

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: P1357012

Luminaire Tested: 3ASL4-15HE-2-A59-UNV

Issue Date: 2/17/2026

Test Information

Test Method: LM-79-2019
Report Number: P1357012
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: 3ASL4-15HE-2-A59-UNV
Description: 3FT 1500 LUMEN PER FOOT 4ASL LED LUMINAIRE WITH OPL LENS AND A59 LEDS 2 ROW
Light Source: -
Ballast/Driver: -

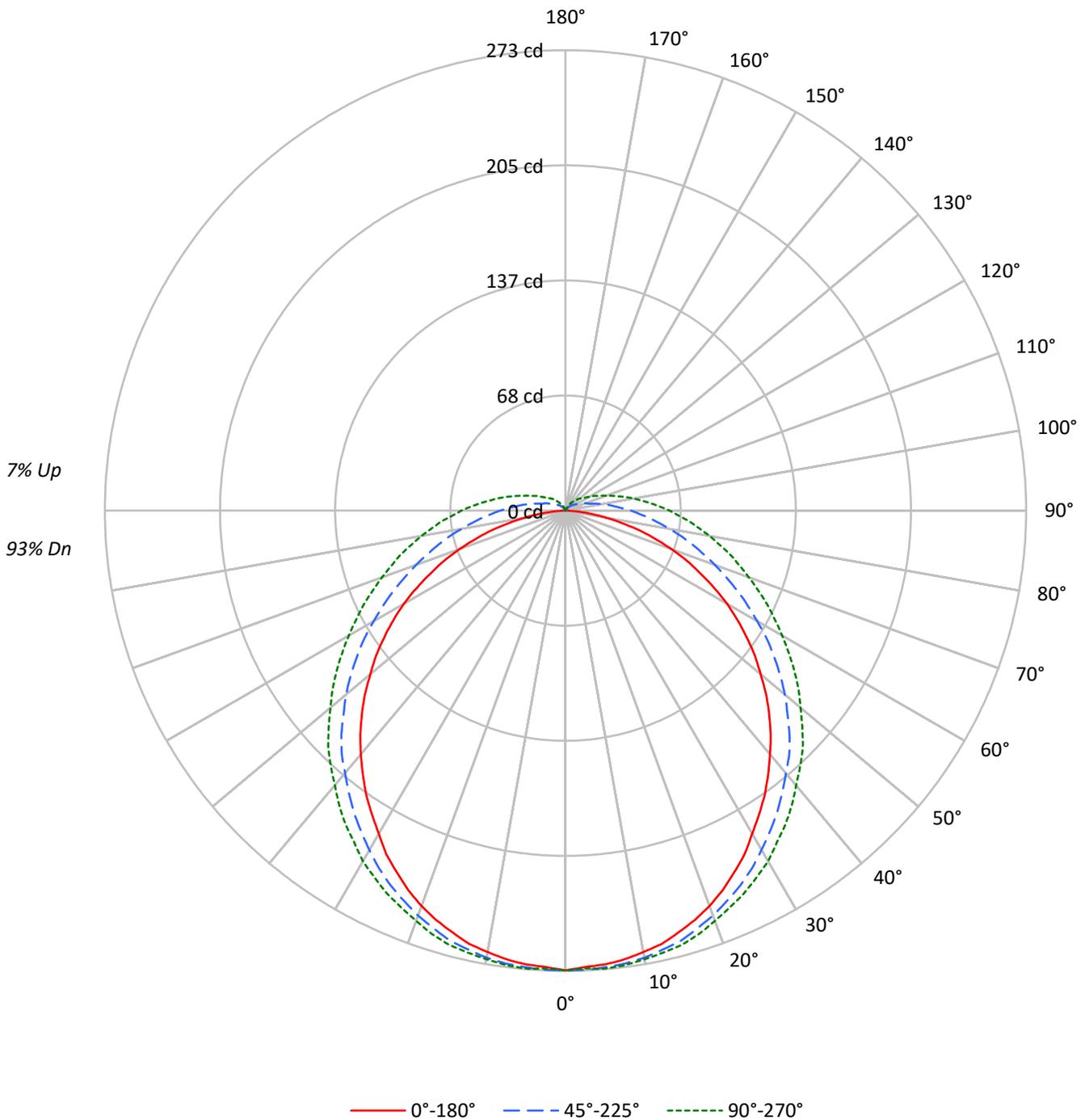
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 936.0 lumens
Efficiency: N/A
Efficacy: 34.7 lumens/watt
Spacing Criteria (0/90/45): 1.21 / 1.3 / 1.4
Luminous Opening: Rectangular w/ Sides (W: 0.33' x L: 2.98' x H: 0.1')
CIE Type: Direct

Input Watts (W): 27
Input Voltage (V): NR
Input Current (A_{in}): 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: P1357012
CATALOG NUMBER: 3ASL4-15HE-2-A59-UNV

Luminous Intensity Polar Plot





TEST NUMBER: P1357012
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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	0
RCR																					
0	117	117	117	117	114	114	114	114	107	107	107	101	101	101	95	95	95	95	95	95	93
1	105	100	95	90	102	97	92	88	91	87	84	86	83	80	81	79	77	77	77	77	74
2	95	86	79	72	92	84	77	71	79	73	68	74	70	65	70	66	63	63	63	63	60
3	86	75	66	59	83	73	65	58	69	62	56	65	59	55	62	57	53	53	53	53	50
4	79	66	57	50	76	64	56	49	61	54	48	58	51	46	55	49	45	45	45	45	42
5	72	59	50	43	70	57	49	42	54	47	41	52	45	40	49	43	39	39	39	39	36
6	67	53	44	37	64	52	43	37	49	41	36	47	40	35	44	39	34	34	34	34	32
7	62	48	39	33	60	47	38	32	45	37	32	43	36	31	41	35	30	30	30	30	28
8	58	44	35	29	56	43	34	29	41	33	28	39	32	28	37	31	27	27	27	27	25
9	54	40	32	26	52	39	31	26	37	30	25	36	29	25	34	29	24	24	24	24	22
10	50	37	29	24	49	36	28	23	35	28	23	33	27	22	32	26	22	22	22	22	20

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	2955	2955	2955
5°	2930	2895	2887
10°	2908	2840	2818
15°	2878	2781	2761
20°	2842	2705	2681
25°	2784	2631	2614
30°	2714	2547	2546
35°	2658	2468	2467
40°	2593	2384	2383
45°	2527	2311	2323
50°	2443	2215	2234
55°	2361	2111	2162
60°	2261	1995	2086
65°	2107	1886	2027
70°	1934	1784	1973
75°	1682	1704	1956
80°	1297	1633	1950
85°	764	1623	2005

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 2527 cd/sqm



TEST NUMBER: P1357012
 CATALOG NUMBER: 3ASL4-15HE-2-A59-UNV

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	25.9	2.8
10°-20°	74.3	7.9
20°-30°	112.6	12.0
30°-40°	136.2	14.6
40°-50°	143.6	15.3
50°-60°	134.0	14.3
60°-70°	110.6	11.8
70°-80°	80.3	8.6
80°-90°	50.7	5.4
90°-100°	30.3	3.2
100°-110°	17.4	1.9
110°-120°	9.8	1.1
120°-130°	5.6	0.6
130°-140°	3.0	0.3
140°-150°	1.3	0.1
150°-160°	0.2	0.0
160°-170°	0.0	0.0
170°-180°	0.0	0.0
0°-30°	212.8	22.7
0°-40°	349.0	37.3
0°-60°	626.6	66.9
0°-90°	868.3	92.8
90°-120°	57.5	6.1
90°-150°	67.5	7.2
90°-180°	68.0	7.3
0°-180°	936.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	273	273	273	273	273	
5°	270	273	272	272	273	26
15°	259	262	264	265	267	73
25°	237	240	245	249	250	109
35°	206	211	219	225	227	129
45°	171	178	188	196	199	132
55°	131	139	151	161	166	117
65°	88	98	112	126	132	88
75°	45	57	78	94	101	48
85°	9	27	50	67	74	11
90°	0	16	39	55	62	0
95°	0	10	29	45	51	0
105°	0	3	16	28	33	0
115°	0	2	9	17	21	0
125°	0	1	6	11	13	0
135°	0	0	3	7	9	0
145°	0	0	2	4	5	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	0



TEST NUMBER: P1357012
 CATALOG NUMBER: 3ASL4-15HE-2-A59-UNV

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	272.6	272.6	272.6	272.6	272.6
2.5°	270.9	273.5	272.6	271.8	271.8
5°	270.1	272.6	271.8	271.8	272.6
7.5°	268.4	270.9	270.9	270.9	271.8
10°	265.8	269.2	269.2	269.2	270.1
12.5°	263.2	265.8	266.6	267.5	268.4
15°	258.9	262.4	264.1	264.9	266.6
17.5°	254.6	257.2	259.8	262.4	263.2
20°	249.5	252.9	255.5	258.1	258.9
22.5°	243.5	246.9	250.4	252.9	254.6
25°	236.6	240.1	245.2	248.6	250.4
27.5°	229.8	233.2	239.2	243.5	245.2
30°	221.2	226.3	232.4	237.5	240.1
32.5°	213.5	218.6	225.5	231.5	233.2
35°	205.8	210.9	218.6	224.6	227.2
37.5°	197.2	203.2	210.9	217.8	220.3
40°	188.6	194.6	203.2	210.9	212.6
42.5°	180.0	186.1	196.3	203.2	205.8
45°	170.6	177.5	187.8	195.5	198.9
47.5°	161.2	168.0	178.3	186.9	190.3
50°	150.9	158.6	169.8	178.3	181.8
52.5°	141.5	149.2	160.3	169.8	174.0
55°	131.2	138.9	150.9	161.2	165.5
57.5°	120.9	128.6	141.5	152.6	156.9
60°	110.6	118.3	131.2	144.0	148.3
62.5°	99.5	108.0	121.7	134.6	139.8
65°	88.3	97.7	112.3	126.0	132.0
67.5°	78.0	87.5	102.9	118.3	123.5
70°	66.9	77.2	94.3	109.7	115.7
72.5°	55.7	66.9	85.7	102.0	108.0
75°	45.4	57.4	78.0	94.3	101.2
77.5°	34.3	48.9	70.3	87.5	93.5
80°	24.9	40.3	62.6	80.6	86.6
82.5°	16.3	32.6	55.7	73.7	79.7
85°	8.6	26.6	49.7	66.9	73.7
87.5°	2.6	20.6	43.7	60.9	66.9
90°	0.0	16.3	38.6	54.9	61.7
92.5°	0.0	12.9	33.4	49.7	55.7
95°	0.0	10.3	29.2	44.6	50.6
97.5°	0.0	8.6	25.7	40.3	45.4
100°	0.0	6.9	22.3	36.0	41.2
102.5°	0.0	5.1	18.9	31.7	36.9
105°	0.0	3.4	16.3	28.3	32.6
107.5°	0.0	2.6	13.7	24.9	29.2
110°	0.0	2.6	12.9	21.4	25.7



TEST NUMBER: P1357012
 CATALOG NUMBER: 3ASL4-15HE-2-A59-UNV

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	0.0	1.7	11.1	19.7	23.1
115°	0.0	1.7	9.4	17.1	20.6
117.5°	0.0	1.7	8.6	15.4	18.9
120°	0.0	1.7	7.7	13.7	16.3
122.5°	0.0	0.9	6.9	12.0	14.6
125°	0.0	0.9	6.0	11.1	12.9
127.5°	0.0	0.9	5.1	10.3	12.0
130°	0.0	0.9	5.1	9.4	11.1
132.5°	0.0	0.0	4.3	8.6	10.3
135°	0.0	0.0	3.4	6.9	8.6
137.5°	0.0	0.0	3.4	6.0	7.7
140°	0.0	0.0	2.6	6.0	6.9
142.5°	0.0	0.0	1.7	5.1	6.0
145°	0.0	0.0	1.7	4.3	5.1
147.5°	0.0	0.0	0.9	3.4	4.3
150°	0.0	0.0	0.9	2.6	3.4
152.5°	0.0	0.0	0.0	1.7	2.6
155°	0.0	0.0	0.0	0.9	1.7
157.5°	0.0	0.0	0.0	0.0	0.9
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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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	15.10	16.63	15.57	17.09	17.58
	3H	14.57	15.97	15.06	16.44	16.97	17.54	18.94	18.02	19.41	19.94
	4H	15.05	16.38	15.56	16.87	17.41	18.74	20.06	19.24	20.55	21.10
	6H	15.33	16.56	15.84	17.06	17.62	19.99	21.23	20.51	21.73	22.29
	8H	15.38	16.56	15.91	17.09	17.66	20.64	21.82	21.17	22.34	22.91
	12H	15.39	16.53	15.93	17.05	17.65	21.34	22.48	21.88	23.00	23.59
4H	2H	13.94	15.27	14.45	15.76	16.30	15.53	16.86	16.04	17.34	17.89
	3H	15.68	16.82	16.20	17.35	17.91	18.20	19.33	18.72	19.86	20.43
	4H	16.29	17.33	16.83	17.87	18.47	19.57	20.61	20.11	21.15	21.75
	6H	16.69	17.61	17.25	18.18	18.79	21.03	21.94	21.58	22.51	23.12
	8H	16.79	17.65	17.36	18.22	18.85	21.78	22.64	22.34	23.21	23.83
	12H	16.84	17.62	17.43	18.22	18.85	22.61	23.39	23.20	23.99	24.62
8H	4H	16.98	17.84	17.54	18.41	19.03	19.79	20.66	20.36	21.22	21.85
	6H	17.57	18.30	18.16	18.91	19.54	21.42	22.15	22.02	22.76	23.39
	8H	17.76	18.42	18.36	19.03	19.68	22.32	22.98	22.93	23.60	24.24
	12H	17.88	18.47	18.49	19.07	19.78	23.34	23.93	23.95	24.53	25.24
12H	4H	17.18	17.96	17.76	18.56	19.19	19.80	20.59	20.39	21.18	21.81
	6H	17.87	18.53	18.48	19.15	19.79	21.46	22.12	22.07	22.74	23.38
	8H	18.15	18.74	18.77	19.35	20.06	22.43	23.02	23.04	23.63	24.34

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
 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
 R_f: 1.3
 R_g: 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

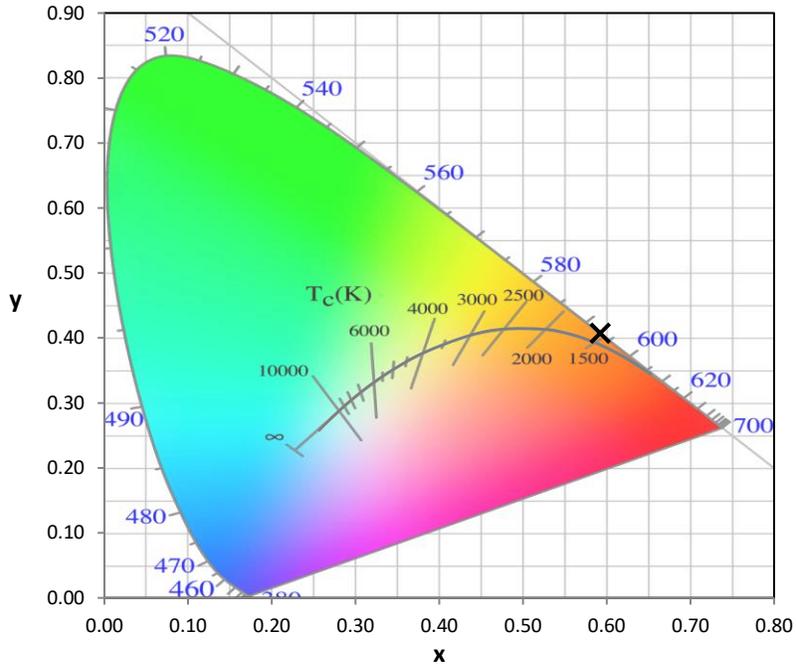
Stabilization Time: 77M
 Operation Time: 2H 17M
 Sphere Temperature (°C): 25.1

REPORT NUMBER: SP1-2511-597-9

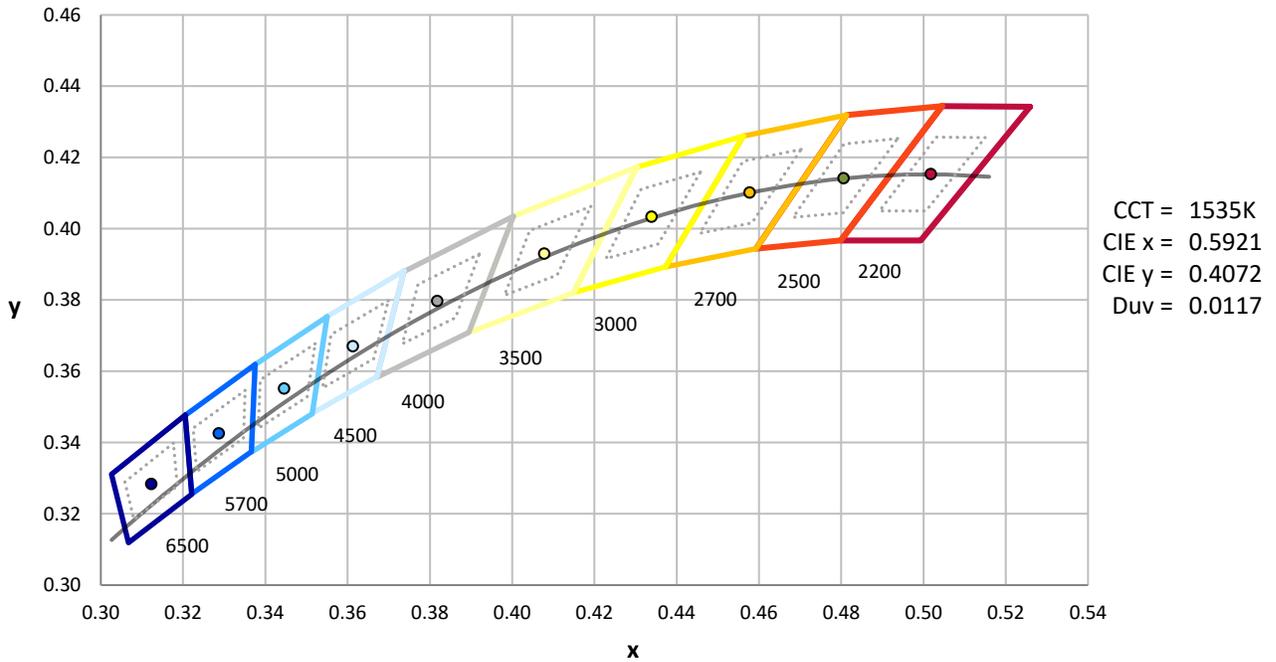
Measurement and Test Equipment			
Instrument	Identification Number	Calibration Date	Calibration Due Date
Photometer	76INCH SPHERE IN0058	12/16/2025	6/16/2026
Power Meter	XITRON INXT2011004	10/21/2025	10/21/2026
AC Power Source	CHROMA 61603 IN0063	10/21/2025	10/21/2026
DC Power Source	AGILENT E3634A IN0208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

REPORT NUMBER: SP1-2511-597-9

CIE 1931 Chromaticity Diagram



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



Point lies outside the range

REPORT NUMBER: SP1-2511-597-9

Photopic Flux vs. Wavelength

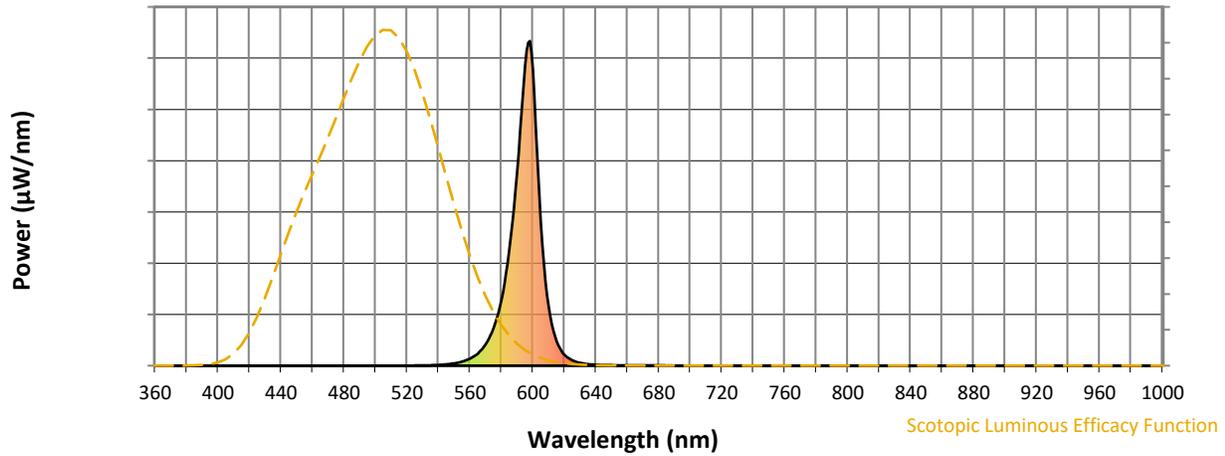


Photopic Lumens: NR

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			

REPORT NUMBER: SP1-2511-597-9

Scotopic Flux vs. Wavelength



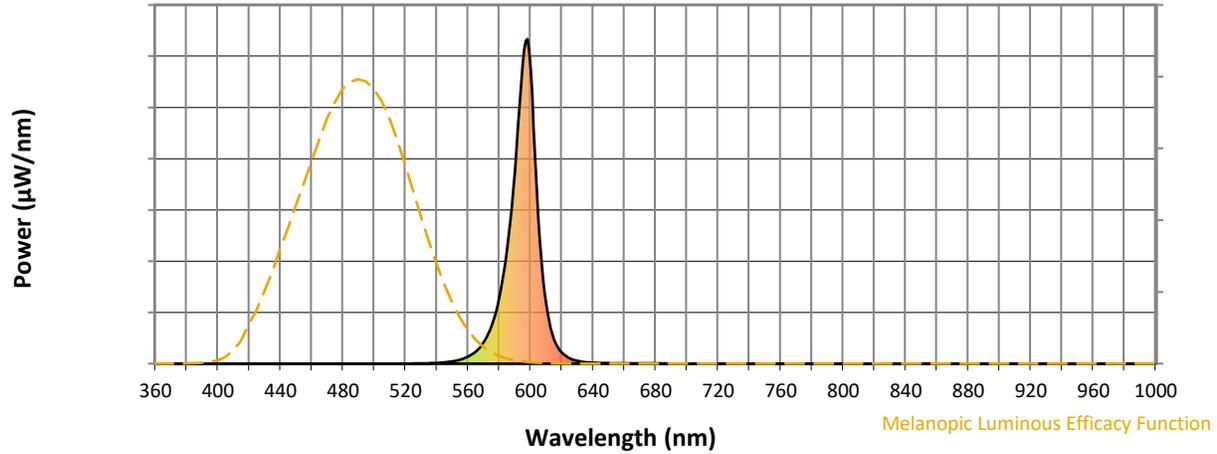
Scotopic Lumens: NR

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



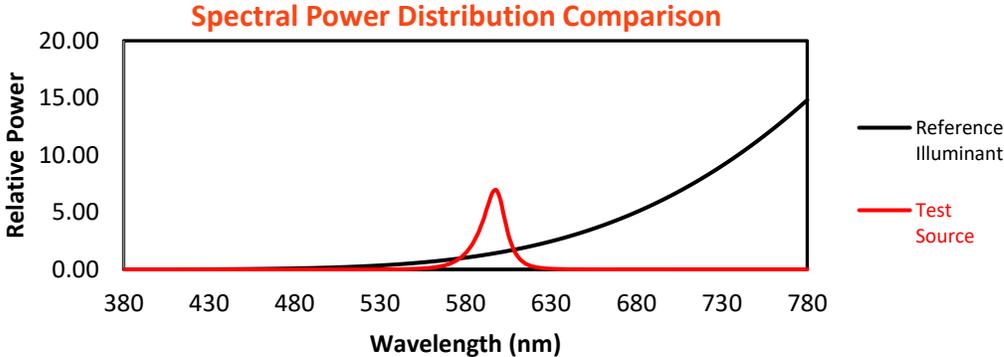
Melanopic Lumens: NR

M/P: 0.12

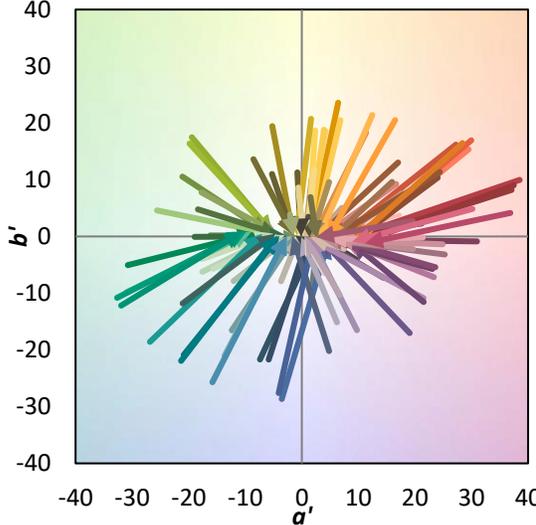
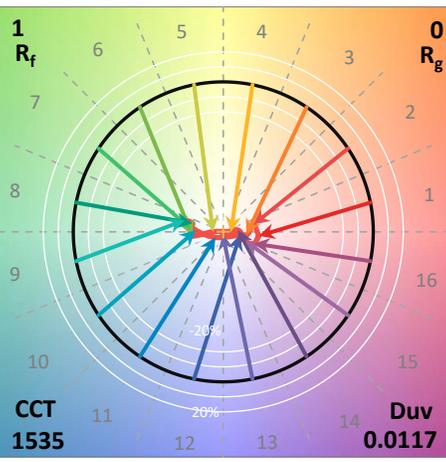
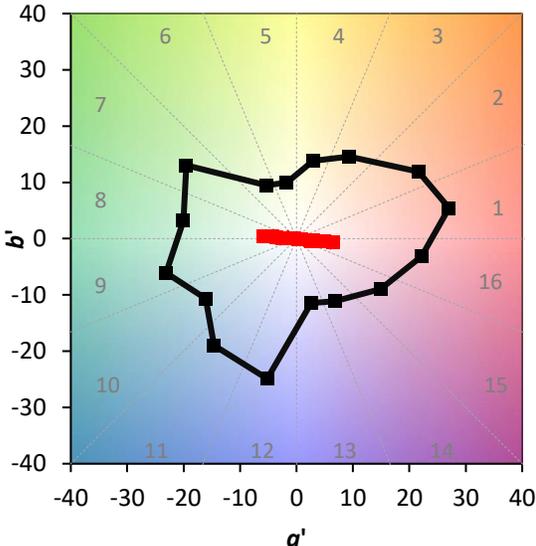
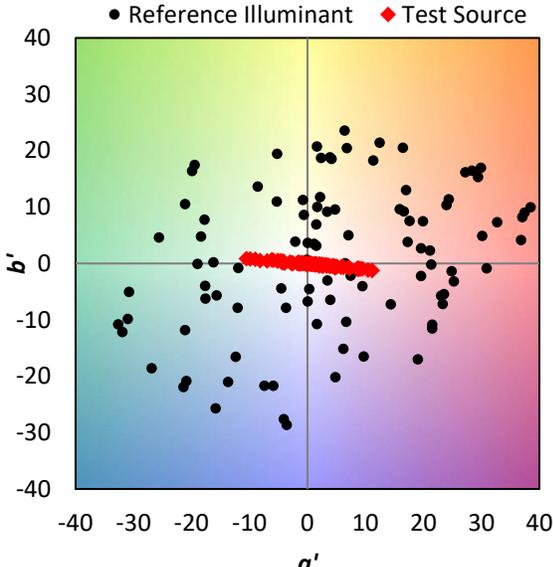
λ (nm)	Power W [^] /nm	Lumens (φ/nm)	λ (nm)	Power W [^] /nm	Lumens (φ/nm)	λ (nm)	Power W [^] /nm	Lumens (φ/nm)	λ (nm)	Power W [^] /nm	Lumens (φ/nm)	λ (nm)	Power W [^] /nm	Lumens (φ/nm)
360	0	NR	490	0	NR	620	35	NR	750	0	NR	880	0	NR
365	0	NR	495	0	NR	625	17	NR	755	0	NR	885	0	NR
370	0	NR	500	0	NR	630	9	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			

Summary

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

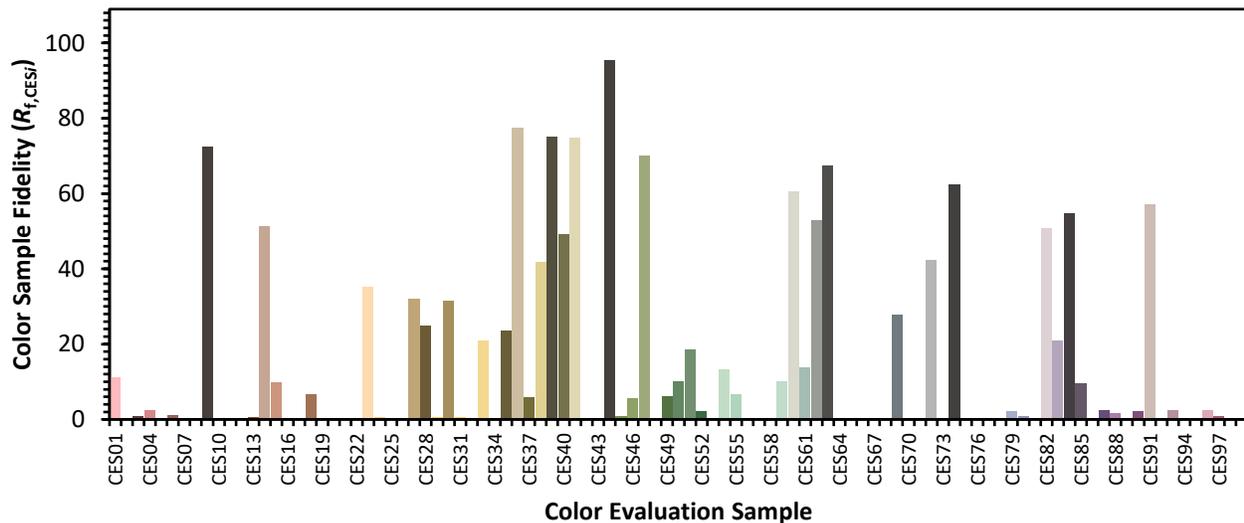


Color Vector Graphics

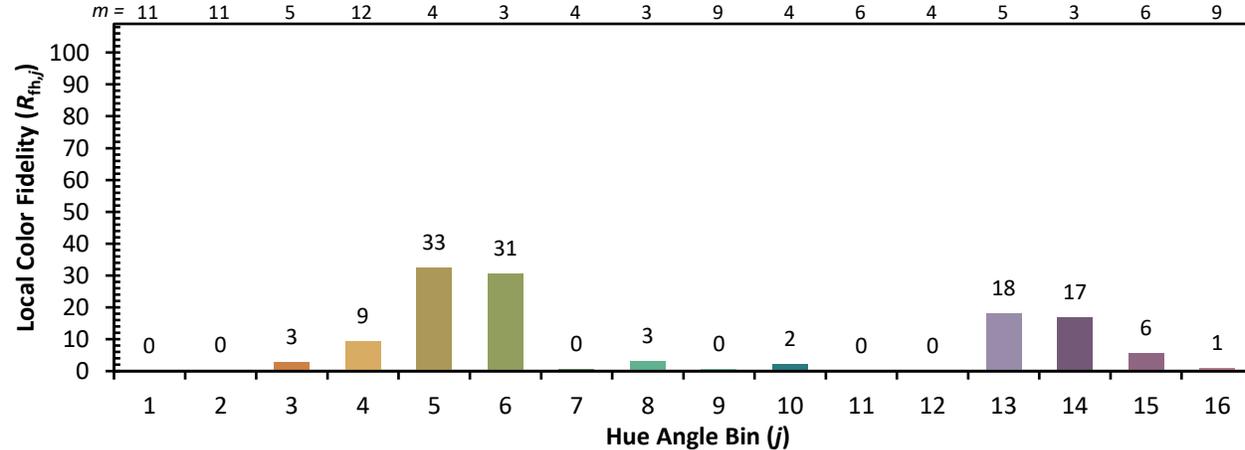
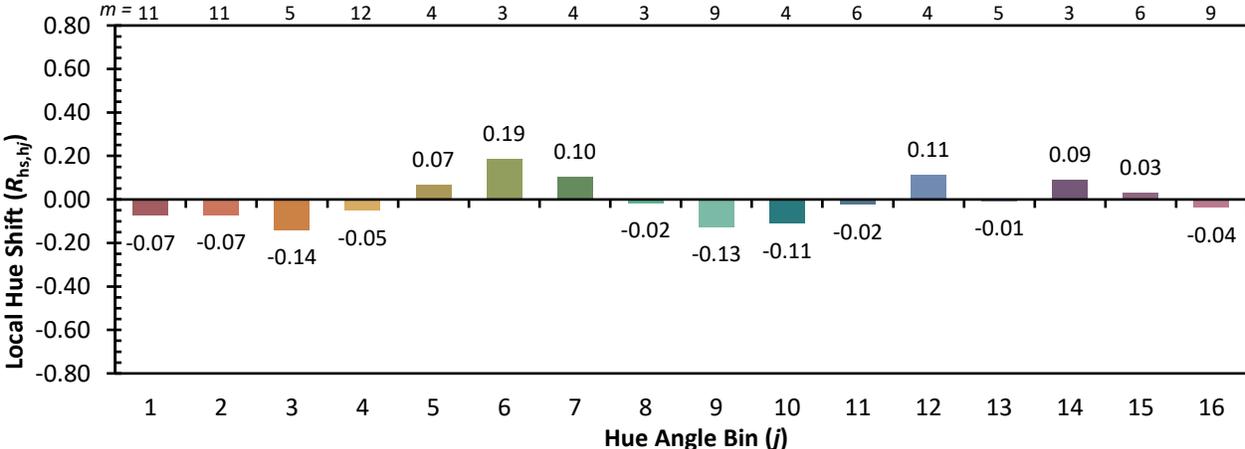
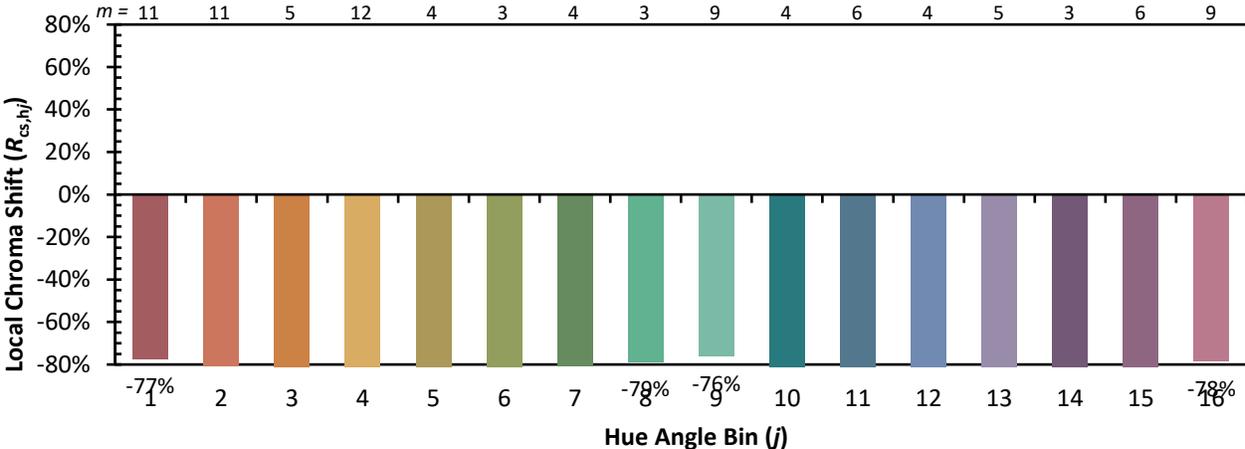


Individual Sample Fidelity Index ($R_{f,i}$)

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



Measure Comparisons



(END OF REPORT)