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

Scaled data based on original data using

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

Test Report Prepared for

Cooper Lighting Solutions

Brand: FAIL-SAFE

Report Number: P1357153

Luminaire Tested: 4ASL4-15HE-2-A59-UNV

Issue Date: 2/17/2026

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

Scaled Data Report

Test Information

Test Method:	LM-79-2019
Report Number:	P1357153
	TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2511-597-7)
Test Lab:	INNOVATION CENTER
Issue Date:	2/17/2026
Manufacturer:	COOPER LIGHTING SOLUTIONS
Product Line:	FAIL-SAFE
Catalog Number:	4ASL4-15HE-2-A59-UNV
Description:	4FT 1500 LUMEN PER FOOT 4ASL LED LUMINAIRE WITH OPL LENS AND A59 LEDS 2 ROW
Light Source:	-
Ballast/Driver:	-

Summary

Lumens per Lamp:	N/A
Luminaire Lumens:	1247.0 lumens
Efficiency:	N/A
Efficacy:	34.6 lumens/watt
Spacing Criteria (0/90/45):	1.21 / 1.3 / 1.4
Luminous Opening:	Rectangular w/ Sides (W: 0.33' x L: 3.98' x H: 0.1')
CIE Type:	Direct

Input Watts (W):	36
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:	24 FT

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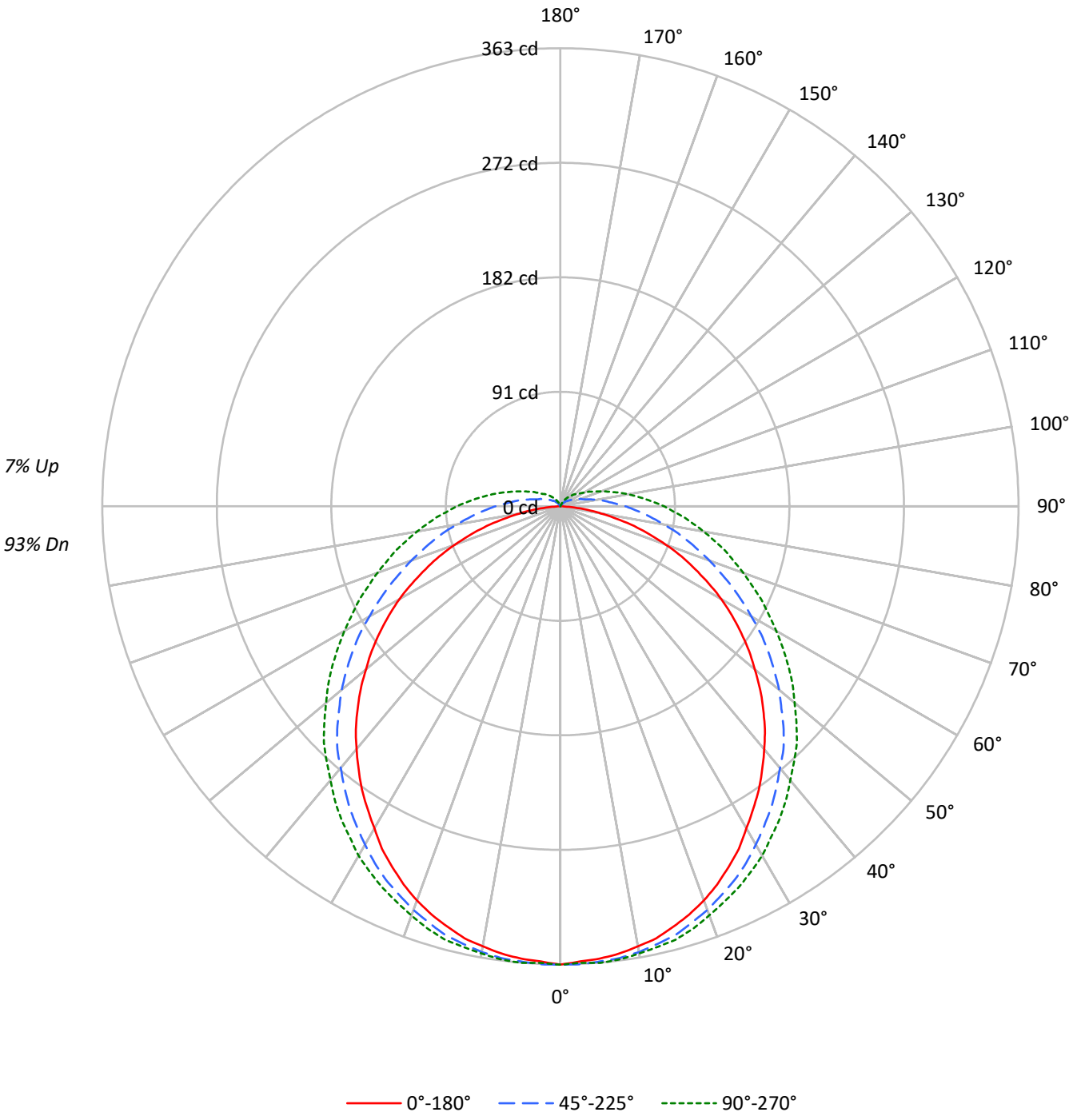
TEST NUMBER: P1357153
CATALOG NUMBER: 4ASL4-15HE-2-A59-UNV

Luminous Intensity Polar Plot



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TEST NUMBER: P1357153
CATALOG NUMBER: 4ASL4-15HE-2-A59-UNV

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	117	117	117	117	114	114	114	114	107	107	107	101	101	101	95	95	95	93
1	105	100	95	90	102	97	92	88	91	87	84	86	83	80	81	79	77	74
2	95	86	79	72	92	84	77	71	79	73	68	74	70	65	70	66	63	60
3	86	75	66	59	83	73	65	58	69	62	56	65	59	55	62	57	53	50
4	79	66	57	50	76	64	56	49	61	54	48	58	51	46	55	49	45	42
5	72	59	50	43	70	57	49	42	54	47	41	52	45	40	49	43	39	36
6	67	53	44	37	64	52	43	37	49	41	36	47	40	35	44	39	34	32
7	62	48	39	33	60	47	38	32	45	37	32	43	36	31	41	35	30	28
8	58	44	35	29	56	43	34	29	41	33	28	39	32	28	37	31	27	25
9	54	40	32	26	52	39	31	26	37	30	25	36	29	25	34	29	24	22
10	50	37	29	24	49	36	28	23	35	28	23	33	27	22	32	26	22	20

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	2947	2947	2947
5°	2924	2889	2880
10°	2905	2836	2810
15°	2878	2777	2754
20°	2844	2704	2675
25°	2789	2631	2606
30°	2720	2549	2539
35°	2667	2471	2460
40°	2605	2388	2378
45°	2542	2317	2317
50°	2461	2222	2228
55°	2384	2119	2157
60°	2289	2005	2081
65°	2140	1898	2022
70°	1972	1797	1969
75°	1728	1720	1951
80°	1347	1653	1945
85°	817	1652	2000

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
Vertical Angle: 45°
Luminance: 2542 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	34.4	2.8
10°-20°	99.0	7.9
20°-30°	150.0	12.0
30°-40°	181.5	14.6
40°-50°	191.3	15.3
50°-60°	178.6	14.3
60°-70°	147.4	11.8
70°-80°	106.9	8.6
80°-90°	67.6	5.4
90°-100°	40.3	3.2
100°-110°	23.1	1.9
110°-120°	13.1	1.1
120°-130°	7.5	0.6
130°-140°	4.1	0.3
140°-150°	1.8	0.1
150°-160°	0.3	0.0
160°-170°	0.0	0.0
170°-180°	0.0	0.0
0°-30°	283.5	22.7
0°-40°	465.0	37.3
0°-60°	834.9	67.0
0°-90°	1156.8	92.8
90°-120°	76.6	6.1
90°-150°	89.9	7.2
90°-180°	90.0	7.2
0°-180°	1247.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	363	363	363	363	363	
5°	360	363	362	362	363	34
15°	345	350	352	353	355	97
25°	315	320	327	331	334	145
35°	274	281	291	299	303	171
45°	227	236	250	260	265	175
55°	175	185	201	215	220	156
65°	118	130	150	168	176	117
75°	60	76	104	126	135	64
85°	11	35	66	89	98	14
90°	0	22	51	73	82	0
95°	0	14	39	59	67	0
105°	0	5	22	38	43	0
115°	0	2	13	23	27	0
125°	0	1	8	15	17	0
135°	0	0	5	9	11	0
145°	0	0	2	6	7	0
155°	0	0	0	1	2	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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CATALOG NUMBER: 4ASL4-15HE-2-A59-UNV

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	363.2	*363.2*	363.2	363.2	363.2
2.5°	*361.0*	*364.4*	*363.2*	*362.1*	*362.1*
5°	359.8	*363.2*	362.1	362.1	363.2
7.5°	357.5	*361.0*	361.0	361.0	362.1
10°	354.1	*358.7*	358.7	358.7	359.8
12.5°	350.7	*354.1*	355.2	356.4	357.5
15°	345.0	*349.5*	351.8	353.0	355.2
17.5°	339.3	*342.7*	346.1	349.5	350.7
20°	332.4	*337.0*	340.4	343.8	345.0
22.5°	324.4	*329.0*	333.5	337.0	339.3
25°	315.3	*319.8*	326.7	331.3	333.5
27.5°	306.1	*310.7*	318.7	324.4	326.7
30°	294.7	*301.6*	309.6	316.4	319.8
32.5°	284.4	*291.3*	300.4	308.4	310.7
35°	274.1	*281.0*	291.3	299.3	302.7
37.5°	262.7	*270.7*	281.0	290.1	293.6
40°	251.3	*259.3*	270.7	281.0	283.3
42.5°	239.9	*247.9*	261.6	270.7	274.1
45°	227.3	*236.4*	250.2	260.4	265.0
47.5°	214.7	*223.9*	237.6	249.0	253.6
50°	201.0	*211.3*	226.2	237.6	242.2
52.5°	188.5	*198.8*	213.6	226.2	231.9
55°	174.8	*185.0*	201.0	214.7	220.5
57.5°	161.1	*171.3*	188.5	203.3	209.0
60°	147.4	*157.6*	174.8	191.9	197.6
62.5°	132.5	*143.9*	162.2	179.3	186.2
65°	117.7	*130.2*	149.6	167.9	175.9
67.5°	103.9	*116.5*	137.1	157.6	164.5
70°	89.1	*102.8*	125.6	146.2	154.2
72.5°	74.2	*89.1*	114.2	135.9	143.9
75°	60.5	*76.5*	103.9	125.6	134.8
77.5°	45.7	*65.1*	93.7	116.5	124.5
80°	33.1	*53.7*	83.4	107.4	115.4
82.5°	21.7	*43.4*	74.2	98.2	106.2
85°	11.4	*35.4*	66.3	89.1	98.2
87.5°	3.4	*27.4*	58.3	81.1	89.1
90°	0.0	*21.7*	51.4	73.1	82.2
92.5°	0.0	*17.1*	44.5	66.3	74.2
95°	0.0	*13.7*	38.8	59.4	67.4
97.5°	0.0	*11.4*	34.3	53.7	60.5
100°	0.0	*9.1*	29.7	48.0	54.8
102.5°	0.0	*6.9*	25.1	42.3	49.1
105°	0.0	*4.6*	21.7	37.7	43.4
107.5°	0.0	*3.4*	18.3	33.1	38.8
110°	0.0	*3.4*	17.1	28.6	34.3

TEST NUMBER: P1357153
CATALOG NUMBER: 4ASL4-15HE-2-A59-UNV

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	0.0	*2.3*	14.8	26.3	30.8
115°	0.0	*2.3*	12.6	22.8	27.4
117.5°	0.0	*2.3*	11.4	20.6	25.1
120°	0.0	*2.3*	10.3	18.3	21.7
122.5°	0.0	*1.1*	9.1	16.0	19.4
125°	0.0	*1.1*	8.0	14.8	17.1
127.5°	0.0	*1.1*	6.9	13.7	16.0
130°	0.0	*1.1*	6.9	12.6	14.8
132.5°	0.0	*0.0*	5.7	11.4	13.7
135°	0.0	*0.0*	4.6	9.1	11.4
137.5°	0.0	*0.0*	4.6	8.0	10.3
140°	0.0	*0.0*	3.4	8.0	9.1
142.5°	0.0	*0.0*	2.3	6.9	8.0
145°	0.0	*0.0*	2.3	5.7	6.9
147.5°	0.0	*0.0*	1.1	4.6	5.7
150°	0.0	*0.0*	1.1	3.4	4.6
152.5°	0.0	*0.0*	0.0	2.3	3.4
155°	0.0	*0.0*	0.0	1.1	2.3
157.5°	0.0	*0.0*	0.0	0.0	1.1
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

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TEST NUMBER: P1357153
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CIE UGR TABLE:

Reflectances:											
	Ceiling	0.7	0.7	0.5	0.5	0.3	0.7	0.7	0.5	0.5	0.3
	Wall	0.5	0.3	0.5	0.3	0.3	0.5	0.3	0.5	0.3	0.3
	Reference plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
Room dimensions		Viewed crosswise					Viewed endwise				
X=2H	Y=2H	13.07	14.60	13.54	15.06	15.55	15.13	16.66	15.60	17.12	17.61
	3H	14.57	15.97	15.05	16.44	16.97	17.58	18.98	18.06	19.45	19.98
	4H	15.05	16.38	15.56	16.86	17.41	18.79	20.12	19.29	20.60	21.15
	6H	15.32	16.56	15.84	17.06	17.62	20.06	21.30	20.58	21.80	22.36
	8H	15.38	16.56	15.91	17.09	17.65	20.72	21.90	21.25	22.43	22.99
	12H	15.39	16.53	15.93	17.05	17.64	21.45	22.58	21.98	23.10	23.70
4H	2H	13.95	15.27	14.45	15.76	16.31	15.56	16.89	16.06	17.37	17.92
	3H	15.69	16.82	16.21	17.35	17.92	18.24	19.37	18.76	19.90	20.47
	4H	16.30	17.33	16.84	17.87	18.47	19.62	20.66	20.16	21.20	21.80
	6H	16.70	17.61	17.26	18.18	18.79	21.09	22.01	21.65	22.57	23.19
	8H	16.80	17.66	17.36	18.22	18.85	21.86	22.72	22.42	23.29	23.91
	12H	16.84	17.63	17.43	18.22	18.85	22.71	23.50	23.30	24.09	24.72
8H	4H	16.99	17.85	17.56	18.42	19.05	19.84	20.70	20.41	21.27	21.90
	6H	17.58	18.31	18.18	18.92	19.55	21.49	22.22	22.08	22.83	23.46
	8H	17.77	18.43	18.38	19.05	19.69	22.40	23.06	23.01	23.68	24.32
	12H	17.89	18.48	18.50	19.09	19.80	23.44	24.03	24.05	24.64	25.35
12H	4H	17.19	17.98	17.78	18.57	19.20	19.85	20.63	20.44	21.23	21.86
	6H	17.88	18.54	18.49	19.16	19.81	21.53	22.19	22.13	22.81	23.45
	8H	18.17	18.76	18.78	19.37	20.08	22.51	23.10	23.12	23.70	24.41

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

Report Prepared for

Cooper Lighting Solutions

Fail-Safe

Report Number: SP1-2511-597-9

Test Date: 01/22/2026

Luminaire Tested: 4ASL-2-A590-UNV-OPL-1_600mA

Data in this report applies to families of products including 4ASL

Report Generated By FNC07603 / LDUCLS01DT446
Version: v7.05

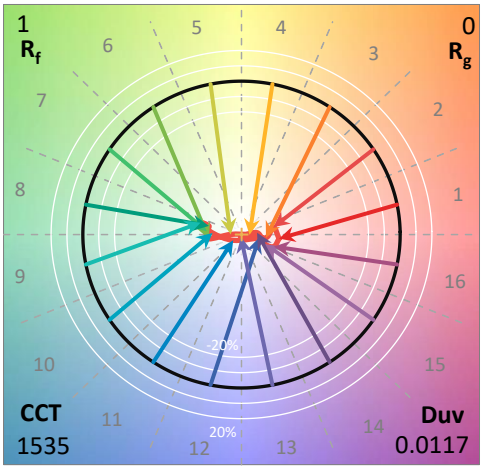
Test Information

Test Method:	LM-79-2019
Report Number:	SP1-2511-597-9
Test Lab:	COOPER LIGHTING SOLUTIONS
Photometer:	SP1 - 76IN SPHERE
Measurement Geometry:	4π
Issue Date:	01/29/2026
Manufacturer:	COOPER LIGHTING SOLUTIONS
Product Line:	Fail-Safe
Catalog Number:	**4ASL-2-A590-UNV-OPL-1_600mA**
Description:	2foot 4ASL LED LUMINAIRE WITH OPL LENS AND AMBER 590 LEDS with 1 rows at 600mA

Spectral Parameters

CCT (K):	1535
CIE u':	0.3534
CIE v':	0.5468
Duv:	0.0117
CIE x:	0.5921
CIE y:	0.4072
CIE z:	0.0007
Peak Wavelength (nm):	598
Dominant Wavelength (nm):	592
Purity:	99.97894
Rf:	1.3
Rg:	0.1

CRI (Ra):	-20.0		
R1:	-32.1	R9:	-380.5
R2:	53.1	R10:	29.9
R3:	18.5	R11:	-92.0
R4:	-65.7	R12:	-8.5
R5:	-38.6	R13:	-13.5
R6:	42.8	R14:	47.1
R7:	-6.2	R15:	-65.4
R8:	-132.3		



Test Conditions

Stabilization Time:	77M
Operation Time:	2H 17M
Sphere Temperature (°C):	25.1

REPORT NUMBER: SP1-2511-597-9

Measurement and Test Equipment			
Instrument	Identification Number	Calibration Date	Calibration Due Date
Photometer	76INCH SPHERE IN0058	12/16/2025	6/16/2026
Power Meter	XITRON INXT2011004	10/21/2025	10/21/2026
AC Power Source	CHROMA 61603 IN0063	10/21/2025	10/21/2026
DC Power Source	AGILENT E3634A IN0208	10/21/2025	10/21/2026
Sphere Thermometer	ONSET IN0085	10/21/2025	10/21/2026
Room Thermometer	ONSET IN0046	10/21/2025	10/21/2026

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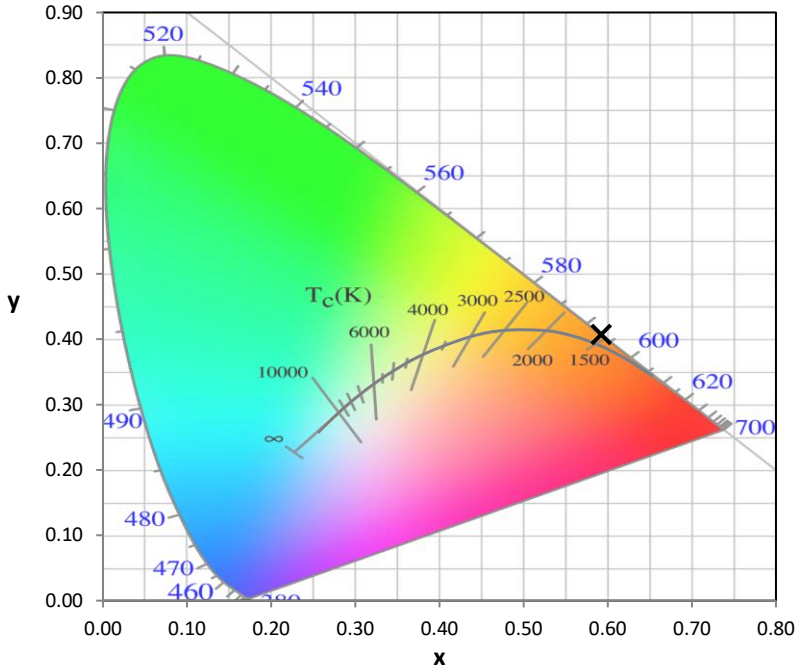
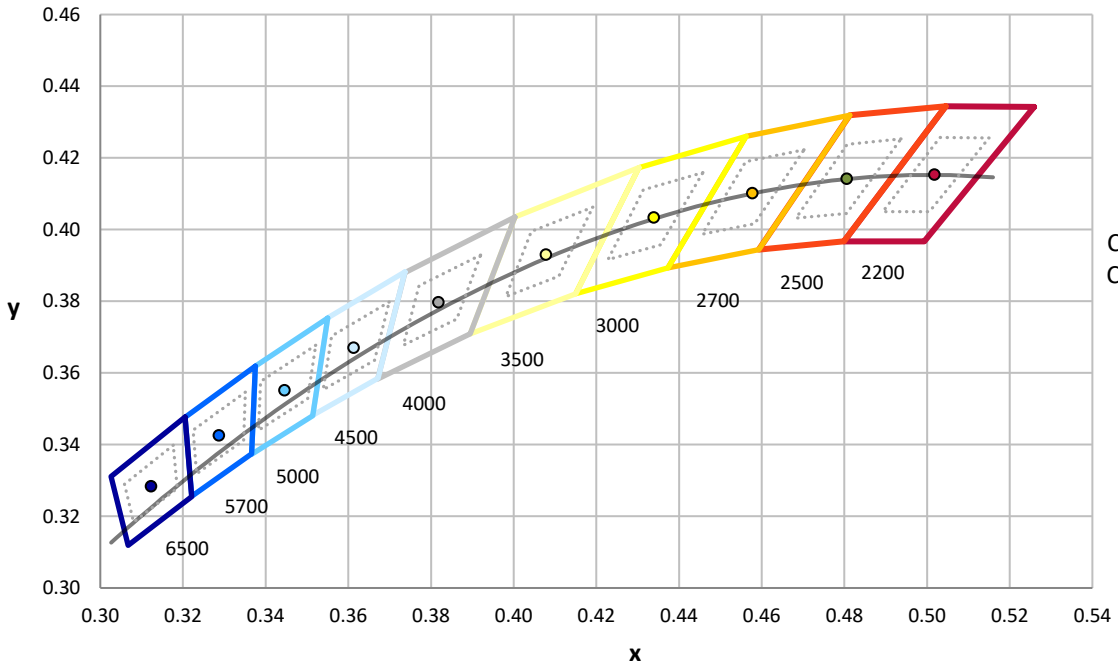
CIE 1931 Chromaticity Diagram



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

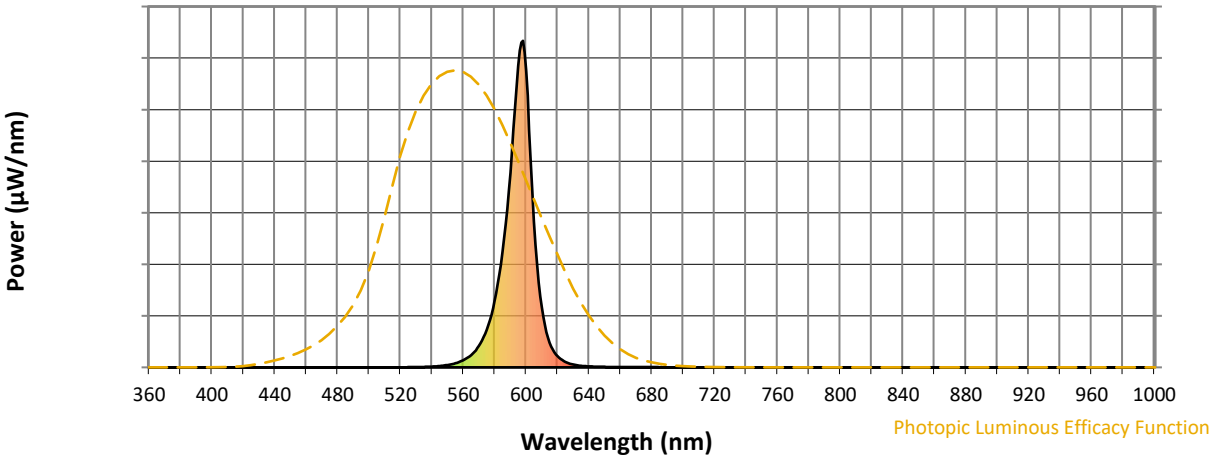


CCT = 1535K
CIE x = 0.5921
CIE y = 0.4072
Duv = 0.0117

Point lies outside the range

REPORT NUMBER: SP1-2511-597-9

Photopic Flux vs. Wavelength



Photopic Lumens: NR

λ (nm)	Power W^/nm	Lumens (ϕ/nm)	λ (nm)	Power W^/nm	Lumens (ϕ/nm)	λ (nm)	Power W^/nm	Lumens (ϕ/nm)	λ (nm)	Power W^/nm	Lumens (ϕ/nm)	λ (nm)	Power W^/nm	Lumens (ϕ/nm)
360	0	NR	490	0	NR	620	35	NR	750	0	NR	880	0	NR
365	0	NR	495	0	NR	625	17	NR	755	0	NR	885	0	NR
370	0	NR	500	0	NR	630	9	NR	760	0	NR	890	0	NR
375	0	NR	505	0	NR	635	5	NR	765	0	NR	895	0	NR
380	0	NR	510	0	NR	640	3	NR	770	0	NR	900	0	NR
385	0	NR	515	0	NR	645	2	NR	775	0	NR	905	0	NR
390	0	NR	520	0	NR	650	2	NR	780	0	NR	910	0	NR
395	0	NR	525	1	NR	655	1	NR	785	0	NR	915	0	NR
400	0	NR	530	1	NR	660	1	NR	790	0	NR	920	0	NR
405	0	NR	535	1	NR	665	1	NR	795	0	NR	925	0	NR
410	0	NR	540	2	NR	670	1	NR	800	0	NR	930	0	NR
415	0	NR	545	4	NR	675	1	NR	805	0	NR	935	0	NR
420	0	NR	550	7	NR	680	1	NR	810	0	NR	940	0	NR
425	0	NR	555	12	NR	685	0	NR	815	0	NR	945	0	NR
430	0	NR	560	22	NR	690	0	NR	820	0	NR	950	0	NR
435	0	NR	565	38	NR	695	0	NR	825	0	NR	955	0	NR
440	0	NR	570	66	NR	700	0	NR	830	0	NR	960	0	NR
445	0	NR	575	115	NR	705	0	NR	835	0	NR	965	0	NR
450	0	NR	580	203	NR	710	0	NR	840	0	NR	970	0	NR
455	0	NR	585	354	NR	715	0	NR	845	0	NR	975	0	NR
460	0	NR	590	596	NR	720	0	NR	850	0	NR	980	0	NR
465	0	NR	595	923	NR	725	0	NR	855	0	NR	985	0	NR
470	0	NR	600	909	NR	730	0	NR	860	0	NR	990	0	NR
475	0	NR	605	447	NR	735	0	NR	865	0	NR	995	0	NR
480	0	NR	610	183	NR	740	0	NR	870	0	NR	1000	0	NR
485	0	NR	615	75	NR	745	0	NR	875	0	NR			

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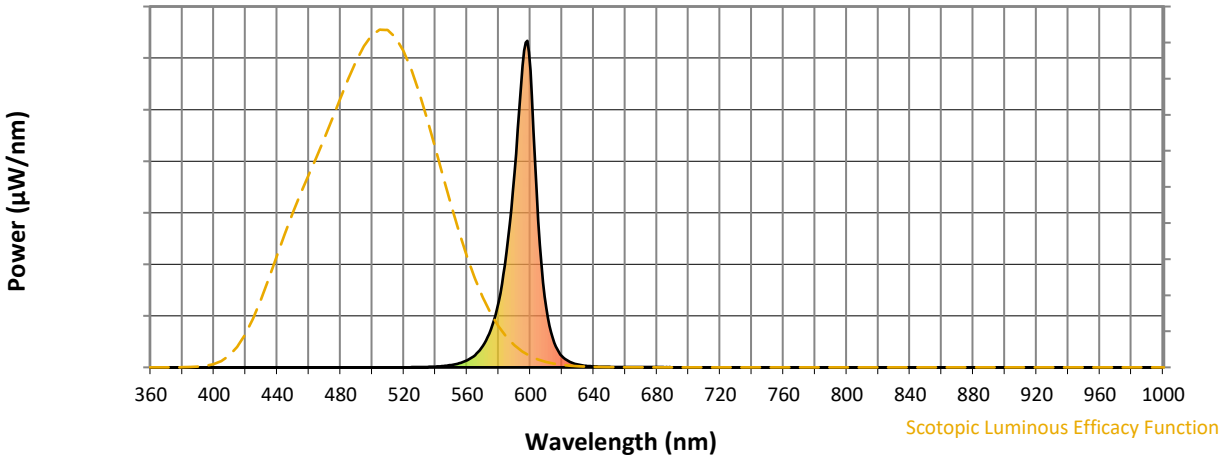
Scotopic Flux vs. Wavelength



Scotopic Lumens: NR **S/P: 0.22**

λ (nm)	Power W^/nm	Lumens (ϕ/nm)	λ (nm)	Power W^/nm	Lumens (ϕ/nm)	λ (nm)	Power W^/nm	Lumens (ϕ/nm)	λ (nm)	Power W^/nm	Lumens (ϕ/nm)	λ (nm)	Power W^/nm	Lumens (ϕ/nm)
360	0	NR	490	0	NR	620	35	NR	750	0	NR	880	0	NR
365	0	NR	495	0	NR	625	17	NR	755	0	NR	885	0	NR
370	0	NR	500	0	NR	630	9	NR	760	0	NR	890	0	NR
375	0	NR	505	0	NR	635	5	NR	765	0	NR	895	0	NR
380	0	NR	510	0	NR	640	3	NR	770	0	NR	900	0	NR
385	0	NR	515	0	NR	645	2	NR	775	0	NR	905	0	NR
390	0	NR	520	0	NR	650	2	NR	780	0	NR	910	0	NR
395	0	NR	525	1	NR	655	1	NR	785	0	NR	915	0	NR
400	0	NR	530	1	NR	660	1	NR	790	0	NR	920	0	NR
405	0	NR	535	1	NR	665	1	NR	795	0	NR	925	0	NR
410	0	NR	540	2	NR	670	1	NR	800	0	NR	930	0	NR
415	0	NR	545	4	NR	675	1	NR	805	0	NR	935	0	NR
420	0	NR	550	7	NR	680	1	NR	810	0	NR	940	0	NR
425	0	NR	555	12	NR	685	0	NR	815	0	NR	945	0	NR
430	0	NR	560	22	NR	690	0	NR	820	0	NR	950	0	NR
435	0	NR	565	38	NR	695	0	NR	825	0	NR	955	0	NR
440	0	NR	570	66	NR	700	0	NR	830	0	NR	960	0	NR
445	0	NR	575	115	NR	705	0	NR	835	0	NR	965	0	NR
450	0	NR	580	203	NR	710	0	NR	840	0	NR	970	0	NR
455	0	NR	585	354	NR	715	0	NR	845	0	NR	975	0	NR
460	0	NR	590	596	NR	720	0	NR	850	0	NR	980	0	NR
465	0	NR	595	923	NR	725	0	NR	855	0	NR	985	0	NR
470	0	NR	600	909	NR	730	0	NR	860	0	NR	990	0	NR
475	0	NR	605	447	NR	735	0	NR	865	0	NR	995	0	NR
480	0	NR	610	183	NR	740	0	NR	870	0	NR	1000	0	NR
485	0	NR	615	75	NR	745	0	NR	875	0	NR			

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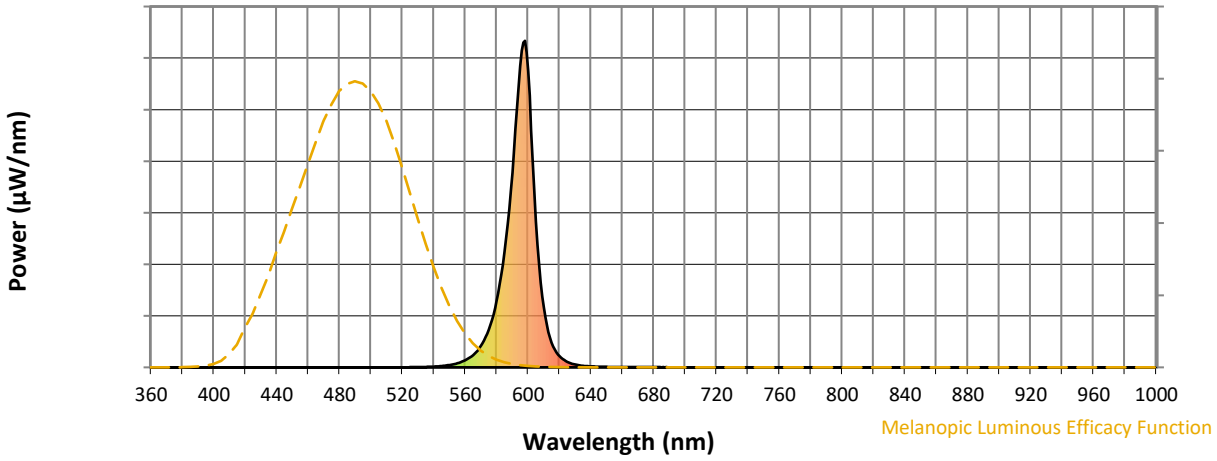
Melanopic Flux vs. Wavelength



Melanopic Lumens: NR **M/P: 0.12**

λ (nm)	Power W^/nm	Lumens (ϕ/nm)	λ (nm)	Power W^/nm	Lumens (ϕ/nm)	λ (nm)	Power W^/nm	Lumens (ϕ/nm)	λ (nm)	Power W^/nm	Lumens (ϕ/nm)	λ (nm)	Power W^/nm	Lumens (ϕ/nm)
360	0	NR	490	0	NR	620	35	NR	750	0	NR	880	0	NR
365	0	NR	495	0	NR	625	17	NR	755	0	NR	885	0	NR
370	0	NR	500	0	NR	630	9	NR	760	0	NR	890	0	NR
375	0	NR	505	0	NR	635	5	NR	765	0	NR	895	0	NR
380	0	NR	510	0	NR	640	3	NR	770	0	NR	900	0	NR
385	0	NR	515	0	NR	645	2	NR	775	0	NR	905	0	NR
390	0	NR	520	0	NR	650	2	NR	780	0	NR	910	0	NR
395	0	NR	525	1	NR	655	1	NR	785	0	NR	915	0	NR
400	0	NR	530	1	NR	660	1	NR	790	0	NR	920	0	NR
405	0	NR	535	1	NR	665	1	NR	795	0	NR	925	0	NR
410	0	NR	540	2	NR	670	1	NR	800	0	NR	930	0	NR
415	0	NR	545	4	NR	675	1	NR	805	0	NR	935	0	NR
420	0	NR	550	7	NR	680	1	NR	810	0	NR	940	0	NR
425	0	NR	555	12	NR	685	0	NR	815	0	NR	945	0	NR
430	0	NR	560	22	NR	690	0	NR	820	0	NR	950	0	NR
435	0	NR	565	38	NR	695	0	NR	825	0	NR	955	0	NR
440	0	NR	570	66	NR	700	0	NR	830	0	NR	960	0	NR
445	0	NR	575	115	NR	705	0	NR	835	0	NR	965	0	NR
450	0	NR	580	203	NR	710	0	NR	840	0	NR	970	0	NR
455	0	NR	585	354	NR	715	0	NR	845	0	NR	975	0	NR
460	0	NR	590	596	NR	720	0	NR	850	0	NR	980	0	NR
465	0	NR	595	923	NR	725	0	NR	855	0	NR	985	0	NR
470	0	NR	600	909	NR	730	0	NR	860	0	NR	990	0	NR
475	0	NR	605	447	NR	735	0	NR	865	0	NR	995	0	NR
480	0	NR	610	183	NR	740	0	NR	870	0	NR	1000	0	NR
485	0	NR	615	75	NR	745	0	NR	875	0	NR			

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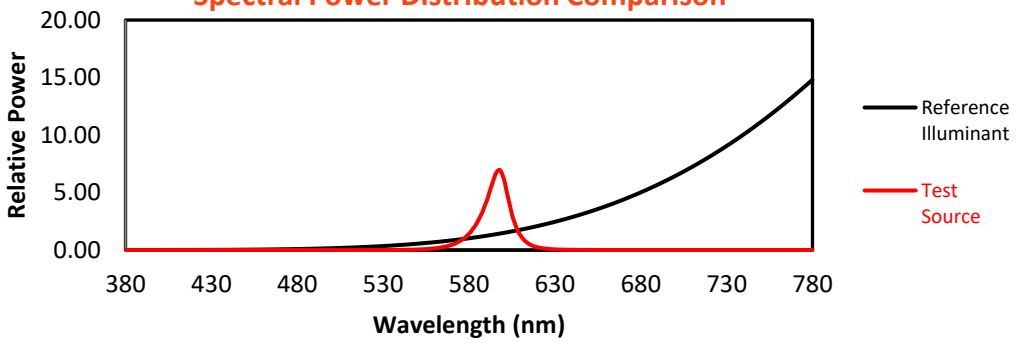
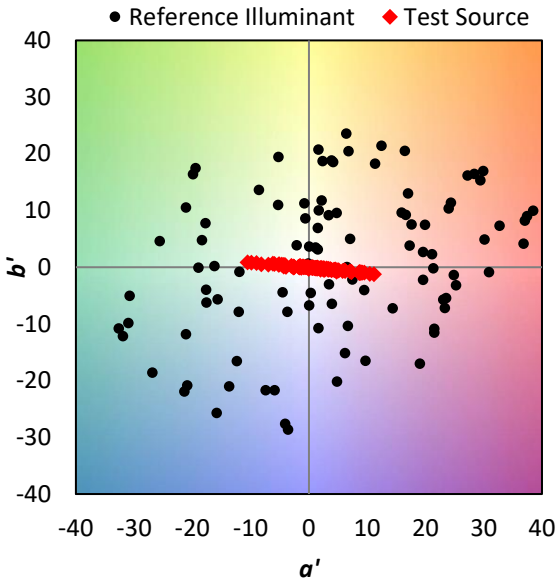
Summary

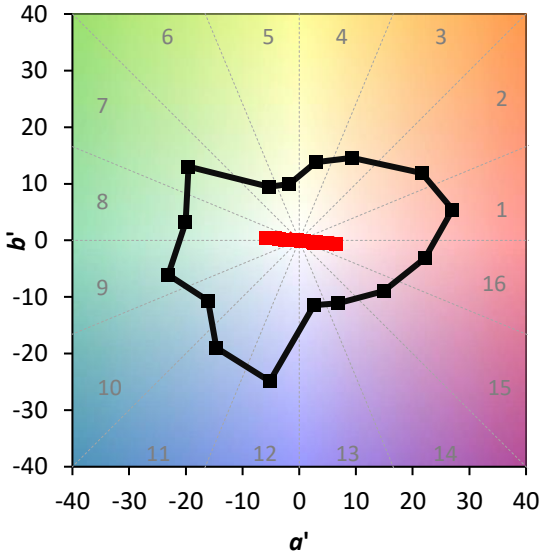
R_f = 1.3
R_g = 0.1
CIE R_a = -20.0
R_9 = -380.5

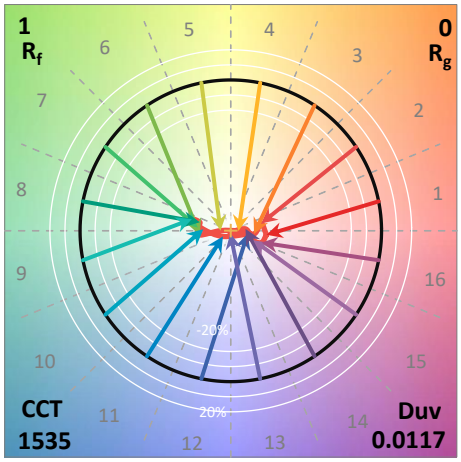
Spectral Power Distribution Comparison

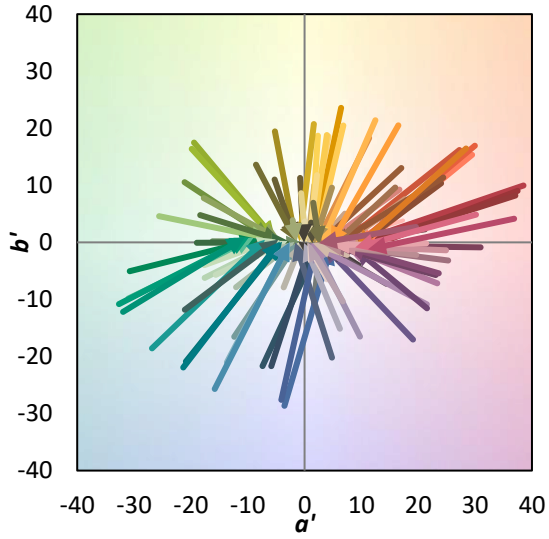


Color Vector Graphics









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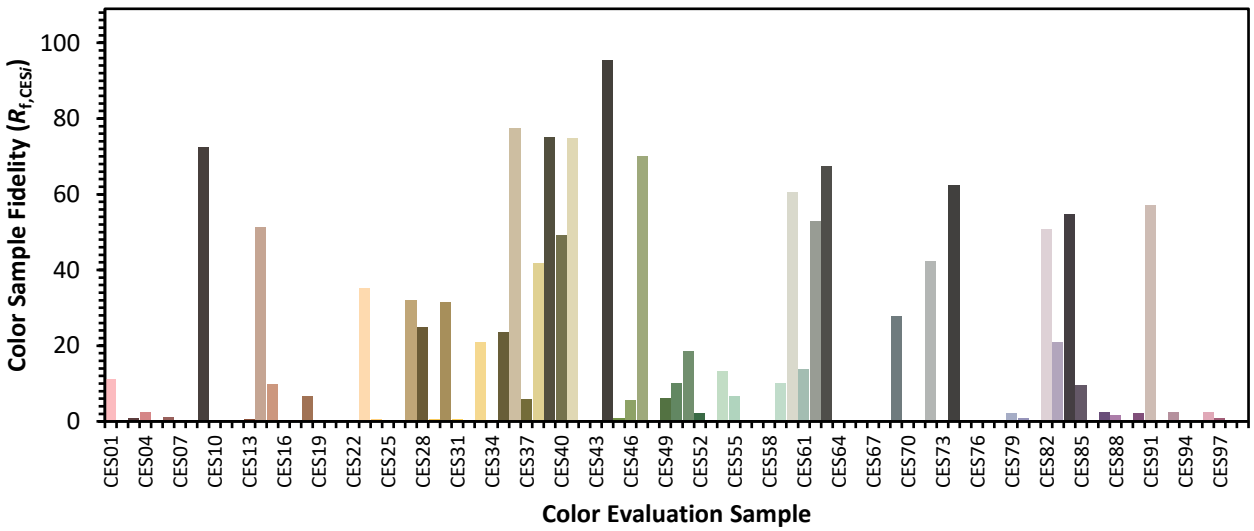
Individual Sample Fidelity Index ($R_{f,i}$)

CES01 = 90	CES26 = 0	CES51 = 19	CES76 = 0
CES02 = 70	CES27 = 32	CES52 = 2	CES77 = 0
CES03 = 31	CES28 = 25	CES53 = 0	CES78 = 0
CES04 = 77	CES29 = 1	CES54 = 13	CES79 = 2
CES05 = 52	CES30 = 31	CES55 = 7	CES80 = 1
CES06 = 56	CES31 = 1	CES56 = 0	CES81 = 0
CES07 = 41	CES32 = 0	CES57 = 0	CES82 = 51
CES08 = 39	CES33 = 21	CES58 = 0	CES83 = 21
CES09 = 29	CES34 = 0	CES59 = 10	CES84 = 55
CES10 = 87	CES35 = 24	CES60 = 60	CES85 = 10
CES11 = 70	CES36 = 77	CES61 = 14	CES86 = 0
CES12 = 76	CES37 = 6	CES62 = 53	CES87 = 2
CES13 = 47	CES38 = 42	CES63 = 68	CES88 = 2
CES14 = 77	CES39 = 75	CES64 = 0	CES89 = 0
CES15 = 74	CES40 = 49	CES65 = 0	CES90 = 2
CES16 = 49	CES41 = 75	CES66 = 0	CES91 = 57
CES17 = 56	CES42 = 0	CES67 = 0	CES92 = 0
CES18 = 60	CES43 = 0	CES68 = 0	CES93 = 3
CES19 = 80	CES44 = 95	CES69 = 28	CES94 = 0
CES20 = 71	CES45 = 1	CES70 = 0	CES95 = 0
CES21 = 94	CES46 = 6	CES71 = 0	CES96 = 2
CES22 = 87	CES47 = 70	CES72 = 42	CES97 = 1
CES23 = 94	CES48 = 0	CES73 = 0	CES98 = 0
CES24 = 95	CES49 = 6	CES74 = 62	CES99 = 0
CES25 = 79	CES50 = 10	CES75 = 0	



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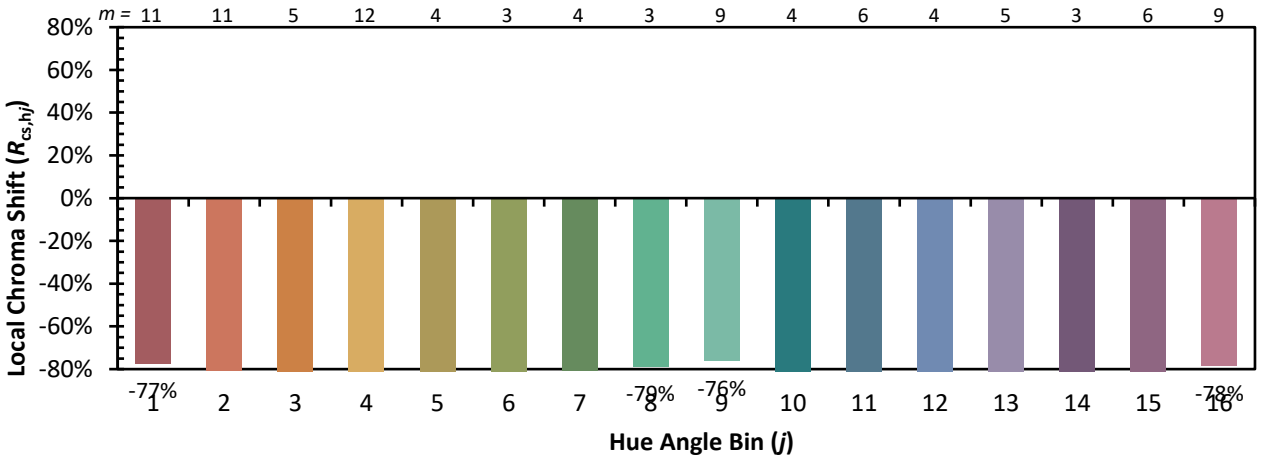
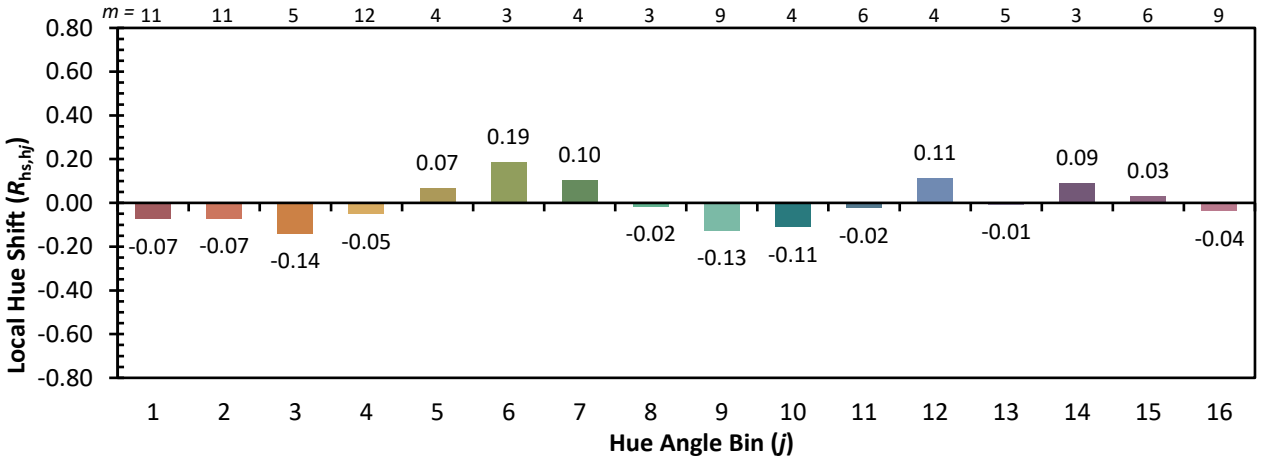
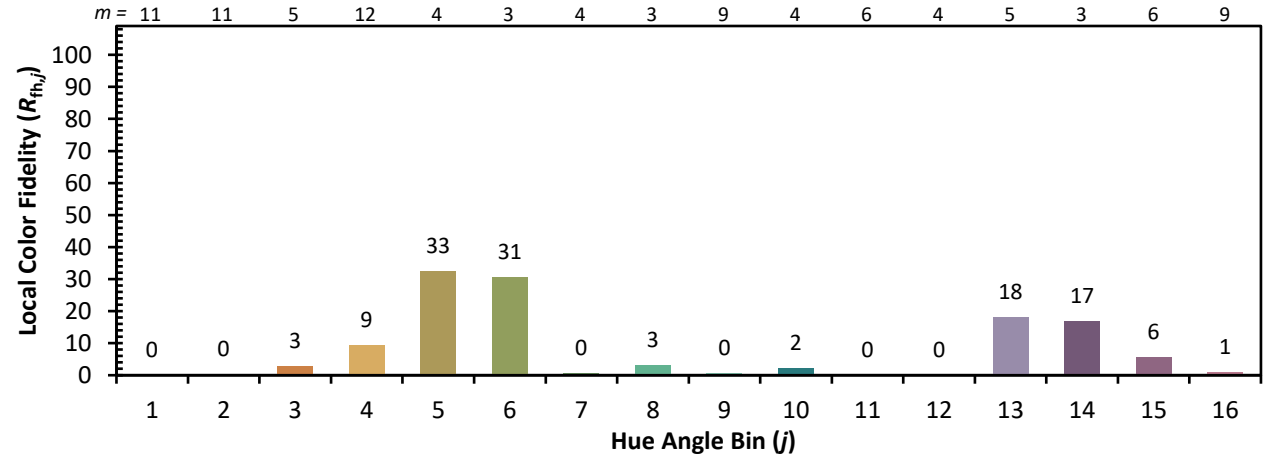
Color Rendition by Hue-Angle Bin







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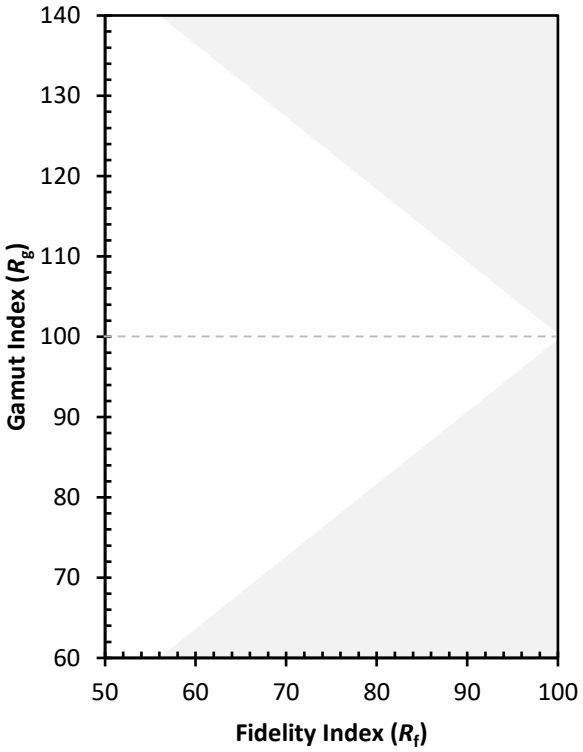
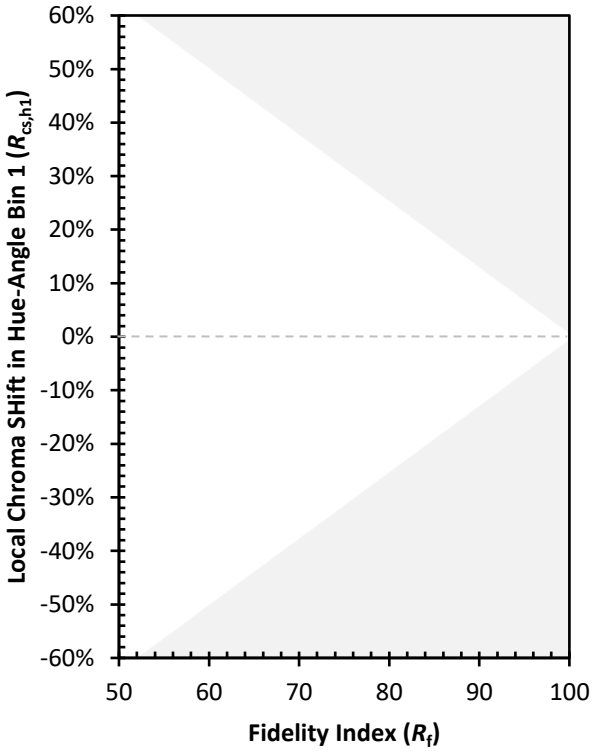
Measure Comparisons





(END OF REPORT)