

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: P860143

Luminaire Tested: **SPHB-36SE-W-L740-CD**

Issue Date: 7/11/2024

This test was performed under the Supervised Manufacturer's Testing Program. The results of this test have not been influenced by sources from within Cooper Lighting Solutions or from external interests.



Test Information

Test Method: LM-79-08
Report Number: P860143
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2404-343-6)
Test Lab: INNOVATION CENTER
Issue Date: 7/11/2024
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: METALUX
Catalog Number: SPHB-36SE-W-L740-CD
Description: 36000 Lumen Standard Efficacy Select Pro High Bay with Wide Lens
and, 4000K 70CRI LEDs
Light Source: -
Ballast/Driver: -

Luminaire Equipment: Sample No. Condition Description

Summary

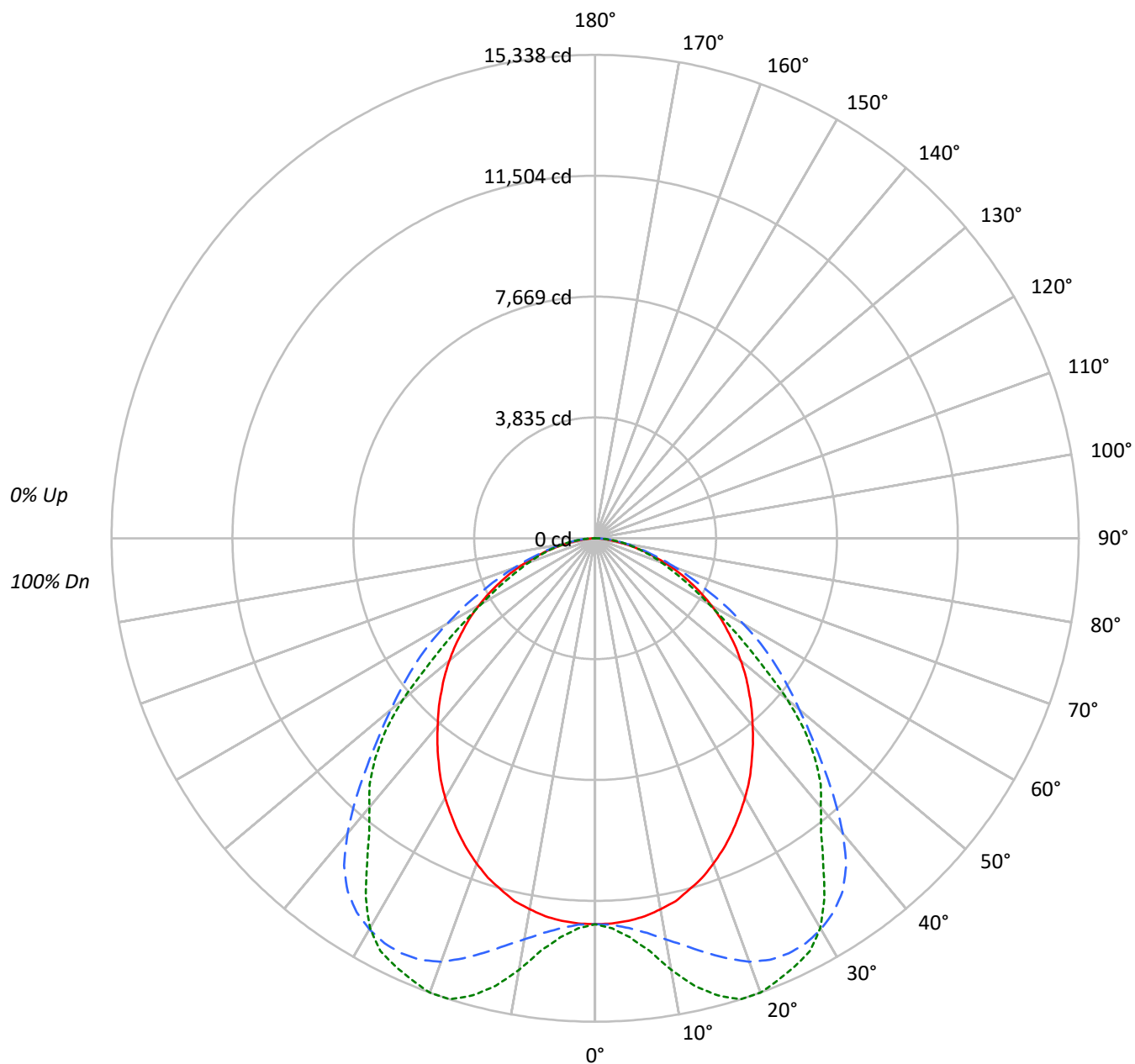
Lumens per Lamp: N/A
Luminaire Lumens: 38525.0 lumens
Efficiency: N/A
Efficacy: 160.0 lumens/watt
Spacing Criteria (0/90/45): 1.16 / 1.5 / 1.51
Luminous Opening: Rectangular (W 1' x L: 2.04' x H: 0')
CIE Type: Direct

Input Watts (W): 240.8
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

TEST NUMBER: P860143

CATALOG NUMBER: SPHB-36SE-W-L740-CD

Luminous Intensity Polar Plot





TEST NUMBER: P860143

CATALOG NUMBER: SPHB-36SE-W-L740-CD

COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	20				20					20					20					20
RC	80				70					50					30					10
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	50	30	10
RCR																				
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100		
1	110	105	101	98	107	103	99	96	99	96	93	95	92	90	91	89	87	85		
2	100	92	86	81	98	91	85	80	87	82	78	84	80	76	81	77	74	72		
3	92	82	74	68	89	80	73	67	77	71	66	74	69	65	72	67	64	62		
4	84	73	64	58	82	71	63	57	69	62	57	66	61	56	64	59	55	53		
5	77	65	56	50	75	64	56	50	62	55	49	60	54	49	58	52	48	46		
6	72	59	50	44	70	58	49	43	56	49	43	54	48	43	53	47	42	40		
7	66	53	45	39	65	52	44	38	51	43	38	49	43	38	48	42	38	36		
8	62	48	40	34	60	48	40	34	46	39	34	45	39	34	44	38	34	32		
9	58	44	36	31	56	44	36	31	43	36	31	42	35	30	41	35	30	29		
10	54	41	33	28	53	40	33	28	39	33	28	39	32	28	38	32	28	26		

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	64604	64604	64604
5°	64534	65751	67310
10°	64024	69222	74468
15°	63023	74376	82027
20°	61659	80290	86124
25°	59879	84621	87253
30°	57931	87269	87017
35°	55756	88146	81196
40°	53510	84165	76691
45°	51486	76291	73581
50°	49479	69369	65230
55°	47216	64092	53081
60°	44880	57140	43716
65°	41790	49099	37906
70°	38019	41920	34282
75°	32651	35181	31432
80°	25521	30176	29152
85°	17260	25609	24028



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	1202.1	3.1
10°-20°	3811.8	9.9
20°-30°	6238.3	16.2
30°-40°	7610.2	19.8
40°-50°	7537.1	19.6
50°-60°	6027.2	15.6
60°-70°	3760.0	9.8
70°-80°	1842.2	4.8
80°-90°	483.2	1.3
90°-100°	12.7	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°	11252.2	29.2
0°-40°	18862.5	49.0
0°-60°	32426.9	84.2
0°-90°	38512.3	100.0
90°-120°	12.7	0.0
90°-150°	12.7	0.0
90°-180°	13.0	0.0
0°-180°	38525.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	12244	12244	12244	12244	12244	
5°	12184	12238	12414	12630	12708	###
15°	11537	12209	13616	14699	15016	3252
25°	10285	12026	14535	14956	14987	4733
35°	8656	11566	13684	12953	12606	5414
45°	6900	10719	10224	9881	9861	5329
55°	5133	8230	6967	6294	5770	4599
65°	3347	4618	3933	3261	3036	3319
75°	1602	1962	1726	1580	1542	1700
85°	285	405	423	402	397	353
90°	2	41	75	95	98	16
95°	2	6	6	5	3	1
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	



TEST NUMBER: P860143

CATALOG NUMBER: SPHB-36SE-W-L740-CD

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	12243.8	12243.8	12243.8	12243.8	12243.8
2.5°	12231.6	12227.0	12271.4	12352.6	12389.4
5°	12184.0	12237.7	12413.9	12630.0	12708.2
7.5°	12098.2	12242.3	12631.6	13028.5	13197.1
10°	11949.6	12245.4	12919.7	13620.1	13899.0
12.5°	11796.3	12234.6	13240.0	14231.6	14536.6
15°	11537.3	12208.6	13615.5	14699.0	15016.3
17.5°	11296.7	12177.9	13977.2	15096.0	15336.6
20°	10981.0	12133.5	14299.0	15217.0	15338.1
22.5°	10649.9	12098.2	14476.8	15135.8	15172.6
25°	10285.2	12026.2	14535.0	14956.5	14987.1
27.5°	9895.9	11961.8	14479.9	14734.3	14760.3
30°	9508.2	11845.3	14323.5	14387.9	14282.2
32.5°	9102.0	11728.9	14070.7	13781.0	13534.3
35°	8656.0	11566.4	13684.4	12953.4	12605.5
37.5°	8216.2	11410.1	13082.1	12027.7	11765.7
40°	7768.7	11217.0	12219.3	11163.3	11134.2
42.5°	7345.7	11008.6	11243.0	10490.5	10588.6
45°	6899.7	10718.9	10223.9	9880.6	9860.7
47.5°	6476.7	10318.9	9296.7	9206.2	9002.4
50°	6027.7	9767.2	8450.7	8364.8	7946.5
52.5°	5587.8	9063.7	7695.1	7373.3	6763.3
55°	5132.6	8230.0	6967.1	6294.3	5770.2
57.5°	4709.6	7313.5	6226.9	5354.9	4884.3
60°	4252.9	6384.7	5414.6	4530.3	4142.6
62.5°	3805.4	5469.8	4679.0	3828.4	3570.9
65°	3347.2	4617.7	3932.6	3261.3	3036.1
67.5°	2908.8	3880.5	3287.4	2749.5	2599.3
70°	2464.4	3147.9	2717.3	2309.6	2222.2
72.5°	2006.2	2515.0	2197.7	1949.4	1883.5
75°	1601.6	1961.7	1725.7	1580.1	1541.8
77.5°	1192.4	1459.0	1348.7	1262.8	1252.1
80°	839.9	1052.9	993.1	976.3	959.4
82.5°	536.4	688.1	706.5	695.8	683.5
85°	285.1	404.6	423.0	401.5	396.9
87.5°	114.9	176.2	190.0	210.0	216.1
90°	1.5	41.4	75.1	95.0	98.1
92.5°	1.5	9.2	10.7	10.7	9.2
95°	1.5	6.1	6.1	4.6	3.1
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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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



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

Report Prepared for

Cooper Lighting Solutions

METALUX

Report Number: SP1-2404-343-2

Test Date: 05/18/2024

Luminaire Tested: SPHB-24SE-M-UNV-L740-CD

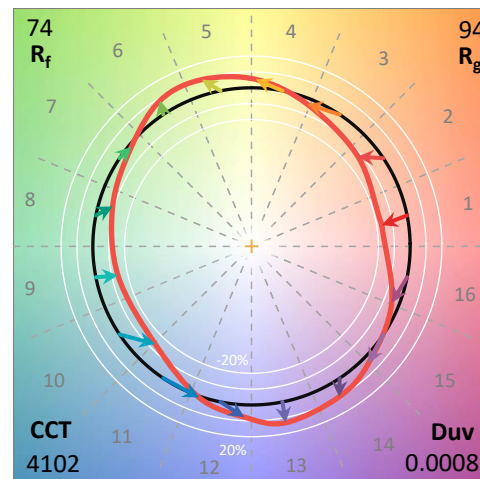
Data in this report applies to families of products SPHB-24SE-M-UNV-L740-CD.

Test Information

Test Method: LM-79-2019
 Report Number: SP1-2404-343-2
 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-L740-CD**
 Description: 18IN SPHB WITH MEDIUM LENS, 4000K/70CRI, 24K LUMENS, SE

Spectral Parameters

CCT (K):	4102	CRI (Ra):	71.8		
CIE u':	0.2228	R1:	68.8	R9:	-28.8
CIE v':	0.5006	R2:	78.2	R10:	48.0
Duv:	0.0008	R3:	85.2	R11:	66.0
CIE x:	0.3764	R4:	70.9	R12:	40.8
CIE y:	0.3759	R5:	68.5	R13:	70.2
CIE z:	0.2476	R6:	68.8	R14:	91.5
Peak Wavelength (nm):	449	R7:	81.1		
Dominant Wavelength (nm):	578	R8:	53.2		
Purity:	25.9				
Rf:	73.6				
Rg:	94.1				



Test Conditions

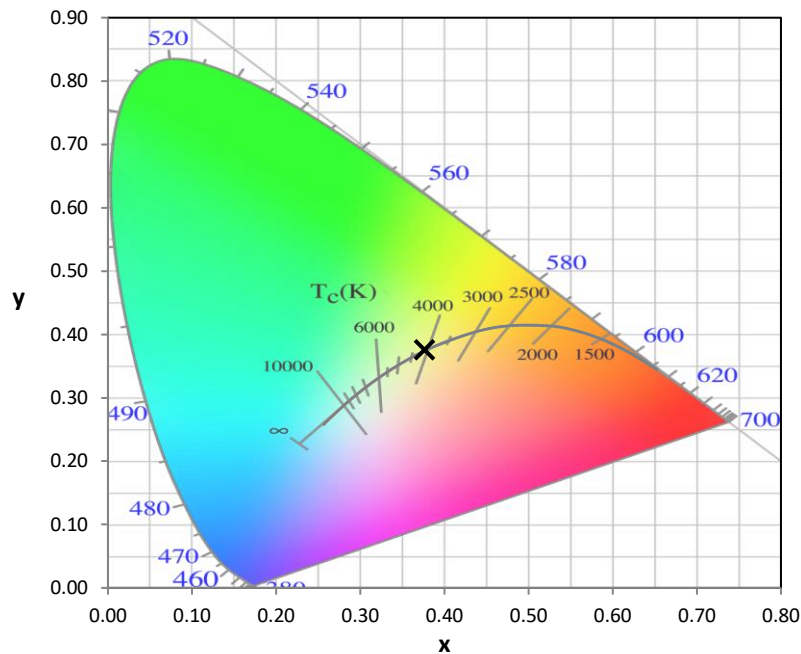
Stabilization Time: 23M
 Operation Time: 12H
 Room Temperature (°C) / RH%: 25.0/42%
 Sphere Temperature (°C): 25.2

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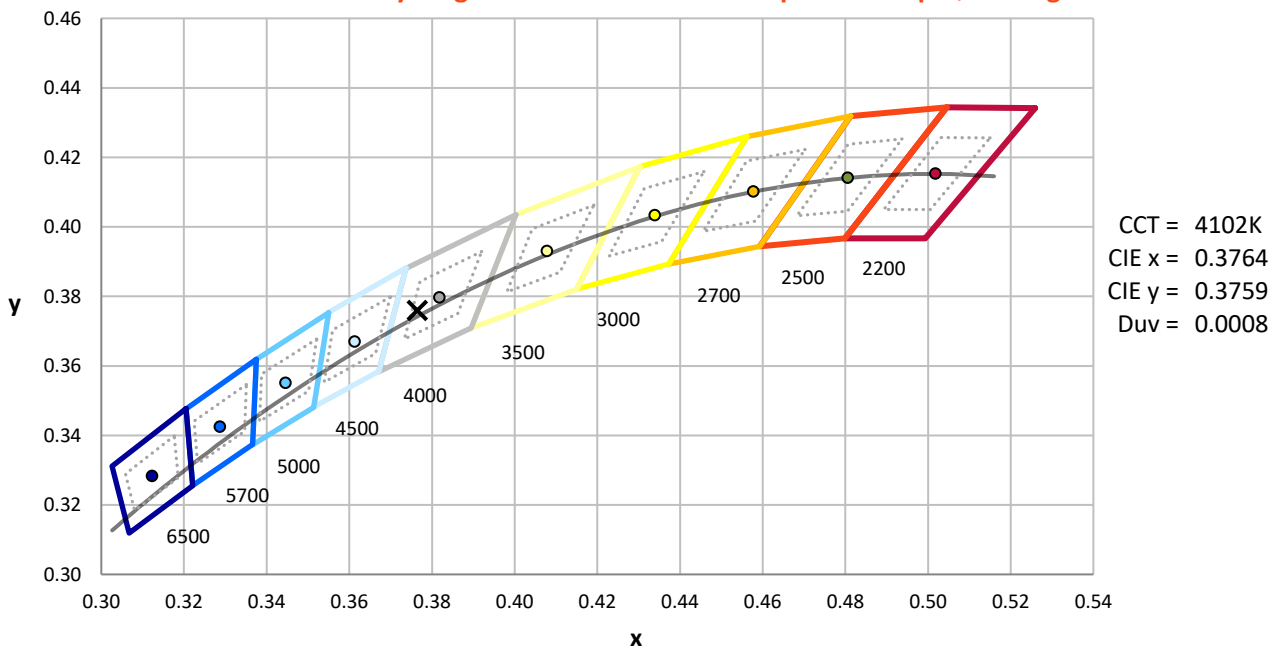
Measurement and Test Equipment			
Instrument	Identification Number	Calibration Date	Calibration Due Date
Photometer	76INCH SPHERE IN0058	2/12/2024	8/12/2024
Power Meter	XITRON 2801 IN0071	10/23/2023	10/23/2024
AC Power Source	CHROMA 61603 IN0063	10/24/2023	10/24/2024
DC Power Source	AGILENT E3634A IN0208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



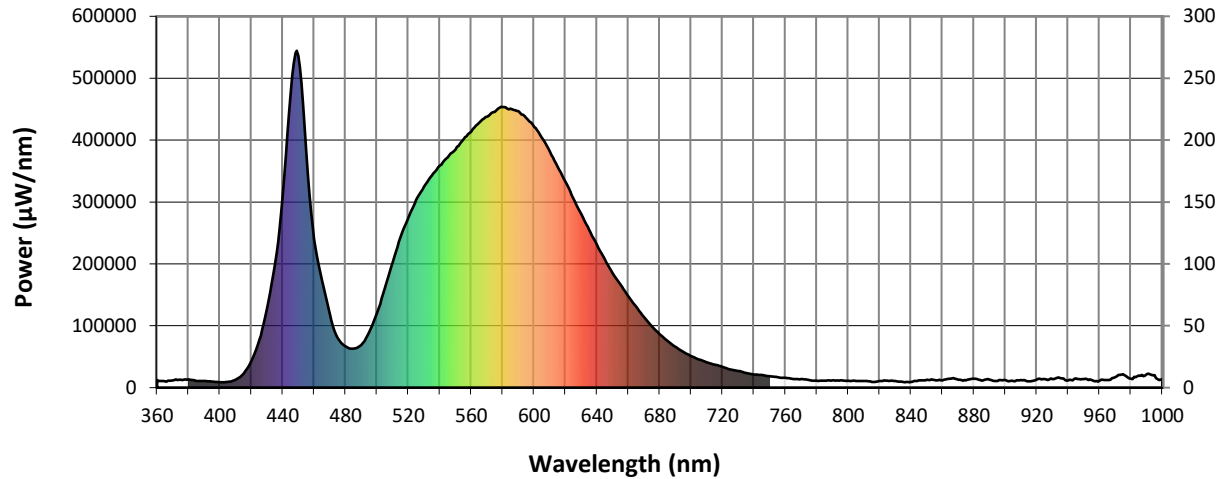
CIE 1931 Chromaticity Diagram with 2017 ANSI 7-Step and 4-Step Quadrangles



Point lies inside the ANSI 4000K 4-step quadrangle

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Photopic Flux vs. Wavelength

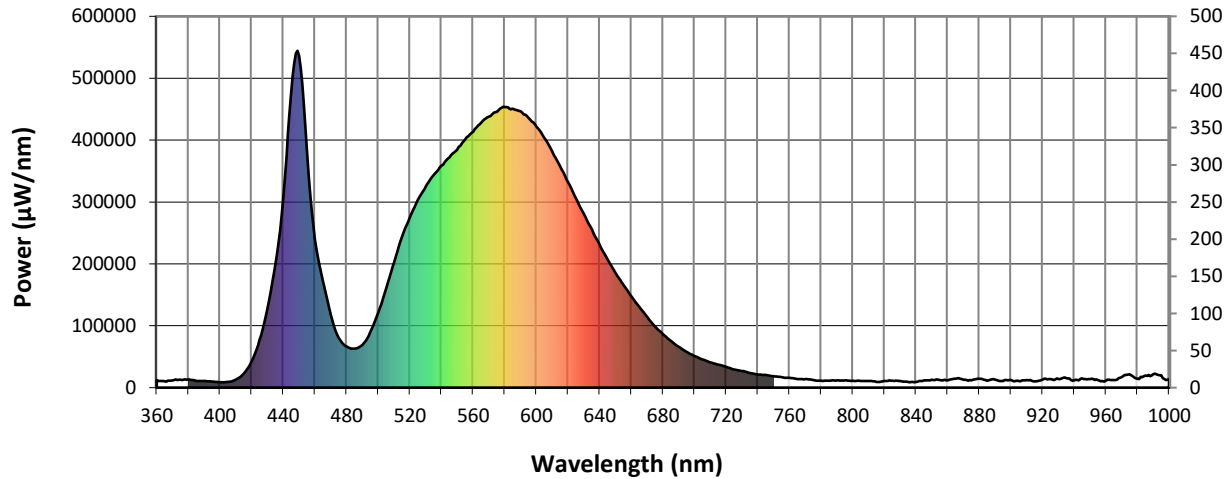


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λ (nm)	Power (μW/nm)	Lumens (φ/nm)	λ (nm)	Power (μW/nm)	Lumens (φ/nm)	λ (nm)	Power (μW/nm)	Lumens (φ/nm)	λ (nm)	Power (μW/nm)	Lumens (φ/nm)	λ (nm)	Power (μW/nm)	Lumens (φ/nm)
360	12282	NR	490	69244	NR	620	332236	NR	750	18473	NR	880	14144	NR
365	9993	NR	495	89219	NR	625	306164	NR	755	17093	NR	885	11383	NR
370	11592	NR	500	120957	NR	630	280415	NR	760	15783	NR	890	12631	NR
375	12885	NR	505	160415	NR	635	255776	NR	765	14109	NR	895	10943	NR
380	13155	NR	510	202325	NR	640	230858	NR	770	13714	NR	900	12076	NR
385	10524	NR	515	242772	NR	645	207176	NR	775	12109	NR	905	10813	NR
390	10533	NR	520	275166	NR	650	185102	NR	780	11079	NR	910	12050	NR
395	9702	NR	525	303387	NR	655	166605	NR	785	11015	NR	915	10223	NR
400	8761	NR	530	324891	NR	660	147603	NR	790	11633	NR	920	13013	NR
405	9408	NR	535	343444	NR	665	130499	NR	795	11716	NR	925	13830	NR
410	12905	NR	540	358519	NR	670	114031	NR	800	11203	NR	930	13673	NR
415	22586	NR	545	372186	NR	675	98947	NR	805	11009	NR	935	15350	NR
420	42669	NR	550	384765	NR	680	86467	NR	810	10663	NR	940	11647	NR
425	76871	NR	555	400929	NR	685	75462	NR	815	9337	NR	945	14902	NR
430	127767	NR	560	413604	NR	690	66059	NR	820	10799	NR	950	13879	NR
435	199683	NR	565	427985	NR	695	57993	NR	825	11459	NR	955	12239	NR
440	309359	NR	570	437799	NR	700	51050	NR	830	10962	NR	960	11457	NR
445	475498	NR	575	445619	NR	705	45397	NR	835	9293	NR	965	12396	NR
450	536068	NR	580	453529	NR	710	40983	NR	840	9002	NR	970	16946	NR
455	378779	NR	585	450693	NR	715	37088	NR	845	11803	NR	975	21468	NR
460	240574	NR	590	446550	NR	720	33495	NR	850	12750	NR	980	14395	NR
465	173120	NR	595	435850	NR	725	29505	NR	855	12369	NR	985	19422	NR
470	117570	NR	600	421525	NR	730	26895	NR	860	11712	NR	990	21623	NR
475	80285	NR	605	403930	NR	735	23678	NR	865	14509	NR	995	20190	NR
480	66424	NR	610	381413	NR	740	21288	NR	870	12667	NR	1000	13819	NR
485	63033	NR	615	357334	NR	745	20448	NR	875	11947	NR			

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Scotopic Flux vs. Wavelength

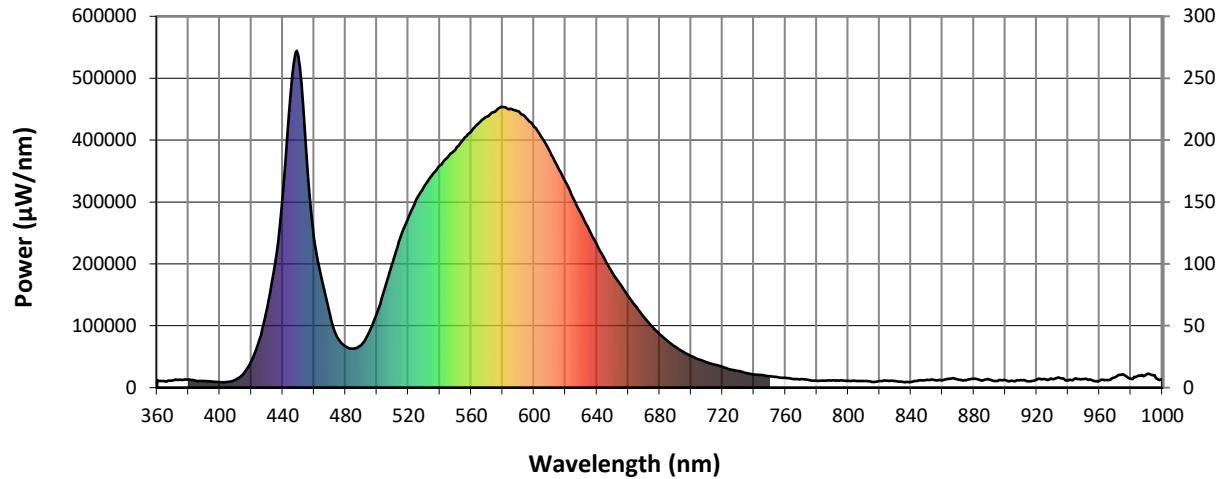


Scotopic Lumens: 39135.7 S/P: 1.54

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	12282	NR	490	69244	NR	620	332236	NR	750	18473	NR	880	14144	NR
365	9993	NR	495	89219	NR	625	306164	NR	755	17093	NR	885	11383	NR
370	11592	NR	500	120957	NR	630	280415	NR	760	15783	NR	890	12631	NR
375	12885	NR	505	160415	NR	635	255776	NR	765	14109	NR	895	10943	NR
380	13155	NR	510	202325	NR	640	230858	NR	770	13714	NR	900	12076	NR
385	10524	NR	515	242772	NR	645	207176	NR	775	12109	NR	905	10813	NR
390	10533	NR	520	275166	NR	650	185102	NR	780	11079	NR	910	12050	NR
395	9702	NR	525	303387	NR	655	166605	NR	785	11015	NR	915	10223	NR
400	8761	NR	530	324891	NR	660	147603	NR	790	11633	NR	920	13013	NR
405	9408	NR	535	343444	NR	665	130499	NR	795	11716	NR	925	13830	NR
410	12905	NR	540	358519	NR	670	114031	NR	800	11203	NR	930	13673	NR
415	22586	NR	545	372186	NR	675	98947	NR	805	11009	NR	935	15350	NR
420	42669	NR	550	384765	NR	680	86467	NR	810	10663	NR	940	11647	NR
425	76871	NR	555	400929	NR	685	75462	NR	815	9337	NR	945	14902	NR
430	127767	NR	560	413604	NR	690	66059	NR	820	10799	NR	950	13879	NR
435	199683	NR	565	427985	NR	695	57993	NR	825	11459	NR	955	12239	NR
440	309359	NR	570	437799	NR	700	51050	NR	830	10962	NR	960	11457	NR
445	475498	NR	575	445619	NR	705	45397	NR	835	9293	NR	965	12396	NR
450	536068	NR	580	453529	NR	710	40983	NR	840	9002	NR	970	16946	NR
455	378779	NR	585	450693	NR	715	37088	NR	845	11803	NR	975	21468	NR
460	240574	NR	590	446550	NR	720	33495	NR	850	12750	NR	980	14395	NR
465	173120	NR	595	435850	NR	725	29505	NR	855	12369	NR	985	19422	NR
470	117570	NR	600	421525	NR	730	26895	NR	860	11712	NR	990	21623	NR
475	80285	NR	605	403930	NR	735	23678	NR	865	14509	NR	995	20190	NR
480	66424	NR	610	381413	NR	740	21288	NR	870	12667	NR	1000	13819	NR
485	63033	NR	615	357334	NR	745	20448	NR	875	11947	NR			

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Melanopic Flux vs. Wavelength



Melanopic Lumens: 15130.5 M/P: 0.6

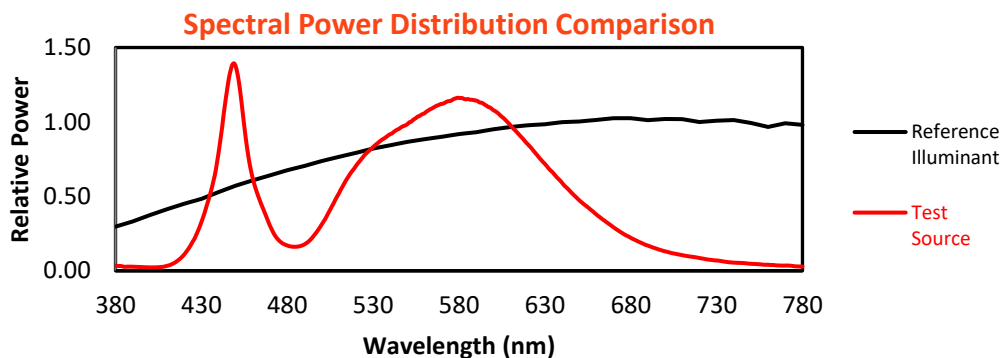
λ (nm)	Power (μW/nm)	Lumens (φ/nm)	λ (nm)	Power (μW/nm)	Lumens (φ/nm)	λ (nm)	Power (μW/nm)	Lumens (φ/nm)	λ (nm)	Power (μW/nm)	Lumens (φ/nm)	λ (nm)	Power (μW/nm)	Lumens (φ/nm)
360	12282	NR	490	69244	NR	620	332236	NR	750	18473	NR	880	14144	NR
365	9993	NR	495	89219	NR	625	306164	NR	755	17093	NR	885	11383	NR
370	11592	NR	500	120957	NR	630	280415	NR	760	15783	NR	890	12631	NR
375	12885	NR	505	160415	NR	635	255776	NR	765	14109	NR	895	10943	NR
380	13155	NR	510	202325	NR	640	230858	NR	770	13714	NR	900	12076	NR
385	10524	NR	515	242772	NR	645	207176	NR	775	12109	NR	905	10813	NR
390	10533	NR	520	275166	NR	650	185102	NR	780	11079	NR	910	12050	NR
395	9702	NR	525	303387	NR	655	166605	NR	785	11015	NR	915	10223	NR
400	8761	NR	530	324891	NR	660	147603	NR	790	11633	NR	920	13013	NR
405	9408	NR	535	343444	NR	665	130499	NR	795	11716	NR	925	13830	NR
410	12905	NR	540	358519	NR	670	114031	NR	800	11203	NR	930	13673	NR
415	22586	NR	545	372186	NR	675	98947	NR	805	11009	NR	935	15350	NR
420	42669	NR	550	384765	NR	680	86467	NR	810	10663	NR	940	11647	NR
425	76871	NR	555	400929	NR	685	75462	NR	815	9337	NR	945	14902	NR
430	127767	NR	560	413604	NR	690	66059	NR	820	10799	NR	950	13879	NR
435	199683	NR	565	427985	NR	695	57993	NR	825	11459	NR	955	12239	NR
440	309359	NR	570	437799	NR	700	51050	NR	830	10962	NR	960	11457	NR
445	475498	NR	575	445619	NR	705	45397	NR	835	9293	NR	965	12396	NR
450	536068	NR	580	453529	NR	710	40983	NR	840	9002	NR	970	16946	NR
455	378779	NR	585	450693	NR	715	37088	NR	845	11803	NR	975	21468	NR
460	240574	NR	590	446550	NR	720	33495	NR	850	12750	NR	980	14395	NR
465	173120	NR	595	435850	NR	725	29505	NR	855	12369	NR	985	19422	NR
470	117570	NR	600	421525	NR	730	26895	NR	860	11712	NR	990	21623	NR
475	80285	NR	605	403930	NR	735	23678	NR	865	14509	NR	995	20190	NR
480	66424	NR	610	381413	NR	740	21288	NR	870	12667	NR	1000	13819	NR
485	63033	NR	615	357334	NR	745	20448	NR	875	11947	NR			

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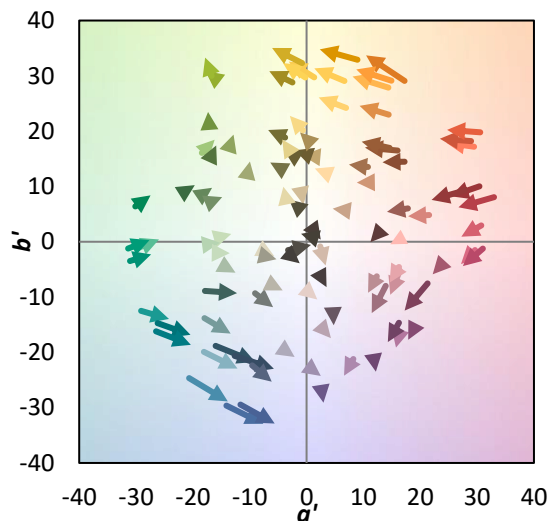
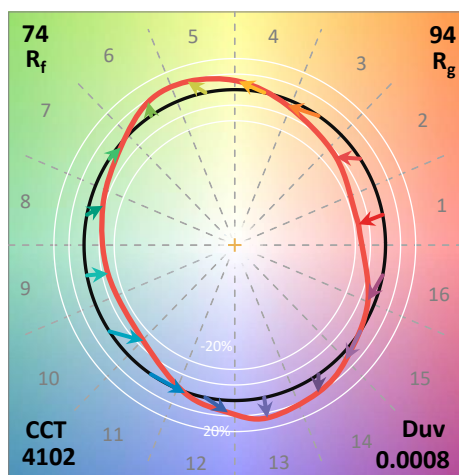
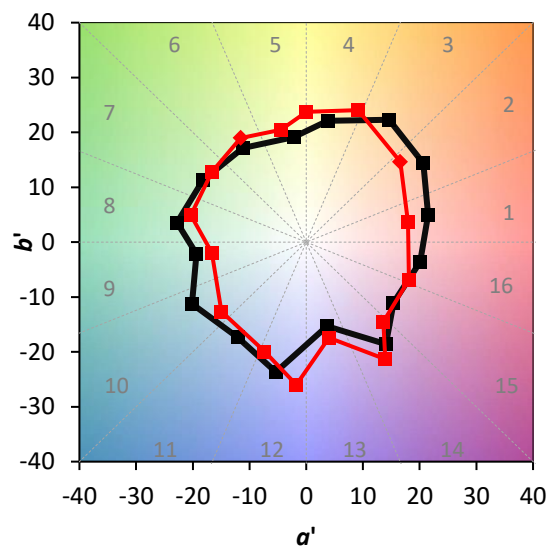
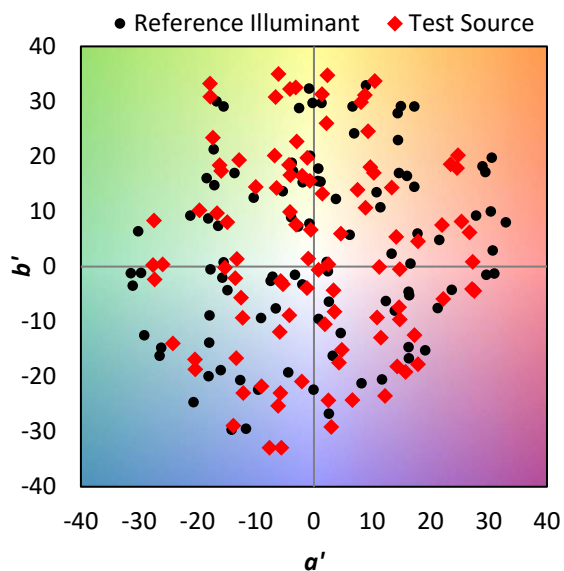
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Summary

$R_f = 73.6$
 $R_g = 94.1$
 CIE $R_a = 71.8$
 $R_g = -28.8$



Color Vector Graphics

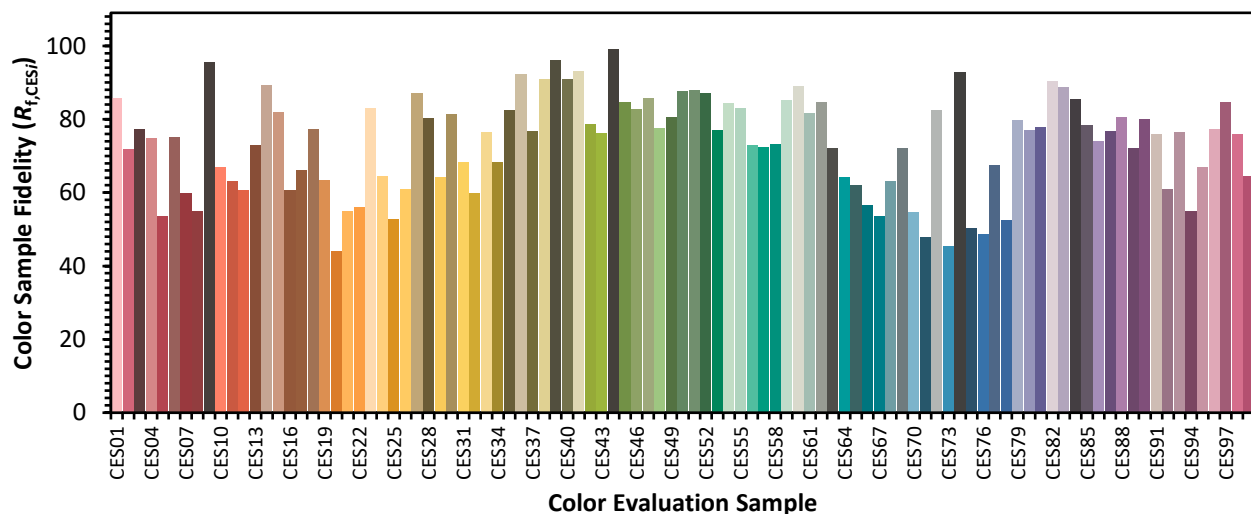


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Individual Sample Fidelity Index ($R_{f,i}$)

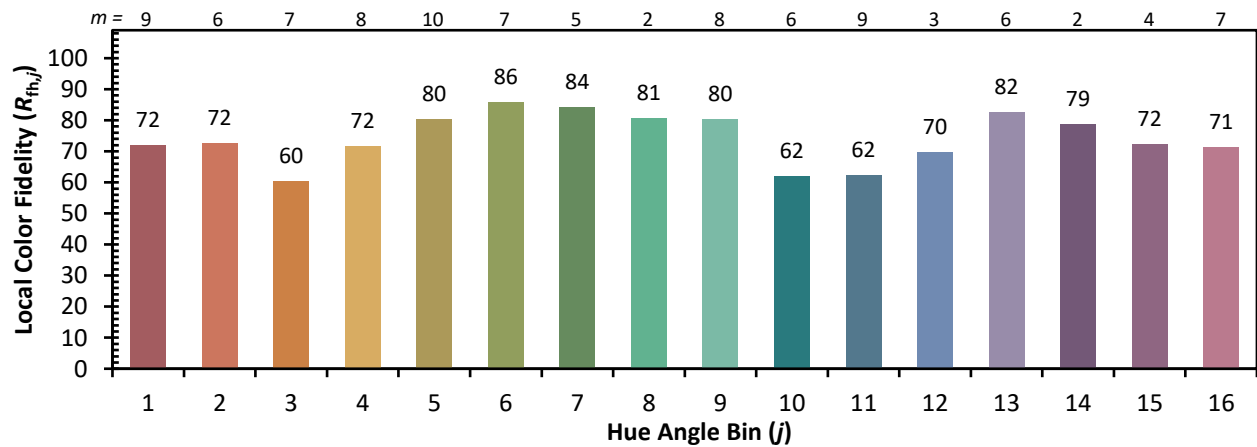
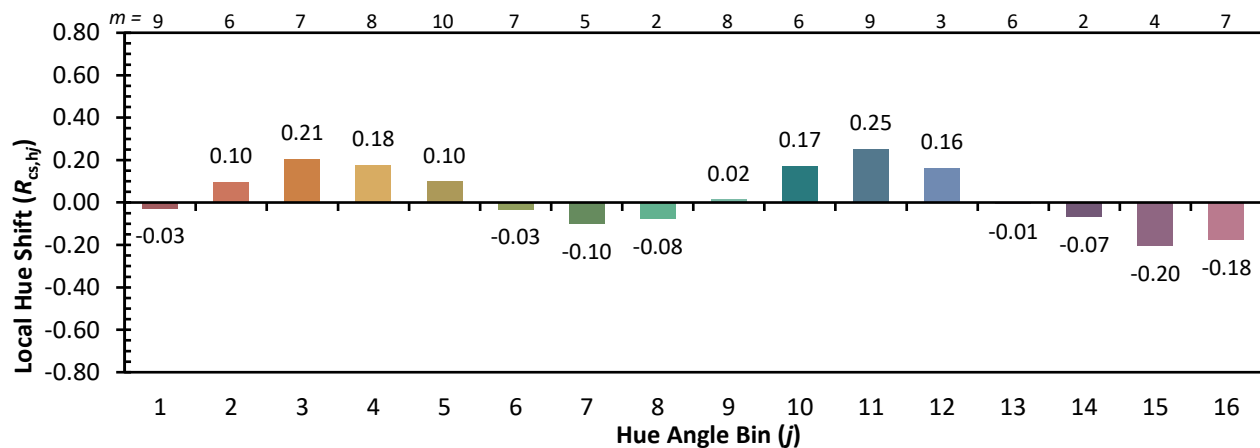
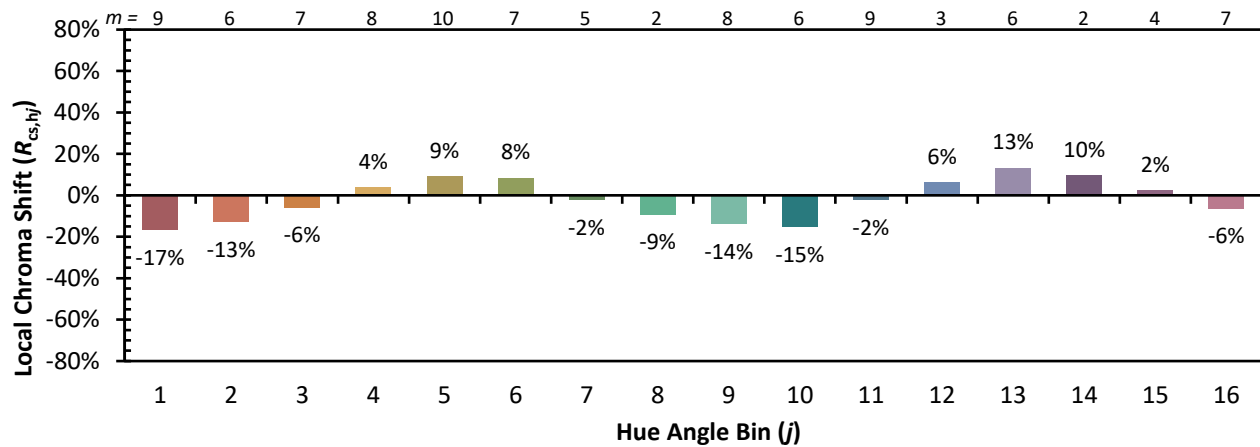
CES01 = 85	CES26 = 61	CES51 = 88	CES76 = 49
CES02 = 60	CES27 = 87	CES52 = 87	CES77 = 67
CES03 = 30	CES28 = 80	CES53 = 77	CES78 = 52
CES04 = 70	CES29 = 64	CES54 = 85	CES79 = 80
CES05 = 47	CES30 = 81	CES55 = 83	CES80 = 77
CES06 = 50	CES31 = 68	CES56 = 73	CES81 = 78
CES07 = 40	CES32 = 60	CES57 = 72	CES82 = 90
CES08 = 39	CES33 = 77	CES58 = 73	CES83 = 89
CES09 = 29	CES34 = 68	CES59 = 85	CES84 = 85
CES10 = 74	CES35 = 82	CES60 = 89	CES85 = 78
CES11 = 57	CES36 = 92	CES61 = 82	CES86 = 74
CES12 = 63	CES37 = 77	CES62 = 85	CES87 = 77
CES13 = 42	CES38 = 91	CES63 = 72	CES88 = 81
CES14 = 74	CES39 = 96	CES64 = 64	CES89 = 72
CES15 = 71	CES40 = 91	CES65 = 62	CES90 = 80
CES16 = 46	CES41 = 93	CES66 = 56	CES91 = 76
CES17 = 49	CES42 = 79	CES67 = 54	CES92 = 61
CES18 = 56	CES43 = 76	CES68 = 63	CES93 = 76
CES19 = 71	CES44 = 99	CES69 = 72	CES94 = 55
CES20 = 64	CES45 = 85	CES70 = 55	CES95 = 67
CES21 = 86	CES46 = 83	CES71 = 48	CES96 = 77
CES22 = 78	CES47 = 86	CES72 = 82	CES97 = 85
CES23 = 92	CES48 = 78	CES73 = 45	CES98 = 76
CES24 = 91	CES49 = 81	CES74 = 93	CES99 = 64
CES25 = 72	CES50 = 88	CES75 = 50	



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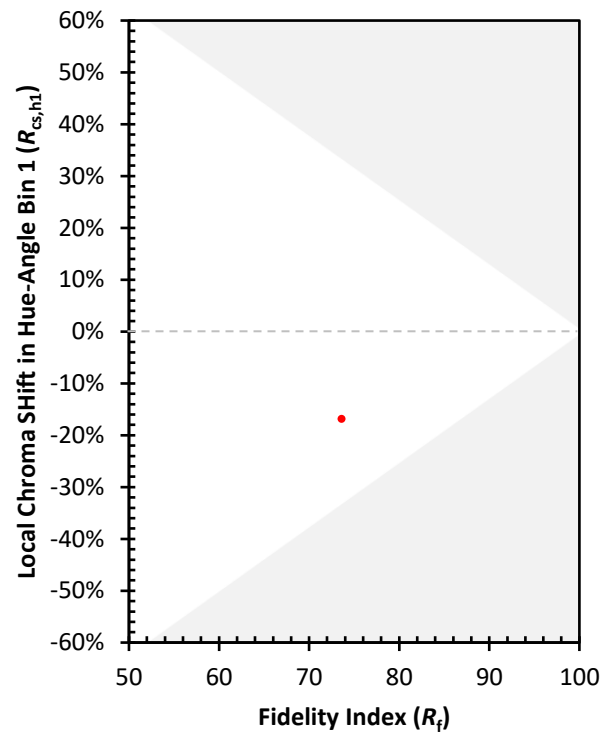
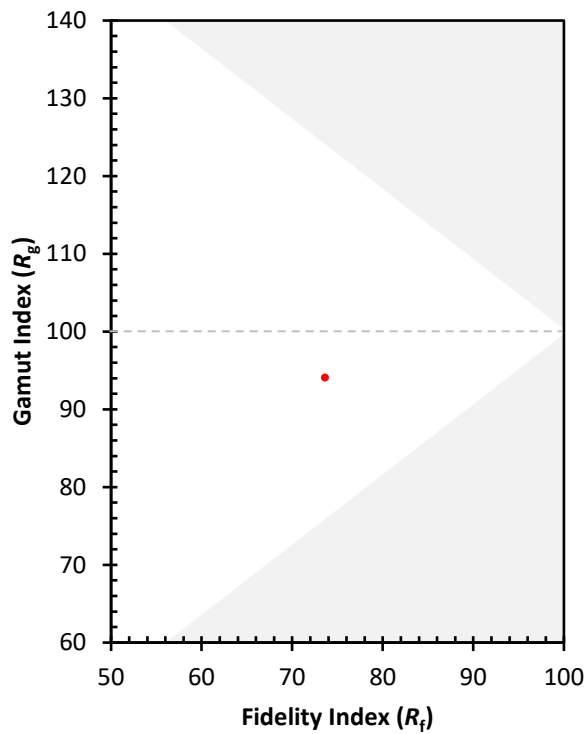
Color Rendition by Hue-Angle Bin



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Measure Comparisons



(END OF REPORT)