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: METALUX

Report Number: P826942

Luminaire Tested: **OHB-15SE-N-UNV-L840-CD-UPL24**

Issue Date: 5/3/2024

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

Test Information

Test Method:	LM-79-08
Report Number:	P826942
	REPORT IS A COMBINATION OF REPORTS P826188 AND G3-2310-221-6
Test Lab:	INNOVATION CENTER
Issue Date:	5/3/2024
Manufacturer:	COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line:	METALUX
Catalog Number:	OHB-15SE-N-UNV-L840-CD-UPL24
Description:	15000 LUMEN OHB SE LED LUMINAIRE WITH 80CRI, 4000K LEDS AND NARROW LENSAND 2400 LUMEN UPLIGHT MODULE
Light Source:	-
Ballast/Driver:	-

Summary

Lumens per Lamp:	N/A
Luminaire Lumens:	17267.3 lumens
Efficiency:	N/A
Efficacy:	150.8 lumens/watt
Spacing Criteria (0/90/45):	1.47 / 0.53 / 0.78
Luminous Opening:	Rectangular w/ Sides (W: 1.93' x L: 0.88' x H: 0.17')
CIE Type:	Semi-Direct

Input Watts (W):	114.5
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:	25 FT

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Scaled Data Report

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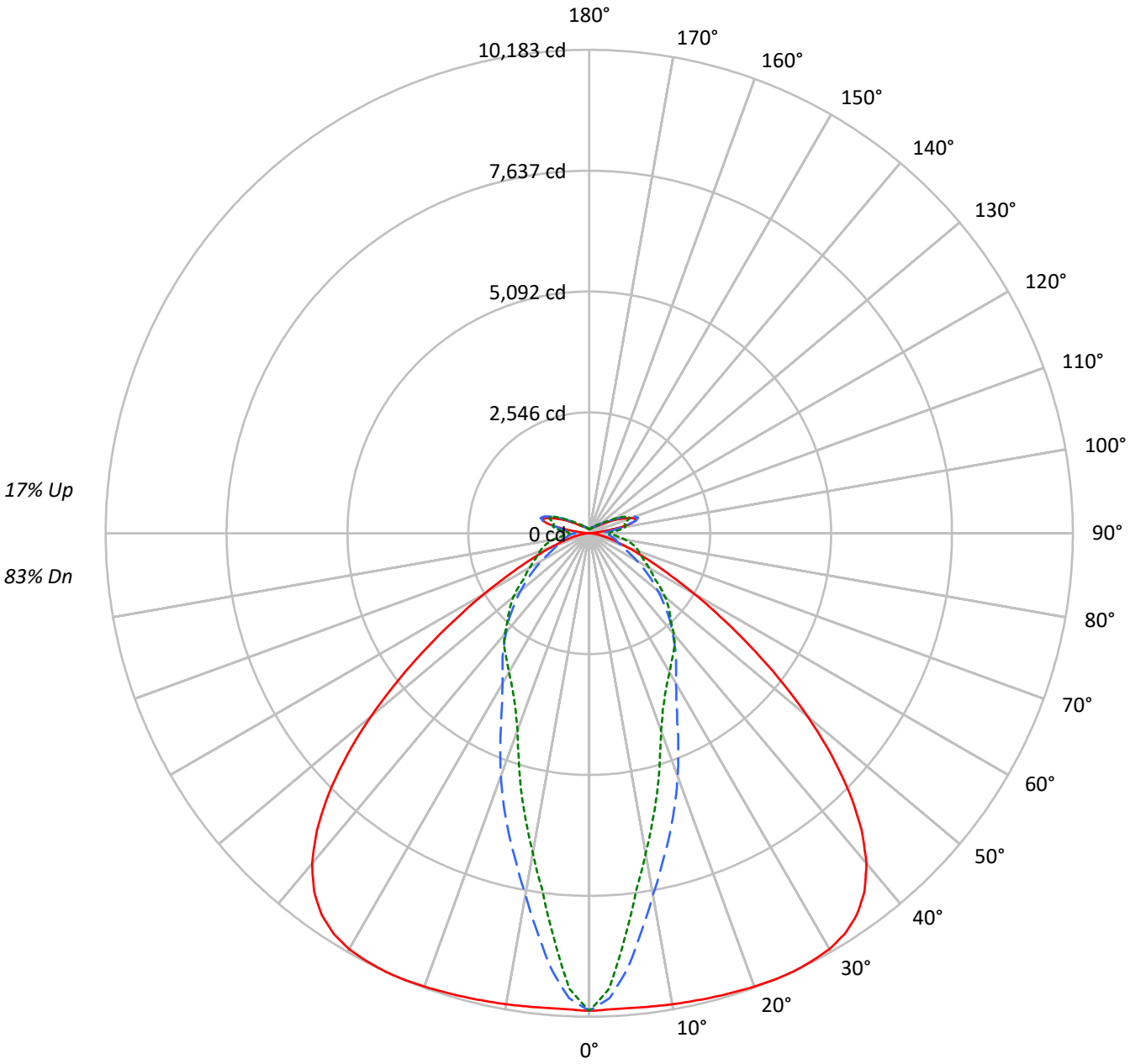
Luminous Intensity Polar Plot



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COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	20				20				20			20			20			20
RC	80				70				50			30			10			0
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	0
RCR																		
0	115	115	115	115	110	110	110	110	102	102	102	94	94	94	87	87	87	83
1	106	101	97	94	101	97	94	91	90	87	85	83	81	79	77	76	74	71
2	97	90	84	78	93	86	81	76	80	76	72	75	71	68	69	66	64	61
3	89	80	73	67	86	77	71	65	72	66	62	67	63	59	62	59	56	53
4	83	72	64	58	79	69	62	57	65	59	54	61	56	52	57	53	49	47
5	76	65	57	51	73	63	55	50	59	53	48	55	50	46	52	47	44	41
6	71	59	51	45	68	57	50	44	54	47	43	51	45	41	48	43	39	37
7	66	54	46	40	64	52	45	40	49	43	38	47	41	37	44	39	36	34
8	62	50	42	37	60	48	41	36	46	39	35	43	38	34	41	36	32	31
9	58	46	38	33	56	45	38	33	42	36	32	40	35	31	38	33	30	28
10	55	43	35	30	53	41	35	30	39	33	29	37	32	28	36	31	27	26

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	64008	64008	64008
5°	63073	57820	54261
10°	62985	48316	43561
15°	63402	40990	35797
20°	64336	34375	28989
25°	65659	28211	25434
30°	66954	24087	23661
35°	67290	21742	22576
40°	65013	19434	21454
45°	58668	17358	19900
50°	48413	15132	18719
55°	35836	13050	16700
60°	24323	10983	16039
65°	15708	9240	15766
70°	10160	8410	16632
75°	6520	8312	17915
80°	3963	8630	18683
85°	1827	9654	20102

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	846.8	4.9
10°-20°	1992.1	11.5
20°-30°	2497.0	14.5
30°-40°	2649.6	15.3
40°-50°	2395.7	13.9
50°-60°	1737.0	10.1
60°-70°	1090.1	6.3
70°-80°	721.4	4.2
80°-90°	421.8	2.4
90°-100°	433.2	2.5
100°-110°	943.9	5.5
110°-120°	776.2	4.5
120°-130°	372.8	2.2
130°-140°	184.8	1.1
140°-150°	106.5	0.6
150°-160°	60.5	0.4
160°-170°	29.0	0.2
170°-180°	8.8	0.1
0°-30°	5335.9	30.9
0°-40°	7985.6	46.2
0°-60°	12118.3	70.2
0°-90°	14351.5	83.1
90°-120°	2153.3	12.5
90°-150°	2817.4	16.3
90°-180°	2916.0	16.9
0°-180°	17267.3	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	10060	10060	10060	10060	10060	
5°	10040	9782	9208	8780	8559	960
15°	10116	8245	6549	5824	5560	2869
25°	10183	6376	4385	3892	3768	4704
35°	9818	4238	3182	3083	3082	6104
45°	7762	2685	2306	2362	2402	5913
55°	4109	1664	1505	1632	1691	3713
65°	1470	965	871	1116	1241	1529
75°	454	520	585	909	963	506
85°	80	215	428	596	547	95
90°	5	124	295	412	421	9
95°	57	174	390	525	568	168
105°	1011	1034	1003	812	768	959
115°	702	729	806	831	828	708
125°	350	371	418	431	427	327
135°	210	216	235	250	252	166
145°	156	161	166	175	175	99
155°	128	132	135	137	135	58
165°	100	101	102	102	102	29
175°	90	91	91	92	92	9
180°	90	90	90	90	90	

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Scaled Data Report

TEST NUMBER: P826942
CATALOG NUMBER: OHB-15SE-N-UNV-L840-CD-UPL24

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	*10059.6*	10059.6	10059.6	10059.6	10059.6
2.5°	*10038.6*	9981.1	9802.1	9692.9	9601.0
5°	*10039.5*	9782.0	9207.5	8780.5	8559.4
7.5°	*10053.9*	9481.4	8446.4	7823.1	7579.9
10°	*10075.9*	9108.9	7736.0	7071.5	6844.6
12.5°	*10092.2*	8689.6	7110.8	6428.1	6179.2
15°	*10116.1*	8245.3	6548.8	5824.0	5559.8
17.5°	*10138.1*	7826.9	5993.5	5236.1	4942.2
20°	*10160.2*	7376.0	5438.2	4657.9	4415.6
22.5°	*10181.2*	6900.1	4896.3	4208.8	4043.2
25°	*10183.1*	*6375.5*	*4385.0*	*3891.9*	*3768.4*
27.5°	*10158.2*	5831.7	3970.4	3626.7	3550.1
30°	*10115.2*	5304.1	3648.7	3435.2	3380.7
32.5°	*10007.9*	4766.0	3399.8	3250.4	3218.9
35°	*9818.4*	4238.5	3182.5	3082.9	3081.9
37.5°	*9519.6*	3770.3	2946.9	2929.7	2950.8
40°	*9078.3*	3360.6	2723.9	2769.8	2769.8
42.5°	*8489.5*	3004.4	2521.8	2568.8	2556.3
45°	*7761.8*	2684.6	2306.4	2362.0	2402.2
47.5°	*6918.3*	2403.1	2086.2	2193.5	2249.0
50°	*6001.1*	2135.1	1885.2	2022.1	2085.3
52.5°	*5039.9*	1887.1	1688.9	1845.9	1896.7
55°	*4109.3*	1664.0	1505.1	1632.4	1690.8
57.5°	*3266.7*	1451.5	1325.1	1445.7	1566.3
60°	*2542.0*	1268.6	1155.6	1327.9	1448.6
62.5°	*1941.7*	1105.8	996.7	1217.8	1338.5
65°	*1469.6*	965.1	871.3	1116.4	1240.8
67.5°	*1107.7*	843.5	773.6	1042.6	1164.2
70°	*832.0*	725.7	695.1	996.7	1105.8
72.5°	*614.7*	617.5	632.9	956.5	1039.8
75°	*453.8*	519.9	585.0	908.6	963.2
77.5°	*324.6*	430.8	541.9	851.1	870.3
80°	*225.0*	351.4	496.9	775.5	759.2
82.5°	*140.7*	281.5	456.7	692.2	647.2
85°	*79.5*	215.4	428.0	595.5	546.7
87.5°	*35.4*	160.8	374.4	464.3	433.7
90°	*5.0*	124.0	295.0	411.5	421.3
92.5°	*18.9*	119.7	300.8	421.8	444.4
95°	*56.8*	174.2	390.3	524.8	568.2
97.5°	*273.8*	346.5	517.9	654.7	699.2
100°	*557.7*	635.8	661.6	753.7	772.3
102.5°	*859.7*	894.0	791.3	784.7	784.4
105°	*1010.7*	1034.1	1002.9	811.6	768.4

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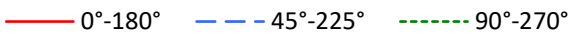
CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	*817.6*	852.6	923.7	932.3	905.1
115°	*702.5*	728.7	806.2	831.0	827.9
117.5°	*603.5*	618.9	690.8	713.8	715.7
120°	*501.5*	524.0	590.4	605.5	599.5
122.5°	*422.5*	442.1	496.0	510.3	503.3
125°	*349.5*	371.3	417.6	430.9	427.0
127.5°	*296.5*	311.4	353.0	367.4	365.5
130°	*259.5*	269.4	302.4	316.8	317.8
132.5°	*230.6*	239.5	263.7	281.1	280.1
135°	*209.6*	215.5	234.9	250.3	252.3
137.5°	*192.6*	198.4	212.1	227.6	227.6
140°	*177.6*	183.5	194.2	207.7	208.7
142.5°	*165.5*	170.5	178.3	189.9	189.9
145°	*156.5*	161.4	166.4	175.0	175.1
147.5°	*147.5*	153.4	156.4	163.1	162.2
150°	*140.5*	145.4	148.4	152.2	152.3
152.5°	*133.5*	138.4	141.4	144.3	143.3
155°	*127.5*	132.4	135.3	137.3	135.4
157.5°	*111.0*	113.0	115.0	116.0	116.0
160°	*107.0*	108.0	110.0	111.0	111.0
162.5°	*103.0*	104.0	105.0	106.0	106.0
165°	*100.0*	101.0	102.0	102.0	102.0
167.5°	*97.0*	97.0	98.0	99.0	99.0
170°	*94.0*	95.0	95.0	96.0	96.0
172.5°	*92.0*	93.0	93.0	93.0	94.0
175°	*90.0*	91.0	91.0	92.0	92.0
177.5°	*90.0*	90.0	90.0	90.0	90.0
180°	*90.0*	90.0	90.0	90.0	90.0

Report Generated By 670246072 / DESKTOP-50001EG


0°-180°
45°-225°
90°-270°

107.5°	*1014.7*	1050.3	1078.5	917.6	802.3
110°	*937.6*	973.4	1026.1	984.5	893.2

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

LM-79-2019: Approved Method: Electrical and Photometric Measurements of Solid-State Lighting Products

Report Prepared for

Cooper Lighting Solutions

METALUX

Report Number: SP1-2304-001-1

Test Date: 05/31/2023

Luminaire Tested: OHB-15SE-N-UNV-L840

Data in this report applies to families of products including OHB-15SE-N-UNV-L840.

Report Generated By FNC07603 / LDUCLS01DT446
Version: v6.12

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

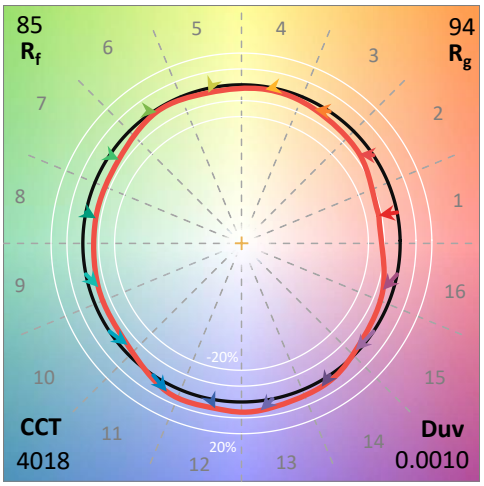
Test Information

Test Method:	LM-79-2019
Report Number:	SP1-2304-001-1
Test Lab:	COOPER LIGHTING SOLUTIONS
Photometer:	SP1 - 76IN SPHERE
Measurement Geometry:	4π
Issue Date:	05/31/2023
Manufacturer:	COOPER LIGHTING SOLUTIONS
Product Line:	METALUX
Catalog Number:	**OHB-15SE-N-UNV-L840**
Description:	15SE OHB WITH APT LEDS, NARROW LENS, 80CRI 4000K

Spectral Parameters

CCT (K):	4018	CRI (Ra):	84.0		
CIE u':	0.2242	R1:	82.5	R9:	11.5
CIE v':	0.5025	R2:	91.6	R10:	79.8
Duv:	0.0010	R3:	96.1	R11:	80.5
CIE x:	0.3803	R4:	81.4	R12:	64.0
CIE y:	0.3788	R5:	82.4	R13:	85.1
CIE z:	0.2410	R6:	88.0	R14:	98.4
Peak Wavelength (nm):	454	R7:	85.5		
Dominant Wavelength (nm):	578	R8:	64.7		
Purity:	27.9				

Rf:	84.5
Rg:	93.7



Test Conditions

Stabilization Time:	23M
Operation Time:	12H
Room Temperature (°C) / RH%:	25.7/44%
Sphere Temperature (°C):	25.3

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Measurement and Test Equipment			
Instrument	Identification Number	Calibration Date	Calibration Due Date
Photometer	76INCH SPHERE IN0058	2/9/2023	8/9/2023
Power Meter	XITRON 2801 IN0071	11/29/2022	11/29/2023
AC Power Source	CHROMA 61603 IN0063	11/28/2022	11/28/2023
DC Power Source	AGILENT E3634A IN0208	11/28/2022	11/28/2023
Sphere Thermometer	ONSET IN0085	11/28/2022	11/28/2023
Room Thermometer	ONSET IN0046	11/28/2022	11/28/2023

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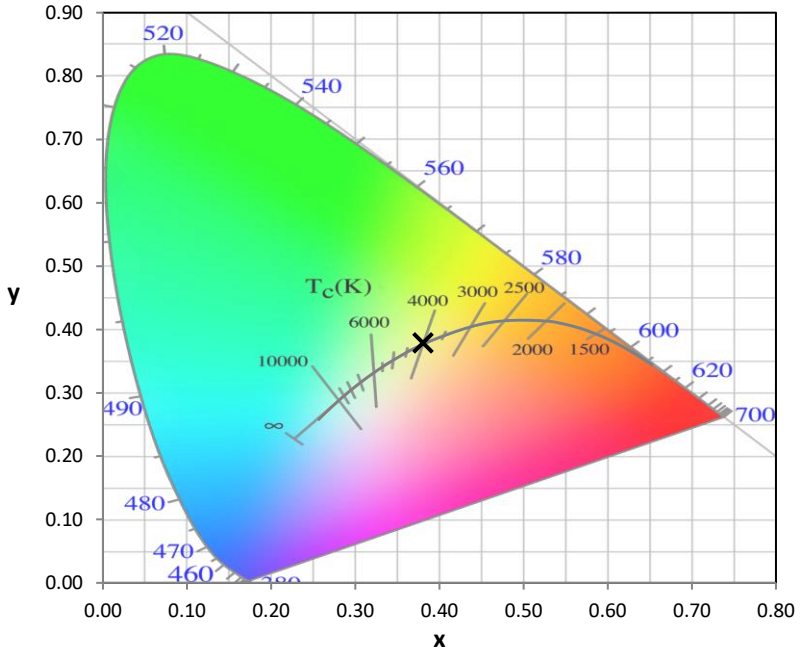
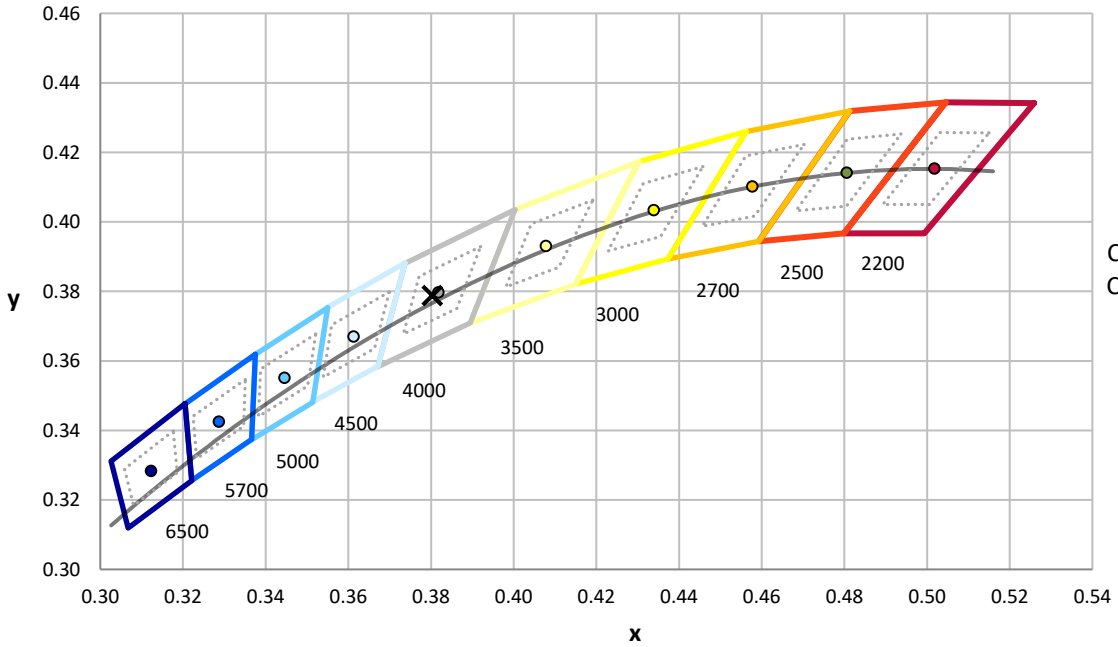
CIE 1931 Chromaticity Diagram



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



CCT = 4018K
CIE x = 0.3803
CIE y = 0.3788
Duv = 0.0010

Point lies inside the ANSI 4000K 4-step quadrangle

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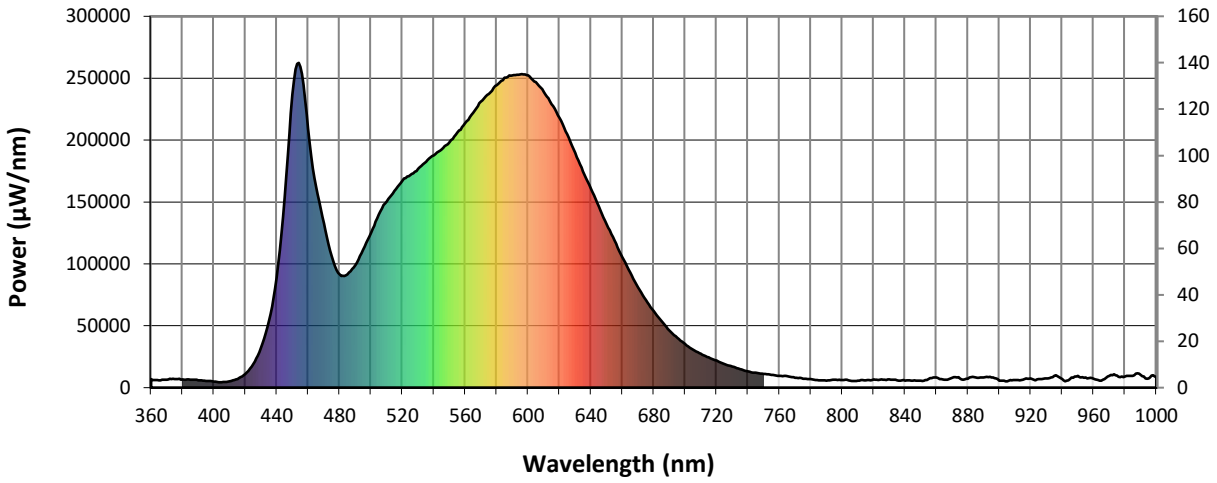
Photopic Flux vs. Wavelength



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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	6853	NR	490	98921	NR	620	217813	NR	750	11077	NR	880	7212	NR
365	5941	NR	495	111249	NR	625	204757	NR	755	10374	NR	885	8336	NR
370	6345	NR	500	125186	NR	630	189812	NR	760	9527	NR	890	8299	NR
375	7044	NR	505	139782	NR	635	174714	NR	765	9227	NR	895	8295	NR
380	6587	NR	510	150374	NR	640	160641	NR	770	8071	NR	900	5725	NR
385	6443	NR	515	158837	NR	645	146146	NR	775	7303	NR	905	5085	NR
390	5977	NR	520	167163	NR	650	132087	NR	780	6839	NR	910	6133	NR
395	5473	NR	525	171514	NR	655	118817	NR	785	5988	NR	915	6429	NR
400	4874	NR	530	176783	NR	660	105411	NR	790	5761	NR	920	7354	NR
405	4470	NR	535	182412	NR	665	92911	NR	795	6396	NR	925	6889	NR
410	5232	NR	540	187578	NR	670	81240	NR	800	6049	NR	930	7465	NR
415	7030	NR	545	192635	NR	675	70762	NR	805	5748	NR	935	9430	NR
420	11074	NR	550	198282	NR	680	61913	NR	810	5571	NR	940	6867	NR
425	19121	NR	555	206255	NR	685	53742	NR	815	5977	NR	945	7026	NR
430	32148	NR	560	213621	NR	690	46348	NR	820	6580	NR	950	9476	NR
435	54073	NR	565	222021	NR	695	40313	NR	825	6610	NR	955	8237	NR
440	89242	NR	570	230974	NR	700	35240	NR	830	6652	NR	960	7127	NR
445	153497	NR	575	237268	NR	705	30635	NR	835	5919	NR	965	5614	NR
450	236793	NR	580	244317	NR	710	27359	NR	840	5707	NR	970	9396	NR
455	259282	NR	585	250340	NR	715	24401	NR	845	5548	NR	975	9700	NR
460	209272	NR	590	252316	NR	720	21810	NR	850	5560	NR	980	8916	NR
465	162456	NR	595	253019	NR	725	19005	NR	855	6972	NR	985	9548	NR
470	132627	NR	600	252244	NR	730	17009	NR	860	8311	NR	990	10271	NR
475	106283	NR	605	246798	NR	735	14940	NR	865	6330	NR	995	7323	NR
480	91347	NR	610	238764	NR	740	13159	NR	870	8019	NR	1000	8719	NR
485	91575	NR	615	229100	NR	745	12000	NR	875	7419	NR			

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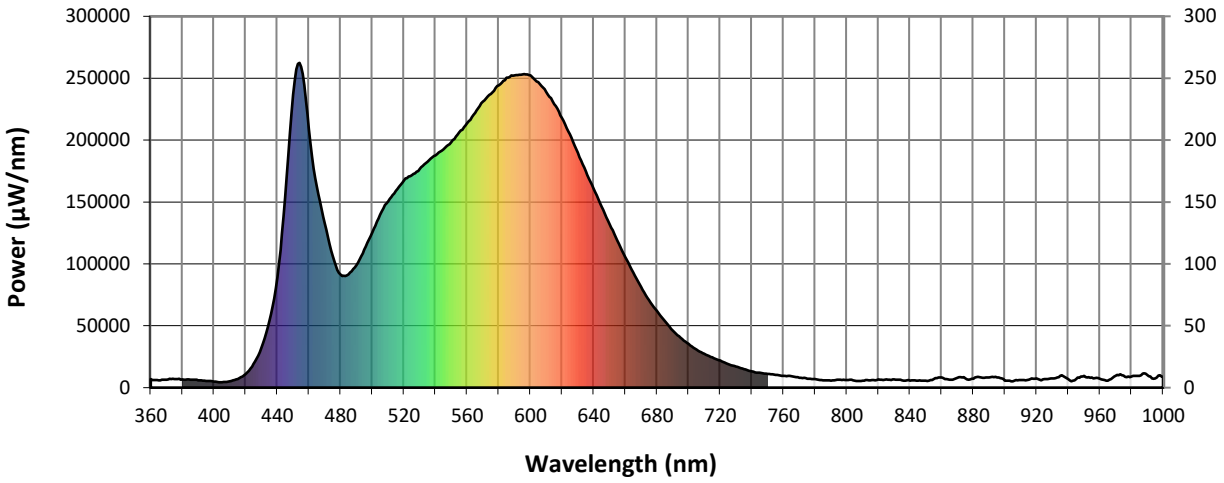
Scotopic Flux vs. Wavelength



Scotopic Lumens: 25258.1 **S/P: 1.73**

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	6853	NR	490	98921	NR	620	217813	NR	750	11077	NR	880	7212	NR
365	5941	NR	495	111249	NR	625	204757	NR	755	10374	NR	885	8336	NR
370	6345	NR	500	125186	NR	630	189812	NR	760	9527	NR	890	8299	NR
375	7044	NR	505	139782	NR	635	174714	NR	765	9227	NR	895	8295	NR
380	6587	NR	510	150374	NR	640	160641	NR	770	8071	NR	900	5725	NR
385	6443	NR	515	158837	NR	645	146146	NR	775	7303	NR	905	5085	NR
390	5977	NR	520	167163	NR	650	132087	NR	780	6839	NR	910	6133	NR
395	5473	NR	525	171514	NR	655	118817	NR	785	5988	NR	915	6429	NR
400	4874	NR	530	176783	NR	660	105411	NR	790	5761	NR	920	7354	NR
405	4470	NR	535	182412	NR	665	92911	NR	795	6396	NR	925	6889	NR
410	5232	NR	540	187578	NR	670	81240	NR	800	6049	NR	930	7465	NR
415	7030	NR	545	192635	NR	675	70762	NR	805	5748	NR	935	9430	NR
420	11074	NR	550	198282	NR	680	61913	NR	810	5571	NR	940	6867	NR
425	19121	NR	555	206255	NR	685	53742	NR	815	5977	NR	945	7026	NR
430	32148	NR	560	213621	NR	690	46348	NR	820	6580	NR	950	9476	NR
435	54073	NR	565	222021	NR	695	40313	NR	825	6610	NR	955	8237	NR
440	89242	NR	570	230974	NR	700	35240	NR	830	6652	NR	960	7127	NR
445	153497	NR	575	237268	NR	705	30635	NR	835	5919	NR	965	5614	NR
450	236793	NR	580	244317	NR	710	27359	NR	840	5707	NR	970	9396	NR
455	259282	NR	585	250340	NR	715	24401	NR	845	5548	NR	975	9700	NR
460	209272	NR	590	252316	NR	720	21810	NR	850	5560	NR	980	8916	NR
465	162456	NR	595	253019	NR	725	19005	NR	855	6972	NR	985	9548	NR
470	132627	NR	600	252244	NR	730	17009	NR	860	8311	NR	990	10271	NR
475	106283	NR	605	246798	NR	735	14940	NR	865	6330	NR	995	7323	NR
480	91347	NR	610	238764	NR	740	13159	NR	870	8019	NR	1000	8719	NR
485	91575	NR	615	229100	NR	745	12000	NR	875	7419	NR			

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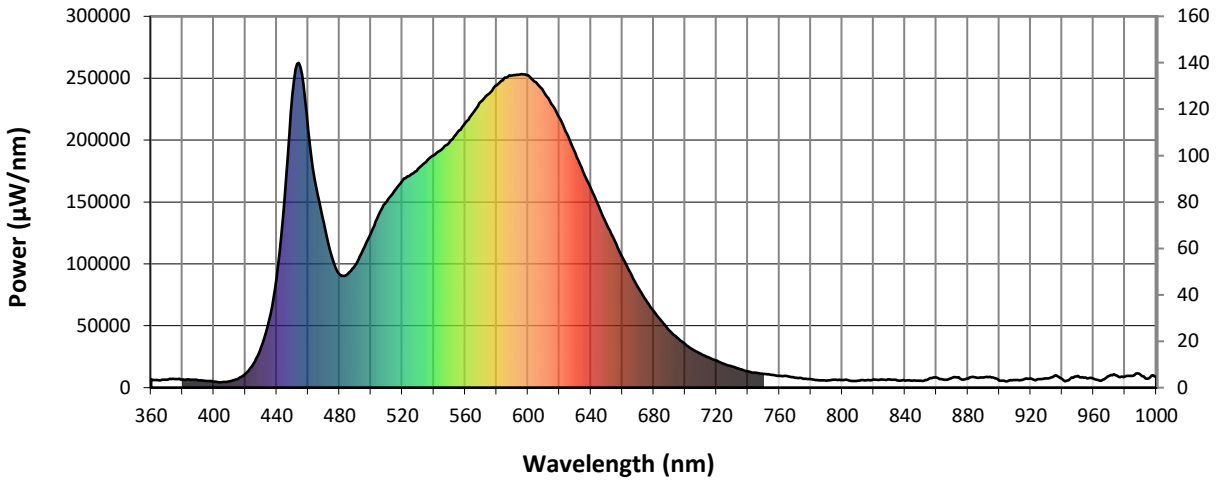
Melanopic Flux vs. Wavelength



Melanopic Lumens: 10357.9 M/P: 0.71

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	6853	NR	490	98921	NR	620	217813	NR	750	11077	NR	880	7212	NR
365	5941	NR	495	111249	NR	625	204757	NR	755	10374	NR	885	8336	NR
370	6345	NR	500	125186	NR	630	189812	NR	760	9527	NR	890	8299	NR
375	7044	NR	505	139782	NR	635	174714	NR	765	9227	NR	895	8295	NR
380	6587	NR	510	150374	NR	640	160641	NR	770	8071	NR	900	5725	NR
385	6443	NR	515	158837	NR	645	146146	NR	775	7303	NR	905	5085	NR
390	5977	NR	520	167163	NR	650	132087	NR	780	6839	NR	910	6133	NR
395	5473	NR	525	171514	NR	655	118817	NR	785	5988	NR	915	6429	NR
400	4874	NR	530	176783	NR	660	105411	NR	790	5761	NR	920	7354	NR
405	4470	NR	535	182412	NR	665	92911	NR	795	6396	NR	925	6889	NR
410	5232	NR	540	187578	NR	670	81240	NR	800	6049	NR	930	7465	NR
415	7030	NR	545	192635	NR	675	70762	NR	805	5748	NR	935	9430	NR
420	11074	NR	550	198282	NR	680	61913	NR	810	5571	NR	940	6867	NR
425	19121	NR	555	206255	NR	685	53742	NR	815	5977	NR	945	7026	NR
430	32148	NR	560	213621	NR	690	46348	NR	820	6580	NR	950	9476	NR
435	54073	NR	565	222021	NR	695	40313	NR	825	6610	NR	955	8237	NR
440	89242	NR	570	230974	NR	700	35240	NR	830	6652	NR	960	7127	NR
445	153497	NR	575	237268	NR	705	30635	NR	835	5919	NR	965	5614	NR
450	236793	NR	580	244317	NR	710	27359	NR	840	5707	NR	970	9396	NR
455	259282	NR	585	250340	NR	715	24401	NR	845	5548	NR	975	9700	NR
460	209272	NR	590	252316	NR	720	21810	NR	850	5560	NR	980	8916	NR
465	162456	NR	595	253019	NR	725	19005	NR	855	6972	NR	985	9548	NR
470	132627	NR	600	252244	NR	730	17009	NR	860	8311	NR	990	10271	NR
475	106283	NR	605	246798	NR	735	14940	NR	865	6330	NR	995	7323	NR
480	91347	NR	610	238764	NR	740	13159	NR	870	8019	NR	1000	8719	NR
485	91575	NR	615	229100	NR	745	12000	NR	875	7419	NR			

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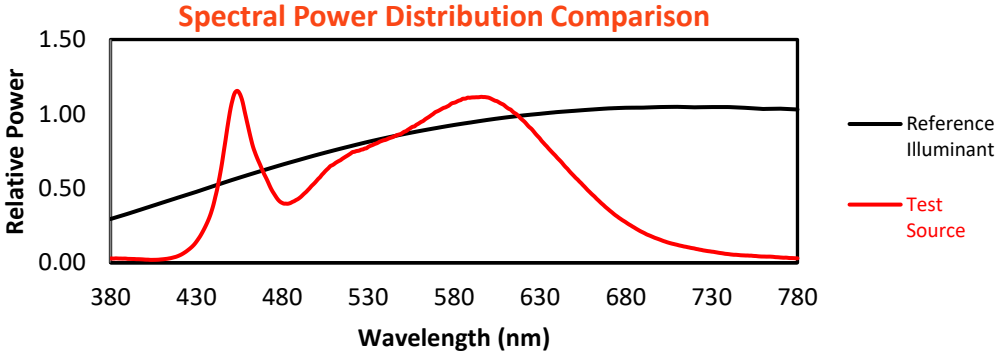
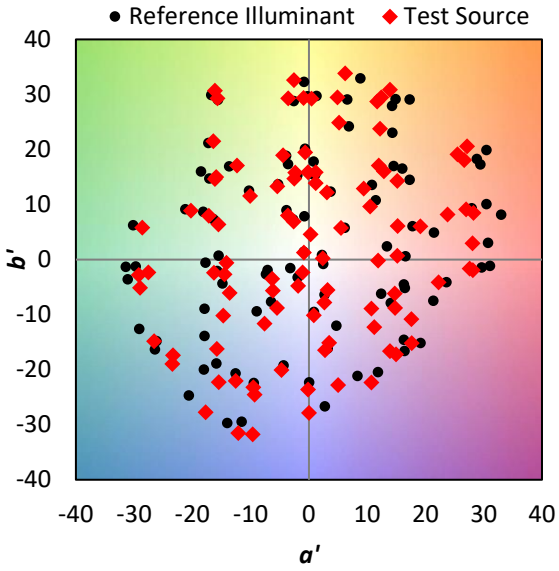
Summary

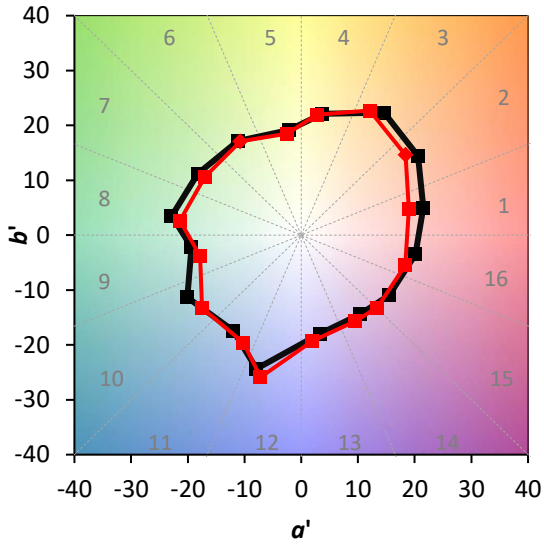
R_f = 84.5
R_g = 93.7
CIE R_a = 84.0
R_9 = 11.5

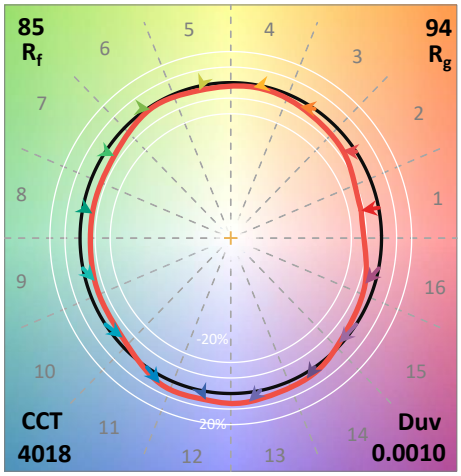
Spectral Power Distribution Comparison

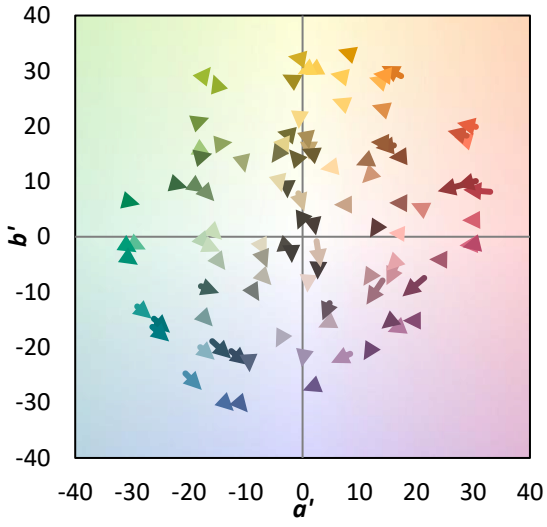


Color Vector Graphics









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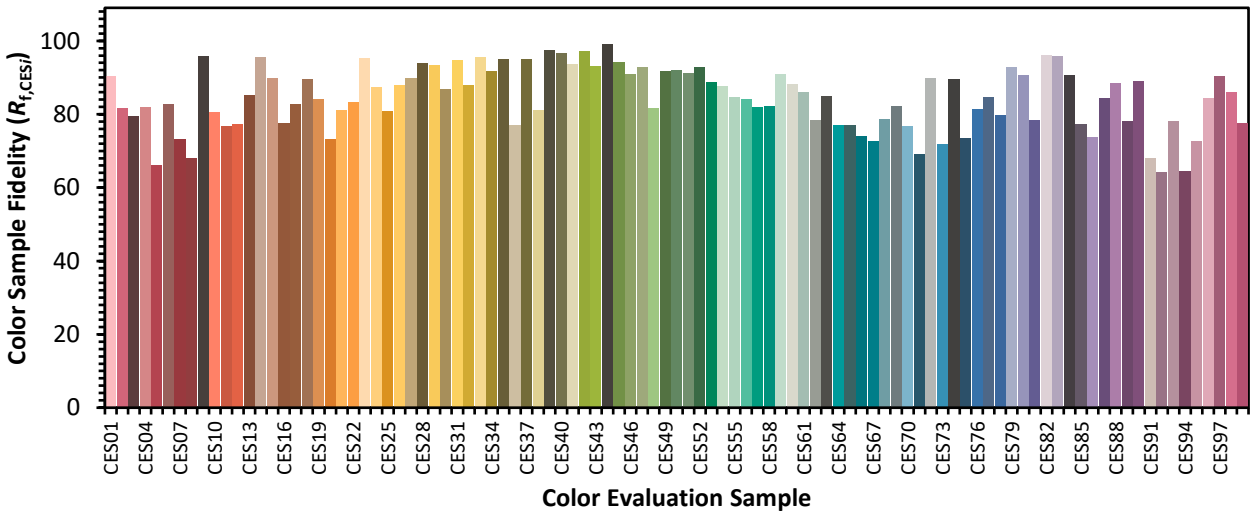
Individual Sample Fidelity Index ($R_{f,i}$)

CES01 = 85	CES26 = 88	CES51 = 91	CES76 = 81
CES02 = 61	CES27 = 90	CES52 = 93	CES77 = 85
CES03 = 31	CES28 = 94	CES53 = 89	CES78 = 80
CES04 = 69	CES29 = 93	CES54 = 88	CES79 = 93
CES05 = 48	CES30 = 87	CES55 = 85	CES80 = 91
CES06 = 50	CES31 = 95	CES56 = 84	CES81 = 78
CES07 = 41	CES32 = 88	CES57 = 82	CES82 = 96
CES08 = 40	CES33 = 96	CES58 = 82	CES83 = 96
CES09 = 29	CES34 = 92	CES59 = 91	CES84 = 91
CES10 = 74	CES35 = 95	CES60 = 88	CES85 = 77
CES11 = 57	CES36 = 77	CES61 = 86	CES86 = 74
CES12 = 63	CES37 = 95	CES62 = 78	CES87 = 84
CES13 = 42	CES38 = 81	CES63 = 85	CES88 = 88
CES14 = 74	CES39 = 98	CES64 = 77	CES89 = 78
CES15 = 71	CES40 = 97	CES65 = 77	CES90 = 89
CES16 = 47	CES41 = 94	CES66 = 74	CES91 = 68
CES17 = 49	CES42 = 97	CES67 = 73	CES92 = 64
CES18 = 56	CES43 = 93	CES68 = 79	CES93 = 78
CES19 = 71	CES44 = 99	CES69 = 82	CES94 = 65
CES20 = 65	CES45 = 94	CES70 = 77	CES95 = 73
CES21 = 86	CES46 = 91	CES71 = 69	CES96 = 84
CES22 = 78	CES47 = 93	CES72 = 90	CES97 = 90
CES23 = 91	CES48 = 82	CES73 = 72	CES98 = 86
CES24 = 90	CES49 = 92	CES74 = 90	CES99 = 77
CES25 = 71	CES50 = 92	CES75 = 74	



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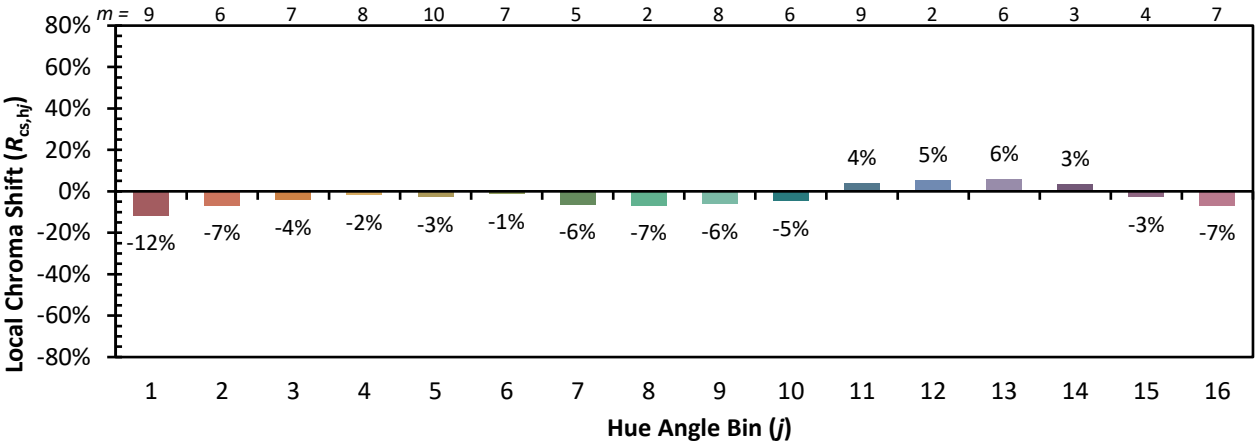
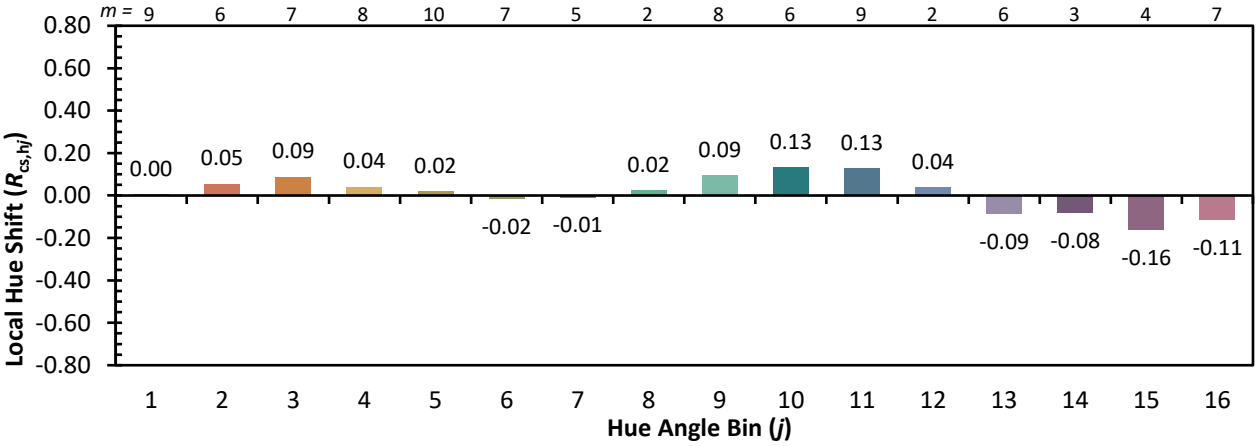
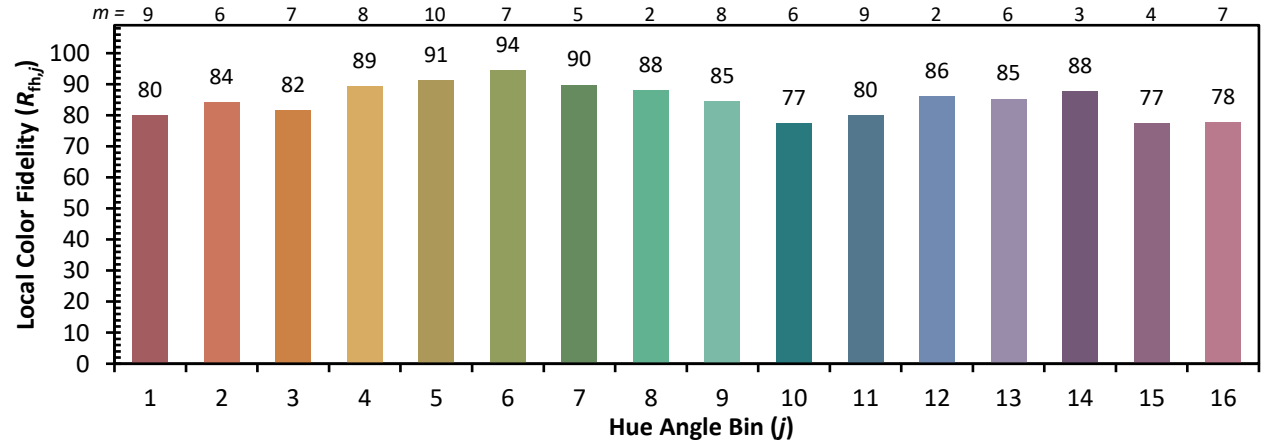
Color Rendition by Hue-Angle Bin







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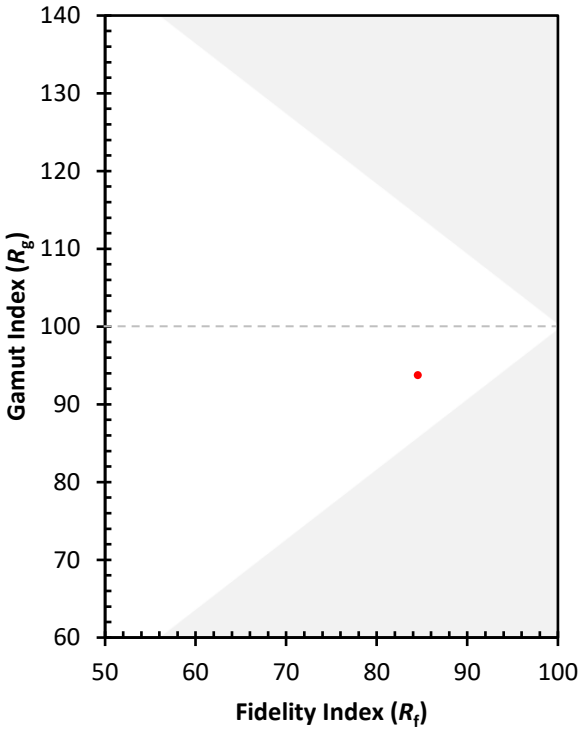
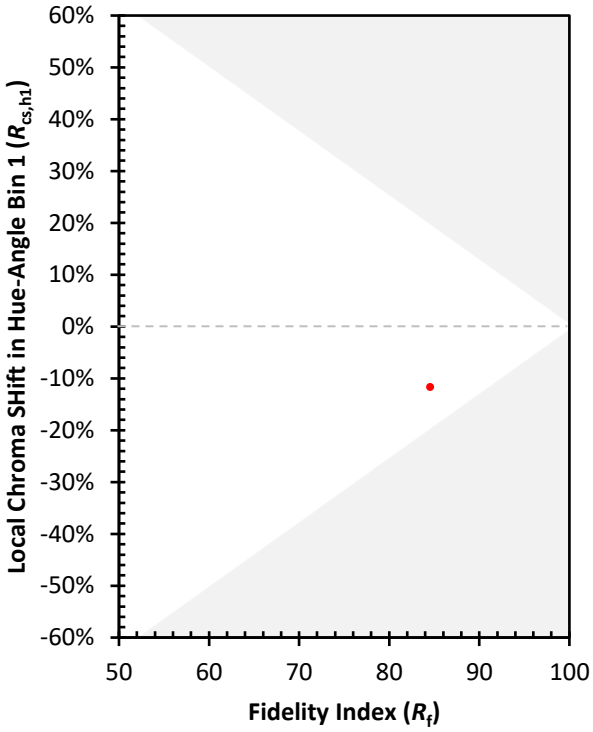
Measure Comparisons





(END OF REPORT)