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: P774892

Luminaire Tested: **SPHB-2436SE-M-L84050-CD-U (30K LUMEN, 5000K)**

Issue Date: 2/21/2024

Report Generated By 670246072 / DESKTOP-MV3F9LC

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

Test Information

Test Method:	LM-79-08
Report Number:	P774892
	TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2309-187-1)
Test Lab:	INNOVATION CENTER
Issue Date:	2/21/2024
Manufacturer:	COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line:	METALUX
Catalog Number:	SPHB-2436SE-M-L84050-CD-U (30K LUMEN, 5000K)
Description:	30000 Lumen SPHB at 5000K CCT
Light Source:	-
Ballast/Driver:	-

Summary

Lumens per Lamp:	N/A
Luminaire Lumens:	30731.0 lumens
Efficiency:	N/A
Efficacy:	147.7 lumens/watt
Spacing Criteria (0/90/45):	1.28 / 1.21 / 1.27
Luminous Opening:	Rectangular (W 1' x L: 2.04' x H: 0')
CIE Type:	Direct

Input Watts (W):	208
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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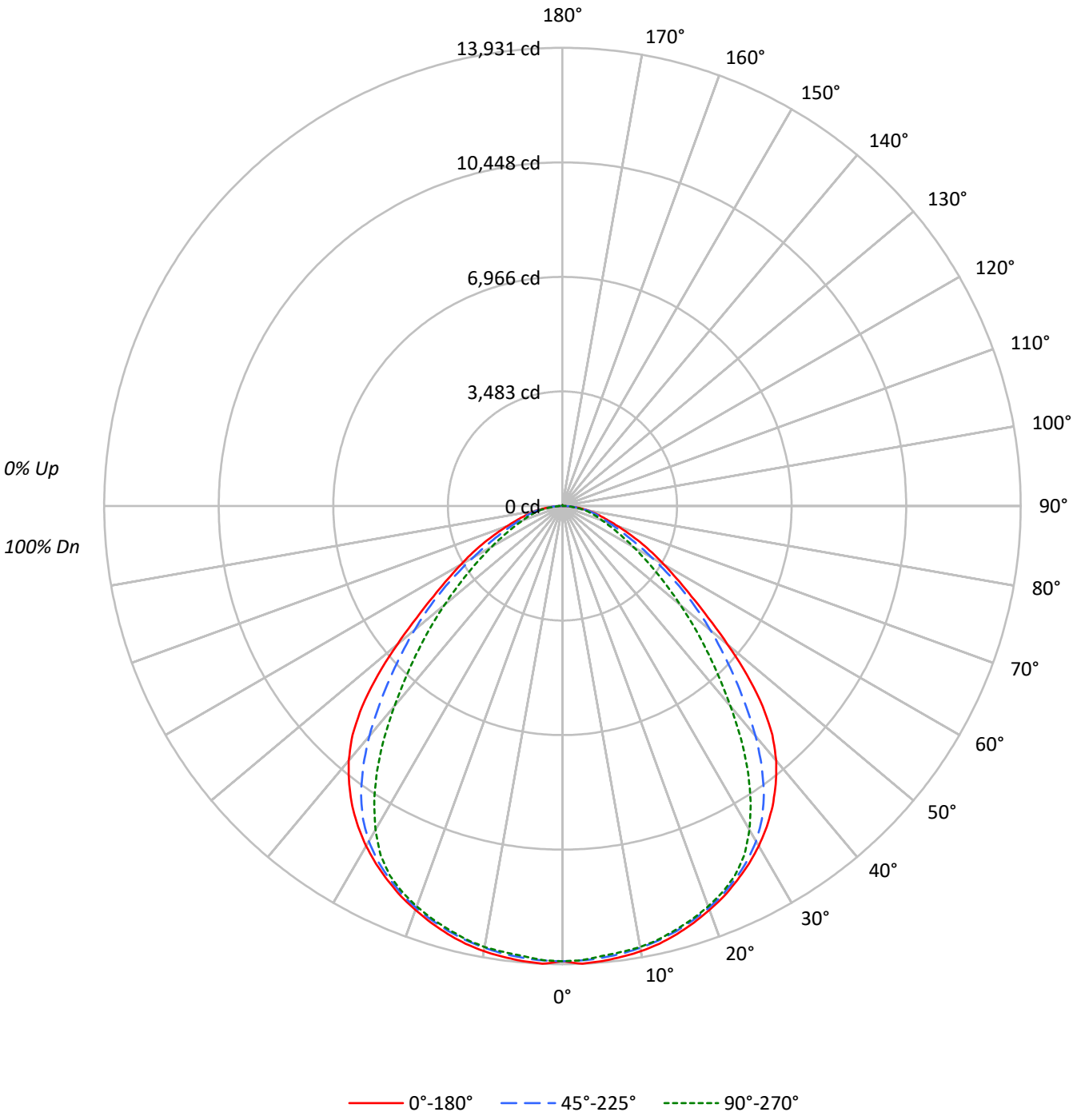
Scaled Data Report

TEST NUMBER: P774892
CATALOG NUMBER: SPHB-2436SE-M-L84050-CD-U (30K LUMEN, 5000K)

Luminous Intensity Polar Plot



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TEST NUMBER: P774892
CATALOG NUMBER: SPHB-2436SE-M-L84050-CD-U (30K LUMEN, 5000K)

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	102	99	108	104	100	97	100	97	94	96	93	91	92	90	89	87
2	102	94	88	83	99	92	87	82	89	84	80	86	82	79	83	80	77	75
3	94	84	77	71	91	83	76	71	80	74	69	77	72	68	75	70	67	65
4	86	76	68	62	84	74	67	61	72	65	60	70	64	60	68	63	59	57
5	80	68	60	54	78	67	60	54	65	58	53	63	57	53	61	56	52	50
6	74	62	54	48	73	61	53	48	59	52	47	58	52	47	56	51	47	45
7	69	57	49	43	68	56	48	43	54	47	42	53	47	42	52	46	42	40
8	65	52	44	39	63	51	44	38	50	43	38	49	43	38	48	42	38	36
9	61	48	40	35	59	47	40	35	46	39	35	45	39	35	44	39	34	33
10	57	44	37	32	56	44	37	32	43	36	32	42	36	32	41	36	31	30

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	72976	72976	72976
5°	73499	72991	72703
10°	73588	73036	72890
15°	73539	73028	72770
20°	73326	72967	72674
25°	73077	72643	72160
30°	72661	71666	69199
35°	71680	68706	63224
40°	69548	62854	54636
45°	64198	55268	46169
50°	53782	48205	38352
55°	43949	40813	31579
60°	37525	33103	26220
65°	32470	26927	22345
70°	27410	23393	19868
75°	24566	22708	19427
80°	24422	22768	19531
85°	21287	21069	16484

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TEST NUMBER: P774892
CATALOG NUMBER: SPHB-2436SE-M-L84050-CD-U (30K LUMEN, 5000K)

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	1311.1	4.3
10°-20°	3774.8	12.3
20°-30°	5730.2	18.6
30°-40°	6553.0	21.3
40°-50°	5677.8	18.5
50°-60°	3853.2	12.5
60°-70°	2216.3	7.2
70°-80°	1180.7	3.8
80°-90°	382.6	1.2
90°-100°	10.9	0.0
100°-110°	3.5	0.0
110°-120°	3.6	0.0
120°-130°	4.9	0.0
130°-140°	6.8	0.0
140°-150°	7.7	0.0
150°-160°	7.0	0.0
160°-170°	5.1	0.0
170°-180°	1.9	0.0
0°-30°	10816.1	35.2
0°-40°	17369.1	56.5
0°-60°	26900.1	87.5
0°-90°	30679.6	99.8
90°-120°	18.0	0.1
90°-150°	37.4	0.1
90°-180°	51.0	0.2
0°-180°	30731.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	13842	13842	13842	13842	13842	
5°	13888	13761	13792	13761	13738	###
15°	13473	13350	13380	13346	13332	3802
25°	12562	12455	12488	12440	12405	5790
35°	11137	10967	10675	10057	9823	6947
45°	8610	8142	7413	6510	6192	6545
55°	4781	4807	4440	3733	3436	4356
65°	2603	2439	2158	1992	1791	2595
75°	1206	1187	1115	1021	954	1311
85°	352	361	348	288	272	379
90°	4	25	52	64	65	19
95°	2	4	5	5	5	2
105°	2	2	4	4	5	2
115°	2	4	4	4	5	3
125°	5	5	6	6	6	4
135°	8	8	8	10	10	6
145°	12	12	12	13	13	7
155°	14	14	15	15	15	7
165°	18	18	18	19	19	5
175°	19	19	20	20	21	2
180°	20	20	20	20	20	

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Scaled Data Report

TEST NUMBER: P774892
CATALOG NUMBER: SPHB-2436SE-M-L84050-CD-U (30K LUMEN, 5000K)

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	13841.9	13841.9	13841.9	13841.9	13841.9
2.5°	13930.7	13807.5	13830.0	13813.4	13822.9
5°	13888.1	13761.3	13792.1	13761.3	13737.6
7.5°	13826.5	13698.5	13728.1	13693.8	13677.2
10°	13745.9	13615.6	13642.8	13620.3	13615.6
12.5°	13629.8	13501.8	13529.1	13501.8	13499.5
15°	13473.4	13350.2	13379.8	13345.5	13332.4
17.5°	13282.7	13166.6	13203.3	13177.2	13163.0
20°	13069.4	12961.6	13005.5	12966.4	12953.3
22.5°	12840.8	12725.9	12768.5	12730.6	12708.1
25°	12562.4	12454.6	12487.8	12440.4	12404.8
27.5°	12266.2	12141.8	12162.0	12048.2	11971.2
30°	11935.7	11798.3	11772.2	11519.9	11367.0
32.5°	11564.9	11407.3	11287.7	10841.0	10646.8
35°	11137.2	10966.6	10675.2	10056.8	9823.4
37.5°	10653.9	10434.7	9941.9	9234.6	8908.8
40°	10105.4	9795.0	9132.7	8321.2	7938.6
42.5°	9446.7	9001.2	8259.6	7397.2	7029.9
45°	8610.3	8142.3	7412.6	6509.8	6192.3
47.5°	7611.6	7256.2	6618.8	5699.5	5405.7
50°	6557.2	6435.2	5877.2	4985.2	4675.9
52.5°	5582.2	5613.0	5156.9	4312.3	4022.0
55°	4781.4	4807.4	4440.2	3732.9	3435.6
57.5°	4115.6	4052.8	3760.2	3201.0	2930.9
60°	3558.8	3415.4	3139.4	2737.8	2486.7
62.5°	3070.7	2885.9	2613.4	2333.8	2100.4
65°	2602.8	2439.3	2158.5	1991.5	1791.2
67.5°	2159.7	2057.8	1814.9	1696.5	1515.2
70°	1778.2	1730.8	1517.6	1437.0	1288.9
72.5°	1467.8	1438.2	1304.3	1219.0	1117.2
75°	1206.0	1187.1	1114.8	1021.2	953.7
77.5°	1005.8	978.5	933.5	853.0	797.3
80°	804.4	785.4	749.9	683.6	643.3
82.5°	574.6	574.6	559.2	501.1	464.4
85°	351.9	361.3	348.3	287.9	272.5
87.5°	127.9	142.2	159.9	157.6	155.2
90°	3.6	24.9	52.1	64.0	65.2
92.5°	1.2	4.7	8.3	13.0	11.8
95°	2.4	3.6	4.7	4.7	4.7
97.5°	2.4	2.4	4.7	4.7	4.7
100°	2.4	2.4	3.6	4.7	4.7
102.5°	1.2	2.4	3.6	4.7	4.7
105°	2.4	2.4	3.6	3.6	4.7
107.5°	2.4	2.4	3.6	3.6	3.6
110°	2.4	2.4	3.6	3.6	4.7

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TEST NUMBER: P774892
CATALOG NUMBER: SPHB-2436SE-M-L84050-CD-U (30K LUMEN, 5000K)

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	2.4	2.4	3.6	3.6	3.6
115°	2.4	3.6	3.6	3.6	4.7
117.5°	3.6	3.6	3.6	4.7	4.7
120°	3.6	3.6	4.7	4.7	4.7
122.5°	4.7	4.7	4.7	4.7	4.7
125°	4.7	4.7	5.9	5.9	5.9
127.5°	5.9	5.9	5.9	5.9	7.1
130°	5.9	7.1	7.1	7.1	7.1
132.5°	7.1	8.3	8.3	8.3	8.3
135°	8.3	8.3	8.3	9.5	9.5
137.5°	9.5	9.5	9.5	9.5	9.5
140°	10.7	10.7	10.7	10.7	10.7
142.5°	10.7	11.8	11.8	11.8	11.8
145°	11.8	11.8	11.8	13.0	13.0
147.5°	13.0	13.0	13.0	13.0	13.0
150°	13.0	14.2	14.2	14.2	14.2
152.5°	14.2	14.2	14.2	15.4	15.4
155°	14.2	14.2	15.4	15.4	15.4
157.5°	15.4	15.4	16.6	16.6	16.6
160°	15.4	16.6	16.6	17.8	17.8
162.5°	16.6	16.6	17.8	17.8	17.8
165°	17.8	17.8	17.8	19.0	19.0
167.5°	17.8	17.8	19.0	19.0	20.1
170°	19.0	19.0	19.0	20.1	20.1
172.5°	19.0	19.0	19.0	20.1	20.1
175°	19.0	19.0	20.1	20.1	21.3
177.5°	19.0	19.0	20.1	21.3	21.3
180°	20.1	20.1	20.1	20.1	20.1

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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: SP1-2309-187-6

Test Date: 10/10/2023

Luminaire Tested: SPHB-2436SE-M-UNV-L84050-CD-U (36K LUMEN 5000K)

Data in this report applies to families of products including SPHB-2436SE-M-UNV-L84050-CD-U (36K LUMEN 5000K).

Tested By:

Approved By:

NVLAP Lab Code: 200050-0

Cooper Lighting Solutions laboratories have been accredited by National Voluntary Laboratory Accreditation Program (NVLAP) that it adheres to the requirements of ISO/IEC 17025:2017 and appropriate IESNA test methods. This report must not be used to claim product certification, approval or endorsement by NVLAP, NIST or any agency of the Federal Government. Results contained in this report are valid for luminaire sample tested, as supplied by requestor and can affect the validity of the test results. Information related to the luminaire tested has been supplied by requestor. Report shall not be reproduced except in full without approval of Cooper Lighting Solutions Laboratory. Test performed at address noted above.

Report Generated By FNC07603 / LDUCLS01DT446
Version: v6.12

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

NVLAP Lab Code: 200050-0

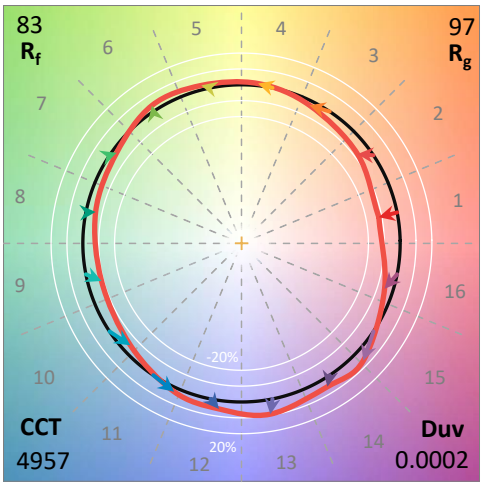
Test Information

Test Method:	LM-79-2019
Report Number:	SP1-2309-187-6
Test Lab:	COOPER LIGHTING SOLUTIONS
Photometer:	SP1 - 76IN SPHERE
Measurement Geometry:	4π
Issue Date:	10/10/2023
Manufacturer:	COOPER LIGHTING SOLUTIONS
Product Line:	METALUX
Catalog Number:	**SPHB-2436SE-M-UNV-L84050-CD-U (36K LUMEN 5000K)**
Description:	SPHB SELECT, MEDIUM LENS, 36K LUMENS, 5000K

Spectral Parameters

CCT (K):	4957	CRI (Ra):	83.0		
CIE u':	0.2117	R1:	81.6	R9:	13.4
CIE v':	0.4855	R2:	88.2	R10:	70.8
Duv:	0.0002	R3:	91.8	R11:	80.4
CIE x:	0.3463	R4:	82.0	R12:	55.2
CIE y:	0.3530	R5:	81.2	R13:	83.4
CIE z:	0.3007	R6:	82.2	R14:	95.6
Peak Wavelength (nm):	452	R7:	88.1		
Dominant Wavelength (nm):	573	R8:	69.2		
Purity:	10				

Rf:	83
Rg:	96.6



Test Conditions

Stabilization Time:	10M
Operation Time:	12H
Room Temperature (°C) / RH%:	25.8/38%
Sphere Temperature (°C):	24.2

Cooper Lighting Solutions Photometric Lab
1121 Highway 74 South
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REPORT NUMBER: SP1-2309-187-6

Measurement and Test Equipment			
Instrument	Identification Number	Calibration Date	Calibration Due Date
Photometer	76INCH SPHERE IN0058	8/9/2023	2/9/2024
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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NVLAP Lab Code: 200050-0

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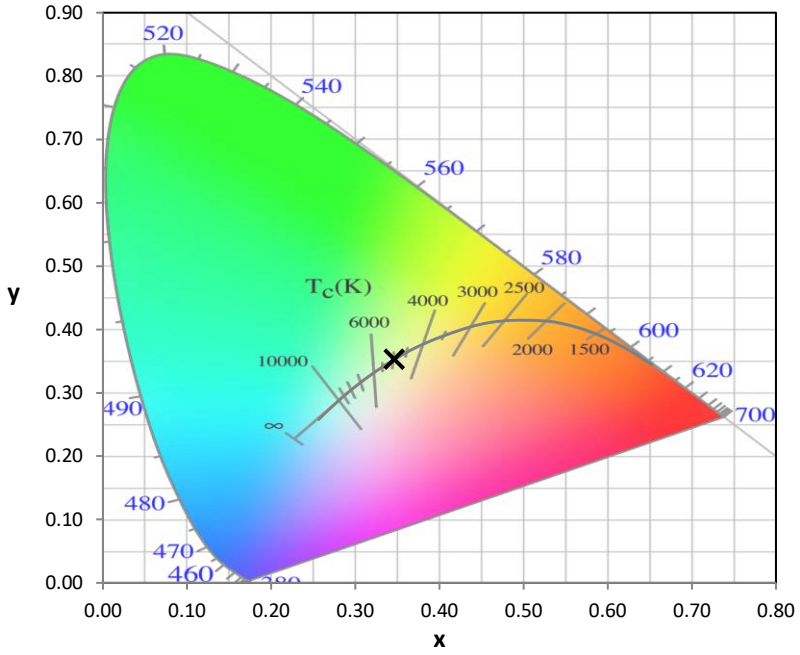
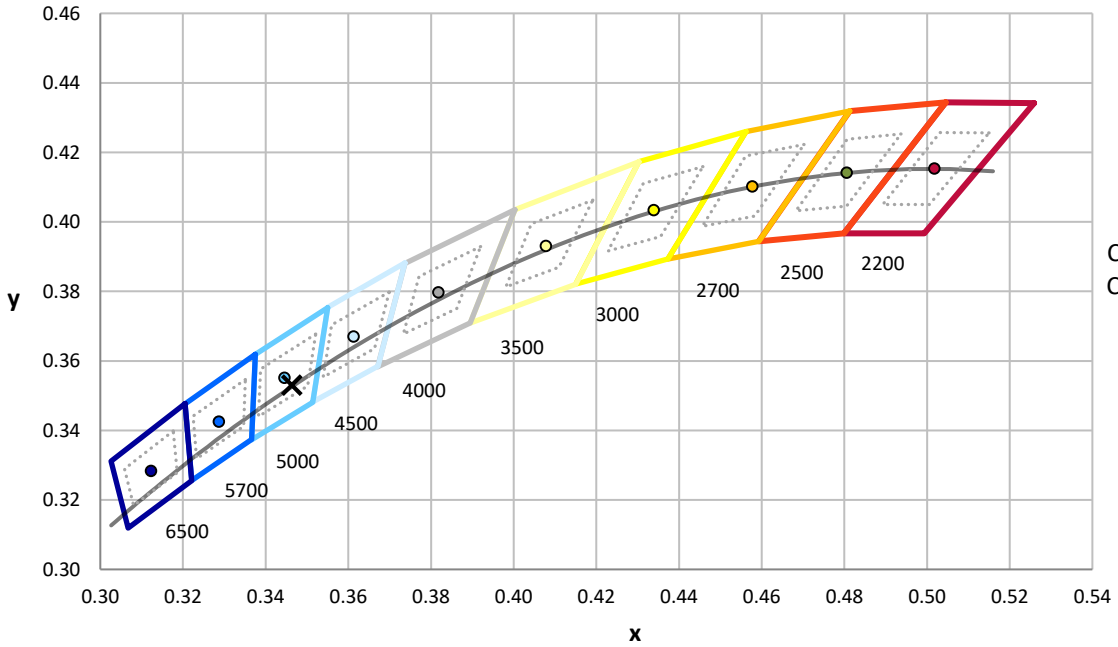
CIE 1931 Chromaticity Diagram



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



CCT = 4957K
CIE x = 0.3463
CIE y = 0.3530
Duv = 0.0002

Point lies inside the ANSI 5000K 4-step quadrangle

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NVLAP Lab Code: 200050-0

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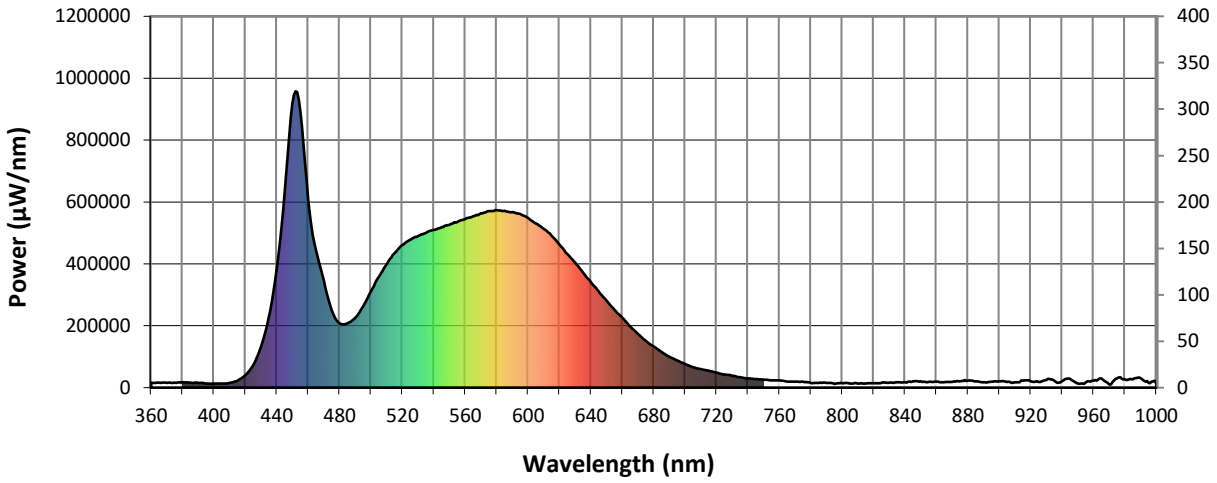
Photopic Flux vs. Wavelength



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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	16466	NR	490	226060	NR	620	461721	NR	750	25725	NR	880	22907	NR
365	15834	NR	495	262555	NR	625	431803	NR	755	23611	NR	885	20279	NR
370	15705	NR	500	311885	NR	630	403609	NR	760	23080	NR	890	16993	NR
375	16161	NR	505	357744	NR	635	372123	NR	765	19807	NR	895	19274	NR
380	17604	NR	510	398986	NR	640	341468	NR	770	19668	NR	900	19961	NR
385	15901	NR	515	433700	NR	645	309940	NR	775	19158	NR	905	18541	NR
390	15561	NR	520	460798	NR	650	281489	NR	780	15443	NR	910	17677	NR
395	13649	NR	525	477719	NR	655	251312	NR	785	15332	NR	915	22715	NR
400	12726	NR	530	489588	NR	660	226441	NR	790	15443	NR	920	20431	NR
405	12867	NR	535	500614	NR	665	197313	NR	795	12716	NR	925	18281	NR
410	14858	NR	540	509478	NR	670	174037	NR	800	14486	NR	930	24254	NR
415	22758	NR	545	518634	NR	675	150402	NR	805	13381	NR	935	22361	NR
420	40173	NR	550	526082	NR	680	133071	NR	810	13493	NR	940	21374	NR
425	73606	NR	555	535227	NR	685	115398	NR	815	13669	NR	945	28437	NR
430	132581	NR	560	544645	NR	690	99841	NR	820	13949	NR	950	12992	NR
435	230438	NR	565	553668	NR	695	87508	NR	825	15609	NR	955	16488	NR
440	382216	NR	570	563202	NR	700	76178	NR	830	16481	NR	960	22861	NR
445	630161	NR	575	570117	NR	705	66441	NR	835	17363	NR	965	29851	NR
450	918124	NR	580	573472	NR	710	60098	NR	840	16960	NR	970	10276	NR
455	893762	NR	585	571600	NR	715	54539	NR	845	20190	NR	975	29525	NR
460	612059	NR	590	567612	NR	720	48071	NR	850	20506	NR	980	26199	NR
465	443338	NR	595	561157	NR	725	42545	NR	855	18525	NR	985	27187	NR
470	344255	NR	600	547832	NR	730	38502	NR	860	19090	NR	990	30712	NR
475	249784	NR	605	530525	NR	735	33410	NR	865	17185	NR	995	15047	NR
480	207499	NR	610	513131	NR	740	29667	NR	870	18599	NR	1000	14588	NR
485	208029	NR	615	491003	NR	745	27521	NR	875	20800	NR			

Cooper Lighting Solutions Photometric Lab
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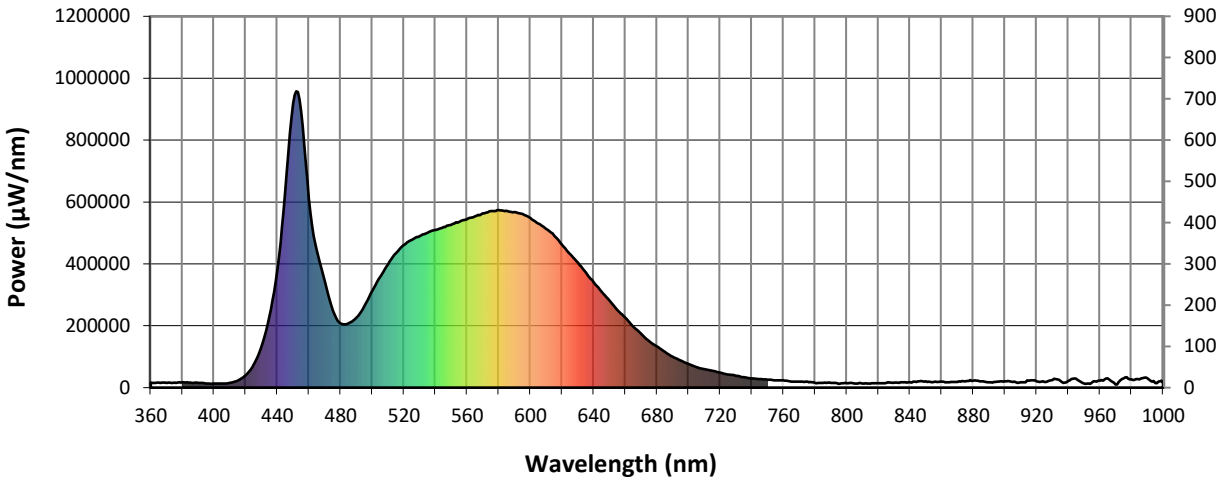
Peachtree City, GA 30269

NVLAP Lab Code: 200050-0

REPORT NUMBER: SP1-2309-187-6

Scotopic Flux vs. Wavelength



Scotopic Lumens: 69332.4 **S/P: 1.93**

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	16466	NR	490	226060	NR	620	461721	NR	750	25725	NR	880	22907	NR
365	15834	NR	495	262555	NR	625	431803	NR	755	23611	NR	885	20279	NR
370	15705	NR	500	311885	NR	630	403609	NR	760	23080	NR	890	16993	NR
375	16161	NR	505	357744	NR	635	372123	NR	765	19807	NR	895	19274	NR
380	17604	NR	510	398986	NR	640	341468	NR	770	19668	NR	900	19961	NR
385	15901	NR	515	433700	NR	645	309940	NR	775	19158	NR	905	18541	NR
390	15561	NR	520	460798	NR	650	281489	NR	780	15443	NR	910	17677	NR
395	13649	NR	525	477719	NR	655	251312	NR	785	15332	NR	915	22715	NR
400	12726	NR	530	489588	NR	660	226441	NR	790	15443	NR	920	20431	NR
405	12867	NR	535	500614	NR	665	197313	NR	795	12716	NR	925	18281	NR
410	14858	NR	540	509478	NR	670	174037	NR	800	14486	NR	930	24254	NR
415	22758	NR	545	518634	NR	675	150402	NR	805	13381	NR	935	22361	NR
420	40173	NR	550	526082	NR	680	133071	NR	810	13493	NR	940	21374	NR
425	73606	NR	555	535227	NR	685	115398	NR	815	13669	NR	945	28437	NR
430	132581	NR	560	544645	NR	690	99841	NR	820	13949	NR	950	12992	NR
435	230438	NR	565	553668	NR	695	87508	NR	825	15609	NR	955	16488	NR
440	382216	NR	570	563202	NR	700	76178	NR	830	16481	NR	960	22861	NR
445	630161	NR	575	570117	NR	705	66441	NR	835	17363	NR	965	29851	NR
450	918124	NR	580	573472	NR	710	60098	NR	840	16960	NR	970	10276	NR
455	893762	NR	585	571600	NR	715	54539	NR	845	20190	NR	975	29525	NR
460	612059	NR	590	567612	NR	720	48071	NR	850	20506	NR	980	26199	NR
465	443338	NR	595	561157	NR	725	42545	NR	855	18525	NR	985	27187	NR
470	344255	NR	600	547832	NR	730	38502	NR	860	19090	NR	990	30712	NR
475	249784	NR	605	530525	NR	735	33410	NR	865	17185	NR	995	15047	NR
480	207499	NR	610	513131	NR	740	29667	NR	870	18599	NR	1000	14588	NR
485	208029	NR	615	491003	NR	745	27521	NR	875	20800	NR			

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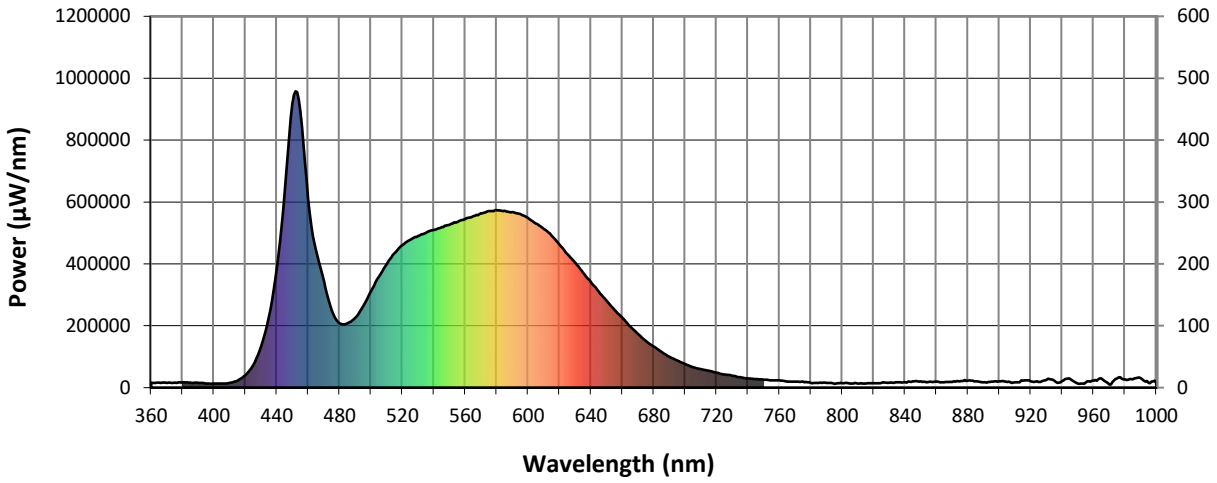
Melanopic Flux vs. Wavelength



Melanopic Lumens: 29078.2 **M/P: 0.81**

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	16466	NR	490	226060	NR	620	461721	NR	750	25725	NR	880	22907	NR
365	15834	NR	495	262555	NR	625	431803	NR	755	23611	NR	885	20279	NR
370	15705	NR	500	311885	NR	630	403609	NR	760	23080	NR	890	16993	NR
375	16161	NR	505	357744	NR	635	372123	NR	765	19807	NR	895	19274	NR
380	17604	NR	510	398986	NR	640	341468	NR	770	19668	NR	900	19961	NR
385	15901	NR	515	433700	NR	645	309940	NR	775	19158	NR	905	18541	NR
390	15561	NR	520	460798	NR	650	281489	NR	780	15443	NR	910	17677	NR
395	13649	NR	525	477719	NR	655	251312	NR	785	15332	NR	915	22715	NR
400	12726	NR	530	489588	NR	660	226441	NR	790	15443	NR	920	20431	NR
405	12867	NR	535	500614	NR	665	197313	NR	795	12716	NR	925	18281	NR
410	14858	NR	540	509478	NR	670	174037	NR	800	14486	NR	930	24254	NR
415	22758	NR	545	518634	NR	675	150402	NR	805	13381	NR	935	22361	NR
420	40173	NR	550	526082	NR	680	133071	NR	810	13493	NR	940	21374	NR
425	73606	NR	555	535227	NR	685	115398	NR	815	13669	NR	945	28437	NR
430	132581	NR	560	544645	NR	690	99841	NR	820	13949	NR	950	12992	NR
435	230438	NR	565	553668	NR	695	87508	NR	825	15609	NR	955	16488	NR
440	382216	NR	570	563202	NR	700	76178	NR	830	16481	NR	960	22861	NR
445	630161	NR	575	570117	NR	705	66441	NR	835	17363	NR	965	29851	NR
450	918124	NR	580	573472	NR	710	60098	NR	840	16960	NR	970	10276	NR
455	893762	NR	585	571600	NR	715	54539	NR	845	20190	NR	975	29525	NR
460	612059	NR	590	567612	NR	720	48071	NR	850	20506	NR	980	26199	NR
465	443338	NR	595	561157	NR	725	42545	NR	855	18525	NR	985	27187	NR
470	344255	NR	600	547832	NR	730	38502	NR	860	19090	NR	990	30712	NR
475	249784	NR	605	530525	NR	735	33410	NR	865	17185	NR	995	15047	NR
480	207499	NR	610	513131	NR	740	29667	NR	870	18599	NR	1000	14588	NR
485	208029	NR	615	491003	NR	745	27521	NR	875	20800	NR			

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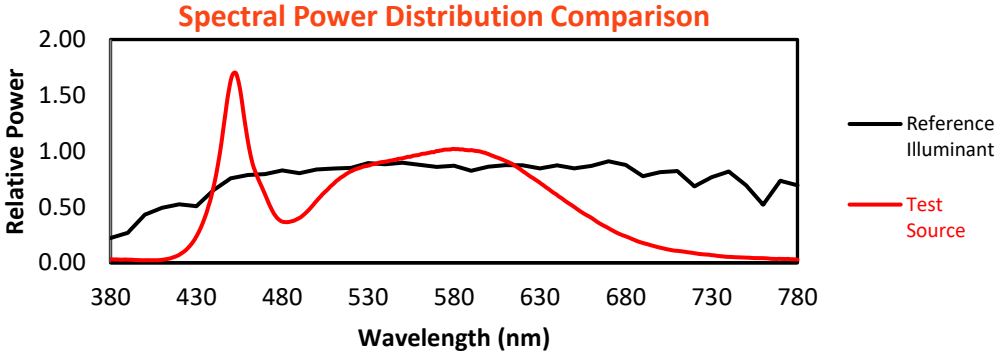
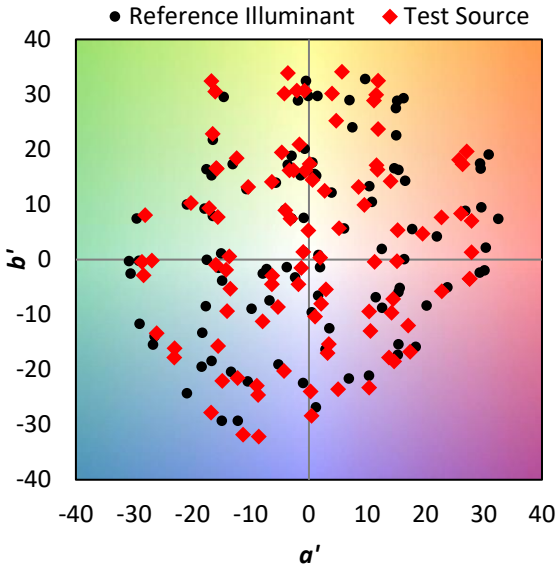
Summary

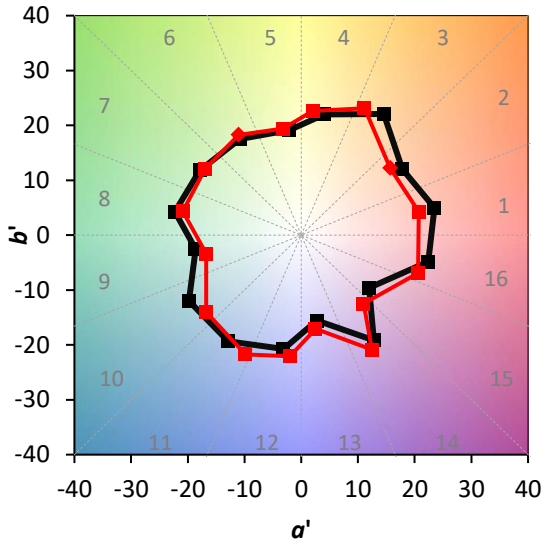
R_f = 83
R_g = 96.6
CIE R_a = 83.0
R_9 = 13.4

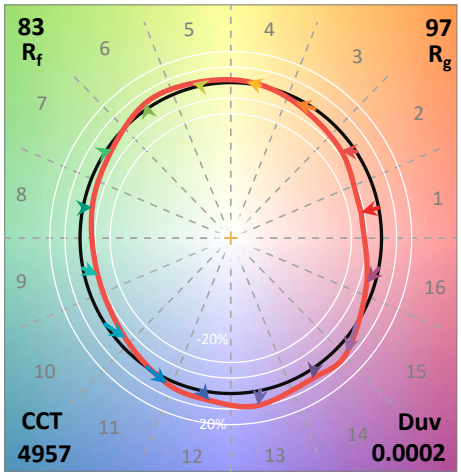
Spectral Power Distribution Comparison

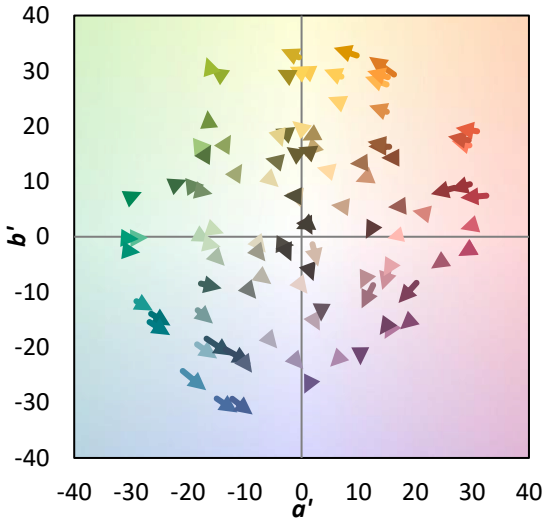


Color Vector Graphics









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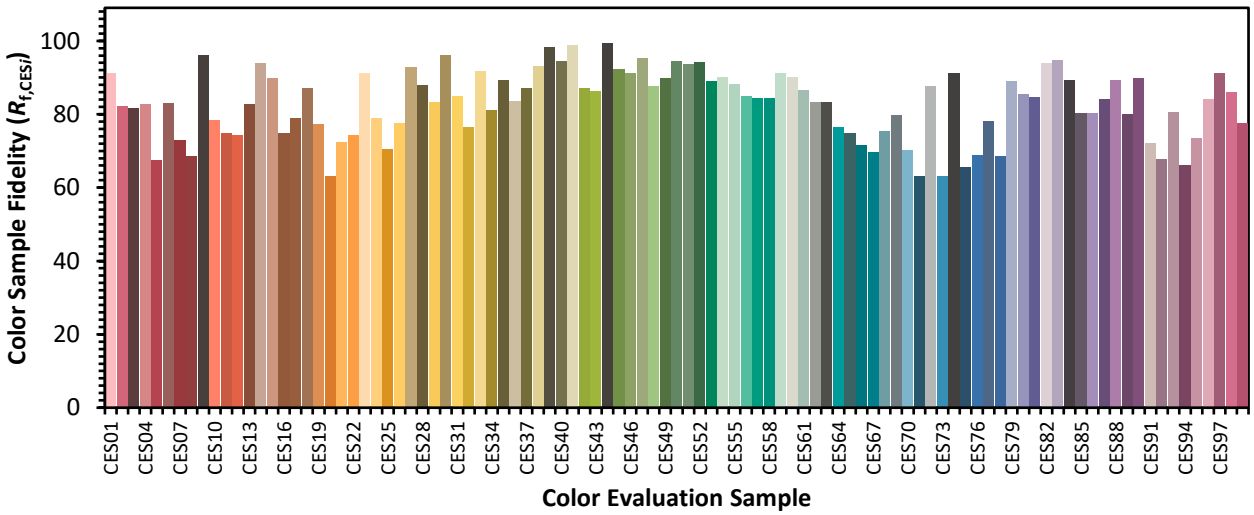
Individual Sample Fidelity Index ($R_{f,i}$)

CES01 = 85	CES26 = 78	CES51 = 94	CES76 = 69
CES02 = 60	CES27 = 93	CES52 = 94	CES77 = 78
CES03 = 30	CES28 = 88	CES53 = 89	CES78 = 69
CES04 = 69	CES29 = 83	CES54 = 90	CES79 = 89
CES05 = 47	CES30 = 96	CES55 = 88	CES80 = 86
CES06 = 50	CES31 = 85	CES56 = 85	CES81 = 85
CES07 = 40	CES32 = 77	CES57 = 84	CES82 = 94
CES08 = 39	CES33 = 92	CES58 = 84	CES83 = 95
CES09 = 29	CES34 = 81	CES59 = 91	CES84 = 89
CES10 = 73	CES35 = 89	CES60 = 90	CES85 = 80
CES11 = 56	CES36 = 84	CES61 = 87	CES86 = 80
CES12 = 62	CES37 = 87	CES62 = 83	CES87 = 84
CES13 = 42	CES38 = 93	CES63 = 83	CES88 = 89
CES14 = 74	CES39 = 98	CES64 = 76	CES89 = 80
CES15 = 71	CES40 = 95	CES65 = 75	CES90 = 90
CES16 = 46	CES41 = 99	CES66 = 72	CES91 = 72
CES17 = 49	CES42 = 87	CES67 = 70	CES92 = 68
CES18 = 56	CES43 = 86	CES68 = 75	CES93 = 80
CES19 = 71	CES44 = 99	CES69 = 80	CES94 = 66
CES20 = 64	CES45 = 92	CES70 = 70	CES95 = 73
CES21 = 85	CES46 = 91	CES71 = 63	CES96 = 84
CES22 = 77	CES47 = 95	CES72 = 88	CES97 = 91
CES23 = 91	CES48 = 88	CES73 = 63	CES98 = 86
CES24 = 90	CES49 = 90	CES74 = 91	CES99 = 77
CES25 = 71	CES50 = 94	CES75 = 65	



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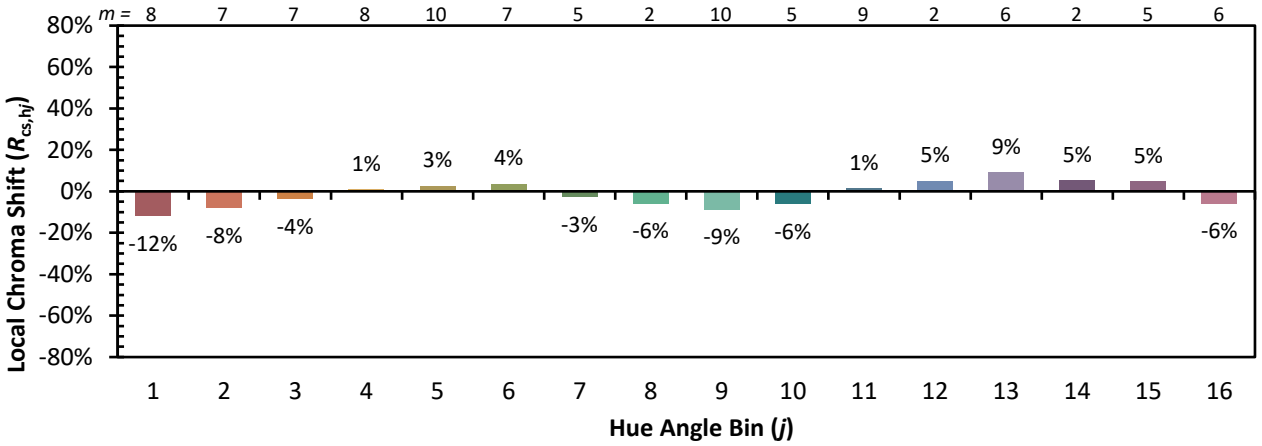
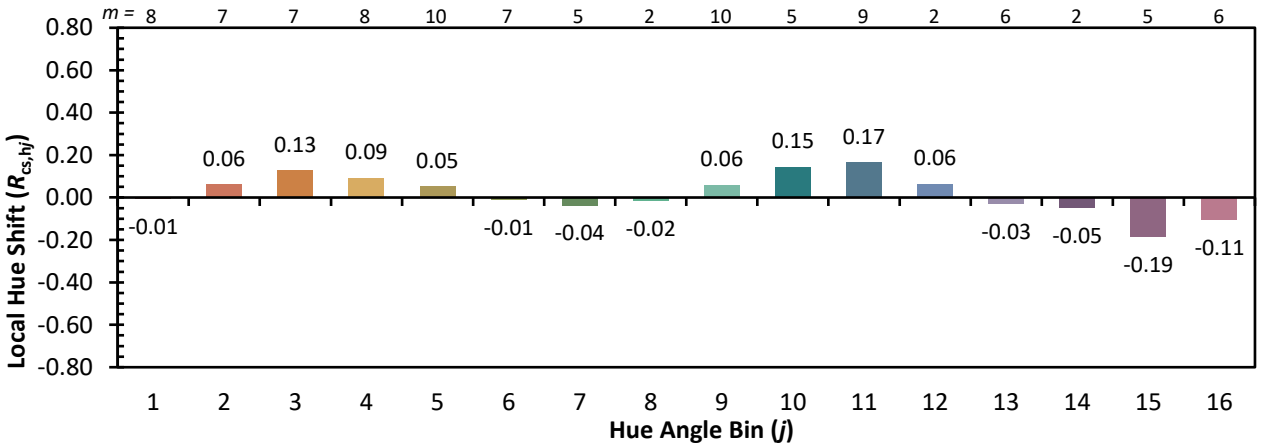
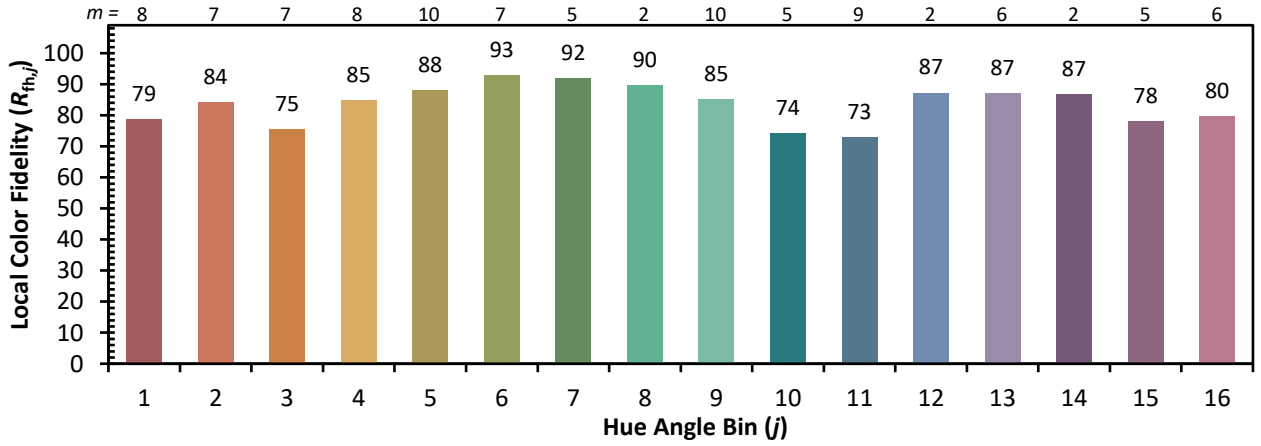
Color Rendition by Hue-Angle Bin







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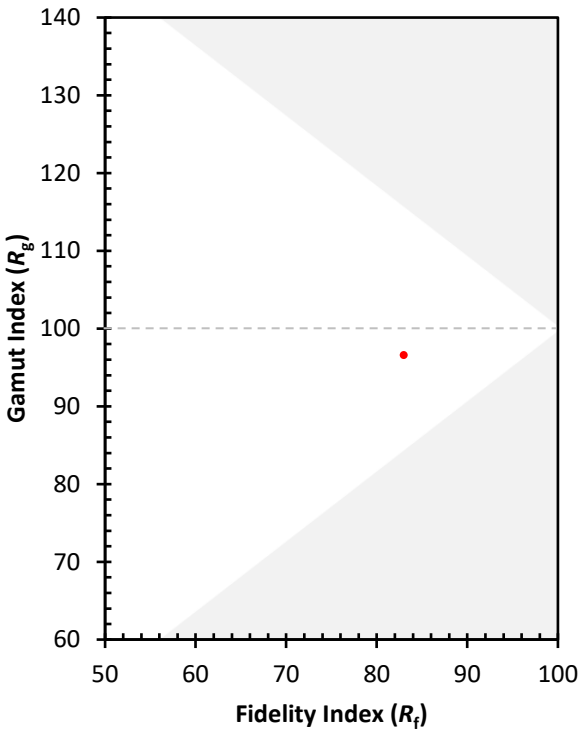
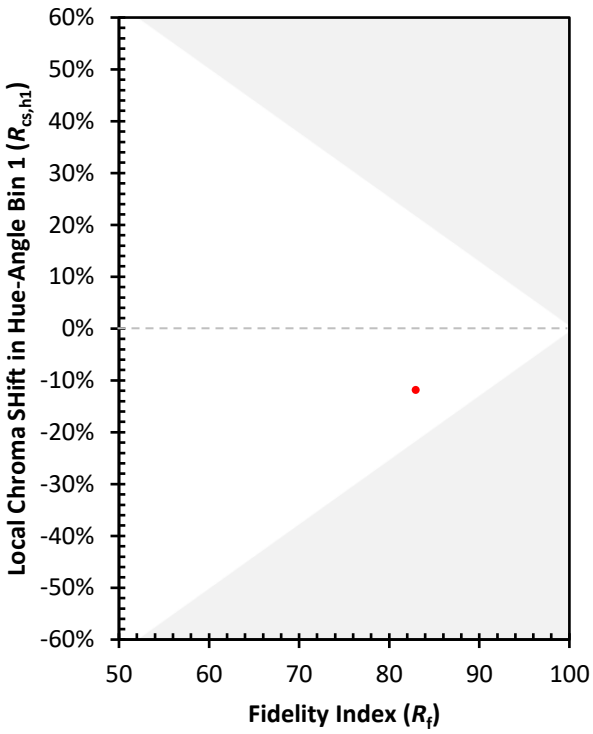
Measure Comparisons





(END OF REPORT)