

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: P830830

Luminaire Tested: **OHBL-90SE-MCL-UNV-L850-CD**

Issue Date: 5/3/2024



Test Information

Test Method: LM-79-08
Report Number: P830830
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2103-200-1)
Test Lab: INNOVATION CENTER
Issue Date: 5/3/2024
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: METALUX
Catalog Number: OHBL-90SE-MCL-UNV-L850-CD
Description: 90000 LUMEN OHBL SE LED LUMINAIRE WITH 80CRI, 5000K LEDS AND MEDIUM CLEAR LENS
Light Source: -
Ballast/Driver: -

Summary

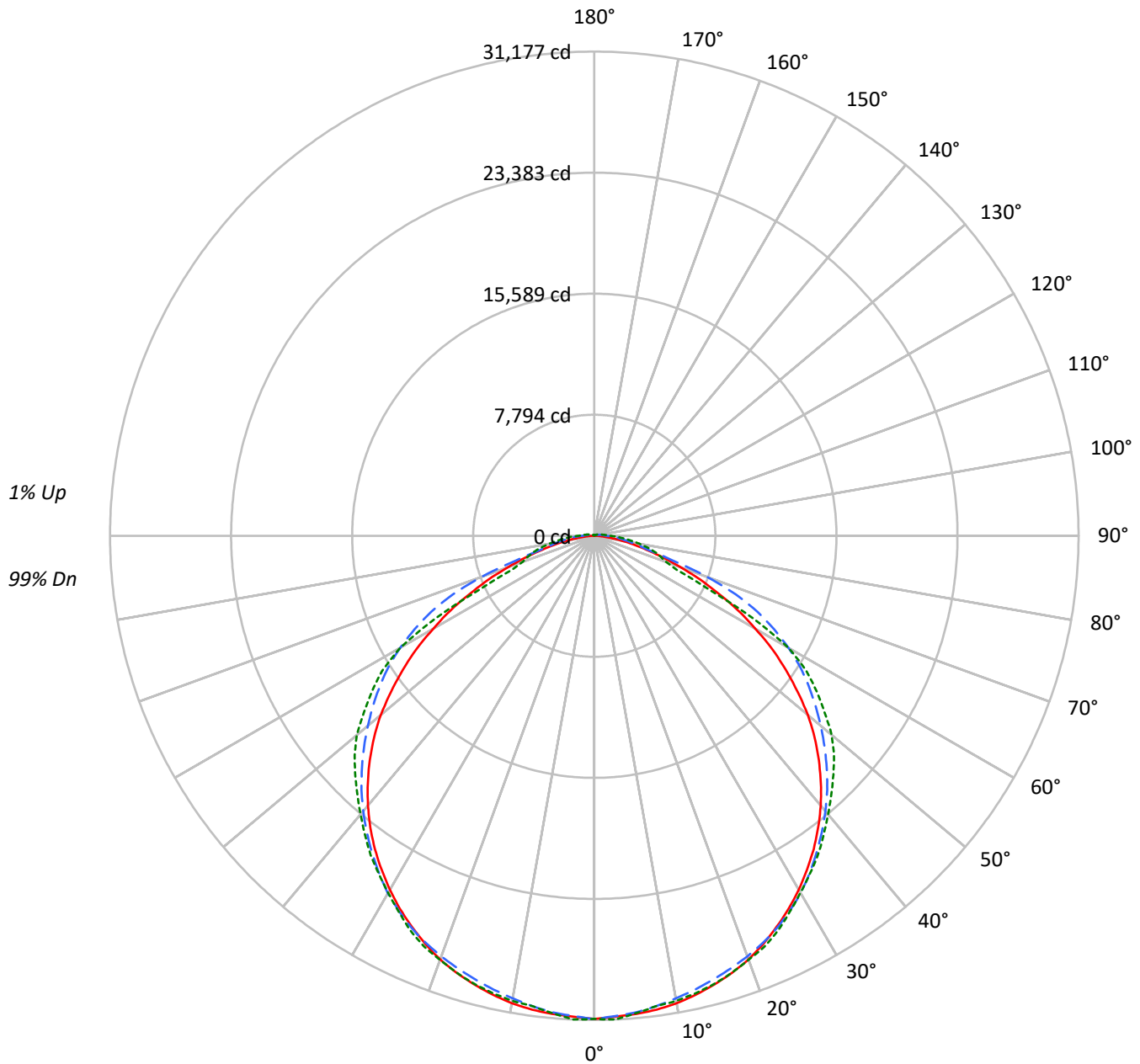
Lumens per Lamp: N/A
Luminaire Lumens: 87941.1 lumens
Efficiency: N/A
Efficacy: 166.2 lumens/watt
Spacing Criteria (0/90/45): 1.26 / 1.27 / 1.39
Luminous Opening: Rectangular w/ Sides (W: 1.8' x L: 3.78' x H: 0.17')
CIE Type: Direct

Input Watts (W): 529
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: 25 FT

TEST NUMBER: P830830

CATALOG NUMBER: OHBL-90SE-MCL-UNV-L850-CD

Luminous Intensity Polar Plot





TEST NUMBER: P830830

CATALOG NUMBER: OHBL-90SE-MCL-UNV-L850-CD

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	119	119	119	119	116	116	116	116	110	110	110	106	106	106	101	101	101			99
1	109	104	100	96	106	102	98	95	97	94	91	93	91	88	90	87	86			83
2	99	91	84	79	96	89	83	78	85	80	76	82	78	74	79	75	72			70
3	91	80	72	66	88	79	71	65	75	69	64	72	67	63	70	65	61			59
4	83	71	62	56	81	70	62	55	67	60	54	65	59	54	62	57	53			51
5	76	64	55	48	74	62	54	48	60	53	47	58	52	46	56	50	46			44
6	70	57	48	42	68	56	48	42	54	47	41	52	46	41	51	45	40			38
7	65	52	43	37	63	51	43	37	49	42	36	48	41	36	46	40	36			34
8	61	47	39	33	59	46	38	33	45	38	33	44	37	32	42	36	32			30
9	57	43	35	30	55	43	35	29	41	34	29	40	34	29	39	33	29			27
10	53	40	32	27	52	39	32	27	38	31	27	37	31	26	36	30	26			24

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	49205	49205	49205
5°	48883	48491	48593
10°	48704	47756	48053
15°	48395	47207	47731
20°	48086	46861	47309
25°	47506	46512	46890
30°	46875	45963	46003
35°	46121	45092	45513
40°	45140	44191	44848
45°	43780	43150	44553
50°	41938	41964	44200
55°	39011	40797	42550
60°	35178	39089	39338
65°	30177	35921	24930
70°	24307	28041	18075
75°	18224	16646	18345
80°	12684	13841	17515
85°	7219	12682	16417



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CATALOG NUMBER: OHBL-90SE-MCL-UNV-L850-CD

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	2933.7	3.3
10°-20°	8412.5	9.6
20°-30°	12848.6	14.6
30°-40°	15589.8	17.7
40°-50°	16339.5	18.6
50°-60°	14806.1	16.8
60°-70°	9926.9	11.3
70°-80°	4457.6	5.1
80°-90°	1617.6	1.8
90°-100°	486.9	0.6
100°-110°	229.7	0.3
110°-120°	115.2	0.1
120°-130°	63.5	0.1
130°-140°	43.7	0.0
140°-150°	29.4	0.0
150°-160°	21.8	0.0
160°-170°	14.0	0.0
170°-180°	4.5	0.0
0°-30°	24194.8	27.5
0°-40°	39784.6	45.2
0°-60°	70930.2	80.7
0°-90°	86932.3	98.9
90°-120°	831.8	0.9
90°-150°	968.4	1.1
90°-180°	1009.0	1.1
0°-180°	87941.1	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	31114	31114	31114	31114	31114	
5°	30911	31019	30803	30898	30857	###
15°	29908	29791	29580	29840	29876	8444
25°	27784	27663	27856	28113	28032	12807
35°	24626	24685	24937	25202	25103	15392
45°	20438	20771	21158	21698	21765	15744
55°	15039	15764	16839	17514	17473	13425
65°	8827	10208	11589	9780	7985	8795
75°	3473	5039	3707	3792	4040	3796
85°	598	1147	1471	1777	1862	730
90°	4	382	760	954	999	36
95°	4	238	522	634	652	6
105°	18	104	256	310	324	21
115°	36	54	130	166	176	33
125°	32	36	81	94	99	31
135°	40	45	50	72	76	32
145°	40	45	45	50	54	27
155°	45	50	50	50	45	21
165°	50	50	50	50	50	14
175°	50	50	45	40	40	5
180°	45	45	45	45	45	



TEST NUMBER: P830830

CATALOG NUMBER: OHBL-90SE-MCL-UNV-L850-CD

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	31113.6	31113.6	31113.6	31113.6	31113.6
2.5°	30987.6	31118.1	30956.1	31131.6	31176.6
5°	30911.2	31019.1	30803.2	30897.7	30857.2
7.5°	30771.7	30807.7	30551.3	30627.7	30546.8
10°	30564.7	30546.8	30245.3	30393.8	30411.8
12.5°	30258.8	30204.8	29934.9	30159.9	30164.4
15°	29907.9	29791.0	29579.5	29840.4	29876.4
17.5°	29503.0	29350.1	29210.6	29548.0	29494.0
20°	29030.7	28850.7	28823.7	29192.6	29057.7
22.5°	28445.8	28306.4	28369.3	28720.2	28634.8
25°	27784.5	27663.0	27856.5	28112.9	28031.9
27.5°	27087.2	27015.2	27235.6	27433.6	27276.1
30°	26322.4	26281.9	26574.3	26736.3	26538.3
32.5°	25490.1	25503.6	25782.5	26003.0	25818.5
35°	24626.4	24684.8	24936.8	25202.2	25103.2
37.5°	23677.1	23807.6	24059.5	24360.9	24257.5
40°	22673.9	22862.8	23141.8	23506.2	23411.7
42.5°	21589.7	21828.1	22188.0	22592.9	22583.9
45°	20438.0	20770.9	21157.8	21697.6	21765.1
47.5°	19241.3	19614.7	20105.1	20824.9	20928.3
50°	17941.2	18409.0	19020.9	19884.6	19947.6
52.5°	16492.5	17131.4	17941.2	18768.9	18692.5
55°	15039.4	15763.7	16839.0	17513.8	17473.3
57.5°	13590.8	14405.1	15709.8	16191.1	16186.6
60°	11971.3	13001.5	14427.6	14792.0	14432.1
62.5°	10473.2	11579.9	13060.0	12794.5	11561.9
65°	8826.6	10207.7	11588.9	9780.4	7985.3
67.5°	7364.5	8804.1	9843.3	6698.7	5736.0
70°	5893.4	7481.5	7674.9	4971.2	4903.7
72.5°	4588.8	6280.3	5295.1	4255.9	4471.8
75°	3473.1	5038.6	3707.0	3792.5	4039.9
77.5°	2532.8	3869.0	2883.7	3324.6	3527.0
80°	1741.0	2739.8	2352.9	2793.7	2933.2
82.5°	1093.2	1808.5	1885.0	2249.4	2393.4
85°	598.3	1147.2	1471.1	1777.0	1862.5
87.5°	247.4	692.8	1124.7	1372.1	1444.1
90°	4.5	382.4	760.3	953.7	998.7
92.5°	4.5	292.4	620.8	769.3	800.8
95°	4.5	238.4	521.9	634.3	652.3
97.5°	9.0	188.9	436.4	526.4	544.4
100°	13.5	157.5	364.4	440.9	454.4
102.5°	18.0	126.0	305.9	368.9	382.4
105°	18.0	103.5	256.4	310.4	323.9



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CATALOG NUMBER: OHBL-90SE-MCL-UNV-L850-CD

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	31.5	63.0	153.0	193.4	202.4
115°	36.0	54.0	130.5	166.5	175.5
117.5°	36.0	45.0	112.5	139.5	148.5
120°	36.0	40.5	99.0	121.5	126.0
122.5°	36.0	36.0	85.5	108.0	112.5
125°	31.5	36.0	81.0	94.5	99.0
127.5°	36.0	36.0	72.0	85.5	90.0
130°	36.0	40.5	63.0	81.0	81.0
132.5°	40.5	45.0	58.5	76.5	76.5
135°	40.5	45.0	49.5	72.0	76.5
137.5°	45.0	45.0	45.0	67.5	72.0
140°	45.0	45.0	40.5	58.5	63.0
142.5°	40.5	45.0	40.5	54.0	58.5
145°	40.5	45.0	45.0	49.5	54.0
147.5°	45.0	45.0	45.0	45.0	49.5
150°	45.0	45.0	45.0	45.0	45.0
152.5°	45.0	45.0	45.0	45.0	45.0
155°	45.0	49.5	49.5	49.5	45.0
157.5°	45.0	49.5	49.5	49.5	49.5
160°	45.0	49.5	49.5	49.5	49.5
162.5°	49.5	49.5	49.5	49.5	49.5
165°	49.5	49.5	49.5	49.5	49.5
167.5°	49.5	54.0	49.5	49.5	49.5
170°	49.5	49.5	49.5	45.0	45.0
172.5°	49.5	49.5	49.5	45.0	45.0
175°	49.5	49.5	45.0	40.5	40.5
177.5°	54.0	49.5	45.0	40.5	36.0
180°	45.0	45.0	45.0	45.0	45.0



Report Generated By 670246072 / DESKTOP-50001EG





— 0°-180° - - 45°-225° - - - 90°-270°







107.5°	22.5	85.5	220.4	265.4	274.4
110°	27.0	72.0	184.5	224.9	233.9



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

Report Prepared for

Cooper Lighting Solutions

METALUX

Report Number: SP1-2307-100-6

Test Date: 08/03/2023

Luminaire Tested: OHB-15SE-N-UNV-L850-CD

Data in this report applies to families of products including OHB-15SE-N-UNV-L850-CD.

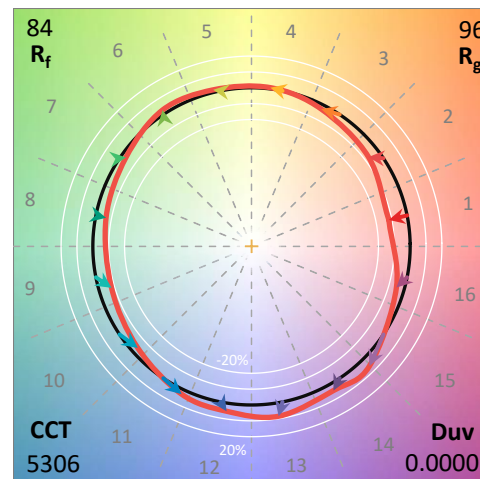
Test Information

Test Method: LM-79-2019
 Report Number: SP1-2307-100-6
 Test Lab: COOPER LIGHTING SOLUTIONS
 Photometer: SP1 - 76IN SPHERE
 Measurement Geometry: 4π
 Issue Date: 08/04/2023
 Manufacturer: COOPER LIGHTING SOLUTIONS
 Product Line: METALUX
 Catalog Number: **OHB-15SE-N-UNV-L850-CD**
 Description: 15000 LUMEN OHB SE LED LUMINAIRE WITH 80CRI, 5000K LEDS AND NARROW LENS

LENS

Spectral Parameters

CCT (K):	5306	CRI (Ra):	84.6		
CIE u':	0.2085	R1:	83.6	R9:	15.2
CIE v':	0.4801	R2:	89.8	R10:	75.0
Duv:	0.0000	R3:	93.0	R11:	84.1
CIE x:	0.3370	R4:	84.5	R12:	63.9
CIE y:	0.3449	R5:	84.2	R13:	85.4
CIE z:	0.3182	R6:	84.7	R14:	96.4
Peak Wavelength (nm):	451	R7:	87.4		
Dominant Wavelength (nm):	566	R8:	70.0		
Purity:	4.8				
Rf:	84.3				
Rg:	96.3				



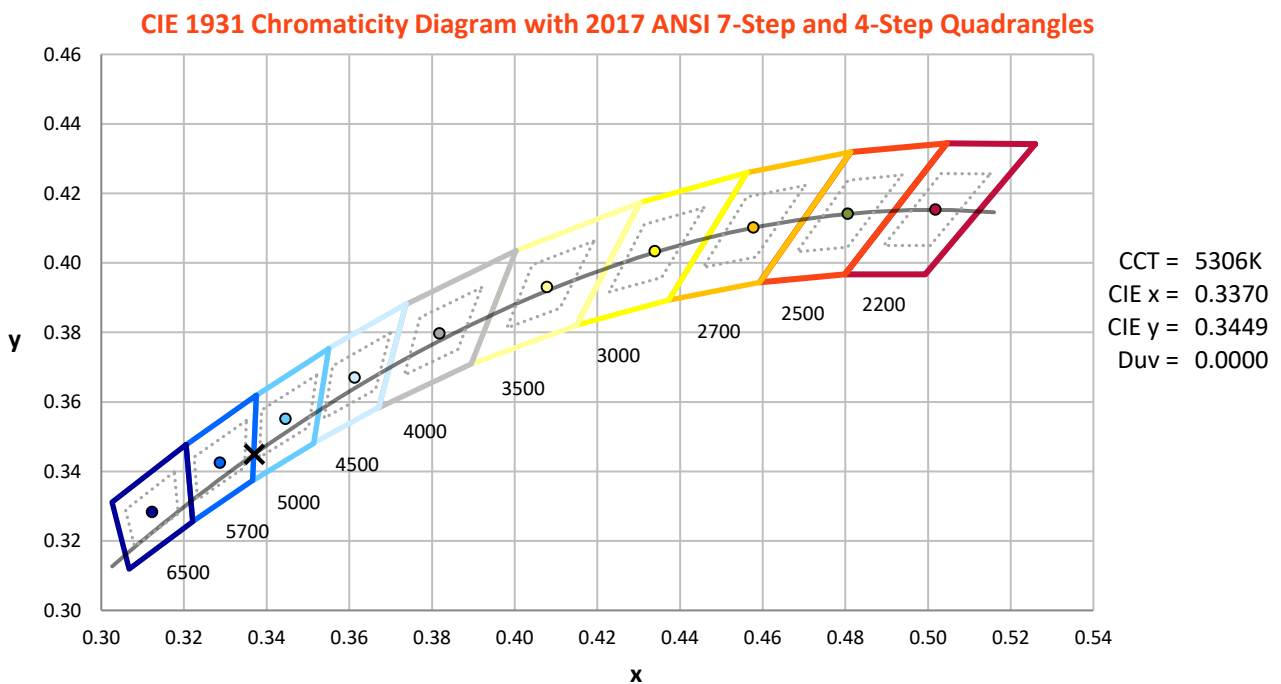
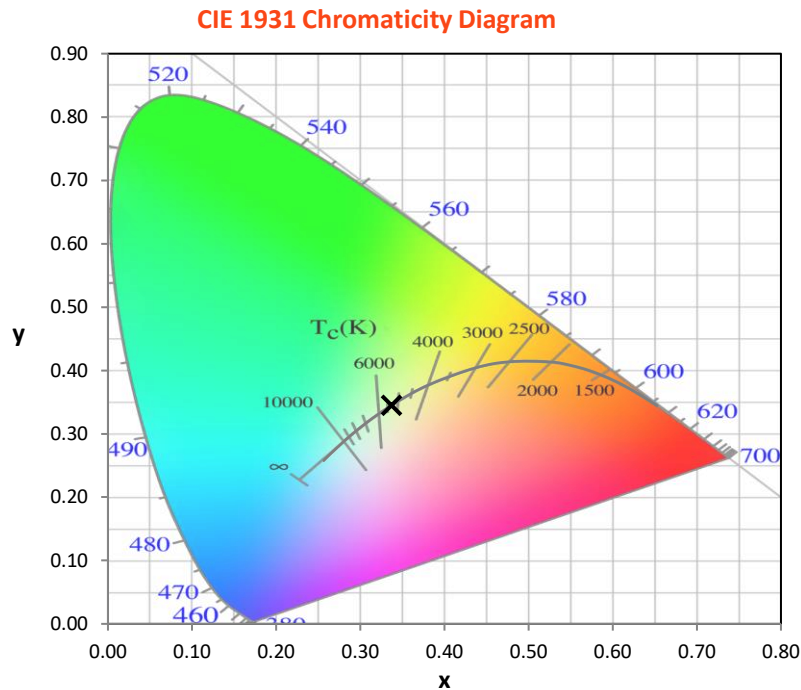
Test Conditions

Stabilization Time: 24M
 Operation Time: 12H
 Room Temperature (°C) / RH%: 25.7/58%
 Sphere Temperature (°C): 25.2

REPORT NUMBER: SP1-2307-100-6

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

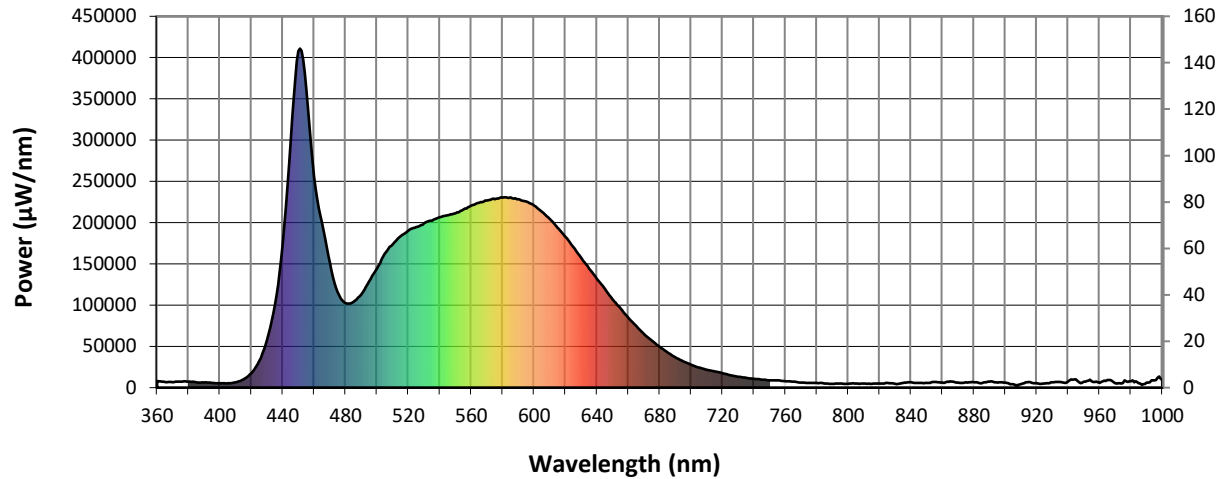
REPORT NUMBER: SP1-2307-100-6



Point lies inside the ANSI 5000K 7-step quadrangle

REPORT NUMBER: SP1-2307-100-6

Photopic Flux vs. Wavelength

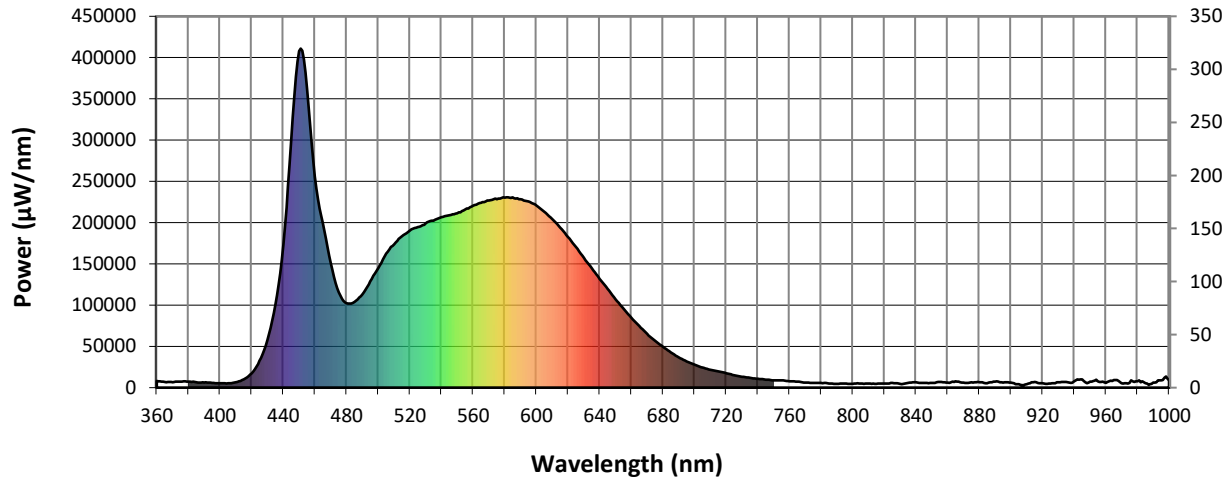


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λ (nm)	Power (μW/nm)	Lumens (φ/nm)	λ (nm)	Power (μW/nm)	Lumens (φ/nm)	λ (nm)	Power (μW/nm)	Lumens (φ/nm)	λ (nm)	Power (μW/nm)	Lumens (φ/nm)	λ (nm)	Power (μW/nm)	Lumens (φ/nm)
360	7999	NR	490	113267	NR	620	182441	NR	750	8942	NR	880	6451	NR
365	6994	NR	495	128668	NR	625	170736	NR	755	8984	NR	885	5377	NR
370	6664	NR	500	144479	NR	630	157334	NR	760	7704	NR	890	7448	NR
375	7229	NR	505	162408	NR	635	144567	NR	765	7281	NR	895	6272	NR
380	7357	NR	510	173534	NR	640	131937	NR	770	6279	NR	900	6115	NR
385	6449	NR	515	183237	NR	645	119591	NR	775	5613	NR	905	4022	NR
390	6175	NR	520	190256	NR	650	106845	NR	780	5679	NR	910	4052	NR
395	5794	NR	525	194557	NR	655	95957	NR	785	5156	NR	915	6717	NR
400	5166	NR	530	199159	NR	660	84683	NR	790	4397	NR	920	5218	NR
405	5288	NR	535	202537	NR	665	74636	NR	795	5116	NR	925	4836	NR
410	6606	NR	540	206509	NR	670	64975	NR	800	4766	NR	930	6536	NR
415	9924	NR	545	209021	NR	675	56768	NR	805	5062	NR	935	6910	NR
420	17541	NR	550	211454	NR	680	49536	NR	810	4960	NR	940	7627	NR
425	32465	NR	555	215971	NR	685	42760	NR	815	4683	NR	945	10023	NR
430	57851	NR	560	220550	NR	690	36792	NR	820	5057	NR	950	7141	NR
435	100826	NR	565	224059	NR	695	31835	NR	825	5866	NR	955	7688	NR
440	173775	NR	570	226749	NR	700	27758	NR	830	4459	NR	960	5840	NR
445	298214	NR	575	228420	NR	705	24370	NR	835	5798	NR	965	9412	NR
450	407899	NR	580	230334	NR	710	21604	NR	840	6573	NR	970	5386	NR
455	361294	NR	585	230732	NR	715	19814	NR	845	5823	NR	975	5739	NR
460	255748	NR	590	228424	NR	720	17375	NR	850	5607	NR	980	7770	NR
465	199487	NR	595	225648	NR	725	15167	NR	855	6900	NR	985	5499	NR
470	150907	NR	600	220754	NR	730	13205	NR	860	6212	NR	990	6001	NR
475	115645	NR	605	213214	NR	735	11962	NR	865	7605	NR	995	8876	NR
480	102297	NR	610	204308	NR	740	10806	NR	870	6301	NR	1000	8861	NR
485	103933	NR	615	193788	NR	745	9743	NR	875	6504	NR			

REPORT NUMBER: SP1-2307-100-6

Scotopic Flux vs. Wavelength



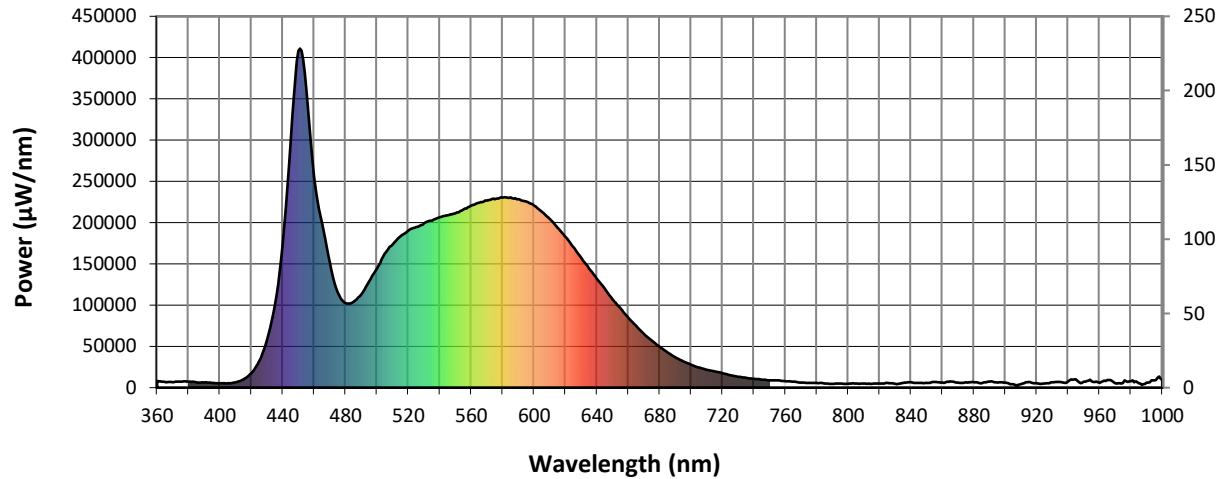
Scotopic Lumens: 29828.7

S/P: 2.04

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	7999	NR	490	113267	NR	620	182441	NR	750	8942	NR	880	6451	NR
365	6994	NR	495	128668	NR	625	170736	NR	755	8984	NR	885	5377	NR
370	6664	NR	500	144479	NR	630	157334	NR	760	7704	NR	890	7448	NR
375	7229	NR	505	162408	NR	635	144567	NR	765	7281	NR	895	6272	NR
380	7357	NR	510	173534	NR	640	131937	NR	770	6279	NR	900	6115	NR
385	6449	NR	515	183237	NR	645	119591	NR	775	5613	NR	905	4022	NR
390	6175	NR	520	190256	NR	650	106845	NR	780	5679	NR	910	4052	NR
395	5794	NR	525	194557	NR	655	95957	NR	785	5156	NR	915	6717	NR
400	5166	NR	530	199159	NR	660	84683	NR	790	4397	NR	920	5218	NR
405	5288	NR	535	202537	NR	665	74636	NR	795	5116	NR	925	4836	NR
410	6606	NR	540	206509	NR	670	64975	NR	800	4766	NR	930	6536	NR
415	9924	NR	545	209021	NR	675	56768	NR	805	5062	NR	935	6910	NR
420	17541	NR	550	211454	NR	680	49536	NR	810	4960	NR	940	7627	NR
425	32465	NR	555	215971	NR	685	42760	NR	815	4683	NR	945	10023	NR
430	57851	NR	560	220550	NR	690	36792	NR	820	5057	NR	950	7141	NR
435	100826	NR	565	224059	NR	695	31835	NR	825	5866	NR	955	7688	NR
440	173775	NR	570	226749	NR	700	27758	NR	830	4459	NR	960	5840	NR
445	298214	NR	575	228420	NR	705	24370	NR	835	5798	NR	965	9412	NR
450	407899	NR	580	230334	NR	710	21604	NR	840	6573	NR	970	5386	NR
455	361294	NR	585	230732	NR	715	19814	NR	845	5823	NR	975	5739	NR
460	255748	NR	590	228424	NR	720	17375	NR	850	5607	NR	980	7770	NR
465	199487	NR	595	225648	NR	725	15167	NR	855	6900	NR	985	5499	NR
470	150907	NR	600	220754	NR	730	13205	NR	860	6212	NR	990	6001	NR
475	115645	NR	605	213214	NR	735	11962	NR	865	7605	NR	995	8876	NR
480	102297	NR	610	204308	NR	740	10806	NR	870	6301	NR	1000	8861	NR
485	103933	NR	615	193788	NR	745	9743	NR	875	6504	NR			

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Melanopic Flux vs. Wavelength



Melanopic Lumens: 12729.3 M/P: 0.87

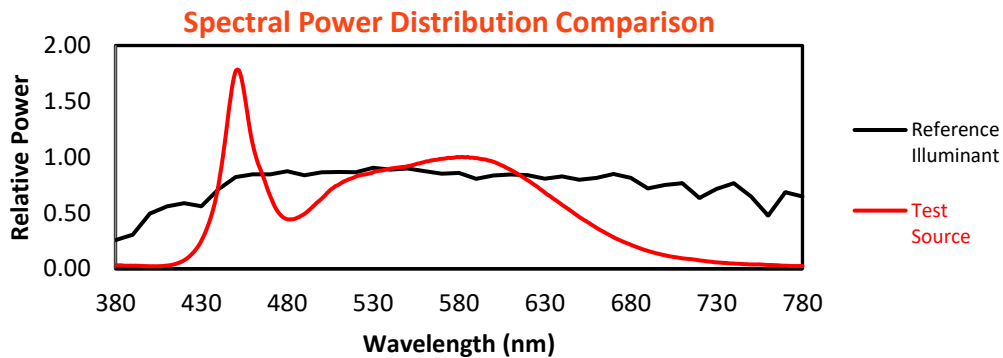
λ (nm)	Power (μW/nm)	Lumens (φ/nm)	λ (nm)	Power (μW/nm)	Lumens (φ/nm)	λ (nm)	Power (μW/nm)	Lumens (φ/nm)	λ (nm)	Power (μW/nm)	Lumens (φ/nm)	λ (nm)	Power (μW/nm)	Lumens (φ/nm)
360	7999	NR	490	113267	NR	620	182441	NR	750	8942	NR	880	6451	NR
365	6994	NR	495	128668	NR	625	170736	NR	755	8984	NR	885	5377	NR
370	6664	NR	500	144479	NR	630	157334	NR	760	7704	NR	890	7448	NR
375	7229	NR	505	162408	NR	635	144567	NR	765	7281	NR	895	6272	NR
380	7357	NR	510	173534	NR	640	131937	NR	770	6279	NR	900	6115	NR
385	6449	NR	515	183237	NR	645	119591	NR	775	5613	NR	905	4022	NR
390	6175	NR	520	190256	NR	650	106845	NR	780	5679	NR	910	4052	NR
395	5794	NR	525	194557	NR	655	95957	NR	785	5156	NR	915	6717	NR
400	5166	NR	530	199159	NR	660	84683	NR	790	4397	NR	920	5218	NR
405	5288	NR	535	202537	NR	665	74636	NR	795	5116	NR	925	4836	NR
410	6606	NR	540	206509	NR	670	64975	NR	800	4766	NR	930	6536	NR
415	9924	NR	545	209021	NR	675	56768	NR	805	5062	NR	935	6910	NR
420	17541	NR	550	211454	NR	680	49536	NR	810	4960	NR	940	7627	NR
425	32465	NR	555	215971	NR	685	42760	NR	815	4683	NR	945	10023	NR
430	57851	NR	560	220550	NR	690	36792	NR	820	5057	NR	950	7141	NR
435	100826	NR	565	224059	NR	695	31835	NR	825	5866	NR	955	7688	NR
440	173775	NR	570	226749	NR	700	27758	NR	830	4459	NR	960	5840	NR
445	298214	NR	575	228420	NR	705	24370	NR	835	5798	NR	965	9412	NR
450	407899	NR	580	230334	NR	710	21604	NR	840	6573	NR	970	5386	NR
455	361294	NR	585	230732	NR	715	19814	NR	845	5823	NR	975	5739	NR
460	255748	NR	590	228424	NR	720	17375	NR	850	5607	NR	980	7770	NR
465	199487	NR	595	225648	NR	725	15167	NR	855	6900	NR	985	5499	NR
470	150907	NR	600	220754	NR	730	13205	NR	860	6212	NR	990	6001	NR
475	115645	NR	605	213214	NR	735	11962	NR	865	7605	NR	995	8876	NR
480	102297	NR	610	204308	NR	740	10806	NR	870	6301	NR	1000	8861	NR
485	103933	NR	615	193788	NR	745	9743	NR	875	6504	NR			

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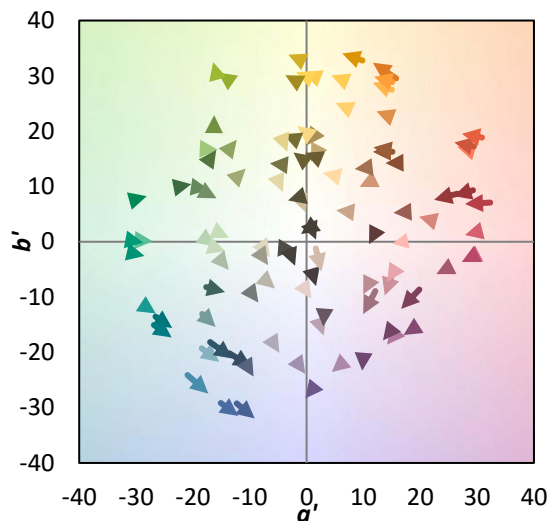
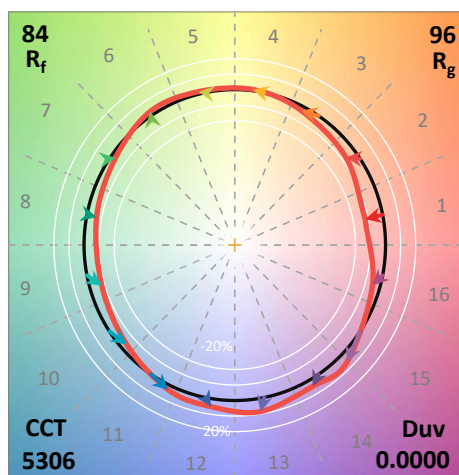
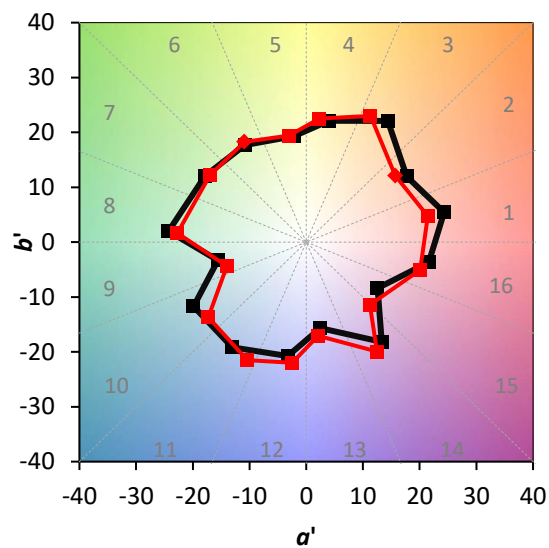
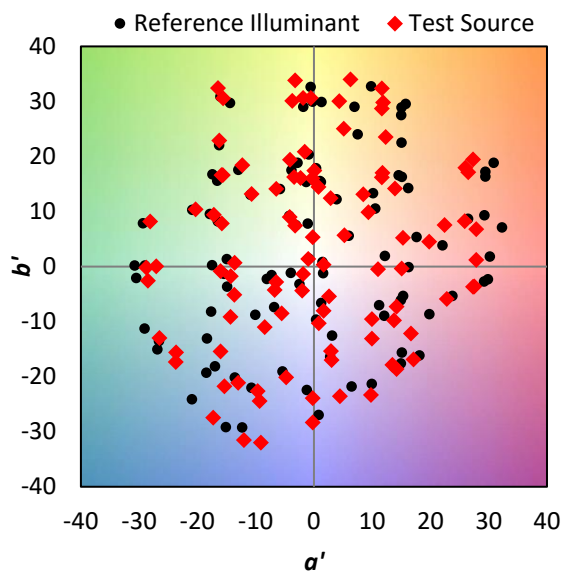
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Summary

$R_f = 84.3$
 $R_g = 96.3$
 $CIE R_a = 84.6$
 $R_9 = 15.2$



Color Vector Graphics

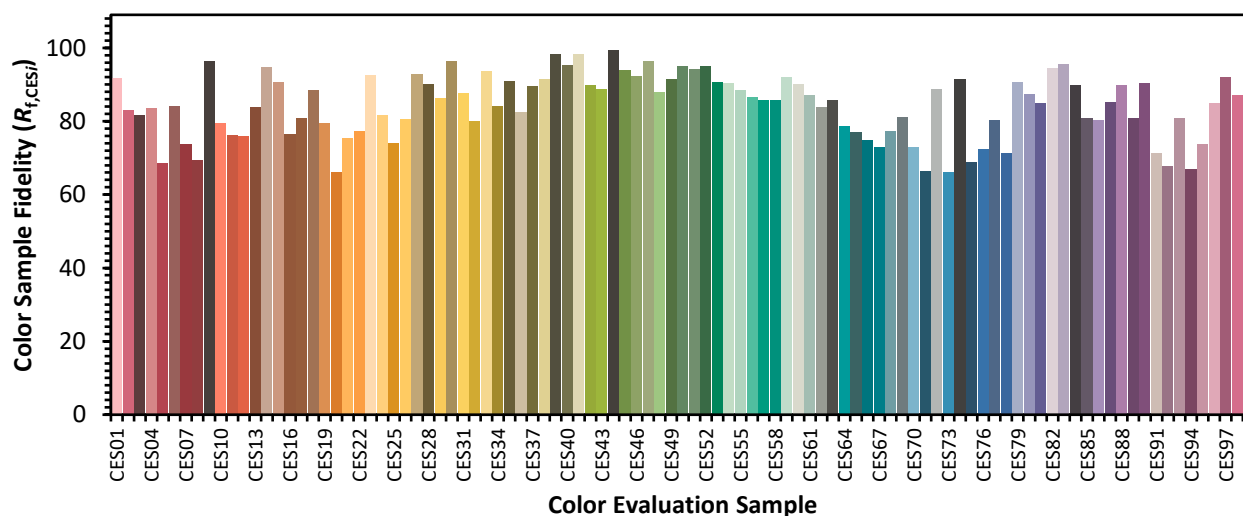


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Individual Sample Fidelity Index ($R_{f,i}$)

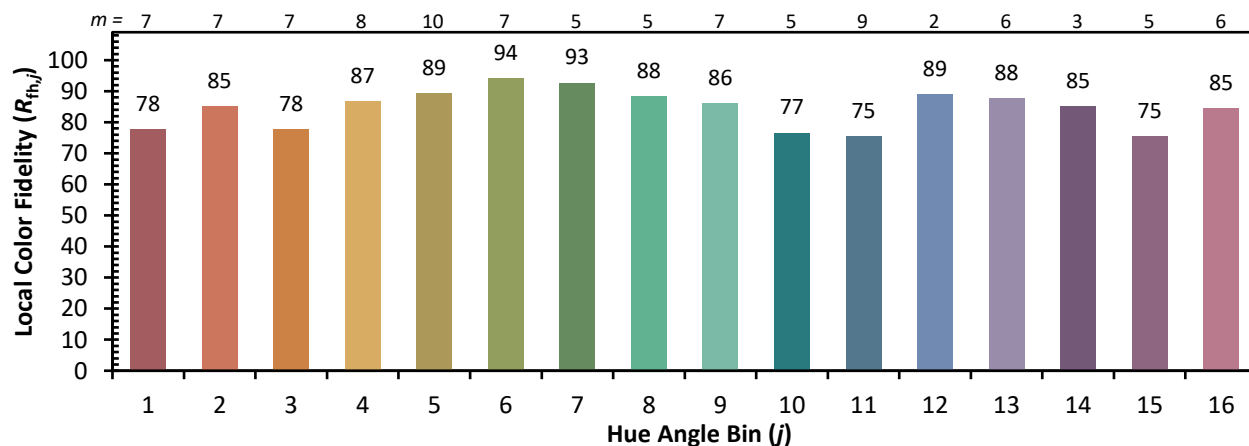
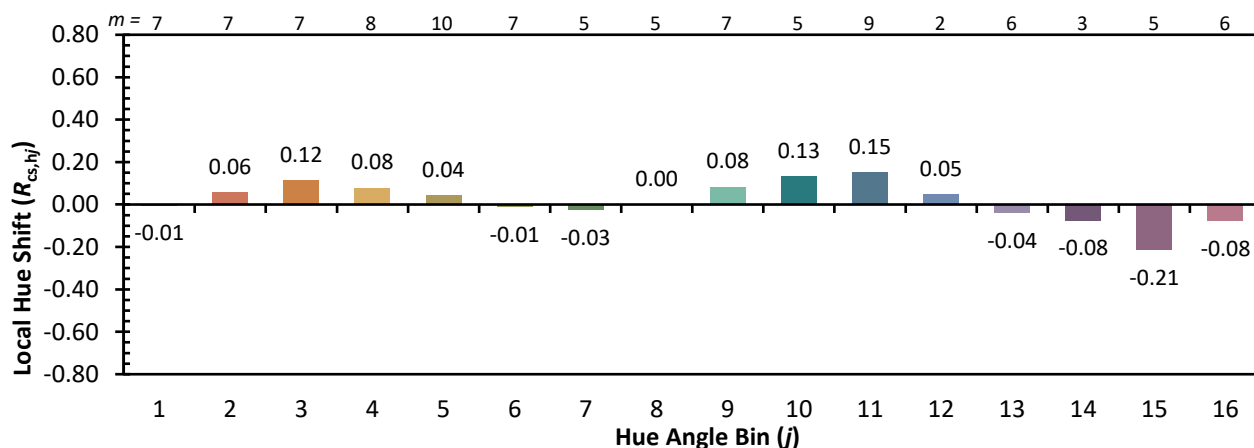
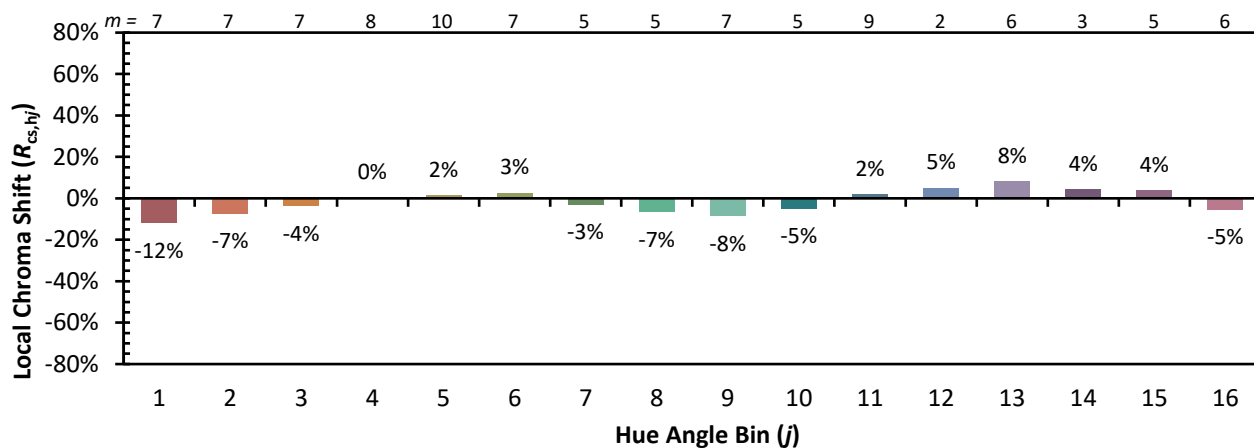
CES01 = 85	CES26 = 81	CES51 = 94	CES76 = 73
CES02 = 60	CES27 = 93	CES52 = 95	CES77 = 80
CES03 = 30	CES28 = 90	CES53 = 91	CES78 = 71
CES04 = 69	CES29 = 86	CES54 = 90	CES79 = 91
CES05 = 47	CES30 = 96	CES55 = 88	CES80 = 87
CES06 = 50	CES31 = 88	CES56 = 87	CES81 = 85
CES07 = 39	CES32 = 80	CES57 = 86	CES82 = 95
CES08 = 39	CES33 = 94	CES58 = 86	CES83 = 96
CES09 = 29	CES34 = 84	CES59 = 92	CES84 = 90
CES10 = 73	CES35 = 91	CES60 = 90	CES85 = 81
CES11 = 56	CES36 = 83	CES61 = 87	CES86 = 80
CES12 = 62	CES37 = 90	CES62 = 84	CES87 = 85
CES13 = 42	CES38 = 91	CES63 = 86	CES88 = 90
CES14 = 74	CES39 = 98	CES64 = 79	CES89 = 81
CES15 = 70	CES40 = 95	CES65 = 77	CES90 = 90
CES16 = 46	CES41 = 98	CES66 = 75	CES91 = 71
CES17 = 48	CES42 = 90	CES67 = 73	CES92 = 68
CES18 = 55	CES43 = 89	CES68 = 77	CES93 = 81
CES19 = 70	CES44 = 99	CES69 = 81	CES94 = 67
CES20 = 64	CES45 = 94	CES70 = 73	CES95 = 74
CES21 = 85	CES46 = 92	CES71 = 66	CES96 = 85
CES22 = 77	CES47 = 96	CES72 = 89	CES97 = 92
CES23 = 91	CES48 = 88	CES73 = 66	CES98 = 87
CES24 = 90	CES49 = 92	CES74 = 91	CES99 = 78
CES25 = 71	CES50 = 95	CES75 = 69	



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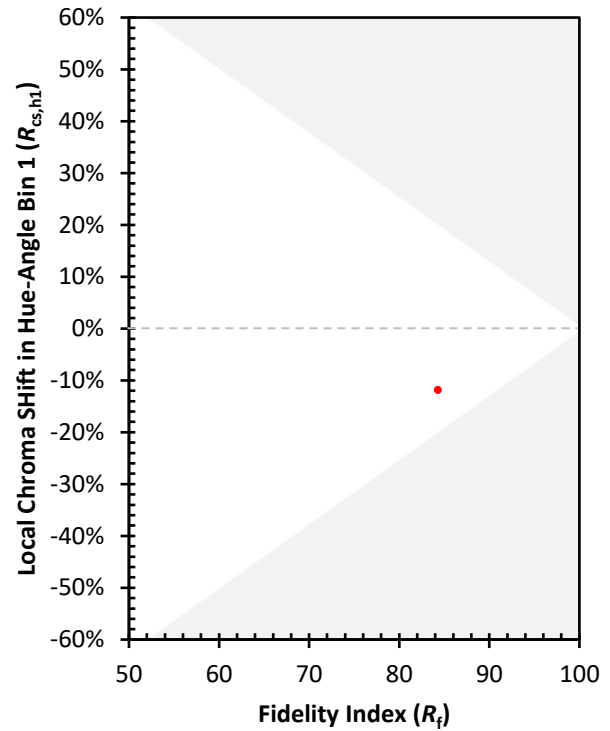
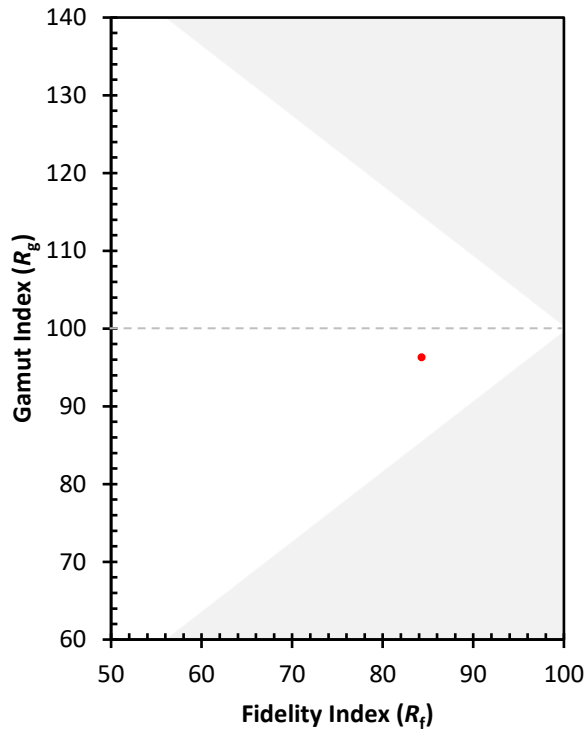
Color Rendition by Hue-Angle Bin



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Measure Comparisons



(END OF REPORT)