

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: P1356730

Luminaire Tested: 1ASL4-20VHE-3-40-UNV

Issue Date: 2/17/2026

Test Information

Test Method: LM-79-2019
Report Number: P1356730
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2511-597-12)
Test Lab: INNOVATION CENTER
Issue Date: 2/17/2026
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: FAIL-SAFE
Catalog Number: 1ASL4-20VHE-3-40-UNV
Description: 1FT 2000 LUMEN PER FOOT 4ASL LED LUMINAIRE WITH OPL LENS AND 4000K LEDS 3 ROW
Light Source: -
Ballast/Driver: -

Summary

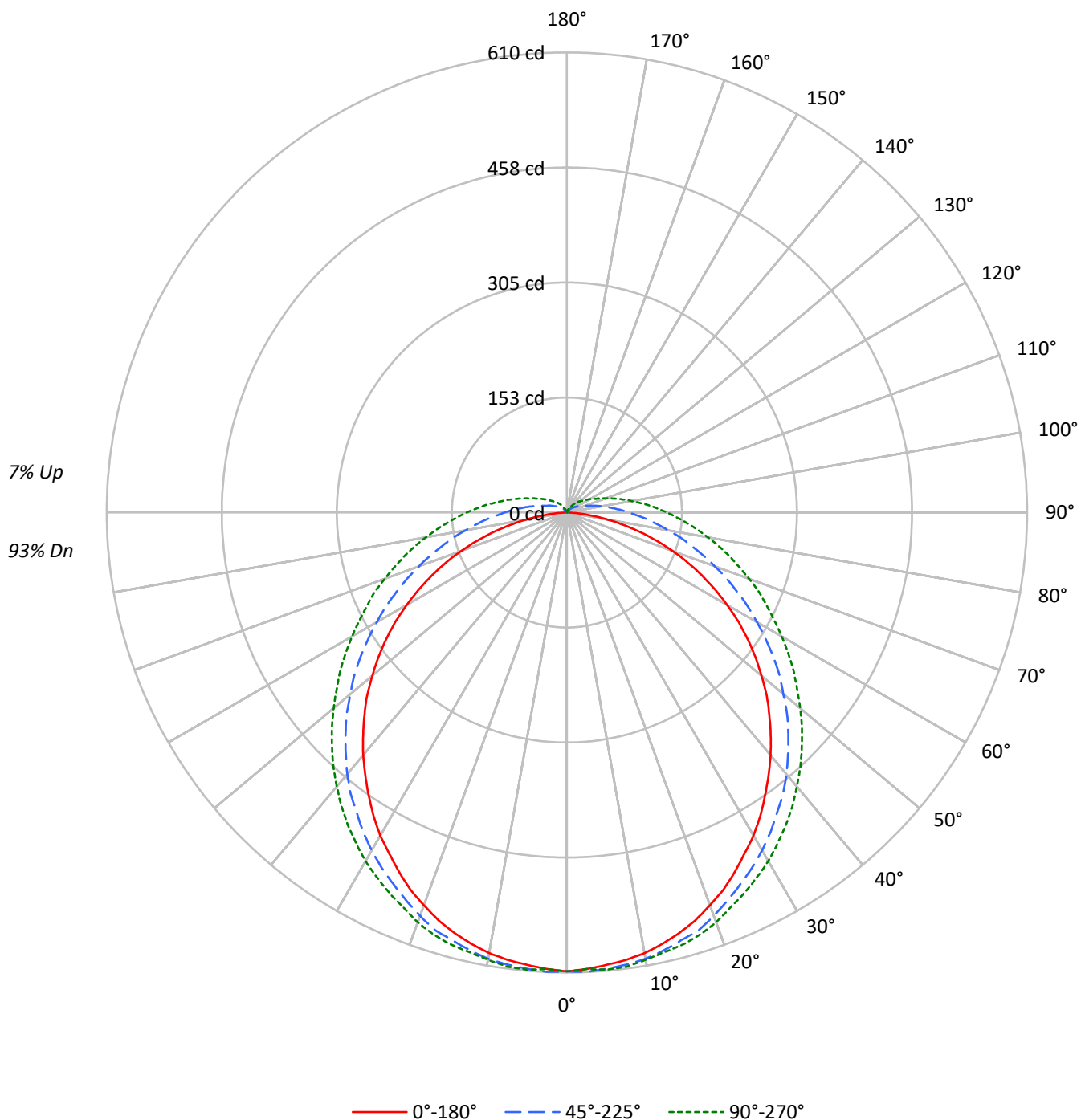
Lumens per Lamp: N/A
Luminaire Lumens: 2069.0 lumens
Efficiency: N/A
Efficacy: 122.4 lumens/watt
Spacing Criteria (0/90/45): 1.21 / 1.3 / 1.39
Luminous Opening: Rectangular w/ Sides (W: 0.33' x L: 0.98' x H: 0.1')
CIE Type: Direct

Input Watts (W): 16.9
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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CATALOG NUMBER: 1ASL4-20VHE-3-40-UNV

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	117	117	117	117	114	114	114	114	107	107	107		101	101	101		96
1	105	100	95	91	102	97	92	88	91	88	84		86	83	80		81
2	95	86	79	72	92	84	77	71	79	73	68		75	70	66		71
3	86	75	67	60	83	73	65	59	69	62	57		65	60	55		62
4	79	66	57	50	76	65	56	49	61	54	48		58	52	47		55
5	73	59	50	43	70	58	49	42	55	47	41		52	45	40		49
6	67	53	44	37	64	52	43	37	49	42	36		47	40	35		45
7	62	48	39	33	60	47	38	32	45	37	32		43	36	31		41
8	58	44	35	29	56	43	35	29	41	34	28		39	32	28		37
9	54	40	32	26	52	39	31	26	38	30	25		36	30	25		35
10	50	37	29	24	49	36	29	23	35	28	23		33	27	23		32

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	20068	20068	20068
5°	19752	19597	19608
10°	19502	19124	19113
15°	19151	18568	18692
20°	18722	18036	18220
25°	18246	17393	17681
30°	17749	16826	17224
35°	17161	16199	16714
40°	16600	15617	16181
45°	15998	14932	15646
50°	15322	14201	15088
55°	14585	13495	14586
60°	13668	12686	14075
65°	12543	11892	13652
70°	11140	11095	13323
75°	9230	10337	13099
80°	6598	9681	13002
85°	3244	9275	13193

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 15998 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	57.7	2.8
10°-20°	165.7	8.0
20°-30°	250.5	12.1
30°-40°	303.3	14.7
40°-50°	318.6	15.4
50°-60°	297.2	14.4
60°-70°	245.6	11.9
70°-80°	176.9	8.5
80°-90°	109.9	5.3
90°-100°	64.4	3.1
100°-110°	36.8	1.8
110°-120°	20.8	1.0
120°-130°	12.0	0.6
130°-140°	6.5	0.3
140°-150°	2.7	0.1
150°-160°	0.5	0.0
160°-170°	0.0	0.0
170°-180°	0.0	0.0
0°-30°	473.9	22.9
0°-40°	777.2	37.6
0°-60°	1393.0	67.3
0°-90°	1925.3	93.1
90°-120°	122.0	5.9
90°-150°	143.2	6.9
90°-180°	144.0	7.0
0°-180°	2069.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	608	608	608	608	608	
5°	602	607	607	607	608	57
15°	577	584	587	591	593	163
25°	526	535	544	552	557	242
35°	458	471	486	500	506	287
45°	380	394	415	433	440	293
55°	292	309	334	358	367	261
65°	197	216	249	281	292	195
75°	101	126	171	208	223	107
85°	19	57	108	146	159	23
90°	0	34	82	118	133	1
95°	0	22	62	95	109	0
105°	0	8	34	60	70	0
115°	0	4	20	37	43	0
125°	0	2	13	24	28	0
135°	0	0	8	15	19	0
145°	0	0	4	9	10	0
155°	0	0	0	2	4	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°	608.5	608.5	608.5	608.5	608.5
2.5°	606.0	609.8	609.8	606.0	606.0
5°	602.2	607.3	607.3	607.3	608.5
7.5°	598.4	604.7	604.7	604.7	607.3
10°	593.3	599.7	600.9	600.9	602.2
12.5°	585.7	593.3	594.6	595.9	597.1
15°	576.9	584.5	587.0	590.8	593.3
17.5°	566.8	575.6	580.7	584.5	587.0
20°	554.1	563.0	569.3	574.4	578.2
22.5°	541.5	549.1	556.7	563.0	566.8
25°	526.3	535.1	544.0	551.6	556.7
27.5°	509.8	520.0	531.3	540.2	545.3
30°	494.7	504.8	517.4	528.8	533.9
32.5°	476.9	488.3	502.3	513.6	520.0
35°	458.0	470.6	485.8	499.7	506.0
37.5°	439.0	451.6	470.6	484.5	490.9
40°	420.0	432.7	452.9	468.1	474.4
42.5°	399.8	412.4	433.9	450.4	458.0
45°	379.5	393.5	415.0	432.7	440.3
47.5°	359.3	373.2	396.0	415.0	422.5
50°	336.5	351.7	374.5	396.0	403.6
52.5°	315.0	330.2	355.5	377.0	384.6
55°	292.2	308.7	334.0	358.0	366.9
57.5°	269.5	285.9	312.5	337.8	347.9
60°	245.4	263.1	291.0	317.5	328.9
62.5°	221.4	240.4	270.7	298.6	310.0
65°	197.4	216.3	249.2	280.9	292.2
67.5°	173.3	193.6	229.0	261.9	275.8
70°	149.3	170.8	208.7	242.9	256.8
72.5°	125.2	148.0	189.8	225.2	239.1
75°	101.2	126.5	170.8	207.5	222.7
77.5°	77.2	106.3	154.3	191.0	206.2
80°	55.7	88.6	136.6	174.6	189.8
82.5°	35.4	70.8	121.5	159.4	174.6
85°	19.0	56.9	107.5	145.5	159.4
87.5°	6.3	44.3	93.6	131.6	145.5
90°	0.0	34.2	82.2	117.7	132.8
92.5°	0.0	26.6	72.1	106.3	120.2
95°	0.0	21.5	62.0	94.9	108.8
97.5°	0.0	17.7	54.4	84.8	97.4
100°	0.0	13.9	46.8	75.9	87.3
102.5°	0.0	11.4	40.5	67.1	78.4
105°	0.0	7.6	34.2	59.5	69.6
107.5°	0.0	6.3	29.1	53.1	62.0
110°	0.0	5.1	26.6	45.5	54.4



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	0.0	3.8	24.0	40.5	49.3
115°	0.0	3.8	20.2	36.7	43.0
117.5°	0.0	3.8	17.7	32.9	39.2
120°	0.0	2.5	16.4	29.1	35.4
122.5°	0.0	2.5	13.9	26.6	31.6
125°	0.0	2.5	12.7	24.0	27.8
127.5°	0.0	1.3	11.4	21.5	25.3
130°	0.0	1.3	10.1	19.0	22.8
132.5°	0.0	1.3	8.9	17.7	21.5
135°	0.0	0.0	7.6	15.2	19.0
137.5°	0.0	0.0	6.3	13.9	16.4
140°	0.0	0.0	5.1	11.4	15.2
142.5°	0.0	0.0	3.8	10.1	12.7
145°	0.0	0.0	3.8	8.9	10.1
147.5°	0.0	0.0	2.5	6.3	8.9
150°	0.0	0.0	1.3	5.1	6.3
152.5°	0.0	0.0	0.0	3.8	5.1
155°	0.0	0.0	0.0	2.5	3.8
157.5°	0.0	0.0	0.0	0.0	1.3
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	19.66	21.20	20.13	21.65	22.14	21.45	22.99	21.92	23.44	23.92
	3H	21.16	22.57	21.64	23.03	23.56	23.81	25.21	24.29	25.68	26.20
	4H	21.65	22.98	22.15	23.46	24.00	24.92	26.26	25.43	26.74	27.28
	6H	21.93	23.17	22.44	23.66	24.21	26.05	27.29	26.57	27.79	28.34
	8H	21.98	23.17	22.51	23.69	24.25	26.60	27.79	27.13	28.31	28.87
	12H	21.99	23.13	22.53	23.65	24.24	27.17	28.31	27.71	28.83	29.42
4H	2H	20.49	21.82	20.99	22.30	22.84	21.89	23.22	22.39	23.71	24.24
	3H	22.23	23.36	22.74	23.89	24.45	24.48	25.62	25.00	26.14	26.70
	4H	22.84	23.87	23.37	24.41	25.00	25.77	26.81	26.31	27.34	27.94
	6H	23.24	24.15	23.79	24.72	25.32	27.09	28.01	27.64	28.57	29.17
	8H	23.33	24.19	23.89	24.76	25.38	27.74	28.61	28.31	29.17	29.79
	12H	23.38	24.16	23.96	24.75	25.38	28.43	29.22	29.02	29.81	30.43
8H	4H	23.46	24.33	24.02	24.89	25.51	26.00	26.86	26.56	27.42	28.04
	6H	24.04	24.77	24.63	25.38	26.00	27.49	28.22	28.08	28.82	29.45
	8H	24.22	24.88	24.83	25.50	26.14	28.28	28.94	28.89	29.56	30.20
	12H	24.34	24.93	24.95	25.53	26.24	29.16	29.75	29.76	30.35	31.05
12H	4H	23.63	24.42	24.21	25.01	25.63	26.01	26.79	26.59	27.38	28.00
	6H	24.30	24.96	24.91	25.58	26.22	27.53	28.19	28.13	28.80	29.44
	8H	24.58	25.17	25.19	25.77	26.48	28.40	28.99	29.00	29.59	30.29

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

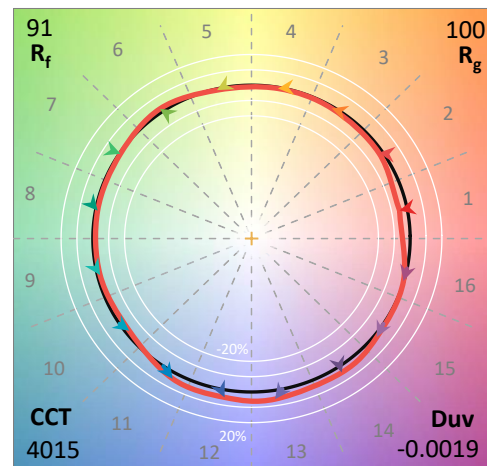
Test Information

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

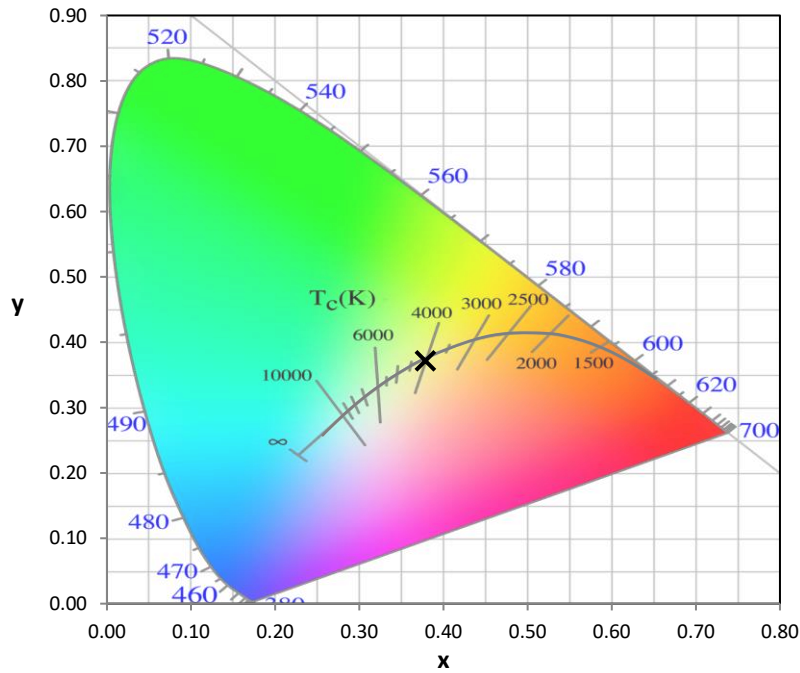
Stabilization Time: 23M
 Operation Time: 1H 23M
 Sphere Temperature (°C): 24.1

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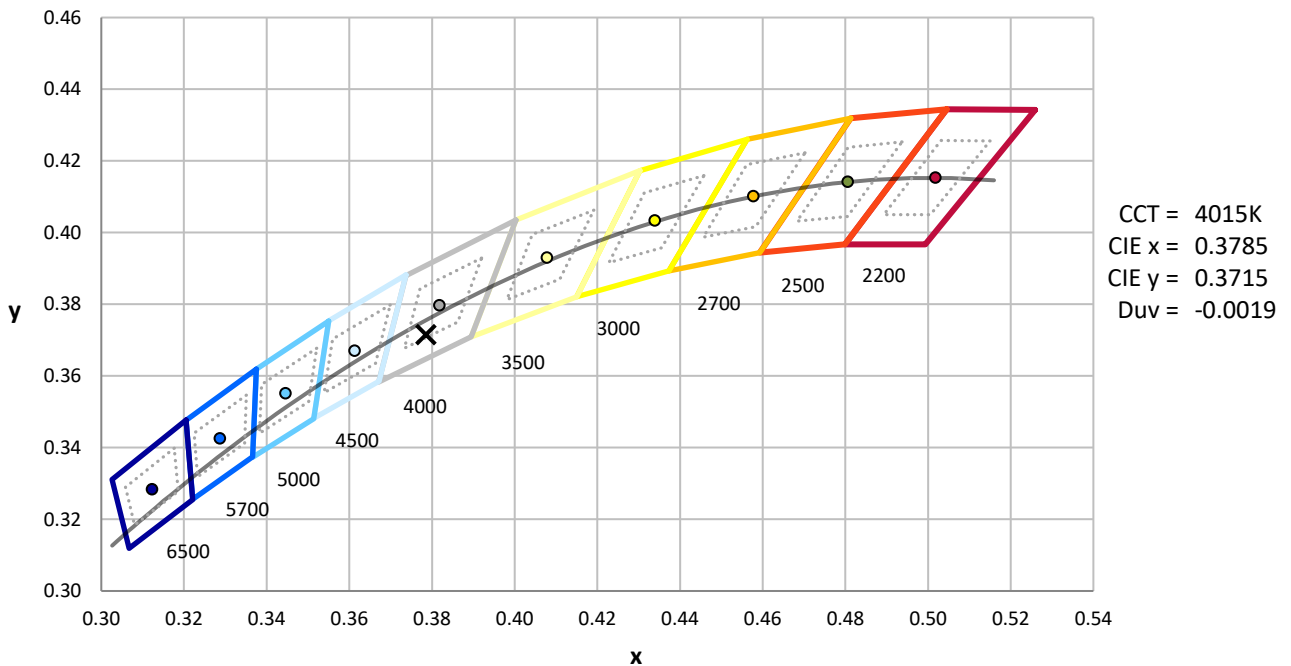
Measurement and Test Equipment			
Instrument	Identification Number	Calibration Date	Calibration Due Date
Photometer	76INCH SPHERE IN0058	6/16/2025	12/16/2025
Power Meter	XITRON INXT2011004	10/21/2025	10/21/2026
AC Power Source	CHROMA 61603 IN0063	10/21/2025	10/21/2026
DC Power Source	AGILENT E3634A IN0208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



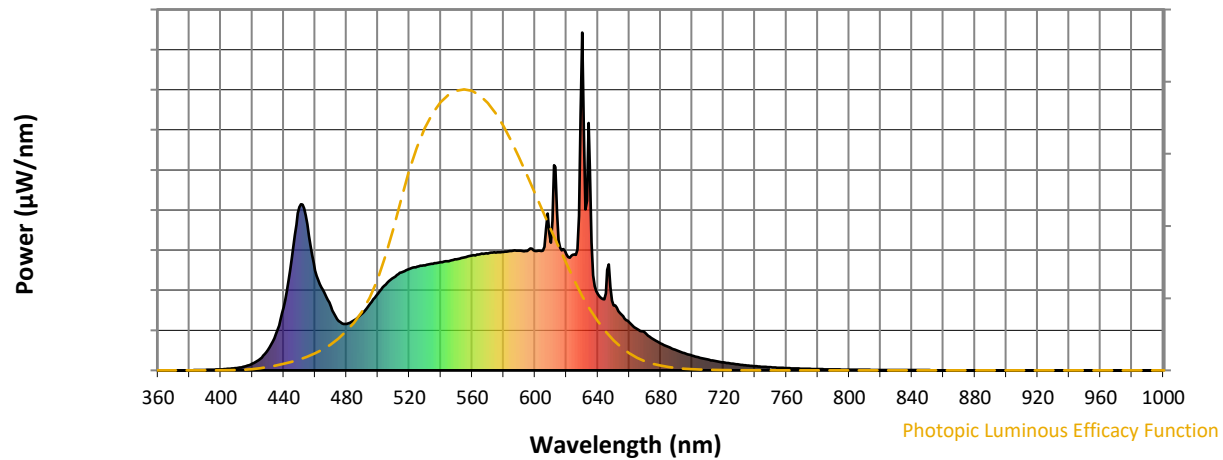
CIE 1931 Chromaticity Diagram with 2017 ANSI 7-Step and 4-Step Quadrangles



Point lies inside the ANSI 4000K 4-step quadrangle

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Photopic Flux vs. Wavelength

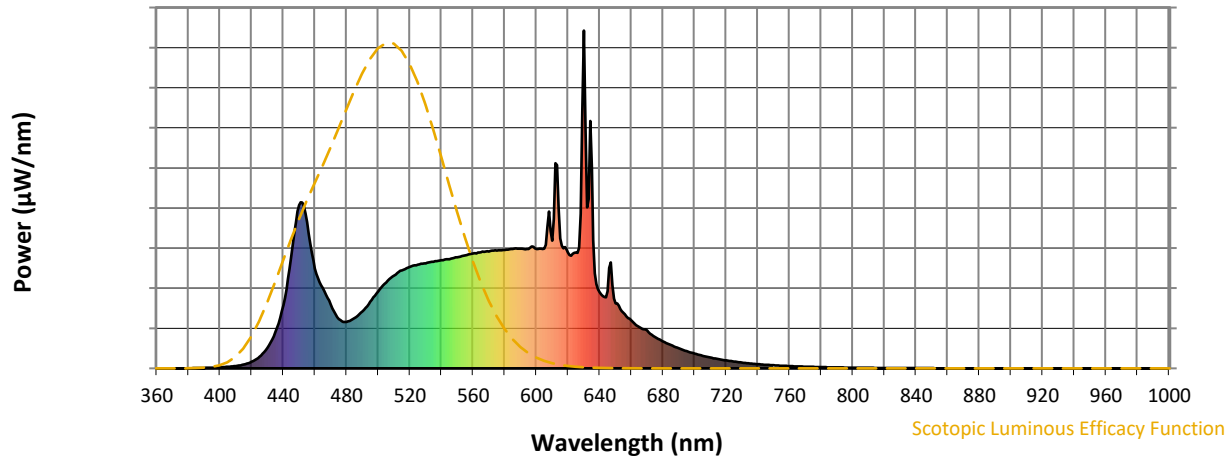


Photopic Lumens: NR

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



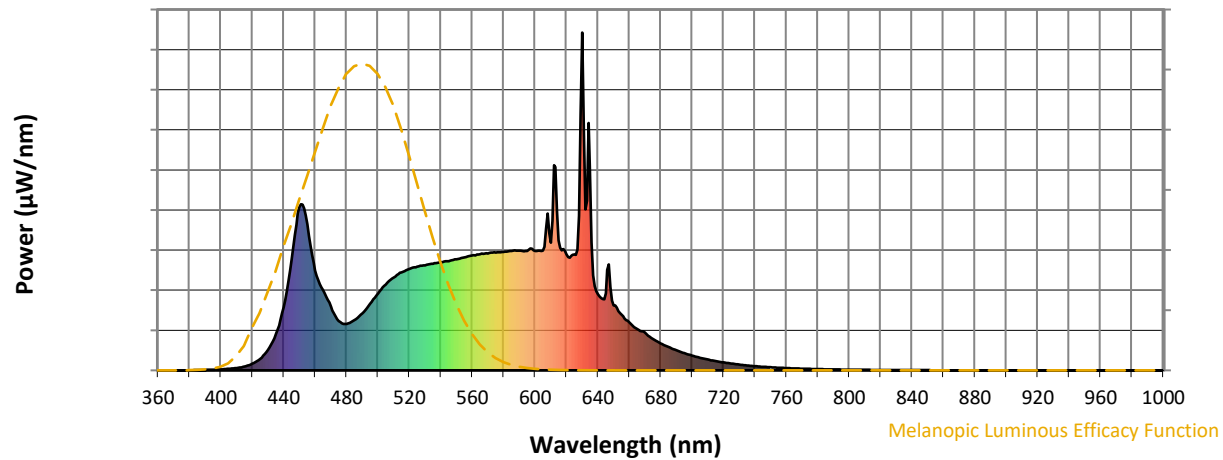
Scotopic Lumens: NR

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

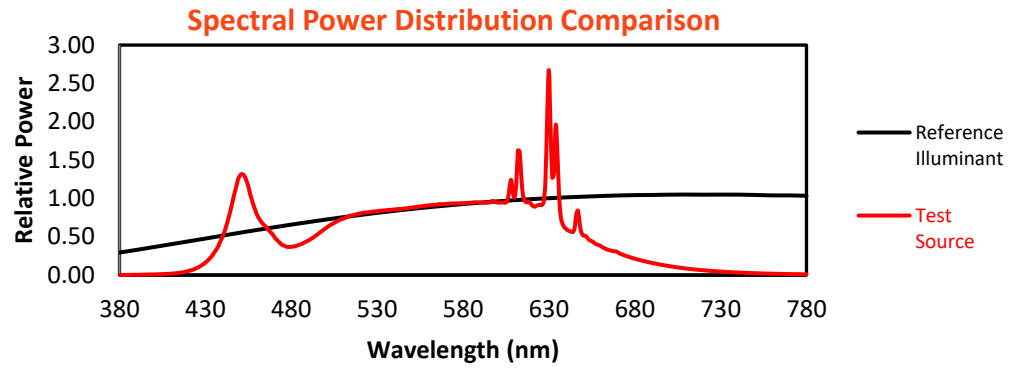
λ (nm)	Power W [^] /nm	Lumens (φ/nm)	λ (nm)	Power W [^] /nm	Lumens (φ/nm)	λ (nm)	Power W [^] /nm	Lumens (φ/nm)	λ (nm)	Power W [^] /nm	Lumens (φ/nm)	λ (nm)	Power W [^] /nm	Lumens (φ/nm)
360	0	NR	490	169	NR	620	343	NR	750	9	NR	880	0	NR
365	0	NR	495	197	NR	625	343	NR	755	8	NR	885	0	NR
370	0	NR	500	228	NR	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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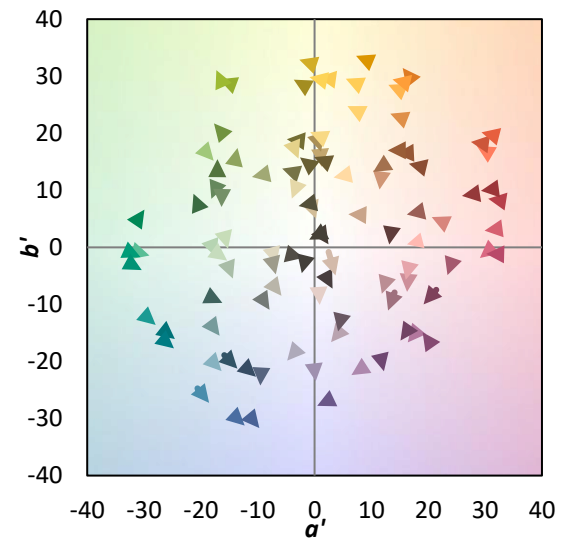
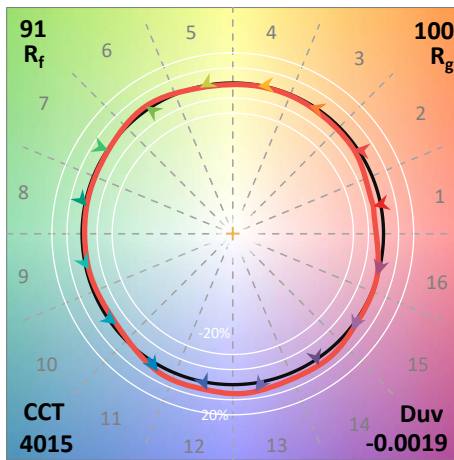
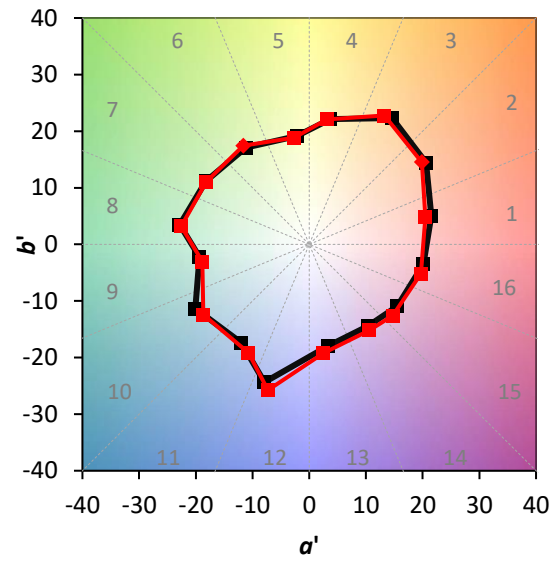
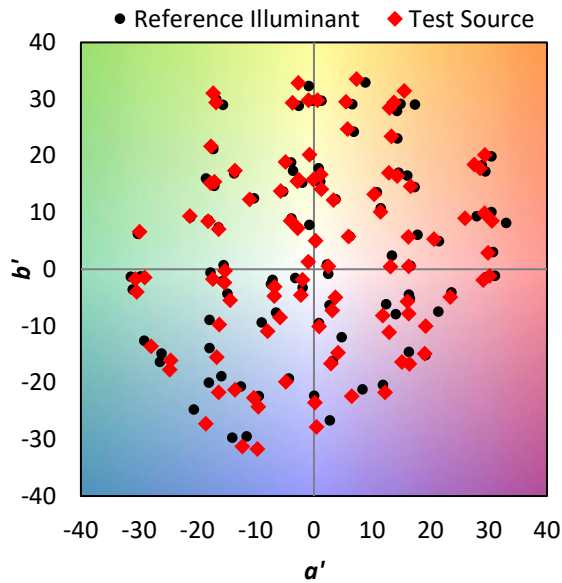
TM-30-18

Summary

$R_f = 90.7$
 $R_g = 100.2$
 CIE $R_a = 93.9$
 $R_9 = 66.3$

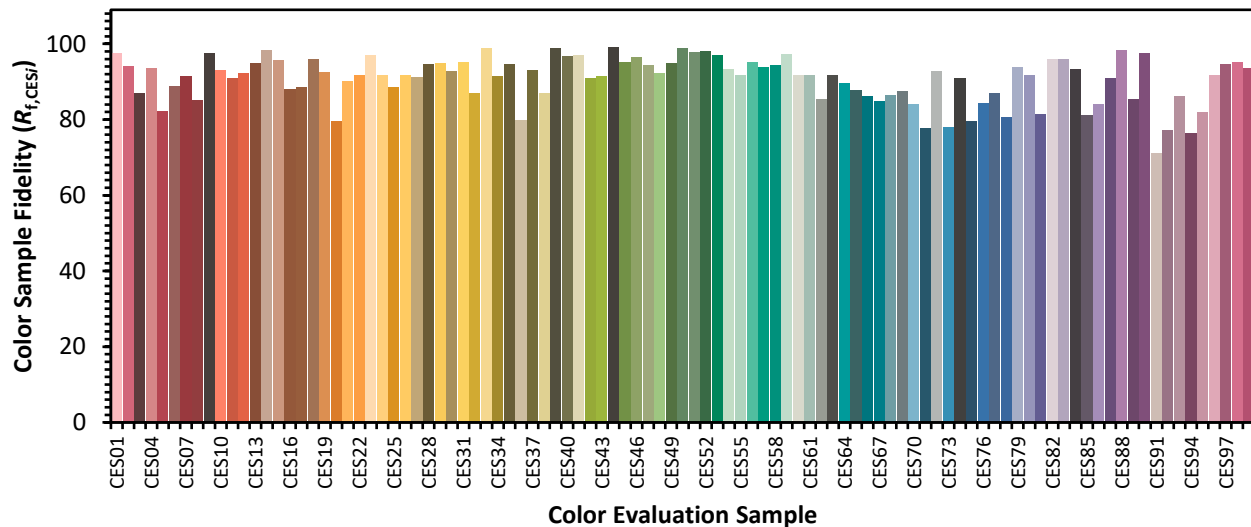


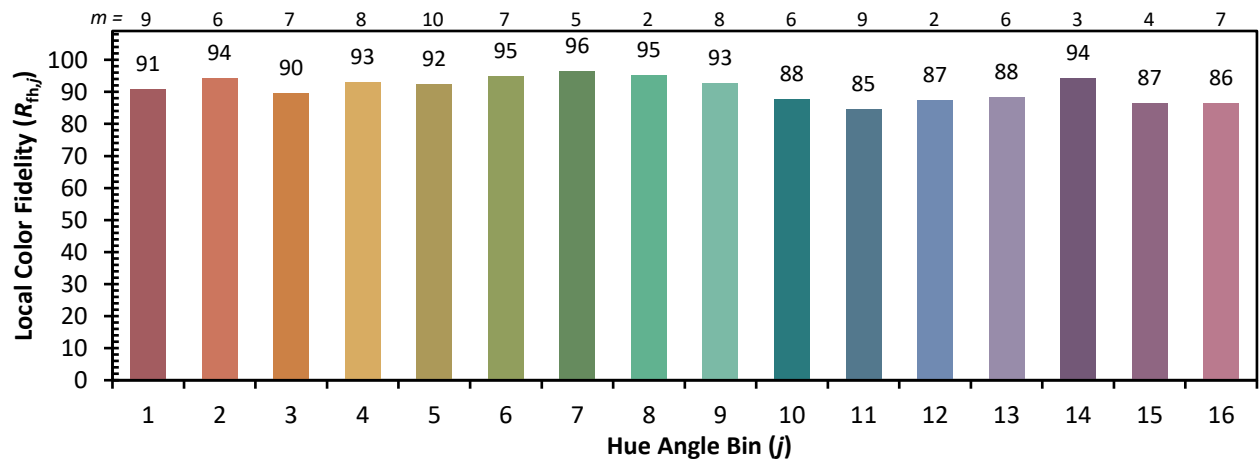
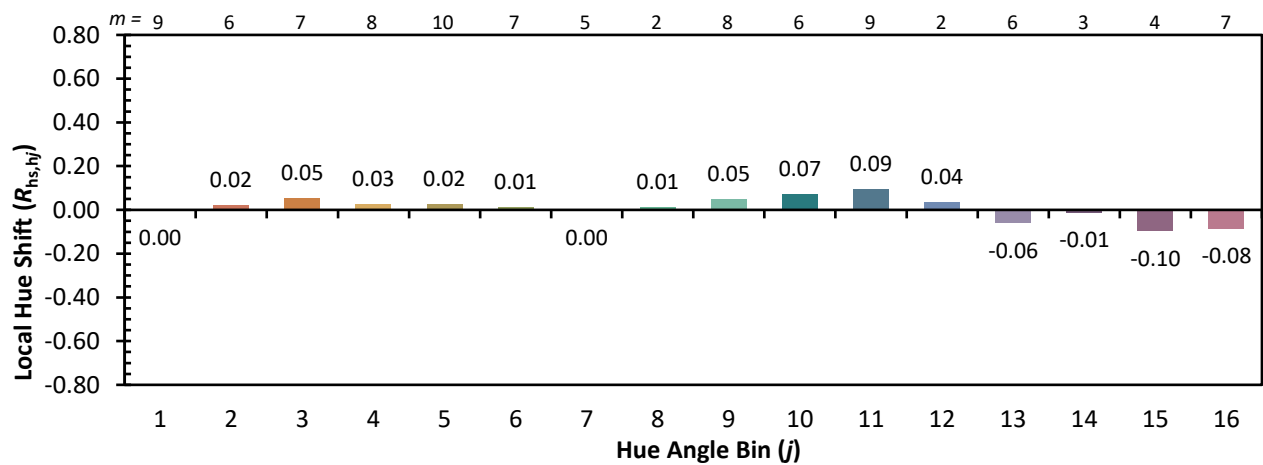
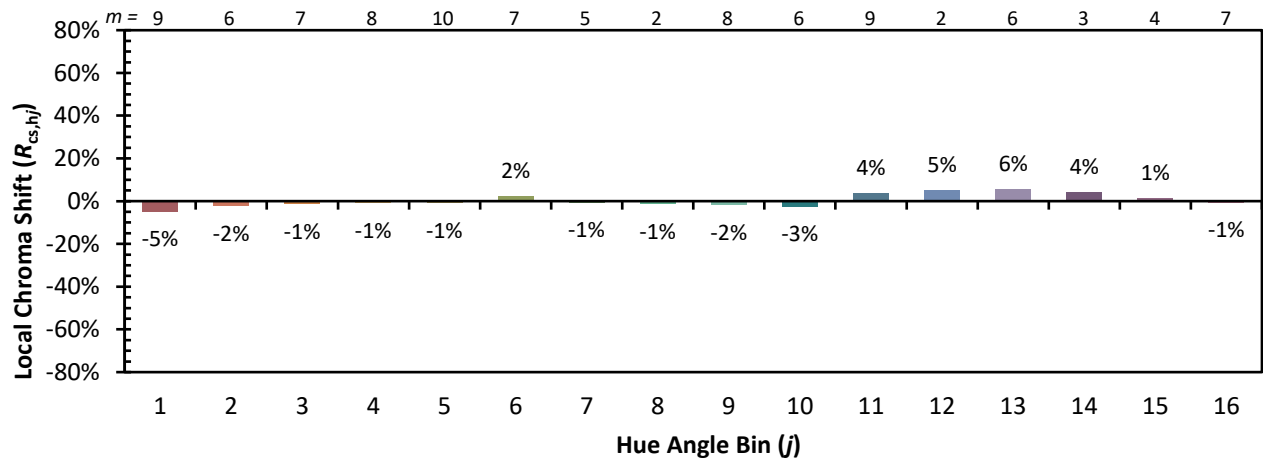
Color Vector Graphics



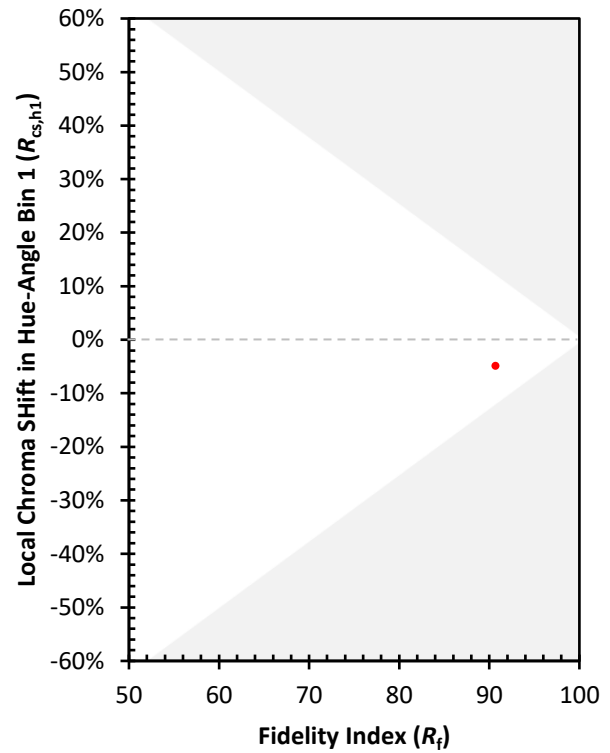
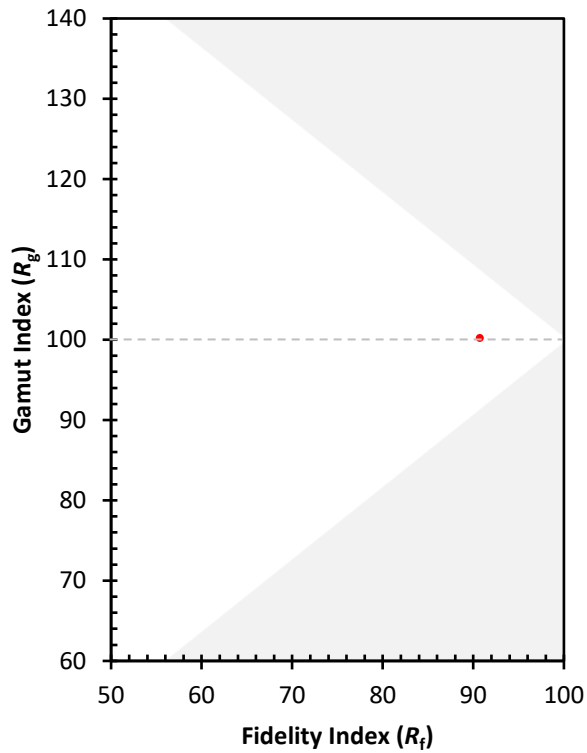
Individual Sample Fidelity Index ($R_{f,i}$)

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)