

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: P1357524

Luminaire Tested: 8ASL4-30VHE-3-35-UNV

Issue Date: 2/17/2026

Test Information

Test Method: LM-79-2019
Report Number: P1357524
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: 8ASL4-30VHE-3-35-UNV
Description: 8FT 3000 LUMEN PER FOOT 4ASL LED LUMINAIRE WITH OPL LENS AND 3500K LEDS 3 ROW
Light Source: -
Ballast/Driver: -

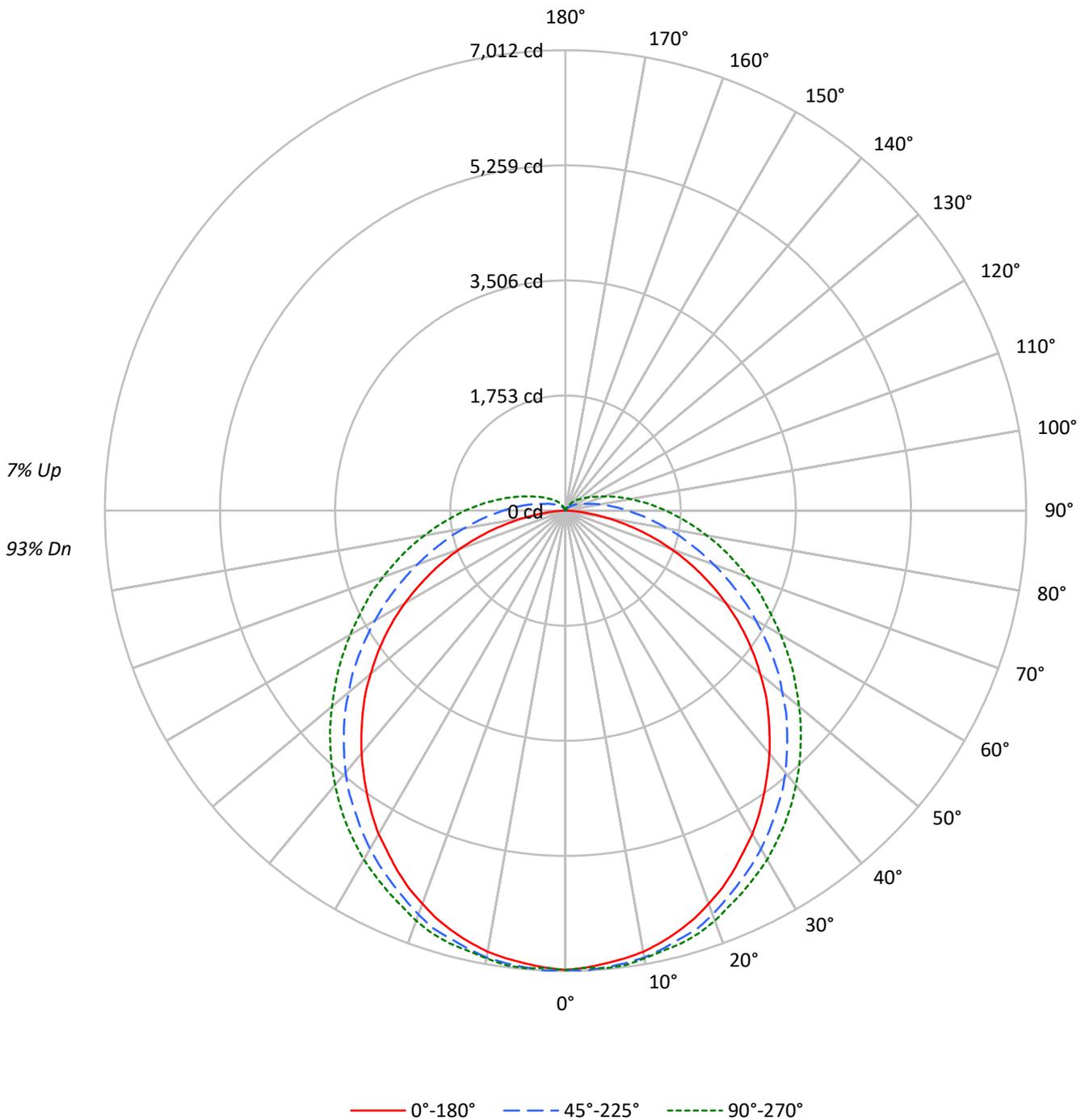
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 23792.0 lumens
Efficiency: N/A
Efficacy: 113.1 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): 210.4
Input Voltage (V): NR
Input Current (A_{in}): 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: P1357524
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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	117	117	117	117	114	114	114	114	107	107	107	101	101	101	96	96	96	96	96	96	93
1	105	100	95	91	102	97	92	88	91	88	84	86	83	80	81	79	77	77	77	77	74
2	95	86	79	72	92	84	77	71	79	73	68	75	70	66	71	67	63	63	63	63	61
3	86	75	67	60	83	73	65	59	69	62	57	65	60	55	62	57	53	53	53	53	50
4	79	66	57	50	76	65	56	49	61	54	48	58	52	47	55	50	45	45	45	45	43
5	73	59	50	43	70	58	49	42	55	47	41	52	45	40	49	44	39	39	39	39	37
6	67	53	44	37	64	52	43	37	49	42	36	47	40	35	45	39	34	34	34	34	32
7	62	48	39	33	60	47	38	32	45	37	32	43	36	31	41	35	30	30	30	30	28
8	58	44	35	29	56	43	35	29	41	34	28	39	32	28	37	32	27	27	27	27	25
9	54	40	32	26	52	39	31	26	38	30	25	36	30	25	35	29	24	24	24	24	22
10	50	37	29	24	49	36	29	23	35	28	23	33	27	23	32	26	22	22	22	22	20

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	28319	28319	28319
5°	28100	27808	27671
10°	27975	27290	26971
15°	27697	26639	26378
20°	27313	26015	25709
25°	26861	25226	24948
30°	26383	24544	24304
35°	25783	23769	23588
40°	25240	23061	22834
45°	24657	22200	22077
50°	23991	21275	21290
55°	23278	20394	20582
60°	22339	19362	19864
65°	21141	18374	19268
70°	19610	17399	18802
75°	17352	16519	18481
80°	13890	15883	18345
85°	8816	15813	18617

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 24657 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	663.5	2.8
10°-20°	1905.2	8.0
20°-30°	2880.5	12.1
30°-40°	3487.8	14.7
40°-50°	3663.3	15.4
50°-60°	3417.7	14.4
60°-70°	2824.5	11.9
70°-80°	2033.7	8.5
80°-90°	1263.8	5.3
90°-100°	740.5	3.1
100°-110°	423.6	1.8
110°-120°	239.2	1.0
120°-130°	137.6	0.6
130°-140°	74.1	0.3
140°-150°	31.2	0.1
150°-160°	5.8	0.0
160°-170°	0.0	0.0
170°-180°	0.0	0.0
0°-30°	5449.2	22.9
0°-40°	8937.0	37.6
0°-60°	16018.0	67.3
0°-90°	22139.9	93.1
90°-120°	1403.3	5.9
90°-150°	1646.3	6.9
90°-180°	1652.0	6.9
0°-180°	23792.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	6998	6998	6998	6998	6998	
5°	6925	6983	6983	6983	6998	658
15°	6634	6721	6750	6794	6823	1870
25°	6052	6154	6256	6343	6401	2788
35°	5266	5412	5586	5746	5819	3297
45°	4364	4524	4772	4975	5063	3367
55°	3361	3550	3841	4117	4219	3003
65°	2270	2488	2866	3230	3361	2246
75°	1164	1455	1964	2386	2560	1231
85°	218	655	1237	1673	1833	267
90°	0	393	946	1353	1528	10
95°	0	247	713	1091	1251	0
105°	0	87	393	684	800	0
115°	0	44	233	422	495	0
125°	0	29	146	276	320	0
135°	0	0	87	175	218	0
145°	0	0	44	102	116	0
155°	0	0	0	29	44	0
165°	0	0	0	0	0	0
175°	0	0	0	0	0	0
180°	0	0	0	0	0	0



TEST NUMBER: P1357524

CATALOG NUMBER: 8ASL4-30VHE-3-35-UNV

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	6997.5	6997.5	6997.5	6997.5	6997.5
2.5°	6968.5	7012.1	7012.1	6968.5	6968.5
5°	6924.8	6983.0	6983.0	6983.0	6997.5
7.5°	6881.2	6953.9	6953.9	6953.9	6983.0
10°	6823.0	6895.7	6910.3	6910.3	6924.8
12.5°	6735.7	6823.0	6837.5	6852.1	6866.6
15°	6633.8	6721.1	6750.2	6793.9	6823.0
17.5°	6517.5	6619.3	6677.5	6721.1	6750.2
20°	6372.0	6473.8	6546.6	6604.8	6648.4
22.5°	6226.5	6313.8	6401.1	6473.8	6517.5
25°	6051.9	6153.8	6255.6	6342.9	6401.1
27.5°	5862.8	5979.2	6110.1	6212.0	6270.2
30°	5688.2	5804.6	5950.1	6081.0	6139.2
32.5°	5484.6	5615.5	5775.5	5906.5	5979.2
35°	5266.3	5411.8	5586.4	5746.4	5819.2
37.5°	5048.1	5193.6	5411.8	5571.9	5644.6
40°	4829.9	4975.4	5208.2	5382.7	5455.5
42.5°	4597.1	4742.6	4989.9	5179.1	5266.3
45°	4364.4	4524.4	4771.7	4975.4	5062.7
47.5°	4131.6	4291.6	4553.5	4771.7	4859.0
50°	3869.7	4044.3	4306.2	4553.5	4640.8
52.5°	3622.4	3797.0	4088.0	4335.3	4422.6
55°	3360.6	3549.7	3840.6	4117.1	4218.9
57.5°	3098.7	3287.8	3593.3	3884.3	4000.7
60°	2822.3	3026.0	3346.0	3651.5	3782.5
62.5°	2545.9	2764.1	3113.3	3433.3	3564.2
65°	2269.5	2487.7	2865.9	3229.6	3360.6
67.5°	1993.1	2225.8	2633.2	3011.4	3171.4
70°	1716.7	1964.0	2400.4	2793.2	2953.2
72.5°	1440.2	1702.1	2182.2	2589.5	2749.6
75°	1163.8	1454.8	1964.0	2385.9	2560.4
77.5°	887.4	1222.0	1774.8	2196.7	2371.3
80°	640.1	1018.4	1571.2	2007.6	2182.2
82.5°	407.3	814.7	1396.6	1833.0	2007.6
85°	218.2	654.7	1236.6	1673.0	1833.0
87.5°	72.7	509.2	1076.5	1513.0	1673.0
90°	0.0	392.8	945.6	1353.0	1527.5
92.5°	0.0	305.5	829.2	1222.0	1382.1
95°	0.0	247.3	712.8	1091.1	1251.1
97.5°	0.0	203.7	625.6	974.7	1120.2
100°	0.0	160.0	538.3	872.9	1003.8
102.5°	0.0	130.9	465.5	771.0	902.0
105°	0.0	87.3	392.8	683.8	800.1
107.5°	0.0	72.7	334.6	611.0	712.8
110°	0.0	58.2	305.5	523.7	625.6



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	0.0	43.6	276.4	465.5	567.4
115°	0.0	43.6	232.8	421.9	494.6
117.5°	0.0	43.6	203.7	378.2	451.0
120°	0.0	29.1	189.1	334.6	407.3
122.5°	0.0	29.1	160.0	305.5	363.7
125°	0.0	29.1	145.5	276.4	320.1
127.5°	0.0	14.5	130.9	247.3	291.0
130°	0.0	14.5	116.4	218.2	261.9
132.5°	0.0	14.5	101.8	203.7	247.3
135°	0.0	0.0	87.3	174.6	218.2
137.5°	0.0	0.0	72.7	160.0	189.1
140°	0.0	0.0	58.2	130.9	174.6
142.5°	0.0	0.0	43.6	116.4	145.5
145°	0.0	0.0	43.6	101.8	116.4
147.5°	0.0	0.0	29.1	72.7	101.8
150°	0.0	0.0	14.5	58.2	72.7
152.5°	0.0	0.0	0.0	43.6	58.2
155°	0.0	0.0	0.0	29.1	43.6
157.5°	0.0	0.0	0.0	0.0	14.5
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	20.96	22.50	21.43	22.96	23.44	23.03	24.57	23.50	25.03	25.51
	3H	22.46	23.87	22.94	24.33	24.85	25.52	26.92	26.00	27.39	27.91
	4H	22.94	24.27	23.44	24.75	25.29	26.73	28.06	27.23	28.54	29.08
	6H	23.22	24.46	23.73	24.95	25.51	28.01	29.25	28.52	29.75	30.30
	8H	23.27	24.46	23.80	24.98	25.54	28.68	29.87	29.21	30.39	30.95
	12H	23.28	24.42	23.82	24.93	25.52	29.43	30.57	29.96	31.08	31.67
4H	2H	21.85	23.18	22.35	23.66	24.20	23.47	24.80	23.97	25.28	25.82
	3H	23.58	24.72	24.10	25.24	25.81	26.17	27.31	26.69	27.83	28.39
	4H	24.19	25.23	24.72	25.76	26.36	27.56	28.60	28.09	29.13	29.73
	6H	24.59	25.50	25.14	26.06	26.67	29.03	29.95	29.58	30.51	31.12
	8H	24.68	25.54	25.24	26.10	26.72	29.80	30.67	30.36	31.23	31.85
	12H	24.72	25.51	25.31	26.10	26.72	30.68	31.46	31.26	32.05	32.67
8H	4H	24.88	25.74	25.44	26.30	26.92	27.77	28.64	28.33	29.20	29.82
	6H	25.46	26.19	26.05	26.79	27.42	29.41	30.14	30.01	30.75	31.37
	8H	25.64	26.30	26.24	26.91	27.55	30.33	30.99	30.93	31.60	32.24
	12H	25.76	26.34	26.36	26.95	27.65	31.39	31.98	31.99	32.58	33.28
12H	4H	25.08	25.86	25.66	26.45	27.08	27.78	28.56	28.36	29.15	29.78
	6H	25.76	26.42	26.36	27.03	27.67	29.45	30.11	30.05	30.73	31.36
	8H	26.04	26.63	26.64	27.23	27.94	30.43	31.02	31.04	31.63	32.33

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

Report Prepared for

Cooper Lighting Solutions

Fail-Safe

Report Number: SP1-2511-597-1

Test Date: 11/17/2025

Luminaire Tested: 4ASL-2-35-UNV-OPL-1_600mA

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

Test Information

Test Method: LM-79-2019
 Report Number: SP1-2511-597-1
 Test Lab: COOPER LIGHTING SOLUTIONS
 Photometer: SP1 - 76IN SPHERE
 Measurement Geometry: 4π
 Issue Date: 11/18/2025
 Manufacturer: COOPER LIGHTING SOLUTIONS
 Product Line: Fail-Safe
 Catalog Number: **4ASL-2-35-UNV-OPL-1_600mA**
 Description: 2foot 4ASL LED LUMINAIRE WITH OPL LENS AND 3500K LEDs with 1 rows at 600mA

Spectral Parameters

CCT (K): 3487
 CIE u': 0.2366
 CIE v': 0.5099
 Duv: -0.0012
 CIE x: 0.4047
 CIE y: 0.3876
 CIE z: 0.2077
 Peak Wavelength (nm): 630
 Dominant Wavelength (nm): 581
 Purity: 37.79273
 R_f: 90
 R_g: 102.4

CRI (Ra):	92.5		
R1:	94.7	R9:	61.3
R2:	94.3	R10:	85.5
R3:	92.9	R11:	93.7
R4:	93.3	R12:	80.8
R5:	93.9	R13:	94.3
R6:	93.4	R14:	95.1
R7:	92.5	R15:	90.9
R8:	85.2		



Test Conditions

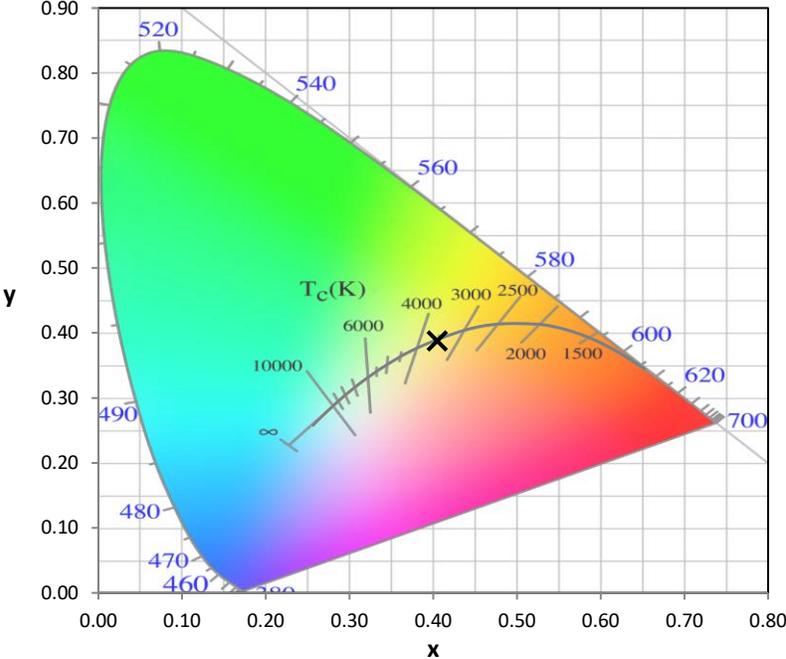
Stabilization Time: 31M
 Operation Time: 1H 31M
 Sphere Temperature (°C): 24.1

REPORT NUMBER: SP1-2511-597-1

Measurement and Test Equipment			
Instrument	Identification Number	Calibration Date	Calibration Due Date
Photometer	76INCH SPHERE IN0058	6/16/2025	12/16/2025
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 inside the ANSI 3500K 4-step quadrangle

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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	122	NR	620	322	NR	750	8	NR	880	0	NR
365	0	NR	495	152	NR	625	323	NR	755	7	NR	885	0	NR
370	0	NR	500	180	NR	630	1000	NR	760	6	NR	890	0	NR
375	0	NR	505	205	NR	635	589	NR	765	5	NR	895	0	NR
380	0	NR	510	223	NR	640	210	NR	770	4	NR	900	0	NR
385	1	NR	515	238	NR	645	214	NR	775	4	NR	905	0	NR
390	1	NR	520	247	NR	650	181	NR	780	3	NR	910	0	NR
395	2	NR	525	252	NR	655	155	NR	785	3	NR	915	0	NR
400	3	NR	530	258	NR	660	133	NR	790	2	NR	920	0	NR
405	5	NR	535	262	NR	665	113	NR	795	2	NR	925	0	NR
410	7	NR	540	267	NR	670	104	NR	800	2	NR	930	0	NR
415	13	NR	545	271	NR	675	86	NR	805	2	NR	935	0	NR
420	24	NR	550	277	NR	680	74	NR	810	1	NR	940	0	NR
425	42	NR	555	284	NR	685	64	NR	815	1	NR	945	0	NR
430	72	NR	560	291	NR	690	55	NR	820	1	NR	950	0	NR
435	122	NR	565	296	NR	695	47	NR	825	1	NR	955	0	NR
440	207	NR	570	301	NR	700	40	NR	830	1	NR	960	0	NR
445	317	NR	575	306	NR	705	34	NR	835	1	NR	965	0	NR
450	304	NR	580	310	NR	710	29	NR	840	1	NR	970	0	NR
455	193	NR	585	315	NR	715	25	NR	845	1	NR	975	0	NR
460	149	NR	590	318	NR	720	21	NR	850	0	NR	980	0	NR
465	117	NR	595	320	NR	725	18	NR	855	0	NR	985	0	NR
470	85	NR	600	322	NR	730	15	NR	860	0	NR	990	0	NR
475	78	NR	605	325	NR	735	13	NR	865	0	NR	995	0	NR
480	84	NR	610	351	NR	740	11	NR	870	0	NR	1000	0	NR
485	98	NR	615	362	NR	745	10	NR	875	0	NR			

REPORT NUMBER: SP1-2511-597-1

Scotopic Flux vs. Wavelength



Scotopic Lumens: NR

S/P: 1.58

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	122	NR	620	322	NR	750	8	NR	880	0	NR
365	0	NR	495	152	NR	625	323	NR	755	7	NR	885	0	NR
370	0	NR	500	180	NR	630	1000	NR	760	6	NR	890	0	NR
375	0	NR	505	205	NR	635	589	NR	765	5	NR	895	0	NR
380	0	NR	510	223	NR	640	210	NR	770	4	NR	900	0	NR
385	1	NR	515	238	NR	645	214	NR	775	4	NR	905	0	NR
390	1	NR	520	247	NR	650	181	NR	780	3	NR	910	0	NR
395	2	NR	525	252	NR	655	155	NR	785	3	NR	915	0	NR
400	3	NR	530	258	NR	660	133	NR	790	2	NR	920	0	NR
405	5	NR	535	262	NR	665	113	NR	795	2	NR	925	0	NR
410	7	NR	540	267	NR	670	104	NR	800	2	NR	930	0	NR
415	13	NR	545	271	NR	675	86	NR	805	2	NR	935	0	NR
420	24	NR	550	277	NR	680	74	NR	810	1	NR	940	0	NR
425	42	NR	555	284	NR	685	64	NR	815	1	NR	945	0	NR
430	72	NR	560	291	NR	690	55	NR	820	1	NR	950	0	NR
435	122	NR	565	296	NR	695	47	NR	825	1	NR	955	0	NR
440	207	NR	570	301	NR	700	40	NR	830	1	NR	960	0	NR
445	317	NR	575	306	NR	705	34	NR	835	1	NR	965	0	NR
450	304	NR	580	310	NR	710	29	NR	840	1	NR	970	0	NR
455	193	NR	585	315	NR	715	25	NR	845	1	NR	975	0	NR
460	149	NR	590	318	NR	720	21	NR	850	0	NR	980	0	NR
465	117	NR	595	320	NR	725	18	NR	855	0	NR	985	0	NR
470	85	NR	600	322	NR	730	15	NR	860	0	NR	990	0	NR
475	78	NR	605	325	NR	735	13	NR	865	0	NR	995	0	NR
480	84	NR	610	351	NR	740	11	NR	870	0	NR	1000	0	NR
485	98	NR	615	362	NR	745	10	NR	875	0	NR			

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Melanopic Flux vs. Wavelength



Melanopic Lumens: NR

M/P: 3.15

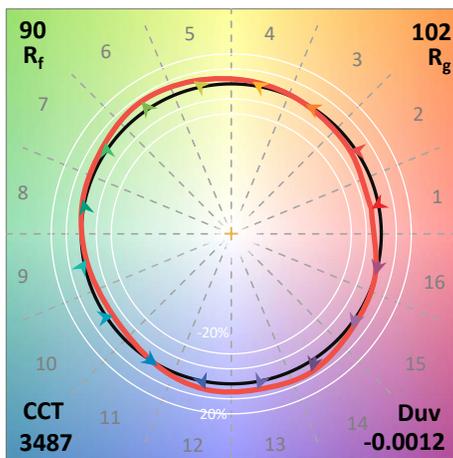
λ (nm)	Power W [^] /nm	Lumens (ϕ /nm)	λ (nm)	Power W [^] /nm	Lumens (ϕ /nm)	λ (nm)	Power W [^] /nm	Lumens (ϕ /nm)	λ (nm)	Power W [^] /nm	Lumens (ϕ /nm)	λ (nm)	Power W [^] /nm	Lumens (ϕ /nm)
360	0	NR	490	122	NR	620	322	NR	750	8	NR	880	0	NR
365	0	NR	495	152	NR	625	323	NR	755	7	NR	885	0	NR
370	0	NR	500	180	NR	630	1000	NR	760	6	NR	890	0	NR
375	0	NR	505	205	NR	635	589	NR	765	5	NR	895	0	NR
380	0	NR	510	223	NR	640	210	NR	770	4	NR	900	0	NR
385	1	NR	515	238	NR	645	214	NR	775	4	NR	905	0	NR
390	1	NR	520	247	NR	650	181	NR	780	3	NR	910	0	NR
395	2	NR	525	252	NR	655	155	NR	785	3	NR	915	0	NR
400	3	NR	530	258	NR	660	133	NR	790	2	NR	920	0	NR
405	5	NR	535	262	NR	665	113	NR	795	2	NR	925	0	NR
410	7	NR	540	267	NR	670	104	NR	800	2	NR	930	0	NR
415	13	NR	545	271	NR	675	86	NR	805	2	NR	935	0	NR
420	24	NR	550	277	NR	680	74	NR	810	1	NR	940	0	NR
425	42	NR	555	284	NR	685	64	NR	815	1	NR	945	0	NR
430	72	NR	560	291	NR	690	55	NR	820	1	NR	950	0	NR
435	122	NR	565	296	NR	695	47	NR	825	1	NR	955	0	NR
440	207	NR	570	301	NR	700	40	NR	830	1	NR	960	0	NR
445	317	NR	575	306	NR	705	34	NR	835	1	NR	965	0	NR
450	304	NR	580	310	NR	710	29	NR	840	1	NR	970	0	NR
455	193	NR	585	315	NR	715	25	NR	845	1	NR	975	0	NR
460	149	NR	590	318	NR	720	21	NR	850	0	NR	980	0	NR
465	117	NR	595	320	NR	725	18	NR	855	0	NR	985	0	NR
470	85	NR	600	322	NR	730	15	NR	860	0	NR	990	0	NR
475	78	NR	605	325	NR	735	13	NR	865	0	NR	995	0	NR
480	84	NR	610	351	NR	740	11	NR	870	0	NR	1000	0	NR
485	98	NR	615	362	NR	745	10	NR	875	0	NR			

Summary

$R_f = 90$
 $R_g = 102.4$
 CIE $R_a = 92.5$
 $R_9 = 61.3$



Color Vector Graphics

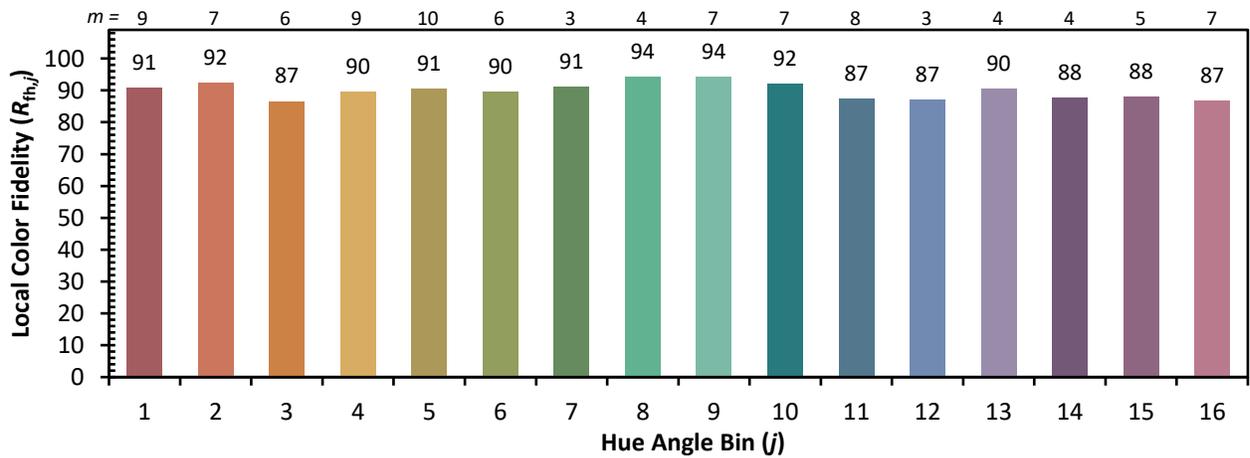
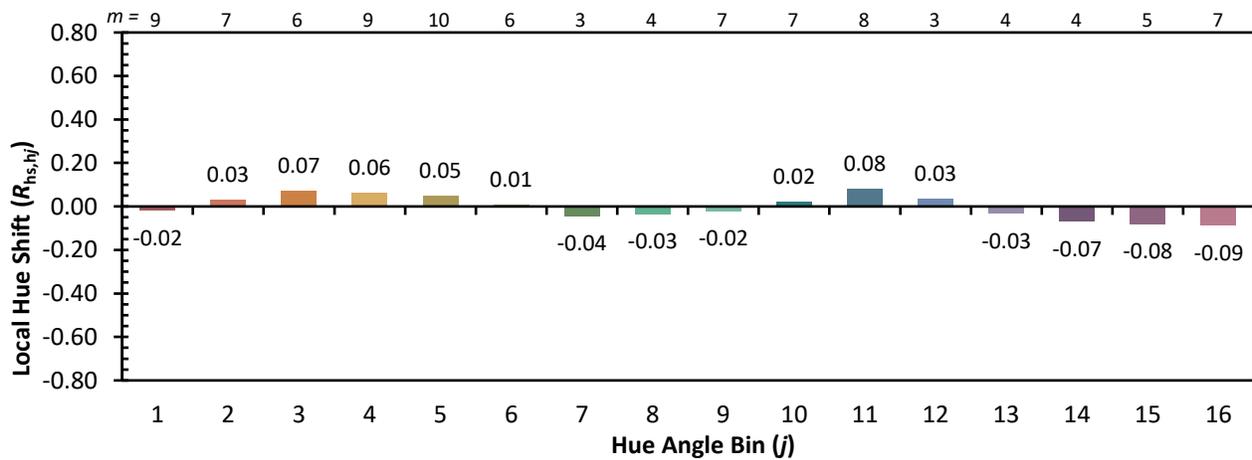
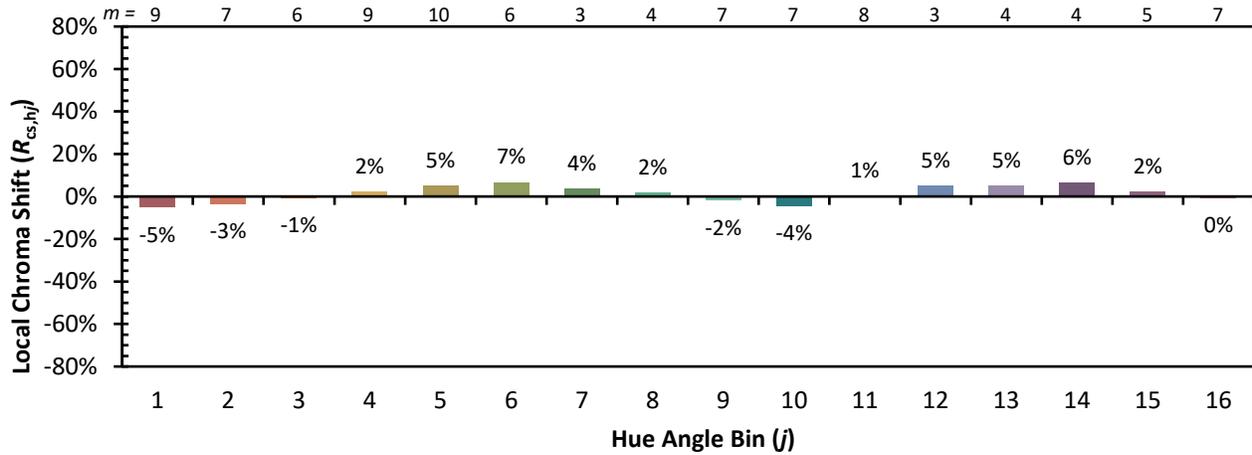


Individual Sample Fidelity Index ($R_{f,i}$)

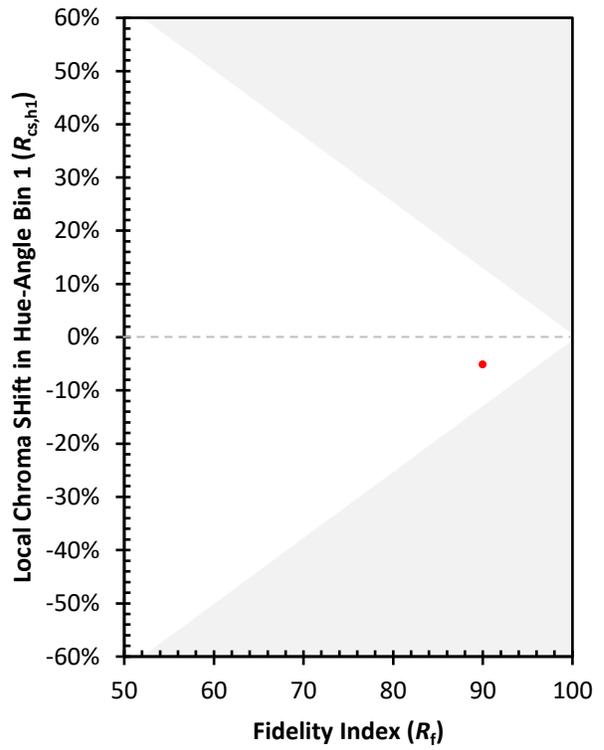
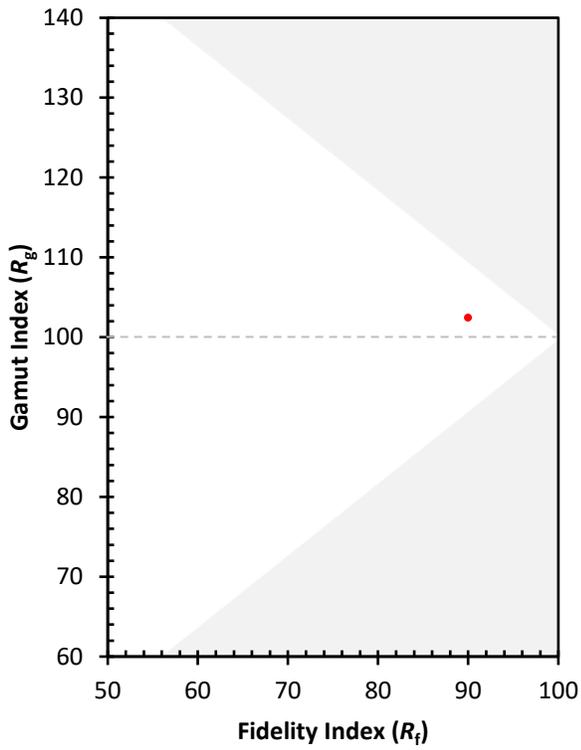
CES01 = 86	CES26 = 87	CES51 = 95	CES76 = 82
CES02 = 62	CES27 = 96	CES52 = 94	CES77 = 89
CES03 = 31	CES28 = 93	CES53 = 90	CES78 = 79
CES04 = 70	CES29 = 84	CES54 = 98	CES79 = 93
CES05 = 50	CES30 = 89	CES55 = 97	CES80 = 91
CES06 = 51	CES31 = 85	CES56 = 91	CES81 = 81
CES07 = 43	CES32 = 80	CES57 = 90	CES82 = 96
CES08 = 41	CES33 = 86	CES58 = 91	CES83 = 94
CES09 = 29	CES34 = 88	CES59 = 98	CES84 = 95
CES10 = 75	CES35 = 93	CES60 = 97	CES85 = 84
CES11 = 58	CES36 = 93	CES61 = 96	CES86 = 82
CES12 = 64	CES37 = 91	CES62 = 98	CES87 = 90
CES13 = 43	CES38 = 95	CES63 = 91	CES88 = 94
CES14 = 74	CES39 = 96	CES64 = 93	CES89 = 83
CES15 = 71	CES40 = 92	CES65 = 90	CES90 = 94
CES16 = 47	CES41 = 93	CES66 = 91	CES91 = 83
CES17 = 49	CES42 = 87	CES67 = 91	CES92 = 80
CES18 = 56	CES43 = 85	CES68 = 91	CES93 = 89
CES19 = 71	CES44 = 99	CES69 = 93	CES94 = 75
CES20 = 66	CES45 = 90	CES70 = 87	CES95 = 85
CES21 = 86	CES46 = 90	CES71 = 85	CES96 = 91
CES22 = 78	CES47 = 86	CES72 = 95	CES97 = 90
CES23 = 91	CES48 = 91	CES73 = 80	CES98 = 91
CES24 = 90	CES49 = 88	CES74 = 94	CES99 = 92
CES25 = 71	CES50 = 94	CES75 = 84	



Color Rendition by Hue-Angle Bin



Measure Comparisons



(END OF REPORT)