

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: P1356676

Luminaire Tested: 1ASL4-10-1-40-UNV

Issue Date: 2/17/2026

Test Information

Test Method: LM-79-2019
Report Number: P1356676
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: 1ASL4-10-1-40-UNV
Description: 1FT 1000 LUMEN PER FOOT 4ASL LED LUMINAIRE WITH OPL LENS AND 4000K LEDS 1 ROW
Light Source: -
Ballast/Driver: -

Summary

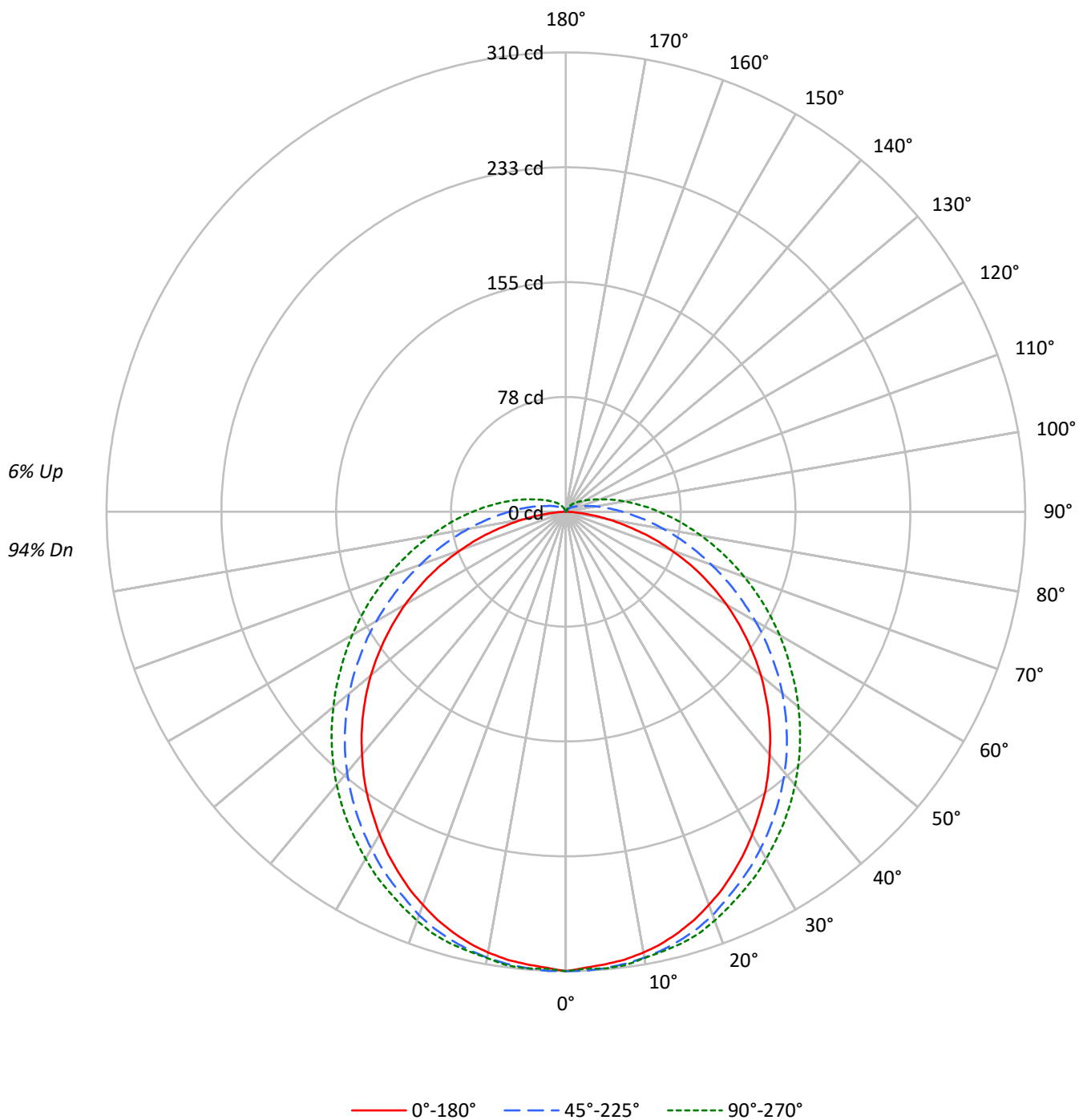
Lumens per Lamp: N/A
Luminaire Lumens: 1038.1 lumens
Efficiency: N/A
Efficacy: 118.0 lumens/watt
Spacing Criteria (0/90/45): 1.21 / 1.3 / 1.39
Luminous Opening: Rectangular w/ Sides (W: 0.33' x L: 0.98' x H: 0.1')
CIE Type: Direct

Input Watts (W): 8.8
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: 24 FT

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CATALOG NUMBER: 1ASL4-10-1-40-UNV

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°	10223	10223	10223
5°	10053	9971	9967
10°	9927	9723	9706
15°	9756	9464	9502
20°	9538	9178	9252
25°	9291	8847	8979
30°	9023	8543	8723
35°	8753	8233	8469
40°	8454	7920	8206
45°	8161	7585	7938
50°	7827	7235	7656
55°	7422	6845	7374
60°	6973	6439	7130
65°	6417	6008	6882
70°	5626	5555	6641
75°	4643	5138	6458
80°	3364	4748	6344
85°	1622	4418	6389

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 8161 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	29.4	2.8
10°-20°	84.3	8.1
20°-30°	127.4	12.3
30°-40°	154.0	14.8
40°-50°	162.0	15.6
50°-60°	150.9	14.5
60°-70°	123.9	11.9
70°-80°	88.0	8.5
80°-90°	53.0	5.1
90°-100°	29.7	2.9
100°-110°	16.5	1.6
110°-120°	9.2	0.9
120°-130°	5.3	0.5
130°-140°	2.9	0.3
140°-150°	1.3	0.1
150°-160°	0.3	0.0
160°-170°	0.0	0.0
170°-180°	0.0	0.0
0°-30°	241.1	23.2
0°-40°	395.1	38.1
0°-60°	707.9	68.2
0°-90°	972.9	93.7
90°-120°	55.4	5.3
90°-150°	64.9	6.2
90°-180°	65.0	6.3
0°-180°	1038.1	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	310	310	310	310	310	
5°	306	309	309	309	309	29
15°	294	298	299	301	302	83
25°	268	273	277	281	283	123
35°	234	240	247	253	256	146
45°	194	201	211	220	223	149
55°	149	157	169	181	186	133
65°	101	110	126	141	147	100
75°	51	64	85	102	110	54
85°	10	27	51	70	77	12
90°	0	16	38	56	63	0
95°	0	10	28	44	50	0
105°	0	4	15	27	32	0
115°	0	2	9	16	19	0
125°	0	1	6	10	12	0
135°	0	0	4	7	8	0
145°	0	0	1	4	5	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°	310.0	310.0	310.0	310.0	310.0
2.5°	307.9	310.7	310.0	308.6	308.6
5°	306.5	309.3	309.0	308.6	309.3
7.5°	304.8	307.6	307.6	307.9	308.6
10°	302.0	305.5	305.5	305.5	305.8
12.5°	298.5	302.0	302.7	303.0	303.7
15°	293.9	297.8	299.2	300.6	301.6
17.5°	288.6	292.5	295.0	296.7	298.5
20°	282.3	286.5	289.7	291.8	293.6
22.5°	275.7	279.9	283.0	286.2	288.3
25°	268.0	272.9	276.7	280.6	282.7
27.5°	260.2	265.1	270.1	274.6	277.1
30°	251.5	257.1	262.7	268.0	270.4
32.5°	242.4	248.3	255.0	260.6	263.4
35°	233.6	239.5	246.9	253.2	256.4
37.5°	224.1	230.1	238.5	245.5	248.7
40°	213.9	220.6	229.7	237.1	240.6
42.5°	204.1	210.8	220.6	228.7	232.2
45°	193.6	200.6	210.8	219.6	223.4
47.5°	182.7	190.1	201.0	210.1	214.3
50°	171.9	179.6	190.8	200.6	204.8
52.5°	160.3	168.3	180.3	190.8	195.4
55°	148.7	157.1	169.4	180.6	185.5
57.5°	137.1	145.6	158.9	170.8	176.1
60°	125.2	134.0	147.7	160.6	166.6
62.5°	112.9	122.1	136.4	150.5	156.8
65°	101.0	110.1	125.9	140.6	147.3
67.5°	88.4	98.2	115.0	130.5	137.5
70°	75.4	86.6	104.5	121.0	128.0
72.5°	63.8	75.4	94.7	111.5	118.9
75°	50.9	63.8	84.9	102.4	109.8
77.5°	39.6	53.7	75.8	93.6	101.0
80°	28.4	43.8	67.0	85.2	92.6
82.5°	18.2	35.1	58.9	77.5	84.5
85°	9.5	27.4	51.2	70.1	77.2
87.5°	2.8	21.0	44.2	62.8	69.8
90°	0.0	16.1	38.2	56.1	62.8
92.5°	0.0	12.3	33.0	50.2	56.8
95°	0.0	9.5	28.1	44.2	50.5
97.5°	0.0	7.4	24.2	38.9	45.2
100°	0.0	6.0	20.7	34.4	40.3
102.5°	0.0	4.9	17.9	30.5	35.8
105°	0.0	3.5	14.7	26.7	31.6
107.5°	0.0	2.5	13.0	23.5	27.7
110°	0.0	2.1	11.6	20.3	24.6



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	0.0	1.8	10.2	18.2	21.7
115°	0.0	1.8	9.1	16.1	19.3
117.5°	0.0	1.4	7.7	14.4	17.2
120°	0.0	1.4	7.0	13.0	15.4
122.5°	0.0	1.1	6.3	11.6	14.0
125°	0.0	1.1	5.6	10.5	12.3
127.5°	0.0	0.7	4.9	9.5	11.2
130°	0.0	0.7	4.6	8.4	10.2
132.5°	0.0	0.4	4.2	7.7	9.1
135°	0.0	0.4	3.5	6.7	8.4
137.5°	0.0	0.0	3.2	6.0	7.4
140°	0.0	0.0	2.5	5.3	6.7
142.5°	0.4	0.0	2.1	4.6	5.6
145°	0.4	0.0	1.4	3.9	4.9
147.5°	0.4	0.4	1.1	3.2	3.9
150°	0.4	0.4	0.7	2.1	3.2
152.5°	0.4	0.4	0.4	1.4	2.1
155°	0.4	0.4	0.0	1.1	1.4
157.5°	0.4	0.4	0.0	0.4	0.7
160°	0.4	0.4	0.0	0.0	0.4
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	17.39	18.94	17.85	19.39	19.85	19.13	20.68	19.59	21.12	21.59
	3H	18.89	20.30	19.36	20.75	21.26	21.44	22.86	21.91	23.31	23.82
	4H	19.37	20.71	19.86	21.18	21.70	22.53	23.87	23.02	24.34	24.86
	6H	19.65	20.89	20.15	21.38	21.92	23.61	24.86	24.12	25.34	25.88
	8H	19.70	20.89	20.22	21.40	21.95	24.14	25.34	24.66	25.84	26.39
	12H	19.71	20.86	20.24	21.36	21.94	24.69	25.83	25.21	26.33	26.91
4H	2H	18.21	19.55	18.70	20.02	20.54	19.58	20.92	20.07	21.39	21.91
	3H	19.94	21.08	20.45	21.59	22.14	22.11	23.25	22.62	23.77	24.31
	4H	20.54	21.58	21.07	22.11	22.69	23.37	24.41	23.89	24.94	25.51
	6H	20.94	21.86	21.49	22.41	23.01	24.64	25.56	25.19	26.11	26.71
	8H	21.03	21.90	21.59	22.45	23.06	25.27	26.14	25.82	26.69	27.29
	12H	21.08	21.86	21.65	22.44	23.05	25.94	26.72	26.51	27.30	27.91
8H	4H	21.14	22.01	21.69	22.56	23.16	23.59	24.46	24.14	25.01	25.61
	6H	21.71	22.44	22.29	23.04	23.65	25.03	25.76	25.61	26.36	26.97
	8H	21.89	22.55	22.48	23.15	23.78	25.80	26.46	26.40	27.07	27.69
	12H	22.00	22.59	22.59	23.18	23.87	26.64	27.23	27.24	27.83	28.52
12H	4H	21.30	22.08	21.87	22.66	23.27	23.60	24.39	24.17	24.97	25.58
	6H	21.95	22.61	22.55	23.22	23.84	25.07	25.73	25.66	26.34	26.96
	8H	22.22	22.81	22.82	23.40	24.09	25.91	26.50	26.51	27.09	27.78

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

Report Prepared for

Cooper Lighting Solutions

Fail-Safe

Report Number: SP1-2511-597-4

Test Date: 11/18/2025

Luminaire Tested: 4ASL-2-40-UNV-OPL-1_600mA

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

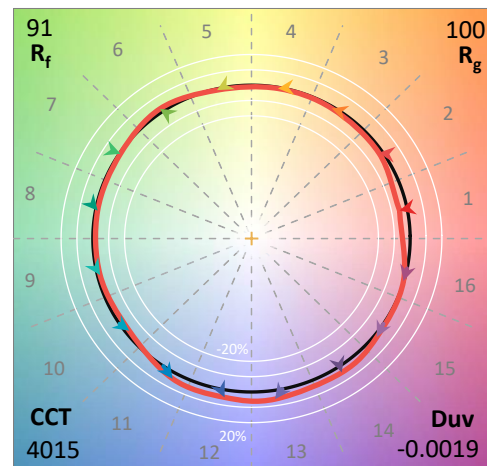
Test Information

Test Method: LM-79-2019
 Report Number: SP1-2511-597-4
 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-2-40-UNV-OPL-1_600mA**
 Description: 2foot 4ASL LED LUMINAIRE WITH OPL LENS AND 4000K LEDS with 1 rows at 600mA

Spectral Parameters

CCT (K): 4015
 CIE u' : 0.2259
 CIE v' : 0.4990
 Duv: -0.0019
 CIE x: 0.3785
 CIE y: 0.3715
 CIE z: 0.2500
 Peak Wavelength (nm): 630
 Dominant Wavelength (nm): 580
 Purity: 25.06827
 R_f: 90.7
 R_g: 100.2

CRI (Ra): 93.9
 R1: 95.7
 R2: 96.3
 R3: 94.8
 R4: 95.2
 R5: 94.6
 R6: 93.5
 R7: 94.0
 R8: 87.2
 R9: 66.3
 R10: 89.1
 R11: 95.0
 R12: 73.8
 R13: 96.0
 R14: 96.4
 R15: 93.2



Test Conditions

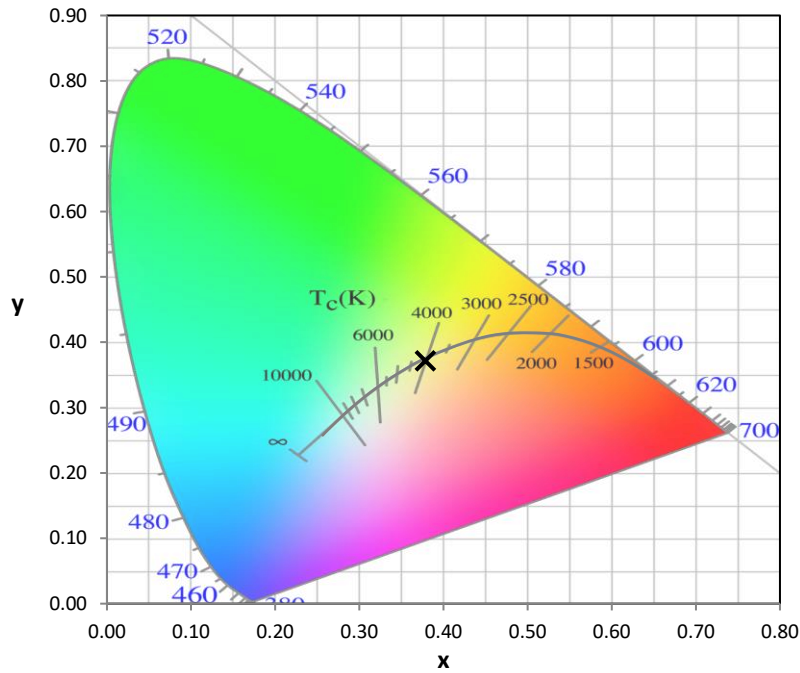
Stabilization Time: 23M
 Operation Time: 1H 23M
 Sphere Temperature (°C): 24.1

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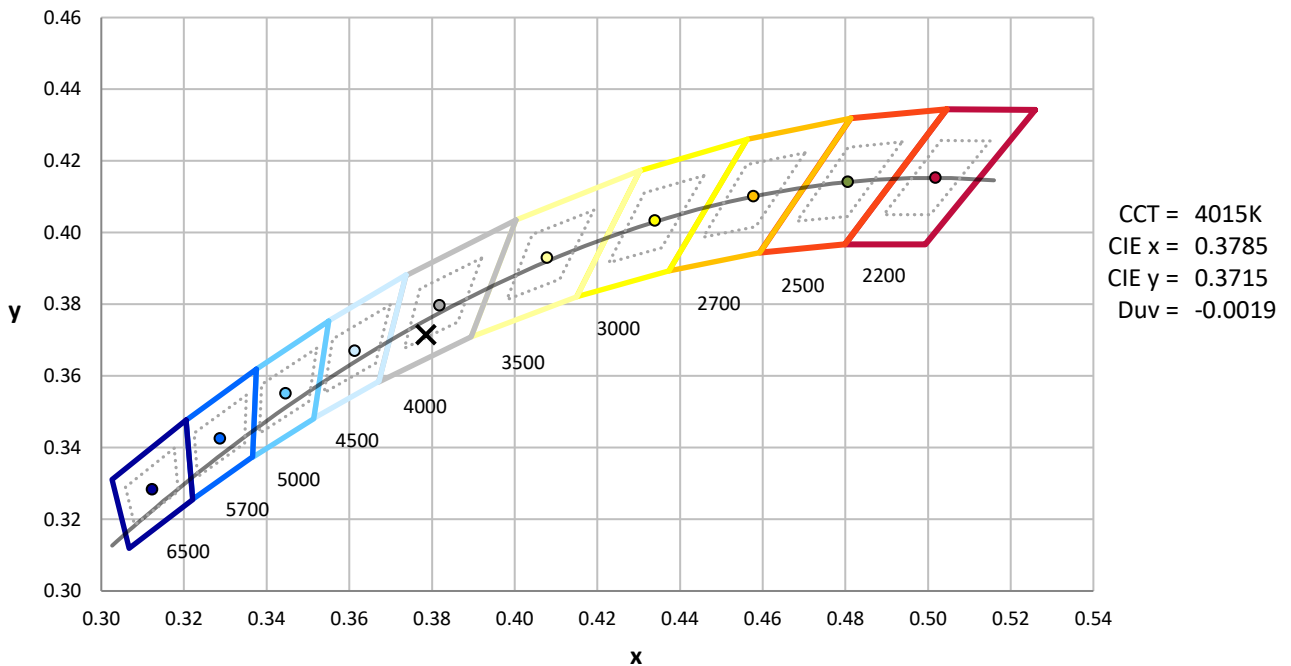
Measurement and Test Equipment			
Instrument	Identification Number	Calibration Date	Calibration Due Date
Photometer	76INCH SPHERE IN0058	6/16/2025	12/16/2025
Power Meter	XITRON INXT2011004	10/21/2025	10/21/2026
AC Power Source	CHROMA 61603 IN0063	10/21/2025	10/21/2026
DC Power Source	AGILENT E3634A IN0208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



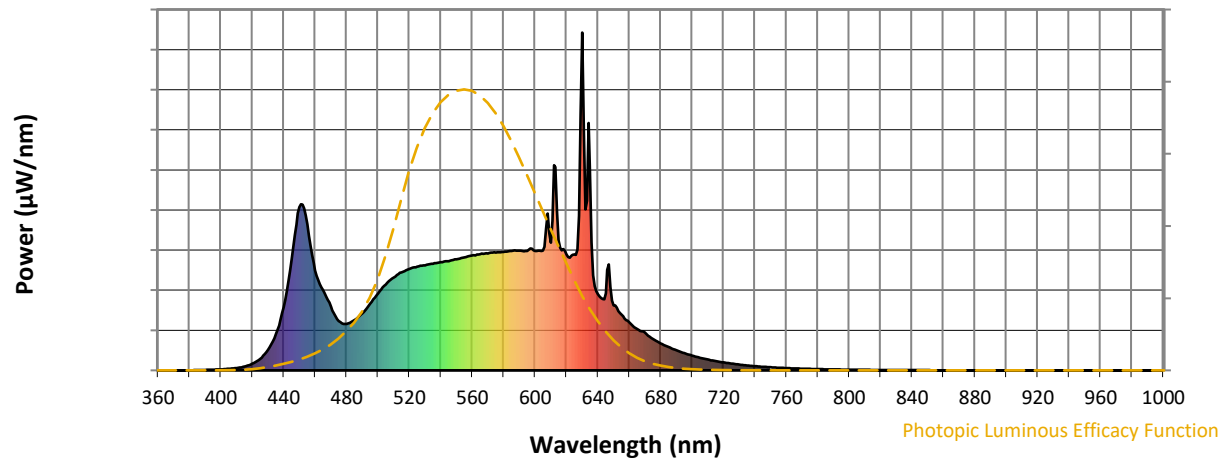
CIE 1931 Chromaticity Diagram with 2017 ANSI 7-Step and 4-Step Quadrangles



Point lies inside the ANSI 4000K 4-step quadrangle

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Photopic Flux vs. Wavelength

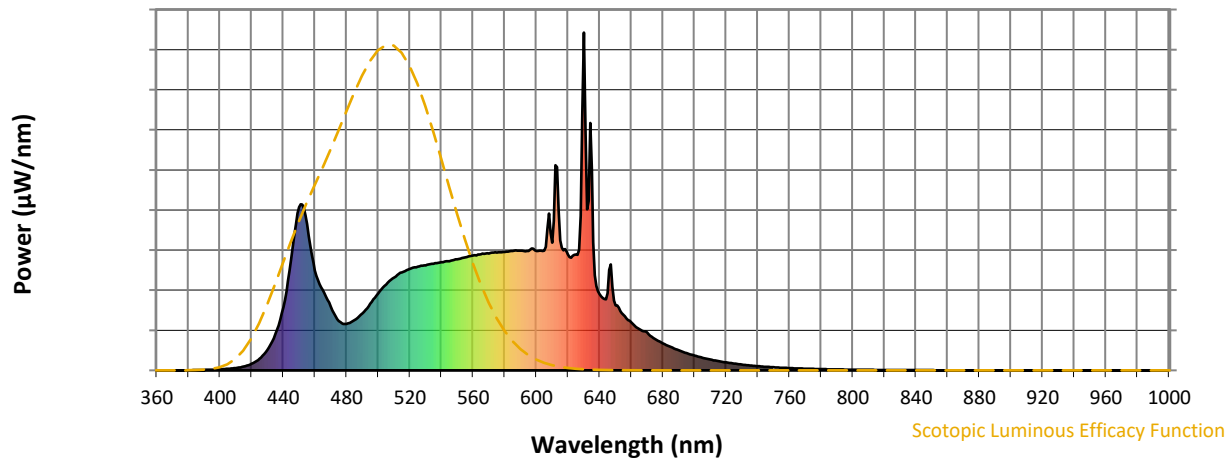


Photopic Lumens: NR

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	169	NR	620	343	NR	750	9	NR	880	0	NR
365	0	NR	495	197	NR	625	343	NR	755	8	NR	885	0	NR
370	0	NR	500	228	NR	630	1000	NR	760	7	NR	890	0	NR
375	0	NR	505	254	NR	635	591	NR	765	6	NR	895	0	NR
380	0	NR	510	274	NR	640	225	NR	770	5	NR	900	0	NR
385	1	NR	515	290	NR	645	229	NR	775	4	NR	905	0	NR
390	1	NR	520	300	NR	650	193	NR	780	4	NR	910	0	NR
395	2	NR	525	307	NR	655	165	NR	785	3	NR	915	0	NR
400	3	NR	530	311	NR	660	142	NR	790	3	NR	920	0	NR
405	5	NR	535	316	NR	665	122	NR	795	2	NR	925	0	NR
410	7	NR	540	320	NR	670	112	NR	800	2	NR	930	0	NR
415	11	NR	545	323	NR	675	93	NR	805	2	NR	935	0	NR
420	20	NR	550	329	NR	680	80	NR	810	2	NR	940	0	NR
425	35	NR	555	334	NR	685	69	NR	815	1	NR	945	0	NR
430	61	NR	560	340	NR	690	59	NR	820	1	NR	950	0	NR
435	108	NR	565	344	NR	695	51	NR	825	1	NR	955	0	NR
440	187	NR	570	346	NR	700	43	NR	830	1	NR	960	0	NR
445	329	NR	575	349	NR	705	37	NR	835	1	NR	965	0	NR
450	484	NR	580	351	NR	710	32	NR	840	1	NR	970	0	NR
455	433	NR	585	353	NR	715	27	NR	845	1	NR	975	0	NR
460	296	NR	590	354	NR	720	23	NR	850	1	NR	980	0	NR
465	237	NR	595	353	NR	725	20	NR	855	0	NR	985	0	NR
470	188	NR	600	354	NR	730	17	NR	860	0	NR	990	0	NR
475	146	NR	605	354	NR	735	15	NR	865	0	NR	995	0	NR
480	138	NR	610	378	NR	740	12	NR	870	0	NR	1000	0	NR
485	149	NR	615	385	NR	745	11	NR	875	0	NR			

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Scotopic Flux vs. Wavelength



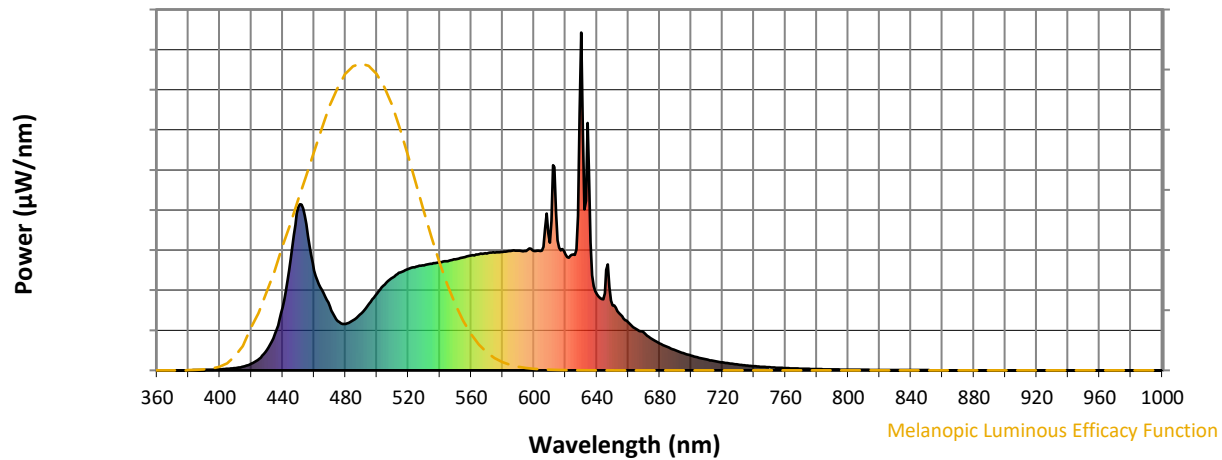
Scotopic Lumens: NR

S/P: 1.79

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	169	NR	620	343	NR	750	9	NR	880	0	NR
365	0	NR	495	197	NR	625	343	NR	755	8	NR	885	0	NR
370	0	NR	500	228	NR	630	1000	NR	760	7	NR	890	0	NR
375	0	NR	505	254	NR	635	591	NR	765	6	NR	895	0	NR
380	0	NR	510	274	NR	640	225	NR	770	5	NR	900	0	NR
385	1	NR	515	290	NR	645	229	NR	775	4	NR	905	0	NR
390	1	NR	520	300	NR	650	193	NR	780	4	NR	910	0	NR
395	2	NR	525	307	NR	655	165	NR	785	3	NR	915	0	NR
400	3	NR	530	311	NR	660	142	NR	790	3	NR	920	0	NR
405	5	NR	535	316	NR	665	122	NR	795	2	NR	925	0	NR
410	7	NR	540	320	NR	670	112	NR	800	2	NR	930	0	NR
415	11	NR	545	323	NR	675	93	NR	805	2	NR	935	0	NR
420	20	NR	550	329	NR	680	80	NR	810	2	NR	940	0	NR
425	35	NR	555	334	NR	685	69	NR	815	1	NR	945	0	NR
430	61	NR	560	340	NR	690	59	NR	820	1	NR	950	0	NR
435	108	NR	565	344	NR	695	51	NR	825	1	NR	955	0	NR
440	187	NR	570	346	NR	700	43	NR	830	1	NR	960	0	NR
445	329	NR	575	349	NR	705	37	NR	835	1	NR	965	0	NR
450	484	NR	580	351	NR	710	32	NR	840	1	NR	970	0	NR
455	433	NR	585	353	NR	715	27	NR	845	1	NR	975	0	NR
460	296	NR	590	354	NR	720	23	NR	850	1	NR	980	0	NR
465	237	NR	595	353	NR	725	20	NR	855	0	NR	985	0	NR
470	188	NR	600	354	NR	730	17	NR	860	0	NR	990	0	NR
475	146	NR	605	354	NR	735	15	NR	865	0	NR	995	0	NR
480	138	NR	610	378	NR	740	12	NR	870	0	NR	1000	0	NR
485	149	NR	615	385	NR	745	11	NR	875	0	NR			

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Melanopic Flux vs. Wavelength



Melanopic Lumens: NR

M/P: 3.74

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	169	NR	620	343	NR	750	9	NR	880	0	NR
365	0	NR	495	197	NR	625	343	NR	755	8	NR	885	0	NR
370	0	NR	500	228	NR	630	1000	NR	760	7	NR	890	0	NR
375	0	NR	505	254	NR	635	591	NR	765	6	NR	895	0	NR
380	0	NR	510	274	NR	640	225	NR	770	5	NR	900	0	NR
385	1	NR	515	290	NR	645	229	NR	775	4	NR	905	0	NR
390	1	NR	520	300	NR	650	193	NR	780	4	NR	910	0	NR
395	2	NR	525	307	NR	655	165	NR	785	3	NR	915	0	NR
400	3	NR	530	311	NR	660	142	NR	790	3	NR	920	0	NR
405	5	NR	535	316	NR	665	122	NR	795	2	NR	925	0	NR
410	7	NR	540	320	NR	670	112	NR	800	2	NR	930	0	NR
415	11	NR	545	323	NR	675	93	NR	805	2	NR	935	0	NR
420	20	NR	550	329	NR	680	80	NR	810	2	NR	940	0	NR
425	35	NR	555	334	NR	685	69	NR	815	1	NR	945	0	NR
430	61	NR	560	340	NR	690	59	NR	820	1	NR	950	0	NR
435	108	NR	565	344	NR	695	51	NR	825	1	NR	955	0	NR
440	187	NR	570	346	NR	700	43	NR	830	1	NR	960	0	NR
445	329	NR	575	349	NR	705	37	NR	835	1	NR	965	0	NR
450	484	NR	580	351	NR	710	32	NR	840	1	NR	970	0	NR
455	433	NR	585	353	NR	715	27	NR	845	1	NR	975	0	NR
460	296	NR	590	354	NR	720	23	NR	850	1	NR	980	0	NR
465	237	NR	595	353	NR	725	20	NR	855	0	NR	985	0	NR
470	188	NR	600	354	NR	730	17	NR	860	0	NR	990	0	NR
475	146	NR	605	354	NR	735	15	NR	865	0	NR	995	0	NR
480	138	NR	610	378	NR	740	12	NR	870	0	NR	1000	0	NR
485	149	NR	615	385	NR	745	11	NR	875	0	NR			

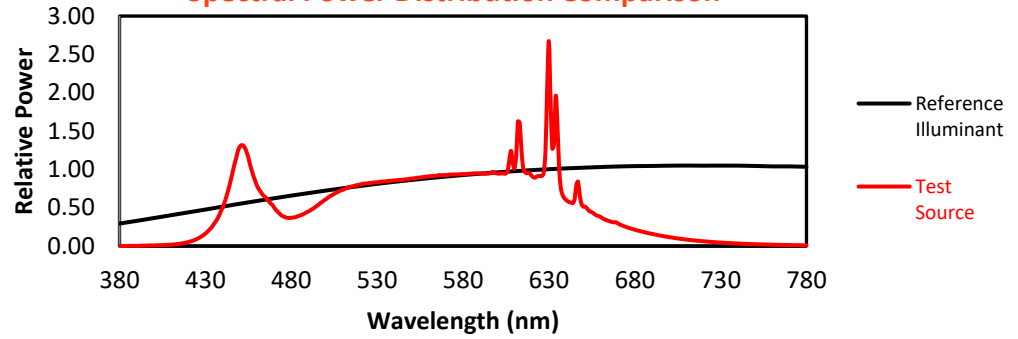
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TM-30-18

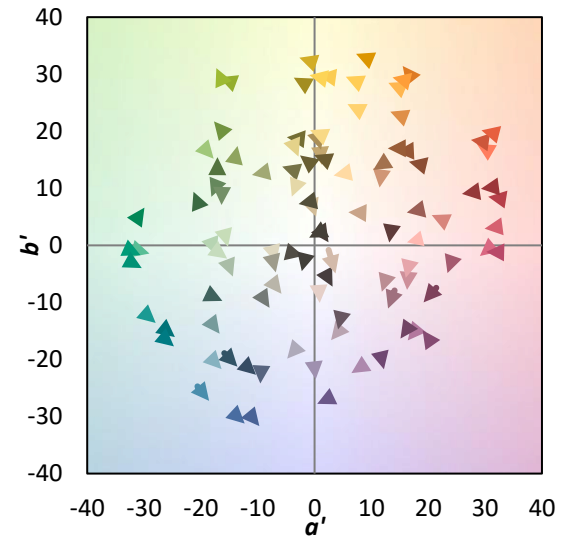
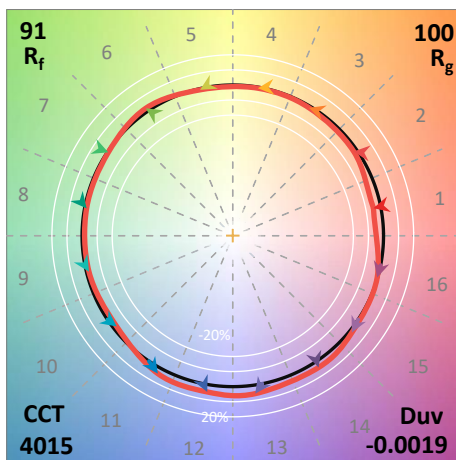
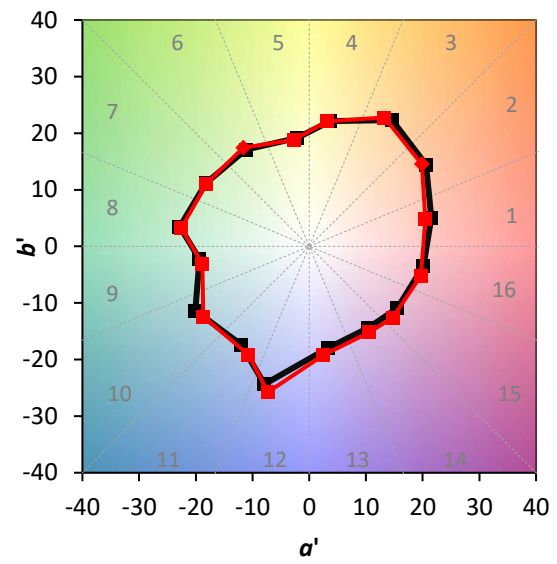
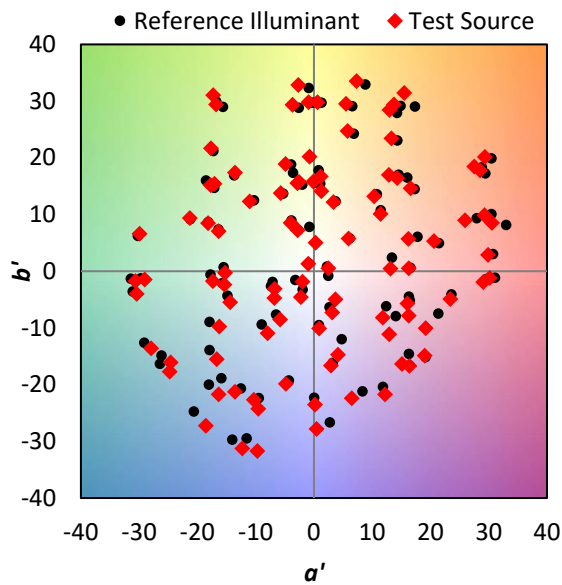
Summary

$R_f = 90.7$
 $R_g = 100.2$
 $CIE\ R_a = 93.9$
 $R_g = 66.3$

Spectral Power Distribution Comparison

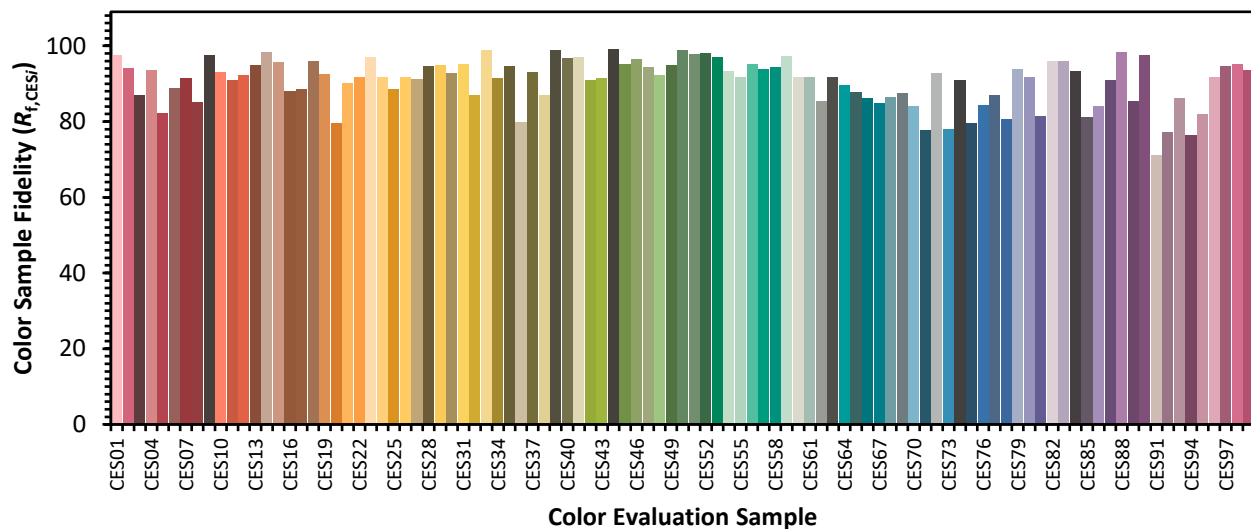


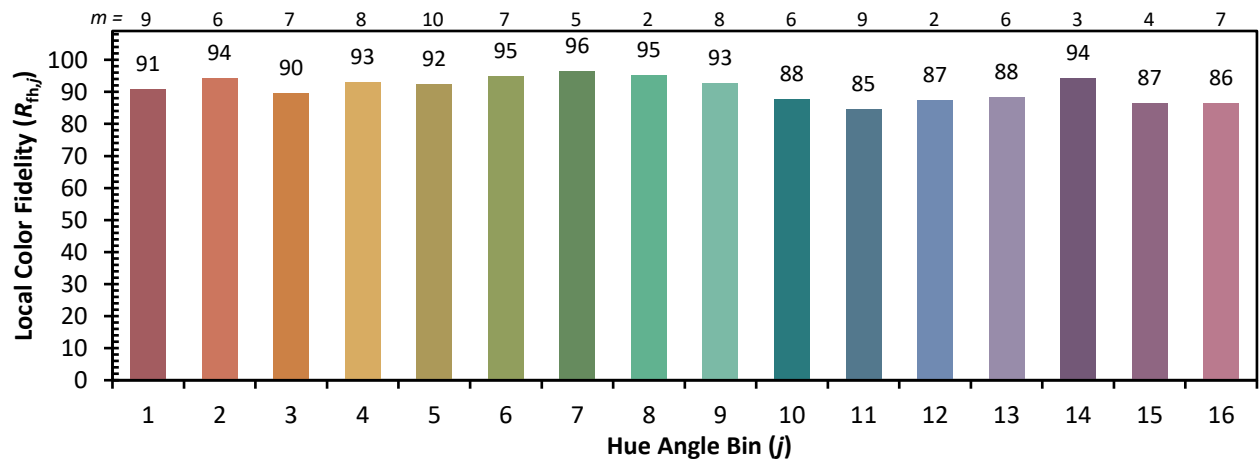
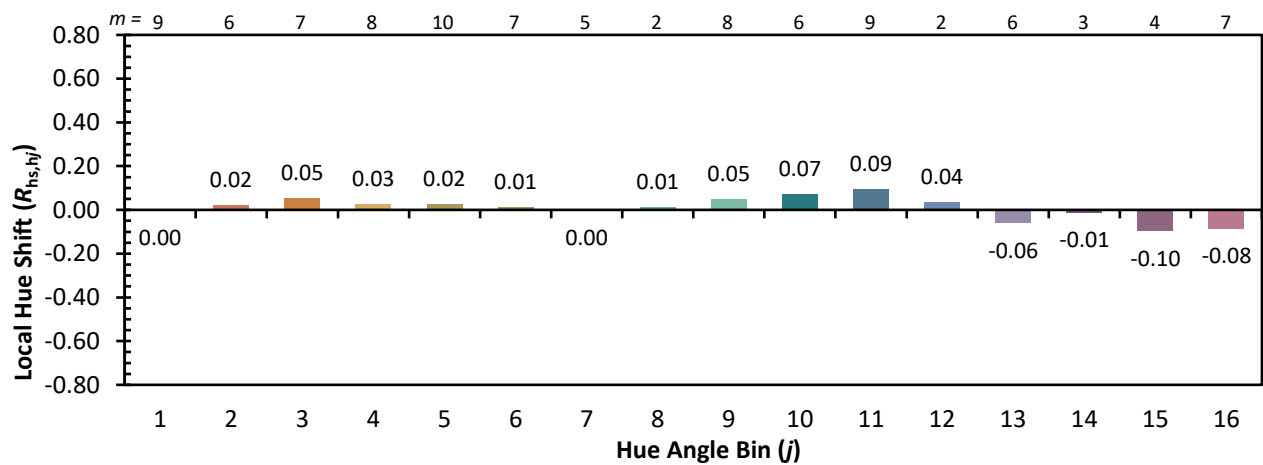
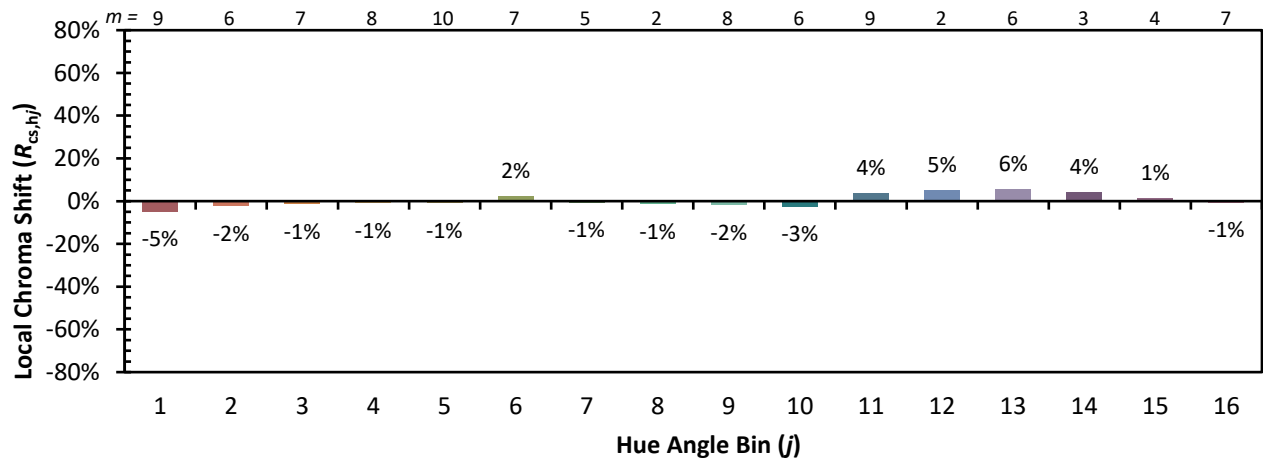
Color Vector Graphics



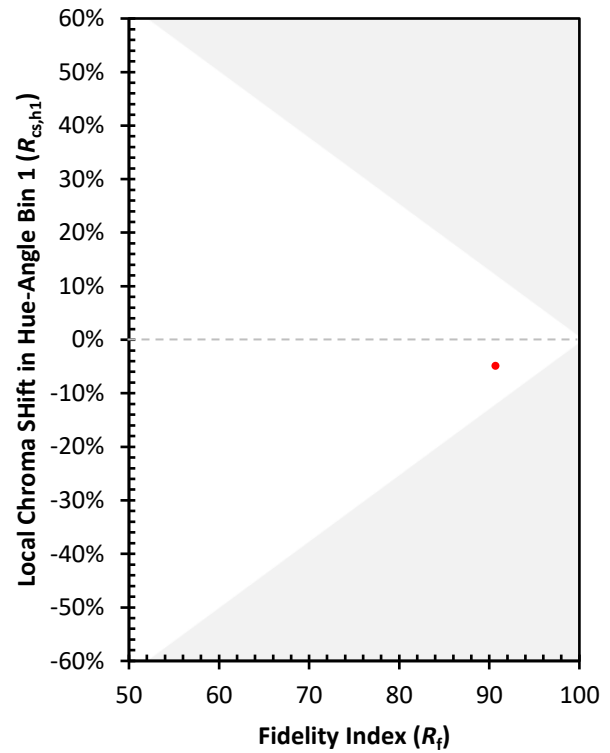
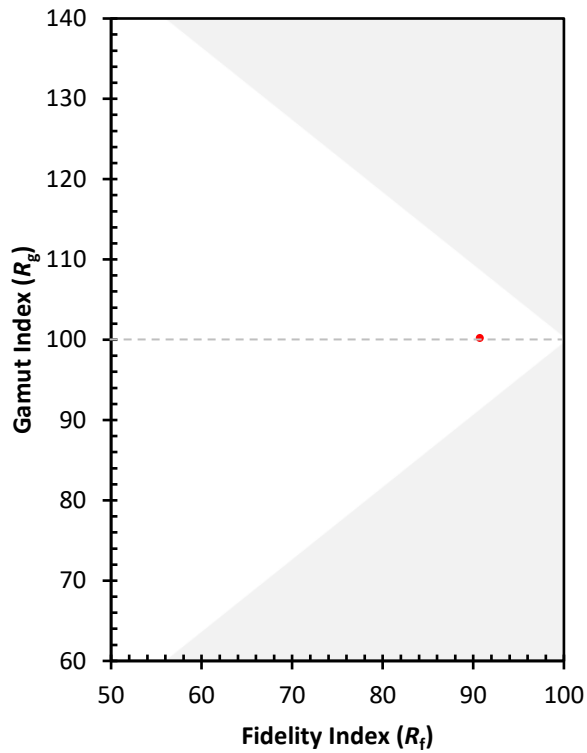
Individual Sample Fidelity Index ($R_{f,i}$)

CES01 = 86	CES26 = 92	CES51 = 98	CES76 = 84
CES02 = 62	CES27 = 91	CES52 = 98	CES77 = 87
CES03 = 31	CES28 = 95	CES53 = 97	CES78 = 81
CES04 = 69	CES29 = 95	CES54 = 93	CES79 = 94
CES05 = 49	CES30 = 93	CES55 = 92	CES80 = 92
CES06 = 50	CES31 = 95	CES56 = 95	CES81 = 81
CES07 = 42	CES32 = 87	CES57 = 94	CES82 = 96
CES08 = 41	CES33 = 99	CES58 = 94	CES83 = 96
CES09 = 29	CES34 = 91	CES59 = 97	CES84 = 93
CES10 = 74	CES35 = 95	CES60 = 92	CES85 = 81
CES11 = 57	CES36 = 80	CES61 = 92	CES86 = 84
CES12 = 63	CES37 = 93	CES62 = 85	CES87 = 91
CES13 = 43	CES38 = 87	CES63 = 92	CES88 = 98
CES14 = 74	CES39 = 99	CES64 = 90	CES89 = 85
CES15 = 71	CES40 = 97	CES65 = 88	CES90 = 98
CES16 = 47	CES41 = 97	CES66 = 86	CES91 = 71
CES17 = 49	CES42 = 91	CES67 = 85	CES92 = 77
CES18 = 56	CES43 = 91	CES68 = 87	CES93 = 86
CES19 = 71	CES44 = 99	CES69 = 87	CES94 = 76
CES20 = 66	CES45 = 95	CES70 = 84	CES95 = 82
CES21 = 85	CES46 = 96	CES71 = 78	CES96 = 92
CES22 = 78	CES47 = 94	CES72 = 93	CES97 = 95
CES23 = 91	CES48 = 92	CES73 = 78	CES98 = 95
CES24 = 90	CES49 = 95	CES74 = 91	CES99 = 94
CES25 = 71	CES50 = 99	CES75 = 80	



Color Rendition by Hue-Angle Bin


Measure Comparisons



(END OF REPORT)