

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: P1356685

Luminaire Tested: 1ASL4-10HE-2-40-UNV

Issue Date: 2/17/2026

Test Information

Test Method: LM-79-2019
Report Number: P1356685
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: 1ASL4-10HE-2-40-UNV
Description: 1FT 1000 LUMEN PER FOOT 4ASL LED LUMINAIRE WITH OPL LENS AND 4000K LEDS 2 ROW
Light Source: -
Ballast/Driver: -

Summary

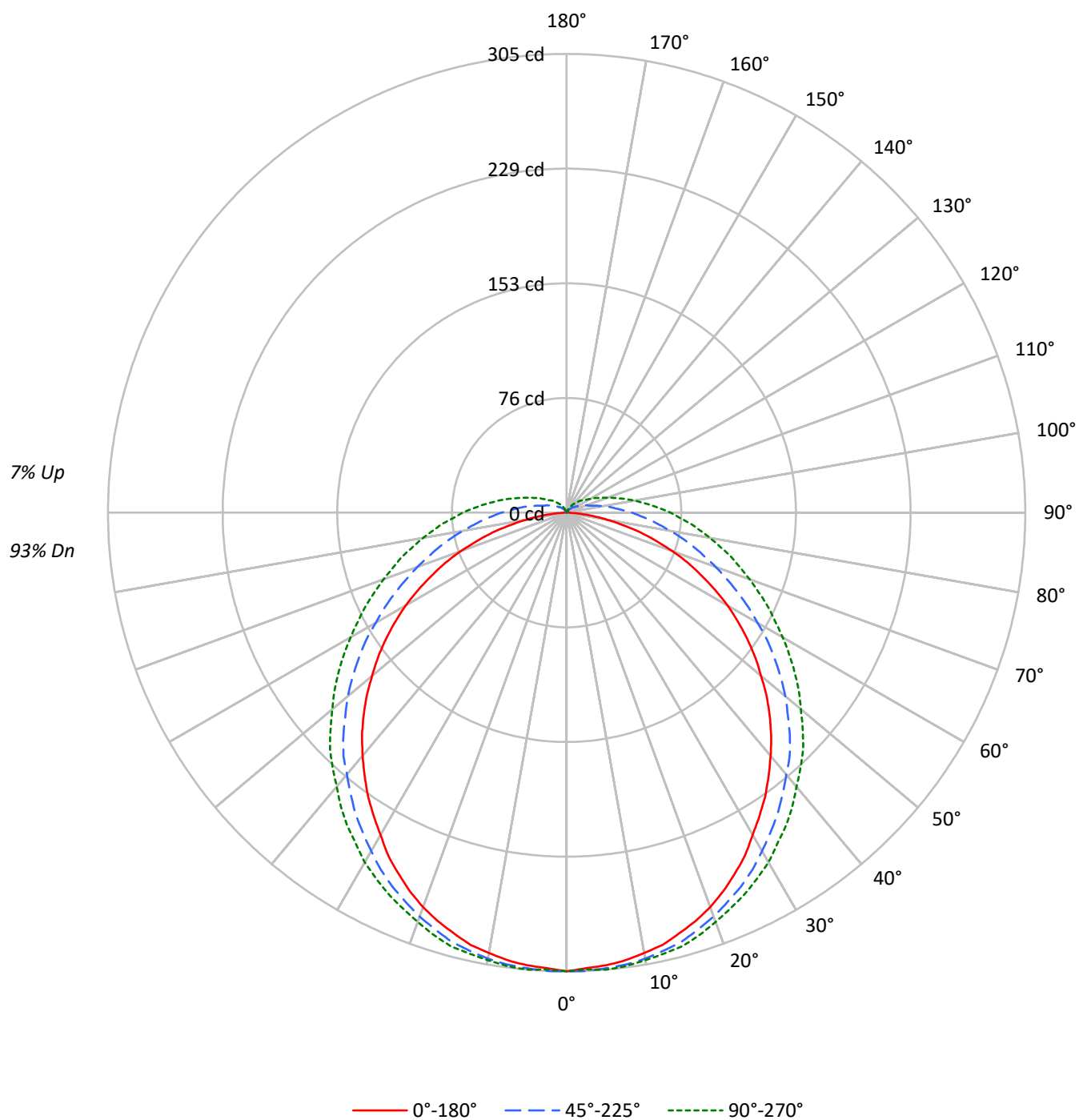
Lumens per Lamp: N/A
Luminaire Lumens: 1047.0 lumens
Efficiency: N/A
Efficacy: 126.1 lumens/watt
Spacing Criteria (0/90/45): 1.21 / 1.3 / 1.4
Luminous Opening: Rectangular w/ Sides (W: 0.33' x L: 0.98' x H: 0.1')
CIE Type: Direct

Input Watts (W): 8.3
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			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	77	77	77	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°	10059	10059	10059
5°	9909	9810	9828
10°	9773	9583	9588
15°	9614	9344	9398
20°	9430	9054	9126
25°	9177	8770	8893
30°	8876	8452	8662
35°	8625	8156	8397
40°	8339	7838	8111
45°	8047	7556	7906
50°	7686	7201	7600
55°	7322	6820	7359
60°	6890	6395	7100
65°	6278	5994	6901
70°	5581	5609	6718
75°	4633	5283	6658
80°	3293	4961	6638
85°	1639	4797	6828

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 8047 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	28.9	2.8
10°-20°	83.1	7.9
20°-30°	126.0	12.0
30°-40°	152.4	14.6
40°-50°	160.6	15.3
50°-60°	149.9	14.3
60°-70°	123.8	11.8
70°-80°	89.8	8.6
80°-90°	56.7	5.4
90°-100°	33.9	3.2
100°-110°	19.4	1.9
110°-120°	11.0	1.1
120°-130°	6.3	0.6
130°-140°	3.4	0.3
140°-150°	1.5	0.1
150°-160°	0.3	0.0
160°-170°	0.0	0.0
170°-180°	0.0	0.0
0°-30°	238.0	22.7
0°-40°	390.4	37.3
0°-60°	700.9	66.9
0°-90°	971.2	92.8
90°-120°	64.3	6.1
90°-150°	75.5	7.2
90°-180°	76.0	7.3
0°-180°	1047.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	305	305	305	305	305	
5°	302	305	304	304	305	29
15°	290	294	295	296	298	82
25°	265	268	274	278	280	122
35°	230	236	245	251	254	144
45°	191	198	210	219	222	147
55°	147	155	169	180	185	131
65°	99	109	126	141	148	98
75°	51	64	87	106	113	53
85°	10	30	56	75	82	12
90°	0	18	43	61	69	0
95°	0	12	33	50	57	0
105°	0	4	18	32	36	0
115°	0	2	10	19	23	0
125°	0	1	7	12	14	0
135°	0	0	4	8	10	0
145°	0	0	2	5	6	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

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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	305.0	305.0	305.0	305.0	305.0
2.5°	303.1	305.9	305.0	304.0	304.0
5°	302.1	305.0	304.0	304.0	305.0
7.5°	300.2	303.1	303.1	303.1	304.0
10°	297.3	301.1	301.1	301.1	302.1
12.5°	294.4	297.3	298.3	299.2	300.2
15°	289.6	293.5	295.4	296.3	298.3
17.5°	284.8	287.7	290.6	293.5	294.4
20°	279.1	282.9	285.8	288.7	289.6
22.5°	272.4	276.2	280.0	282.9	284.8
25°	264.7	268.5	274.3	278.1	280.0
27.5°	257.0	260.9	267.6	272.4	274.3
30°	247.4	253.2	259.9	265.7	268.5
32.5°	238.8	244.6	252.2	258.9	260.9
35°	230.2	235.9	244.6	251.3	254.2
37.5°	220.6	227.3	235.9	243.6	246.5
40°	211.0	217.7	227.3	235.9	237.8
42.5°	201.4	208.1	219.6	227.3	230.2
45°	190.9	198.5	210.0	218.7	222.5
47.5°	180.3	188.0	199.5	209.1	212.9
50°	168.8	177.4	189.9	199.5	203.3
52.5°	158.2	166.9	179.3	189.9	194.7
55°	146.7	155.4	168.8	180.3	185.1
57.5°	135.2	143.9	158.2	170.7	175.5
60°	123.7	132.3	146.7	161.1	165.9
62.5°	111.3	120.8	136.2	150.6	156.3
65°	98.8	109.3	125.6	141.0	147.7
67.5°	87.3	97.8	115.1	132.3	138.1
70°	74.8	86.3	105.5	122.8	129.5
72.5°	62.3	74.8	95.9	114.1	120.8
75°	50.8	64.3	87.3	105.5	113.2
77.5°	38.4	54.7	78.6	97.8	104.5
80°	27.8	45.1	70.0	90.2	96.9
82.5°	18.2	36.4	62.3	82.5	89.2
85°	9.6	29.7	55.6	74.8	82.5
87.5°	2.9	23.0	48.9	68.1	74.8
90°	0.0	18.2	43.2	61.4	69.1
92.5°	0.0	14.4	37.4	55.6	62.3
95°	0.0	11.5	32.6	49.9	56.6
97.5°	0.0	9.6	28.8	45.1	50.8
100°	0.0	7.7	24.9	40.3	46.0
102.5°	0.0	5.8	21.1	35.5	41.2
105°	0.0	3.8	18.2	31.6	36.4
107.5°	0.0	2.9	15.3	27.8	32.6
110°	0.0	2.9	14.4	24.0	28.8



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	0.0	1.9	12.5	22.1	25.9
115°	0.0	1.9	10.5	19.2	23.0
117.5°	0.0	1.9	9.6	17.3	21.1
120°	0.0	1.9	8.6	15.3	18.2
122.5°	0.0	1.0	7.7	13.4	16.3
125°	0.0	1.0	6.7	12.5	14.4
127.5°	0.0	1.0	5.8	11.5	13.4
130°	0.0	1.0	5.8	10.5	12.5
132.5°	0.0	0.0	4.8	9.6	11.5
135°	0.0	0.0	3.8	7.7	9.6
137.5°	0.0	0.0	3.8	6.7	8.6
140°	0.0	0.0	2.9	6.7	7.7
142.5°	0.0	0.0	1.9	5.8	6.7
145°	0.0	0.0	1.9	4.8	5.8
147.5°	0.0	0.0	1.0	3.8	4.8
150°	0.0	0.0	1.0	2.9	3.8
152.5°	0.0	0.0	0.0	1.9	2.9
155°	0.0	0.0	0.0	1.0	1.9
157.5°	0.0	0.0	0.0	0.0	1.0
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	17.24	18.78	17.71	19.24	19.73	19.06	20.59	19.53	21.05	21.54
	3H	18.75	20.15	19.23	20.62	21.15	21.41	22.81	21.89	23.28	23.81
	4H	19.23	20.56	19.74	21.05	21.59	22.54	23.86	23.04	24.35	24.90
	6H	19.51	20.75	20.03	21.25	21.81	23.68	24.92	24.20	25.42	25.98
	8H	19.56	20.75	20.10	21.27	21.84	24.24	25.43	24.77	25.95	26.52
	12H	19.58	20.72	20.12	21.23	21.83	24.83	25.97	25.37	26.48	27.08
4H	2H	18.07	19.40	18.58	19.89	20.43	19.50	20.83	20.01	21.32	21.86
	3H	19.82	20.95	20.34	21.48	22.05	22.08	23.21	22.60	23.75	24.31
	4H	20.43	21.47	20.97	22.01	22.61	23.39	24.42	23.93	24.96	25.56
	6H	20.83	21.75	21.39	22.32	22.93	24.73	25.64	25.29	26.21	26.82
	8H	20.93	21.79	21.50	22.36	22.99	25.40	26.26	25.96	26.83	27.45
	12H	20.98	21.76	21.57	22.36	22.99	26.10	26.89	26.69	27.48	28.11
8H	4H	21.07	21.93	21.64	22.50	23.13	23.62	24.48	24.18	25.04	25.67
	6H	21.66	22.39	22.25	23.00	23.63	25.14	25.87	25.73	26.47	27.11
	8H	21.84	22.50	22.45	23.12	23.77	25.95	26.61	26.56	27.23	27.87
	12H	21.97	22.56	22.58	23.16	23.87	26.84	27.43	27.45	28.04	28.75
12H	4H	21.25	22.03	21.83	22.62	23.25	23.63	24.41	24.21	25.00	25.64
	6H	21.93	22.59	22.54	23.21	23.85	25.18	25.84	25.79	26.46	27.10
	8H	22.21	22.80	22.82	23.41	24.12	26.06	26.65	26.67	27.26	27.97

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

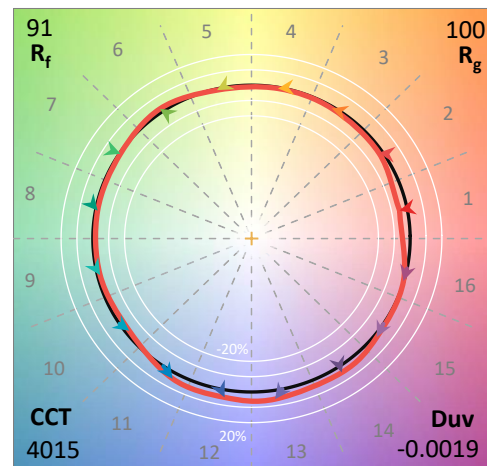
Test Information

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

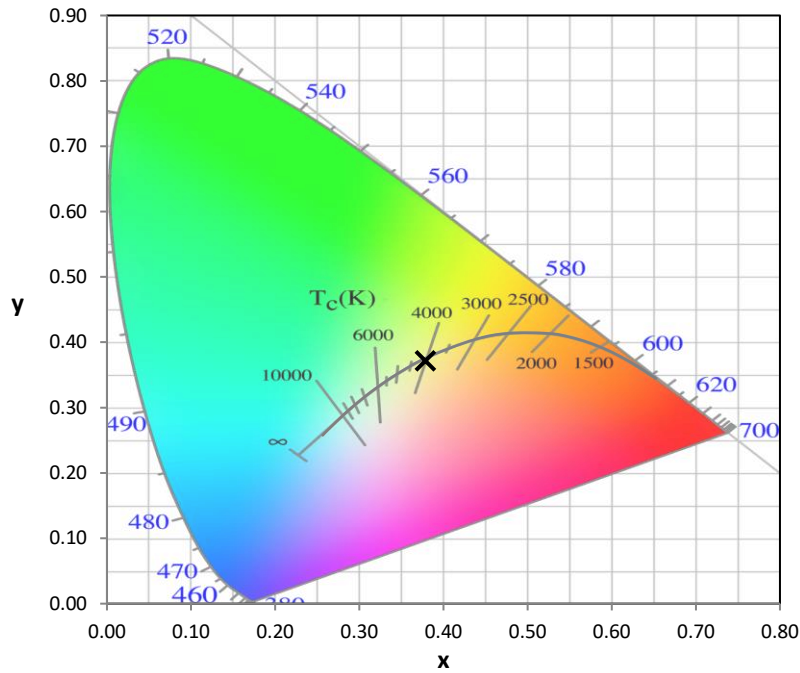
Stabilization Time: 23M
 Operation Time: 1H 23M
 Sphere Temperature (°C): 24.1

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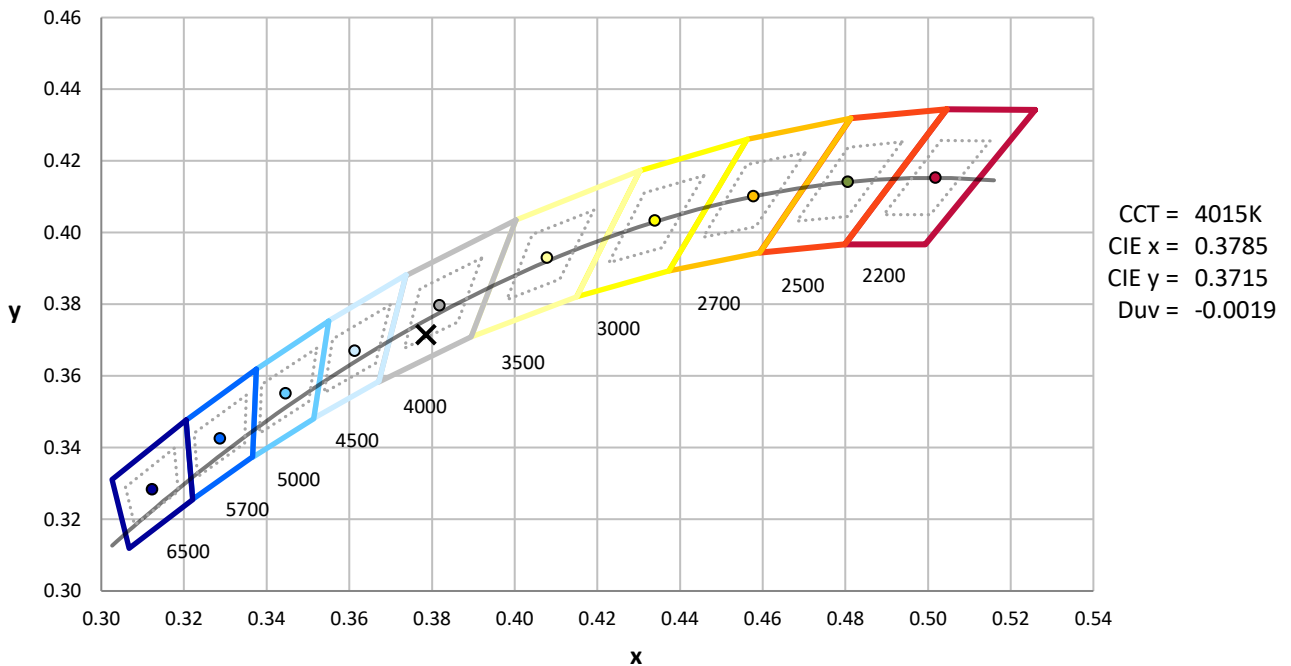
Measurement and Test Equipment			
Instrument	Identification Number	Calibration Date	Calibration Due Date
Photometer	76INCH SPHERE IN0058	6/16/2025	12/16/2025
Power Meter	XITRON INXT2011004	10/21/2025	10/21/2026
AC Power Source	CHROMA 61603 IN0063	10/21/2025	10/21/2026
DC Power Source	AGILENT E3634A IN0208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



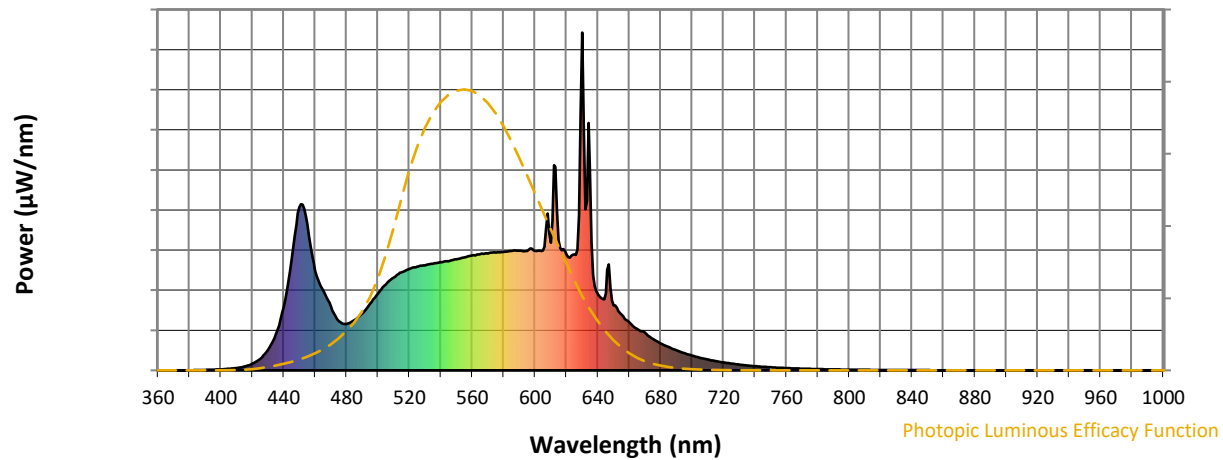
CIE 1931 Chromaticity Diagram with 2017 ANSI 7-Step and 4-Step Quadrangles



Point lies inside the ANSI 4000K 4-step quadrangle

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Photopic Flux vs. Wavelength

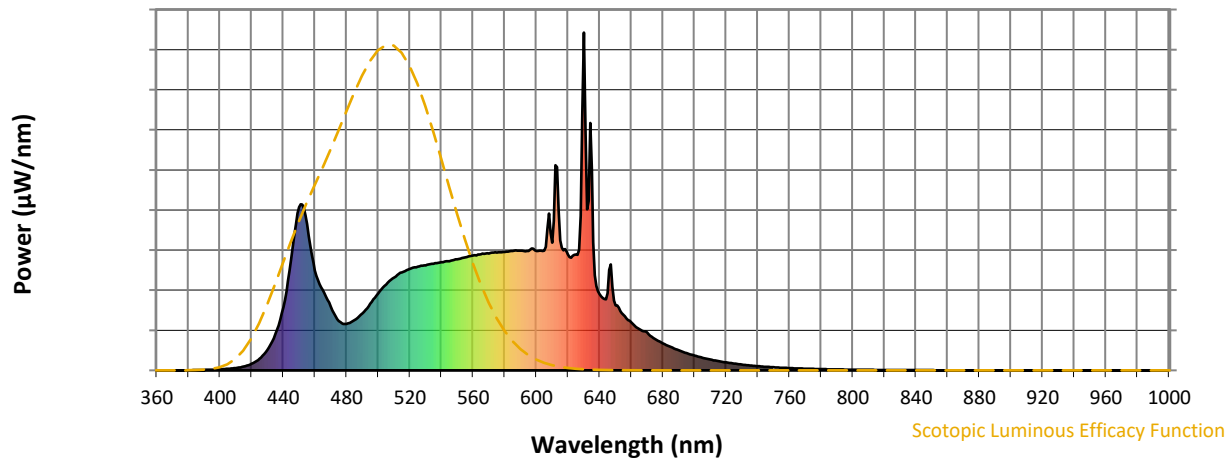


Photopic Lumens: NR

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



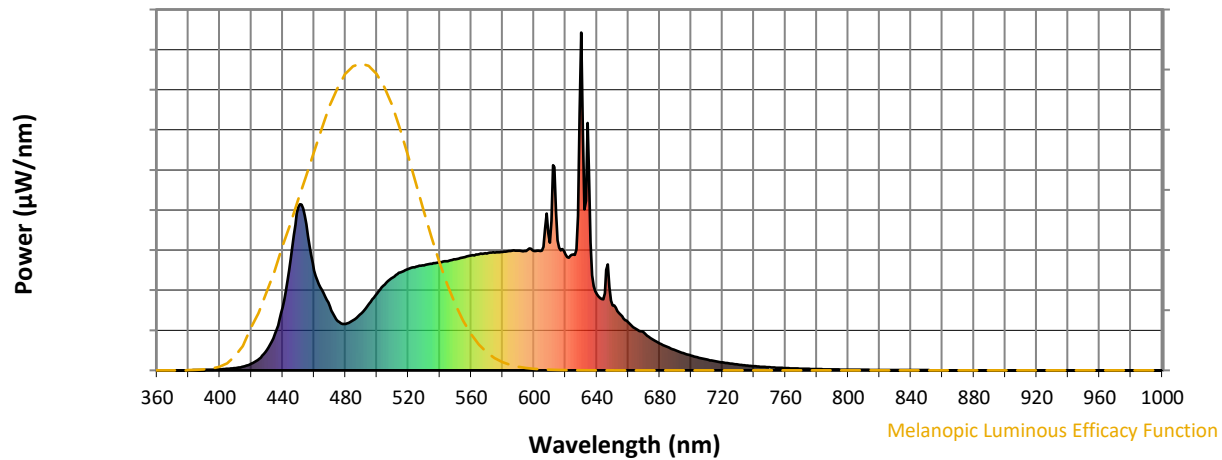
Scotopic Lumens: NR

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			

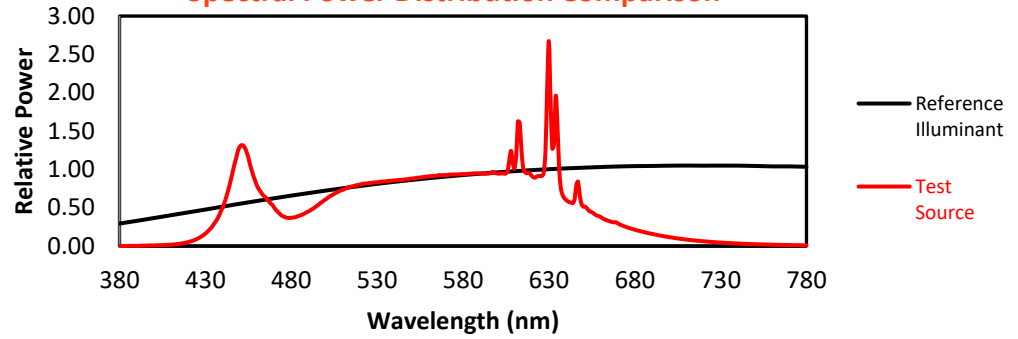
REPORT NUMBER: SP1-2511-597-4

TM-30-18

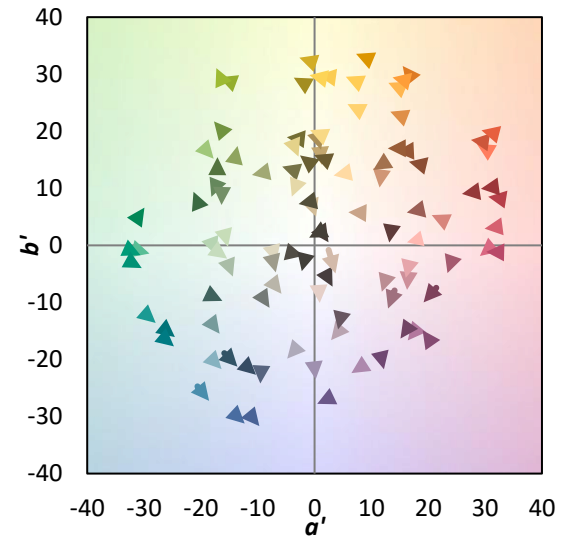
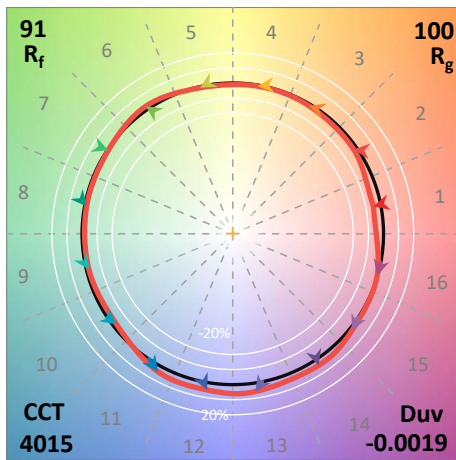
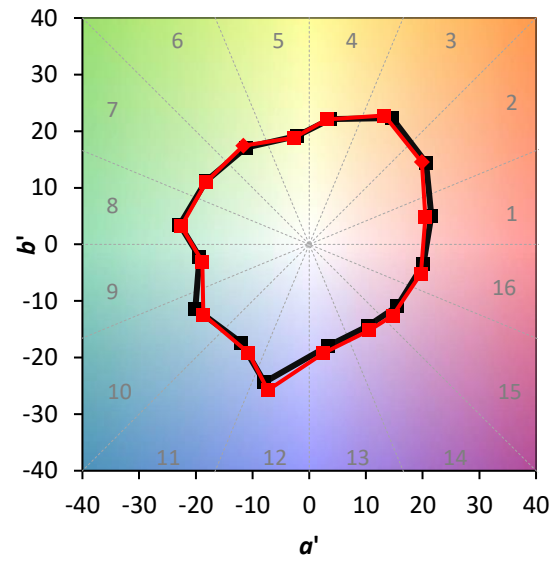
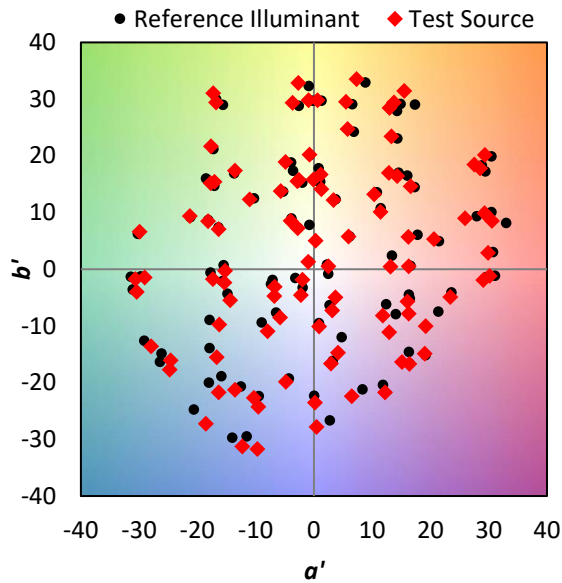
Summary

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

Spectral Power Distribution Comparison

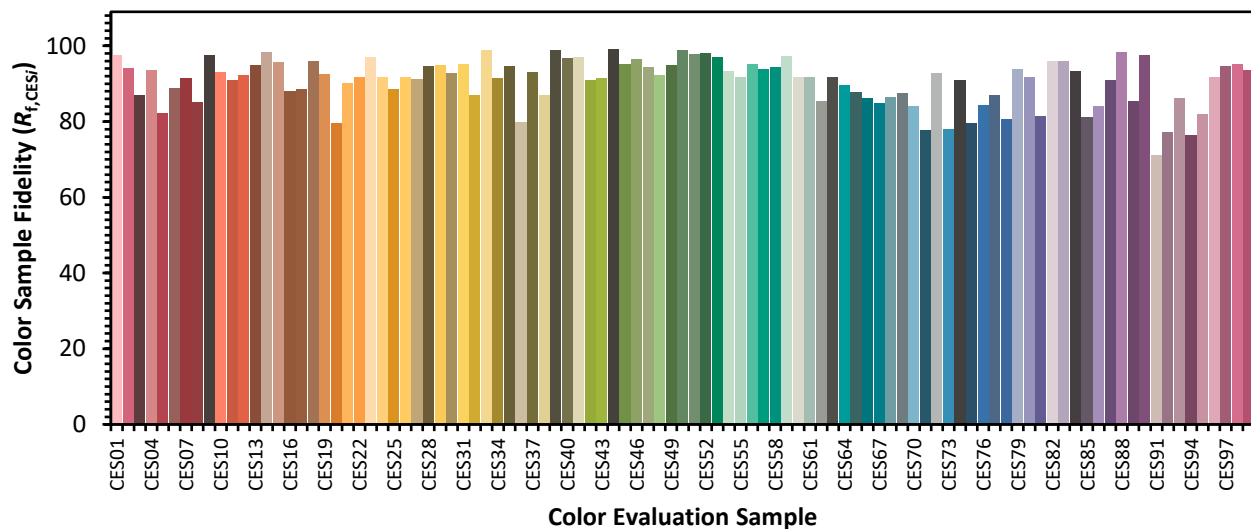


Color Vector Graphics

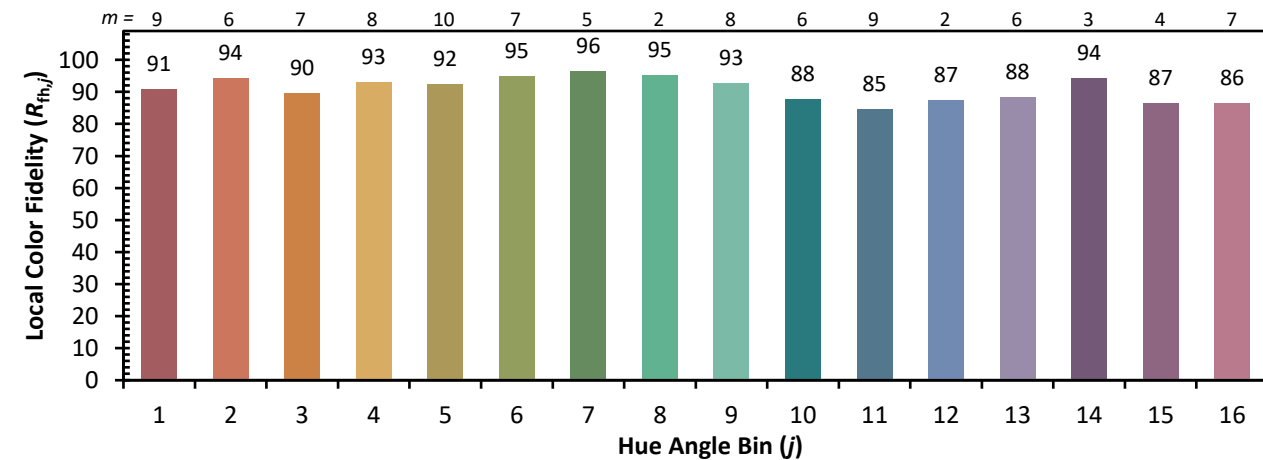
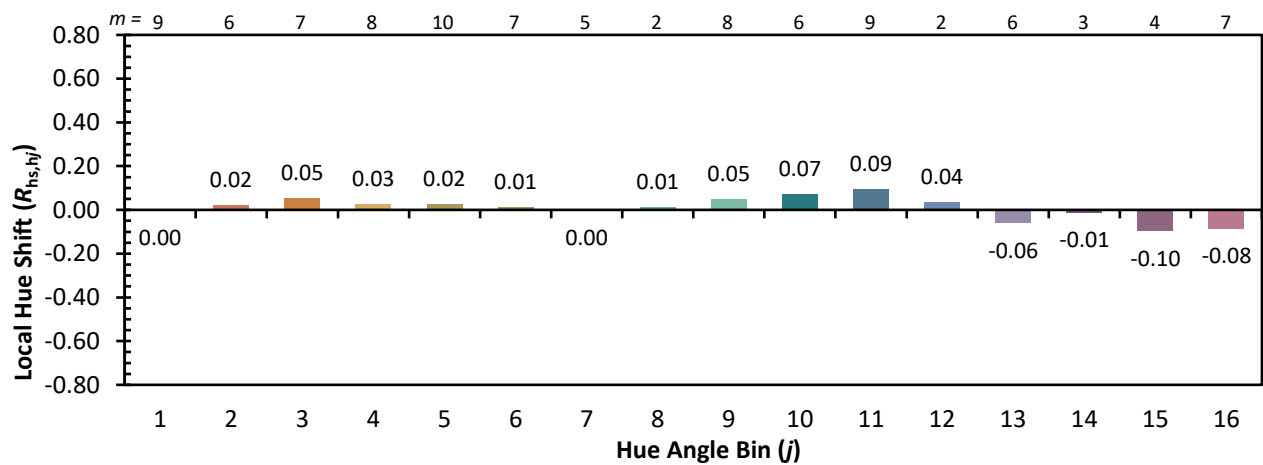
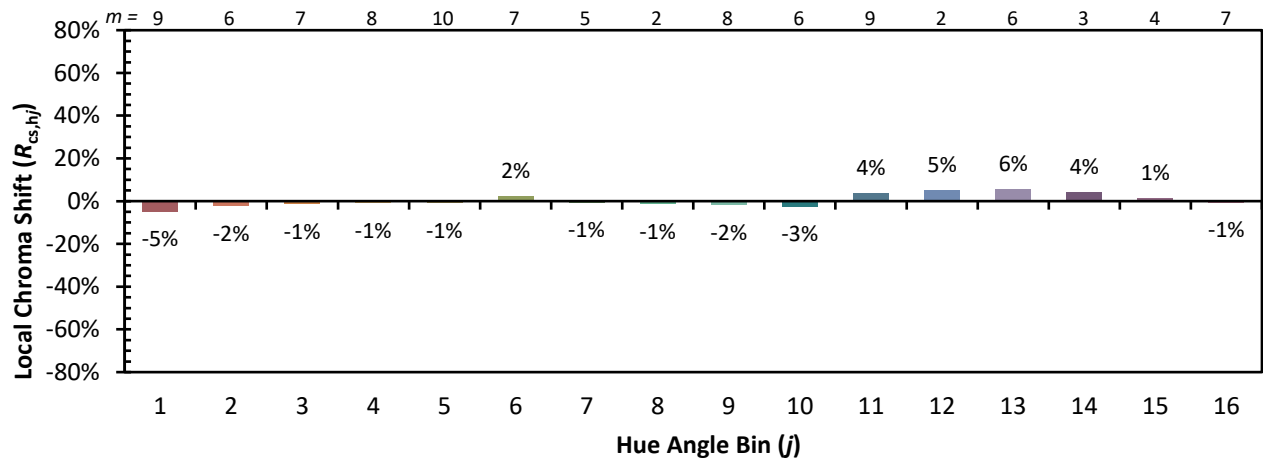


Individual Sample Fidelity Index ($R_{f,i}$)

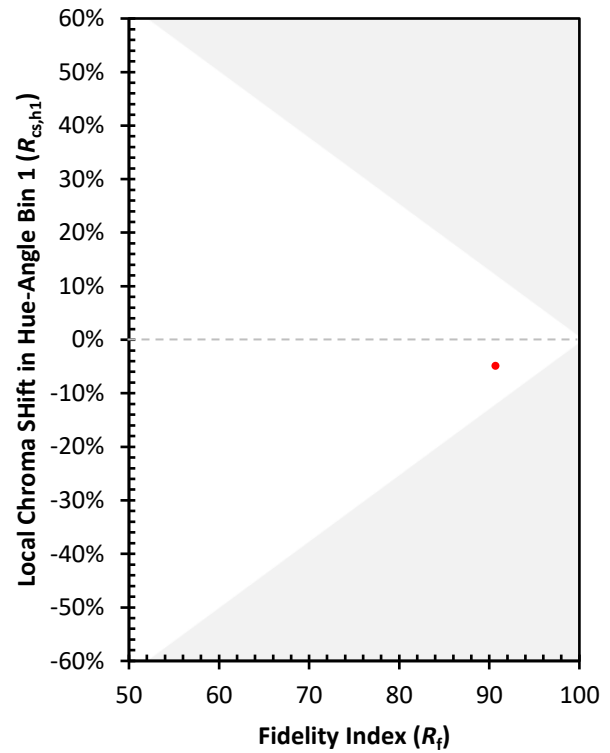
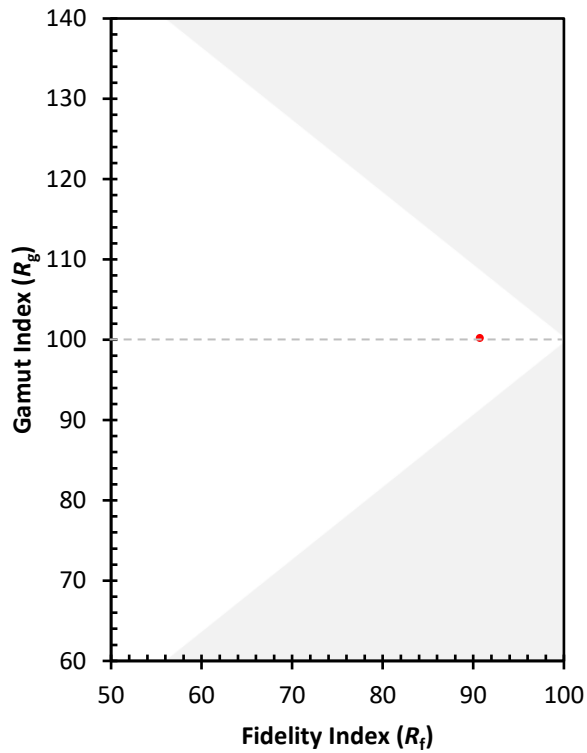
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CES02 = 62	CES27 = 91	CES52 = 98	CES77 = 87
CES03 = 31	CES28 = 95	CES53 = 97	CES78 = 81
CES04 = 69	CES29 = 95	CES54 = 93	CES79 = 94
CES05 = 49	CES30 = 93	CES55 = 92	CES80 = 92
CES06 = 50	CES31 = 95	CES56 = 95	CES81 = 81
CES07 = 42	CES32 = 87	CES57 = 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)