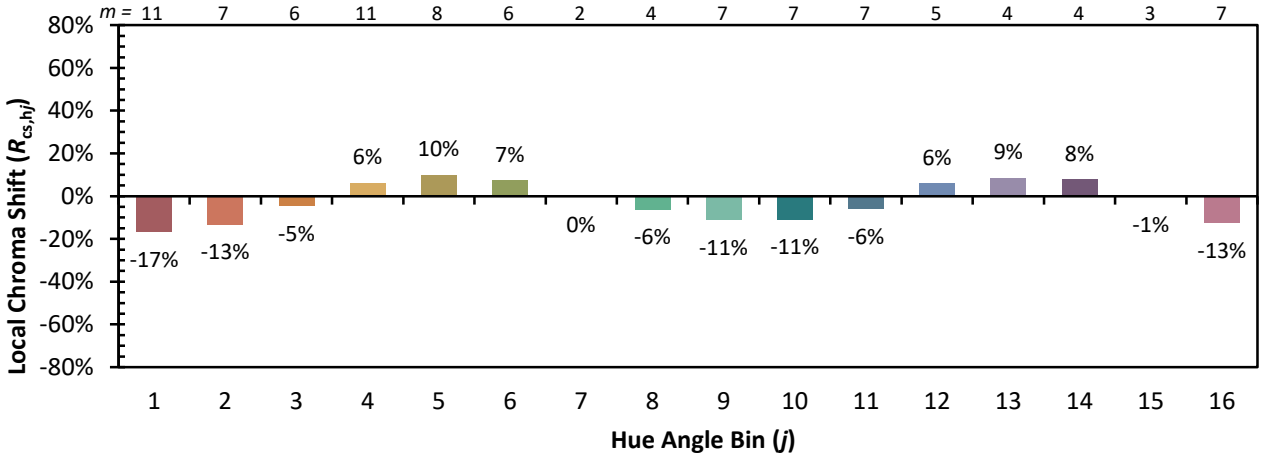
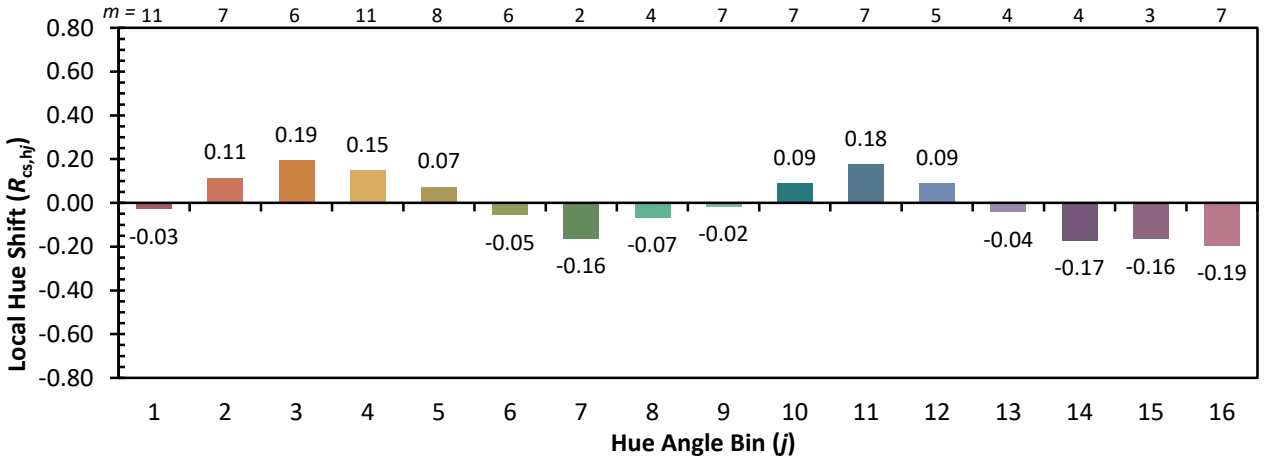
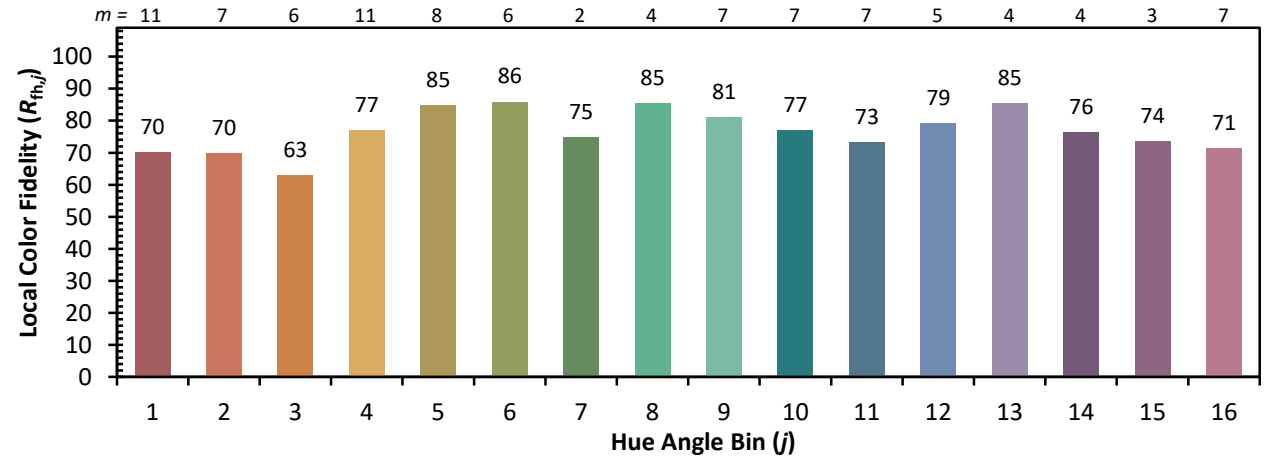
Color Rendition by Hue-Angle Bin







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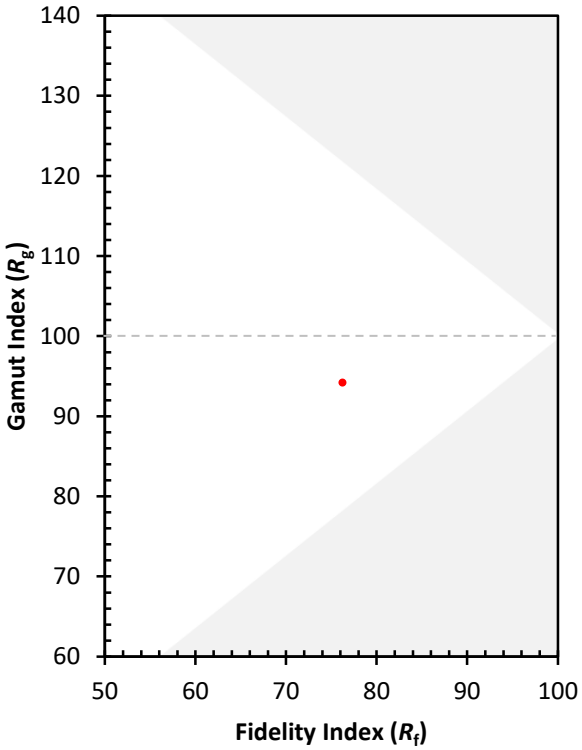
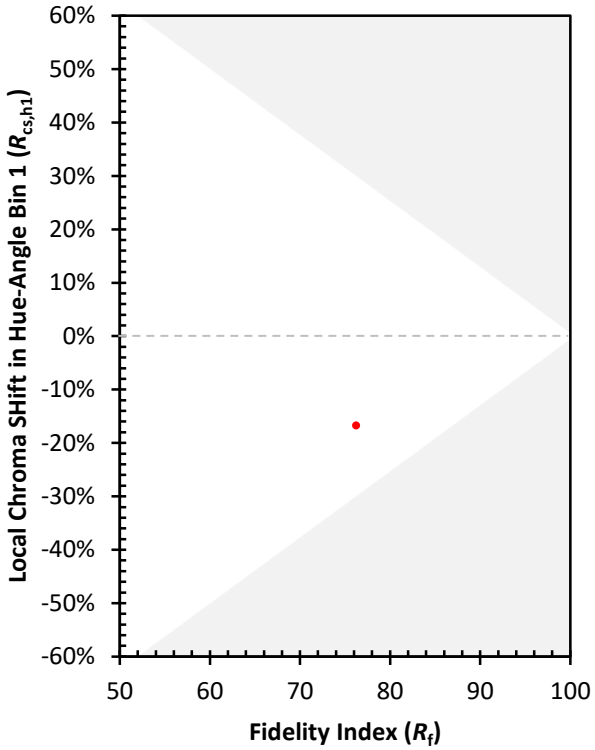
Measure Comparisons





(END OF REPORT)