

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: P1357415

Luminaire Tested: 8ASL4-10-1-G52-UNV

Issue Date: 2/17/2026

**Test Information**

Test Method: LM-79-2019  
Report Number: P1357415  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2511-597-6)  
Test Lab: INNOVATION CENTER  
Issue Date: 2/17/2026  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: FAIL-SAFE  
Catalog Number: 8ASL4-10-1-G52-UNV  
Description: 8FT 1000 LUMEN PER FOOT 4ASL LED LUMINAIRE WITH OPL LENS AND G52 LEDS 1 ROW  
Light Source: -  
Ballast/Driver: -

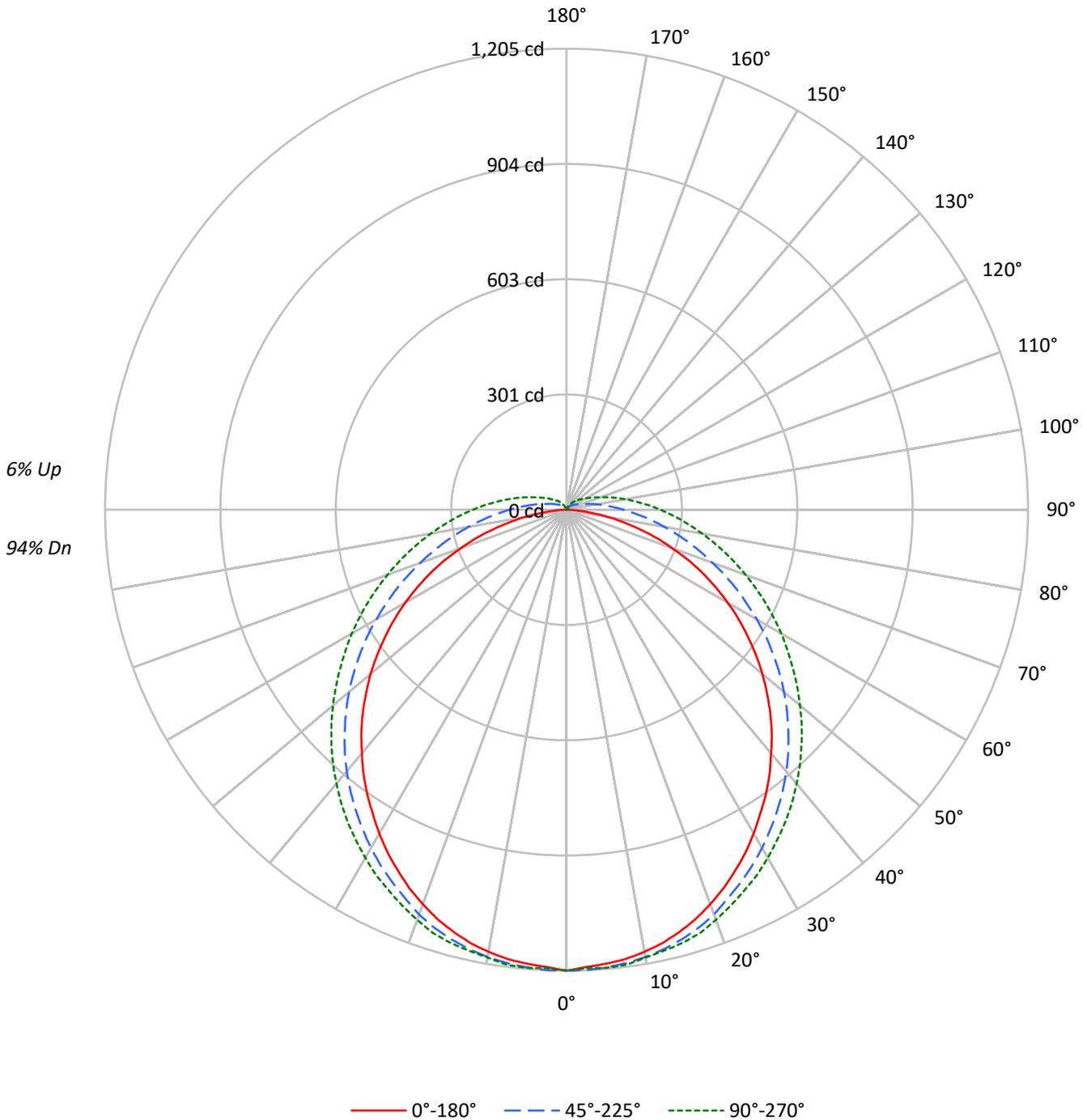
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 4033.0 lumens  
Efficiency: N/A  
Efficacy: 49.7 lumens/watt  
Spacing Criteria (0/90/45): 1.21 / 1.3 / 1.39  
Luminous Opening: Rectangular w/ Sides (W: 0.33' x L: 7.98' x H: 0.1')  
CIE Type: Direct

Input Watts (W): 81.1  
Input Voltage (V): NR  
Input Current (A<sub>in</sub>): 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

TEST NUMBER: P1357415  
CATALOG NUMBER: 8ASL4-10-1-G52-UNV

### 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	0
RCR																					
0	118	118	118	118	114	114	114	114	108	108	108	102	102	102	96	96	96	96	96	96	94
1	106	100	95	91	102	97	93	89	92	88	85	87	84	81	82	80	78	82	80	78	75
2	95	86	79	73	92	84	77	71	79	74	69	75	70	66	71	67	64	71	67	64	61
3	87	76	67	60	84	73	65	59	69	63	57	66	60	55	62	58	54	62	58	54	51
4	79	67	57	50	76	65	56	50	62	54	48	58	52	47	56	50	46	56	50	46	43
5	73	59	50	43	70	58	49	43	55	47	42	52	46	41	50	44	40	50	44	40	37
6	67	53	44	38	65	52	43	37	50	42	36	47	41	35	45	39	35	45	39	35	32
7	62	48	39	33	60	47	39	33	45	37	32	43	36	31	41	35	31	41	35	31	29
8	58	44	35	29	56	43	35	29	41	34	29	39	33	28	38	32	27	38	32	27	25
9	54	40	32	26	52	39	32	26	38	31	26	36	30	25	35	29	25	35	29	25	23
10	51	37	29	24	49	36	29	24	35	28	23	34	27	23	32	27	22	32	27	22	21

**AVERAGE LUMINANCE (cd/sqm):**

	0°	45°	90°
0°	4875	4875	4875
5°	4833	4781	4753
10°	4811	4687	4628
15°	4768	4587	4531
20°	4702	4473	4411
25°	4621	4336	4281
30°	4532	4210	4159
35°	4443	4082	4038
40°	4344	3952	3913
45°	4250	3810	3785
50°	4139	3662	3651
55°	4002	3495	3517
60°	3851	3320	3399
65°	3656	3136	3281
70°	3347	2944	3167
75°	2946	2774	3079
80°	2396	2631	3025
85°	1487	2545	3045

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 4250 cd/sqm



TEST NUMBER: P1357415  
 CATALOG NUMBER: 8ASL4-10-1-G52-UNV

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	114.1	2.8
10°-20°	327.5	8.1
20°-30°	495.1	12.3
30°-40°	598.5	14.8
40°-50°	629.2	15.6
50°-60°	586.2	14.5
60°-70°	481.6	11.9
70°-80°	341.9	8.5
80°-90°	206.1	5.1
90°-100°	115.4	2.9
100°-110°	63.9	1.6
110°-120°	35.7	0.9
120°-130°	20.5	0.5
130°-140°	11.2	0.3
140°-150°	5.0	0.1
150°-160°	1.2	0.0
160°-170°	0.0	0.0
170°-180°	0.0	0.0
<b>0°-30°</b>	<b>936.6</b>	<b>23.2</b>
<b>0°-40°</b>	<b>1535.1</b>	<b>38.1</b>
<b>0°-60°</b>	<b>2750.5</b>	<b>68.2</b>
<b>0°-90°</b>	<b>3780.0</b>	<b>93.7</b>
<b>90°-120°</b>	<b>215.1</b>	<b>5.3</b>
<b>90°-150°</b>	<b>251.8</b>	<b>6.2</b>
<b>90°-180°</b>	<b>253.0</b>	<b>6.3</b>
<b>0°-180°</b>	<b>4033.0</b>	<b>100.0</b>

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1205	1205	1205	1205	1205	
5°	1191	1202	1200	1199	1202	113
15°	1142	1157	1162	1168	1172	322
25°	1041	1060	1075	1090	1098	480
35°	908	931	959	984	996	567
45°	752	780	819	853	868	580
55°	578	610	658	702	721	517
65°	392	428	489	546	572	387
75°	198	248	330	398	426	211
85°	37	106	199	272	300	46
90°	0	63	148	218	244	1
95°	0	37	109	172	196	0
105°	0	14	57	104	123	0
115°	0	7	35	63	75	0
125°	0	4	22	41	48	0
135°	0	1	14	26	33	0
145°	1	0	6	15	19	1
155°	1	1	0	4	6	1
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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 CATALOG NUMBER: 8ASL4-10-1-G52-UNV

**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1204.6	1204.6	1204.6	1204.6	1204.6
2.5°	1196.4	1207.3	1204.6	1199.2	1199.2
5°	1191.0	1201.9	1200.5	1199.2	1201.9
7.5°	1184.2	1195.1	1195.1	1196.4	1199.2
10°	1173.3	1186.9	1186.9	1186.9	1188.3
12.5°	1159.7	1173.3	1176.0	1177.4	1180.1
15°	1141.9	1156.9	1162.4	1167.8	1171.9
17.5°	1121.5	1136.5	1146.0	1152.8	1159.7
20°	1097.0	1113.3	1125.6	1133.8	1140.6
22.5°	1071.1	1087.4	1099.7	1112.0	1120.1
25°	1041.1	1060.2	1075.2	1090.2	1098.3
27.5°	1011.1	1030.2	1049.3	1067.0	1076.5
30°	977.1	998.9	1020.7	1041.1	1050.6
32.5°	941.6	964.8	990.7	1012.5	1023.4
35°	907.6	930.7	959.3	983.9	996.1
37.5°	870.8	893.9	926.6	953.9	966.2
40°	831.2	857.1	892.6	921.2	934.8
42.5°	793.1	819.0	857.1	888.5	902.1
45°	752.2	779.5	819.0	853.0	868.0
47.5°	710.0	738.6	780.8	816.3	832.6
50°	667.7	697.7	741.3	779.5	795.8
52.5°	622.8	654.1	700.4	741.3	759.0
55°	577.8	610.5	658.2	701.8	720.9
57.5°	532.8	565.5	617.3	663.6	684.1
60°	486.5	520.5	573.7	624.1	647.3
62.5°	438.8	474.2	530.1	584.6	609.1
65°	392.5	427.9	489.2	546.4	572.3
67.5°	343.4	381.6	447.0	506.9	534.2
70°	293.0	336.6	406.1	470.1	497.4
72.5°	248.0	293.0	367.9	433.3	462.0
75°	197.6	248.0	329.8	397.9	426.5
77.5°	154.0	208.5	294.3	363.8	392.5
80°	110.4	170.3	260.3	331.1	359.8
82.5°	70.9	136.3	228.9	301.2	328.4
85°	36.8	106.3	199.0	272.5	299.8
87.5°	10.9	81.8	171.7	243.9	271.2
90°	0.0	62.7	148.5	218.0	243.9
92.5°	0.0	47.7	128.1	194.9	220.8
95°	0.0	36.8	109.0	171.7	196.2
97.5°	0.0	28.6	94.0	151.3	175.8
100°	0.0	23.2	80.4	133.5	156.7
102.5°	0.0	19.1	69.5	118.6	139.0
105°	0.0	13.6	57.2	103.6	122.6
107.5°	0.0	9.5	50.4	91.3	107.7
110°	0.0	8.2	45.0	79.0	95.4



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**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°
112.5°	0.0	6.8	39.5	70.9	84.5
115°	0.0	6.8	35.4	62.7	74.9
117.5°	0.0	5.5	30.0	55.9	66.8
120°	0.0	5.5	27.3	50.4	60.0
122.5°	0.0	4.1	24.5	45.0	54.5
125°	0.0	4.1	21.8	40.9	47.7
127.5°	0.0	2.7	19.1	36.8	43.6
130°	0.0	2.7	17.7	32.7	39.5
132.5°	0.0	1.4	16.4	30.0	35.4
135°	0.0	1.4	13.6	25.9	32.7
137.5°	0.0	0.0	12.3	23.2	28.6
140°	0.0	0.0	9.5	20.4	25.9
142.5°	1.4	0.0	8.2	17.7	21.8
145°	1.4	0.0	5.5	15.0	19.1
147.5°	1.4	1.4	4.1	12.3	15.0
150°	1.4	1.4	2.7	8.2	12.3
152.5°	1.4	1.4	1.4	5.5	8.2
155°	1.4	1.4	0.0	4.1	5.5
157.5°	1.4	1.4	0.0	1.4	2.7
160°	1.4	1.4	0.0	0.0	1.4
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	14.92	16.48	15.38	16.92	17.39	16.95	18.50	17.41	18.94	19.41
	3H	16.41	17.83	16.89	18.28	18.79	19.38	20.79	19.85	21.24	21.75
	4H	16.89	18.23	17.38	18.70	19.22	20.56	21.90	21.05	22.37	22.89
	6H	17.17	18.41	17.67	18.90	19.44	21.79	23.04	22.30	23.53	24.07
	8H	17.22	18.41	17.74	18.92	19.47	22.44	23.63	22.96	24.14	24.69
	12H	17.23	18.38	17.76	18.88	19.46	23.16	24.30	23.68	24.80	25.38
4H	2H	15.80	17.14	16.29	17.61	18.13	17.38	18.72	17.87	19.19	19.71
	3H	17.52	18.67	18.03	19.18	19.73	20.03	21.17	20.54	21.69	22.23
	4H	18.12	19.17	18.65	19.69	20.27	21.38	22.43	21.91	22.95	23.53
	6H	18.52	19.44	19.06	19.99	20.58	22.81	23.73	23.35	24.28	24.87
	8H	18.61	19.48	19.16	20.03	20.63	23.55	24.42	24.10	24.97	25.58
	12H	18.65	19.44	19.23	20.02	20.63	24.40	25.18	24.97	25.76	26.37
8H	4H	18.78	19.65	19.33	20.20	20.81	21.59	22.46	22.14	23.01	23.62
	6H	19.35	20.09	19.94	20.68	21.29	23.18	23.92	23.77	24.51	25.12
	8H	19.53	20.19	20.12	20.80	21.42	24.07	24.73	24.66	25.33	25.96
	12H	19.64	20.23	20.24	20.82	21.51	25.09	25.68	25.69	26.28	26.97
12H	4H	18.97	19.76	19.54	20.34	20.95	21.60	22.39	22.17	22.97	23.58
	6H	19.63	20.30	20.23	20.90	21.52	23.22	23.88	23.81	24.48	25.11
	8H	19.90	20.49	20.50	21.09	21.78	24.17	24.76	24.77	25.35	26.04

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

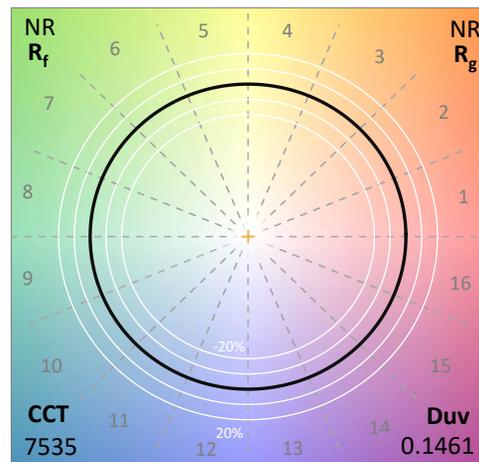
**Test Information**

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  
 CIE u': 0.0718  
 CIE v': 0.5710  
 Duv: 0.1461  
 CIE x: 0.1962  
 CIE y: 0.6931  
 CIE z: 0.1107  
 Peak Wavelength (nm): 524  
 Dominant Wavelength (nm): 529  
 Purity: 75.95236  
 Rf: NR  
 Rg: NR

CRI (Ra):	-11.7		
R1:	-30.6	R9:	-351.9
R2:	5.1	R10:	-75.5
R3:	5.6	R11:	-78.0
R4:	-51.7	R12:	-14.7
R5:	-6.4	R13:	-32.5
R6:	-0.6	R14:	52.7
R7:	10.9	R15:	-37.0
R8:	-25.8		



**Test Conditions**

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

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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**



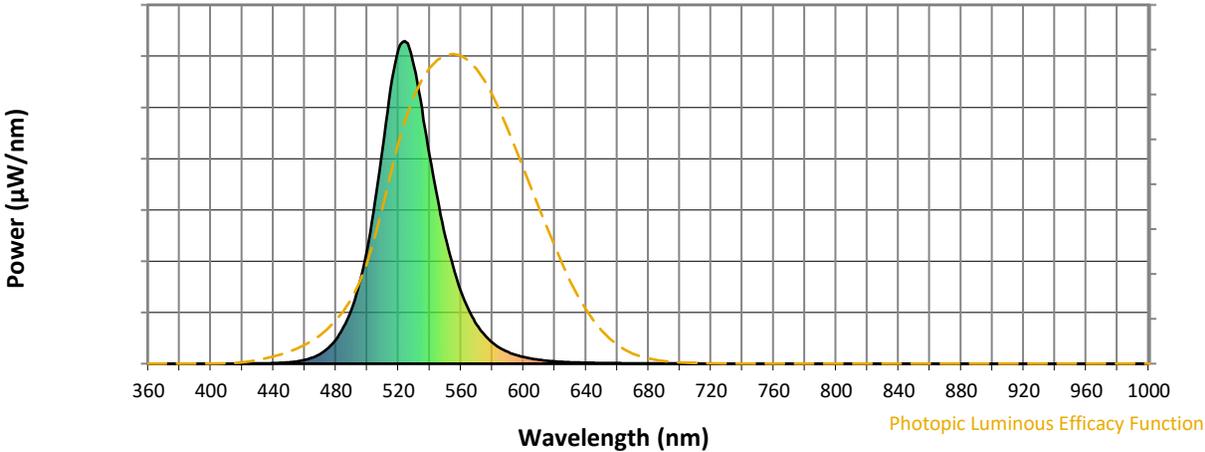
**CIE 1931 Chromaticity Diagram with 2017 ANSI 7-Step and 4-Step Quadrangles**



Point lies outside the range

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**Photopic Flux vs. Wavelength**



**Photopic Lumens: NR**

λ (nm)	Power W <sup>^</sup> /nm	Lumens (φ/nm)	λ (nm)	Power W <sup>^</sup> /nm	Lumens (φ/nm)	λ (nm)	Power W <sup>^</sup> /nm	Lumens (φ/nm)	λ (nm)	Power W <sup>^</sup> /nm	Lumens (φ/nm)	λ (nm)	Power W <sup>^</sup> /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			

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**Scotopic Flux vs. Wavelength**



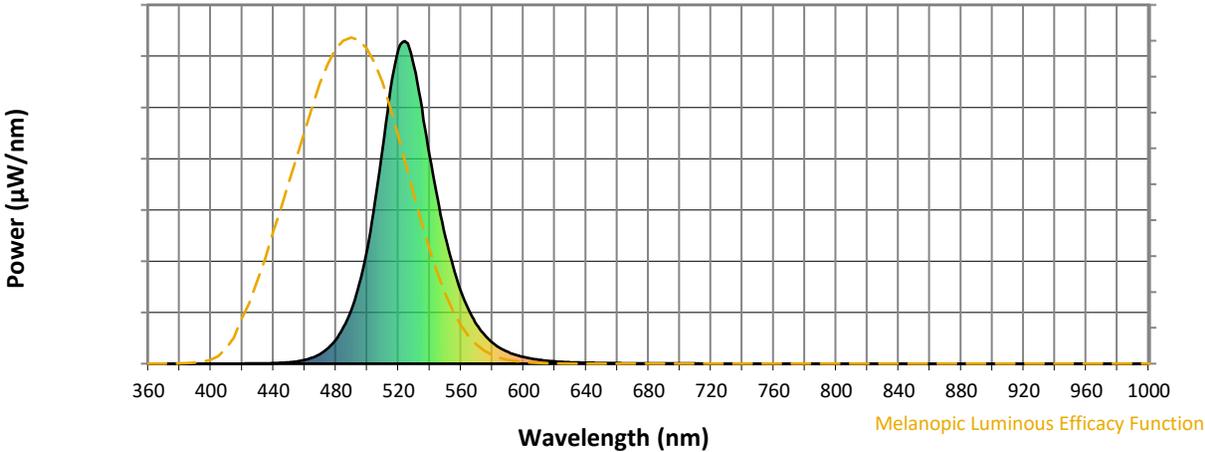
**Scotopic Lumens: NR**

**S/P: 2.63**

λ (nm)	Power W <sup>^</sup> /nm	Lumens (φ/nm)	λ (nm)	Power W <sup>^</sup> /nm	Lumens (φ/nm)	λ (nm)	Power W <sup>^</sup> /nm	Lumens (φ/nm)	λ (nm)	Power W <sup>^</sup> /nm	Lumens (φ/nm)	λ (nm)	Power W <sup>^</sup> /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			

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Melanopic Flux vs. Wavelength



Melanopic Luminous Efficacy Function

Melanopic Lumens: NR

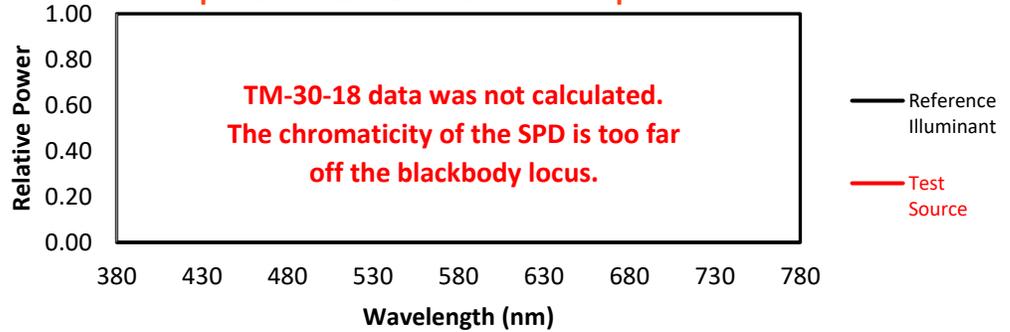
M/P: 4.87

λ (nm)	Power W <sup>^</sup> /nm	Lumens (φ/nm)	λ (nm)	Power W <sup>^</sup> /nm	Lumens (φ/nm)	λ (nm)	Power W <sup>^</sup> /nm	Lumens (φ/nm)	λ (nm)	Power W <sup>^</sup> /nm	Lumens (φ/nm)	λ (nm)	Power W <sup>^</sup> /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			

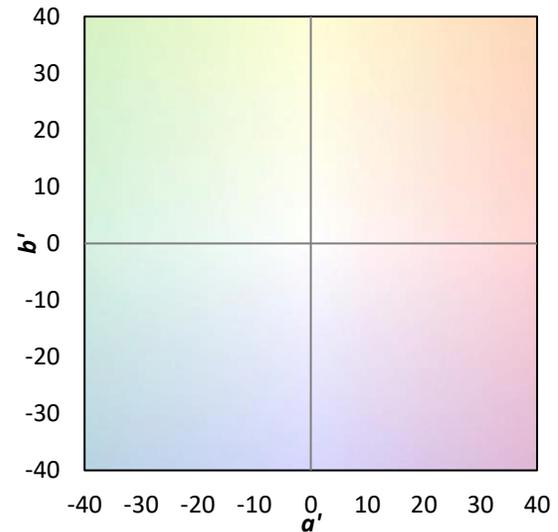
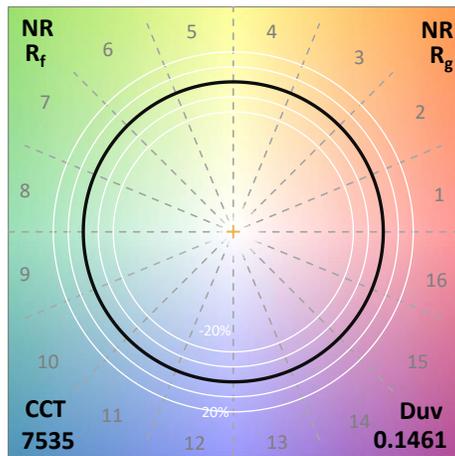
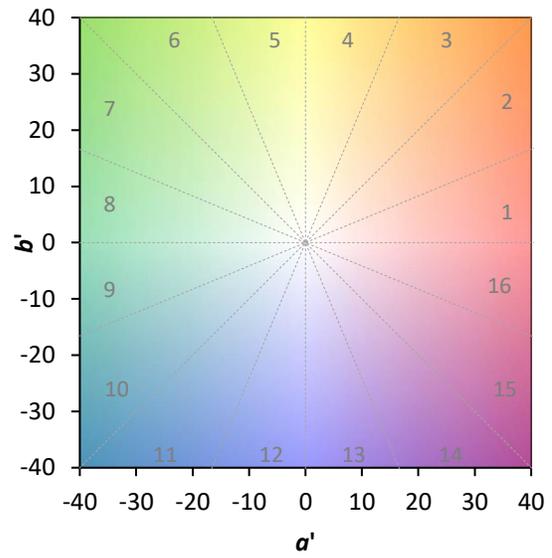
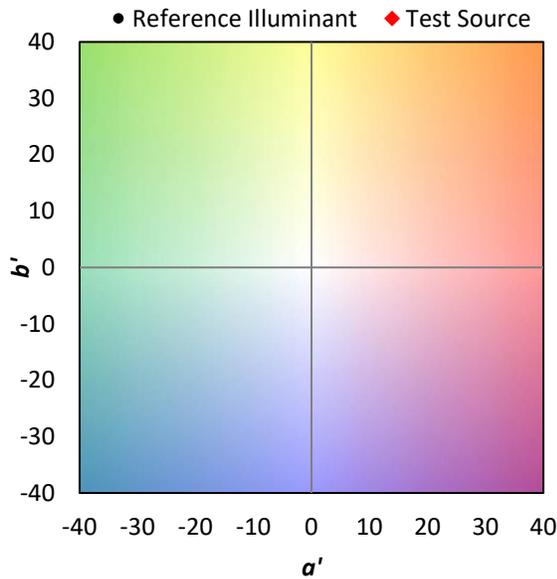
**Summary**

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

**Spectral Power Distribution Comparison**

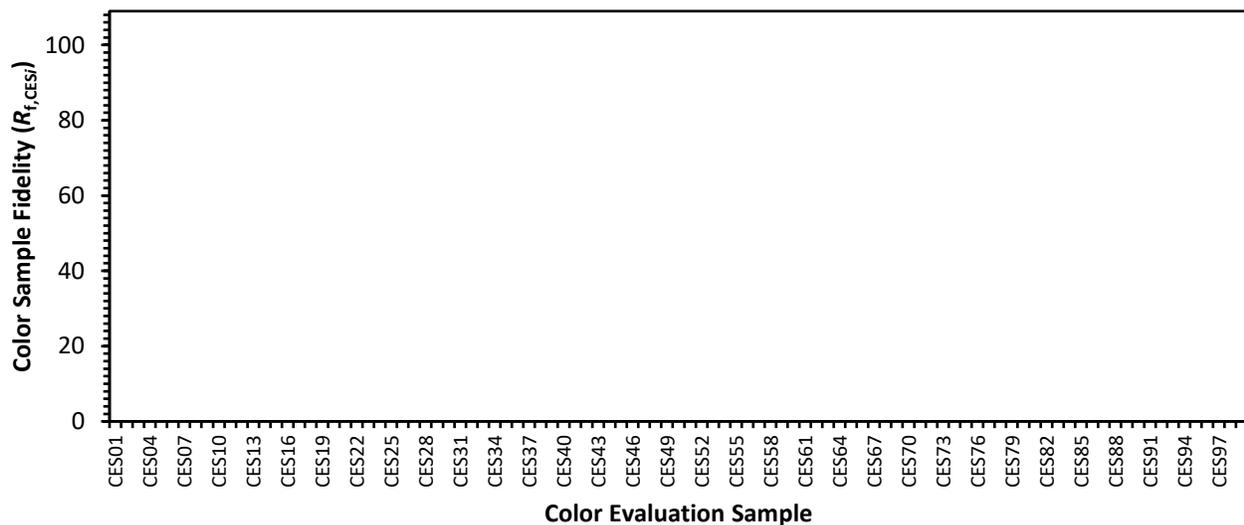


**Color Vector Graphics**



**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	



Color Rendition by Hue-Angle Bin



Measure Comparisons



(END OF REPORT)