

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



Scaled data based on original data using
LM-79-08 Approved Method: Electrical and Photometric Measurements of Solid-State
Lighting Products

Test Report Prepared for

Cooper Lighting Solutions

(formerly Eaton)

Brand: METALUX

Report Number: P826946

Luminaire Tested: **OHB-15SE-W-UNV-L840-CD-UPL24**

Issue Date: 5/3/2024



Test Information

Test Method: LM-79-08
Report Number: P826946
REPORT IS A COMBINATION OF REPORTS P826190 AND G3-2310-221-6
Test Lab: INNOVATION CENTER
Issue Date: 5/3/2024
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: METALUX
Catalog Number: OHB-15SE-W-UNV-L840-CD-UPL24
Description: 15000 LUMEN OHB SE LED LUMINAIRE WITH 80CRI, 4000K LEDS AND WIDE LENS AND 2400 LUMEN UPLIGHT MODULE
Light Source: -
Ballast/Driver: -

Summary

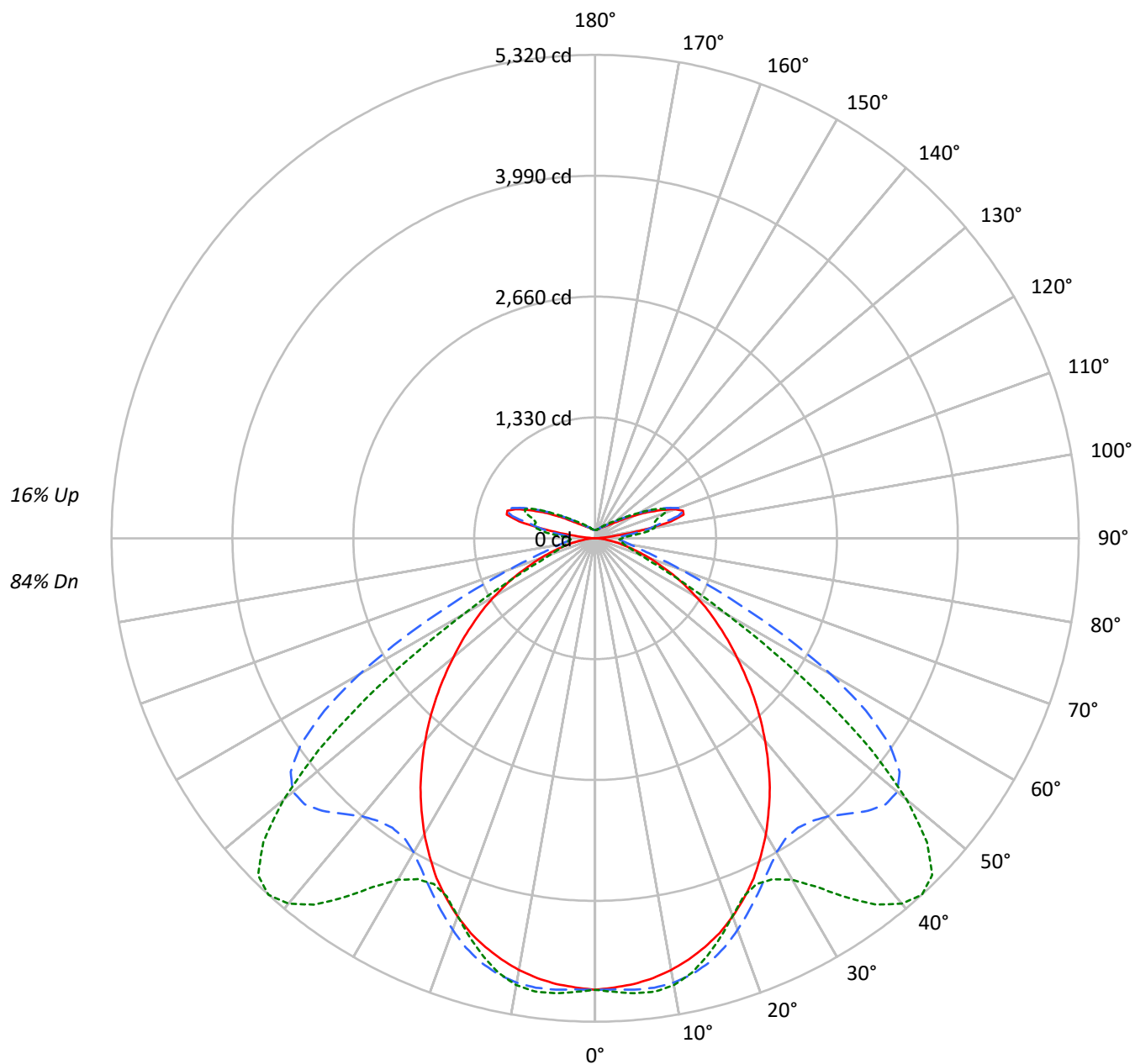
Lumens per Lamp: N/A
Luminaire Lumens: 17298.3 lumens
Efficiency: N/A
Efficacy: 151.1 lumens/watt
Spacing Criteria (0/90/45): 1.14 / 1.58 / 1.62
Luminous Opening: Rectangular w/ Sides (W: 1.93' x L: 0.88' x H: 0.17')
CIE Type: Semi-Direct

Input Watts (W): 114.5
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: 25 FT

TEST NUMBER: P826946

CATALOG NUMBER: OHB-15SE-W-UNV-L840-CD-UPL24

Luminous Intensity Polar Plot





TEST NUMBER: P826946

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COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	20				20					20					20					20
RC	80				70					50					30					10
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	50	30	10
RCR																				
0	115	115	115	115	111	111	111	111	102	102	102	95	95	95	87	87	87	84		
1	106	101	97	93	101	97	94	90	90	87	85	84	81	79	78	76	74	71		
2	96	88	82	77	92	85	79	74	79	74	70	74	70	66	68	65	63	60		
3	88	78	70	64	84	75	68	62	70	64	59	65	60	56	61	57	53	51		
4	80	69	60	54	77	66	59	53	62	55	50	58	52	48	54	49	46	43		
5	74	61	53	46	71	59	51	45	55	49	43	52	46	41	48	43	40	37		
6	68	55	46	40	65	53	45	39	50	43	38	47	41	36	44	39	35	32		
7	63	50	41	35	60	48	40	34	45	38	33	42	36	32	40	35	31	28		
8	58	45	37	31	56	44	36	30	41	34	29	39	33	28	36	31	27	25		
9	54	41	33	28	52	40	32	27	38	31	26	35	30	25	33	28	24	22		
10	51	38	30	25	49	37	29	25	35	28	24	33	27	23	31	26	22	20		

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	31617	31617	31617
5°	30928	31318	31860
10°	30157	31020	31781
15°	29194	30263	30647
20°	28029	28983	29033
25°	26613	27499	28335
30°	24872	26341	30357
35°	22960	26571	35355
40°	20829	28477	40656
45°	18645	31925	43437
50°	16415	34835	40138
55°	14323	34252	30411
60°	12227	28438	18399
65°	10072	19181	10992
70°	7751	12024	7788
75°	5453	8256	7019
80°	3456	6796	7545
85°	1847	6674	10762



TEST NUMBER: P826946

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	474.8	2.7
10°-20°	1344.6	7.8
20°-30°	1967.6	11.4
30°-40°	2555.4	14.8
40°-50°	3120.4	18.0
50°-60°	2748.0	15.9
60°-70°	1432.0	8.3
70°-80°	614.1	3.5
80°-90°	301.1	1.7
90°-100°	370.4	2.1
100°-110°	891.0	5.2
110°-120°	741.4	4.3
120°-130°	358.9	2.1
130°-140°	179.6	1.0
140°-150°	102.7	0.6
150°-160°	58.3	0.3
160°-170°	29.0	0.2
170°-180°	8.8	0.1
0°-30°	3787.1	21.9
0°-40°	6342.4	36.7
0°-60°	12210.8	70.6
0°-90°	14558.0	84.2
90°-120°	2002.8	11.6
90°-150°	2644.1	15.3
90°-180°	2740.0	15.8
0°-180°	17298.3	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	4969	4969	4969	4969	4969	
5°	4923	4960	4987	5031	5026	467
15°	4658	4789	4835	4798	4760	1312
25°	4127	4348	4274	4194	4198	1894
35°	3350	3704	3889	4536	4826	2088
45°	2467	3104	4242	5136	5243	1902
55°	1642	2719	3950	3464	3079	1474
65°	942	1884	1809	1006	865	932
75°	380	881	581	398	377	414
85°	80	314	296	290	293	90
90°	6	148	242	285	297	9
95°	55	178	327	410	446	166
105°	1007	1030	945	722	675	956
115°	698	720	761	773	769	705
125°	346	367	399	409	407	323
135°	206	210	228	242	245	163
145°	154	155	160	167	170	97
155°	125	127	126	127	127	57
165°	100	101	102	102	102	29
175°	90	91	91	92	92	9
180°	90	90	90	90	90	



TEST NUMBER: P826946

CATALOG NUMBER: OHB-15SE-W-UNV-L840-CD-UPL24

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	4969.0	4969.0	4969.0	4969.0	4969.0
2.5°	4947.5	4969.0	4970.1	5000.1	4996.9
5°	4922.9	4960.4	4987.2	5031.2	5025.8
7.5°	4882.1	4941.1	4988.3	5036.5	5032.2
10°	4824.3	4904.7	4966.8	5006.5	4993.6
12.5°	4749.2	4855.3	4916.4	4925.0	4900.4
15°	4658.1	4788.9	4835.0	4798.5	4759.9
17.5°	4555.2	4708.5	4724.6	4645.2	4597.0
20°	4426.5	4601.3	4585.2	4475.8	4422.2
22.5°	4283.9	4483.3	4431.9	4317.2	4265.7
25°	4127.4	4348.3	4274.3	4193.9	4198.2
27.5°	3944.1	4195.0	4123.1	4159.6	4228.2
30°	3757.6	4034.1	3990.2	4202.5	4337.5
32.5°	3552.8	3869.1	3908.7	4327.9	4548.7
35°	3350.2	3704.0	3889.4	4535.9	4826.4
37.5°	3126.1	3536.7	3920.5	4776.0	5080.5
40°	2908.5	3373.8	3991.3	4991.5	5248.8
42.5°	2686.6	3228.0	4110.3	5119.1	5319.5
45°	2466.8	3103.6	4242.1	5136.2	5243.4
47.5°	2247.0	2998.5	4333.3	5000.1	4950.8
50°	2034.8	2905.3	4339.7	4673.1	4471.5
52.5°	1836.4	2819.5	4221.8	4152.1	3839.0
55°	1642.4	2718.7	3950.5	3463.8	3078.9
57.5°	1465.5	2579.4	3532.4	2724.1	2303.8
60°	1277.9	2390.7	2992.1	1993.0	1661.7
62.5°	1105.3	2155.9	2386.4	1387.2	1194.3
65°	942.3	1883.6	1808.6	1005.6	865.1
67.5°	769.7	1601.7	1334.7	733.3	643.2
70°	634.7	1340.1	993.8	570.3	517.8
72.5°	496.4	1091.4	742.9	463.1	434.2
75°	379.5	881.2	581.1	397.7	377.4
77.5°	279.8	696.8	467.4	351.6	332.3
80°	196.2	548.9	391.3	314.1	306.6
82.5°	131.9	424.5	333.4	299.1	300.2
85°	80.4	314.1	295.9	289.5	292.7
87.5°	38.6	223.0	254.1	263.7	266.9
90°	6.1	147.6	242.1	285.0	297.3
92.5°	17.0	131.8	243.5	301.4	319.8
95°	55.1	177.5	327.4	410.2	445.6
97.5°	271.1	345.7	452.4	546.2	582.5
100°	555.2	633.2	597.4	651.2	663.4
102.5°	856.2	889.8	729.5	689.1	683.2
105°	1007.3	1029.5	944.8	722.1	675.3



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CATALOG NUMBER: OHB-15SE-W-UNV-L840-CD-UPL24

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	814.4	845.7	874.8	866.8	836.9
115°	698.4	720.4	761.2	773.1	769.3
117.5°	599.5	612.3	651.7	663.5	665.6
120°	497.5	517.1	557.2	565.0	560.1
122.5°	418.5	435.9	470.8	480.6	475.7
125°	345.5	366.7	399.4	409.2	407.2
127.5°	292.4	306.5	340.1	351.8	351.9
130°	255.4	263.4	292.7	304.4	307.6
132.5°	227.4	234.4	256.4	271.2	272.3
135°	206.4	210.4	228.2	241.9	245.0
137.5°	189.4	192.4	205.9	219.7	221.8
140°	174.4	178.4	187.7	200.4	202.5
142.5°	162.5	165.4	172.6	183.2	184.3
145°	153.6	155.4	159.5	166.9	170.1
147.5°	144.6	147.5	149.5	155.8	156.9
150°	137.6	139.6	140.4	143.6	146.7
152.5°	130.6	132.6	133.4	134.4	136.6
155°	124.6	126.6	126.4	127.4	127.4
157.5°	111.0	113.0	115.0	116.0	116.0
160°	107.0	108.0	110.0	111.0	111.0
162.5°	103.0	104.0	105.0	106.0	106.0
165°	100.0	101.0	102.0	102.0	102.0
167.5°	97.0	97.0	98.0	99.0	99.0
170°	94.0	95.0	95.0	96.0	96.0
172.5°	92.0	93.0	93.0	93.0	94.0
175°	90.0	91.0	91.0	92.0	92.0
177.5°	90.0	90.0	90.0	90.0	90.0
180°	90.0	90.0	90.0	90.0	90.0



Report Generated By 670246072 / DESKTOP-50001EG





— 0°-180° - - 45°-225° - - - 90°-270°







107.5°	1012.4	1044.2	1023.1	837.3	717.4
110°	934.4	966.9	972.3	912.5	816.6



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

Report Prepared for

Cooper Lighting Solutions

METALUX

Report Number: SP1-2304-001-1

Test Date: 05/31/2023

Luminaire Tested: OHB-15SE-N-UNV-L840

Data in this report applies to families of products including OHB-15SE-N-UNV-L840.

Test Information

Test Method: LM-79-2019
 Report Number: SP1-2304-001-1
 Test Lab: COOPER LIGHTING SOLUTIONS
 Photometer: SP1 - 76IN SPHERE
 Measurement Geometry: 4π
 Issue Date: 05/31/2023
 Manufacturer: COOPER LIGHTING SOLUTIONS
 Product Line: METALUX
 Catalog Number: **OHB-15SE-N-UNV-L840**
 Description: 15SE OHB WITH APT LEDS, NARROW LENS, 80CRI 4000K

Spectral Parameters

CCT (K):	4018	CRI (Ra):	84.0		
CIE u':	0.2242	R1:	82.5	R9:	11.5
CIE v':	0.5025	R2:	91.6	R10:	79.8
Duv:	0.0010	R3:	96.1	R11:	80.5
CIE x:	0.3803	R4:	81.4	R12:	64.0
CIE y:	0.3788	R5:	82.4	R13:	85.1
CIE z:	0.2410	R6:	88.0	R14:	98.4
Peak Wavelength (nm):	454	R7:	85.5		
Dominant Wavelength (nm):	578	R8:	64.7		
Purity:	27.9				
Rf:	84.5				
Rg:	93.7				



Test Conditions

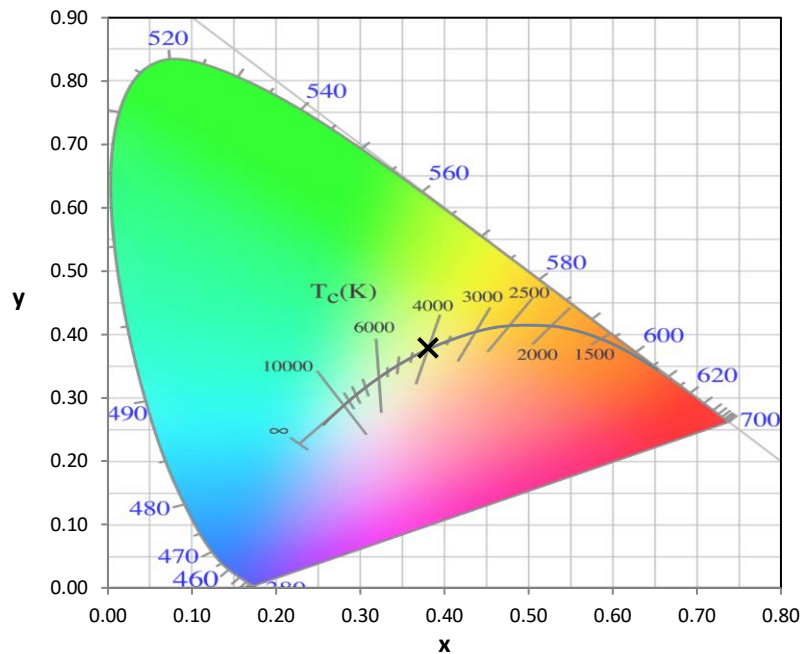
Stabilization Time: 23M
 Operation Time: 12H
 Room Temperature (°C) / RH%: 25.7/44%
 Sphere Temperature (°C): 25.3

REPORT NUMBER: SP1-2304-001-1

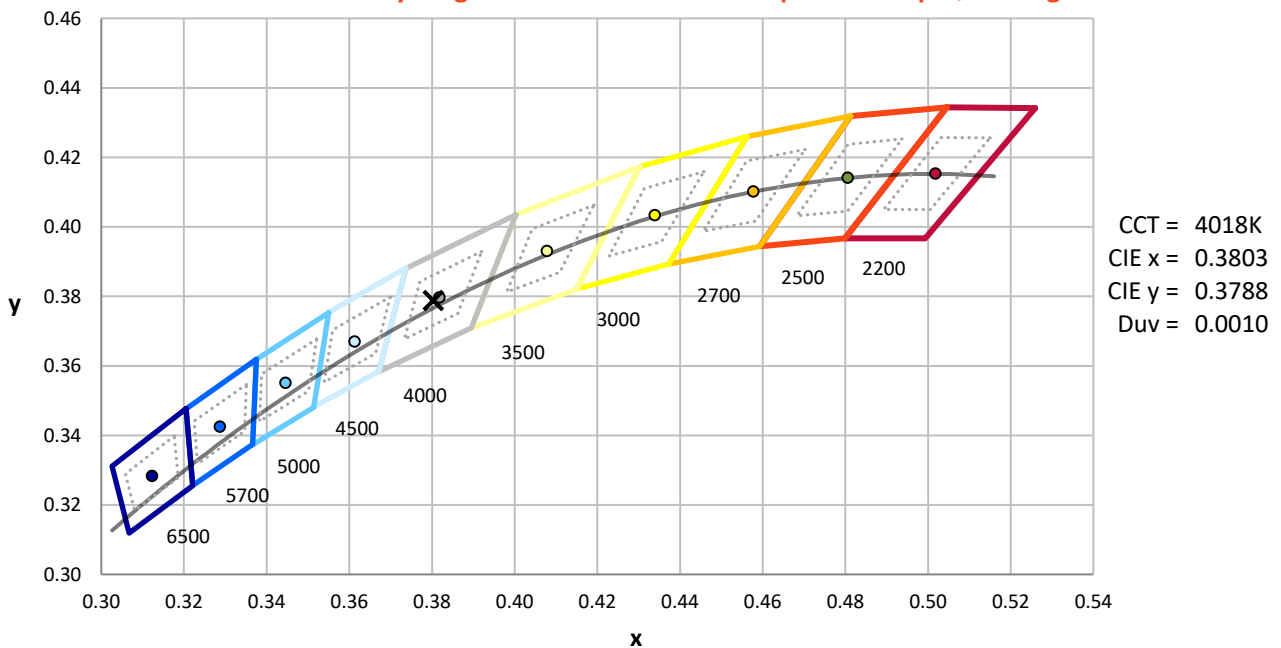
Measurement and Test Equipment			
Instrument	Identification Number	Calibration Date	Calibration Due Date
Photometer	76INCH SPHERE IN0058	2/9/2023	8/9/2023
Power Meter	XITRON 2801 IN0071	11/29/2022	11/29/2023
AC Power Source	CHROMA 61603 IN0063	11/28/2022	11/28/2023
DC Power Source	AGILENT E3634A IN0208	11/28/2022	11/28/2023
Sphere Thermometer	ONSET IN0085	11/28/2022	11/28/2023
Room Thermometer	ONSET IN0046	11/28/2022	11/28/2023

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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 4000K 4-step quadrangle

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Photopic Flux vs. Wavelength



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λ (nm)	Power (μW/nm)	Lumens (φ/nm)	λ (nm)	Power (μW/nm)	Lumens (φ/nm)	λ (nm)	Power (μW/nm)	Lumens (φ/nm)	λ (nm)	Power (μW/nm)	Lumens (φ/nm)	λ (nm)	Power (μW/nm)	Lumens (φ/nm)
360	6853	NR	490	98921	NR	620	217813	NR	750	11077	NR	880	7212	NR
365	5941	NR	495	111249	NR	625	204757	NR	755	10374	NR	885	8336	NR
370	6345	NR	500	125186	NR	630	189812	NR	760	9527	NR	890	8299	NR
375	7044	NR	505	139782	NR	635	174714	NR	765	9227	NR	895	8295	NR
380	6587	NR	510	150374	NR	640	160641	NR	770	8071	NR	900	5725	NR
385	6443	NR	515	158837	NR	645	146146	NR	775	7303	NR	905	5085	NR
390	5977	NR	520	167163	NR	650	132087	NR	780	6839	NR	910	6133	NR
395	5473	NR	525	171514	NR	655	118817	NR	785	5988	NR	915	6429	NR
400	4874	NR	530	176783	NR	660	105411	NR	790	5761	NR	920	7354	NR
405	4470	NR	535	182412	NR	665	92911	NR	795	6396	NR	925	6889	NR
410	5232	NR	540	187578	NR	670	81240	NR	800	6049	NR	930	7465	NR
415	7030	NR	545	192635	NR	675	70762	NR	805	5748	NR	935	9430	NR
420	11074	NR	550	198282	NR	680	61913	NR	810	5571	NR	940	6867	NR
425	19121	NR	555	206255	NR	685	53742	NR	815	5977	NR	945	7026	NR
430	32148	NR	560	213621	NR	690	46348	NR	820	6580	NR	950	9476	NR
435	54073	NR	565	222021	NR	695	40313	NR	825	6610	NR	955	8237	NR
440	89242	NR	570	230974	NR	700	35240	NR	830	6652	NR	960	7127	NR
445	153497	NR	575	237268	NR	705	30635	NR	835	5919	NR	965	5614	NR
450	236793	NR	580	244317	NR	710	27359	NR	840	5707	NR	970	9396	NR
455	259282	NR	585	250340	NR	715	24401	NR	845	5548	NR	975	9700	NR
460	209272	NR	590	252316	NR	720	21810	NR	850	5560	NR	980	8916	NR
465	162456	NR	595	253019	NR	725	19005	NR	855	6972	NR	985	9548	NR
470	132627	NR	600	252244	NR	730	17009	NR	860	8311	NR	990	10271	NR
475	106283	NR	605	246798	NR	735	14940	NR	865	6330	NR	995	7323	NR
480	91347	NR	610	238764	NR	740	13159	NR	870	8019	NR	1000	8719	NR
485	91575	NR	615	229100	NR	745	12000	NR	875	7419	NR			

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Scotopic Flux vs. Wavelength



Scotopic Lumens: 25258.1

S/P: 1.73

λ (nm)	Power (μW/nm)	Lumens (φ/nm)	λ (nm)	Power (μW/nm)	Lumens (φ/nm)	λ (nm)	Power (μW/nm)	Lumens (φ/nm)	λ (nm)	Power (μW/nm)	Lumens (φ/nm)	λ (nm)	Power (μW/nm)	Lumens (φ/nm)
360	6853	NR	490	98921	NR	620	217813	NR	750	11077	NR	880	7212	NR
365	5941	NR	495	111249	NR	625	204757	NR	755	10374	NR	885	8336	NR
370	6345	NR	500	125186	NR	630	189812	NR	760	9527	NR	890	8299	NR
375	7044	NR	505	139782	NR	635	174714	NR	765	9227	NR	895	8295	NR
380	6587	NR	510	150374	NR	640	160641	NR	770	8071	NR	900	5725	NR
385	6443	NR	515	158837	NR	645	146146	NR	775	7303	NR	905	5085	NR
390	5977	NR	520	167163	NR	650	132087	NR	780	6839	NR	910	6133	NR
395	5473	NR	525	171514	NR	655	118817	NR	785	5988	NR	915	6429	NR
400	4874	NR	530	176783	NR	660	105411	NR	790	5761	NR	920	7354	NR
405	4470	NR	535	182412	NR	665	92911	NR	795	6396	NR	925	6889	NR
410	5232	NR	540	187578	NR	670	81240	NR	800	6049	NR	930	7465	NR
415	7030	NR	545	192635	NR	675	70762	NR	805	5748	NR	935	9430	NR
420	11074	NR	550	198282	NR	680	61913	NR	810	5571	NR	940	6867	NR
425	19121	NR	555	206255	NR	685	53742	NR	815	5977	NR	945	7026	NR
430	32148	NR	560	213621	NR	690	46348	NR	820	6580	NR	950	9476	NR
435	54073	NR	565	222021	NR	695	40313	NR	825	6610	NR	955	8237	NR
440	89242	NR	570	230974	NR	700	35240	NR	830	6652	NR	960	7127	NR
445	153497	NR	575	237268	NR	705	30635	NR	835	5919	NR	965	5614	NR
450	236793	NR	580	244317	NR	710	27359	NR	840	5707	NR	970	9396	NR
455	259282	NR	585	250340	NR	715	24401	NR	845	5548	NR	975	9700	NR
460	209272	NR	590	252316	NR	720	21810	NR	850	5560	NR	980	8916	NR
465	162456	NR	595	253019	NR	725	19005	NR	855	6972	NR	985	9548	NR
470	132627	NR	600	252244	NR	730	17009	NR	860	8311	NR	990	10271	NR
475	106283	NR	605	246798	NR	735	14940	NR	865	6330	NR	995	7323	NR
480	91347	NR	610	238764	NR	740	13159	NR	870	8019	NR	1000	8719	NR
485	91575	NR	615	229100	NR	745	12000	NR	875	7419	NR			

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Melanopic Flux vs. Wavelength



Melanopic Lumens: 10357.9 M/P: 0.71

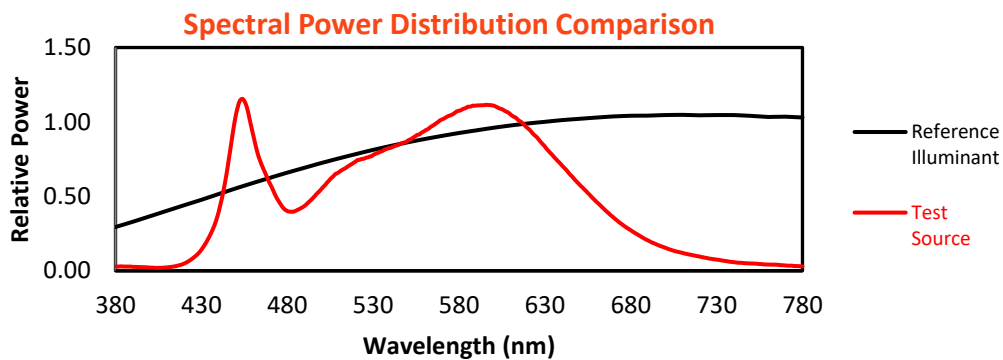
λ (nm)	Power (μW/nm)	Lumens (φ/nm)	λ (nm)	Power (μW/nm)	Lumens (φ/nm)	λ (nm)	Power (μW/nm)	Lumens (φ/nm)	λ (nm)	Power (μW/nm)	Lumens (φ/nm)	λ (nm)	Power (μW/nm)	Lumens (φ/nm)
360	6853	NR	490	98921	NR	620	217813	NR	750	11077	NR	880	7212	NR
365	5941	NR	495	111249	NR	625	204757	NR	755	10374	NR	885	8336	NR
370	6345	NR	500	125186	NR	630	189812	NR	760	9527	NR	890	8299	NR
375	7044	NR	505	139782	NR	635	174714	NR	765	9227	NR	895	8295	NR
380	6587	NR	510	150374	NR	640	160641	NR	770	8071	NR	900	5725	NR
385	6443	NR	515	158837	NR	645	146146	NR	775	7303	NR	905	5085	NR
390	5977	NR	520	167163	NR	650	132087	NR	780	6839	NR	910	6133	NR
395	5473	NR	525	171514	NR	655	118817	NR	785	5988	NR	915	6429	NR
400	4874	NR	530	176783	NR	660	105411	NR	790	5761	NR	920	7354	NR
405	4470	NR	535	182412	NR	665	92911	NR	795	6396	NR	925	6889	NR
410	5232	NR	540	187578	NR	670	81240	NR	800	6049	NR	930	7465	NR
415	7030	NR	545	192635	NR	675	70762	NR	805	5748	NR	935	9430	NR
420	11074	NR	550	198282	NR	680	61913	NR	810	5571	NR	940	6867	NR
425	19121	NR	555	206255	NR	685	53742	NR	815	5977	NR	945	7026	NR
430	32148	NR	560	213621	NR	690	46348	NR	820	6580	NR	950	9476	NR
435	54073	NR	565	222021	NR	695	40313	NR	825	6610	NR	955	8237	NR
440	89242	NR	570	230974	NR	700	35240	NR	830	6652	NR	960	7127	NR
445	153497	NR	575	237268	NR	705	30635	NR	835	5919	NR	965	5614	NR
450	236793	NR	580	244317	NR	710	27359	NR	840	5707	NR	970	9396	NR
455	259282	NR	585	250340	NR	715	24401	NR	845	5548	NR	975	9700	NR
460	209272	NR	590	252316	NR	720	21810	NR	850	5560	NR	980	8916	NR
465	162456	NR	595	253019	NR	725	19005	NR	855	6972	NR	985	9548	NR
470	132627	NR	600	252244	NR	730	17009	NR	860	8311	NR	990	10271	NR
475	106283	NR	605	246798	NR	735	14940	NR	865	6330	NR	995	7323	NR
480	91347	NR	610	238764	NR	740	13159	NR	870	8019	NR	1000	8719	NR
485	91575	NR	615	229100	NR	745	12000	NR	875	7419	NR			

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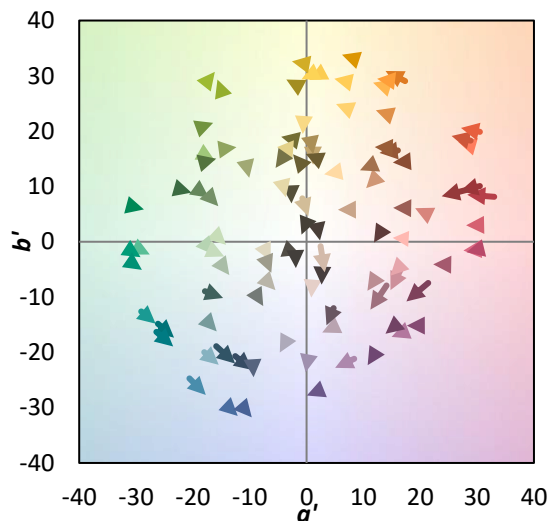
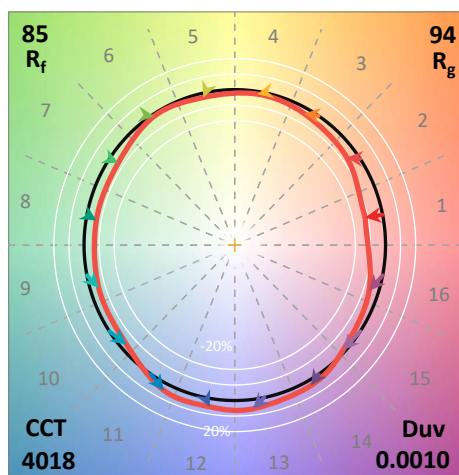
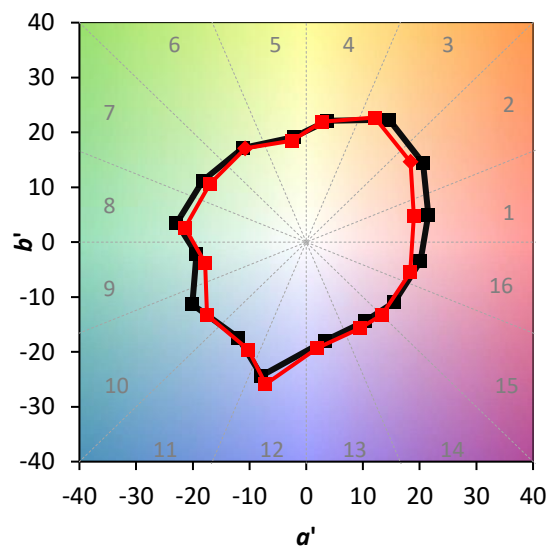
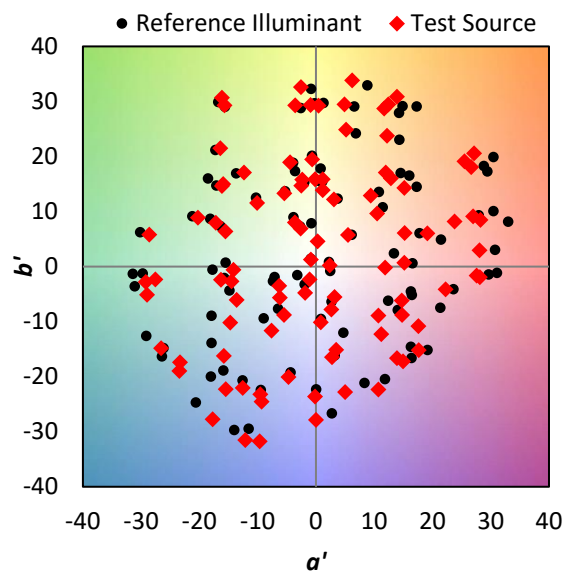
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Summary

$R_f = 84.5$
 $R_g = 93.7$
 $CIE R_a = 84.0$
 $R_9 = 11.5$



Color Vector Graphics



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

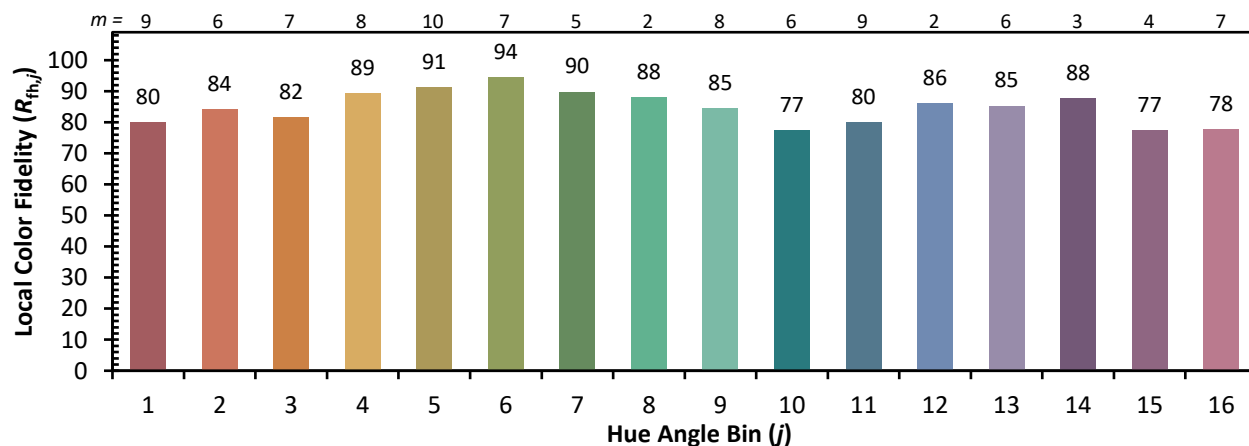
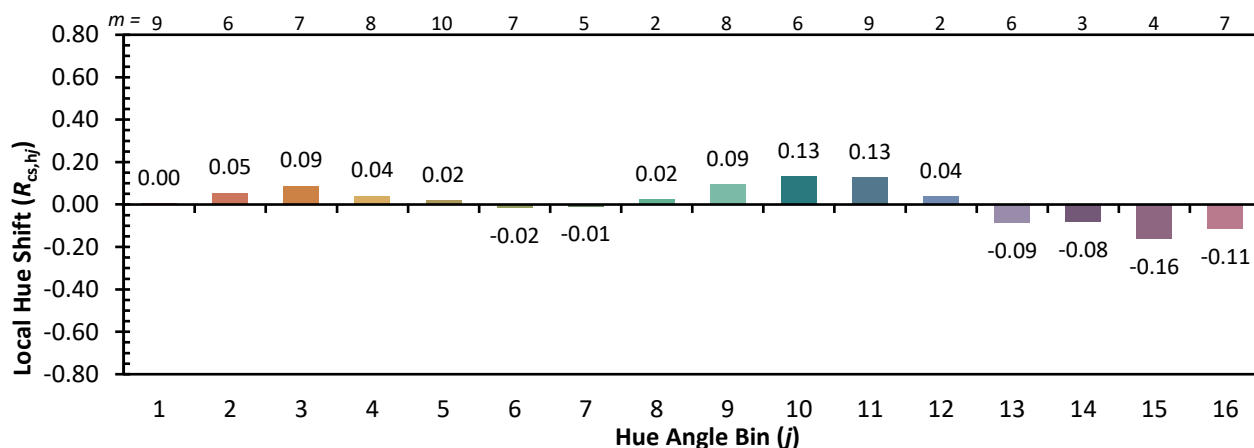
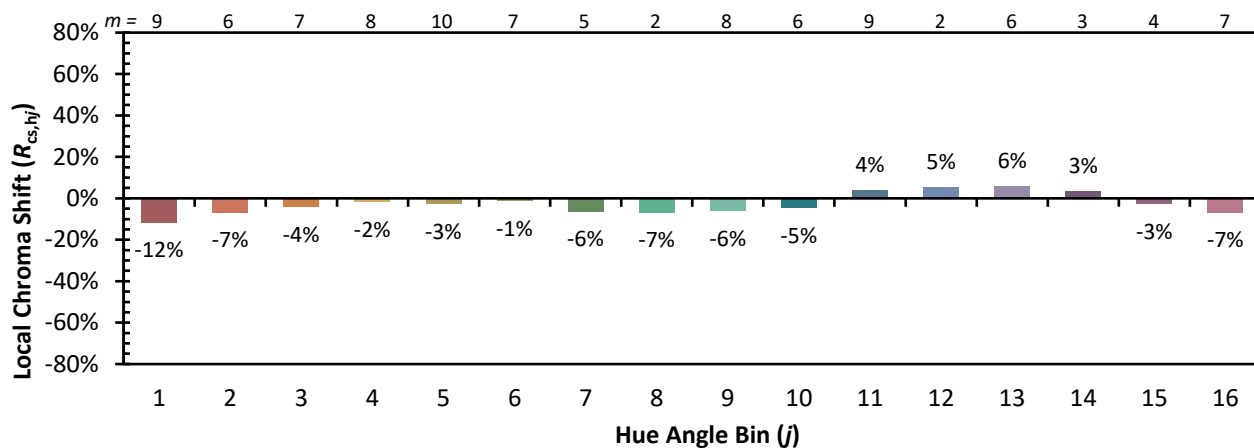
CES01 = 85	CES26 = 88	CES51 = 91	CES76 = 81
CES02 = 61	CES27 = 90	CES52 = 93	CES77 = 85
CES03 = 31	CES28 = 94	CES53 = 89	CES78 = 80
CES04 = 69	CES29 = 93	CES54 = 88	CES79 = 93
CES05 = 48	CES30 = 87	CES55 = 85	CES80 = 91
CES06 = 50	CES31 = 95	CES56 = 84	CES81 = 78
CES07 = 41	CES32 = 88	CES57 = 82	CES82 = 96
CES08 = 40	CES33 = 96	CES58 = 82	CES83 = 96
CES09 = 29	CES34 = 92	CES59 = 91	CES84 = 91
CES10 = 74	CES35 = 95	CES60 = 88	CES85 = 77
CES11 = 57	CES36 = 77	CES61 = 86	CES86 = 74
CES12 = 63	CES37 = 95	CES62 = 78	CES87 = 84
CES13 = 42	CES38 = 81	CES63 = 85	CES88 = 88
CES14 = 74	CES39 = 98	CES64 = 77	CES89 = 78
CES15 = 71	CES40 = 97	CES65 = 77	CES90 = 89
CES16 = 47	CES41 = 94	CES66 = 74	CES91 = 68
CES17 = 49	CES42 = 97	CES67 = 73	CES92 = 64
CES18 = 56	CES43 = 93	CES68 = 79	CES93 = 78
CES19 = 71	CES44 = 99	CES69 = 82	CES94 = 65
CES20 = 65	CES45 = 94	CES70 = 77	CES95 = 73
CES21 = 86	CES46 = 91	CES71 = 69	CES96 = 84
CES22 = 78	CES47 = 93	CES72 = 90	CES97 = 90
CES23 = 91	CES48 = 82	CES73 = 72	CES98 = 86
CES24 = 90	CES49 = 92	CES74 = 90	CES99 = 77
CES25 = 71	CES50 = 92	CES75 = 74	



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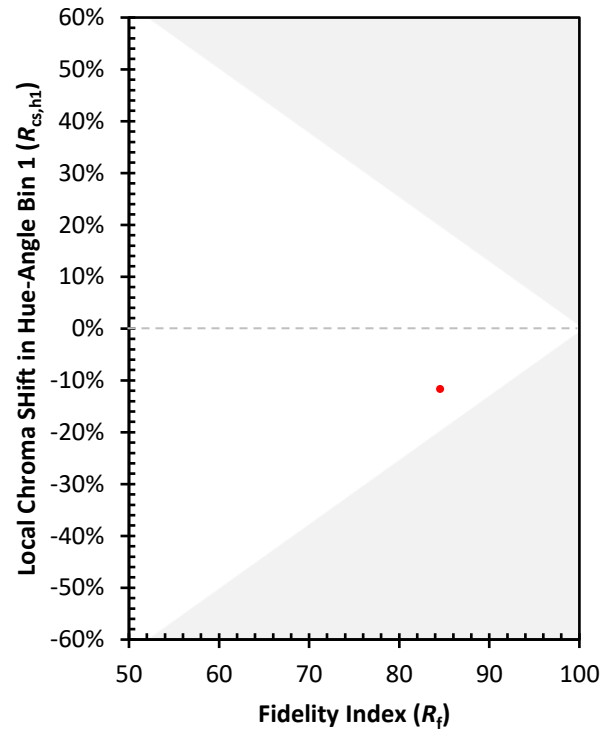
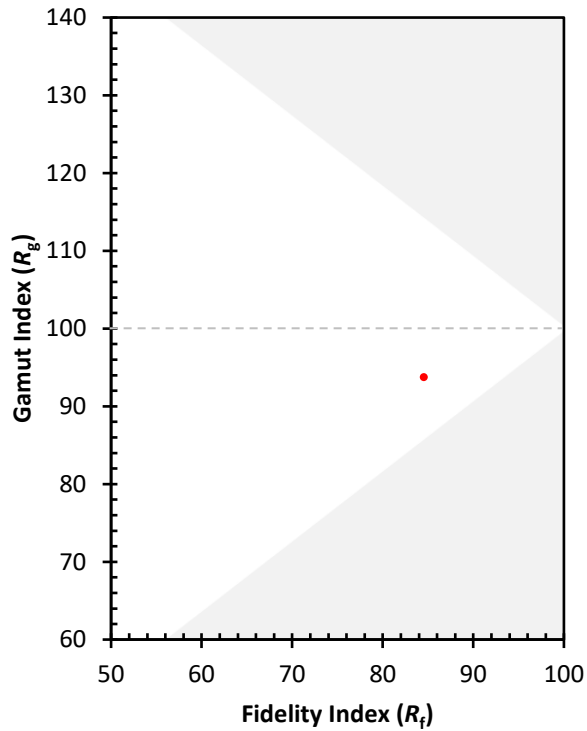
Color Rendition by Hue-Angle Bin



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Measure Comparisons



(END OF REPORT)