

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: P1357390

Luminaire Tested: 6ASL4-5HE-2-A59-UNV

Issue Date: 2/17/2026

Test Information

Test Method: LM-79-2019
Report Number: P1357390
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: 6ASL4-5HE-2-A59-UNV
Description: 6FT 500 LUMEN PER FOOT 4ASL LED LUMINAIRE WITH OPL LENS AND A59 LEDS 2 ROW
Light Source: -
Ballast/Driver: -

Summary

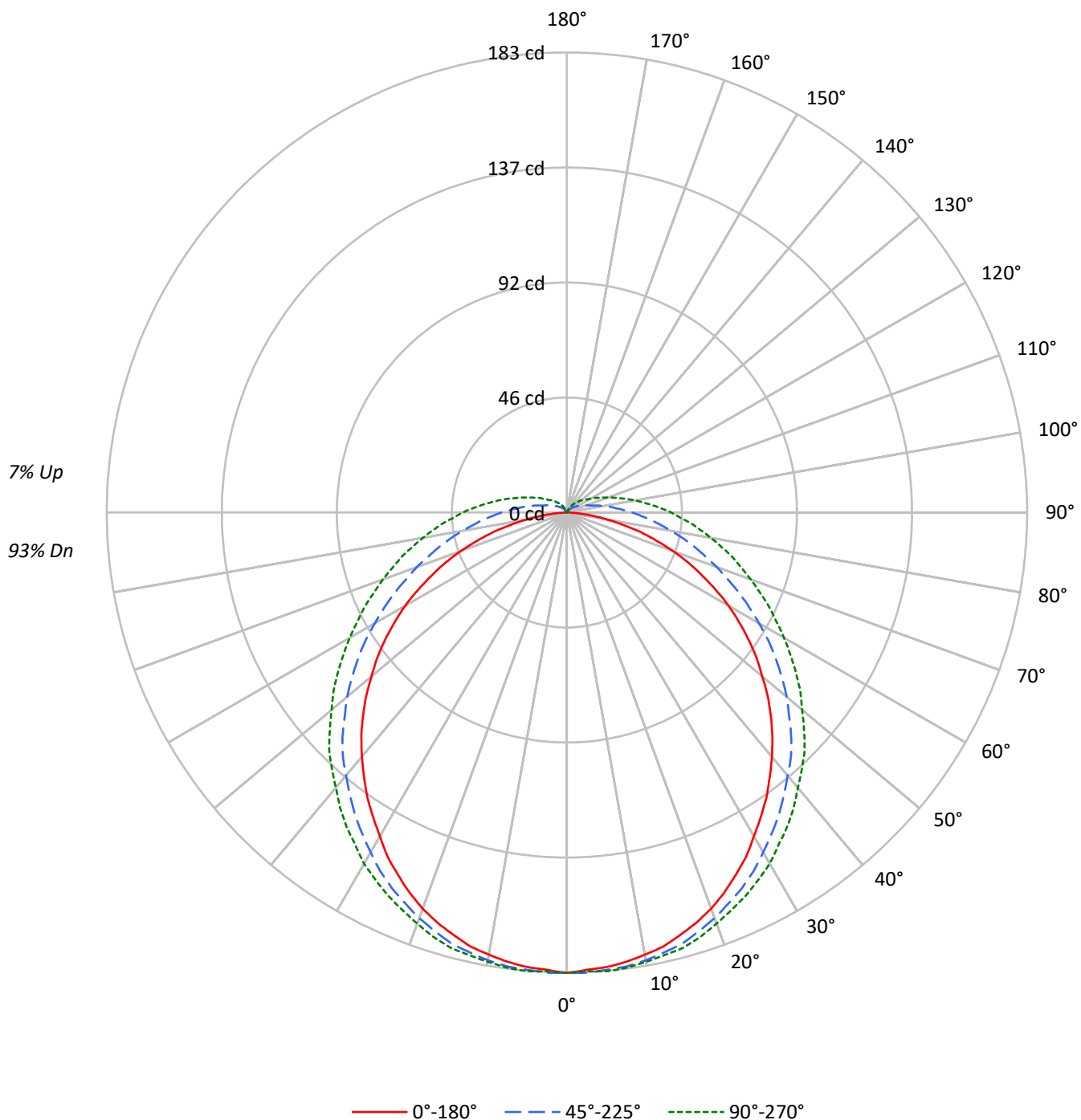
Lumens per Lamp: N/A
Luminaire Lumens: 629.0 lumens
Efficiency: N/A
Efficacy: 37.0 lumens/watt
Spacing Criteria (0/90/45): 1.21 / 1.3 / 1.4
Luminous Opening: Rectangular w/ Sides (W: 0.33' x L: 5.98' x H: 0.1')
CIE Type: Direct

Input Watts (W): 17
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

TEST NUMBER: P1357390

CATALOG NUMBER: 6ASL4-5HE-2-A59-UNV

Luminous Intensity Polar Plot



TEST NUMBER: P1357390

CATALOG NUMBER: 6ASL4-5HE-2-A59-UNV

COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	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	50	30	10
RCR																				
0	117	117	117	117	114	114	114	114	107	107	107	101	101	101	95	95	95	95	95	93
1	105	100	95	90	102	97	92	88	91	87	84	86	83	80	81	79	76	76	76	74
2	95	86	79	72	92	84	77	71	79	73	68	74	70	65	70	66	63	63	63	60
3	86	75	66	59	83	73	65	58	69	62	56	65	59	55	62	57	53	53	53	50
4	79	66	57	50	76	64	56	49	61	54	48	58	51	46	55	49	45	45	45	42
5	72	59	50	43	70	57	49	42	54	47	41	52	45	40	49	43	39	39	39	36
6	67	53	44	37	64	52	43	37	49	41	36	47	40	35	44	39	34	34	34	32
7	62	48	39	33	60	47	38	32	45	37	32	43	36	31	41	35	30	30	30	28
8	58	44	35	29	56	43	34	29	41	33	28	39	32	28	37	31	27	27	27	25
9	54	40	32	26	52	39	31	26	37	30	25	36	29	25	34	29	24	24	24	22
10	50	37	29	24	49	36	28	23	35	28	23	33	27	22	32	26	22	22	22	20

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	989	989	989
5°	982	970	967
10°	976	953	943
15°	968	934	925
20°	958	910	898
25°	940	886	875
30°	918	858	852
35°	901	833	826
40°	881	805	798
45°	861	782	778
50°	835	750	748
55°	810	716	724
60°	779	679	699
65°	731	643	679
70°	677	610	661
75°	598	585	655
80°	473	564	653
85°	300	564	672

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 861 cd/sqm

TEST NUMBER: P1357390

CATALOG NUMBER: 6ASL4-5HE-2-A59-UNV

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	17.4	2.8
10°-20°	49.9	7.9
20°-30°	75.7	12.0
30°-40°	91.5	14.6
40°-50°	96.5	15.3
50°-60°	90.1	14.3
60°-70°	74.4	11.8
70°-80°	53.9	8.6
80°-90°	34.1	5.4
90°-100°	20.3	3.2
100°-110°	11.7	1.9
110°-120°	6.6	1.1
120°-130°	3.8	0.6
130°-140°	2.0	0.3
140°-150°	0.9	0.1
150°-160°	0.2	0.0
160°-170°	0.0	0.0
170°-180°	0.0	0.0
0°-30°	143.0	22.7
0°-40°	234.5	37.3
0°-60°	421.1	66.9
0°-90°	583.5	92.8
90°-120°	38.6	6.1
90°-150°	45.4	7.2
90°-180°	46.0	7.3
0°-180°	629.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	183	183	183	183	183	
5°	182	183	183	183	183	17
15°	174	176	178	178	179	49
25°	159	161	165	167	168	73
35°	138	142	147	151	153	86
45°	115	119	126	131	134	88
55°	88	93	101	108	111	79
65°	59	66	76	85	89	59
75°	30	39	52	63	68	32
85°	6	18	33	45	50	7
90°	0	11	26	37	42	0
95°	0	7	20	30	34	0
105°	0	2	11	19	22	0
115°	0	1	6	12	14	0
125°	0	1	4	8	9	0
135°	0	0	2	5	6	0
145°	0	0	1	3	4	0
155°	0	0	0	1	1	0
165°	0	0	0	0	0	0
175°	0	0	0	0	0	0
180°	0	0	0	0	0	0

TEST NUMBER: P1357390

CATALOG NUMBER: 6ASL4-5HE-2-A59-UNV

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	183.2	183.2	183.2	183.2	183.2
2.5°	182.1	183.8	183.2	182.6	182.6
5°	181.5	183.2	182.6	182.6	183.2
7.5°	180.3	182.1	182.1	182.1	182.6
10°	178.6	180.9	180.9	180.9	181.5
12.5°	176.9	178.6	179.2	179.8	180.3
15°	174.0	176.3	177.5	178.0	179.2
17.5°	171.1	172.9	174.6	176.3	176.9
20°	167.7	170.0	171.7	173.4	174.0
22.5°	163.6	165.9	168.2	170.0	171.1
25°	159.0	161.3	164.8	167.1	168.2
27.5°	154.4	156.7	160.8	163.6	164.8
30°	148.7	152.1	156.1	159.6	161.3
32.5°	143.5	146.9	151.5	155.6	156.7
35°	138.3	141.7	146.9	151.0	152.7
37.5°	132.5	136.6	141.7	146.3	148.1
40°	126.8	130.8	136.6	141.7	142.9
42.5°	121.0	125.0	131.9	136.6	138.3
45°	114.7	119.3	126.2	131.4	133.7
47.5°	108.3	112.9	119.8	125.6	127.9
50°	101.4	106.6	114.1	119.8	122.1
52.5°	95.1	100.3	107.7	114.1	117.0
55°	88.2	93.3	101.4	108.3	111.2
57.5°	81.2	86.4	95.1	102.6	105.4
60°	74.3	79.5	88.2	96.8	99.7
62.5°	66.8	72.6	81.8	90.5	93.9
65°	59.3	65.7	75.5	84.7	88.7
67.5°	52.4	58.8	69.1	79.5	83.0
70°	44.9	51.9	63.4	73.7	77.8
72.5°	37.5	44.9	57.6	68.6	72.6
75°	30.5	38.6	52.4	63.4	68.0
77.5°	23.0	32.8	47.2	58.8	62.8
80°	16.7	27.1	42.1	54.2	58.2
82.5°	10.9	21.9	37.5	49.6	53.6
85°	5.8	17.9	33.4	44.9	49.6
87.5°	1.7	13.8	29.4	40.9	44.9
90°	0.0	10.9	25.9	36.9	41.5
92.5°	0.0	8.6	22.5	33.4	37.5
95°	0.0	6.9	19.6	30.0	34.0
97.5°	0.0	5.8	17.3	27.1	30.5
100°	0.0	4.6	15.0	24.2	27.7
102.5°	0.0	3.5	12.7	21.3	24.8
105°	0.0	2.3	10.9	19.0	21.9
107.5°	0.0	1.7	9.2	16.7	19.6
110°	0.0	1.7	8.6	14.4	17.3



TEST NUMBER: P1357390

CATALOG NUMBER: 6ASL4-5HE-2-A59-UNV

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	0.0	1.2	7.5	13.3	15.6
115°	0.0	1.2	6.3	11.5	13.8
117.5°	0.0	1.2	5.8	10.4	12.7
120°	0.0	1.2	5.2	9.2	10.9
122.5°	0.0	0.6	4.6	8.1	9.8
125°	0.0	0.6	4.0	7.5	8.6
127.5°	0.0	0.6	3.5	6.9	8.1
130°	0.0	0.6	3.5	6.3	7.5
132.5°	0.0	0.0	2.9	5.8	6.9
135°	0.0	0.0	2.3	4.6	5.8
137.5°	0.0	0.0	2.3	4.0	5.2
140°	0.0	0.0	1.7	4.0	4.6
142.5°	0.0	0.0	1.2	3.5	4.0
145°	0.0	0.0	1.2	2.9	3.5
147.5°	0.0	0.0	0.6	2.3	2.9
150°	0.0	0.0	0.6	1.7	2.3
152.5°	0.0	0.0	0.0	1.2	1.7
155°	0.0	0.0	0.0	0.6	1.2
157.5°	0.0	0.0	0.0	0.0	0.6
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

TEST NUMBER: P1357390

CATALOG NUMBER: 6ASL4-5HE-2-A59-UNV

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	9.28	10.82	9.76	11.28	11.77	11.37	12.91	11.85	13.37	13.86
	3H	10.79	12.19	11.27	12.66	13.19	13.84	15.24	14.32	15.71	16.24
	4H	11.27	12.59	11.77	13.08	13.63	15.06	16.39	15.56	16.87	17.42
	6H	11.54	12.78	12.06	13.28	13.84	16.35	17.58	16.87	18.09	18.65
	8H	11.59	12.78	12.12	13.30	13.87	17.02	18.21	17.55	18.73	19.30
	12H	11.61	12.74	12.15	13.26	13.86	17.78	18.91	18.31	19.43	20.03
4H	2H	10.17	11.50	10.68	11.98	12.53	11.80	13.13	12.31	13.62	14.16
	3H	11.91	13.04	12.43	13.57	14.14	14.50	15.63	15.02	16.16	16.73
	4H	12.52	13.56	13.06	14.10	14.70	15.89	16.93	16.43	17.47	18.07
	6H	12.92	13.84	13.48	14.40	15.02	17.38	18.29	17.94	18.86	19.47
	8H	13.02	13.88	13.58	14.45	15.07	18.16	19.02	18.73	19.59	20.22
	12H	13.07	13.85	13.65	14.44	15.07	19.04	19.82	19.63	20.42	21.05
8H	4H	13.22	14.08	13.79	14.65	15.28	16.11	16.97	16.68	17.54	18.16
	6H	13.81	14.54	14.40	15.15	15.78	17.77	18.50	18.37	19.11	19.74
	8H	14.00	14.66	14.60	15.27	15.92	18.70	19.36	19.31	19.98	20.62
	12H	14.12	14.71	14.73	15.31	16.02	19.76	20.35	20.37	20.96	21.67
12H	4H	13.43	14.21	14.01	14.80	15.43	16.12	16.90	16.71	17.50	18.13
	6H	14.12	14.78	14.73	15.40	16.04	17.81	18.47	18.42	19.09	19.73
	8H	14.41	14.99	15.02	15.60	16.31	18.81	19.40	19.42	20.00	20.71

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

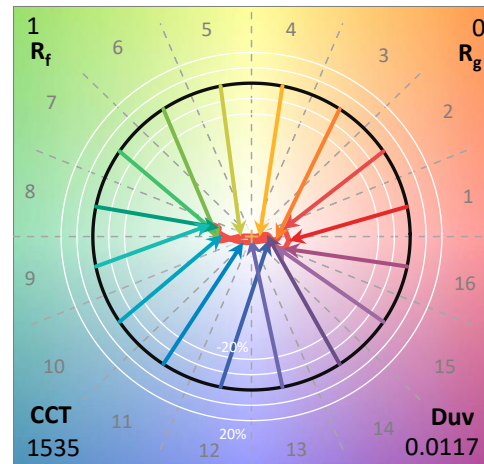
Data in this report applies to families of products including 4ASL

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	CRI (Ra):	-20.0		
CIE u':	0.3534	R1:	-32.1	R9:	-380.5
CIE v':	0.5468	R2:	53.1	R10:	29.9
Duv:	0.0117	R3:	18.5	R11:	-92.0
CIE x:	0.5921	R4:	-65.7	R12:	-8.5
CIE y:	0.4072	R5:	-38.6	R13:	-13.5
CIE z:	0.0007	R6:	42.8	R14:	47.1
Peak Wavelength (nm):	598	R7:	-6.2	R15:	-65.4
Dominant Wavelength (nm):	592	R8:	-132.3		
Purity:	99.97894				
Rf:	1.3				
Rg:	0.1				



Test Conditions

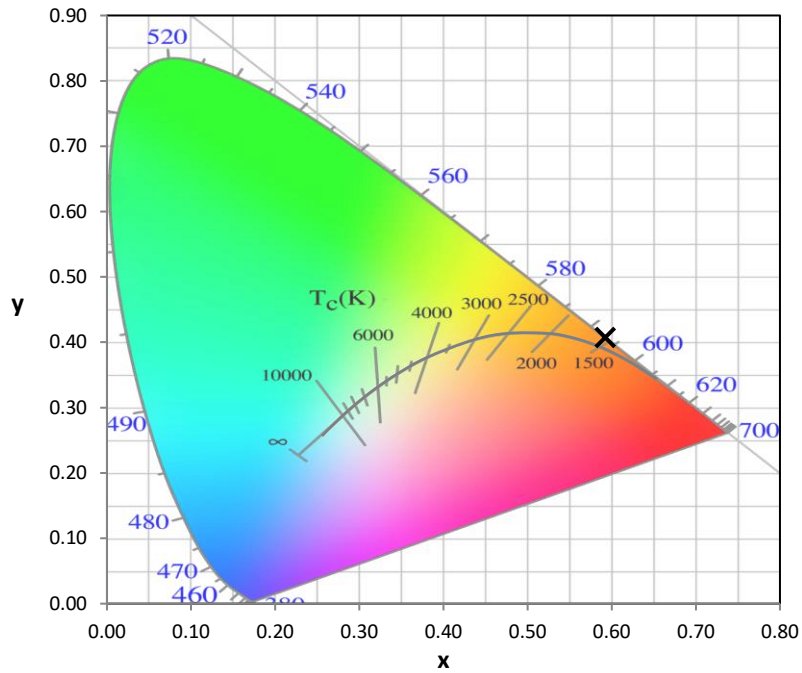
Stabilization Time: 77M
 Operation Time: 2H 17M
 Sphere Temperature (°C): 25.1

REPORT NUMBER: SP1-2511-597-9

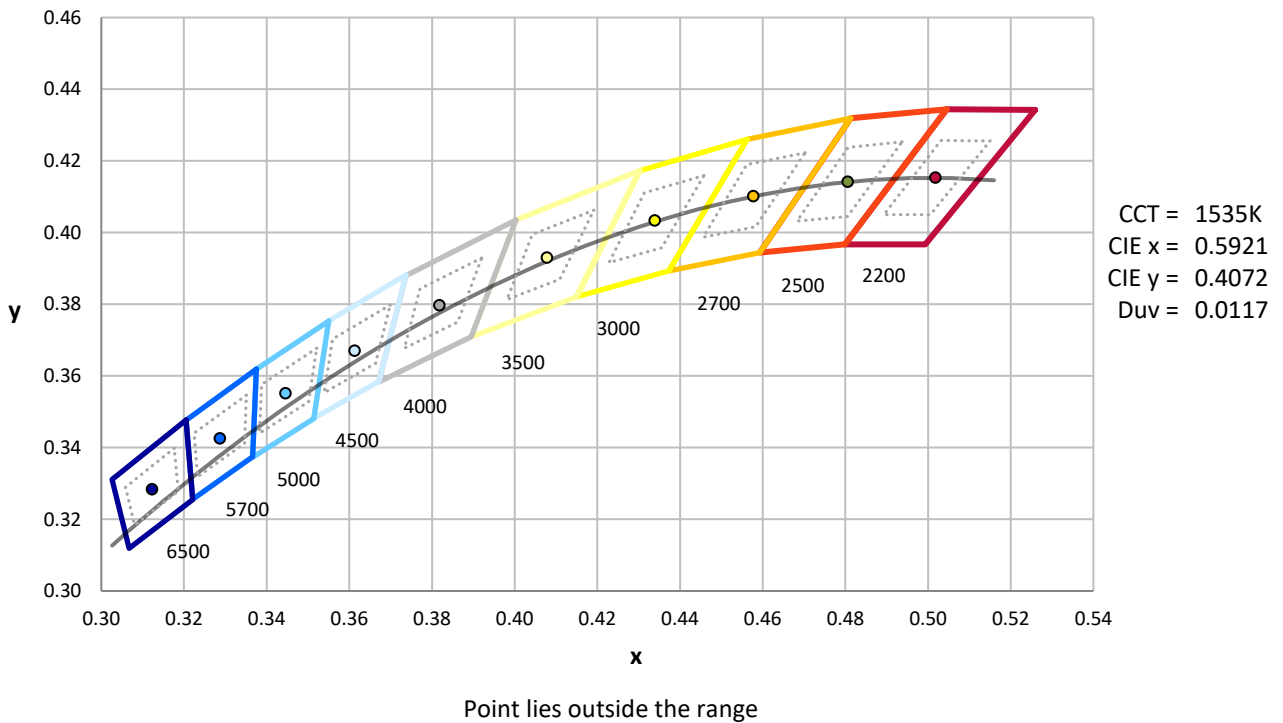
Measurement and Test Equipment			
Instrument	Identification Number	Calibration Date	Calibration Due Date
Photometer	76INCH SPHERE IN0058	12/16/2025	6/16/2026
Power Meter	XITRON INXT2011004	10/21/2025	10/21/2026
AC Power Source	CHROMA 61603 IN0063	10/21/2025	10/21/2026
DC Power Source	AGILENT E3634A IN0208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

REPORT NUMBER: SP1-2511-597-9

CIE 1931 Chromaticity Diagram

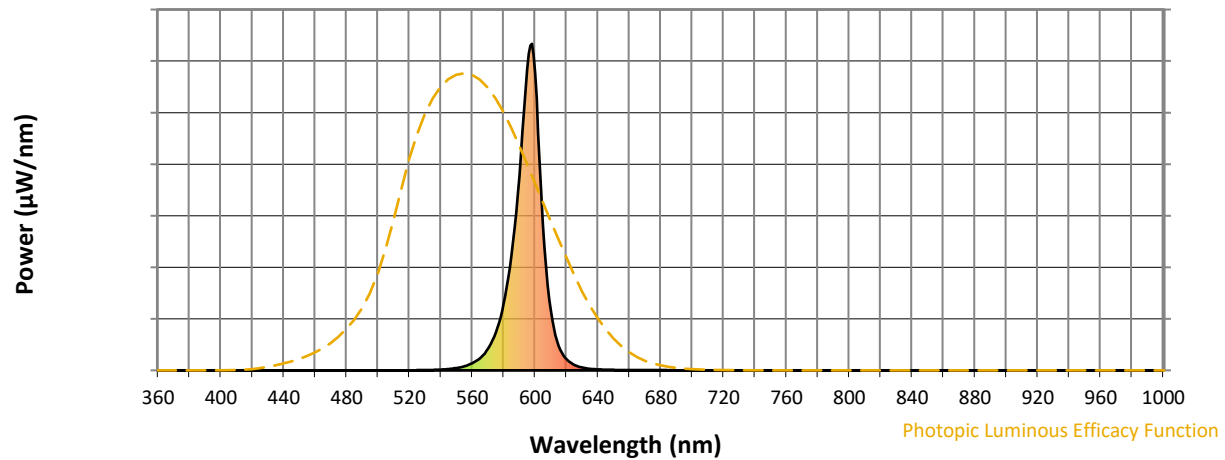


CIE 1931 Chromaticity Diagram with 2017 ANSI 7-Step and 4-Step Quadrangles



REPORT NUMBER: SP1-2511-597-9

Photopic Flux vs. Wavelength

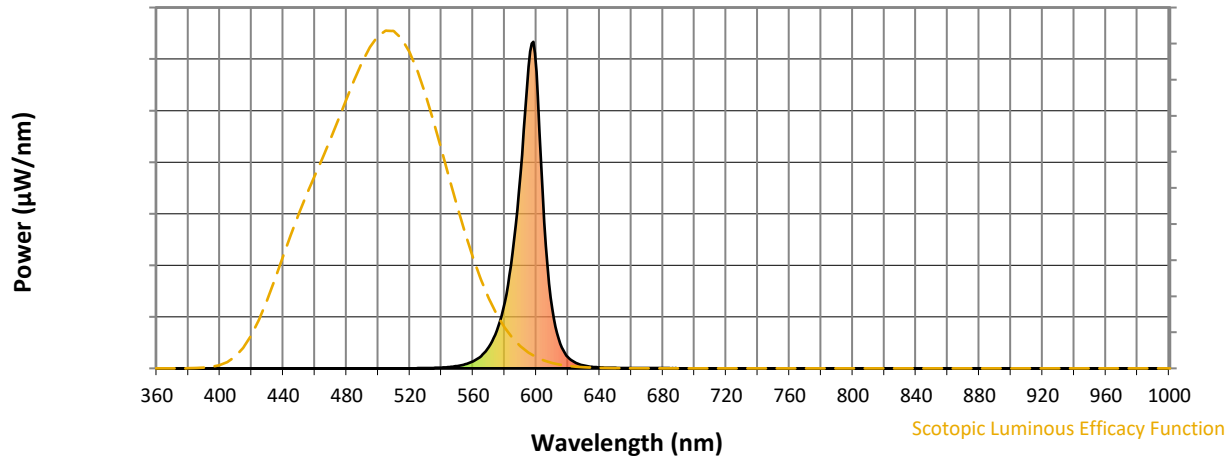


Photopic Lumens: NR

λ (nm)	Power $\text{W}^{\wedge}/\text{nm}$	Lumens (ϕ/nm)	λ (nm)	Power $\text{W}^{\wedge}/\text{nm}$	Lumens (ϕ/nm)	λ (nm)	Power $\text{W}^{\wedge}/\text{nm}$	Lumens (ϕ/nm)	λ (nm)	Power $\text{W}^{\wedge}/\text{nm}$	Lumens (ϕ/nm)	λ (nm)	Power $\text{W}^{\wedge}/\text{nm}$	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			

REPORT NUMBER: SP1-2511-597-9

Scotopic Flux vs. Wavelength



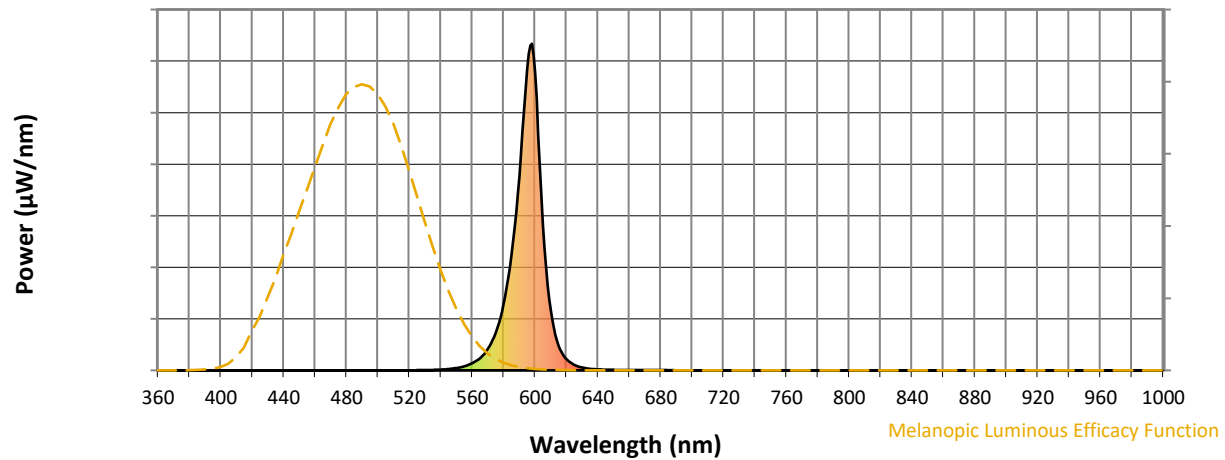
Scotopic Lumens: NR

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			

REPORT NUMBER: SP1-2511-597-9

Melanopic Flux vs. Wavelength



Melanopic Lumens: NR

M/P: 0.12

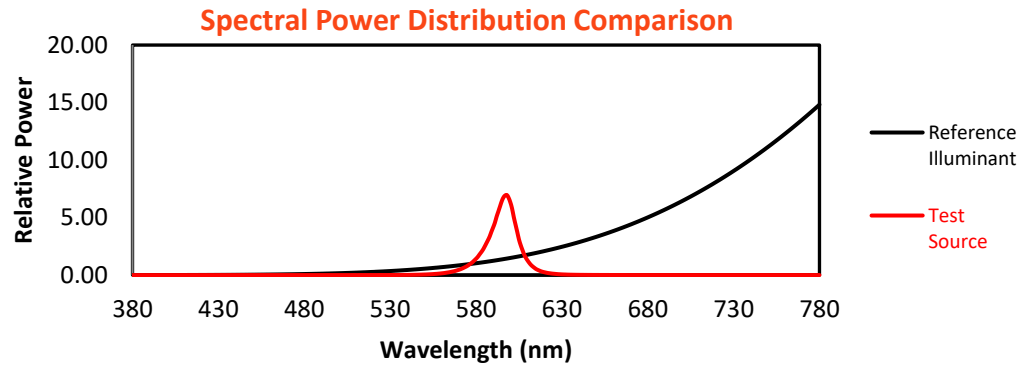
λ (nm)	Power $\text{W}^{\wedge}/\text{nm}$	Lumens (ϕ/nm)	λ (nm)	Power $\text{W}^{\wedge}/\text{nm}$	Lumens (ϕ/nm)	λ (nm)	Power $\text{W}^{\wedge}/\text{nm}$	Lumens (ϕ/nm)	λ (nm)	Power $\text{W}^{\wedge}/\text{nm}$	Lumens (ϕ/nm)	λ (nm)	Power $\text{W}^{\wedge}/\text{nm}$	Lumens (ϕ/nm)
360	0	NR	490	0	NR	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			

REPORT NUMBER: SP1-2511-597-9

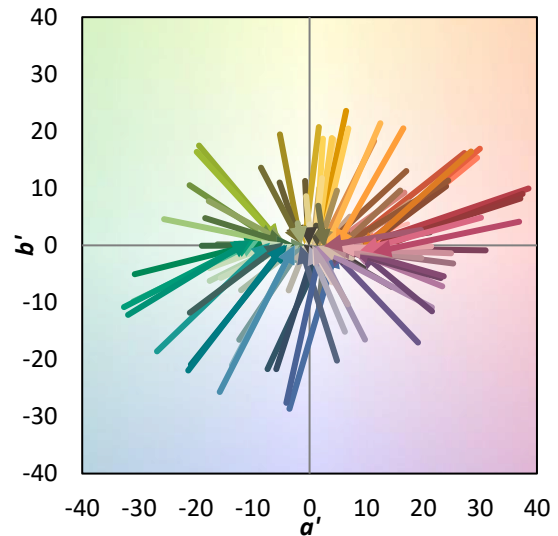
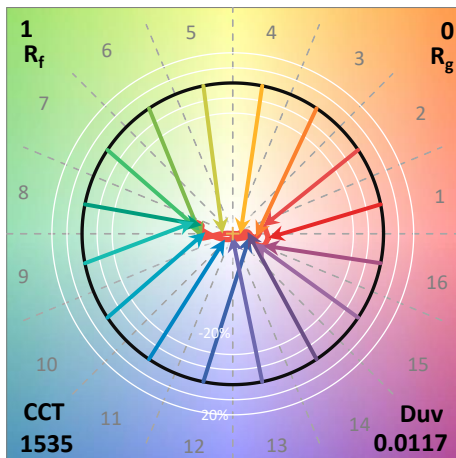
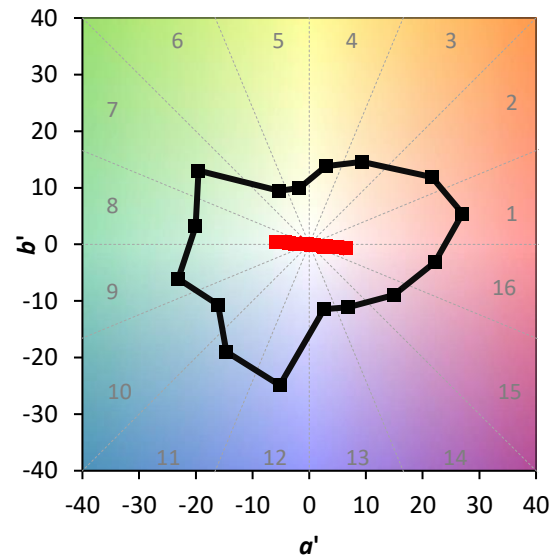
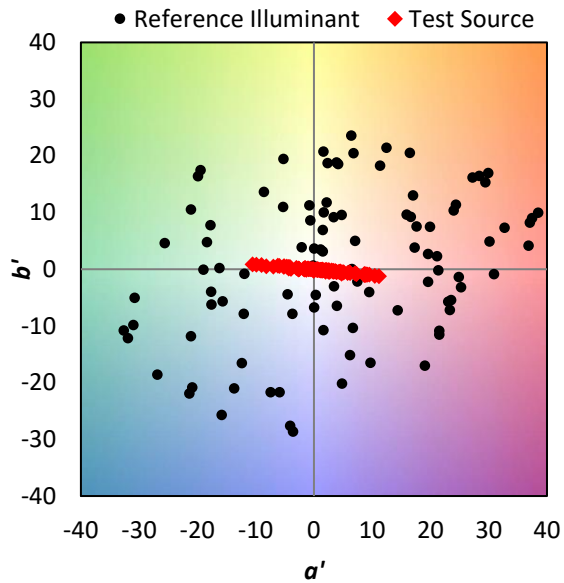
TM-30-18

Summary

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

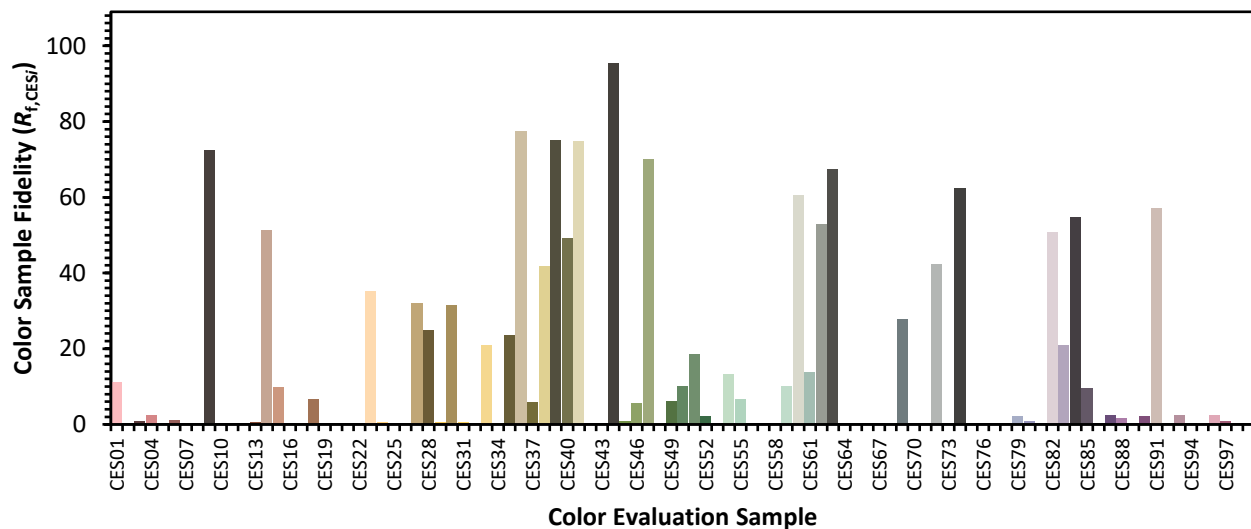


Color Vector Graphics

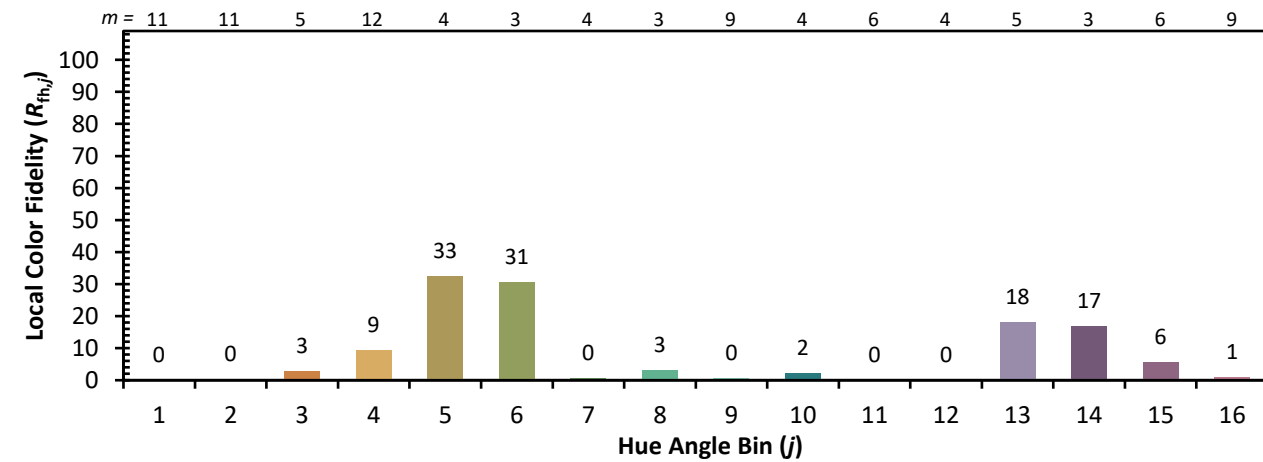
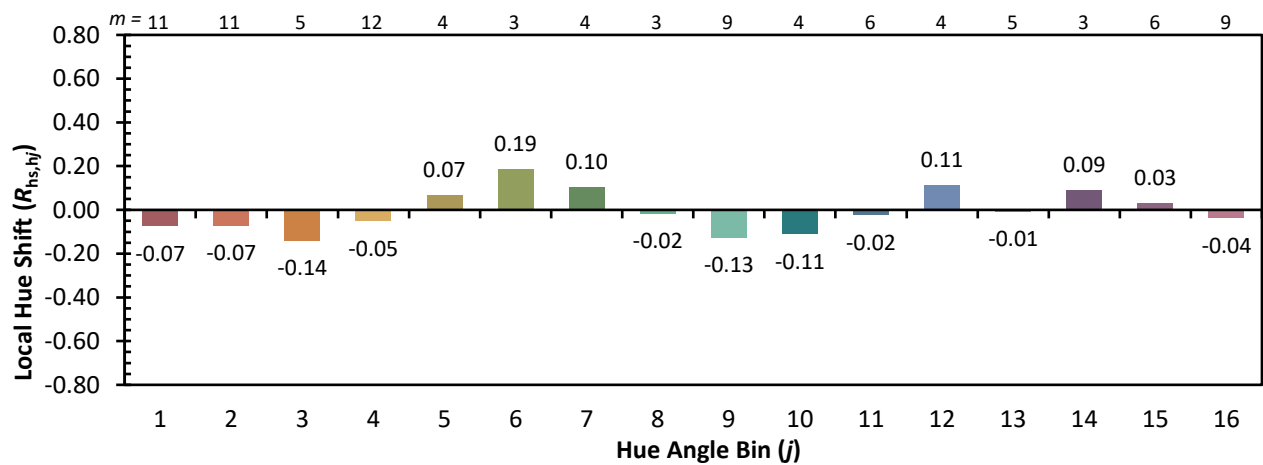
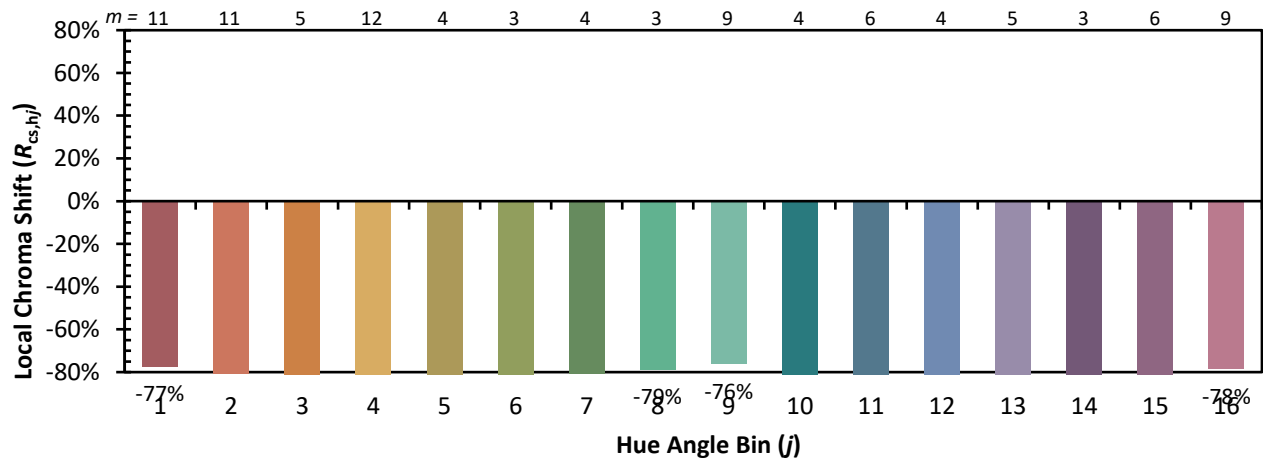


Individual Sample Fidelity Index ($R_{f,i}$)

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	



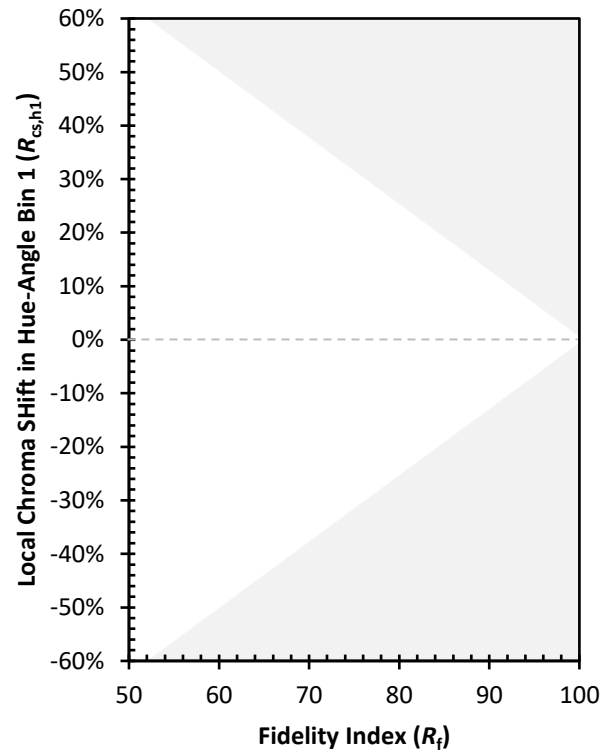
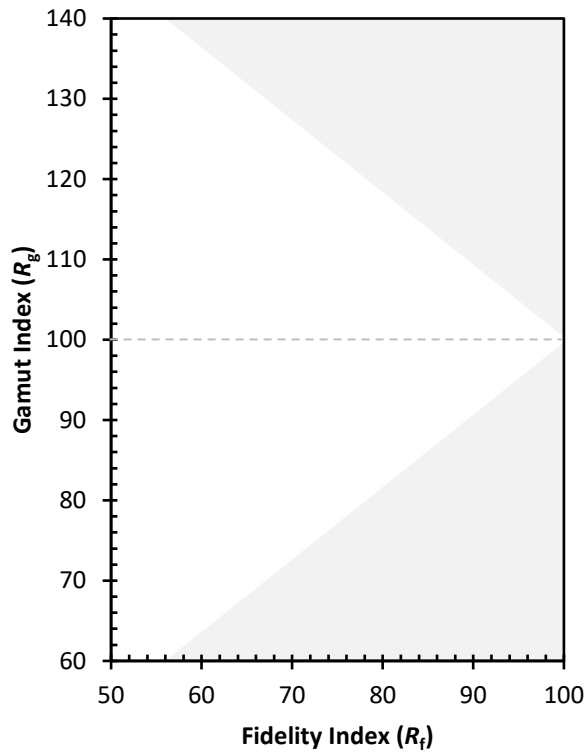
Color Rendition by Hue-Angle Bin



REPORT NUMBER: SP1-2511-597-9

TM-30-18

Measure Comparisons



(END OF REPORT)