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: P859857

Luminaire Tested: **SPHB-12SE-M-L835-CD**

Issue Date: 7/11/2024

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:	P859857
	TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2404-343-1)
Test Lab:	INNOVATION CENTER
Issue Date:	7/11/2024
Manufacturer:	COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line:	METALUX
Catalog Number:	SPHB-12SE-M-L835-CD
Description:	12000 Lumen Standard Efficacy Select Pro High Bay with Medium Lens and, 3500K 80CRI LEDs
Light Source:	-
Ballast/Driver:	-

Luminaire Equipment:	Sample No.	Condition	Description

Summary

Lumens per Lamp:	N/A
Luminaire Lumens:	12207.0 lumens
Efficiency:	N/A
Efficacy:	160.0 lumens/watt
Spacing Criteria (0/90/45):	1.25 / 1.16 / 1.22
Luminous Opening:	Rectangular (W 1' x L: 1.38' x H: 0')
CIE Type:	Direct

Input Watts (W):	76.3
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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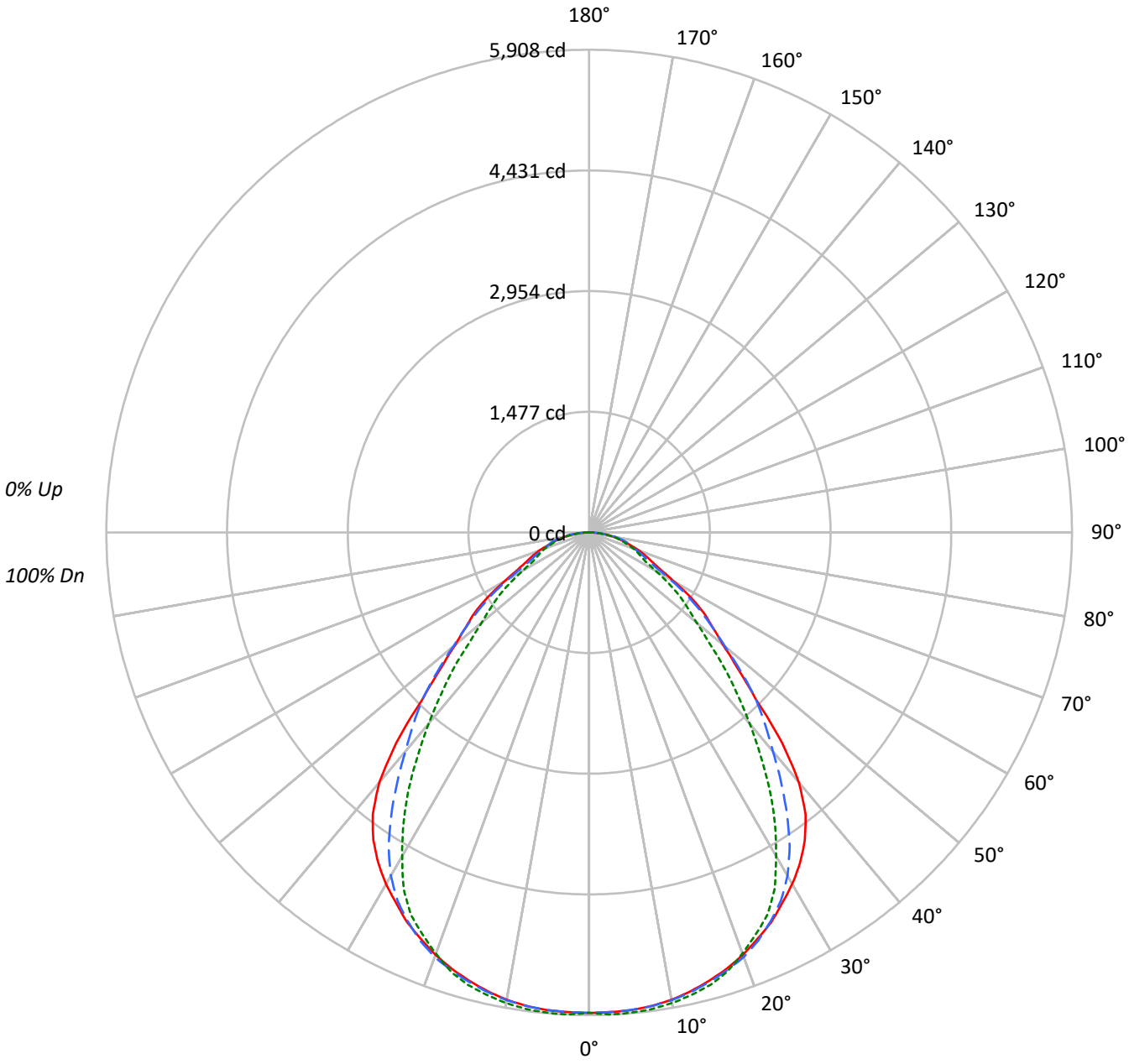
TEST NUMBER: P859857
CATALOG NUMBER: SPHB-12SE-M-L835-CD

Luminous Intensity Polar Plot



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TEST NUMBER: P859857
CATALOG NUMBER: SPHB-12SE-M-L835-CD

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	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100
1	110	106	103	99	108	104	101	98	100	97	95	96	94	92	92	91	89	87
2	102	95	89	84	99	93	87	83	89	85	81	86	82	79	83	80	77	75
3	94	85	78	72	92	83	77	71	80	75	70	78	73	69	75	71	68	66
4	87	76	69	63	85	75	68	62	73	66	61	70	65	61	68	64	60	58
5	81	69	61	55	79	68	61	55	66	59	54	64	58	54	62	57	53	51
6	75	63	55	49	73	62	54	49	60	54	48	59	53	48	57	52	48	46
7	70	58	50	44	68	57	49	44	55	49	44	54	48	43	53	47	43	41
8	66	53	45	40	64	52	45	40	51	44	39	50	44	39	49	43	39	37
9	61	49	41	36	60	48	41	36	47	41	36	46	40	36	45	40	36	34
10	58	45	38	33	57	45	38	33	44	37	33	43	37	33	42	37	33	31

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	45872	45872	45872
5°	45962	45950	46211
10°	46002	46052	46334
15°	45868	45987	46307
20°	45668	45899	45533
25°	45334	45207	44439
30°	44760	43705	41211
35°	43820	40208	36730
40°	40666	35588	31109
45°	31727	31812	25746
50°	25912	26280	20791
55°	23216	22341	18270
60°	18586	17594	14617
65°	15575	14259	12927
70°	14789	13585	13161
75°	13417	14423	12694
80°	13484	14738	13381
85°	11733	13746	11178

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TEST NUMBER: P859857
CATALOG NUMBER: SPHB-12SE-M-L835-CD

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	559.2	4.6
10°-20°	1608.2	13.2
20°-30°	2400.8	19.7
30°-40°	2619.7	21.5
40°-50°	2143.0	17.6
50°-60°	1409.0	11.5
60°-70°	808.4	6.6
70°-80°	489.9	4.0
80°-90°	164.5	1.3
90°-100°	4.3	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°-30°	4568.2	37.4
0°-40°	7187.9	58.9
0°-60°	10740.0	88.0
0°-90°	12202.7	100.0
90°-120°	4.3	0.0
90°-150°	4.3	0.0
90°-180°	4.0	0.0
0°-180°	12207.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	5881	5881	5881	5881	5881	
5°	5870	5861	5869	5893	5902	558
15°	5680	5679	5695	5731	5734	1603
25°	5268	5280	5253	5189	5164	2423
35°	4602	4498	4223	3935	3857	2852
45°	2876	3091	2884	2546	2334	2283
55°	1707	1661	1643	1412	1344	1504
65°	844	832	773	752	700	863
75°	445	482	479	459	421	482
85°	131	149	154	134	125	142
90°	1	11	22	26	27	6
95°	1	2	2	2	2	0
105°	0	0	0	0	0	0
115°	0	0	0	0	0	0
125°	0	0	0	0	0	0
135°	0	0	0	0	0	0
145°	0	0	0	0	0	0
155°	0	0	0	0	0	0
165°	0	0	0	0	0	0
175°	0	0	0	0	0	0
180°	0	0	0	0	0	

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Scaled Data Report

TEST NUMBER: P859857
CATALOG NUMBER: SPHB-12SE-M-L835-CD

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	5881.1	5881.1	5881.1	5881.1	*5881.1*
2.5°	*5877.2*	*5868.7*	*5876.4*	*5900.5*	*5907.5*
5°	5870.2	5860.9	5868.7	5892.7	*5902.0*
7.5°	5846.2	5840.8	5848.5	5872.6	*5884.2*
10°	5808.2	5802.0	5814.4	5835.3	*5850.1*
12.5°	5751.6	5749.2	5760.9	5791.1	*5797.3*
15°	5680.2	5679.4	5694.9	5731.4	*5734.5*
17.5°	5599.5	5598.8	5618.2	5642.2	*5633.7*
20°	5501.8	5507.2	5529.7	5507.2	*5485.5*
22.5°	5384.7	5401.7	5407.2	5336.6	*5325.7*
25°	5267.5	5280.0	5252.8	5189.2	*5163.6*
27.5°	5116.3	5131.0	5080.6	4989.9	*4916.9*
30°	4969.7	4955.7	4852.6	4677.3	*4575.7*
32.5°	4801.4	4751.7	4566.3	4324.3	*4232.0*
35°	4602.0	4498.1	4222.7	3935.0	*3857.4*
37.5°	4349.9	4159.9	3858.9	3558.8	*3441.6*
40°	3993.9	3774.4	3495.2	3184.9	*3055.3*
42.5°	3495.2	3413.7	3182.6	2833.5	*2679.2*
45°	2876.2	3091.0	2883.9	2545.7	*2334.0*
47.5°	2462.0	2760.6	2511.6	2267.3	*1975.6*
50°	2135.4	2341.0	2165.7	1945.4	*1713.4*
52.5°	1899.6	1961.7	1891.1	1649.1	*1517.2*
55°	1707.2	1660.7	1642.9	1411.7	*1343.5*
57.5°	1468.3	1442.7	1397.0	1231.0	*1141.0*
60°	1191.4	1245.7	1127.8	1080.5	*937.0*
62.5°	978.9	1032.4	906.0	902.9	*783.4*
65°	843.9	831.5	772.6	751.6	*700.4*
67.5°	747.0	708.2	688.0	660.9	*643.0*
70°	648.5	632.2	595.7	601.1	*577.1*
72.5°	540.6	561.6	525.1	535.2	*491.8*
75°	445.2	481.7	478.6	459.2	*421.2*
77.5°	366.9	405.7	412.7	394.8	*363.8*
80°	300.2	326.6	328.1	317.2	*297.9*
82.5°	220.3	235.8	247.4	228.8	*216.4*
85°	131.1	148.9	153.6	134.2	*124.9*
87.5°	42.7	59.7	66.7	69.0	*69.8*
90°	0.8	10.9	21.7	25.6	*27.1*
92.5°	0.8	3.1	4.7	7.0	*7.8*
95°	0.8	1.6	2.3	2.3	*1.6*
97.5°	0.0	0.0	0.0	0.0	*0.0*
100°	0.0	0.0	0.0	0.0	*0.0*
102.5°	0.0	0.0	0.0	0.0	*0.0*
105°	0.0	0.0	0.0	0.0	*0.0*

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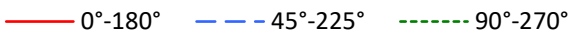
CATALOG NUMBER: SPHB-12SE-M-L835-CD

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	0.0	0.0	0.0	0.0	*0.0*
115°	0.0	0.0	0.0	0.0	*0.0*
117.5°	0.0	0.0	0.0	0.0	*0.0*
120°	0.0	0.0	0.0	0.0	*0.0*
122.5°	0.0	0.0	0.0	0.0	*0.0*
125°	0.0	0.0	0.0	0.0	*0.0*
127.5°	0.0	0.0	0.0	0.0	*0.0*
130°	0.0	0.0	0.0	0.0	*0.0*
132.5°	0.0	0.0	0.0	0.0	*0.0*
135°	0.0	0.0	0.0	0.0	*0.0*
137.5°	0.0	0.0	0.0	0.0	*0.0*
140°	0.0	0.0	0.0	0.0	*0.0*
142.5°	0.0	0.0	0.0	0.0	*0.0*
145°	0.0	0.0	0.0	0.0	*0.0*
147.5°	0.0	0.0	0.0	0.0	*0.0*
150°	0.0	0.0	0.0	0.0	*0.0*
152.5°	0.0	0.0	0.0	0.0	*0.0*
155°	0.0	0.0	0.0	0.0	*0.0*
157.5°	0.0	0.0	0.0	0.0	*0.0*
160°	0.0	0.0	0.0	0.0	*0.0*
162.5°	0.0	0.0	0.0	0.0	*0.0*
165°	0.0	0.0	0.0	0.0	*0.0*
167.5°	0.0	0.0	0.0	0.0	*0.0*
170°	0.0	0.0	0.0	0.0	*0.0*
172.5°	0.0	0.0	0.0	0.0	*0.0*
175°	0.0	0.0	0.0	0.0	*0.0*
177.5°	0.0	0.0	0.0	0.0	*0.0*
180°	0.0	0.0	0.0	0.0	*0.0*

Report Generated By 670246072 / DESKTOP-50001EG


0°-180°
45°-225°
90°-270°

107.5°	0.0	0.0	0.0	0.0	*0.0*
110°	0.0	0.0	0.0	0.0	*0.0*

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: SP1-2404-343-4

Test Date: 05/20/2024

Luminaire Tested: SPHB-24SE-M-UNV-L835-CD

Data in this report applies to families of products SPHB-24SE-M-UNV-L835-CD.

Report Generated By FNC07603 / LDUCLS01DT446
Version: v6.13

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

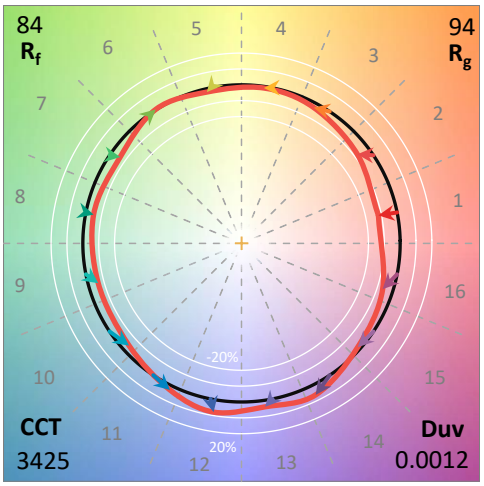
Test Information

Test Method:	LM-79-2019
Report Number:	SP1-2404-343-4
Test Lab:	COOPER LIGHTING SOLUTIONS
Photometer:	SP1 - 76IN SPHERE
Measurement Geometry:	4π
Issue Date:	05/21/2024
Manufacturer:	COOPER LIGHTING SOLUTIONS
Product Line:	METALUX
Catalog Number:	**SPHB-24SE-M-UNV-L835-CD**
Description:	18IN SPHB WITH MEDIUM LENS, 3500K/80CRI, 24K LUMENS, SE

Spectral Parameters

CCT (K):	3425	CRI (Ra):	82.9		
CIE u':	0.2370	R1:	81.2	R9:	8.8
CIE v':	0.5143	R2:	90.5	R10:	77.5
Duv:	0.0012	R3:	96.5	R11:	79.1
CIE x:	0.4108	R4:	80.4	R12:	64.2
CIE y:	0.3961	R5:	80.9	R13:	83.5
CIE z:	0.1931	R6:	87.3	R14:	98.5
Peak Wavelength (nm):	598	R7:	84.6		
Dominant Wavelength (nm):	580	R8:	61.9		
Purity:	42.4				

Rf:	84.3
Rg:	94.4



Test Conditions

Stabilization Time:	27M
Operation Time:	12H
Room Temperature (°C) / RH%:	25.0/41%
Sphere Temperature (°C):	25.2

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REPORT NUMBER: SP1-2404-343-4

Measurement and Test Equipment			
Instrument	Identification Number	Calibration Date	Calibration Due Date
Photometer	76INCH SPHERE IN0058	2/12/2024	8/12/2024
Power Meter	XITRON 2801 IN0071	10/23/2023	10/23/2024
AC Power Source	CHROMA 61603 IN0063	10/24/2023	10/24/2024
DC Power Source	AGILENT E3634A IN0208	10/24/2023	10/24/2024
Sphere Thermometer	ONSET IN0085	10/24/2023	10/24/2024
Room Thermometer	ONSET IN0046	10/24/2023	10/24/2024

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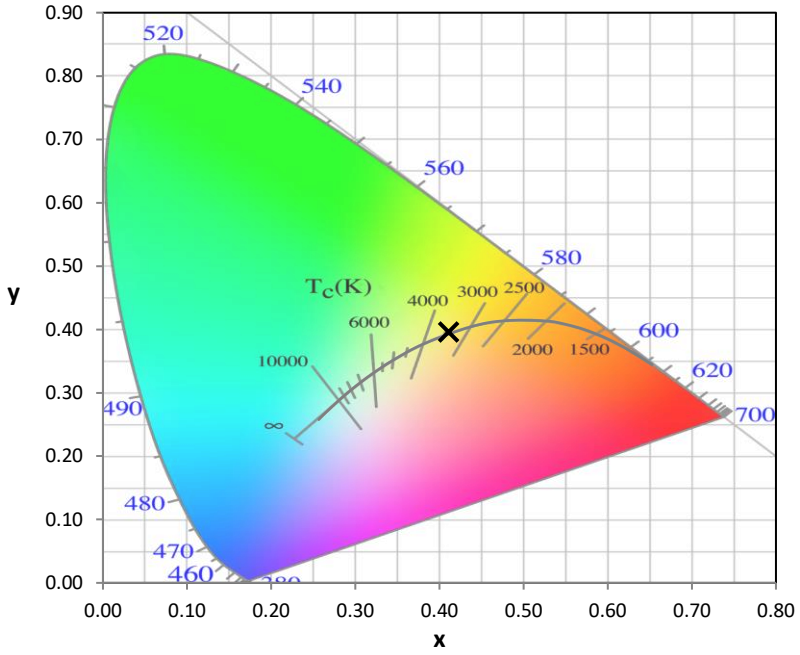
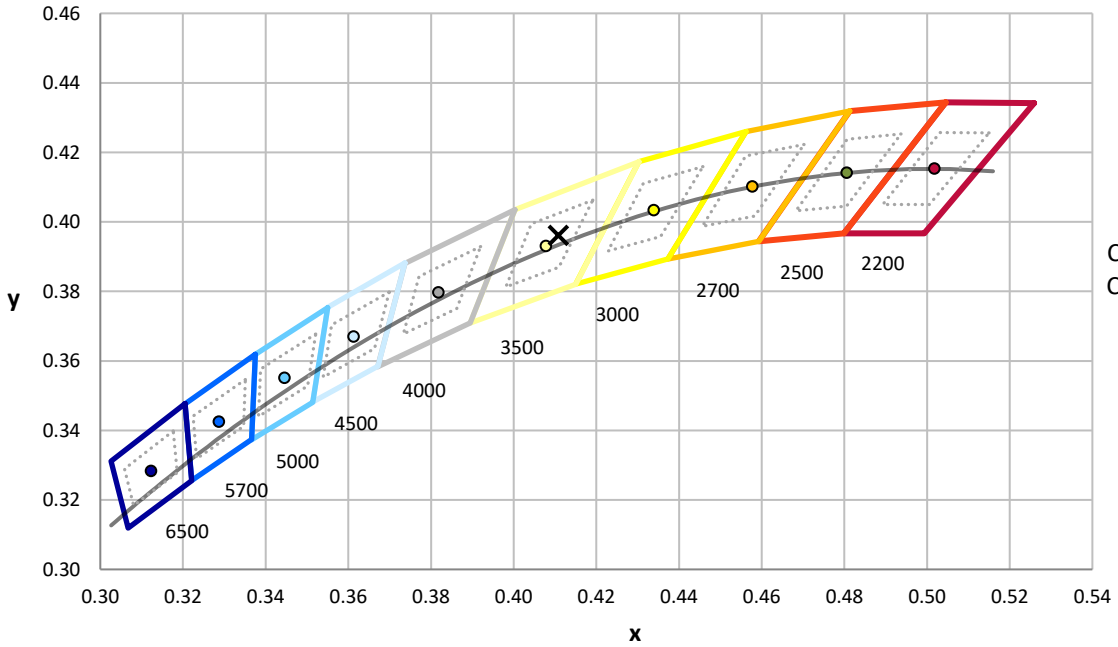
CIE 1931 Chromaticity Diagram



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



CCT = 3425K
CIE x = 0.4108
CIE y = 0.3961
Duv = 0.0012

Point lies inside the ANSI 3500K 4-step quadrangle

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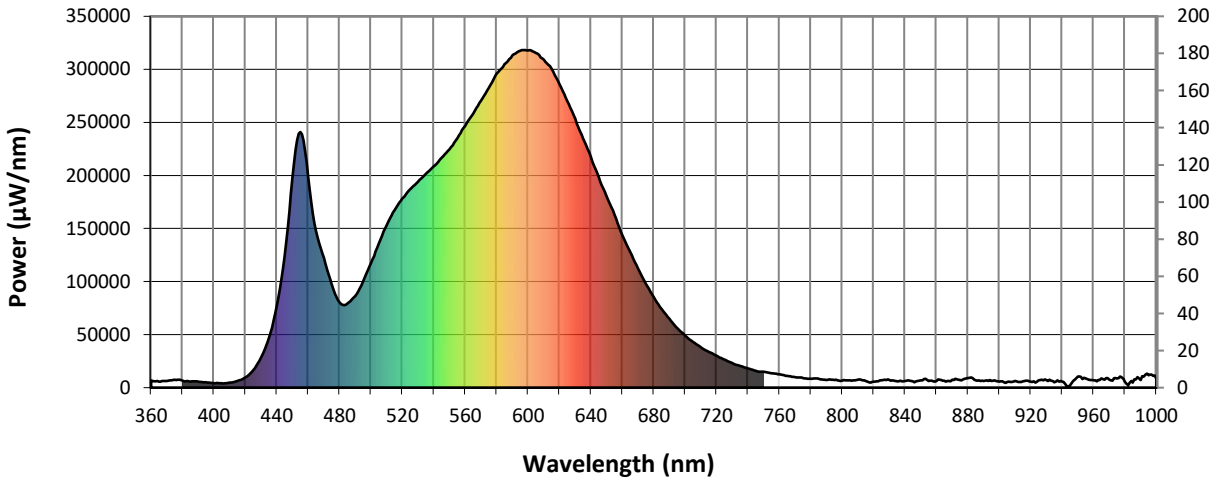
Photopic Flux vs. Wavelength



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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	6937	NR	490	86536	NR	620	285855	NR	750	14885	NR	880	8993	NR
365	5820	NR	495	100007	NR	625	270301	NR	755	13434	NR	885	6908	NR
370	6342	NR	500	117528	NR	630	253548	NR	760	12497	NR	890	6405	NR
375	7421	NR	505	135586	NR	635	235289	NR	765	11021	NR	895	6392	NR
380	6619	NR	510	153068	NR	640	217346	NR	770	9938	NR	900	5762	NR
385	5813	NR	515	167170	NR	645	198000	NR	775	9105	NR	905	5445	NR
390	5630	NR	520	178364	NR	650	180267	NR	780	8315	NR	910	6424	NR
395	4917	NR	525	186887	NR	655	162796	NR	785	8364	NR	915	5977	NR
400	4279	NR	530	194310	NR	660	143827	NR	790	7202	NR	920	5589	NR
405	4043	NR	535	201832	NR	665	127951	NR	795	7271	NR	925	6728	NR
410	4666	NR	540	208553	NR	670	112526	NR	800	6583	NR	930	7328	NR
415	6309	NR	545	216697	NR	675	97790	NR	805	6730	NR	935	5077	NR
420	9564	NR	550	224567	NR	680	85489	NR	810	7628	NR	940	5558	NR
425	16500	NR	555	235296	NR	685	74086	NR	815	6335	NR	945	2171	NR
430	28210	NR	560	246750	NR	690	65039	NR	820	5679	NR	950	10555	NR
435	47088	NR	565	258189	NR	695	56035	NR	825	6974	NR	955	8787	NR
440	76402	NR	570	270186	NR	700	49223	NR	830	7136	NR	960	6936	NR
445	124288	NR	575	282577	NR	705	43027	NR	835	5971	NR	965	8547	NR
450	197266	NR	580	295795	NR	710	38080	NR	840	6371	NR	970	7502	NR
455	240978	NR	585	304888	NR	715	33706	NR	845	6027	NR	975	8793	NR
460	199802	NR	590	313177	NR	720	29961	NR	850	6816	NR	980	5517	NR
465	147559	NR	595	317388	NR	725	26440	NR	855	6168	NR	985	4652	NR
470	121976	NR	600	317783	NR	730	23027	NR	860	6333	NR	990	7259	NR
475	97268	NR	605	315536	NR	735	20496	NR	865	6493	NR	995	11735	NR
480	80092	NR	610	309123	NR	740	18168	NR	870	7357	NR	1000	8351	NR
485	79203	NR	615	300672	NR	745	15812	NR	875	7188	NR			

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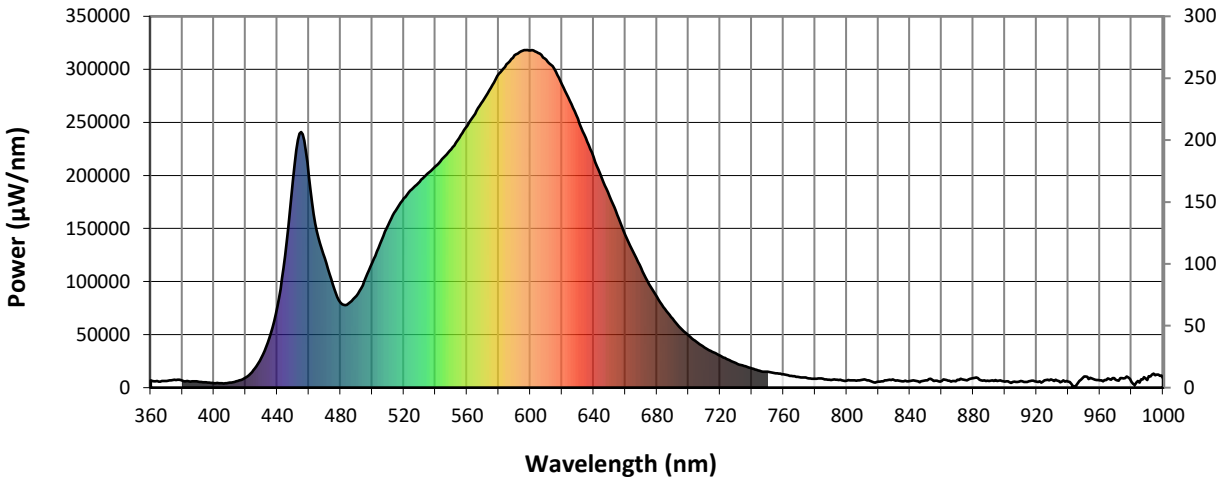
Scotopic Flux vs. Wavelength



Scotopic Lumens: 25661.8 **S/P: 1.51**

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	6937	NR	490	86536	NR	620	285855	NR	750	14885	NR	880	8993	NR
365	5820	NR	495	100007	NR	625	270301	NR	755	13434	NR	885	6908	NR
370	6342	NR	500	117528	NR	630	253548	NR	760	12497	NR	890	6405	NR
375	7421	NR	505	135586	NR	635	235289	NR	765	11021	NR	895	6392	NR
380	6619	NR	510	153068	NR	640	217346	NR	770	9938	NR	900	5762	NR
385	5813	NR	515	167170	NR	645	198000	NR	775	9105	NR	905	5445	NR
390	5630	NR	520	178364	NR	650	180267	NR	780	8315	NR	910	6424	NR
395	4917	NR	525	186887	NR	655	162796	NR	785	8364	NR	915	5977	NR
400	4279	NR	530	194310	NR	660	143827	NR	790	7202	NR	920	5589	NR
405	4043	NR	535	201832	NR	665	127951	NR	795	7271	NR	925	6728	NR
410	4666	NR	540	208553	NR	670	112526	NR	800	6583	NR	930	7328	NR
415	6309	NR	545	216697	NR	675	97790	NR	805	6730	NR	935	5077	NR
420	9564	NR	550	224567	NR	680	85489	NR	810	7628	NR	940	5558	NR
425	16500	NR	555	235296	NR	685	74086	NR	815	6335	NR	945	2171	NR
430	28210	NR	560	246750	NR	690	65039	NR	820	5679	NR	950	10555	NR
435	47088	NR	565	258189	NR	695	56035	NR	825	6974	NR	955	8787	NR
440	76402	NR	570	270186	NR	700	49223	NR	830	7136	NR	960	6936	NR
445	124288	NR	575	282577	NR	705	43027	NR	835	5971	NR	965	8547	NR
450	197266	NR	580	295795	NR	710	38080	NR	840	6371	NR	970	7502	NR
455	240978	NR	585	304888	NR	715	33706	NR	845	6027	NR	975	8793	NR
460	199802	NR	590	313177	NR	720	29961	NR	850	6816	NR	980	5517	NR
465	147559	NR	595	317388	NR	725	26440	NR	855	6168	NR	985	4652	NR
470	121976	NR	600	317783	NR	730	23027	NR	860	6333	NR	990	7259	NR
475	97268	NR	605	315536	NR	735	20496	NR	865	6493	NR	995	11735	NR
480	80092	NR	610	309123	NR	740	18168	NR	870	7357	NR	1000	8351	NR
485	79203	NR	615	300672	NR	745	15812	NR	875	7188	NR			

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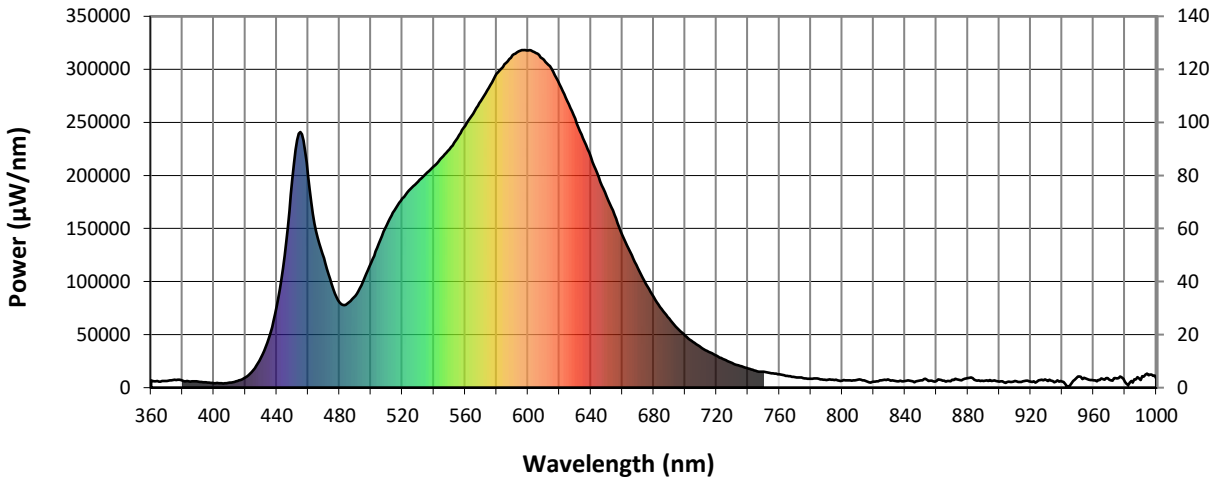
Melanopic Flux vs. Wavelength



Melanopic Lumens: 10080.3 **M/P: 0.59**

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	6937	NR	490	86536	NR	620	285855	NR	750	14885	NR	880	8993	NR
365	5820	NR	495	100007	NR	625	270301	NR	755	13434	NR	885	6908	NR
370	6342	NR	500	117528	NR	630	253548	NR	760	12497	NR	890	6405	NR
375	7421	NR	505	135586	NR	635	235289	NR	765	11021	NR	895	6392	NR
380	6619	NR	510	153068	NR	640	217346	NR	770	9938	NR	900	5762	NR
385	5813	NR	515	167170	NR	645	198000	NR	775	9105	NR	905	5445	NR
390	5630	NR	520	178364	NR	650	180267	NR	780	8315	NR	910	6424	NR
395	4917	NR	525	186887	NR	655	162796	NR	785	8364	NR	915	5977	NR
400	4279	NR	530	194310	NR	660	143827	NR	790	7202	NR	920	5589	NR
405	4043	NR	535	201832	NR	665	127951	NR	795	7271	NR	925	6728	NR
410	4666	NR	540	208553	NR	670	112526	NR	800	6583	NR	930	7328	NR
415	6309	NR	545	216697	NR	675	97790	NR	805	6730	NR	935	5077	NR
420	9564	NR	550	224567	NR	680	85489	NR	810	7628	NR	940	5558	NR
425	16500	NR	555	235296	NR	685	74086	NR	815	6335	NR	945	2171	NR
430	28210	NR	560	246750	NR	690	65039	NR	820	5679	NR	950	10555	NR
435	47088	NR	565	258189	NR	695	56035	NR	825	6974	NR	955	8787	NR
440	76402	NR	570	270186	NR	700	49223	NR	830	7136	NR	960	6936	NR
445	124288	NR	575	282577	NR	705	43027	NR	835	5971	NR	965	8547	NR
450	197266	NR	580	295795	NR	710	38080	NR	840	6371	NR	970	7502	NR
455	240978	NR	585	304888	NR	715	33706	NR	845	6027	NR	975	8793	NR
460	199802	NR	590	313177	NR	720	29961	NR	850	6816	NR	980	5517	NR
465	147559	NR	595	317388	NR	725	26440	NR	855	6168	NR	985	4652	NR
470	121976	NR	600	317783	NR	730	23027	NR	860	6333	NR	990	7259	NR
475	97268	NR	605	315536	NR	735	20496	NR	865	6493	NR	995	11735	NR
480	80092	NR	610	309123	NR	740	18168	NR	870	7357	NR	1000	8351	NR
485	79203	NR	615	300672	NR	745	15812	NR	875	7188	NR			

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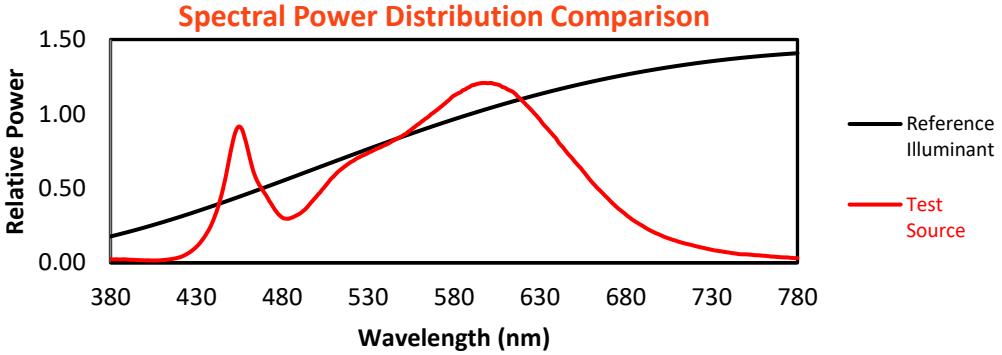
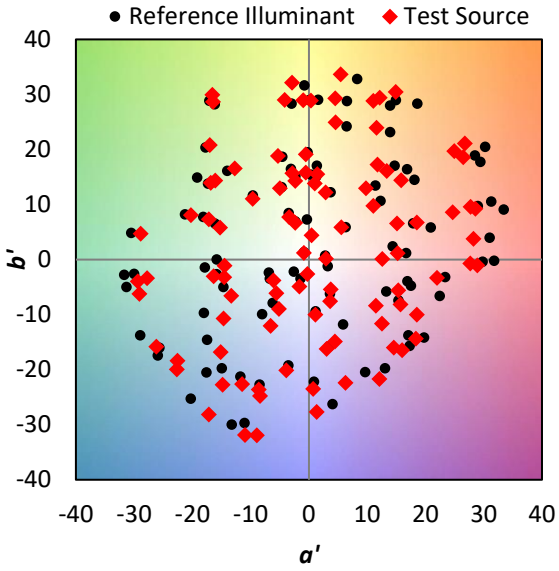
Summary

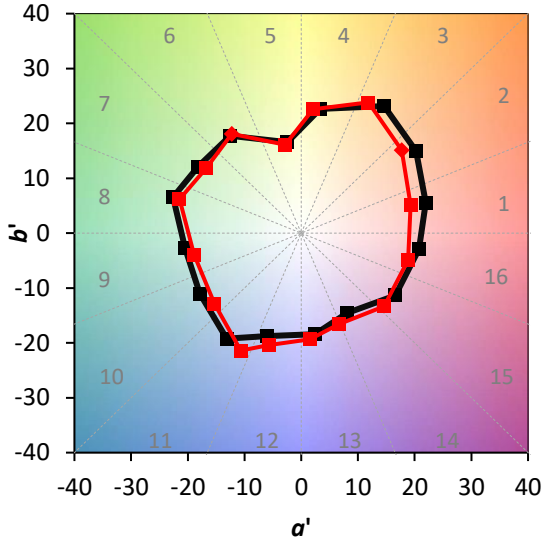
R_f = 84.3
R_g = 94.4
CIE R_a = 82.9
R_9 = 8.8

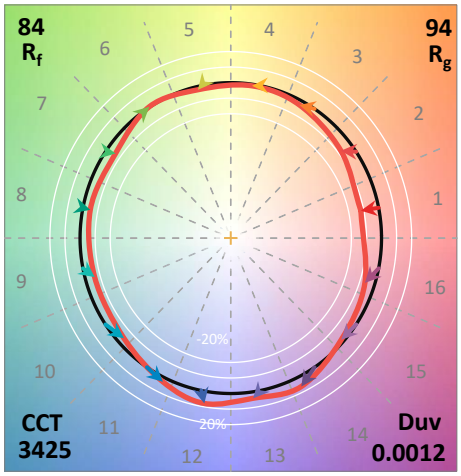
Spectral Power Distribution Comparison

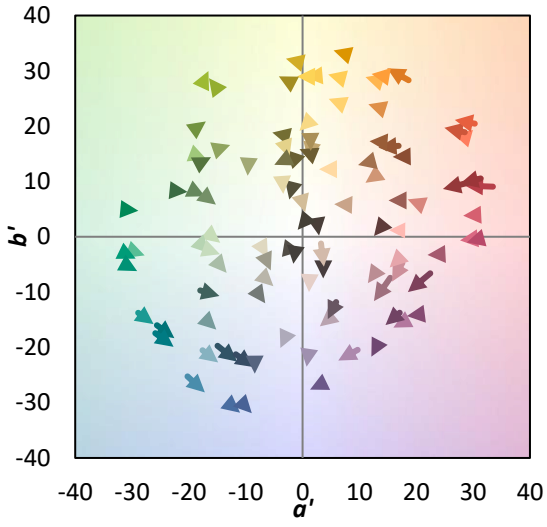


Color Vector Graphics









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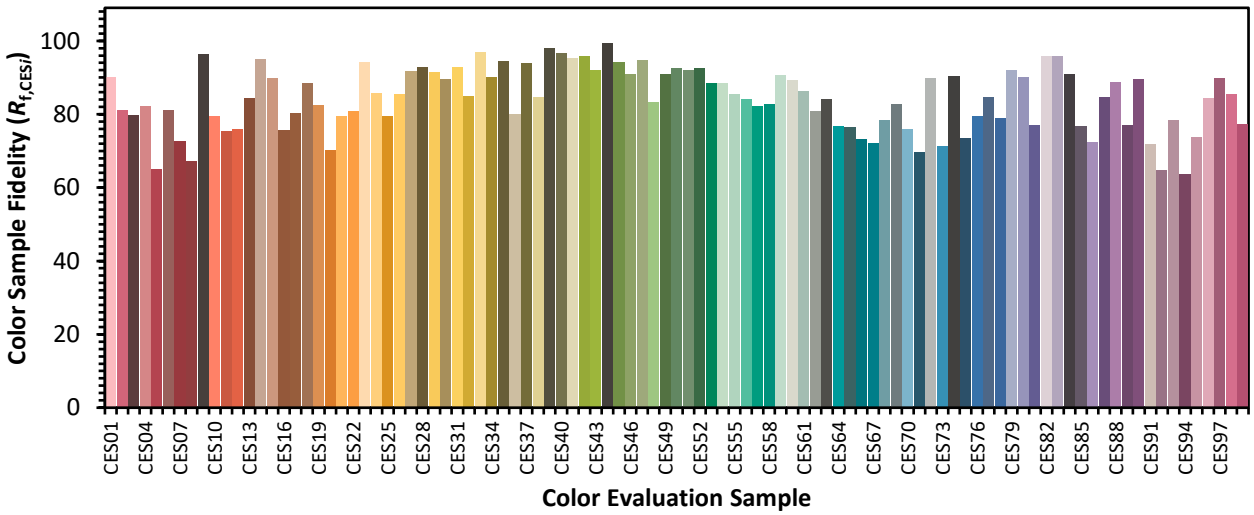
Individual Sample Fidelity Index ($R_{f,i}$)

CES01 = 86	CES26 = 86	CES51 = 92	CES76 = 79
CES02 = 62	CES27 = 92	CES52 = 93	CES77 = 85
CES03 = 31	CES28 = 93	CES53 = 88	CES78 = 79
CES04 = 70	CES29 = 91	CES54 = 88	CES79 = 92
CES05 = 49	CES30 = 90	CES55 = 86	CES80 = 90
CES06 = 51	CES31 = 93	CES56 = 84	CES81 = 77
CES07 = 41	CES32 = 85	CES57 = 82	CES82 = 96
CES08 = 40	CES33 = 97	CES58 = 83	CES83 = 96
CES09 = 29	CES34 = 90	CES59 = 91	CES84 = 91
CES10 = 75	CES35 = 94	CES60 = 89	CES85 = 77
CES11 = 58	CES36 = 80	CES61 = 86	CES86 = 72
CES12 = 64	CES37 = 94	CES62 = 81	CES87 = 85
CES13 = 43	CES38 = 85	CES63 = 84	CES88 = 89
CES14 = 74	CES39 = 98	CES64 = 77	CES89 = 77
CES15 = 71	CES40 = 97	CES65 = 76	CES90 = 90
CES16 = 47	CES41 = 95	CES66 = 73	CES91 = 72
CES17 = 50	CES42 = 96	CES67 = 72	CES92 = 65
CES18 = 56	CES43 = 92	CES68 = 78	CES93 = 78
CES19 = 72	CES44 = 99	CES69 = 83	CES94 = 64
CES20 = 66	CES45 = 94	CES70 = 76	CES95 = 74
CES21 = 86	CES46 = 91	CES71 = 70	CES96 = 84
CES22 = 78	CES47 = 95	CES72 = 90	CES97 = 90
CES23 = 92	CES48 = 83	CES73 = 71	CES98 = 86
CES24 = 91	CES49 = 91	CES74 = 90	CES99 = 77
CES25 = 72	CES50 = 93	CES75 = 74	



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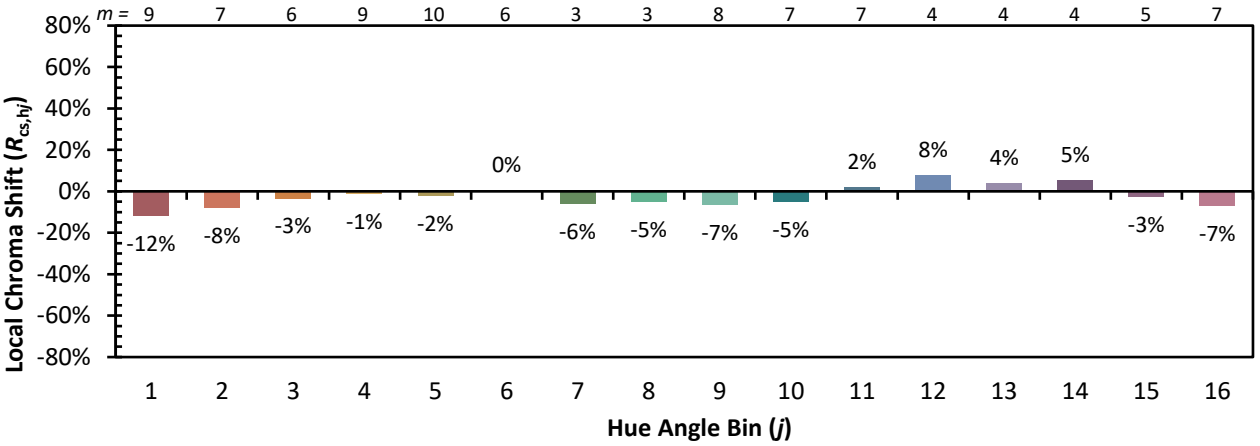
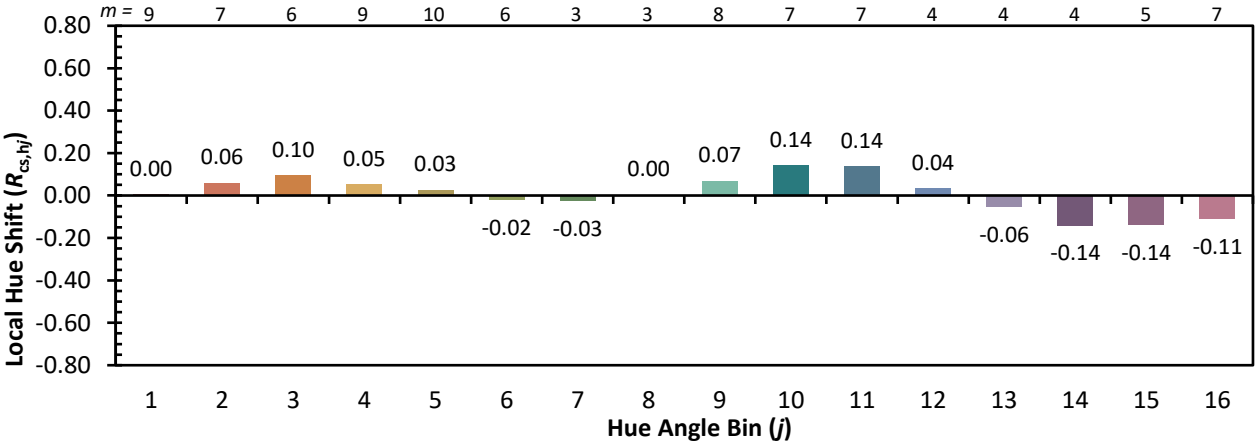
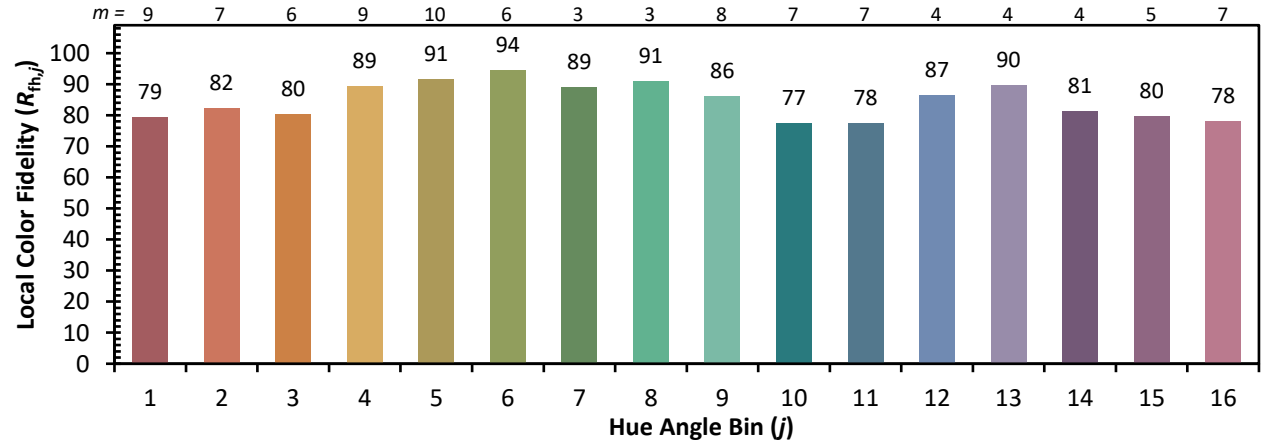
Color Rendition by Hue-Angle Bin







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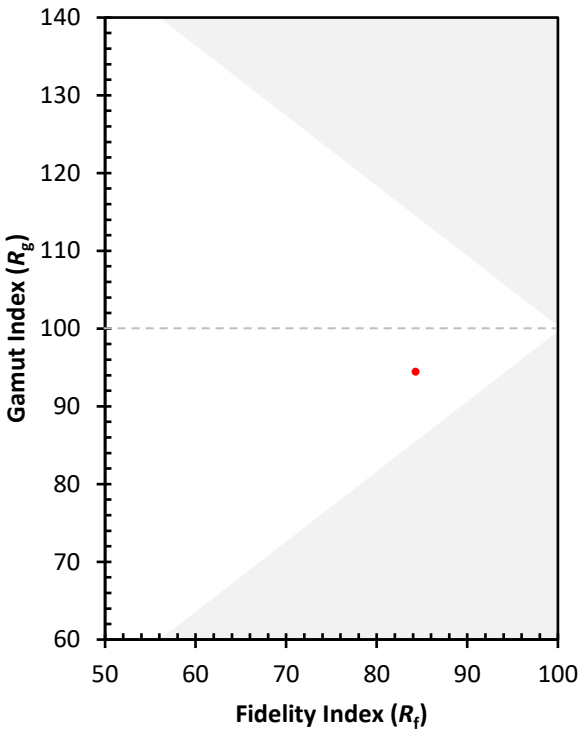
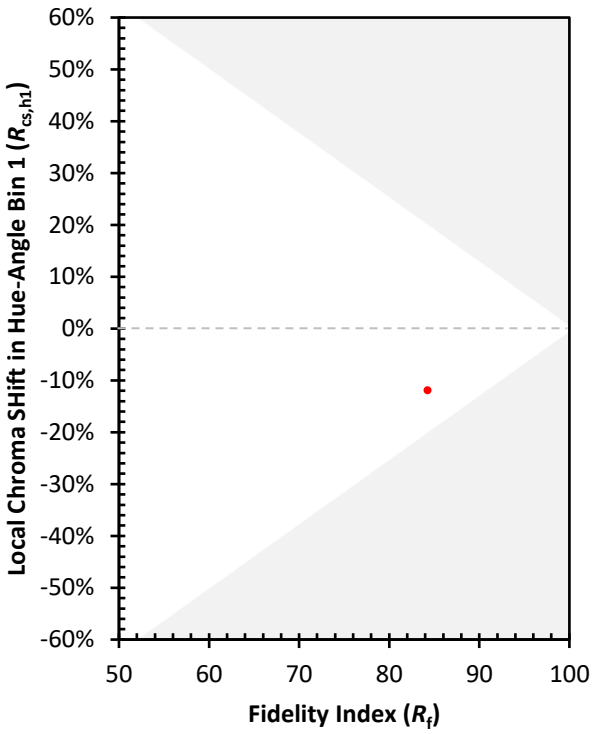
Measure Comparisons





(END OF REPORT)