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: P1357229

Luminaire Tested: 4ASL4-30VHE-3-G52-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:	P1357229
	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:	4ASL4-30VHE-3-G52-UNV
Description:	4FT 3000 LUMEN PER FOOT 4ASL LED LUMINAIRE WITH OPL LENS AND G52 LEDS 3 ROW
Light Source:	-
Ballast/Driver:	-

Summary

Lumens per Lamp:	N/A
Luminaire Lumens:	5948.0 lumens
Efficiency:	N/A
Efficacy:	49.1 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):	121.1
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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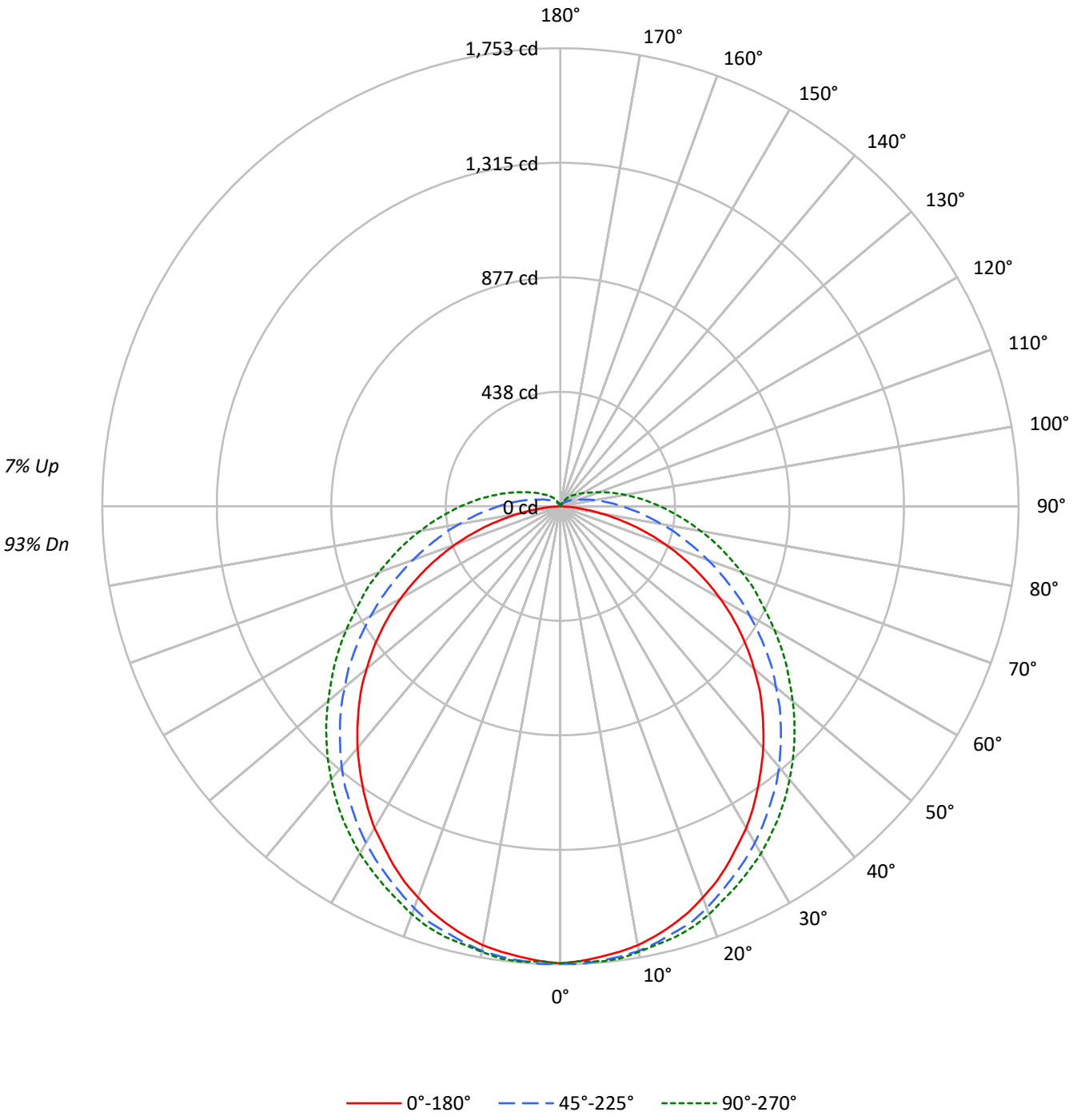
Luminous Intensity Polar Plot



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COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	20				20				20			20			20			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°	14197	14197	14197
5°	14071	13929	13872
10°	13991	13659	13521
15°	13837	13323	13223
20°	13627	13001	12888
25°	13384	12597	12507
30°	13128	12246	12184
35°	12809	11849	11825
40°	12517	11485	11447
45°	12203	11045	11067
50°	11844	10573	10673
55°	11458	10123	10318
60°	10956	9596	9958
65°	10316	9090	9659
70°	9501	8588	9425
75°	8312	8129	9265
80°	6511	7784	9196
85°	3913	7701	9334

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
Vertical Angle: 45°
Luminance: 12203 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	165.9	2.8
10°-20°	476.3	8.0
20°-30°	720.1	12.1
30°-40°	872.0	14.7
40°-50°	915.8	15.4
50°-60°	854.4	14.4
60°-70°	706.1	11.9
70°-80°	508.4	8.5
80°-90°	315.9	5.3
90°-100°	185.1	3.1
100°-110°	105.9	1.8
110°-120°	59.8	1.0
120°-130°	34.4	0.6
130°-140°	18.5	0.3
140°-150°	7.8	0.1
150°-160°	1.4	0.0
160°-170°	0.0	0.0
170°-180°	0.0	0.0
0°-30°	1362.3	22.9
0°-40°	2234.3	37.6
0°-60°	4004.5	67.3
0°-90°	5535.0	93.1
90°-120°	350.8	5.9
90°-150°	411.6	6.9
90°-180°	413.0	6.9
0°-180°	5948.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1749	1749	1749	1749	1749	
5°	1731	1746	1746	1746	1749	165
15°	1658	1680	1688	1698	1706	468
25°	1513	1538	1564	1586	1600	697
35°	1317	1353	1397	1437	1455	824
45°	1091	1131	1193	1244	1266	842
55°	840	887	960	1029	1055	751
65°	567	622	716	807	840	561
75°	291	364	491	596	640	308
85°	55	164	309	418	458	67
90°	0	98	236	338	382	2
95°	0	62	178	273	313	0
105°	0	22	98	171	200	0
115°	0	11	58	106	124	0
125°	0	7	36	69	80	0
135°	0	0	22	44	55	0
145°	0	0	11	26	29	0
155°	0	0	0	7	11	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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CATALOG NUMBER: 4ASL4-30VHE-3-G52-UNV

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1749.4	*1749.4*	1749.4	1749.4	1749.4
2.5°	*1742.1*	*1753.0*	*1753.0*	*1742.1*	*1742.1*
5°	1731.2	*1745.7*	1745.7	1745.7	1749.4
7.5°	1720.3	*1738.5*	1738.5	1738.5	1745.7
10°	1705.7	*1723.9*	1727.6	1727.6	1731.2
12.5°	1683.9	*1705.7*	1709.4	1713.0	1716.7
15°	1658.5	*1680.3*	1687.6	1698.5	1705.7
17.5°	1629.4	*1654.8*	1669.4	1680.3	1687.6
20°	1593.0	*1618.5*	1636.6	1651.2	1662.1
22.5°	1556.6	*1578.4*	1600.3	1618.5	1629.4
25°	1513.0	*1538.4*	1563.9	1585.7	1600.3
27.5°	1465.7	*1494.8*	1527.5	1553.0	1567.5
30°	1422.1	*1451.2*	1487.5	1520.3	1534.8
32.5°	1371.1	*1403.9*	1443.9	1476.6	1494.8
35°	1316.6	*1353.0*	1396.6	1436.6	1454.8
37.5°	1262.0	*1298.4*	1353.0	1393.0	1411.1
40°	1207.5	*1243.8*	1302.0	1345.7	1363.9
42.5°	1149.3	*1185.7*	1247.5	1294.8	1316.6
45°	1091.1	*1131.1*	1192.9	1243.8	1265.7
47.5°	1032.9	*1072.9*	1138.4	1192.9	1214.8
50°	967.4	*1011.1*	1076.5	1138.4	1160.2
52.5°	905.6	*949.3*	1022.0	1083.8	1105.6
55°	840.1	*887.4*	960.2	1029.3	1054.7
57.5°	774.7	*822.0*	898.3	971.1	1000.2
60°	705.6	*756.5*	836.5	912.9	945.6
62.5°	636.5	*691.0*	778.3	858.3	891.1
65°	567.4	*621.9*	716.5	807.4	840.1
67.5°	498.3	*556.5*	658.3	752.9	792.9
70°	429.2	*491.0*	600.1	698.3	738.3
72.5°	360.1	*425.5*	545.5	647.4	687.4
75°	291.0	*363.7*	491.0	596.5	640.1
77.5°	221.9	*305.5*	443.7	549.2	592.8
80°	160.0	*254.6*	392.8	501.9	545.5
82.5°	101.8	*203.7*	349.1	458.3	501.9
85°	54.6	*163.7*	309.1	418.3	458.3
87.5°	18.2	*127.3*	269.1	378.2	418.3
90°	0.0	*98.2*	236.4	338.2	381.9
92.5°	0.0	*76.4*	207.3	305.5	345.5
95°	0.0	*61.8*	178.2	272.8	312.8
97.5°	0.0	*50.9*	156.4	243.7	280.0
100°	0.0	*40.0*	134.6	218.2	251.0
102.5°	0.0	*32.7*	116.4	192.8	225.5
105°	0.0	*21.8*	98.2	170.9	200.0
107.5°	0.0	*18.2*	83.7	152.8	178.2
110°	0.0	*14.5*	76.4	130.9	156.4

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CATALOG NUMBER: 4ASL4-30VHE-3-G52-UNV

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	0.0	*10.9*	69.1	116.4	141.8
115°	0.0	*10.9*	58.2	105.5	123.7
117.5°	0.0	*10.9*	50.9	94.6	112.7
120°	0.0	*7.3*	47.3	83.7	101.8
122.5°	0.0	*7.3*	40.0	76.4	90.9
125°	0.0	*7.3*	36.4	69.1	80.0
127.5°	0.0	*3.6*	32.7	61.8	72.7
130°	0.0	*3.6*	29.1	54.6	65.5
132.5°	0.0	*3.6*	25.5	50.9	61.8
135°	0.0	*0.0*	21.8	43.6	54.6
137.5°	0.0	*0.0*	18.2	40.0	47.3
140°	0.0	*0.0*	14.5	32.7	43.6
142.5°	0.0	*0.0*	10.9	29.1	36.4
145°	0.0	*0.0*	10.9	25.5	29.1
147.5°	0.0	*0.0*	7.3	18.2	25.5
150°	0.0	*0.0*	3.6	14.5	18.2
152.5°	0.0	*0.0*	0.0	10.9	14.5
155°	0.0	*0.0*	0.0	7.3	10.9
157.5°	0.0	*0.0*	0.0	0.0	3.6
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	18.55	20.09	19.02	20.55	21.03	20.58	22.12	21.05	22.57	23.06
	3H	20.05	21.45	20.53	21.92	22.44	23.04	24.44	23.52	24.91	25.43
	4H	20.53	21.86	21.03	22.34	22.88	24.24	25.57	24.74	26.05	26.59
	6H	20.80	22.04	21.32	22.54	23.09	25.49	26.73	26.00	27.23	27.78
	8H	20.86	22.04	21.38	22.56	23.12	26.14	27.32	26.66	27.84	28.40
	12H	20.87	22.01	21.40	22.52	23.11	26.85	27.99	27.38	28.50	29.09
4H	2H	19.43	20.76	19.93	21.24	21.78	21.01	22.34	21.51	22.83	23.36
	3H	21.16	22.30	21.68	22.82	23.38	23.70	24.83	24.21	25.36	25.92
	4H	21.77	22.80	22.30	23.34	23.93	25.07	26.11	25.60	26.64	27.24
	6H	22.16	23.08	22.72	23.64	24.25	26.51	27.43	27.07	27.99	28.60
	8H	22.26	23.12	22.82	23.68	24.30	27.27	28.13	27.83	28.69	29.31
	12H	22.30	23.09	22.89	23.68	24.30	28.10	28.88	28.68	29.47	30.10
8H	4H	22.45	23.31	23.01	23.87	24.49	25.28	26.15	25.85	26.71	27.33
	6H	23.03	23.76	23.62	24.36	24.99	26.90	27.63	27.49	28.23	28.86
	8H	23.21	23.87	23.81	24.48	25.12	27.79	28.45	28.40	29.07	29.71
	12H	23.32	23.91	23.93	24.52	25.22	28.81	29.40	29.42	30.01	30.71
12H	4H	22.64	23.42	23.22	24.02	24.64	25.29	26.08	25.88	26.67	27.29
	6H	23.32	23.98	23.92	24.60	25.23	26.94	27.60	27.54	28.21	28.85
	8H	23.60	24.19	24.21	24.79	25.50	27.90	28.49	28.50	29.09	29.80

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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: SP1-2511-597-8

Test Date: 01/22/2026

Luminaire Tested: 4ASL-2-G520-UNV-OPL-1_600mA

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

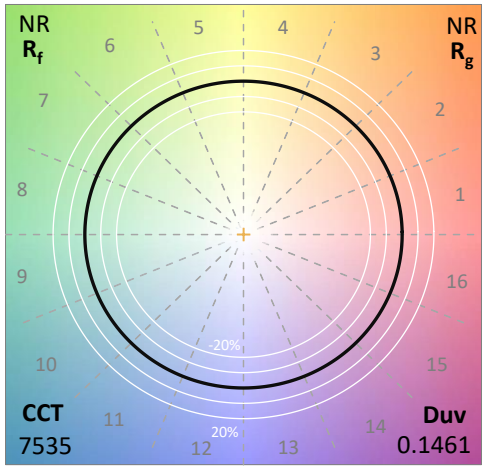
Report Generated By FNC07603 / LDUCLS01DT446
Version: v7.05

Test Information

Test Method:	LM-79-2019
Report Number:	SP1-2511-597-8
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-G520-UNV-OPL-1_600mA**
Description:	2foot 4ASL LED LUMINAIRE WITH OPL LENS AND GREEN 520NM LEDS with 1 rows at 600mA

Spectral Parameters

CCT (K):	7535	CRI (Ra):	-11.7		
CIE u':	0.0718	R1:	-30.6	R9:	-351.9
CIE v':	0.5710	R2:	5.1	R10:	-75.5
Duv:	0.1461	R3:	5.6	R11:	-78.0
CIE x:	0.1962	R4:	-51.7	R12:	-14.7
CIE y:	0.6931	R5:	-6.4	R13:	-32.5
CIE z:	0.1107	R6:	-0.6	R14:	52.7
Peak Wavelength (nm):	524	R7:	10.9	R15:	-37.0
Dominant Wavelength (nm):	529	R8:	-25.8		
Purity:	75.95236				
Rf:	NR				
Rg:	NR				



Test Conditions

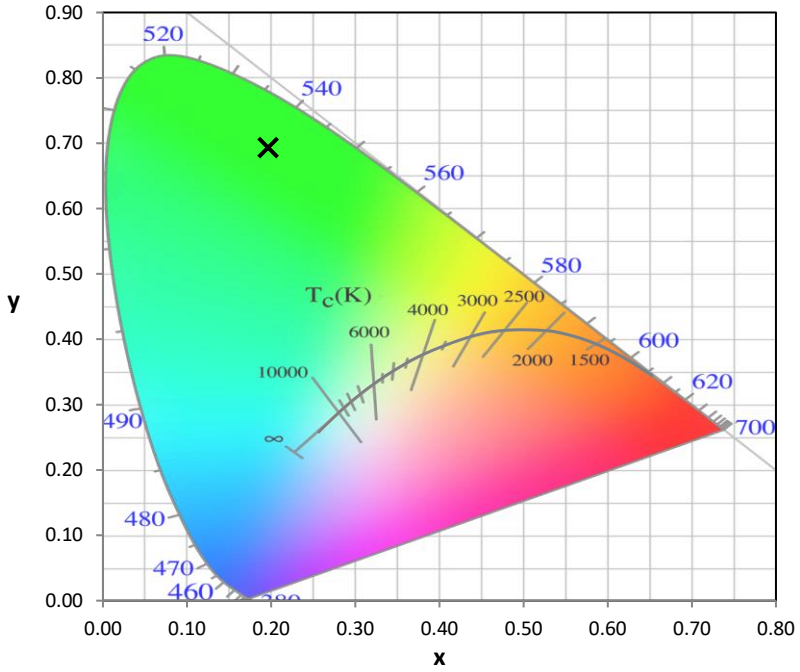
Stabilization Time:	48M
Operation Time:	1H 48M
Sphere Temperature (°C):	25.1

REPORT NUMBER: SP1-2511-597-8

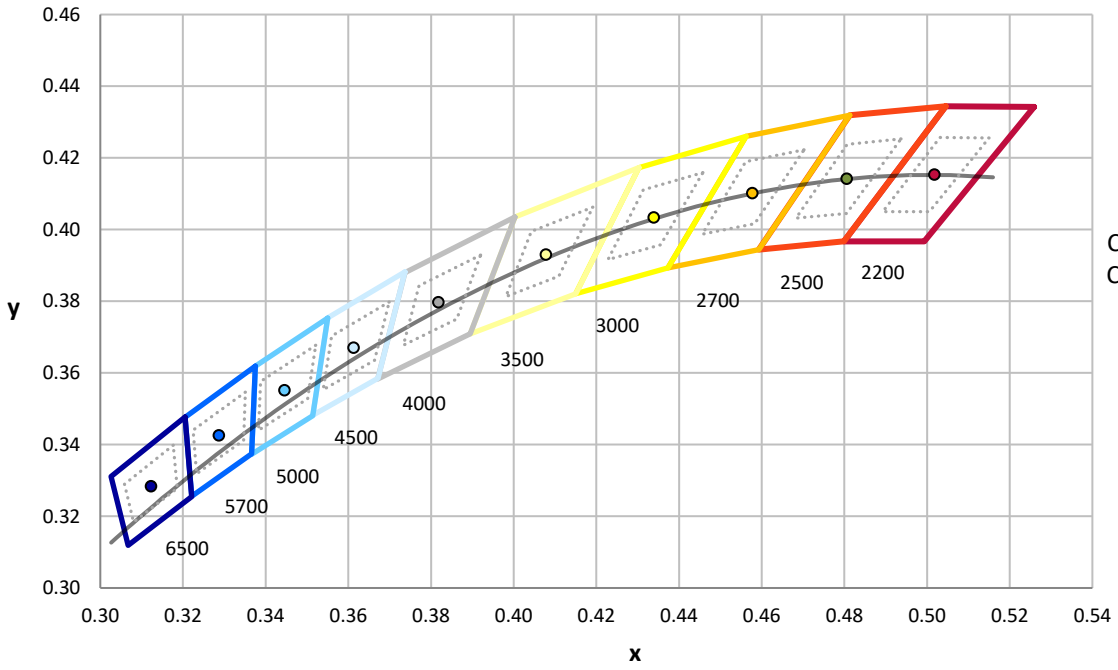
Measurement and Test Equipment			
Instrument	Identification Number	Calibration Date	Calibration Due Date
Photometer	76INCH SPHERE IN0058	12/16/2025	6/16/2026
Power Meter	XITRON INXT2011004	10/21/2025	10/21/2026
AC Power Source	CHROMA 61603 IN0063	10/21/2025	10/21/2026
DC Power Source	AGILENT E3634A IN0208	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: SP1-2511-597-8

CIE 1931 Chromaticity Diagram



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

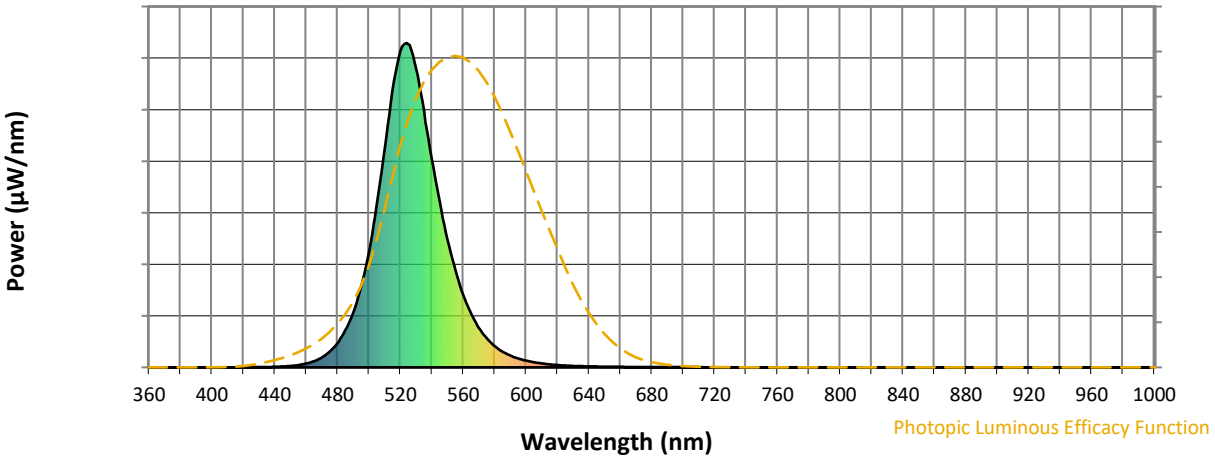


CCT = 7535K
CIE x = 0.1962
CIE y = 0.6931
Duv = 0.1461

Point lies outside the range

REPORT NUMBER: SP1-2511-597-8

Photopic Flux vs. Wavelength

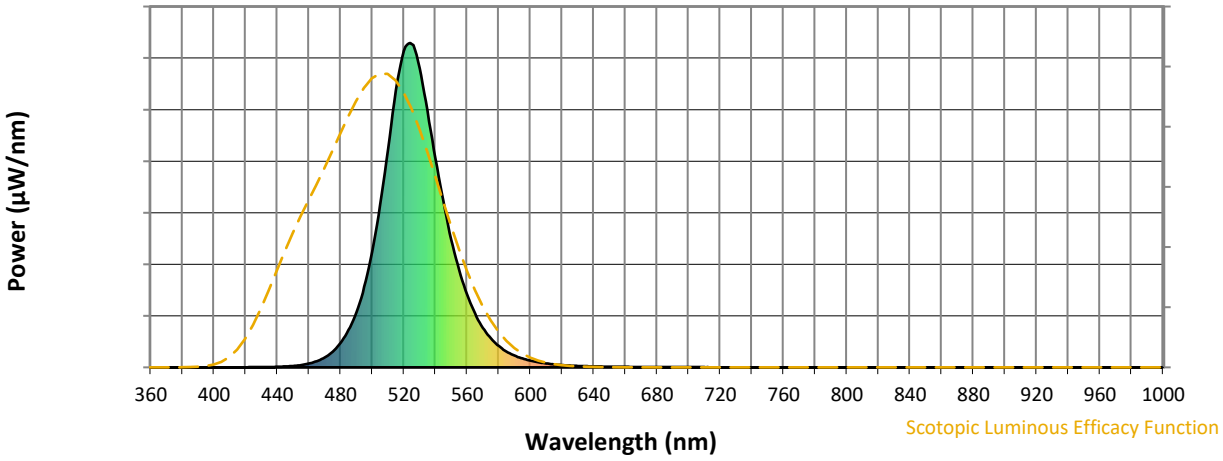


Photopic Lumens: NR

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	7	NR	750	0	NR	880	0	NR
365	0	NR	495	249	NR	625	6	NR	755	0	NR	885	0	NR
370	0	NR	500	356	NR	630	4	NR	760	0	NR	890	0	NR
375	0	NR	505	502	NR	635	4	NR	765	0	NR	895	0	NR
380	0	NR	510	674	NR	640	3	NR	770	0	NR	900	0	NR
385	0	NR	515	853	NR	645	3	NR	775	0	NR	905	0	NR
390	0	NR	520	976	NR	650	2	NR	780	0	NR	910	0	NR
395	0	NR	525	996	NR	655	2	NR	785	0	NR	915	0	NR
400	0	NR	530	920	NR	660	2	NR	790	0	NR	920	0	NR
405	0	NR	535	792	NR	665	1	NR	795	0	NR	925	0	NR
410	0	NR	540	642	NR	670	1	NR	800	0	NR	930	0	NR
415	0	NR	545	511	NR	675	1	NR	805	0	NR	935	0	NR
420	0	NR	550	394	NR	680	1	NR	810	0	NR	940	0	NR
425	1	NR	555	300	NR	685	1	NR	815	0	NR	945	0	NR
430	1	NR	560	224	NR	690	1	NR	820	0	NR	950	0	NR
435	1	NR	565	166	NR	695	1	NR	825	0	NR	955	0	NR
440	2	NR	570	122	NR	700	1	NR	830	0	NR	960	0	NR
445	3	NR	575	90	NR	705	1	NR	835	0	NR	965	0	NR
450	4	NR	580	66	NR	710	1	NR	840	0	NR	970	0	NR
455	7	NR	585	48	NR	715	0	NR	845	0	NR	975	0	NR
460	12	NR	590	36	NR	720	0	NR	850	0	NR	980	0	NR
465	19	NR	595	27	NR	725	0	NR	855	0	NR	985	0	NR
470	31	NR	600	21	NR	730	0	NR	860	0	NR	990	0	NR
475	49	NR	605	16	NR	735	0	NR	865	0	NR	995	0	NR
480	75	NR	610	12	NR	740	0	NR	870	0	NR	1000	0	NR
485	115	NR	615	9	NR	745	0	NR	875	0	NR			

REPORT NUMBER: SP1-2511-597-8

Scotopic Flux vs. Wavelength

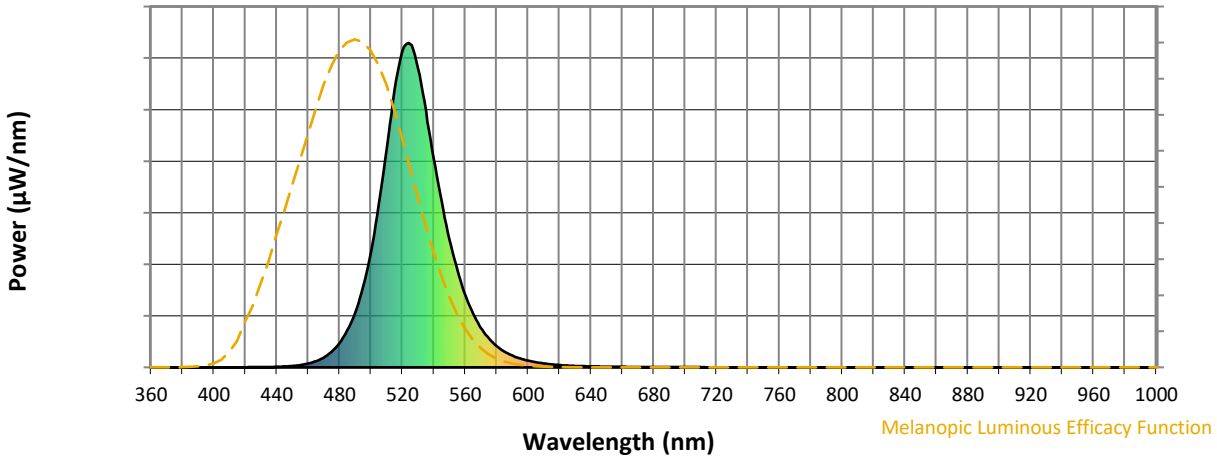


Scotopic Lumens: NR **S/P: 2.63**

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	7	NR	750	0	NR	880	0	NR
365	0	NR	495	249	NR	625	6	NR	755	0	NR	885	0	NR
370	0	NR	500	356	NR	630	4	NR	760	0	NR	890	0	NR
375	0	NR	505	502	NR	635	4	NR	765	0	NR	895	0	NR
380	0	NR	510	674	NR	640	3	NR	770	0	NR	900	0	NR
385	0	NR	515	853	NR	645	3	NR	775	0	NR	905	0	NR
390	0	NR	520	976	NR	650	2	NR	780	0	NR	910	0	NR
395	0	NR	525	996	NR	655	2	NR	785	0	NR	915	0	NR
400	0	NR	530	920	NR	660	2	NR	790	0	NR	920	0	NR
405	0	NR	535	792	NR	665	1	NR	795	0	NR	925	0	NR
410	0	NR	540	642	NR	670	1	NR	800	0	NR	930	0	NR
415	0	NR	545	511	NR	675	1	NR	805	0	NR	935	0	NR
420	0	NR	550	394	NR	680	1	NR	810	0	NR	940	0	NR
425	1	NR	555	300	NR	685	1	NR	815	0	NR	945	0	NR
430	1	NR	560	224	NR	690	1	NR	820	0	NR	950	0	NR
435	1	NR	565	166	NR	695	1	NR	825	0	NR	955	0	NR
440	2	NR	570	122	NR	700	1	NR	830	0	NR	960	0	NR
445	3	NR	575	90	NR	705	1	NR	835	0	NR	965	0	NR
450	4	NR	580	66	NR	710	1	NR	840	0	NR	970	0	NR
455	7	NR	585	48	NR	715	0	NR	845	0	NR	975	0	NR
460	12	NR	590	36	NR	720	0	NR	850	0	NR	980	0	NR
465	19	NR	595	27	NR	725	0	NR	855	0	NR	985	0	NR
470	31	NR	600	21	NR	730	0	NR	860	0	NR	990	0	NR
475	49	NR	605	16	NR	735	0	NR	865	0	NR	995	0	NR
480	75	NR	610	12	NR	740	0	NR	870	0	NR	1000	0	NR
485	115	NR	615	9	NR	745	0	NR	875	0	NR			

REPORT NUMBER: SP1-2511-597-8

Melanopic Flux vs. Wavelength



Melanopic Lumens: NR **M/P: 4.87**

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	7	NR	750	0	NR	880	0	NR
365	0	NR	495	249	NR	625	6	NR	755	0	NR	885	0	NR
370	0	NR	500	356	NR	630	4	NR	760	0	NR	890	0	NR
375	0	NR	505	502	NR	635	4	NR	765	0	NR	895	0	NR
380	0	NR	510	674	NR	640	3	NR	770	0	NR	900	0	NR
385	0	NR	515	853	NR	645	3	NR	775	0	NR	905	0	NR
390	0	NR	520	976	NR	650	2	NR	780	0	NR	910	0	NR
395	0	NR	525	996	NR	655	2	NR	785	0	NR	915	0	NR
400	0	NR	530	920	NR	660	2	NR	790	0	NR	920	0	NR
405	0	NR	535	792	NR	665	1	NR	795	0	NR	925	0	NR
410	0	NR	540	642	NR	670	1	NR	800	0	NR	930	0	NR
415	0	NR	545	511	NR	675	1	NR	805	0	NR	935	0	NR
420	0	NR	550	394	NR	680	1	NR	810	0	NR	940	0	NR
425	1	NR	555	300	NR	685	1	NR	815	0	NR	945	0	NR
430	1	NR	560	224	NR	690	1	NR	820	0	NR	950	0	NR
435	1	NR	565	166	NR	695	1	NR	825	0	NR	955	0	NR
440	2	NR	570	122	NR	700	1	NR	830	0	NR	960	0	NR
445	3	NR	575	90	NR	705	1	NR	835	0	NR	965	0	NR
450	4	NR	580	66	NR	710	1	NR	840	0	NR	970	0	NR
455	7	NR	585	48	NR	715	0	NR	845	0	NR	975	0	NR
460	12	NR	590	36	NR	720	0	NR	850	0	NR	980	0	NR
465	19	NR	595	27	NR	725	0	NR	855	0	NR	985	0	NR
470	31	NR	600	21	NR	730	0	NR	860	0	NR	990	0	NR
475	49	NR	605	16	NR	735	0	NR	865	0	NR	995	0	NR
480	75	NR	610	12	NR	740	0	NR	870	0	NR	1000	0	NR
485	115	NR	615	9	NR	745	0	NR	875	0	NR			

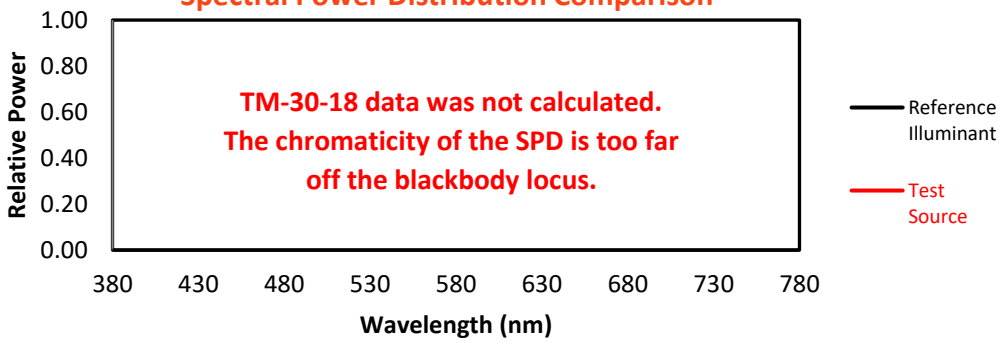
REPORT NUMBER: SP1-2511-597-8

TM-30-18

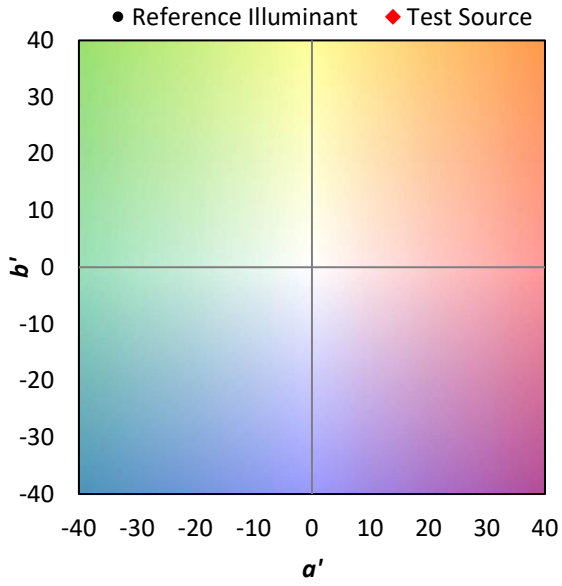
Summary

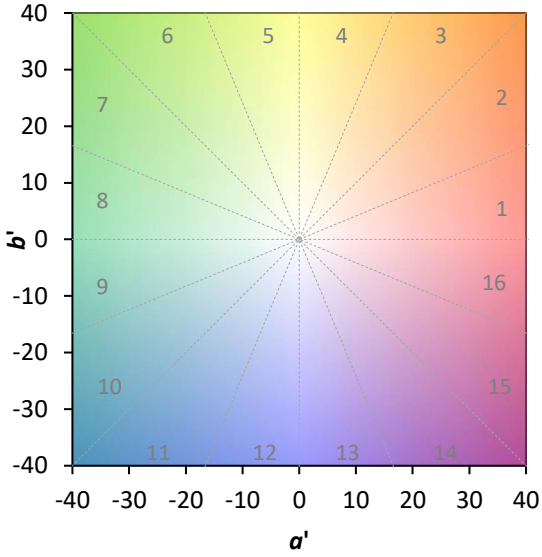
R_f = 0
R_g = 0
CIE R_a = -11.7
R_9 = -351.9

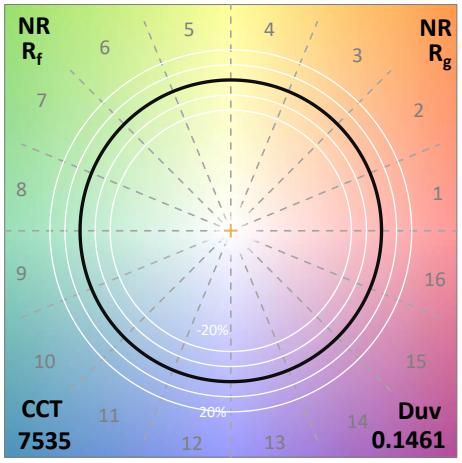
Spectral Power Distribution Comparison

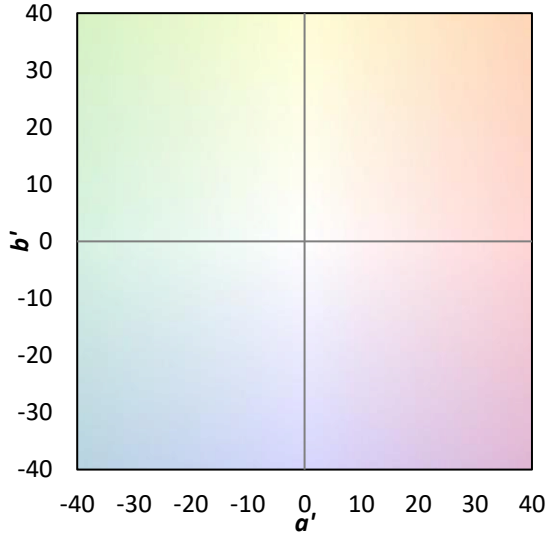


Color Vector Graphics







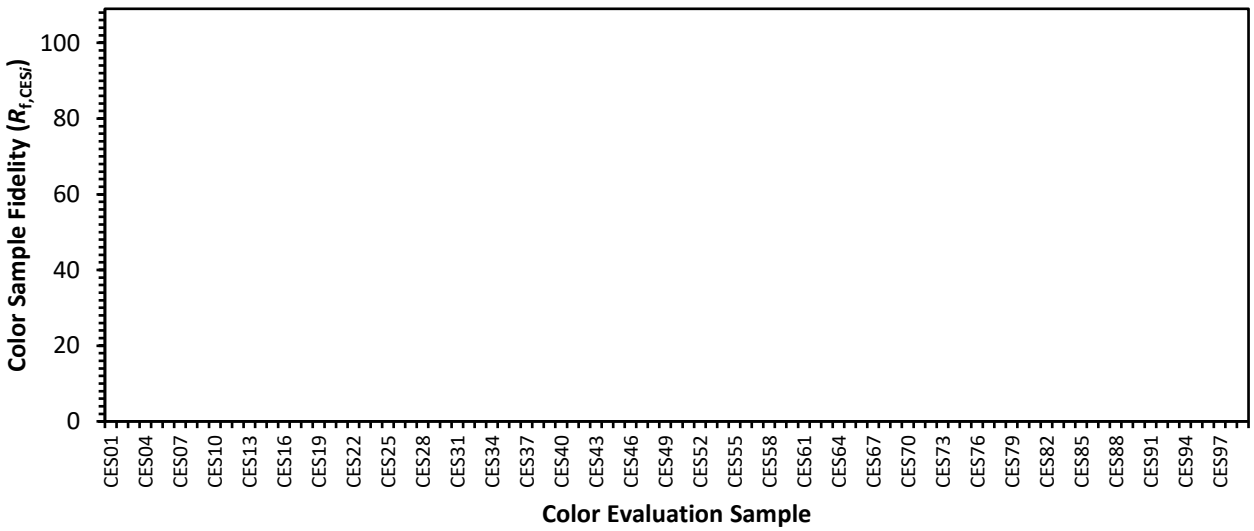


REPORT NUMBER: SP1-2511-597-8

TM-30-18

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

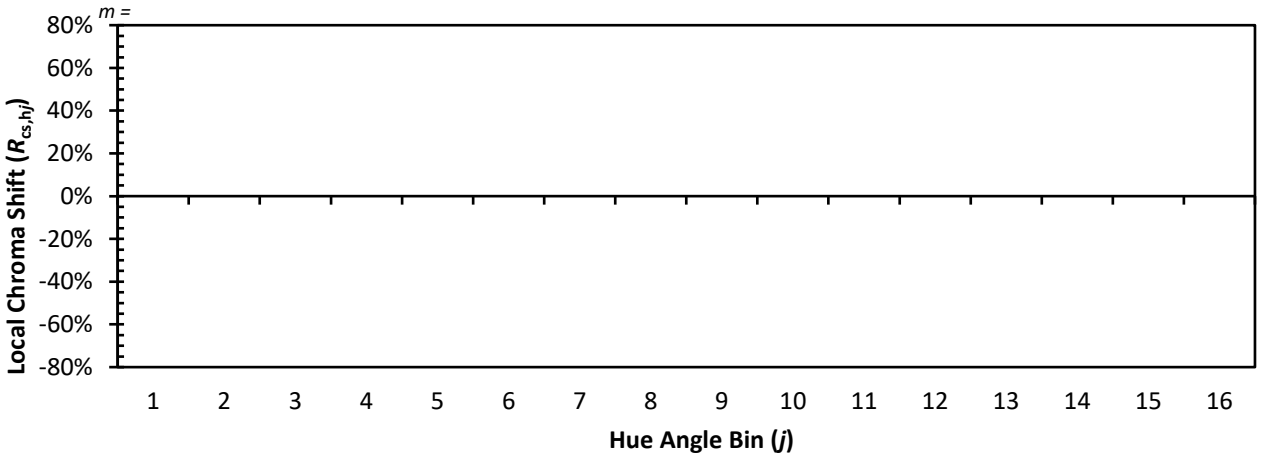
CES01 = 0	CES26 = 0	CES51 = 0	CES76 = 0
CES02 = 0	CES27 = 0	CES52 = 0	CES77 = 0
CES03 = 0	CES28 = 0	CES53 = 0	CES78 = 0
CES04 = 0	CES29 = 0	CES54 = 0	CES79 = 0
CES05 = 0	CES30 = 0	CES55 = 0	CES80 = 0
CES06 = 0	CES31 = 0	CES56 = 0	CES81 = 0
CES07 = 0	CES32 = 0	CES57 = 0	CES82 = 0
CES08 = 0	CES33 = 0	CES58 = 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	

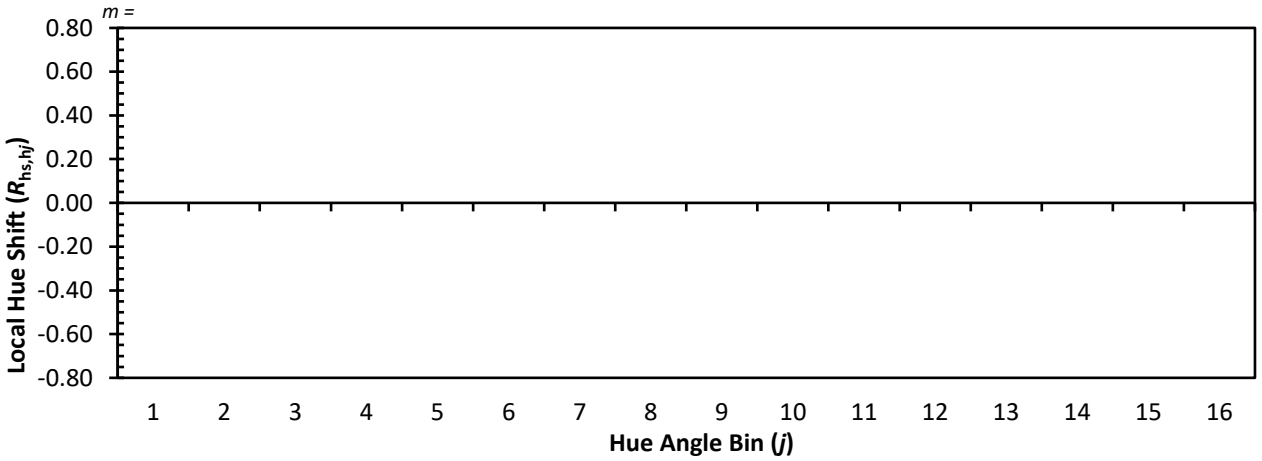


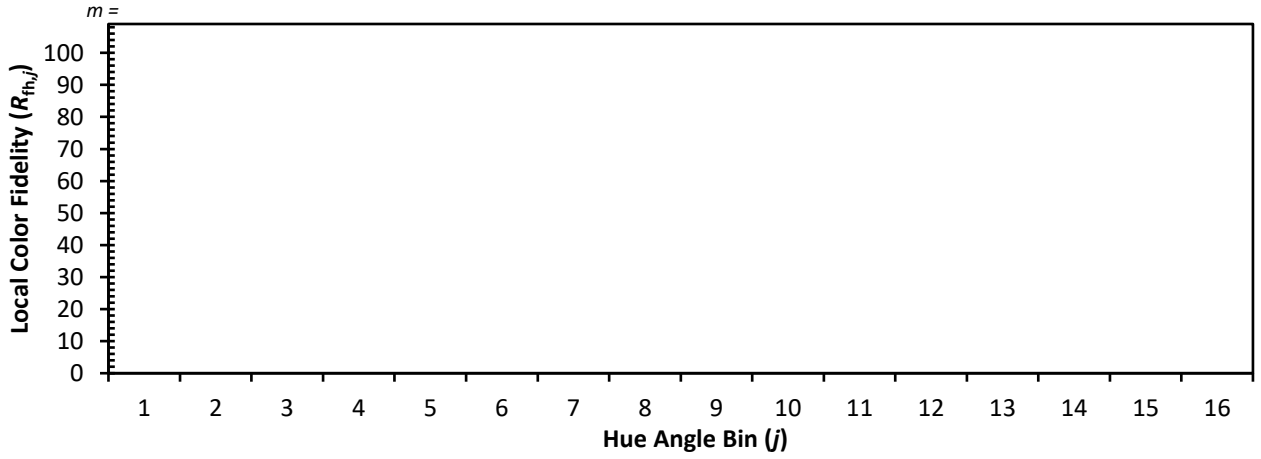
REPORT NUMBER: SP1-2511-597-8

TM-30-18

Color Rendition by Hue-Angle Bin



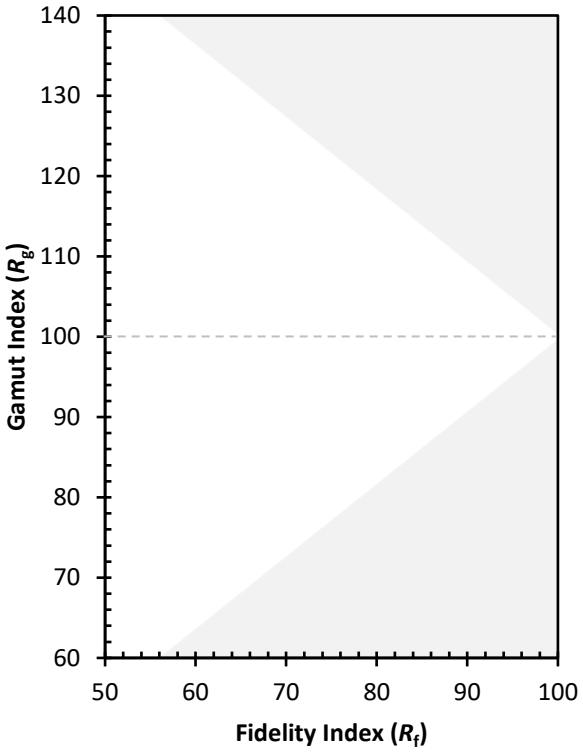


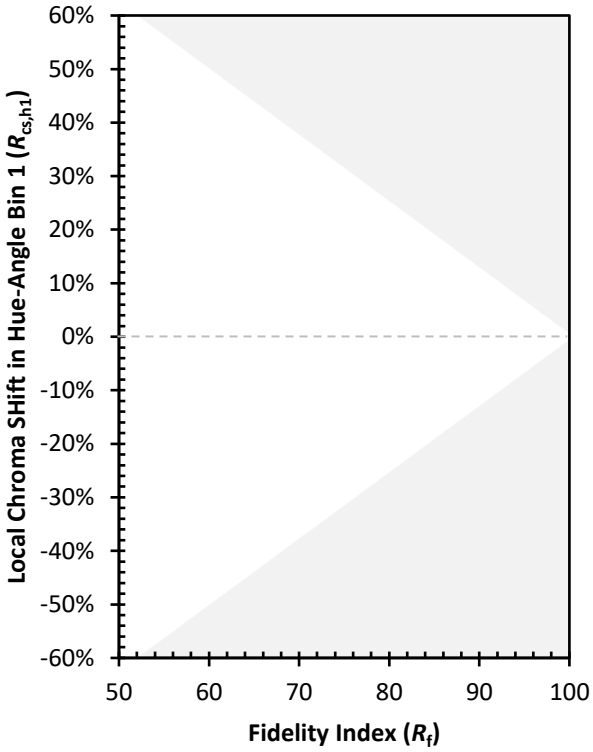


REPORT NUMBER: SP1-2511-597-8

TM-30-18

Measure Comparisons





(END OF REPORT)