

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: P1356768

Luminaire Tested: 1ASL4-5-1-65-UNV

Issue Date: 2/17/2026

Test Information

Test Method: LM-79-2019
Report Number: P1356768
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2511-597-6)
Test Lab: INNOVATION CENTER
Issue Date: 2/17/2026
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: FAIL-SAFE
Catalog Number: 1ASL4-5-1-65-UNV
Description: 1FT 500 LUMEN PER FOOT 4ASL LED LUMINAIRE WITH OPL LENS AND 6500K LEDS 1 ROW
Light Source: -
Ballast/Driver: -

Summary

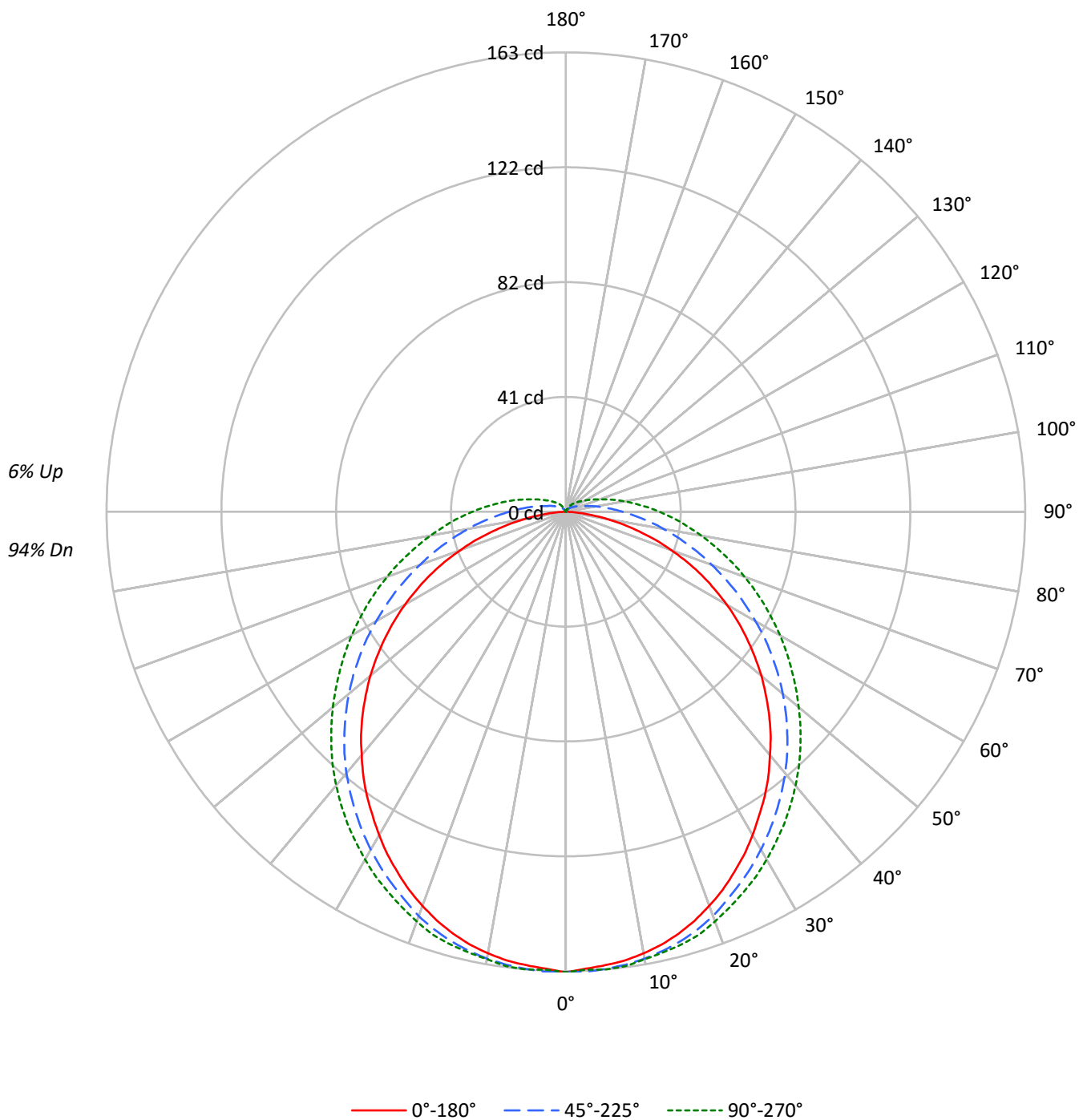
Lumens per Lamp: N/A
Luminaire Lumens: 547.0 lumens
Efficiency: N/A
Efficacy: 121.6 lumens/watt
Spacing Criteria (0/90/45): 1.21 / 1.3 / 1.39
Luminous Opening: Rectangular w/ Sides (W: 0.33' x L: 0.98' x H: 0.1')
CIE Type: Direct

Input Watts (W): 4.5
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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Luminous Intensity Polar Plot



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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
RCR																	
0	118	118	118	118	114	114	114	114	108	108	108		102	102	102		96
1	106	100	95	91	102	97	93	89	92	88	85		87	84	81		82
2	95	86	79	73	92	84	77	71	79	74	69		75	70	66		71
3	87	76	67	60	84	73	65	59	69	63	57		66	60	55		62
4	79	67	57	50	76	65	56	50	62	54	48		58	52	47		56
5	73	59	50	43	70	58	49	43	55	47	42		52	46	41		50
6	67	53	44	38	65	52	43	37	50	42	36		47	41	35		45
7	62	48	39	33	60	47	39	33	45	37	32		43	36	31		41
8	58	44	35	29	56	43	35	29	41	34	29		39	33	28		38
9	54	40	32	26	52	39	32	26	38	31	26		36	30	25		35
10	51	37	29	24	49	36	29	24	35	28	23		34	27	23		32

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	5389	5389	5389
5°	5297	5253	5253
10°	5230	5124	5116
15°	5142	4988	5006
20°	5028	4838	4875
25°	4895	4662	4732
30°	4754	4501	4597
35°	4612	4338	4463
40°	4454	4176	4325
45°	4300	3998	4182
50°	4125	3811	4034
55°	3913	3608	3888
60°	3676	3392	3757
65°	3380	3169	3626
70°	2962	2929	3502
75°	2444	2705	3400
80°	1777	2502	3343
85°	854	2330	3368

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 4300 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	15.5	2.8
10°-20°	44.4	8.1
20°-30°	67.2	12.3
30°-40°	81.2	14.8
40°-50°	85.3	15.6
50°-60°	79.5	14.5
60°-70°	65.3	11.9
70°-80°	46.4	8.5
80°-90°	28.0	5.1
90°-100°	15.7	2.9
100°-110°	8.7	1.6
110°-120°	4.8	0.9
120°-130°	2.8	0.5
130°-140°	1.5	0.3
140°-150°	0.7	0.1
150°-160°	0.2	0.0
160°-170°	0.0	0.0
170°-180°	0.0	0.0
0°-30°	127.0	23.2
0°-40°	208.2	38.1
0°-60°	373.1	68.2
0°-90°	512.7	93.7
90°-120°	29.2	5.3
90°-150°	34.2	6.2
90°-180°	34.0	6.2
0°-180°	547.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	163	163	163	163	163	
5°	162	163	163	163	163	15
15°	155	157	158	158	159	44
25°	141	144	146	148	149	65
35°	123	126	130	133	135	77
45°	102	106	111	116	118	79
55°	78	83	89	95	98	70
65°	53	58	66	74	78	52
75°	27	34	45	54	58	29
85°	5	14	27	37	41	6
90°	0	8	20	30	33	0
95°	0	5	15	23	27	0
105°	0	2	8	14	17	0
115°	0	1	5	8	10	0
125°	0	1	3	6	6	0
135°	0	0	2	4	4	0
145°	0	0	1	2	3	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

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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	163.4	163.4	163.4	163.4	163.4
2.5°	162.3	163.8	163.4	162.6	162.6
5°	161.5	163.0	162.8	162.6	163.0
7.5°	160.6	162.1	162.1	162.3	162.6
10°	159.1	161.0	161.0	161.0	161.2
12.5°	157.3	159.1	159.5	159.7	160.1
15°	154.9	156.9	157.7	158.4	158.9
17.5°	152.1	154.1	155.4	156.4	157.3
20°	148.8	151.0	152.7	153.8	154.7
22.5°	145.3	147.5	149.2	150.8	151.9
25°	141.2	143.8	145.8	147.9	149.0
27.5°	137.1	139.7	142.3	144.7	146.0
30°	132.5	135.5	138.4	141.2	142.5
32.5°	127.7	130.9	134.4	137.3	138.8
35°	123.1	126.2	130.1	133.4	135.1
37.5°	118.1	121.2	125.7	129.4	131.0
40°	112.7	116.3	121.1	124.9	126.8
42.5°	107.6	111.1	116.3	120.5	122.4
45°	102.0	105.7	111.1	115.7	117.7
47.5°	96.3	100.2	105.9	110.7	112.9
50°	90.6	94.6	100.5	105.7	107.9
52.5°	84.5	88.7	95.0	100.5	102.9
55°	78.4	82.8	89.3	95.2	97.8
57.5°	72.3	76.7	83.7	90.0	92.8
60°	66.0	70.6	77.8	84.6	87.8
62.5°	59.5	64.3	71.9	79.3	82.6
65°	53.2	58.0	66.4	74.1	77.6
67.5°	46.6	51.8	60.6	68.8	72.5
70°	39.7	45.7	55.1	63.8	67.5
72.5°	33.6	39.7	49.9	58.8	62.7
75°	26.8	33.6	44.7	54.0	57.8
77.5°	20.9	28.3	39.9	49.3	53.2
80°	15.0	23.1	35.3	44.9	48.8
82.5°	9.6	18.5	31.1	40.8	44.5
85°	5.0	14.4	27.0	37.0	40.7
87.5°	1.5	11.1	23.3	33.1	36.8
90°	0.0	8.5	20.1	29.6	33.1
92.5°	0.0	6.5	17.4	26.4	29.9
95°	0.0	5.0	14.8	23.3	26.6
97.5°	0.0	3.9	12.8	20.5	23.8
100°	0.0	3.1	10.9	18.1	21.3
102.5°	0.0	2.6	9.4	16.1	18.9
105°	0.0	1.8	7.8	14.0	16.6
107.5°	0.0	1.3	6.8	12.4	14.6
110°	0.0	1.1	6.1	10.7	12.9



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	0.0	0.9	5.4	9.6	11.5
115°	0.0	0.9	4.8	8.5	10.2
117.5°	0.0	0.7	4.1	7.6	9.1
120°	0.0	0.7	3.7	6.8	8.1
122.5°	0.0	0.6	3.3	6.1	7.4
125°	0.0	0.6	3.0	5.5	6.5
127.5°	0.0	0.4	2.6	5.0	5.9
130°	0.0	0.4	2.4	4.4	5.4
132.5°	0.0	0.2	2.2	4.1	4.8
135°	0.0	0.2	1.8	3.5	4.4
137.5°	0.0	0.0	1.7	3.1	3.9
140°	0.0	0.0	1.3	2.8	3.5
142.5°	0.2	0.0	1.1	2.4	3.0
145°	0.2	0.0	0.7	2.0	2.6
147.5°	0.2	0.2	0.6	1.7	2.0
150°	0.2	0.2	0.4	1.1	1.7
152.5°	0.2	0.2	0.2	0.7	1.1
155°	0.2	0.2	0.0	0.6	0.7
157.5°	0.2	0.2	0.0	0.2	0.4
160°	0.2	0.2	0.0	0.0	0.2
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	15.16	16.72	15.62	17.16	17.63	16.90	18.46	17.36	18.90	19.37
	3H	16.66	18.08	17.13	18.53	19.04	19.22	20.63	19.69	21.08	21.59
	4H	17.14	18.48	17.63	18.95	19.47	20.30	21.64	20.80	22.11	22.64
	6H	17.42	18.67	17.93	19.15	19.69	21.39	22.63	21.89	23.12	23.66
	8H	17.47	18.67	17.99	19.18	19.72	21.91	23.11	22.43	23.62	24.16
	12H	17.49	18.63	18.01	19.14	19.71	22.46	23.61	22.98	24.11	24.68
4H	2H	15.98	17.32	16.48	17.79	18.32	17.35	18.69	17.85	19.16	19.69
	3H	17.72	18.86	18.22	19.37	19.92	19.89	21.03	20.40	21.54	22.09
	4H	18.32	19.36	18.84	19.88	20.46	21.14	22.19	21.67	22.71	23.29
	6H	18.72	19.64	19.26	20.19	20.78	22.42	23.34	22.96	23.89	24.48
	8H	18.81	19.68	19.36	20.23	20.83	23.05	23.91	23.60	24.46	25.07
	12H	18.85	19.64	19.43	20.22	20.83	23.71	24.50	24.28	25.08	25.69
8H	4H	18.92	19.78	19.47	20.33	20.94	21.37	22.23	21.92	22.78	23.39
	6H	19.48	20.22	20.07	20.81	21.42	22.81	23.54	23.39	24.13	24.74
	8H	19.66	20.32	20.26	20.93	21.55	23.57	24.24	24.17	24.84	25.46
	12H	19.77	20.36	20.37	20.96	21.65	24.42	25.01	25.02	25.60	26.29
12H	4H	19.07	19.86	19.65	20.44	21.05	21.38	22.16	21.95	22.74	23.35
	6H	19.73	20.39	20.32	21.00	21.62	22.84	23.51	23.44	24.11	24.74
	8H	19.99	20.59	20.59	21.18	21.87	23.68	24.27	24.28	24.87	25.56

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

Report Prepared for

Cooper Lighting Solutions

Fail-Safe

Report Number: SP1-2511-597-6

Test Date: 11/18/2025

Luminaire Tested: 4ASL-2-65-UNV-OPL-1_600mA

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

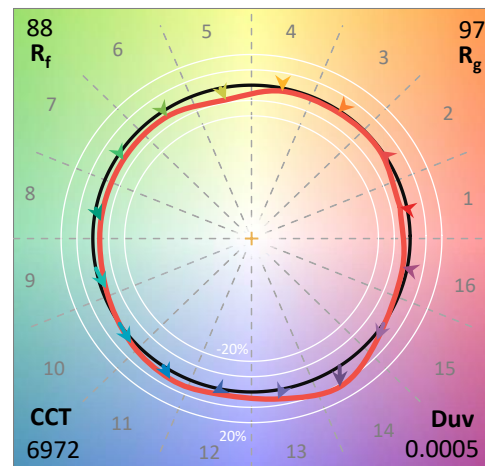
Test Information

Test Method: LM-79-2019
 Report Number: SP1-2511-597-6
 Test Lab: COOPER LIGHTING SOLUTIONS
 Photometer: SP1 - 76IN SPHERE
 Measurement Geometry: 4π
 Issue Date: 11/18/2025
 Manufacturer: COOPER LIGHTING SOLUTIONS
 Product Line: Fail-Safe
 Catalog Number: **4ASL-2-65-UNV-OPL-1_600mA**
 Description: 2foot 4ASL LED LUMINAIRE WITH OPL LENS AND 6500K LEDS with 1 rows at 600mA

Spectral Parameters

CCT (K): 6972
 CIE u' : 0.1979
 CIE v' : 0.4612
 Duv: 0.0005
 CIE x: 0.3066
 CIE y: 0.3177
 CIE z: 0.3758
 Peak Wavelength (nm): 455
 Dominant Wavelength (nm): 483
 Purity: 10.33335
 R_f: 88.2
 R_g: 97.1

CRI (Ra): 94.3
 R1: 96.1
 R2: 98.8
 R3: 96.4
 R4: 92.8
 R5: 92.9
 R6: 92.2
 R7: 93.5
 R8: 91.4
 R9: 82.6
 R10: 95.4
 R11: 95.2
 R12: 63.5
 R13: 99.3
 R14: 98.1
 R15: 93.7



Test Conditions

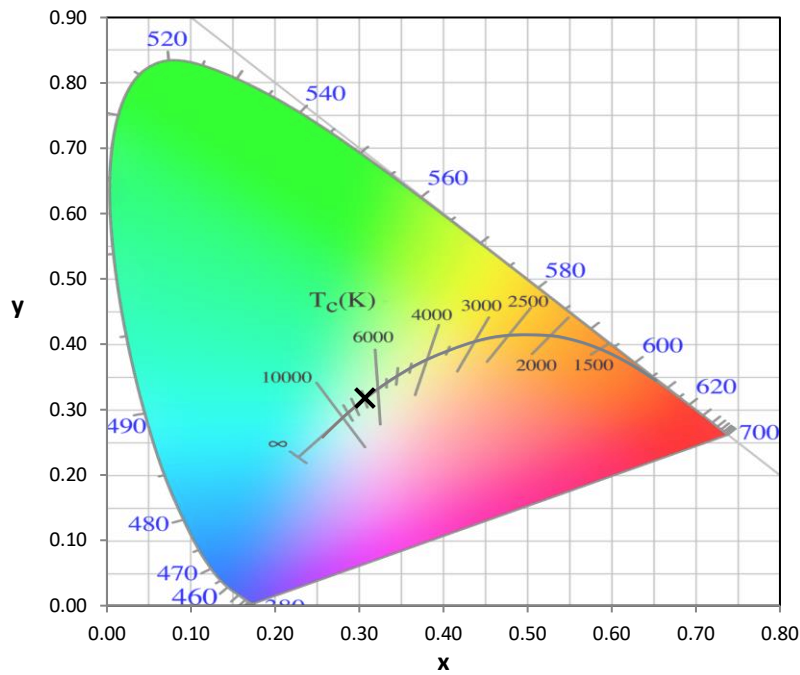
Stabilization Time: 20M
 Operation Time: 1H 20M
 Sphere Temperature (°C): 24.1

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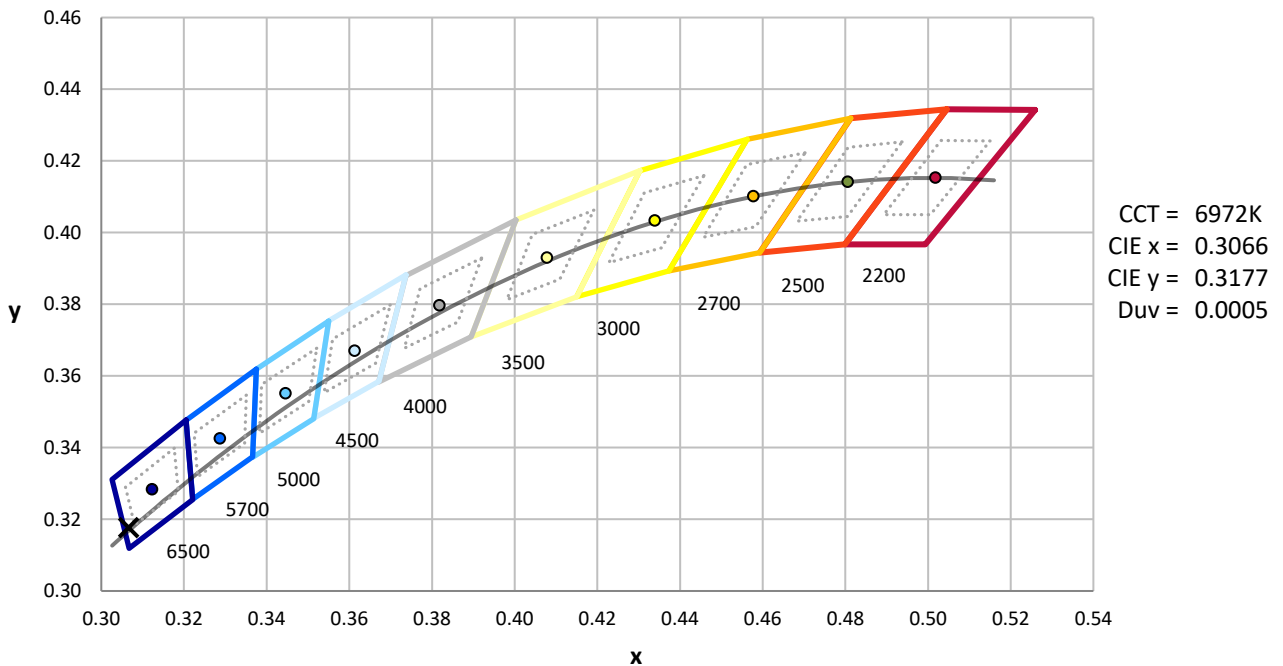
Measurement and Test Equipment			
Instrument	Identification Number	Calibration Date	Calibration Due Date
Photometer	76INCH SPHERE IN0058	6/16/2025	12/16/2025
Power Meter	XITRON INXT2011004	10/21/2025	10/21/2026
AC Power Source	CHROMA 61603 IN0063	10/21/2025	10/21/2026
DC Power Source	AGILENT E3634A IN0208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

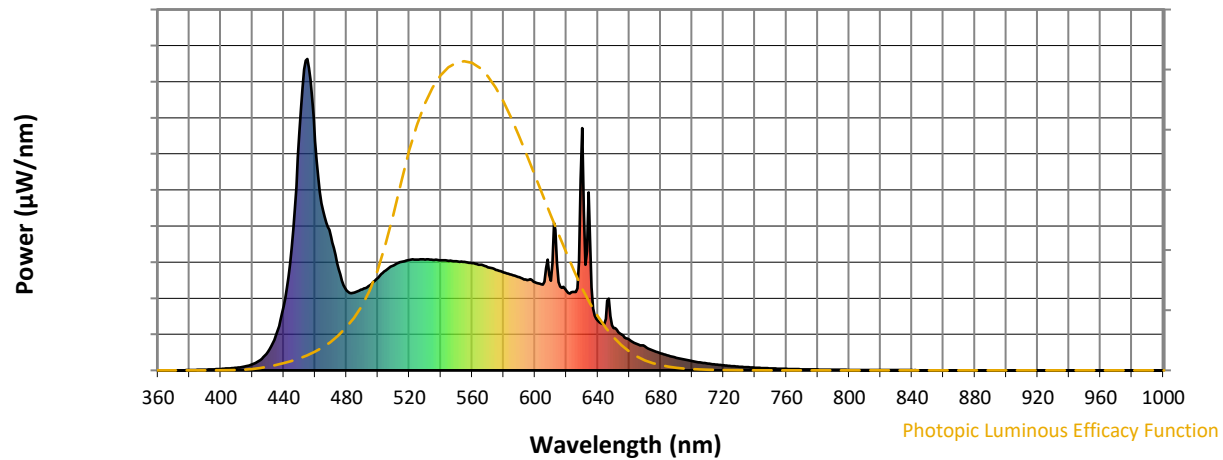


CIE 1931 Chromaticity Diagram with 2017 ANSI 7-Step and 4-Step Quadrangles



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Photopic Flux vs. Wavelength

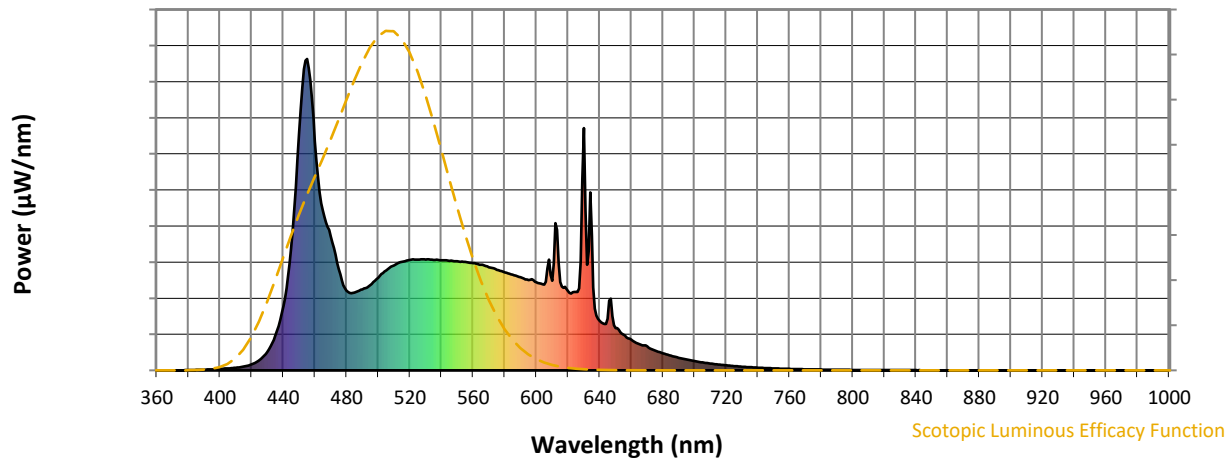


Photopic Lumens: NR

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	260	NR	620	255	NR	750	6	NR	880	0	NR
365	0	NR	495	274	NR	625	252	NR	755	6	NR	885	0	NR
370	0	NR	500	297	NR	630	778	NR	760	5	NR	890	0	NR
375	0	NR	505	320	NR	635	431	NR	765	4	NR	895	0	NR
380	1	NR	510	337	NR	640	160	NR	770	4	NR	900	0	NR
385	2	NR	515	349	NR	645	165	NR	775	3	NR	905	0	NR
390	2	NR	520	354	NR	650	135	NR	780	3	NR	910	0	NR
395	3	NR	525	356	NR	655	115	NR	785	2	NR	915	0	NR
400	5	NR	530	356	NR	660	99	NR	790	2	NR	920	0	NR
405	6	NR	535	355	NR	665	84	NR	795	2	NR	925	0	NR
410	8	NR	540	354	NR	670	77	NR	800	2	NR	930	0	NR
415	12	NR	545	351	NR	675	64	NR	805	1	NR	935	0	NR
420	19	NR	550	350	NR	680	55	NR	810	1	NR	940	0	NR
425	33	NR	555	348	NR	685	47	NR	815	1	NR	945	0	NR
430	60	NR	560	344	NR	690	41	NR	820	1	NR	950	0	NR
435	113	NR	565	339	NR	695	35	NR	825	1	NR	955	0	NR
440	206	NR	570	331	NR	700	30	NR	830	1	NR	960	0	NR
445	392	NR	575	323	NR	705	26	NR	835	1	NR	965	0	NR
450	764	NR	580	315	NR	710	22	NR	840	1	NR	970	0	NR
455	1000	NR	585	307	NR	715	19	NR	845	0	NR	975	0	NR
460	736	NR	590	299	NR	720	16	NR	850	0	NR	980	0	NR
465	513	NR	595	290	NR	725	14	NR	855	0	NR	985	0	NR
470	430	NR	600	282	NR	730	12	NR	860	0	NR	990	0	NR
475	325	NR	605	276	NR	735	10	NR	865	0	NR	995	0	NR
480	256	NR	610	287	NR	740	9	NR	870	0	NR	1000	0	NR
485	250	NR	615	284	NR	745	7	NR	875	0	NR			

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Scotopic Flux vs. Wavelength



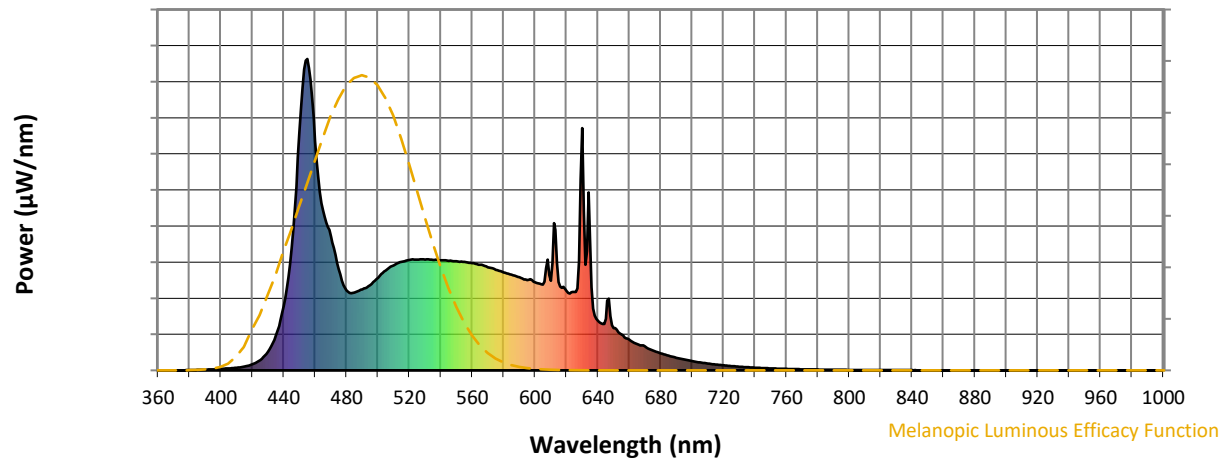
Scotopic Lumens: NR

S/P: 2.48

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	260	NR	620	255	NR	750	6	NR	880	0	NR
365	0	NR	495	274	NR	625	252	NR	755	6	NR	885	0	NR
370	0	NR	500	297	NR	630	778	NR	760	5	NR	890	0	NR
375	0	NR	505	320	NR	635	431	NR	765	4	NR	895	0	NR
380	1	NR	510	337	NR	640	160	NR	770	4	NR	900	0	NR
385	2	NR	515	349	NR	645	165	NR	775	3	NR	905	0	NR
390	2	NR	520	354	NR	650	135	NR	780	3	NR	910	0	NR
395	3	NR	525	356	NR	655	115	NR	785	2	NR	915	0	NR
400	5	NR	530	356	NR	660	99	NR	790	2	NR	920	0	NR
405	6	NR	535	355	NR	665	84	NR	795	2	NR	925	0	NR
410	8	NR	540	354	NR	670	77	NR	800	2	NR	930	0	NR
415	12	NR	545	351	NR	675	64	NR	805	1	NR	935	0	NR
420	19	NR	550	350	NR	680	55	NR	810	1	NR	940	0	NR
425	33	NR	555	348	NR	685	47	NR	815	1	NR	945	0	NR
430	60	NR	560	344	NR	690	41	NR	820	1	NR	950	0	NR
435	113	NR	565	339	NR	695	35	NR	825	1	NR	955	0	NR
440	206	NR	570	331	NR	700	30	NR	830	1	NR	960	0	NR
445	392	NR	575	323	NR	705	26	NR	835	1	NR	965	0	NR
450	764	NR	580	315	NR	710	22	NR	840	1	NR	970	0	NR
455	1000	NR	585	307	NR	715	19	NR	845	0	NR	975	0	NR
460	736	NR	590	299	NR	720	16	NR	850	0	NR	980	0	NR
465	513	NR	595	290	NR	725	14	NR	855	0	NR	985	0	NR
470	430	NR	600	282	NR	730	12	NR	860	0	NR	990	0	NR
475	325	NR	605	276	NR	735	10	NR	865	0	NR	995	0	NR
480	256	NR	610	287	NR	740	9	NR	870	0	NR	1000	0	NR
485	250	NR	615	284	NR	745	7	NR	875	0	NR			

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Melanopic Flux vs. Wavelength


Melanopic Lumens: NR
M/P: 5.67

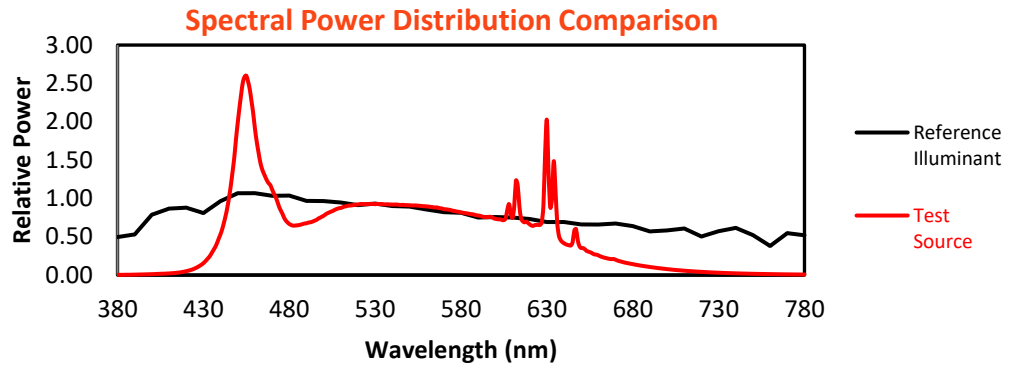
λ (nm)	Power W ^λ /nm	Lumens (φ/nm)	λ (nm)	Power W ^λ /nm	Lumens (φ/nm)	λ (nm)	Power W ^λ /nm	Lumens (φ/nm)	λ (nm)	Power W ^λ /nm	Lumens (φ/nm)	λ (nm)	Power W ^λ /nm	Lumens (φ/nm)
360	0	NR	490	260	NR	620	255	NR	750	6	NR	880	0	NR
365	0	NR	495	274	NR	625	252	NR	755	6	NR	885	0	NR
370	0	NR	500	297	NR	630	778	NR	760	5	NR	890	0	NR
375	0	NR	505	320	NR	635	431	NR	765	4	NR	895	0	NR
380	1	NR	510	337	NR	640	160	NR	770	4	NR	900	0	NR
385	2	NR	515	349	NR	645	165	NR	775	3	NR	905	0	NR
390	2	NR	520	354	NR	650	135	NR	780	3	NR	910	0	NR
395	3	NR	525	356	NR	655	115	NR	785	2	NR	915	0	NR
400	5	NR	530	356	NR	660	99	NR	790	2	NR	920	0	NR
405	6	NR	535	355	NR	665	84	NR	795	2	NR	925	0	NR
410	8	NR	540	354	NR	670	77	NR	800	2	NR	930	0	NR
415	12	NR	545	351	NR	675	64	NR	805	1	NR	935	0	NR
420	19	NR	550	350	NR	680	55	NR	810	1	NR	940	0	NR
425	33	NR	555	348	NR	685	47	NR	815	1	NR	945	0	NR
430	60	NR	560	344	NR	690	41	NR	820	1	NR	950	0	NR
435	113	NR	565	339	NR	695	35	NR	825	1	NR	955	0	NR
440	206	NR	570	331	NR	700	30	NR	830	1	NR	960	0	NR
445	392	NR	575	323	NR	705	26	NR	835	1	NR	965	0	NR
450	764	NR	580	315	NR	710	22	NR	840	1	NR	970	0	NR
455	1000	NR	585	307	NR	715	19	NR	845	0	NR	975	0	NR
460	736	NR	590	299	NR	720	16	NR	850	0	NR	980	0	NR
465	513	NR	595	290	NR	725	14	NR	855	0	NR	985	0	NR
470	430	NR	600	282	NR	730	12	NR	860	0	NR	990	0	NR
475	325	NR	605	276	NR	735	10	NR	865	0	NR	995	0	NR
480	256	NR	610	287	NR	740	9	NR	870	0	NR	1000	0	NR
485	250	NR	615	284	NR	745	7	NR	875	0	NR			

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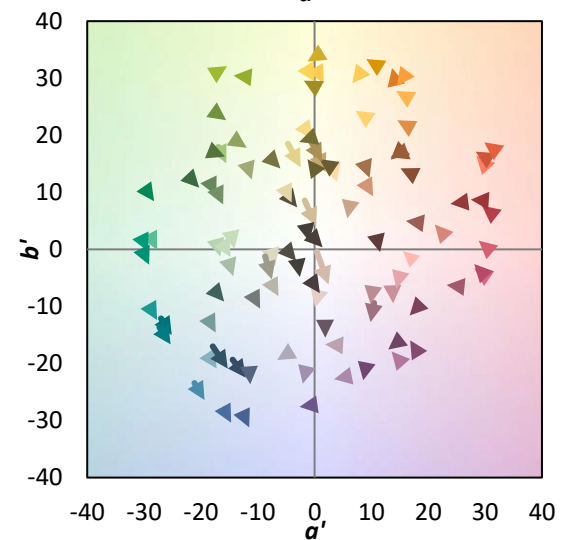
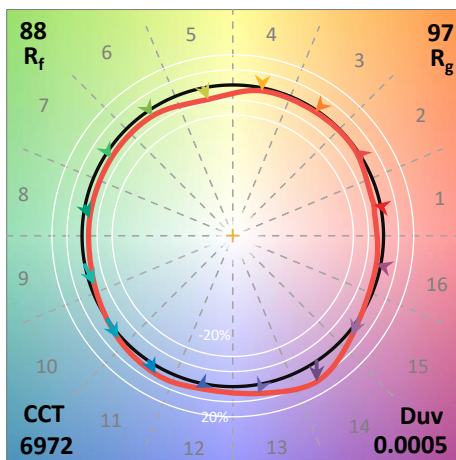
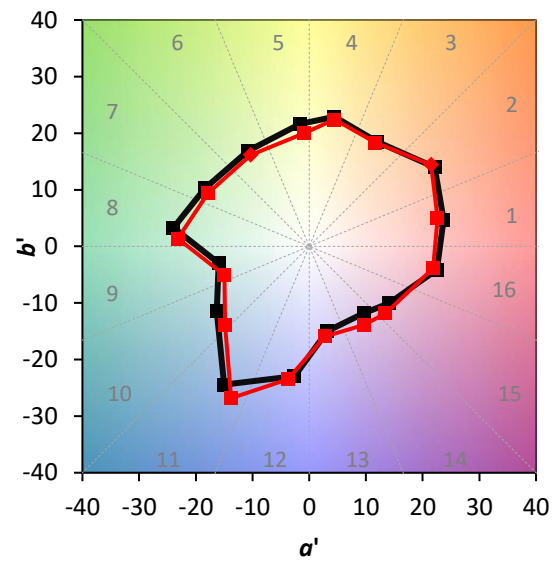
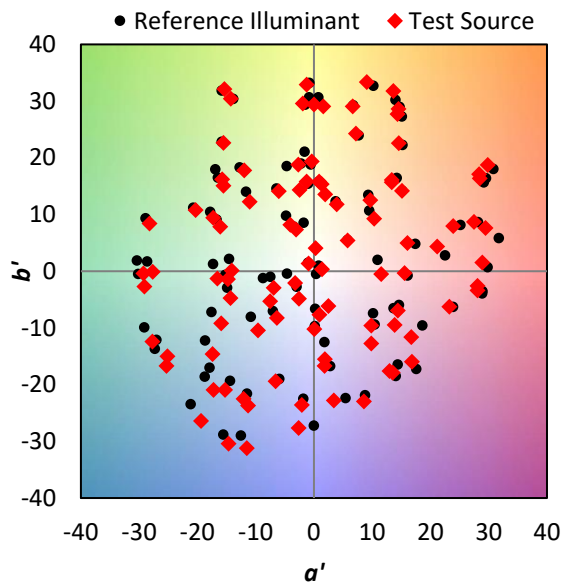
TM-30-18

Summary

$R_f = 88.2$
 $R_g = 97.1$
 $CIE R_a = 94.3$
 $R_9 = 82.6$

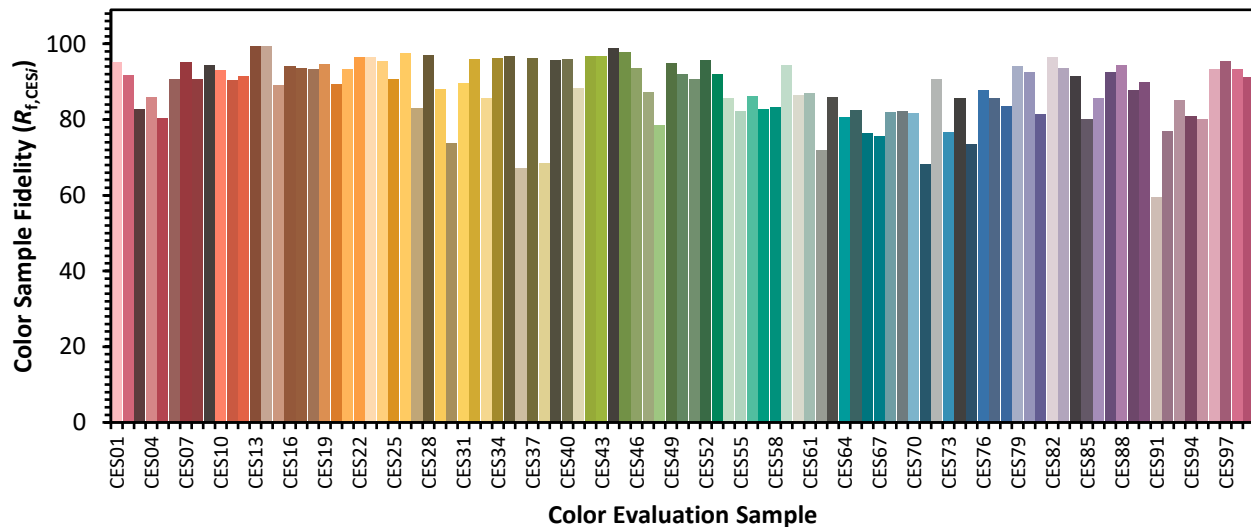


Color Vector Graphics

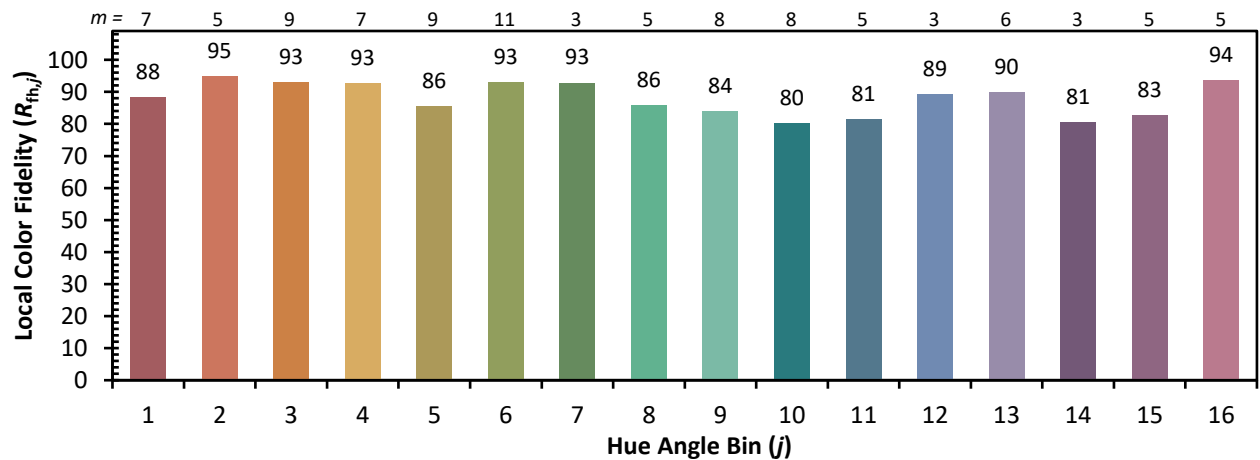
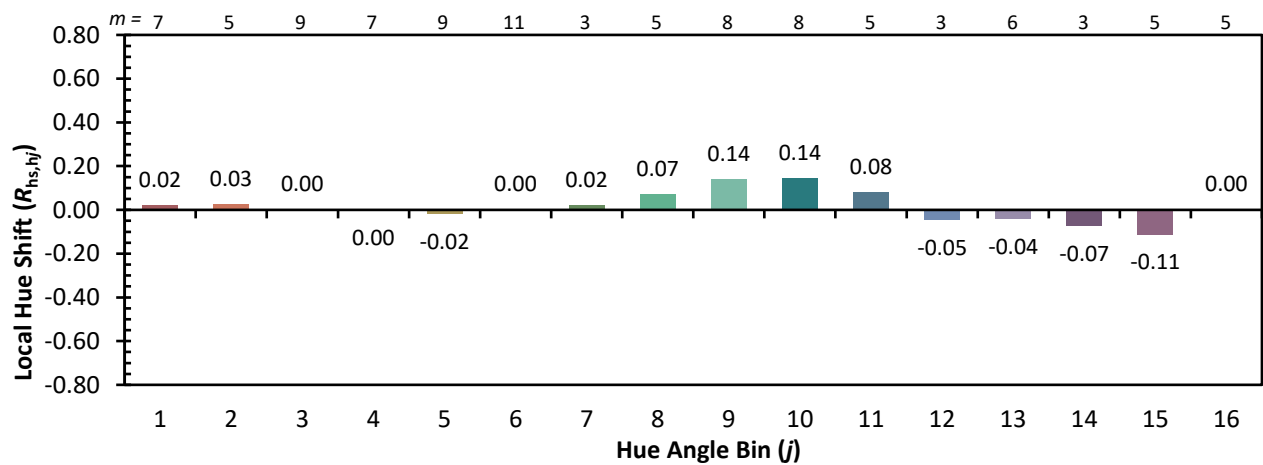
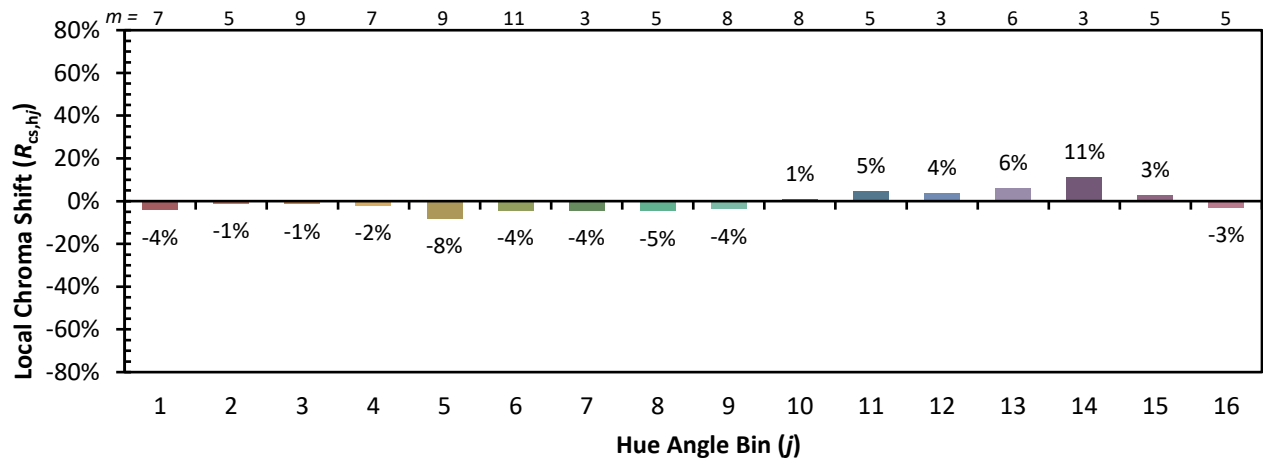


Individual Sample Fidelity Index ($R_{f,i}$)

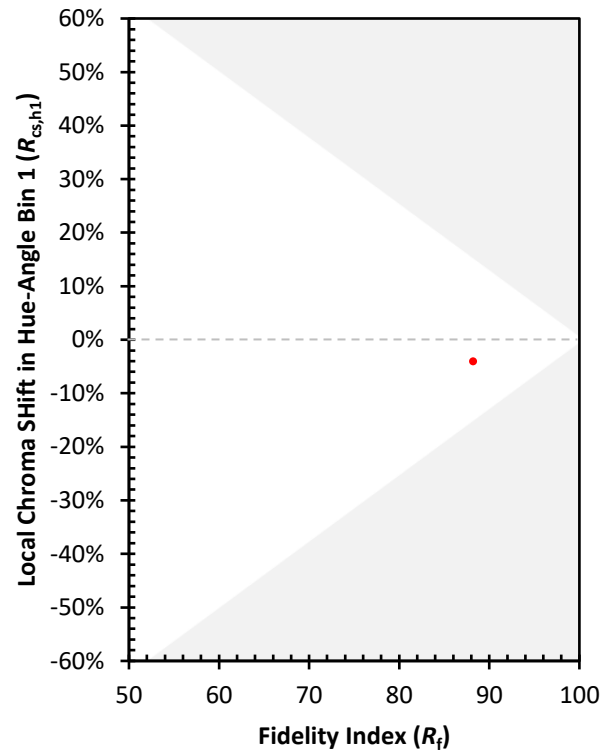
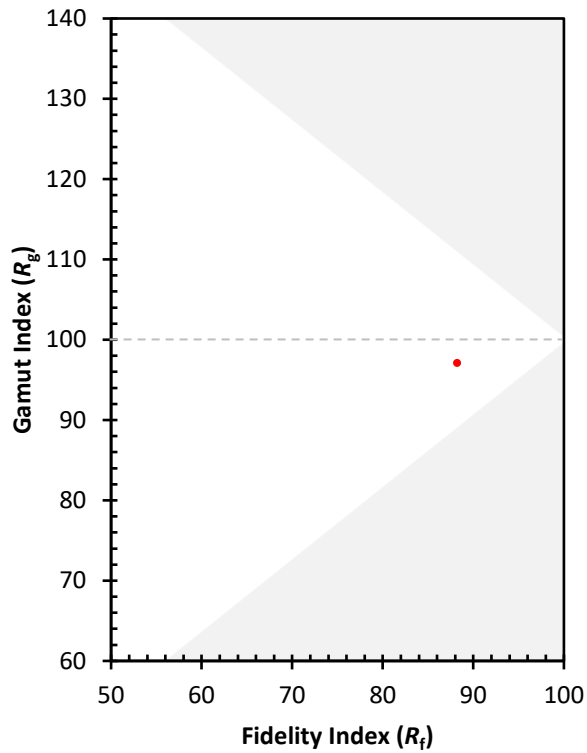
CES01 = 85	CES26 = 97	CES51 = 91	CES76 = 88
CES02 = 60	CES27 = 83	CES52 = 96	CES77 = 86
CES03 = 31	CES28 = 97	CES53 = 92	CES78 = 83
CES04 = 68	CES29 = 88	CES54 = 86	CES79 = 94
CES05 = 47	CES30 = 74	CES55 = 82	CES80 = 93
CES06 = 49	CES31 = 90	CES56 = 86	CES81 = 81
CES07 = 40	CES32 = 96	CES57 = 83	CES82 = 96
CES08 = 39	CES33 = 86	CES58 = 83	CES83 = 94
CES09 = 29	CES34 = 96	CES59 = 94	CES84 = 91
CES10 = 72	CES35 = 97	CES60 = 87	CES85 = 80
CES11 = 55	CES36 = 67	CES61 = 87	CES86 = 86
CES12 = 61	CES37 = 96	CES62 = 72	CES87 = 93
CES13 = 42	CES38 = 68	CES63 = 86	CES88 = 94
CES14 = 74	CES39 = 96	CES64 = 81	CES89 = 88
CES15 = 71	CES40 = 96	CES65 = 83	CES90 = 90
CES16 = 46	CES41 = 88	CES66 = 76	CES91 = 60
CES17 = 48	CES42 = 97	CES67 = 76	CES92 = 77
CES18 = 55	CES43 = 97	CES68 = 82	CES93 = 85
CES19 = 69	CES44 = 99	CES69 = 82	CES94 = 81
CES20 = 64	CES45 = 98	CES70 = 82	CES95 = 80
CES21 = 84	CES46 = 93	CES71 = 68	CES96 = 93
CES22 = 76	CES47 = 87	CES72 = 91	CES97 = 95
CES23 = 91	CES48 = 79	CES73 = 77	CES98 = 93
CES24 = 89	CES49 = 95	CES74 = 86	CES99 = 91
CES25 = 69	CES50 = 92	CES75 = 74	



Color Rendition by Hue-Angle Bin



Measure Comparisons



(END OF REPORT)