

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: P1356987

Luminaire Tested: 3ASL4-10-1-R63-UNV

Issue Date: 2/17/2026

**Test Information**

Test Method: LM-79-2019  
Report Number: P1356987  
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: 3ASL4-10-1-R63-UNV  
Description: 3FT 1000 LUMEN PER FOOT 4ASL LED LUMINAIRE WITH OPL LENS AND R63 LEDS 1 ROW  
Light Source: -  
Ballast/Driver: -

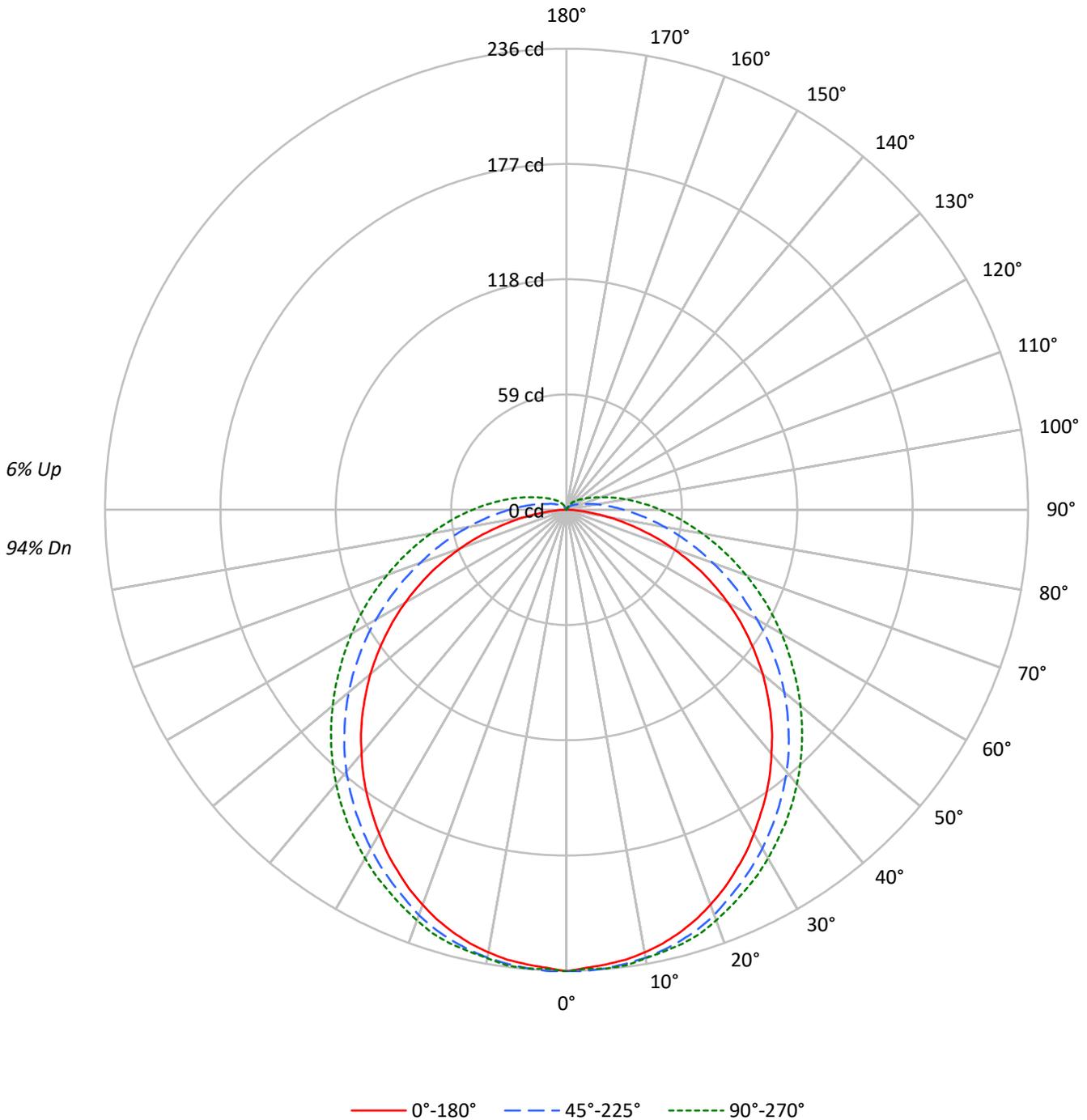
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 791.0 lumens  
Efficiency: N/A  
Efficacy: 40.6 lumens/watt  
Spacing Criteria (0/90/45): 1.21 / 1.3 / 1.39  
Luminous Opening: Rectangular w/ Sides (W: 0.33' x L: 2.98' x H: 0.1')  
CIE Type: Direct

Input Watts (W): 19.5  
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

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### Luminous Intensity Polar Plot





TEST NUMBER: P1356987

CATALOG NUMBER: 3ASL4-10-1-R63-UNV

**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°	2561	2561	2561
5°	2534	2508	2496
10°	2517	2456	2432
15°	2490	2401	2381
20°	2451	2338	2317
25°	2403	2263	2248
30°	2351	2194	2185
35°	2299	2125	2121
40°	2241	2054	2055
45°	2185	1976	1988
50°	2121	1897	1918
55°	2039	1806	1848
60°	1950	1711	1786
65°	1837	1611	1725
70°	1663	1506	1664
75°	1437	1414	1618
80°	1125	1330	1590
85°	640	1274	1599

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 2185 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	22.4	2.8
10°-20°	64.2	8.1
20°-30°	97.1	12.3
30°-40°	117.4	14.8
40°-50°	123.4	15.6
50°-60°	115.0	14.5
60°-70°	94.5	11.9
70°-80°	67.0	8.5
80°-90°	40.4	5.1
90°-100°	22.6	2.9
100°-110°	12.5	1.6
110°-120°	7.0	0.9
120°-130°	4.0	0.5
130°-140°	2.2	0.3
140°-150°	1.0	0.1
150°-160°	0.2	0.0
160°-170°	0.0	0.0
170°-180°	0.0	0.0
<b>0°-30°</b>	<b>183.7</b>	<b>23.2</b>
<b>0°-40°</b>	<b>301.1</b>	<b>38.1</b>
<b>0°-60°</b>	<b>539.5</b>	<b>68.2</b>
<b>0°-90°</b>	<b>741.4</b>	<b>93.7</b>
90°-120°	42.2	5.3
90°-150°	49.4	6.2
<b>90°-180°</b>	<b>50.0</b>	<b>6.3</b>
<b>0°-180°</b>	<b>791.0</b>	<b>100.0</b>

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	236	236	236	236	236	
5°	234	236	236	235	236	22
15°	224	227	228	229	230	63
25°	204	208	211	214	215	94
35°	178	182	188	193	195	111
45°	148	153	161	167	170	114
55°	113	120	129	138	141	101
65°	77	84	96	107	112	76
75°	39	49	65	78	84	41
85°	7	21	39	54	59	9
90°	0	12	29	43	48	0
95°	0	7	21	34	38	0
105°	0	3	11	20	24	0
115°	0	1	7	12	15	0
125°	0	1	4	8	9	0
135°	0	0	3	5	6	0
145°	0	0	1	3	4	0
155°	0	0	0	1	1	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°	236.3	236.3	236.3	236.3	236.3
2.5°	234.7	236.8	236.3	235.2	235.2
5°	233.6	235.7	235.5	235.2	235.7
7.5°	232.3	234.4	234.4	234.7	235.2
10°	230.1	232.8	232.8	232.8	233.1
12.5°	227.4	230.1	230.7	230.9	231.5
15°	224.0	226.9	228.0	229.0	229.9
17.5°	220.0	222.9	224.8	226.1	227.4
20°	215.2	218.4	220.8	222.4	223.7
22.5°	210.1	213.3	215.7	218.1	219.7
25°	204.2	207.9	210.9	213.8	215.4
27.5°	198.3	202.1	205.8	209.3	211.1
30°	191.6	195.9	200.2	204.2	206.1
32.5°	184.7	189.2	194.3	198.6	200.7
35°	178.0	182.5	188.2	193.0	195.4
37.5°	170.8	175.3	181.7	187.1	189.5
40°	163.0	168.1	175.1	180.7	183.3
42.5°	155.6	160.6	168.1	174.3	176.9
45°	147.5	152.9	160.6	167.3	170.2
47.5°	139.2	144.9	153.1	160.1	163.3
50°	131.0	136.8	145.4	152.9	156.1
52.5°	122.1	128.3	137.4	145.4	148.9
55°	113.3	119.7	129.1	137.6	141.4
57.5°	104.5	110.9	121.1	130.2	134.2
60°	95.4	102.1	112.5	122.4	127.0
62.5°	86.1	93.0	104.0	114.7	119.5
65°	77.0	83.9	95.9	107.2	112.3
67.5°	67.4	74.8	87.7	99.4	104.8
70°	57.5	66.0	79.6	92.2	97.6
72.5°	48.6	57.5	72.2	85.0	90.6
75°	38.8	48.6	64.7	78.0	83.7
77.5°	30.2	40.9	57.7	71.4	77.0
80°	21.6	33.4	51.0	64.9	70.6
82.5°	13.9	26.7	44.9	59.1	64.4
85°	7.2	20.8	39.0	53.5	58.8
87.5°	2.1	16.0	33.7	47.8	53.2
90°	0.0	12.3	29.1	42.8	47.8
92.5°	0.0	9.4	25.1	38.2	43.3
95°	0.0	7.2	21.4	33.7	38.5
97.5°	0.0	5.6	18.4	29.7	34.5
100°	0.0	4.5	15.8	26.2	30.7
102.5°	0.0	3.7	13.6	23.3	27.3
105°	0.0	2.7	11.2	20.3	24.1
107.5°	0.0	1.9	9.9	17.9	21.1
110°	0.0	1.6	8.8	15.5	18.7



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**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°
112.5°	0.0	1.3	7.8	13.9	16.6
115°	0.0	1.3	6.9	12.3	14.7
117.5°	0.0	1.1	5.9	11.0	13.1
120°	0.0	1.1	5.3	9.9	11.8
122.5°	0.0	0.8	4.8	8.8	10.7
125°	0.0	0.8	4.3	8.0	9.4
127.5°	0.0	0.5	3.7	7.2	8.6
130°	0.0	0.5	3.5	6.4	7.8
132.5°	0.0	0.3	3.2	5.9	6.9
135°	0.0	0.3	2.7	5.1	6.4
137.5°	0.0	0.0	2.4	4.5	5.6
140°	0.0	0.0	1.9	4.0	5.1
142.5°	0.3	0.0	1.6	3.5	4.3
145°	0.3	0.0	1.1	2.9	3.7
147.5°	0.3	0.3	0.8	2.4	2.9
150°	0.3	0.3	0.5	1.6	2.4
152.5°	0.3	0.3	0.3	1.1	1.6
155°	0.3	0.3	0.0	0.8	1.1
157.5°	0.3	0.3	0.0	0.3	0.5
160°	0.3	0.3	0.0	0.0	0.3
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	12.66	14.21	13.12	14.66	15.12	14.62	16.17	15.08	16.61	17.08
	3H	14.15	15.57	14.63	16.02	16.53	17.02	18.43	17.49	18.88	19.39
	4H	14.63	15.97	15.12	16.44	16.96	18.17	19.51	18.66	19.98	20.50
	6H	14.91	16.16	15.41	16.64	17.18	19.36	20.61	19.87	21.09	21.63
	8H	14.96	16.15	15.48	16.66	17.21	19.97	21.17	20.49	21.67	22.22
	12H	14.97	16.12	15.50	16.62	17.20	20.63	21.78	21.15	22.28	22.85
4H	2H	13.52	14.86	14.01	15.33	15.85	15.05	16.39	15.55	16.86	17.39
	3H	15.25	16.39	15.75	16.90	17.45	17.67	18.82	18.18	19.33	19.88
	4H	15.85	16.89	16.37	17.42	18.00	19.00	20.04	19.52	20.57	21.14
	6H	16.24	17.17	16.79	17.72	18.31	20.38	21.30	20.92	21.85	22.44
	8H	16.34	17.20	16.89	17.76	18.36	21.09	21.96	21.64	22.51	23.11
	12H	16.38	17.17	16.95	17.75	18.36	21.87	22.66	22.45	23.24	23.85
8H	4H	16.49	17.36	17.04	17.91	18.52	19.21	20.08	19.76	20.63	21.23
	6H	17.06	17.80	17.64	18.39	19.00	20.76	21.49	21.34	22.09	22.70
	8H	17.24	17.90	17.83	18.50	19.13	21.61	22.27	22.20	22.88	23.50
	12H	17.35	17.94	17.94	18.53	19.22	22.58	23.17	23.17	23.76	24.45
12H	4H	16.67	17.46	17.24	18.04	18.65	19.22	20.01	19.79	20.59	21.20
	6H	17.33	17.99	17.93	18.60	19.22	20.79	21.46	21.39	22.06	22.69
	8H	17.60	18.19	18.20	18.78	19.48	21.71	22.30	22.31	22.90	23.59

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

**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  
 CIE u': 0.5395  
 CIE v': 0.5190  
 Duv: 0.0000  
 CIE x: 0.7004  
 CIE y: 0.2995  
 CIE z: 0.0001  
 Peak Wavelength (nm): 638  
 Dominant Wavelength (nm): 624  
 Purity: 99.9862  
 Rf: NR  
 Rg: NR

CRI (Ra): 0.0  
 R1: 0.0  
 R2: 0.0  
 R3: 0.0  
 R4: 0.0  
 R5: 0.0  
 R6: 0.0  
 R7: 0.0  
 R8: 0.0  
 R9: 0.0  
 R10: 0.0  
 R11: 0.0  
 R12: 0.0  
 R13: 0.0  
 R14: 0.0  
 R15: 0.0



**Test Conditions**

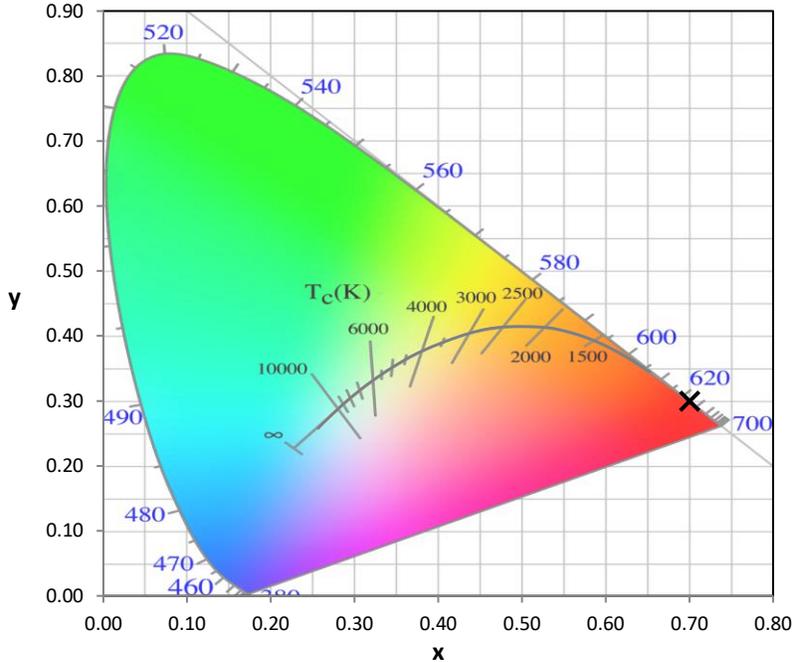
Stabilization Time: 69M  
 Operation Time: 2H 9M  
 Sphere Temperature (°C): 25.1

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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

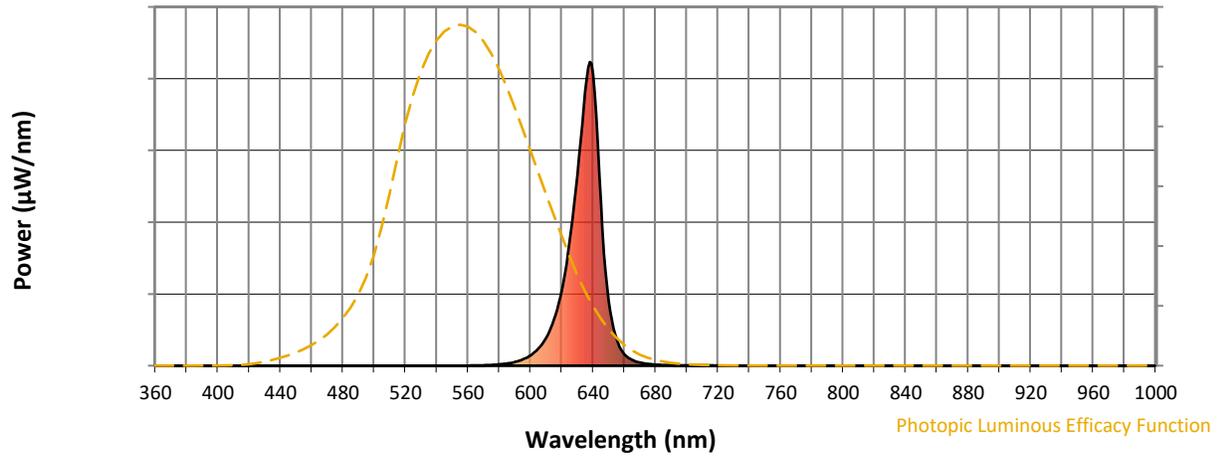


CCT = 0K  
 CIE x = 0.7004  
 CIE y = 0.2995  
 Duv = 0.0000

Point lies outside the range

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**Photopic Flux vs. Wavelength**

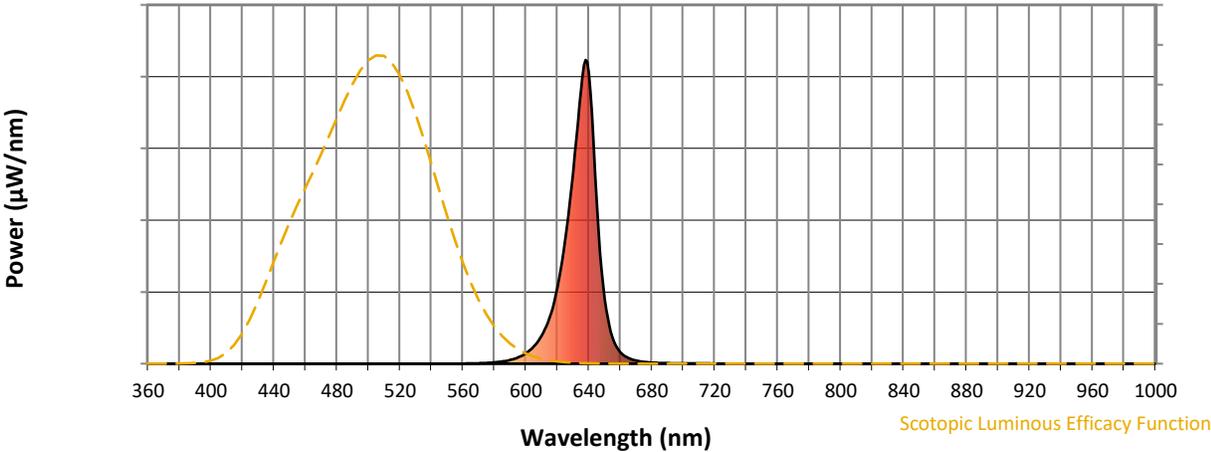


**Photopic Lumens: NR**

$\lambda$ (nm)	Power W <sup>^</sup> /nm	Lumens ( $\phi$ /nm)	$\lambda$ (nm)	Power W <sup>^</sup> /nm	Lumens ( $\phi$ /nm)	$\lambda$ (nm)	Power W <sup>^</sup> /nm	Lumens ( $\phi$ /nm)	$\lambda$ (nm)	Power W <sup>^</sup> /nm	Lumens ( $\phi$ /nm)	$\lambda$ (nm)	Power W <sup>^</sup> /nm	Lumens ( $\phi$ /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**

$\lambda$ (nm)	Power $W/\text{nm}$	Lumens $(\phi/\text{nm})$	$\lambda$ (nm)	Power $W/\text{nm}$	Lumens $(\phi/\text{nm})$	$\lambda$ (nm)	Power $W/\text{nm}$	Lumens $(\phi/\text{nm})$	$\lambda$ (nm)	Power $W/\text{nm}$	Lumens $(\phi/\text{nm})$	$\lambda$ (nm)	Power $W/\text{nm}$	Lumens $(\phi/\text{nm})$
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 <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	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			

**Summary**

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



**Color Vector Graphics**



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

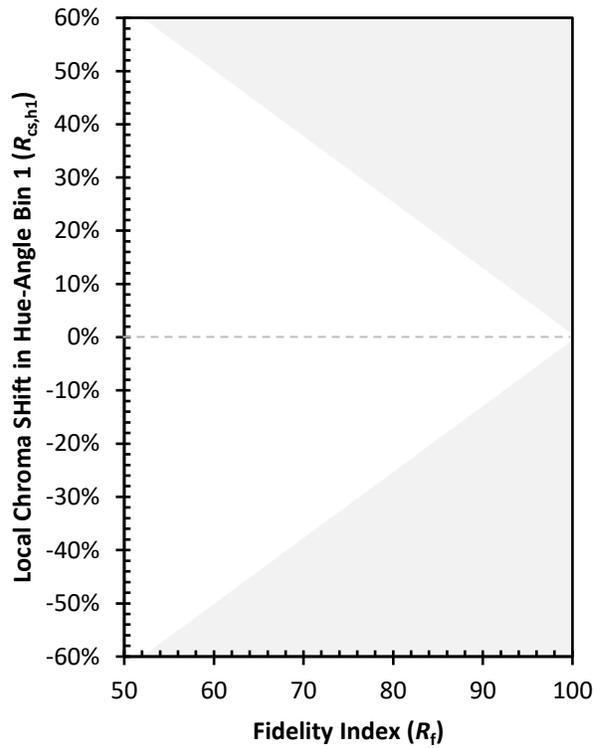
CES01 = 0	CES26 = 0	CES51 = 0	CES76 = 0
CES02 = 0	CES27 = 0	CES52 = 0	CES77 = 0
CES03 = 0	CES28 = 0	CES53 = 0	CES78 = 0
CES04 = 0	CES29 = 0	CES54 = 0	CES79 = 0
CES05 = 0	CES30 = 0	CES55 = 0	CES80 = 0
CES06 = 0	CES31 = 0	CES56 = 0	CES81 = 0
CES07 = 0	CES32 = 0	CES57 = 0	CES82 = 0
CES08 = 0	CES33 = 0	CES58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