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: P1357030

Luminaire Tested: 3ASL4-20HE-2-A59-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:	P1357030
	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:	3ASL4-20HE-2-A59-UNV
Description:	3FT 2000 LUMEN PER FOOT 4ASL LED LUMINAIRE WITH OPL LENS AND A59 LEDS 2 ROW
Light Source:	-
Ballast/Driver:	-

Summary

Lumens per Lamp:	N/A
Luminaire Lumens:	1241.0 lumens
Efficiency:	N/A
Efficacy:	33.4 lumens/watt
Spacing Criteria (0/90/45):	1.21 / 1.3 / 1.4
Luminous Opening:	Rectangular w/ Sides (W: 0.33' x L: 2.98' x H: 0.1')
CIE Type:	Direct

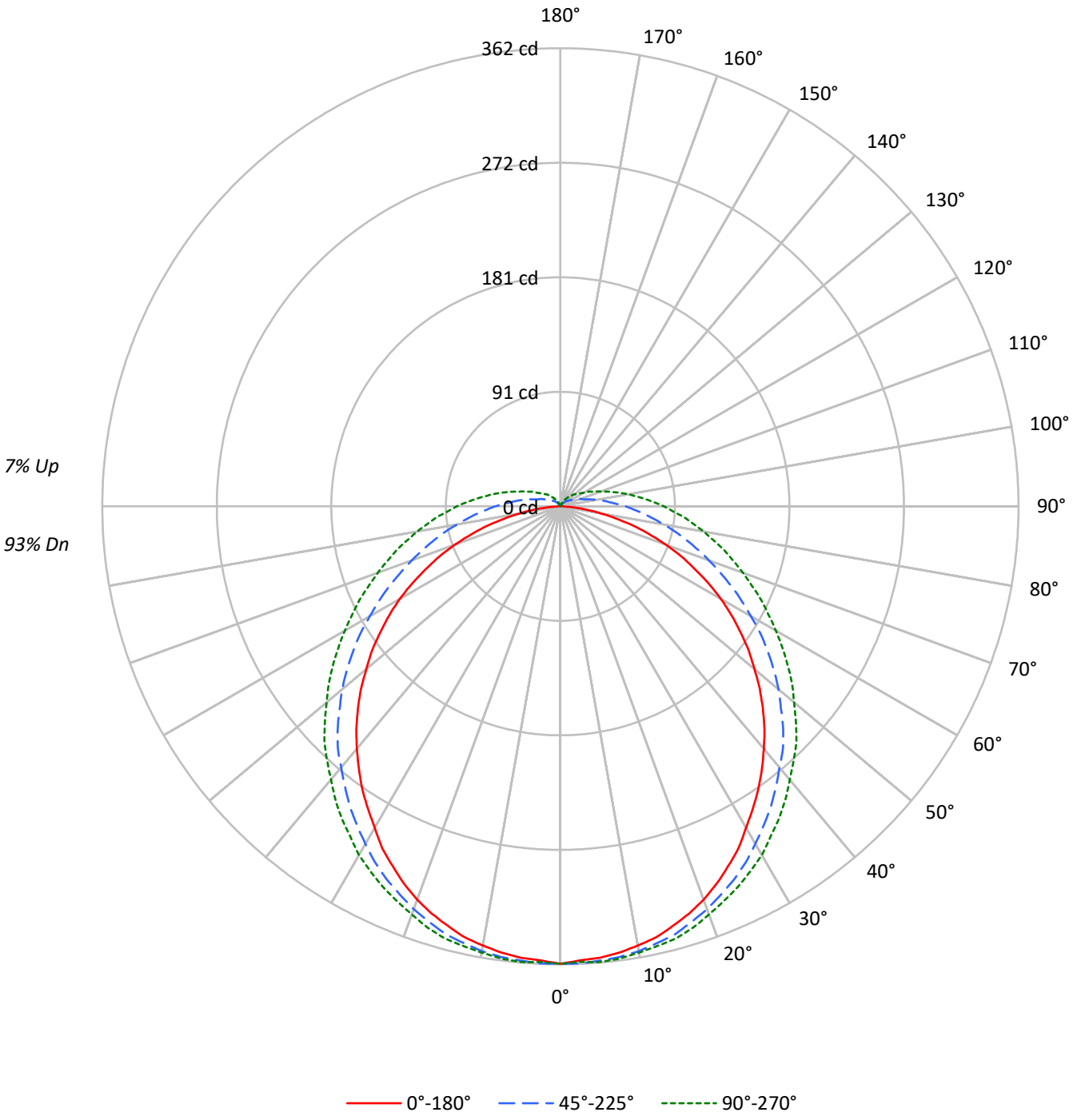
Input Watts (W):	37.2
Input Voltage (V):	NR
Input Current (Ain):	NR
Voltage Rise (V):	NR
Power Factor:	NR
Total Harmonic Distortion (THDi):	NR
Frequency (hertz):	60
Stabilization Time:	NR
Operation Time:	NR
Ambient Temperature (°C):	NR
Test Distance:	24 FT

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

Scaled Data Report

TEST NUMBER: P1357030
CATALOG NUMBER: 3ASL4-20HE-2-A59-UNV

Luminous Intensity Polar Plot



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

Scaled Data Report

TEST NUMBER: P1357030
CATALOG NUMBER: 3ASL4-20HE-2-A59-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	95	95	95	93
1	105	100	95	90	102	97	92	88	91	87	84	86	83	80	81	79	77	74
2	95	86	79	72	92	84	77	71	79	73	68	74	70	65	70	66	63	60
3	86	75	66	59	83	73	65	58	69	62	56	65	59	55	62	57	53	50
4	79	66	57	50	76	64	56	49	61	54	48	58	51	46	55	49	45	42
5	72	59	50	43	70	57	49	42	54	47	41	52	45	40	49	43	39	36
6	67	53	44	37	64	52	43	37	49	41	36	47	40	35	44	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	34	29	41	33	28	39	32	28	37	31	27	25
9	54	40	32	26	52	39	31	26	37	30	25	36	29	25	34	29	24	22
10	50	37	29	24	49	36	28	23	35	28	23	33	27	22	32	26	22	20

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	3918	3918	3918
5°	3884	3839	3829
10°	3855	3765	3736
15°	3817	3686	3660
20°	3768	3587	3556
25°	3692	3488	3465
30°	3598	3377	3375
35°	3524	3273	3270
40°	3438	3160	3160
45°	3350	3064	3080
50°	3239	2936	2961
55°	3130	2799	2867
60°	2997	2645	2767
65°	2794	2501	2689
70°	2565	2365	2617
75°	2230	2259	2592
80°	1719	2165	2585
85°	1013	2152	2660

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
Vertical Angle: 45°
Luminance: 3350 cd/sqm

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

Scaled Data Report

TEST NUMBER: P1357030
CATALOG NUMBER: 3ASL4-20HE-2-A59-UNV

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	34.3	2.8
10°-20°	98.5	7.9
20°-30°	149.3	12.0
30°-40°	180.6	14.6
40°-50°	190.4	15.3
50°-60°	177.7	14.3
60°-70°	146.7	11.8
70°-80°	106.4	8.6
80°-90°	67.3	5.4
90°-100°	40.1	3.2
100°-110°	23.0	1.9
110°-120°	13.1	1.1
120°-130°	7.4	0.6
130°-140°	4.0	0.3
140°-150°	1.8	0.1
150°-160°	0.3	0.0
160°-170°	0.0	0.0
170°-180°	0.0	0.0
0°-30°	282.1	22.7
0°-40°	462.7	37.3
0°-60°	830.8	66.9
0°-90°	1151.2	92.8
90°-120°	76.2	6.1
90°-150°	89.5	7.2
90°-180°	90.0	7.3
0°-180°	1241.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	362	362	362	362	362	
5°	358	362	360	360	362	34
15°	343	348	350	351	354	97
25°	314	318	325	330	332	145
35°	273	280	290	298	301	171
45°	226	235	249	259	264	174
55°	174	184	200	214	219	155
65°	117	130	149	167	175	116
75°	60	76	103	125	134	63
85°	11	35	66	89	98	14
90°	0	22	51	73	82	0
95°	0	14	39	59	67	0
105°	0	4	22	38	43	0
115°	0	2	12	23	27	0
125°	0	1	8	15	17	0
135°	0	0	4	9	11	0
145°	0	0	2	6	7	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	

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

Scaled Data Report

TEST NUMBER: P1357030
CATALOG NUMBER: 3ASL4-20HE-2-A59-UNV

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	361.5	361.5	361.5	361.5	361.5
2.5°	359.2	362.6	361.5	360.4	360.4
5°	358.1	361.5	360.4	360.4	361.5
7.5°	355.8	359.2	359.2	359.2	360.4
10°	352.4	356.9	356.9	356.9	358.1
12.5°	349.0	352.4	353.5	354.7	355.8
15°	343.3	347.8	350.1	351.3	353.5
17.5°	337.6	341.0	344.4	347.8	349.0
20°	330.8	335.3	338.8	342.2	343.3
22.5°	322.8	327.4	331.9	335.3	337.6
25°	313.7	318.3	325.1	329.7	331.9
27.5°	304.7	309.2	317.2	322.8	325.1
30°	293.3	300.1	308.1	314.9	318.3
32.5°	283.1	289.9	299.0	306.9	309.2
35°	272.8	279.6	289.9	297.8	301.2
37.5°	261.5	269.4	279.6	288.7	292.1
40°	250.1	258.0	269.4	279.6	281.9
42.5°	238.7	246.7	260.3	269.4	272.8
45°	226.2	235.3	249.0	259.2	263.7
47.5°	213.7	222.8	236.4	247.8	252.4
50°	200.1	210.3	225.1	236.4	241.0
52.5°	187.6	197.8	212.6	225.1	230.8
55°	173.9	184.2	200.1	213.7	219.4
57.5°	160.3	170.5	187.6	202.3	208.0
60°	146.6	156.9	173.9	191.0	196.7
62.5°	131.9	143.2	161.4	178.5	185.3
65°	117.1	129.6	148.9	167.1	175.1
67.5°	103.4	115.9	136.4	156.9	163.7
70°	88.7	102.3	125.0	145.5	153.5
72.5°	73.9	88.7	113.7	135.3	143.2
75°	60.2	76.2	103.4	125.0	134.1
77.5°	45.5	64.8	93.2	115.9	123.9
80°	33.0	53.4	83.0	106.9	114.8
82.5°	21.6	43.2	73.9	97.8	105.7
85°	11.4	35.2	65.9	88.7	97.8
87.5°	3.4	27.3	58.0	80.7	88.7
90°	0.0	21.6	51.2	72.8	81.8
92.5°	0.0	17.1	44.3	65.9	73.9
95°	0.0	13.6	38.6	59.1	67.1
97.5°	0.0	11.4	34.1	53.4	60.2
100°	0.0	9.1	29.6	47.7	54.6
102.5°	0.0	6.8	25.0	42.1	48.9
105°	0.0	4.5	21.6	37.5	43.2
107.5°	0.0	3.4	18.2	33.0	38.6
110°	0.0	3.4	17.1	28.4	34.1

TEST NUMBER: P1357030
CATALOG NUMBER: 3ASL4-20HE-2-A59-UNV

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	0.0	*2.3*	14.8	26.1	30.7
115°	0.0	*2.3*	12.5	22.7	27.3
117.5°	0.0	*2.3*	11.4	20.5	25.0
120°	0.0	*2.3*	10.2	18.2	21.6
122.5°	0.0	*1.1*	9.1	15.9	19.3
125°	0.0	*1.1*	8.0	14.8	17.1
127.5°	0.0	*1.1*	6.8	13.6	15.9
130°	0.0	*1.1*	6.8	12.5	14.8
132.5°	0.0	*0.0*	5.7	11.4	13.6
135°	0.0	*0.0*	4.5	9.1	11.4
137.5°	0.0	*0.0*	4.5	8.0	10.2
140°	0.0	*0.0*	3.4	8.0	9.1
142.5°	0.0	*0.0*	2.3	6.8	8.0
145°	0.0	*0.0*	2.3	5.7	6.8
147.5°	0.0	*0.0*	1.1	4.5	5.7
150°	0.0	*0.0*	1.1	3.4	4.5
152.5°	0.0	*0.0*	0.0	2.3	3.4
155°	0.0	*0.0*	0.0	1.1	2.3
157.5°	0.0	*0.0*	0.0	0.0	1.1
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

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

Scaled Data Report

TEST NUMBER: P1357030
CATALOG NUMBER: 3ASL4-20HE-2-A59-UNV

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	14.05	15.58	14.52	16.04	16.53	16.08	17.61	16.55	18.07	18.56
	3H	15.55	16.95	16.03	17.42	17.95	18.52	19.92	19.00	20.39	20.92
	4H	16.03	17.36	16.54	17.84	18.39	19.72	21.04	20.22	21.53	22.07
	6H	16.30	17.54	16.82	18.04	18.60	20.97	22.21	21.49	22.71	23.27
	8H	16.36	17.54	16.89	18.07	18.63	21.61	22.80	22.15	23.32	23.89
	12H	16.37	17.51	16.91	18.03	18.63	22.32	23.46	22.86	23.98	24.57
4H	2H	14.92	16.25	15.43	16.74	17.28	16.51	17.84	17.02	18.32	18.87
	3H	16.66	17.80	17.18	18.33	18.89	19.18	20.31	19.70	20.84	21.41
	4H	17.27	18.31	17.81	18.85	19.45	20.55	21.59	21.09	22.13	22.73
	6H	17.67	18.59	18.23	19.16	19.77	22.00	22.92	22.56	23.49	24.10
	8H	17.77	18.63	18.34	19.20	19.83	22.76	23.62	23.32	24.19	24.81
	12H	17.82	18.60	18.41	19.20	19.83	23.59	24.37	24.18	24.97	25.60
8H	4H	17.96	18.82	18.53	19.39	20.01	20.77	21.64	21.34	22.20	22.83
	6H	18.55	19.28	19.14	19.89	20.52	22.40	23.13	23.00	23.74	24.37
	8H	18.74	19.40	19.34	20.01	20.66	23.30	23.96	23.91	24.58	25.22
	12H	18.86	19.45	19.47	20.05	20.76	24.32	24.91	24.93	25.52	26.23
12H	4H	18.16	18.94	18.74	19.54	20.17	20.78	21.57	21.37	22.16	22.79
	6H	18.85	19.51	19.46	20.13	20.77	22.44	23.10	23.05	23.72	24.36
	8H	19.13	19.72	19.74	20.33	21.04	23.41	24.00	24.02	24.61	25.32

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

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

Report Prepared for

Cooper Lighting Solutions

Fail-Safe

Report Number: SP1-2511-597-9

Test Date: 01/22/2026

Luminaire Tested: 4ASL-2-A590-UNV-OPL-1_600mA

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

Report Generated By FNC07603 / LDUCLS01DT446
Version: v7.05

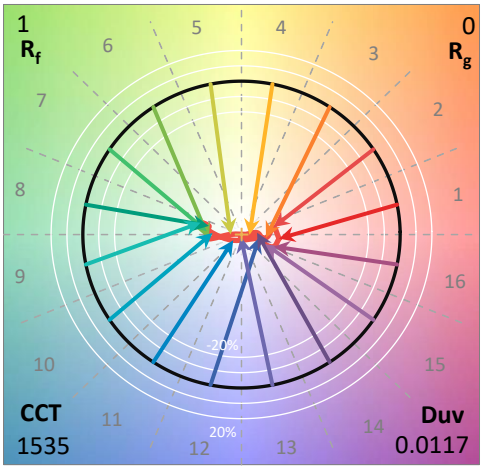
Test Information

Test Method:	LM-79-2019
Report Number:	SP1-2511-597-9
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-A590-UNV-OPL-1_600mA**
Description:	2foot 4ASL LED LUMINAIRE WITH OPL LENS AND AMBER 590 LEDS with 1 rows at 600mA

Spectral Parameters

CCT (K):	1535
CIE u':	0.3534
CIE v':	0.5468
Duv:	0.0117
CIE x:	0.5921
CIE y:	0.4072
CIE z:	0.0007
Peak Wavelength (nm):	598
Dominant Wavelength (nm):	592
Purity:	99.97894
Rf:	1.3
Rg:	0.1

CRI (Ra):	-20.0				
R1:	-32.1	R9:	-380.5
R2:	53.1	R10:	29.9
R3:	18.5	R11:	-92.0
R4:	-65.7	R12:	-8.5
R5:	-38.6	R13:	-13.5
R6:	42.8	R14:	47.1
R7:	-6.2	R15:	-65.4
R8:	-132.3		



Test Conditions

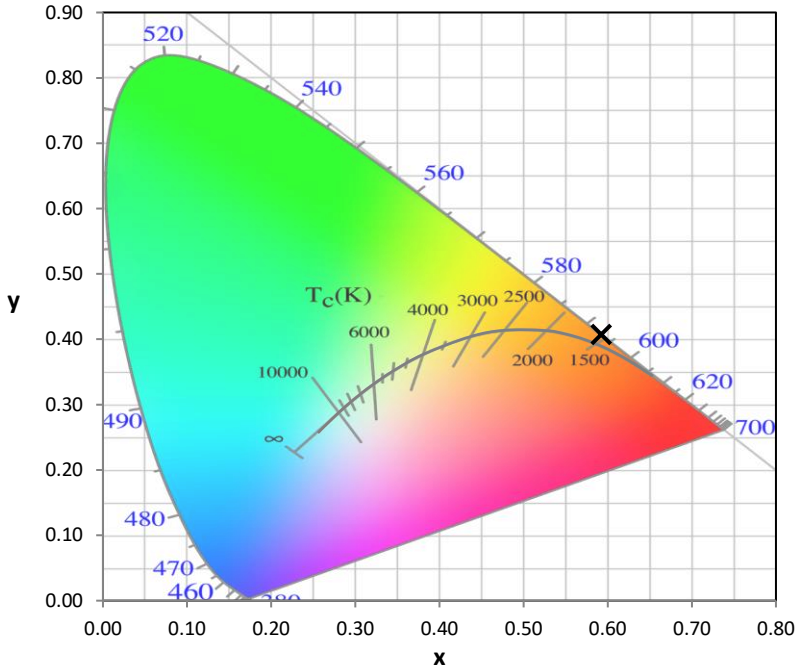
Stabilization Time:	77M
Operation Time:	2H 17M
Sphere Temperature (°C):	25.1

REPORT NUMBER: SP1-2511-597-9

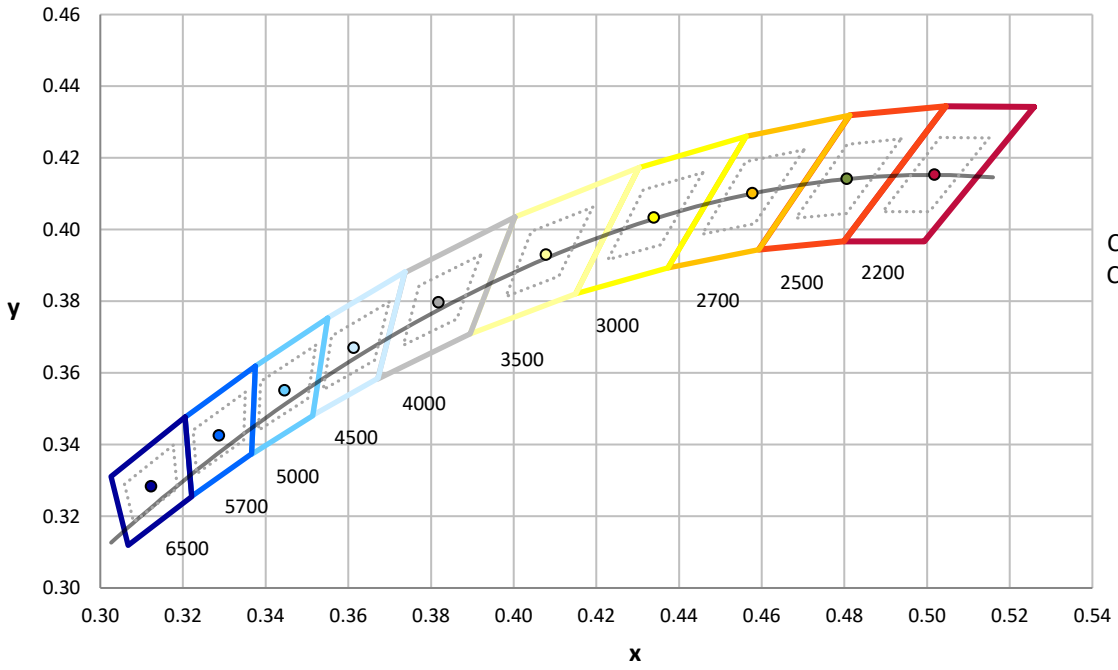
Measurement and Test Equipment			
Instrument	Identification Number	Calibration Date	Calibration Due Date
Photometer	76INCH SPHERE IN0058	12/16/2025	6/16/2026
Power Meter	XITRON INXT2011004	10/21/2025	10/21/2026
AC Power Source	CHROMA 61603 IN0063	10/21/2025	10/21/2026
DC Power Source	AGILENT E3634A IN0208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

REPORT NUMBER: SP1-2511-597-9

CIE 1931 Chromaticity Diagram



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

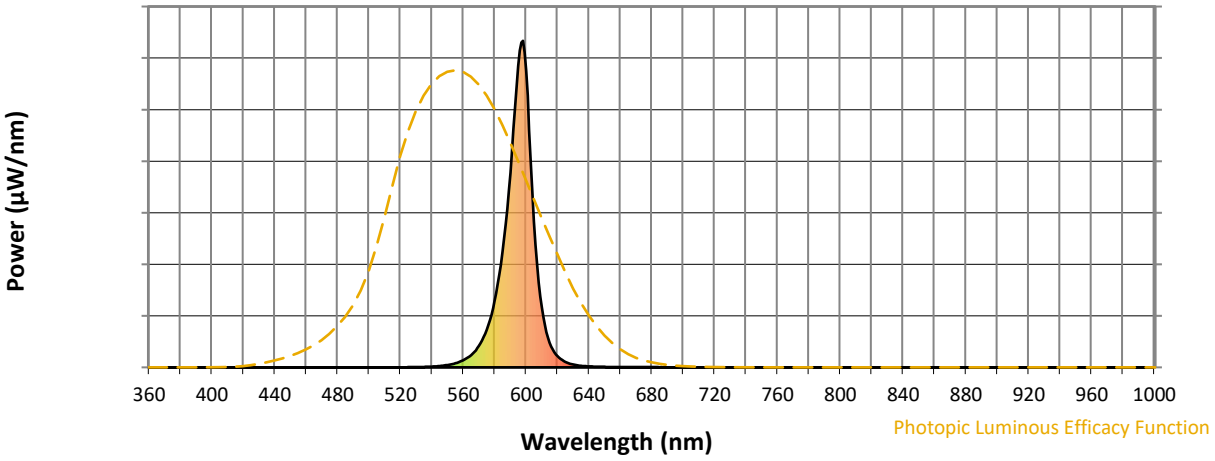


CCT = 1535K
CIE x = 0.5921
CIE y = 0.4072
Duv = 0.0117

Point lies outside the range

REPORT NUMBER: SP1-2511-597-9

Photopic Flux vs. Wavelength

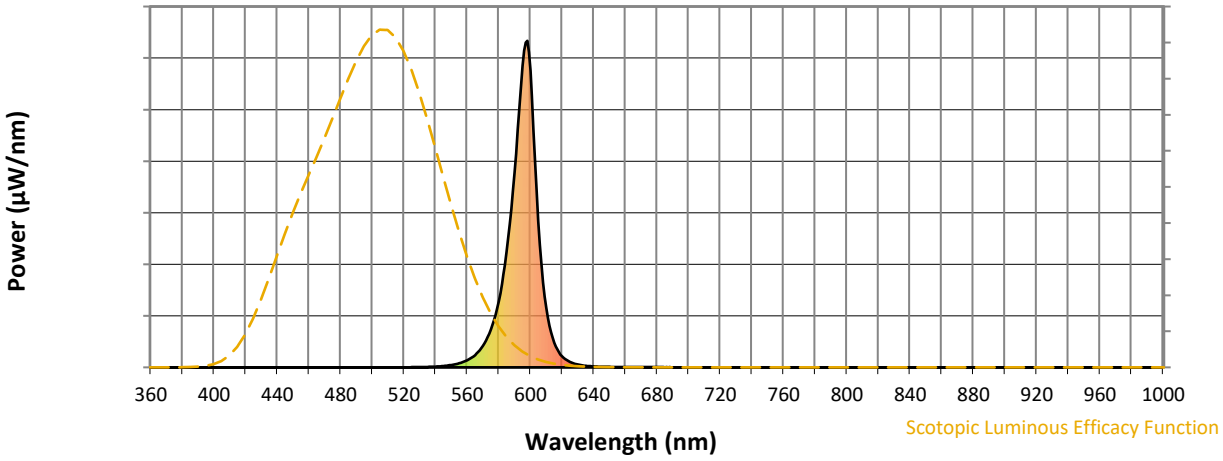


Photopic Lumens: NR

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	35	NR	750	0	NR	880	0	NR
365	0	NR	495	0	NR	625	17	NR	755	0	NR	885	0	NR
370	0	NR	500	0	NR	630	9	NR	760	0	NR	890	0	NR
375	0	NR	505	0	NR	635	5	NR	765	0	NR	895	0	NR
380	0	NR	510	0	NR	640	3	NR	770	0	NR	900	0	NR
385	0	NR	515	0	NR	645	2	NR	775	0	NR	905	0	NR
390	0	NR	520	0	NR	650	2	NR	780	0	NR	910	0	NR
395	0	NR	525	1	NR	655	1	NR	785	0	NR	915	0	NR
400	0	NR	530	1	NR	660	1	NR	790	0	NR	920	0	NR
405	0	NR	535	1	NR	665	1	NR	795	0	NR	925	0	NR
410	0	NR	540	2	NR	670	1	NR	800	0	NR	930	0	NR
415	0	NR	545	4	NR	675	1	NR	805	0	NR	935	0	NR
420	0	NR	550	7	NR	680	1	NR	810	0	NR	940	0	NR
425	0	NR	555	12	NR	685	0	NR	815	0	NR	945	0	NR
430	0	NR	560	22	NR	690	0	NR	820	0	NR	950	0	NR
435	0	NR	565	38	NR	695	0	NR	825	0	NR	955	0	NR
440	0	NR	570	66	NR	700	0	NR	830	0	NR	960	0	NR
445	0	NR	575	115	NR	705	0	NR	835	0	NR	965	0	NR
450	0	NR	580	203	NR	710	0	NR	840	0	NR	970	0	NR
455	0	NR	585	354	NR	715	0	NR	845	0	NR	975	0	NR
460	0	NR	590	596	NR	720	0	NR	850	0	NR	980	0	NR
465	0	NR	595	923	NR	725	0	NR	855	0	NR	985	0	NR
470	0	NR	600	909	NR	730	0	NR	860	0	NR	990	0	NR
475	0	NR	605	447	NR	735	0	NR	865	0	NR	995	0	NR
480	0	NR	610	183	NR	740	0	NR	870	0	NR	1000	0	NR
485	0	NR	615	75	NR	745	0	NR	875	0	NR			

REPORT NUMBER: SP1-2511-597-9

Scotopic Flux vs. Wavelength

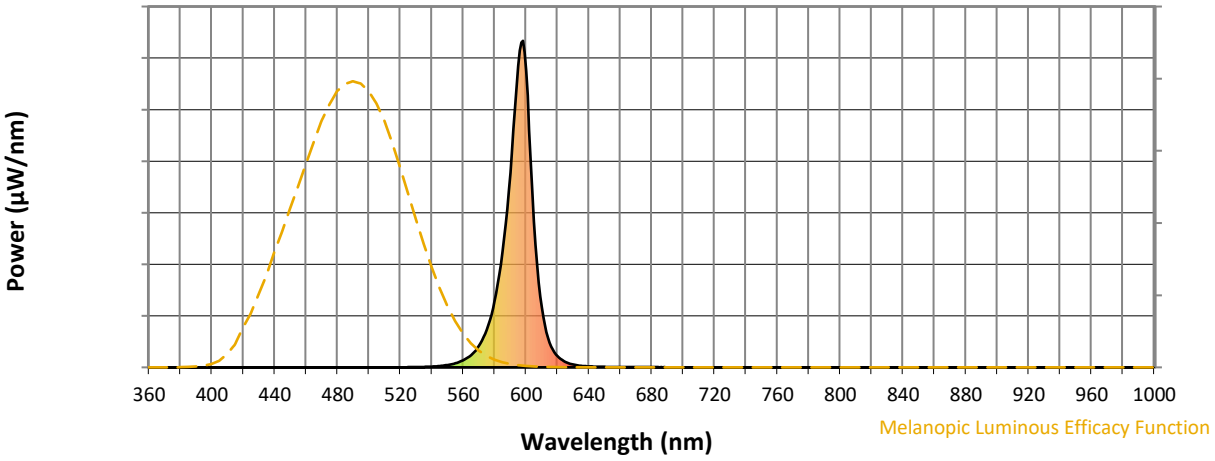


Scotopic Lumens: NR **S/P: 0.22**

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	35	NR	750	0	NR	880	0	NR
365	0	NR	495	0	NR	625	17	NR	755	0	NR	885	0	NR
370	0	NR	500	0	NR	630	9	NR	760	0	NR	890	0	NR
375	0	NR	505	0	NR	635	5	NR	765	0	NR	895	0	NR
380	0	NR	510	0	NR	640	3	NR	770	0	NR	900	0	NR
385	0	NR	515	0	NR	645	2	NR	775	0	NR	905	0	NR
390	0	NR	520	0	NR	650	2	NR	780	0	NR	910	0	NR
395	0	NR	525	1	NR	655	1	NR	785	0	NR	915	0	NR
400	0	NR	530	1	NR	660	1	NR	790	0	NR	920	0	NR
405	0	NR	535	1	NR	665	1	NR	795	0	NR	925	0	NR
410	0	NR	540	2	NR	670	1	NR	800	0	NR	930	0	NR
415	0	NR	545	4	NR	675	1	NR	805	0	NR	935	0	NR
420	0	NR	550	7	NR	680	1	NR	810	0	NR	940	0	NR
425	0	NR	555	12	NR	685	0	NR	815	0	NR	945	0	NR
430	0	NR	560	22	NR	690	0	NR	820	0	NR	950	0	NR
435	0	NR	565	38	NR	695	0	NR	825	0	NR	955	0	NR
440	0	NR	570	66	NR	700	0	NR	830	0	NR	960	0	NR
445	0	NR	575	115	NR	705	0	NR	835	0	NR	965	0	NR
450	0	NR	580	203	NR	710	0	NR	840	0	NR	970	0	NR
455	0	NR	585	354	NR	715	0	NR	845	0	NR	975	0	NR
460	0	NR	590	596	NR	720	0	NR	850	0	NR	980	0	NR
465	0	NR	595	923	NR	725	0	NR	855	0	NR	985	0	NR
470	0	NR	600	909	NR	730	0	NR	860	0	NR	990	0	NR
475	0	NR	605	447	NR	735	0	NR	865	0	NR	995	0	NR
480	0	NR	610	183	NR	740	0	NR	870	0	NR	1000	0	NR
485	0	NR	615	75	NR	745	0	NR	875	0	NR			

REPORT NUMBER: SP1-2511-597-9

Melanopic Flux vs. Wavelength



Melanopic Lumens: NR **M/P: 0.12**

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	35	NR	750	0	NR	880	0	NR
365	0	NR	495	0	NR	625	17	NR	755	0	NR	885	0	NR
370	0	NR	500	0	NR	630	9	NR	760	0	NR	890	0	NR
375	0	NR	505	0	NR	635	5	NR	765	0	NR	895	0	NR
380	0	NR	510	0	NR	640	3	NR	770	0	NR	900	0	NR
385	0	NR	515	0	NR	645	2	NR	775	0	NR	905	0	NR
390	0	NR	520	0	NR	650	2	NR	780	0	NR	910	0	NR
395	0	NR	525	1	NR	655	1	NR	785	0	NR	915	0	NR
400	0	NR	530	1	NR	660	1	NR	790	0	NR	920	0	NR
405	0	NR	535	1	NR	665	1	NR	795	0	NR	925	0	NR
410	0	NR	540	2	NR	670	1	NR	800	0	NR	930	0	NR
415	0	NR	545	4	NR	675	1	NR	805	0	NR	935	0	NR
420	0	NR	550	7	NR	680	1	NR	810	0	NR	940	0	NR
425	0	NR	555	12	NR	685	0	NR	815	0	NR	945	0	NR
430	0	NR	560	22	NR	690	0	NR	820	0	NR	950	0	NR
435	0	NR	565	38	NR	695	0	NR	825	0	NR	955	0	NR
440	0	NR	570	66	NR	700	0	NR	830	0	NR	960	0	NR
445	0	NR	575	115	NR	705	0	NR	835	0	NR	965	0	NR
450	0	NR	580	203	NR	710	0	NR	840	0	NR	970	0	NR
455	0	NR	585	354	NR	715	0	NR	845	0	NR	975	0	NR
460	0	NR	590	596	NR	720	0	NR	850	0	NR	980	0	NR
465	0	NR	595	923	NR	725	0	NR	855	0	NR	985	0	NR
470	0	NR	600	909	NR	730	0	NR	860	0	NR	990	0	NR
475	0	NR	605	447	NR	735	0	NR	865	0	NR	995	0	NR
480	0	NR	610	183	NR	740	0	NR	870	0	NR	1000	0	NR
485	0	NR	615	75	NR	745	0	NR	875	0	NR			

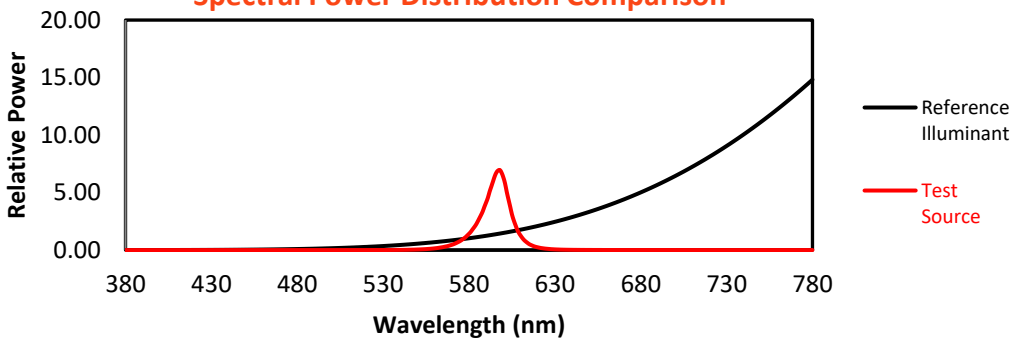
REPORT NUMBER: SP1-2511-597-9

TM-30-18

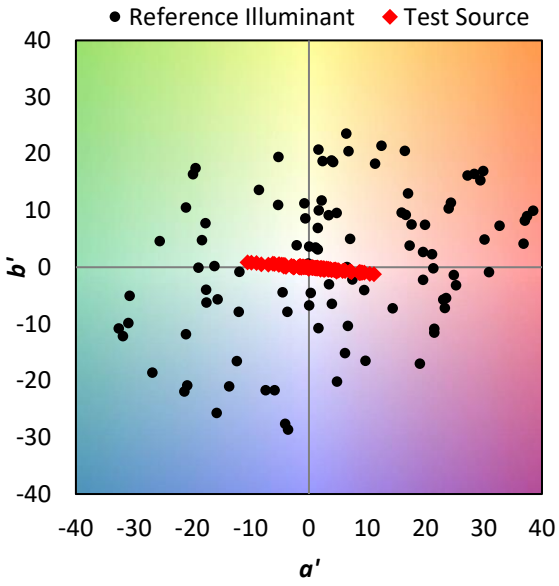
Summary

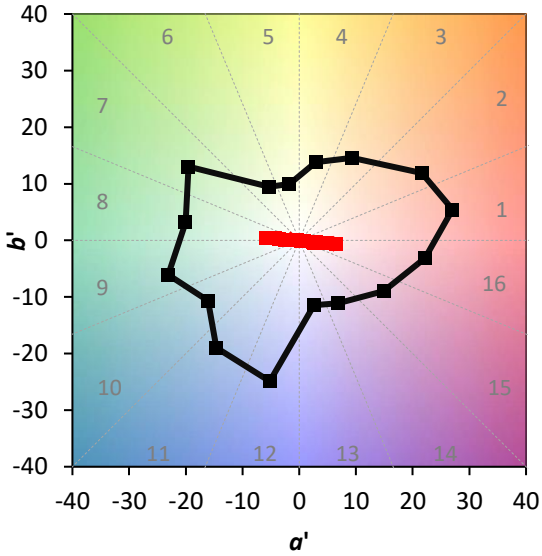
R_f = 1.3
R_g = 0.1
CIE R_a = -20.0
R_9 = -380.5

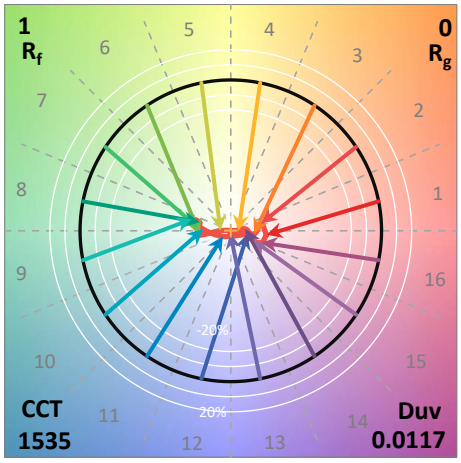
Spectral Power Distribution Comparison

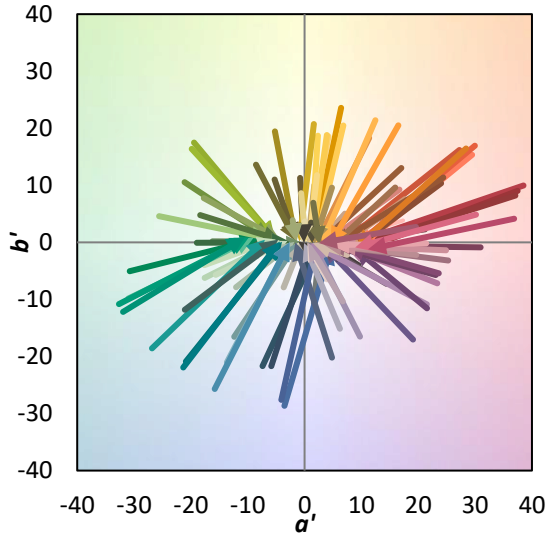


Color Vector Graphics







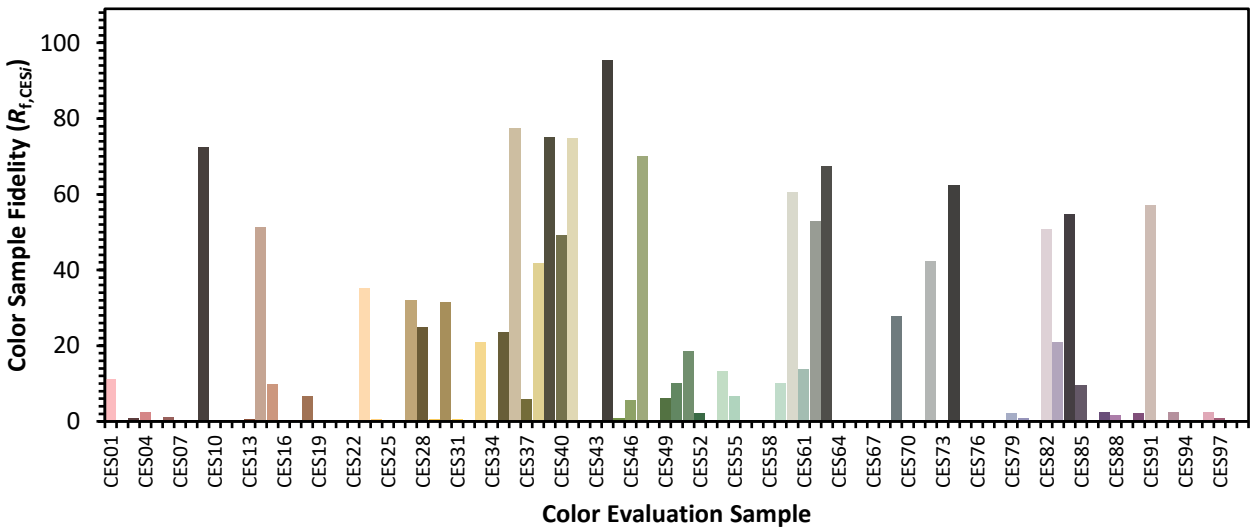


REPORT NUMBER: SP1-2511-597-9

TM-30-18

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

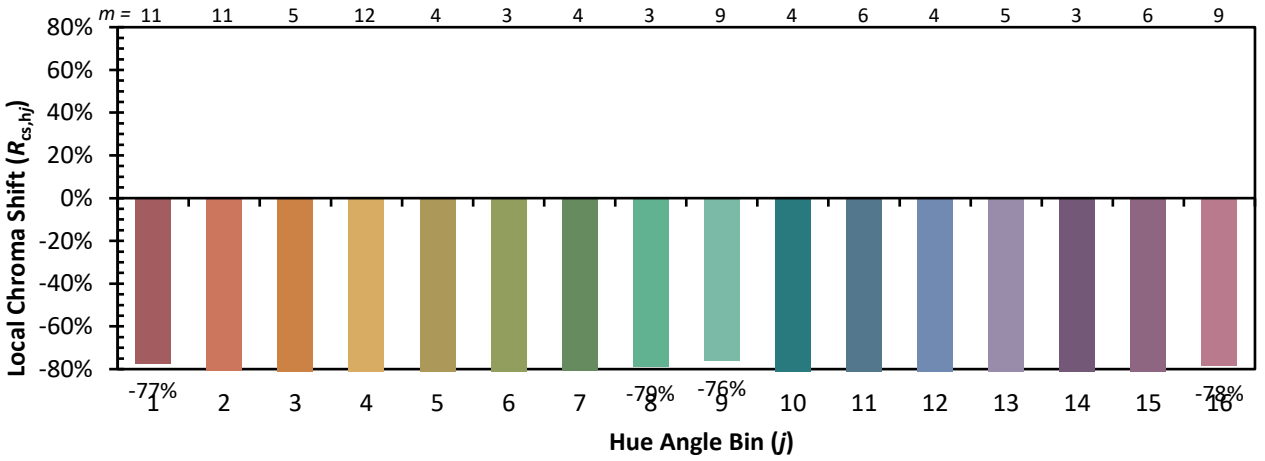
CES01 = 90	CES26 = 0	CES51 = 19	CES76 = 0
CES02 = 70	CES27 = 32	CES52 = 2	CES77 = 0
CES03 = 31	CES28 = 25	CES53 = 0	CES78 = 0
CES04 = 77	CES29 = 1	CES54 = 13	CES79 = 2
CES05 = 52	CES30 = 31	CES55 = 7	CES80 = 1
CES06 = 56	CES31 = 1	CES56 = 0	CES81 = 0
CES07 = 41	CES32 = 0	CES57 = 0	CES82 = 51
CES08 = 39	CES33 = 21	CES58 = 0	CES83 = 21
CES09 = 29	CES34 = 0	CES59 = 10	CES84 = 55
CES10 = 87	CES35 = 24	CES60 = 60	CES85 = 10
CES11 = 70	CES36 = 77	CES61 = 14	CES86 = 0
CES12 = 76	CES37 = 6	CES62 = 53	CES87 = 2
CES13 = 47	CES38 = 42	CES63 = 68	CES88 = 2
CES14 = 77	CES39 = 75	CES64 = 0	CES89 = 0
CES15 = 74	CES40 = 49	CES65 = 0	CES90 = 2
CES16 = 49	CES41 = 75	CES66 = 0	CES91 = 57
CES17 = 56	CES42 = 0	CES67 = 0	CES92 = 0
CES18 = 60	CES43 = 0	CES68 = 0	CES93 = 3
CES19 = 80	CES44 = 95	CES69 = 28	CES94 = 0
CES20 = 71	CES45 = 1	CES70 = 0	CES95 = 0
CES21 = 94	CES46 = 6	CES71 = 0	CES96 = 2
CES22 = 87	CES47 = 70	CES72 = 42	CES97 = 1
CES23 = 94	CES48 = 0	CES73 = 0	CES98 = 0
CES24 = 95	CES49 = 6	CES74 = 62	CES99 = 0
CES25 = 79	CES50 = 10	CES75 = 0	

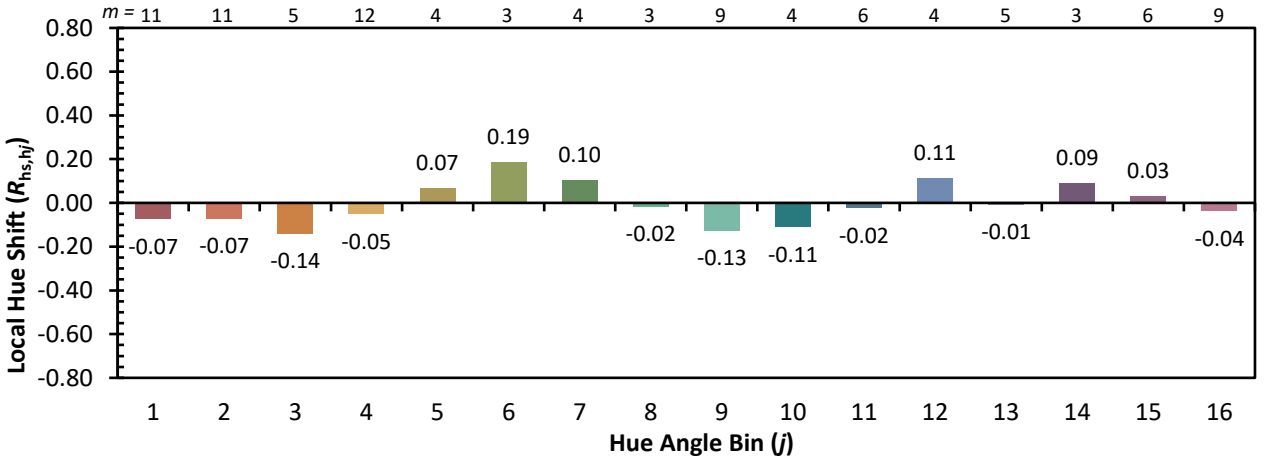


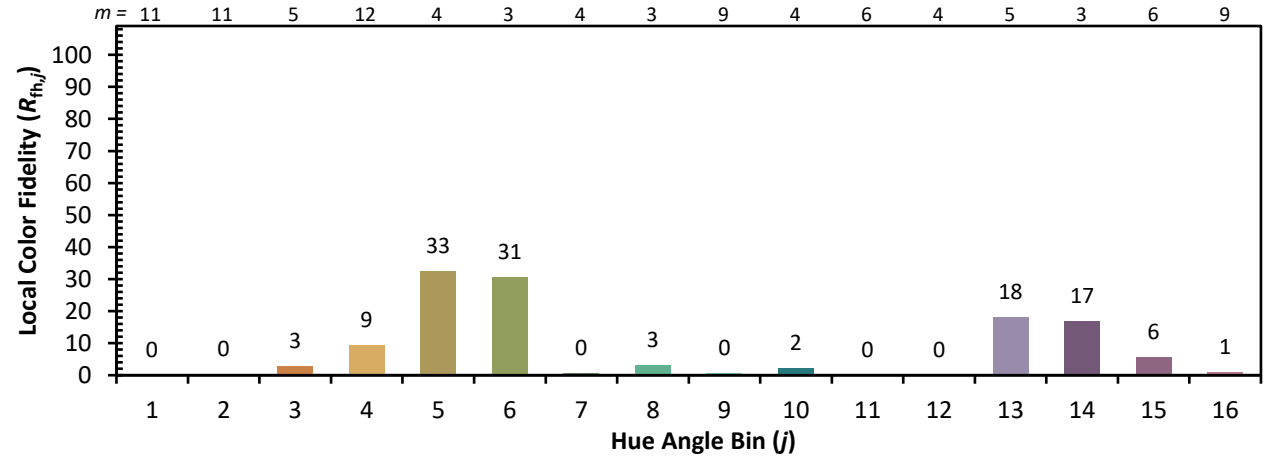
REPORT NUMBER: SP1-2511-597-9

TM-30-18

Color Rendition by Hue-Angle Bin



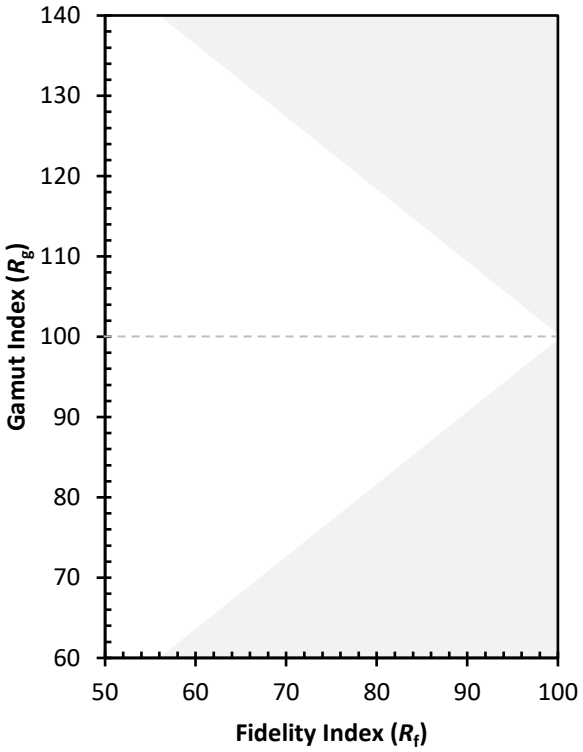


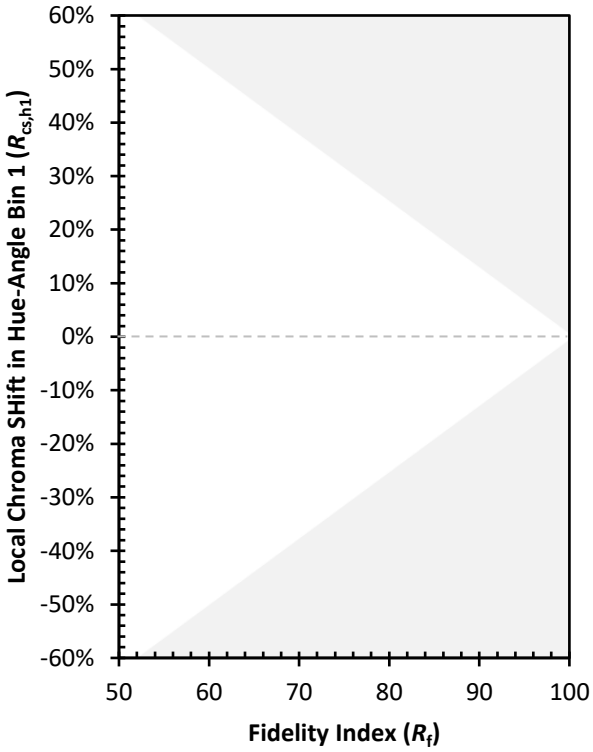


REPORT NUMBER: SP1-2511-597-9

TM-30-18

Measure Comparisons





(END OF REPORT)