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: P1357200

Luminaire Tested: 4ASL4-20VHE-3-R63-UNV

Issue Date: 2/17/2026

Cooper Lighting Solutions Photometric Lab
1121 Highway 74 South
Peachtree City, GA 30269

Scaled Data Report

Test Information

Test Method:	LM-79-2019
Report Number:	P1357200
	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:	4ASL4-20VHE-3-R63-UNV
Description:	4FT 2000 LUMEN PER FOOT 4ASL LED LUMINAIRE WITH OPL LENS AND R63 LEDS 3 ROW
Light Source:	-
Ballast/Driver:	-

Summary

Lumens per Lamp:	N/A
Luminaire Lumens:	2087.0 lumens
Efficiency:	N/A
Efficacy:	42.0 lumens/watt
Spacing Criteria (0/90/45):	1.21 / 1.3 / 1.39
Luminous Opening:	Rectangular w/ Sides (W: 0.33' x L: 3.98' x H: 0.1')
CIE Type:	Direct

Input Watts (W):	49.7
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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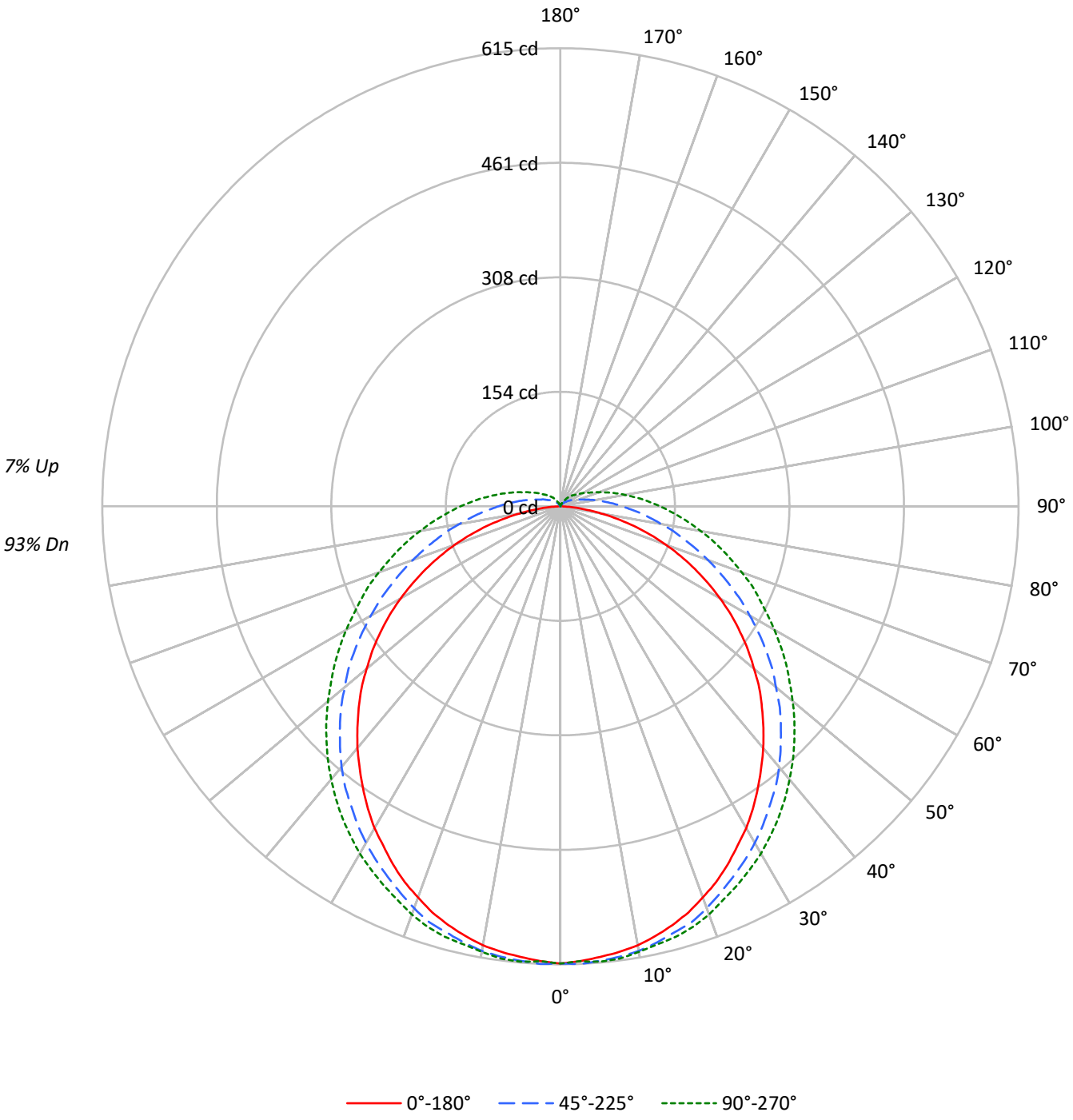
TEST NUMBER: P1357200
CATALOG NUMBER: 4ASL4-20VHE-3-R63-UNV

Luminous Intensity Polar Plot



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TEST NUMBER: P1357200
CATALOG NUMBER: 4ASL4-20VHE-3-R63-UNV

COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	20				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	0
RCR																		
0	117	117	117	117	114	114	114	114	107	107	107	101	101	101	96	96	96	93
1	105	100	95	91	102	97	92	88	91	88	84	86	83	80	81	79	77	74
2	95	86	79	72	92	84	77	71	79	73	68	75	70	66	71	67	63	61
3	86	75	67	60	83	73	65	59	69	62	57	65	60	55	62	57	53	50
4	79	66	57	50	76	65	56	49	61	54	48	58	52	47	55	50	45	43
5	73	59	50	43	70	58	49	42	55	47	41	52	45	40	49	44	39	37
6	67	53	44	37	64	52	43	37	49	42	36	47	40	35	45	39	34	32
7	62	48	39	33	60	47	38	32	45	37	32	43	36	31	41	35	30	28
8	58	44	35	29	56	43	35	29	41	34	28	39	32	28	37	32	27	25
9	54	40	32	26	52	39	31	26	38	30	25	36	30	25	35	29	24	22
10	50	37	29	24	49	36	29	23	35	28	23	33	27	23	32	26	22	20

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	4981	4981	4981
5°	4937	4887	4867
10°	4909	4793	4744
15°	4855	4675	4640
20°	4781	4562	4522
25°	4696	4420	4388
30°	4606	4297	4275
35°	4495	4157	4149
40°	4392	4030	4016
45°	4281	3876	3883
50°	4155	3710	3745
55°	4021	3552	3621
60°	3844	3367	3494
65°	3620	3189	3389
70°	3334	3014	3308
75°	2916	2853	3251
80°	2283	2731	3227
85°	1369	2703	3275

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
Vertical Angle: 45°
Luminance: 4281 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	58.2	2.8
10°-20°	167.1	8.0
20°-30°	252.7	12.1
30°-40°	305.9	14.7
40°-50°	321.3	15.4
50°-60°	299.8	14.4
60°-70°	247.8	11.9
70°-80°	178.4	8.5
80°-90°	110.9	5.3
90°-100°	65.0	3.1
100°-110°	37.2	1.8
110°-120°	21.0	1.0
120°-130°	12.1	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°	478.0	22.9
0°-40°	783.9	37.6
0°-60°	1405.1	67.3
0°-90°	1942.1	93.1
90°-120°	123.1	5.9
90°-150°	144.4	6.9
90°-180°	145.0	6.9
0°-180°	2087.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	614	614	614	614	614	
5°	607	612	612	612	614	58
15°	582	590	592	596	598	164
25°	531	540	549	556	562	245
35°	462	475	490	504	510	289
45°	383	397	419	436	444	295
55°	295	311	337	361	370	263
65°	199	218	251	283	295	197
75°	102	128	172	209	225	108
85°	19	57	108	147	161	23
90°	0	34	83	119	134	1
95°	0	22	62	96	110	0
105°	0	8	34	60	70	0
115°	0	4	20	37	43	0
125°	0	3	13	24	28	0
135°	0	0	8	15	19	0
145°	0	0	4	9	10	0
155°	0	0	0	3	4	0
165°	0	0	0	0	0	0
175°	0	0	0	0	0	0
180°	0	0	0	0	0	

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TEST NUMBER: P1357200
CATALOG NUMBER: 4ASL4-20VHE-3-R63-UNV

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	613.8	*613.8*	613.8	613.8	613.8
2.5°	*611.3*	*615.1*	*615.1*	*611.3*	*611.3*
5°	607.4	*612.5*	612.5	612.5	613.8
7.5°	603.6	*610.0*	610.0	610.0	612.5
10°	598.5	*604.9*	606.2	606.2	607.4
12.5°	590.8	*598.5*	599.8	601.1	602.3
15°	581.9	*589.6*	592.1	595.9	598.5
17.5°	571.7	*580.6*	585.7	589.6	592.1
20°	558.9	*567.9*	574.3	579.4	583.2
22.5°	546.2	*553.8*	561.5	567.9	571.7
25°	530.9	*539.8*	548.7	556.4	561.5
27.5°	514.3	*524.5*	536.0	544.9	550.0
30°	499.0	*509.2*	521.9	533.4	538.5
32.5°	481.1	*492.6*	506.6	518.1	524.5
35°	462.0	*474.7*	490.0	504.1	510.4
37.5°	442.8	*455.6*	474.7	488.8	495.1
40°	423.7	*436.4*	456.9	472.2	478.5
42.5°	403.3	*416.0*	437.7	454.3	462.0
45°	382.8	*396.9*	418.6	436.4	444.1
47.5°	362.4	*376.5*	399.4	418.6	426.2
50°	339.4	*354.8*	377.7	399.4	407.1
52.5°	317.8	*333.1*	358.6	380.3	387.9
55°	294.8	*311.4*	336.9	361.1	370.1
57.5°	271.8	*288.4*	315.2	340.7	350.9
60°	247.6	*265.4*	293.5	320.3	331.8
62.5°	223.3	*242.5*	273.1	301.2	312.6
65°	199.1	*218.2*	251.4	283.3	294.8
67.5°	174.8	*195.2*	231.0	264.2	278.2
70°	150.6	*172.3*	210.6	245.0	259.1
72.5°	126.3	*149.3*	191.4	227.1	241.2
75°	102.1	*127.6*	172.3	209.3	224.6
77.5°	77.8	*107.2*	155.7	192.7	208.0
80°	56.1	*89.3*	137.8	176.1	191.4
82.5°	35.7	*71.5*	122.5	160.8	176.1
85°	19.1	*57.4*	108.5	146.8	160.8
87.5°	6.4	*44.7*	94.4	132.7	146.8
90°	0.0	*34.5*	82.9	118.7	134.0
92.5°	0.0	*26.8*	72.7	107.2	121.2
95°	0.0	*21.7*	62.5	95.7	109.7
97.5°	0.0	*17.9*	54.9	85.5	98.3
100°	0.0	*14.0*	47.2	76.6	88.1
102.5°	0.0	*11.5*	40.8	67.6	79.1
105°	0.0	*7.7*	34.5	60.0	70.2
107.5°	0.0	*6.4*	29.4	53.6	62.5
110°	0.0	*5.1*	26.8	45.9	54.9

TEST NUMBER: P1357200
CATALOG NUMBER: 4ASL4-20VHE-3-R63-UNV

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	0.0	*3.8*	24.2	40.8	49.8
115°	0.0	*3.8*	20.4	37.0	43.4
117.5°	0.0	*3.8*	17.9	33.2	39.6
120°	0.0	*2.6*	16.6	29.4	35.7
122.5°	0.0	*2.6*	14.0	26.8	31.9
125°	0.0	*2.6*	12.8	24.2	28.1
127.5°	0.0	*1.3*	11.5	21.7	25.5
130°	0.0	*1.3*	10.2	19.1	23.0
132.5°	0.0	*1.3*	8.9	17.9	21.7
135°	0.0	*0.0*	7.7	15.3	19.1
137.5°	0.0	*0.0*	6.4	14.0	16.6
140°	0.0	*0.0*	5.1	11.5	15.3
142.5°	0.0	*0.0*	3.8	10.2	12.8
145°	0.0	*0.0*	3.8	8.9	10.2
147.5°	0.0	*0.0*	2.6	6.4	8.9
150°	0.0	*0.0*	1.3	5.1	6.4
152.5°	0.0	*0.0*	0.0	3.8	5.1
155°	0.0	*0.0*	0.0	2.6	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	14.91	16.45	15.38	16.91	17.39	16.94	18.48	17.41	18.93	19.42
	3H	16.41	17.81	16.89	18.28	18.80	19.40	20.81	19.88	21.27	21.79
	4H	16.89	18.22	17.39	18.70	19.24	20.60	21.93	21.10	22.41	22.95
	6H	17.16	18.40	17.68	18.90	19.45	21.85	23.09	22.37	23.59	24.14
	8H	17.22	18.40	17.74	18.92	19.48	22.50	23.69	23.03	24.21	24.76
	12H	17.23	18.37	17.76	18.88	19.47	23.21	24.35	23.74	24.86	25.45
4H	2H	15.79	17.12	16.29	17.60	18.14	17.37	18.70	17.87	19.19	19.72
	3H	17.52	18.66	18.04	19.18	19.74	20.06	21.20	20.58	21.72	22.28
	4H	18.13	19.17	18.66	19.70	20.29	21.43	22.47	21.96	23.00	23.60
	6H	18.53	19.44	19.08	20.00	20.61	22.87	23.79	23.43	24.35	24.96
	8H	18.62	19.48	19.18	20.04	20.66	23.63	24.49	24.19	25.05	25.67
	12H	18.66	19.45	19.25	20.04	20.66	24.46	25.24	25.04	25.84	26.46
8H	4H	18.81	19.67	19.37	20.23	20.85	21.65	22.51	22.21	23.07	23.69
	6H	19.39	20.12	19.98	20.72	21.35	23.26	23.99	23.85	24.60	25.22
	8H	19.57	20.23	20.17	20.84	21.48	24.15	24.81	24.76	25.43	26.07
	12H	19.68	20.27	20.29	20.88	21.58	25.17	25.76	25.78	26.37	27.07
12H	4H	19.00	19.79	19.58	20.38	21.00	21.65	22.44	22.24	23.03	23.65
	6H	19.68	20.34	20.29	20.96	21.59	23.30	23.96	23.90	24.57	25.21
	8H	19.96	20.55	20.57	21.15	21.86	24.26	24.85	24.87	25.45	26.16

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

Report Prepared for

Cooper Lighting Solutions

Fail-Safe

Report Number: SP1-2511-597-7

Test Date: 01/21/2026

Luminaire Tested: 4ASL-2-R630-UNV-OPL-1_600mA

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

Report Generated By FNC07603 / LDUCLS01DT446
Version: v7.05

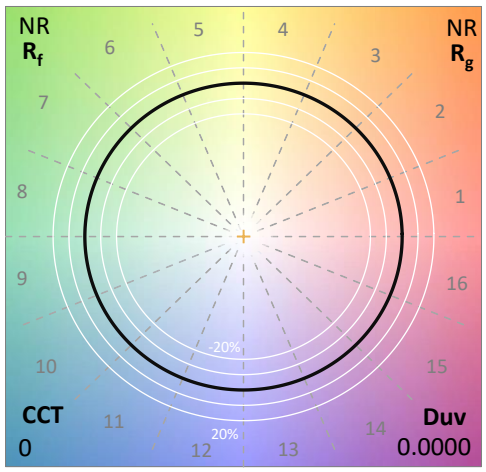
Test Information

Test Method:	LM-79-2019
Report Number:	SP1-2511-597-7
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-R630-UNV-OPL-1_600mA**
Description:	2foot 4ASL LED LUMINAIRE WITH OPL LENS AND RED 630NM LEDS with 1 rows at 600mA

Spectral Parameters

CCT (K):	0	CRI (Ra):	0.0		
CIE u':	0.5395	R1:	0.0	R9:	0.0
CIE v':	0.5190	R2:	0.0	R10:	0.0
Duv:	0.0000	R3:	0.0	R11:	0.0
CIE x:	0.7004	R4:	0.0	R12:	0.0
CIE y:	0.2995	R5:	0.0	R13:	0.0
CIE z:	0.0001	R6:	0.0	R14:	0.0
Peak Wavelength (nm):	638	R7:	0.0	R15:	0.0
Dominant Wavelength (nm):	624	R8:	0.0		
Purity:	99.9862				

Rf:	NR
Rg:	NR



Test Conditions

Stabilization Time:	69M
Operation Time:	2H 9M
Sphere Temperature (°C):	25.1

REPORT NUMBER: SP1-2511-597-7

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

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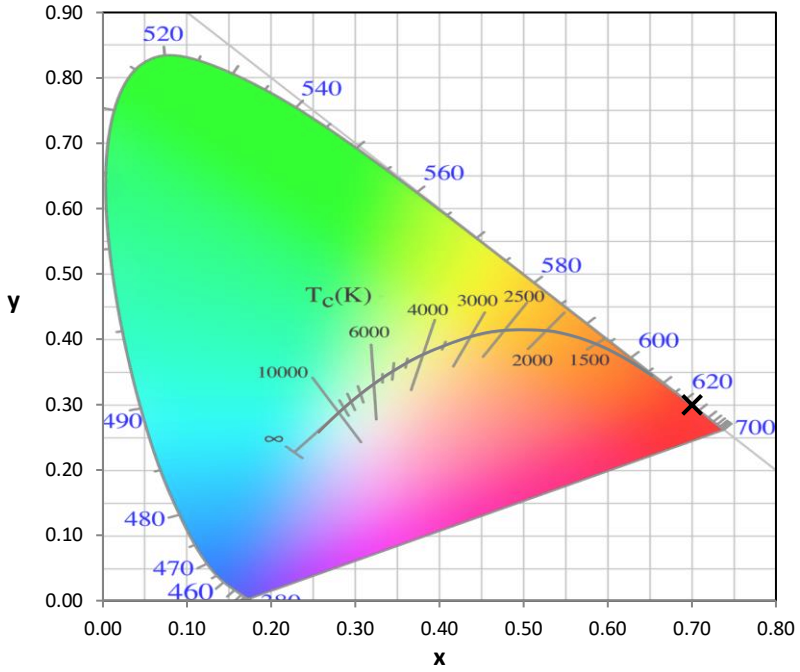
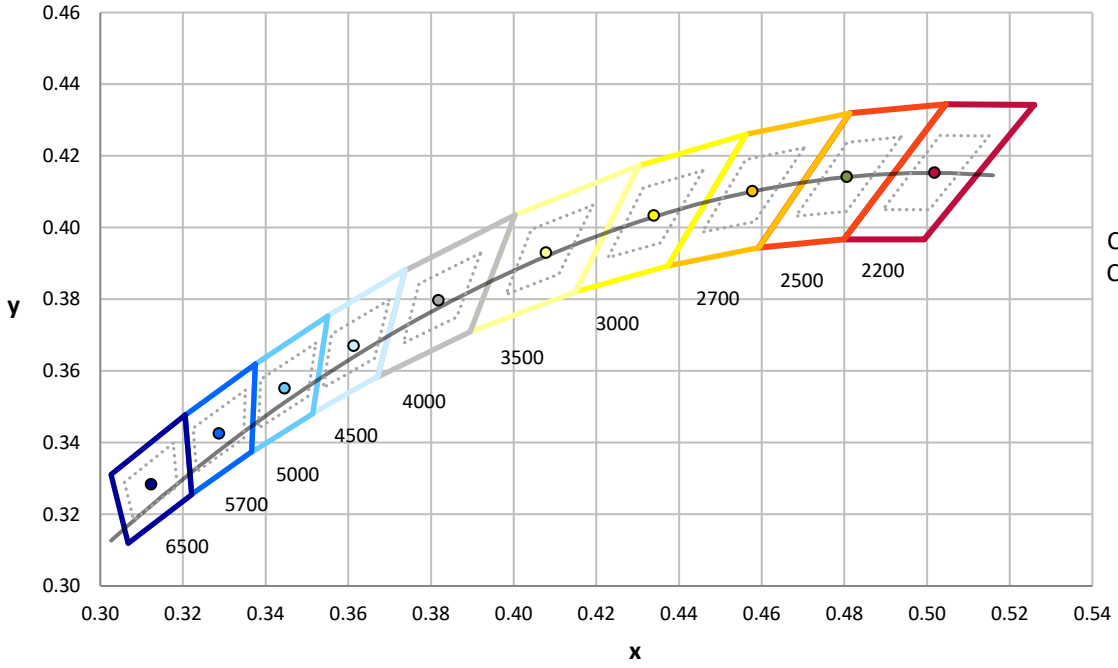
CIE 1931 Chromaticity Diagram



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

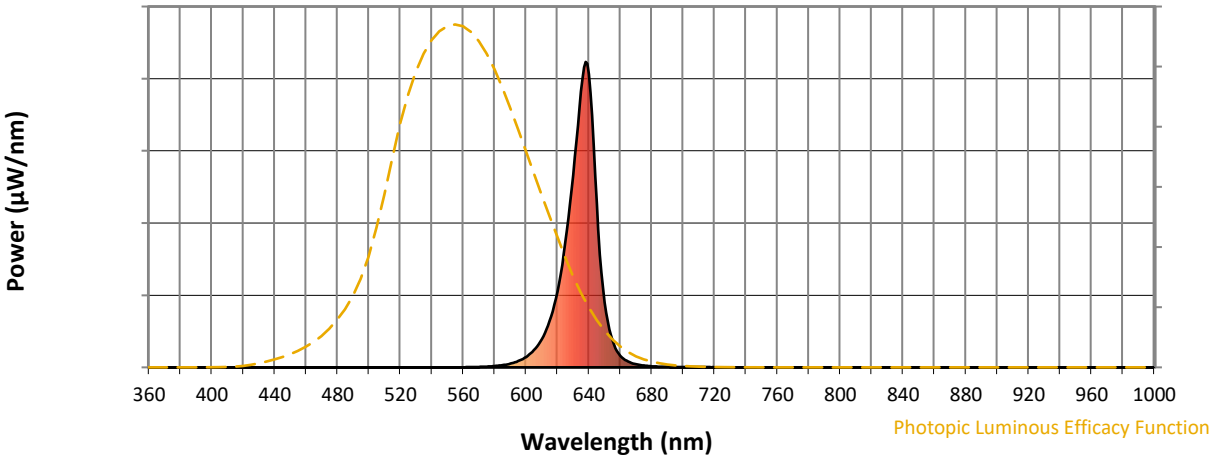


CCT = 0K
CIE x = 0.7004
CIE y = 0.2995
Duv = 0.0000

Point lies outside the range

REPORT NUMBER: SP1-2511-597-7

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	248	NR	750	0	NR	880	0	NR
365	0	NR	495	0	NR	625	409	NR	755	0	NR	885	0	NR
370	0	NR	500	0	NR	630	630	NR	760	0	NR	890	0	NR
375	0	NR	505	0	NR	635	903	NR	765	0	NR	895	0	NR
380	0	NR	510	0	NR	640	960	NR	770	0	NR	900	0	NR
385	0	NR	515	0	NR	645	535	NR	775	0	NR	905	0	NR
390	0	NR	520	0	NR	650	212	NR	780	0	NR	910	0	NR
395	0	NR	525	0	NR	655	88	NR	785	0	NR	915	0	NR
400	0	NR	530	0	NR	660	38	NR	790	0	NR	920	0	NR
405	0	NR	535	0	NR	665	19	NR	795	0	NR	925	0	NR
410	0	NR	540	0	NR	670	10	NR	800	0	NR	930	0	NR
415	0	NR	545	0	NR	675	6	NR	805	0	NR	935	0	NR
420	0	NR	550	0	NR	680	4	NR	810	0	NR	940	0	NR
425	0	NR	555	0	NR	685	2	NR	815	0	NR	945	0	NR
430	0	NR	560	0	NR	690	2	NR	820	0	NR	950	0	NR
435	0	NR	565	1	NR	695	1	NR	825	0	NR	955	0	NR
440	0	NR	570	2	NR	700	1	NR	830	0	NR	960	0	NR
445	0	NR	575	3	NR	705	1	NR	835	0	NR	965	0	NR
450	0	NR	580	4	NR	710	1	NR	840	0	NR	970	0	NR
455	0	NR	585	7	NR	715	1	NR	845	0	NR	975	0	NR
460	0	NR	590	12	NR	720	1	NR	850	0	NR	980	0	NR
465	0	NR	595	20	NR	725	0	NR	855	0	NR	985	0	NR
470	0	NR	600	34	NR	730	0	NR	860	0	NR	990	0	NR
475	0	NR	605	56	NR	735	0	NR	865	0	NR	995	0	NR
480	0	NR	610	92	NR	740	0	NR	870	0	NR	1000	0	NR
485	0	NR	615	152	NR	745	0	NR	875	0	NR			

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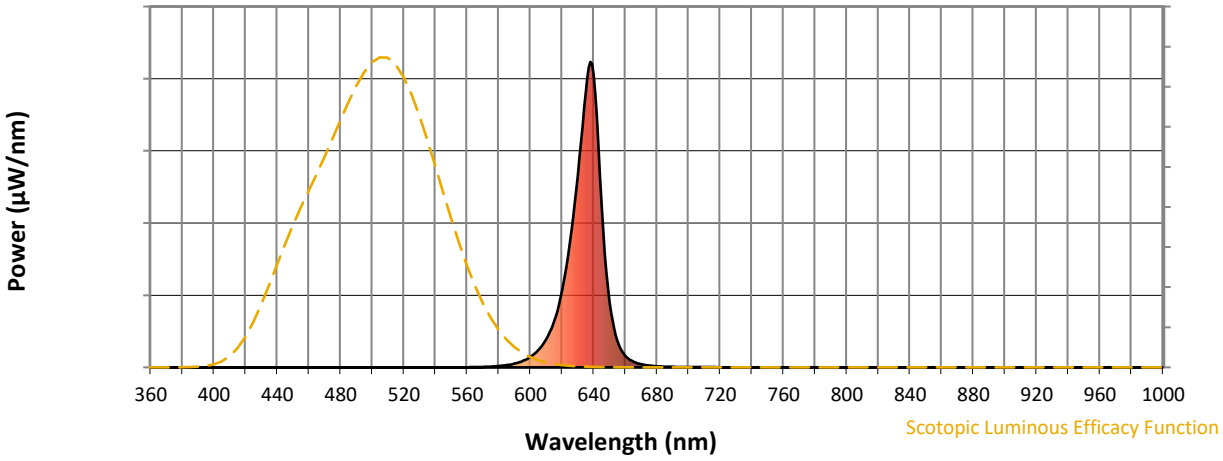
Scotopic Flux vs. Wavelength



Scotopic Lumens: NR **S/P: 0.05**

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	248	NR	750	0	NR	880	0	NR
365	0	NR	495	0	NR	625	409	NR	755	0	NR	885	0	NR
370	0	NR	500	0	NR	630	630	NR	760	0	NR	890	0	NR
375	0	NR	505	0	NR	635	903	NR	765	0	NR	895	0	NR
380	0	NR	510	0	NR	640	960	NR	770	0	NR	900	0	NR
385	0	NR	515	0	NR	645	535	NR	775	0	NR	905	0	NR
390	0	NR	520	0	NR	650	212	NR	780	0	NR	910	0	NR
395	0	NR	525	0	NR	655	88	NR	785	0	NR	915	0	NR
400	0	NR	530	0	NR	660	38	NR	790	0	NR	920	0	NR
405	0	NR	535	0	NR	665	19	NR	795	0	NR	925	0	NR
410	0	NR	540	0	NR	670	10	NR	800	0	NR	930	0	NR
415	0	NR	545	0	NR	675	6	NR	805	0	NR	935	0	NR
420	0	NR	550	0	NR	680	4	NR	810	0	NR	940	0	NR
425	0	NR	555	0	NR	685	2	NR	815	0	NR	945	0	NR
430	0	NR	560	0	NR	690	2	NR	820	0	NR	950	0	NR
435	0	NR	565	1	NR	695	1	NR	825	0	NR	955	0	NR
440	0	NR	570	2	NR	700	1	NR	830	0	NR	960	0	NR
445	0	NR	575	3	NR	705	1	NR	835	0	NR	965	0	NR
450	0	NR	580	4	NR	710	1	NR	840	0	NR	970	0	NR
455	0	NR	585	7	NR	715	1	NR	845	0	NR	975	0	NR
460	0	NR	590	12	NR	720	1	NR	850	0	NR	980	0	NR
465	0	NR	595	20	NR	725	0	NR	855	0	NR	985	0	NR
470	0	NR	600	34	NR	730	0	NR	860	0	NR	990	0	NR
475	0	NR	605	56	NR	735	0	NR	865	0	NR	995	0	NR
480	0	NR	610	92	NR	740	0	NR	870	0	NR	1000	0	NR
485	0	NR	615	152	NR	745	0	NR	875	0	NR			

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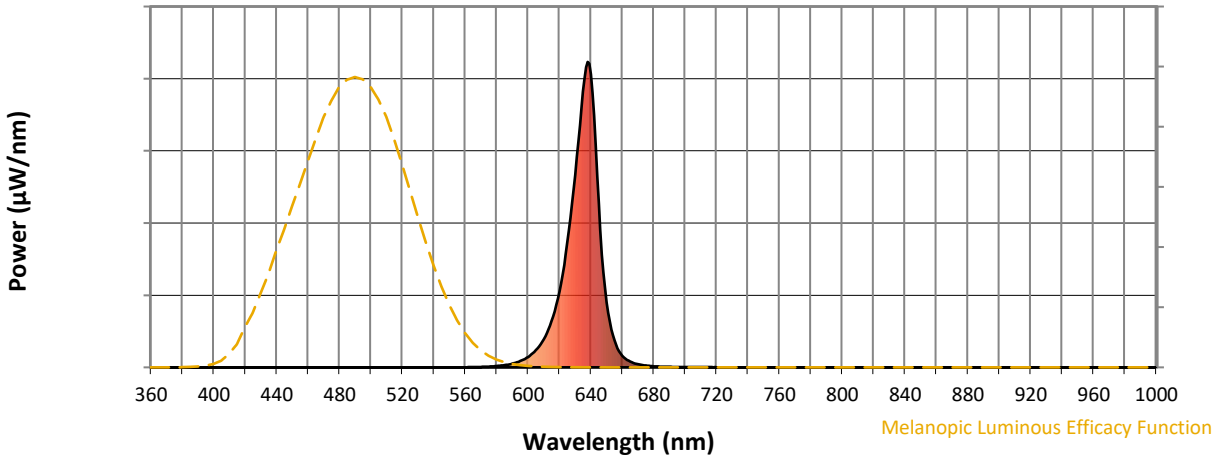
Melanopic Flux vs. Wavelength



Melanopic Lumens: NR **M/P: 0.02**

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	248	NR	750	0	NR	880	0	NR
365	0	NR	495	0	NR	625	409	NR	755	0	NR	885	0	NR
370	0	NR	500	0	NR	630	630	NR	760	0	NR	890	0	NR
375	0	NR	505	0	NR	635	903	NR	765	0	NR	895	0	NR
380	0	NR	510	0	NR	640	960	NR	770	0	NR	900	0	NR
385	0	NR	515	0	NR	645	535	NR	775	0	NR	905	0	NR
390	0	NR	520	0	NR	650	212	NR	780	0	NR	910	0	NR
395	0	NR	525	0	NR	655	88	NR	785	0	NR	915	0	NR
400	0	NR	530	0	NR	660	38	NR	790	0	NR	920	0	NR
405	0	NR	535	0	NR	665	19	NR	795	0	NR	925	0	NR
410	0	NR	540	0	NR	670	10	NR	800	0	NR	930	0	NR
415	0	NR	545	0	NR	675	6	NR	805	0	NR	935	0	NR
420	0	NR	550	0	NR	680	4	NR	810	0	NR	940	0	NR
425	0	NR	555	0	NR	685	2	NR	815	0	NR	945	0	NR
430	0	NR	560	0	NR	690	2	NR	820	0	NR	950	0	NR
435	0	NR	565	1	NR	695	1	NR	825	0	NR	955	0	NR
440	0	NR	570	2	NR	700	1	NR	830	0	NR	960	0	NR
445	0	NR	575	3	NR	705	1	NR	835	0	NR	965	0	NR
450	0	NR	580	4	NR	710	1	NR	840	0	NR	970	0	NR
455	0	NR	585	7	NR	715	1	NR	845	0	NR	975	0	NR
460	0	NR	590	12	NR	720	1	NR	850	0	NR	980	0	NR
465	0	NR	595	20	NR	725	0	NR	855	0	NR	985	0	NR
470	0	NR	600	34	NR	730	0	NR	860	0	NR	990	0	NR
475	0	NR	605	56	NR	735	0	NR	865	0	NR	995	0	NR
480	0	NR	610	92	NR	740	0	NR	870	0	NR	1000	0	NR
485	0	NR	615	152	NR	745	0	NR	875	0	NR			

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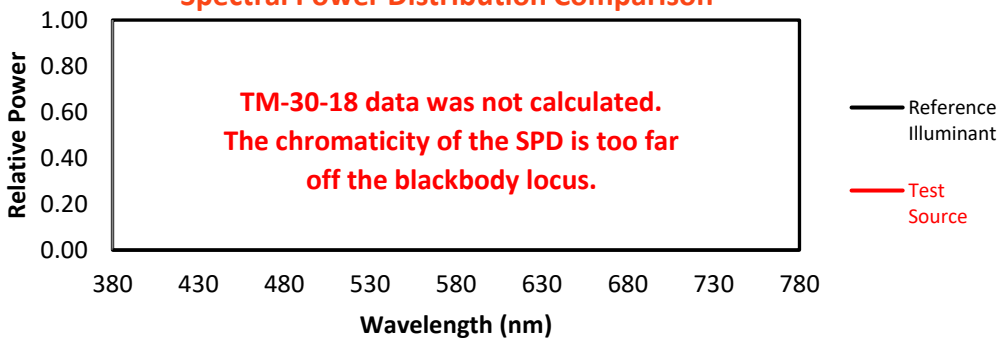
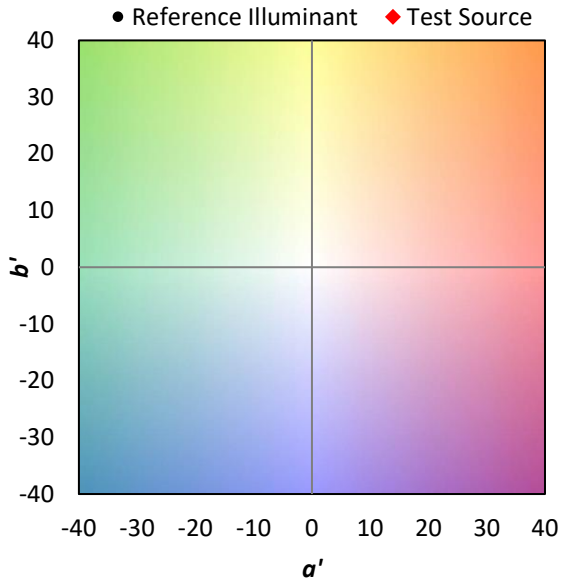
Summary

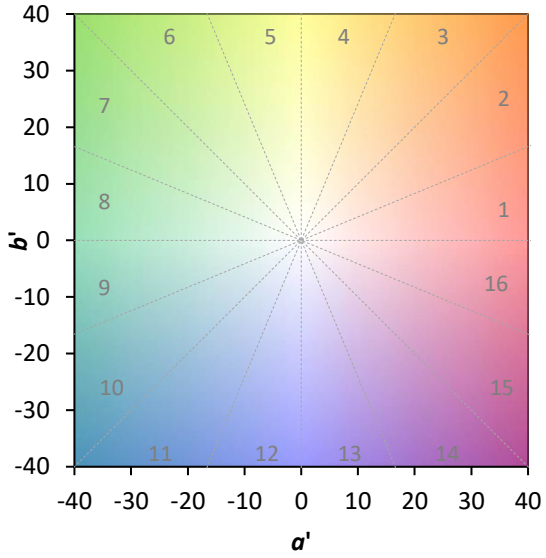
R_f = 0
R_g = 0
CIE R_a = 0.0
R_9 = 0.0

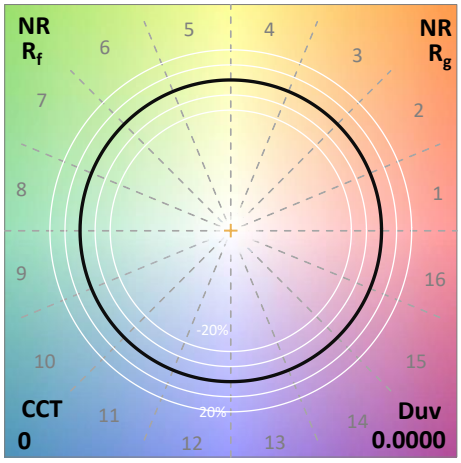
Spectral Power Distribution Comparison

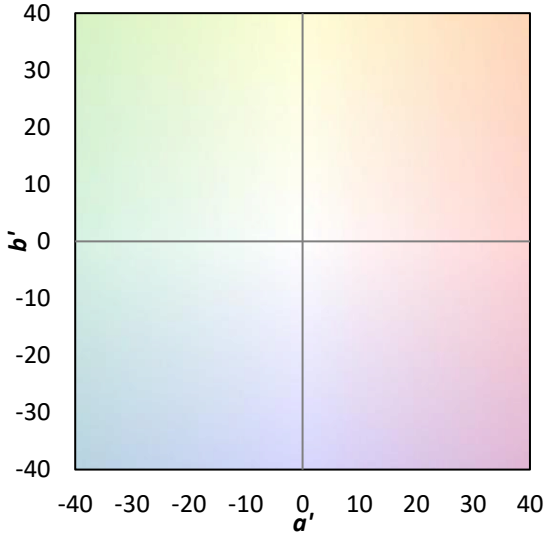


Color Vector Graphics









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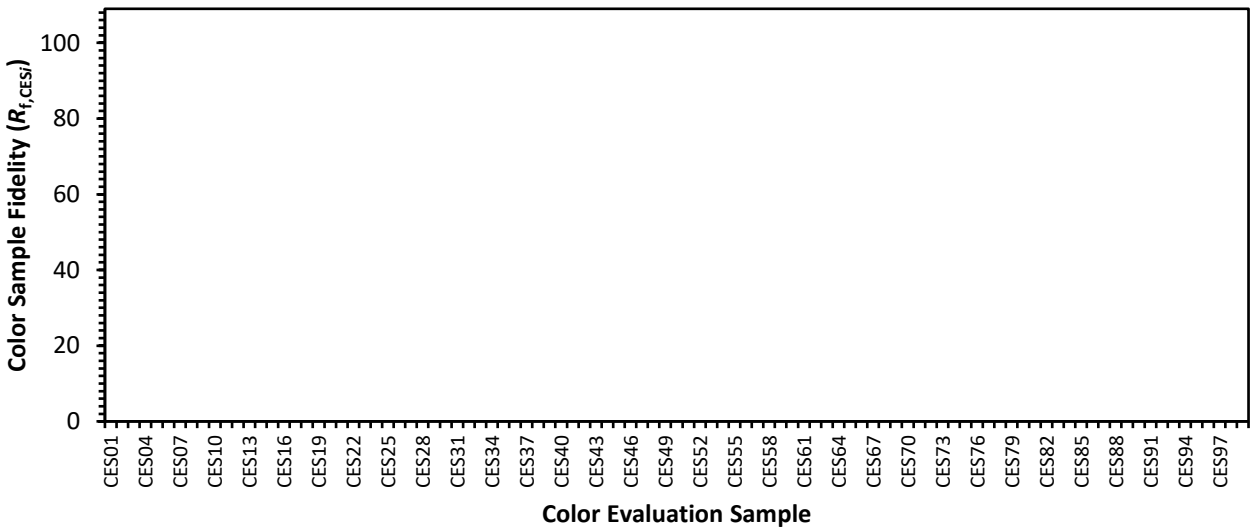
Individual Sample Fidelity Index ($R_{f,i}$)

CES01 = 0	CES26 = 0	CES51 = 0	CES76 = 0
CES02 = 0	CES27 = 0	CES52 = 0	CES77 = 0
CES03 = 0	CES28 = 0	CES53 = 0	CES78 = 0
CES04 = 0	CES29 = 0	CES54 = 0	CES79 = 0
CES05 = 0	CES30 = 0	CES55 = 0	CES80 = 0
CES06 = 0	CES31 = 0	CES56 = 0	CES81 = 0
CES07 = 0	CES32 = 0	CES57 = 0	CES82 = 0
CES08 = 0	CES33 = 0	CES58 = 0	CES83 = 0
CES09 = 0	CES34 = 0	CES59 = 0	CES84 = 0
CES10 = 0	CES35 = 0	CES60 = 0	CES85 = 0
CES11 = 0	CES36 = 0	CES61 = 0	CES86 = 0
CES12 = 0	CES37 = 0	CES62 = 0	CES87 = 0
CES13 = 0	CES38 = 0	CES63 = 0	CES88 = 0
CES14 = 0	CES39 = 0	CES64 = 0	CES89 = 0
CES15 = 0	CES40 = 0	CES65 = 0	CES90 = 0
CES16 = 0	CES41 = 0	CES66 = 0	CES91 = 0
CES17 = 0	CES42 = 0	CES67 = 0	CES92 = 0
CES18 = 0	CES43 = 0	CES68 = 0	CES93 = 0
CES19 = 0	CES44 = 0	CES69 = 0	CES94 = 0
CES20 = 0	CES45 = 0	CES70 = 0	CES95 = 0
CES21 = 0	CES46 = 0	CES71 = 0	CES96 = 0
CES22 = 0	CES47 = 0	CES72 = 0	CES97 = 0
CES23 = 0	CES48 = 0	CES73 = 0	CES98 = 0
CES24 = 0	CES49 = 0	CES74 = 0	CES99 = 0
CES25 = 0	CES50 = 0	CES75 = 0	



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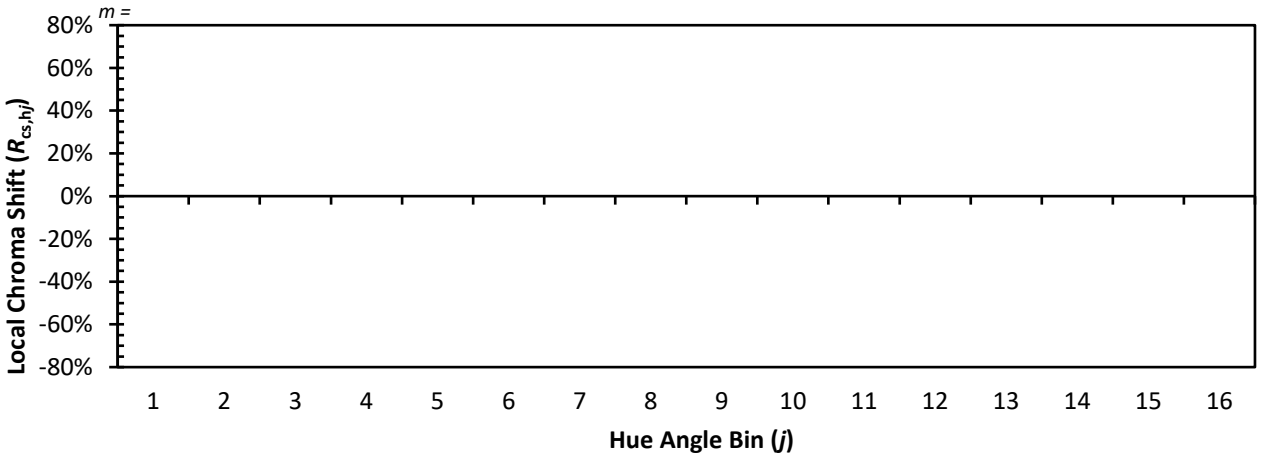
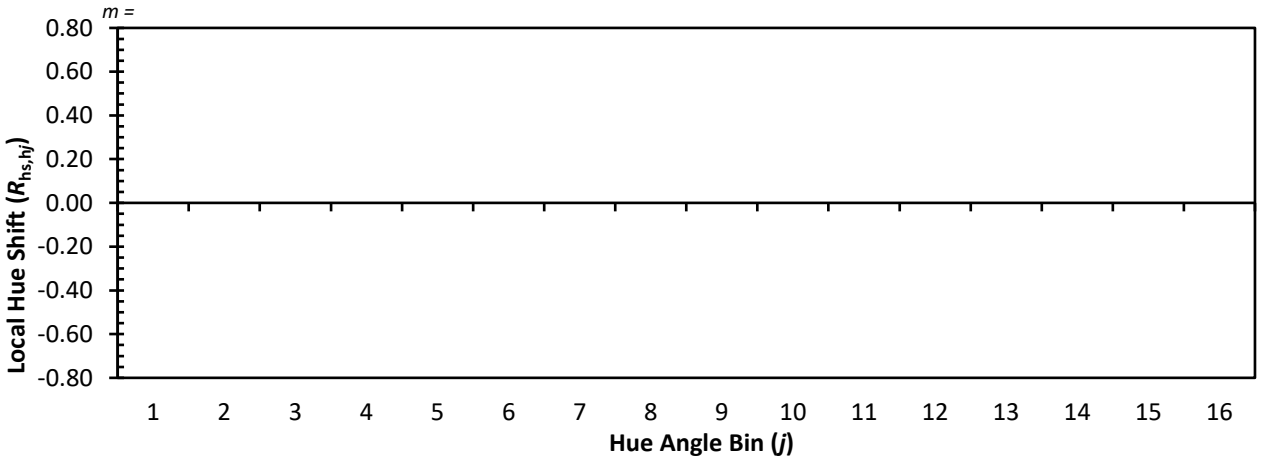
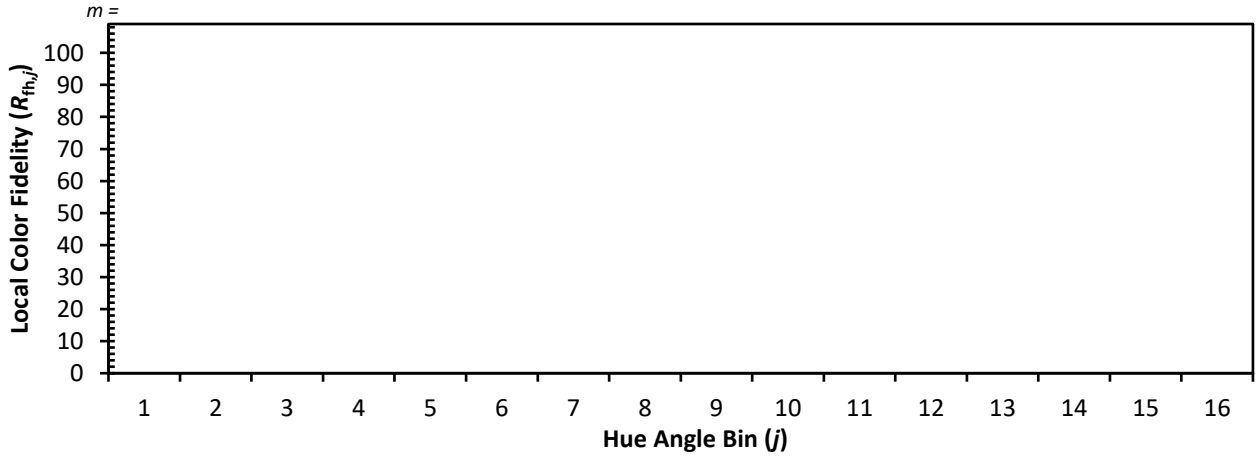
Color Rendition by Hue-Angle Bin







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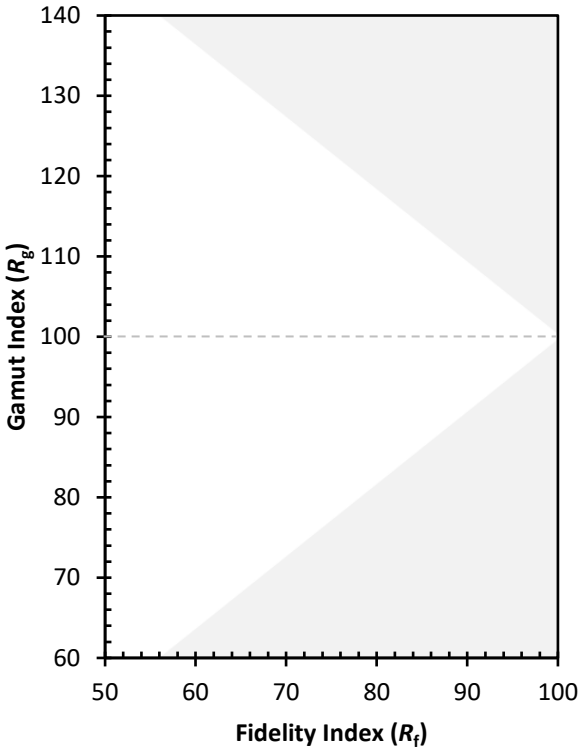
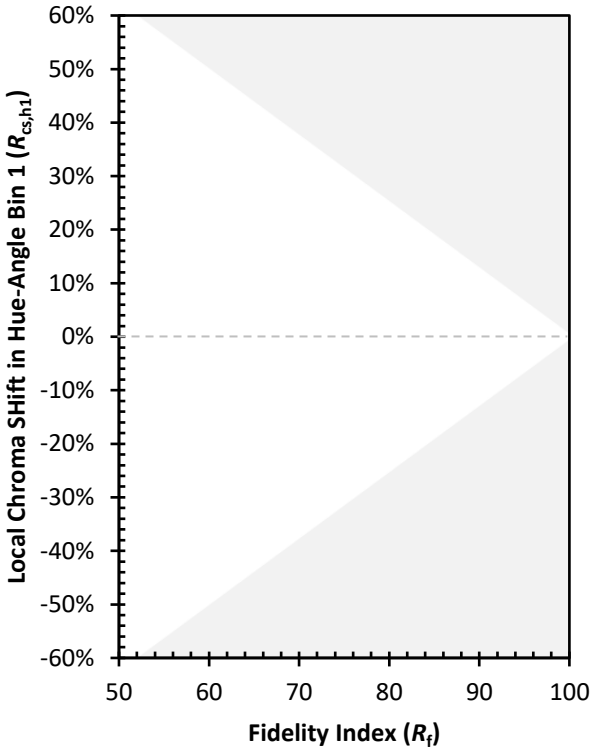
Measure Comparisons





(END OF REPORT)