

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: P830472

Luminaire Tested: **OHBL-48HE-MCL-UNV-L935-CD**

Issue Date: 5/3/2024



Test Information

Test Method: LM-79-08
Report Number: P830472
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-48HE-MCL-UNV-L935-CD
Description: 48000 LUMEN OHBL HE LED LUMINAIRE WITH 90CRI, 3500K LEDS AND MEDIUM CLEAR LENS
Light Source: -
Ballast/Driver: -

Summary

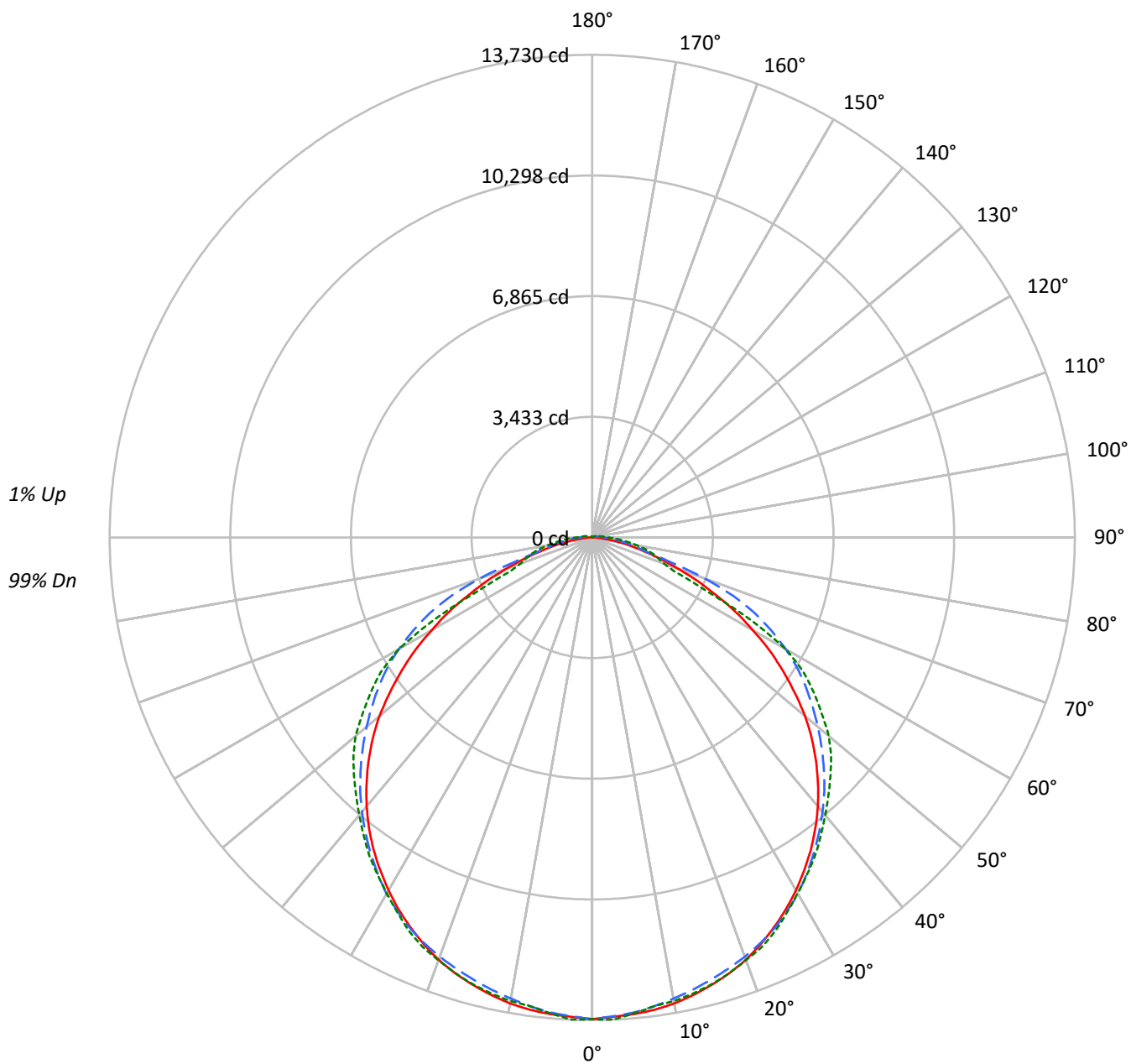
Lumens per Lamp: N/A
Luminaire Lumens: 38728.0 lumens
Efficiency: N/A
Efficacy: 145.6 lumens/watt
Spacing Criteria (0/90/45): 1.26 / 1.27 / 1.39
Luminous Opening: Rectangular w/ Sides (W: 1.8' x L: 3.78' x H: 0.17')
CIE Type: Direct

Input Watts (W): 266
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: P830472

CATALOG NUMBER: OHBL-48HE-MCL-UNV-L935-CD

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					0
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°	21669	21669	21669
5°	21528	21355	21400
10°	21449	21031	21162
15°	21313	20789	21020
20°	21176	20637	20834
25°	20921	20483	20650
30°	20643	20242	20259
35°	20311	19858	20043
40°	19879	19461	19750
45°	19280	19002	19620
50°	18469	18480	19465
55°	17180	17966	18738
60°	15492	17214	17324
65°	13289	15819	10979
70°	10704	12349	7960
75°	8025	7331	8079
80°	5586	6096	7713
85°	3179	5585	7230



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	1292.0	3.3
10°-20°	3704.8	9.6
20°-30°	5658.3	14.6
30°-40°	6865.5	17.7
40°-50°	7195.7	18.6
50°-60°	6520.4	16.8
60°-70°	4371.7	11.3
70°-80°	1963.1	5.1
80°-90°	712.4	1.8
90°-100°	214.4	0.6
100°-110°	101.2	0.3
110°-120°	50.7	0.1
120°-130°	28.0	0.1
130°-140°	19.2	0.0
140°-150°	12.9	0.0
150°-160°	9.6	0.0
160°-170°	6.2	0.0
170°-180°	2.0	0.0
0°-30°	10655.1	27.5
0°-40°	17520.6	45.2
0°-60°	31236.7	80.7
0°-90°	38283.8	98.9
90°-120°	366.3	0.9
90°-150°	426.4	1.1
90°-180°	444.0	1.1
0°-180°	38728.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	13702	13702	13702	13702	13702	
5°	13613	13660	13565	13607	13589	###
15°	13171	13120	13026	13141	13157	3719
25°	12236	12182	12268	12380	12345	5640
35°	10845	10871	10982	11099	11055	6779
45°	9001	9147	9318	9555	9585	6934
55°	6623	6942	7416	7713	7695	5912
65°	3887	4495	5104	4307	3517	3873
75°	1530	2219	1632	1670	1779	1671
85°	264	505	648	783	820	322
90°	2	168	335	420	440	16
95°	2	105	230	279	287	3
105°	8	46	113	137	143	9
115°	16	24	58	73	77	15
125°	14	16	36	42	44	14
135°	18	20	22	32	34	14
145°	18	20	20	22	24	12
155°	20	22	22	22	20	9
165°	22	22	22	22	22	6
175°	22	22	20	18	18	2
180°	20	20	20	20	20	



TEST NUMBER: P830472

CATALOG NUMBER: OHBL-48HE-MCL-UNV-L935-CD

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	13702.0	13702.0	13702.0	13702.0	13702.0
2.5°	13646.5	13704.0	13632.7	13709.9	13729.7
5°	13612.8	13660.4	13565.3	13606.9	13589.1
7.5°	13551.4	13567.3	13454.3	13488.0	13452.4
10°	13460.3	13452.4	13319.6	13385.0	13392.9
12.5°	13325.6	13301.8	13182.9	13282.0	13284.0
15°	13171.0	13119.5	13026.4	13141.3	13157.2
17.5°	12992.7	12925.4	12864.0	13012.5	12988.8
20°	12784.7	12705.5	12693.6	12856.0	12796.6
22.5°	12527.1	12465.7	12493.5	12648.0	12610.4
25°	12235.9	12182.4	12267.6	12380.5	12344.9
27.5°	11928.8	11897.1	11994.2	12081.4	12012.0
30°	11592.0	11574.2	11703.0	11774.3	11687.1
32.5°	11225.5	11231.4	11354.3	11451.4	11370.1
35°	10845.1	10870.9	10981.8	11098.7	11055.1
37.5°	10427.1	10484.5	10595.5	10728.2	10682.6
40°	9985.3	10068.5	10191.3	10351.8	10310.2
42.5°	9507.8	9612.8	9771.3	9949.6	9945.6
45°	9000.6	9147.2	9317.6	9555.3	9585.1
47.5°	8473.6	8638.0	8854.0	9171.0	9216.6
50°	7901.0	8107.1	8376.5	8756.9	8784.7
52.5°	7263.1	7544.4	7901.0	8265.6	8231.9
55°	6623.2	6942.1	7415.6	7712.8	7695.0
57.5°	5985.2	6343.8	6918.4	7130.3	7128.4
60°	5272.0	5725.7	6353.7	6514.2	6355.7
62.5°	4612.2	5099.6	5751.4	5634.5	5091.7
65°	3887.1	4495.3	5103.6	4307.1	3516.6
67.5°	3243.2	3877.2	4334.9	2950.0	2526.0
70°	2595.4	3294.7	3379.9	2189.2	2159.5
72.5°	2020.8	2765.8	2331.9	1874.2	1969.3
75°	1529.5	2218.9	1632.5	1670.2	1779.1
77.5°	1115.4	1703.8	1270.0	1464.1	1553.3
80°	766.7	1206.6	1036.2	1230.3	1291.7
82.5°	481.4	796.4	830.1	990.6	1054.0
85°	263.5	505.2	647.9	782.6	820.2
87.5°	109.0	305.1	495.3	604.3	636.0
90°	2.0	168.4	334.8	420.0	439.8
92.5°	2.0	128.8	273.4	338.8	352.7
95°	2.0	105.0	229.8	279.3	287.3
97.5°	4.0	83.2	192.2	231.8	239.7
100°	5.9	69.3	160.5	194.2	200.1
102.5°	7.9	55.5	134.7	162.5	168.4
105°	7.9	45.6	112.9	136.7	142.6



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CATALOG NUMBER: OHBL-48HE-MCL-UNV-L935-CD

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	13.9	27.7	67.4	85.2	89.2
115°	15.8	23.8	57.5	73.3	77.3
117.5°	15.8	19.8	49.5	61.4	65.4
120°	15.8	17.8	43.6	53.5	55.5
122.5°	15.8	15.8	37.6	47.5	49.5
125°	13.9	15.8	35.7	41.6	43.6
127.5°	15.8	15.8	31.7	37.6	39.6
130°	15.8	17.8	27.7	35.7	35.7
132.5°	17.8	19.8	25.8	33.7	33.7
135°	17.8	19.8	21.8	31.7	33.7
137.5°	19.8	19.8	19.8	29.7	31.7
140°	19.8	19.8	17.8	25.8	27.7
142.5°	17.8	19.8	17.8	23.8	25.8
145°	17.8	19.8	19.8	21.8	23.8
147.5°	19.8	19.8	19.8	19.8	21.8
150°	19.8	19.8	19.8	19.8	19.8
152.5°	19.8	19.8	19.8	19.8	19.8
155°	19.8	21.8	21.8	21.8	19.8
157.5°	19.8	21.8	21.8	21.8	21.8
160°	19.8	21.8	21.8	21.8	21.8
162.5°	21.8	21.8	21.8	21.8	21.8
165°	21.8	21.8	21.8	21.8	21.8
167.5°	21.8	23.8	21.8	21.8	21.8
170°	21.8	21.8	21.8	19.8	19.8
172.5°	21.8	21.8	21.8	19.8	19.8
175°	21.8	21.8	19.8	17.8	17.8
177.5°	23.8	21.8	19.8	17.8	15.8
180°	19.8	19.8	19.8	19.8	19.8



Report Generated By 670246072 / DESKTOP-50001EG





— 0°-180° - - 45°-225° - - - 90°-270°







107.5°	9.9	37.6	97.1	116.9	120.9
110°	11.9	31.7	81.2	99.1	103.0



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

Report Prepared for

Cooper Lighting Solutions

METALUX

Report Number: SP1-2307-100-7

Test Date: 07/28/2023

Luminaire Tested: OHB-15SE-N-UNV-L935-CD

Data in this report applies to families of products including OHB-15SE-N-UNV-L935-CD.

Test Information

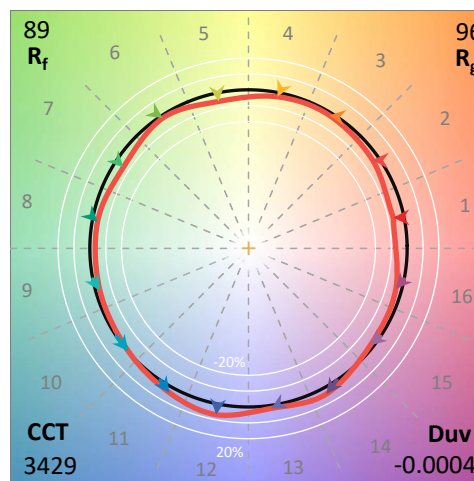
Test Method: LM-79-2019
 Report Number: SP1-2307-100-7
 Test Lab: COOPER LIGHTING SOLUTIONS
 Photometer: SP1 - 76IN SPHERE
 Measurement Geometry: 4π
 Issue Date: 08/04/2023
 Manufacturer: COOPER LIGHTING SOLUTIONS
 Product Line: METALUX
 Catalog Number: **OHB-15SE-N-UNV-L935-CD**
 Description: 15000 LUMEN OHB SE LED LUMINAIRE WITH 90CRI, 3500K LEDS AND NARROW LENS

LENS

Spectral Parameters

CCT (K): 3429
 CIE u': 0.2376
 CIE v': 0.5121
 Duv: -0.0004
 CIE x: 0.4088
 CIE y: 0.3916
 CIE z: 0.1997
 Peak Wavelength (nm): 609
 Dominant Wavelength (nm): 581
 Purity: 40.4
 Rf: 88.9
 Rg: 96.3

CRI (Ra): 90.9
 R1: 91.1
 R2: 96.7
 R3: 97.7
 R4: 88.8
 R5: 90.3
 R6: 94.5
 R7: 89.8
 R8: 78.2
 R9: 50.7
 R10: 90.8
 R11: 88.9
 R12: 74.6
 R13: 92.9
 R14: 99.5



Test Conditions

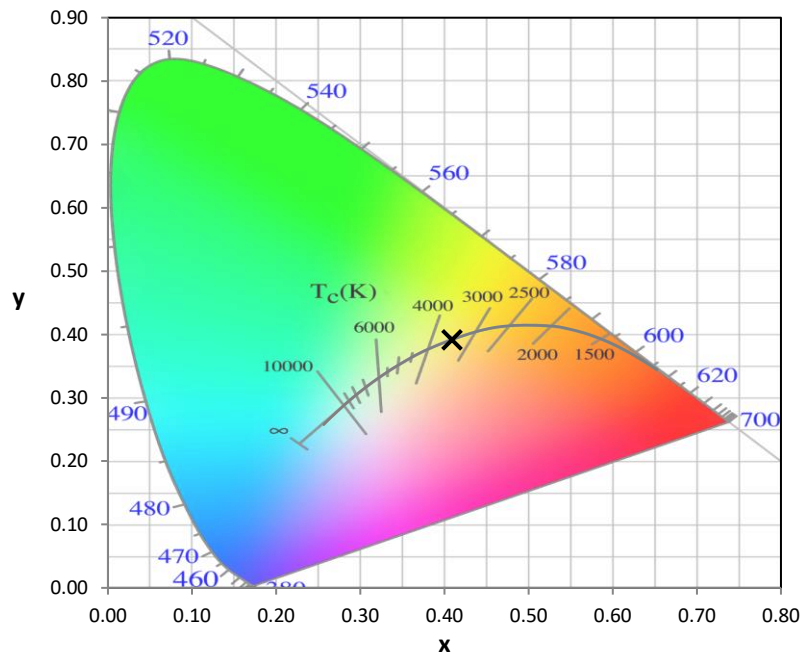
Stabilization Time: 23M
 Operation Time: 12H
 Room Temperature (°C) / RH%: 25.7/55%
 Sphere Temperature (°C): 25.2

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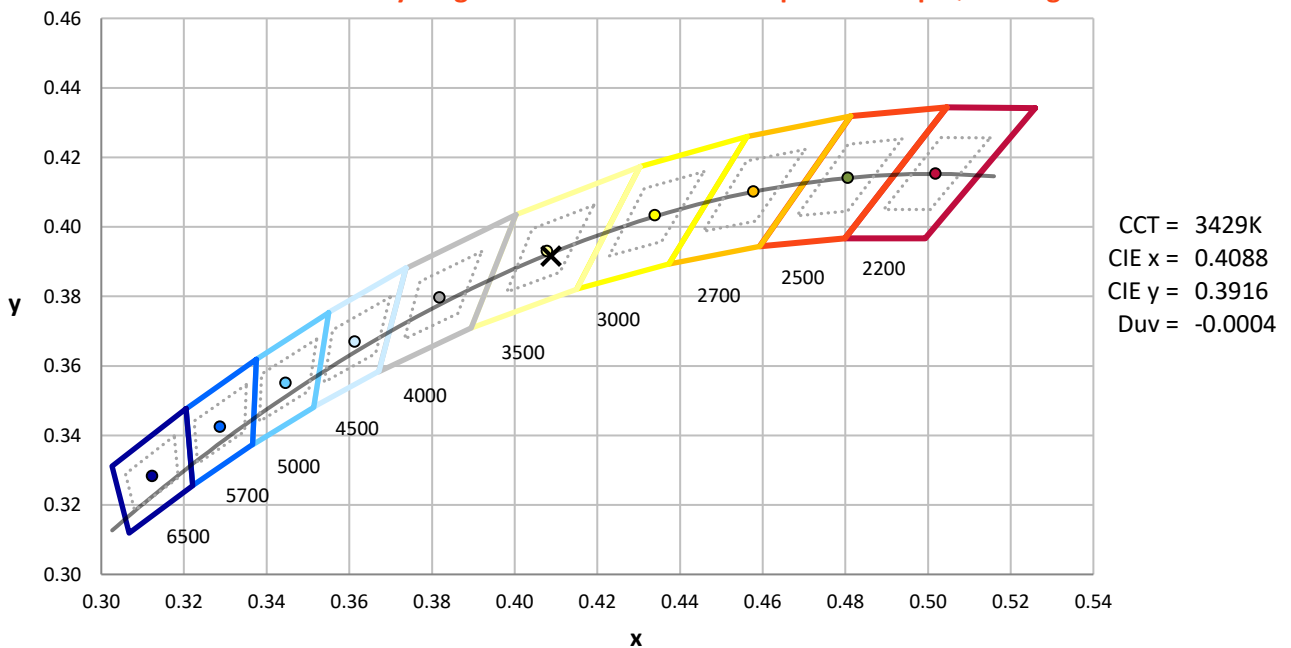
Measurement and Test Equipment			
Instrument	Identification Number	Calibration Date	Calibration Due Date
Photometer	76INCH SPHERE IN0058	2/9/2023	8/9/2023
Power Meter	XITRON 2801 IN0071	11/29/2022	11/29/2023
AC Power Source	CHROMA 61603 IN0063	11/28/2022	11/28/2023
DC Power Source	AGILENT E3634A IN0208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



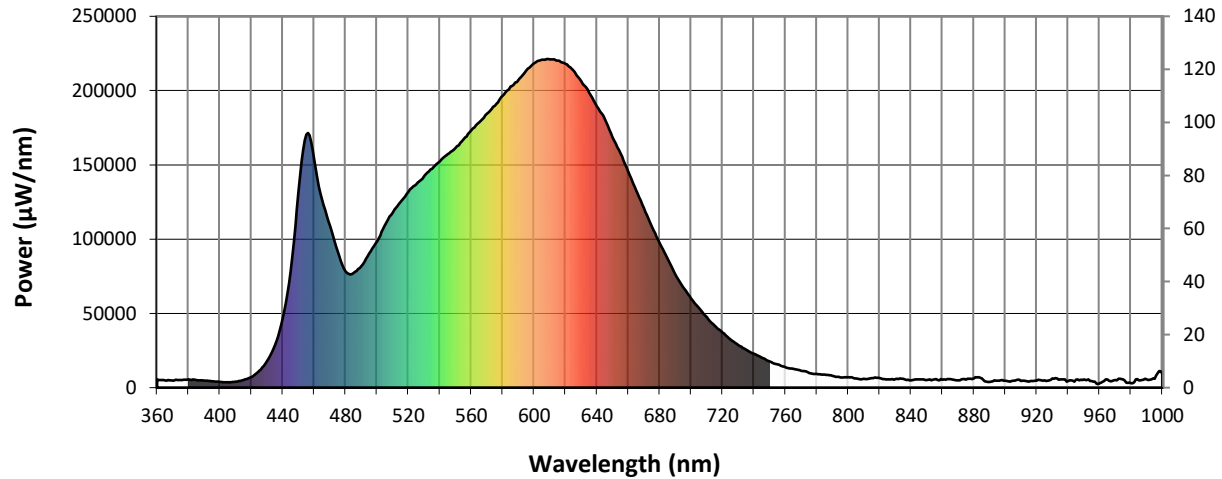
CIE 1931 Chromaticity Diagram with 2017 ANSI 7-Step and 4-Step Quadrangles



Point lies inside the ANSI 3500K 4-step quadrangle

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Photopic Flux vs. Wavelength

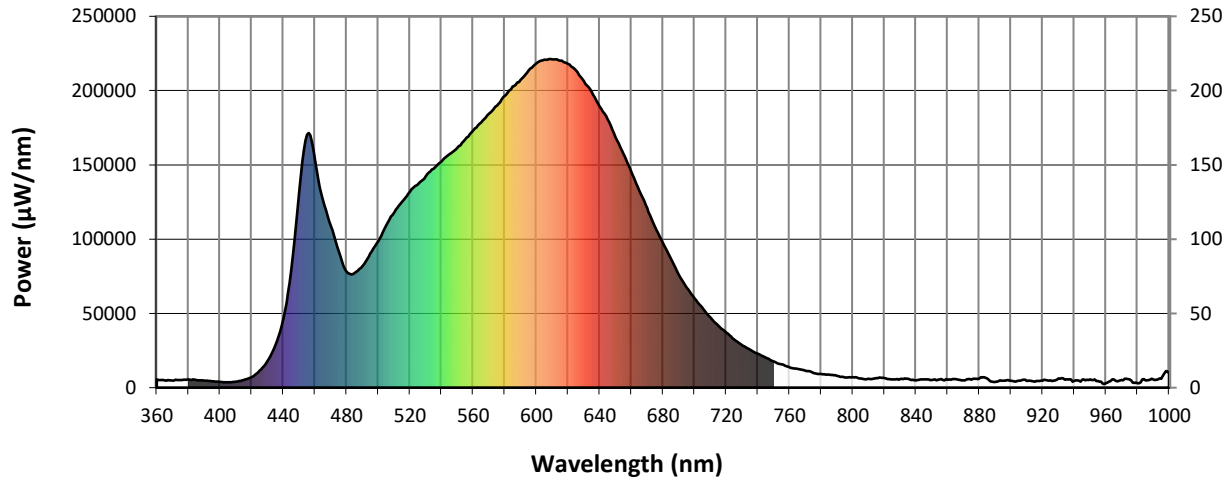


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λ (nm)	Power (μW/nm)	Lumens (φ/nm)	λ (nm)	Power (μW/nm)	Lumens (φ/nm)	λ (nm)	Power (μW/nm)	Lumens (φ/nm)	λ (nm)	Power (μW/nm)	Lumens (φ/nm)	λ (nm)	Power (μW/nm)	Lumens (φ/nm)
360	5498	NR	490	81900	NR	620	217907	NR	750	17550	NR	880	6189	NR
365	4903	NR	495	90120	NR	625	213734	NR	755	15662	NR	885	6187	NR
370	4767	NR	500	98453	NR	630	206250	NR	760	13792	NR	890	3830	NR
375	5225	NR	505	109244	NR	635	198796	NR	765	12765	NR	895	4688	NR
380	5499	NR	510	117784	NR	640	189406	NR	770	11372	NR	900	4680	NR
385	5081	NR	515	125000	NR	645	180677	NR	775	9965	NR	905	4599	NR
390	4739	NR	520	131786	NR	650	168402	NR	780	9154	NR	910	4495	NR
395	4255	NR	525	136796	NR	655	157693	NR	785	8847	NR	915	3983	NR
400	3864	NR	530	142357	NR	660	145357	NR	790	7937	NR	920	4675	NR
405	3583	NR	535	147243	NR	665	132743	NR	795	6956	NR	925	4952	NR
410	3994	NR	540	152273	NR	670	120757	NR	800	6970	NR	930	6097	NR
415	5055	NR	545	157222	NR	675	108421	NR	805	6299	NR	935	5657	NR
420	7131	NR	550	161271	NR	680	97325	NR	810	6023	NR	940	4574	NR
425	11311	NR	555	167038	NR	685	86839	NR	815	6343	NR	945	5252	NR
430	17754	NR	560	173115	NR	690	76248	NR	820	6462	NR	950	5635	NR
435	28634	NR	565	178502	NR	695	67406	NR	825	5476	NR	955	4501	NR
440	46392	NR	570	184331	NR	700	60039	NR	830	5786	NR	960	2938	NR
445	78344	NR	575	189666	NR	705	53650	NR	835	5884	NR	965	5544	NR
450	131219	NR	580	196488	NR	710	47273	NR	840	4862	NR	970	5050	NR
455	170311	NR	585	202769	NR	715	41664	NR	845	5651	NR	975	5575	NR
460	154269	NR	590	207213	NR	720	37083	NR	850	5178	NR	980	2973	NR
465	126622	NR	595	213472	NR	725	32494	NR	855	5510	NR	985	4912	NR
470	109065	NR	600	218473	NR	730	28665	NR	860	5438	NR	990	5454	NR
475	91762	NR	605	220737	NR	735	25540	NR	865	5848	NR	995	6068	NR
480	78213	NR	610	221090	NR	740	22878	NR	870	4969	NR	1000	9406	NR
485	77035	NR	615	220059	NR	745	20304	NR	875	5438	NR			

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Scotopic Flux vs. Wavelength



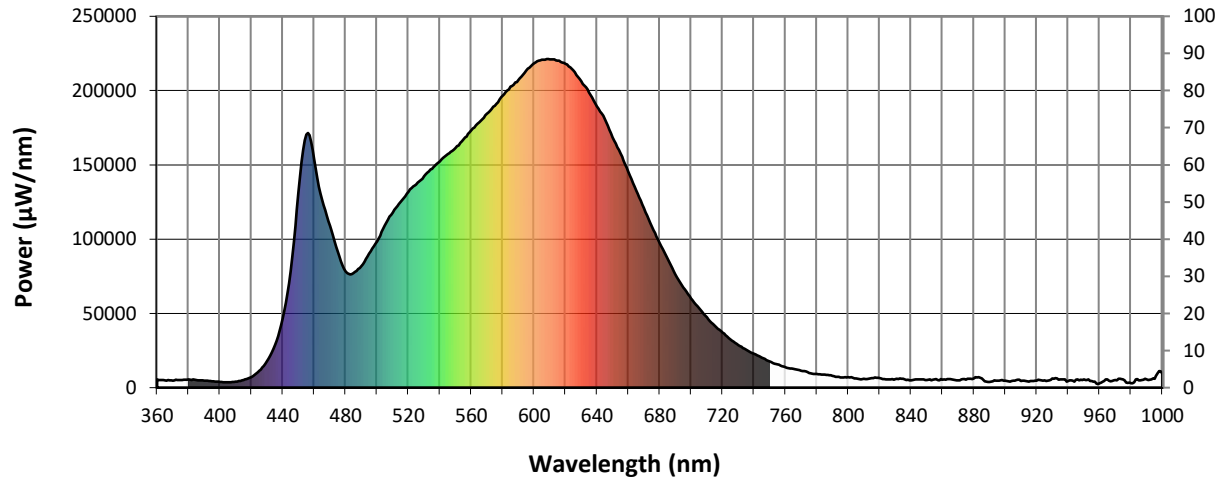
Scotopic Lumens: 19629.6

S/P: 1.6

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	5498	NR	490	81900	NR	620	217907	NR	750	17550	NR	880	6189	NR
365	4903	NR	495	90120	NR	625	213734	NR	755	15662	NR	885	6187	NR
370	4767	NR	500	98453	NR	630	206250	NR	760	13792	NR	890	3830	NR
375	5225	NR	505	109244	NR	635	198796	NR	765	12765	NR	895	4688	NR
380	5499	NR	510	117784	NR	640	189406	NR	770	11372	NR	900	4680	NR
385	5081	NR	515	125000	NR	645	180677	NR	775	9965	NR	905	4599	NR
390	4739	NR	520	131786	NR	650	168402	NR	780	9154	NR	910	4495	NR
395	4255	NR	525	136796	NR	655	157693	NR	785	8847	NR	915	3983	NR
400	3864	NR	530	142357	NR	660	145357	NR	790	7937	NR	920	4675	NR
405	3583	NR	535	147243	NR	665	132743	NR	795	6956	NR	925	4952	NR
410	3994	NR	540	152273	NR	670	120757	NR	800	6970	NR	930	6097	NR
415	5055	NR	545	157222	NR	675	108421	NR	805	6299	NR	935	5657	NR
420	7131	NR	550	161271	NR	680	97325	NR	810	6023	NR	940	4574	NR
425	11311	NR	555	167038	NR	685	86839	NR	815	6343	NR	945	5252	NR
430	17754	NR	560	173115	NR	690	76248	NR	820	6462	NR	950	5635	NR
435	28634	NR	565	178502	NR	695	67406	NR	825	5476	NR	955	4501	NR
440	46392	NR	570	184331	NR	700	60039	NR	830	5786	NR	960	2938	NR
445	78344	NR	575	189666	NR	705	53650	NR	835	5884	NR	965	5544	NR
450	131219	NR	580	196488	NR	710	47273	NR	840	4862	NR	970	5050	NR
455	170311	NR	585	202769	NR	715	41664	NR	845	5651	NR	975	5575	NR
460	154269	NR	590	207213	NR	720	37083	NR	850	5178	NR	980	2973	NR
465	126622	NR	595	213472	NR	725	32494	NR	855	5510	NR	985	4912	NR
470	109065	NR	600	218473	NR	730	28665	NR	860	5438	NR	990	5454	NR
475	91762	NR	605	220737	NR	735	25540	NR	865	5848	NR	995	6068	NR
480	78213	NR	610	221090	NR	740	22878	NR	870	4969	NR	1000	9406	NR
485	77035	NR	615	220059	NR	745	20304	NR	875	5438	NR			

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Melanopic Flux vs. Wavelength



Melanopic Lumens: 7912.5

M/P: 0.65

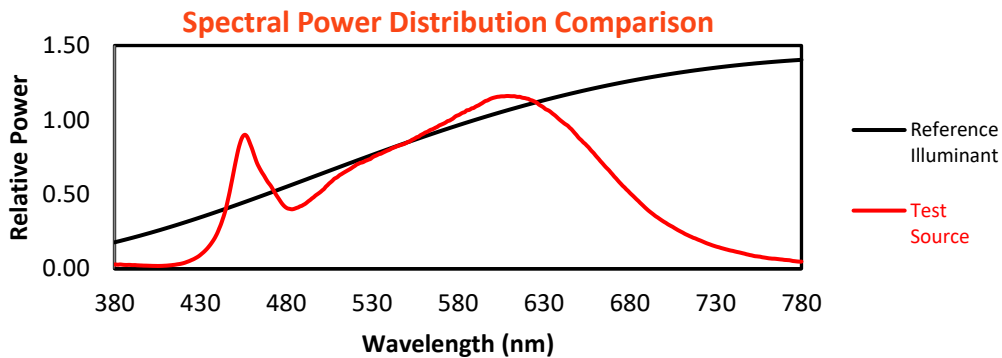
λ (nm)	Power (μW/nm)	Lumens (φ/nm)	λ (nm)	Power (μW/nm)	Lumens (φ/nm)	λ (nm)	Power (μW/nm)	Lumens (φ/nm)	λ (nm)	Power (μW/nm)	Lumens (φ/nm)	λ (nm)	Power (μW/nm)	Lumens (φ/nm)
360	5498	NR	490	81900	NR	620	217907	NR	750	17550	NR	880	6189	NR
365	4903	NR	495	90120	NR	625	213734	NR	755	15662	NR	885	6187	NR
370	4767	NR	500	98453	NR	630	206250	NR	760	13792	NR	890	3830	NR
375	5225	NR	505	109244	NR	635	198796	NR	765	12765	NR	895	4688	NR
380	5499	NR	510	117784	NR	640	189406	NR	770	11372	NR	900	4680	NR
385	5081	NR	515	125000	NR	645	180677	NR	775	9965	NR	905	4599	NR
390	4739	NR	520	131786	NR	650	168402	NR	780	9154	NR	910	4495	NR
395	4255	NR	525	136796	NR	655	157693	NR	785	8847	NR	915	3983	NR
400	3864	NR	530	142357	NR	660	145357	NR	790	7937	NR	920	4675	NR
405	3583	NR	535	147243	NR	665	132743	NR	795	6956	NR	925	4952	NR
410	3994	NR	540	152273	NR	670	120757	NR	800	6970	NR	930	6097	NR
415	5055	NR	545	157222	NR	675	108421	NR	805	6299	NR	935	5657	NR
420	7131	NR	550	161271	NR	680	97325	NR	810	6023	NR	940	4574	NR
425	11311	NR	555	167038	NR	685	86839	NR	815	6343	NR	945	5252	NR
430	17754	NR	560	173115	NR	690	76248	NR	820	6462	NR	950	5635	NR
435	28634	NR	565	178502	NR	695	67406	NR	825	5476	NR	955	4501	NR
440	46392	NR	570	184331	NR	700	60039	NR	830	5786	NR	960	2938	NR
445	78344	NR	575	189666	NR	705	53650	NR	835	5884	NR	965	5544	NR
450	131219	NR	580	196488	NR	710	47273	NR	840	4862	NR	970	5050	NR
455	170311	NR	585	202769	NR	715	41664	NR	845	5651	NR	975	5575	NR
460	154269	NR	590	207213	NR	720	37083	NR	850	5178	NR	980	2973	NR
465	126622	NR	595	213472	NR	725	32494	NR	855	5510	NR	985	4912	NR
470	109065	NR	600	218473	NR	730	28665	NR	860	5438	NR	990	5454	NR
475	91762	NR	605	220737	NR	735	25540	NR	865	5848	NR	995	6068	NR
480	78213	NR	610	221090	NR	740	22878	NR	870	4969	NR	1000	9406	NR
485	77035	NR	615	220059	NR	745	20304	NR	875	5438	NR			

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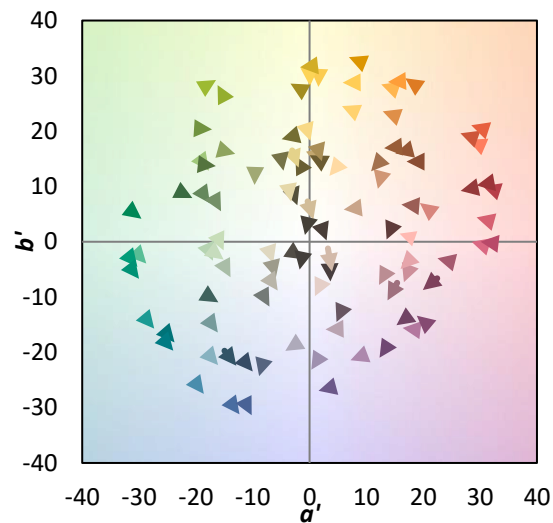
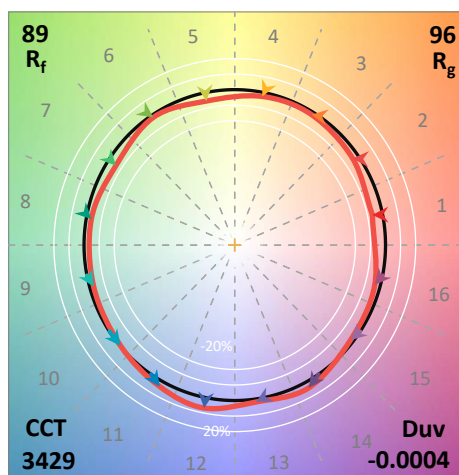
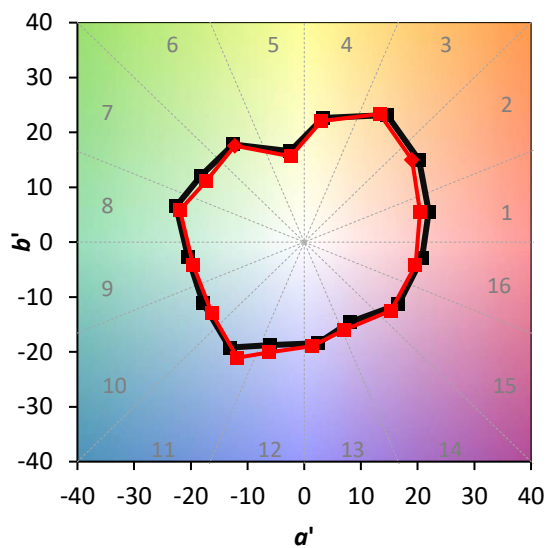
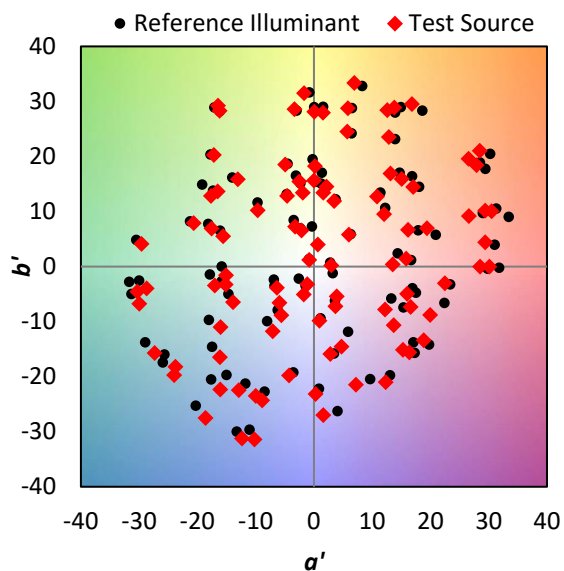
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Summary

$R_f = 88.9$
 $R_g = 96.3$
 $CIE R_a = 90.9$
 $R_9 = 50.7$



Color Vector Graphics

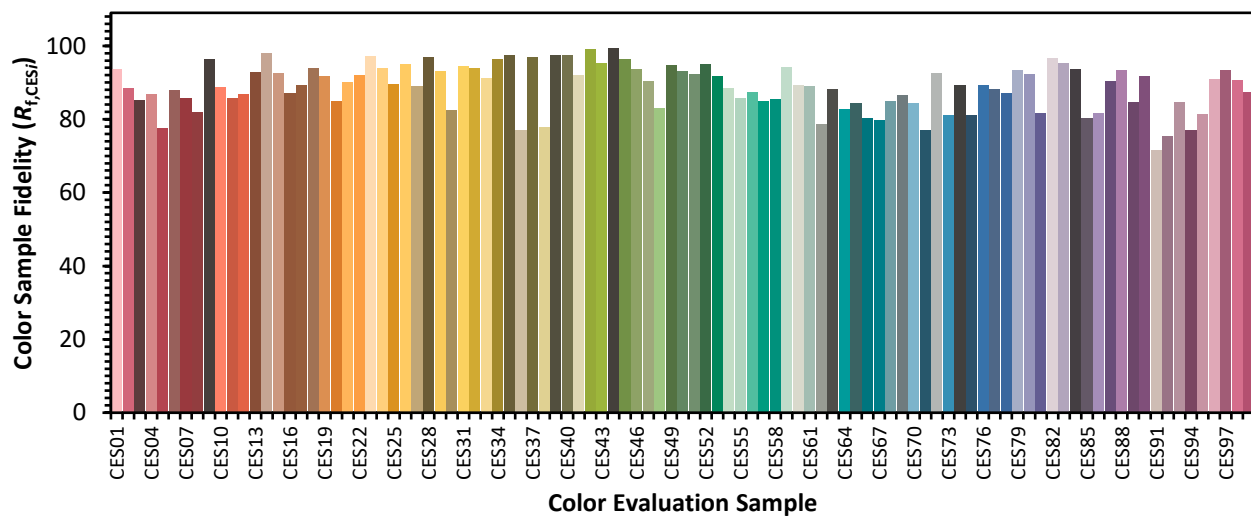


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Individual Sample Fidelity Index ($R_{f,i}$)

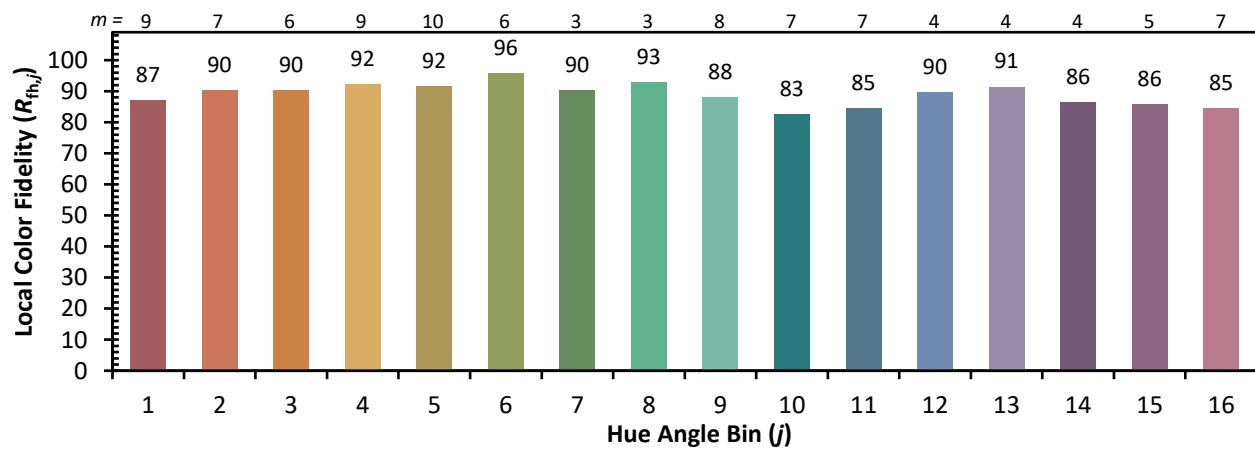
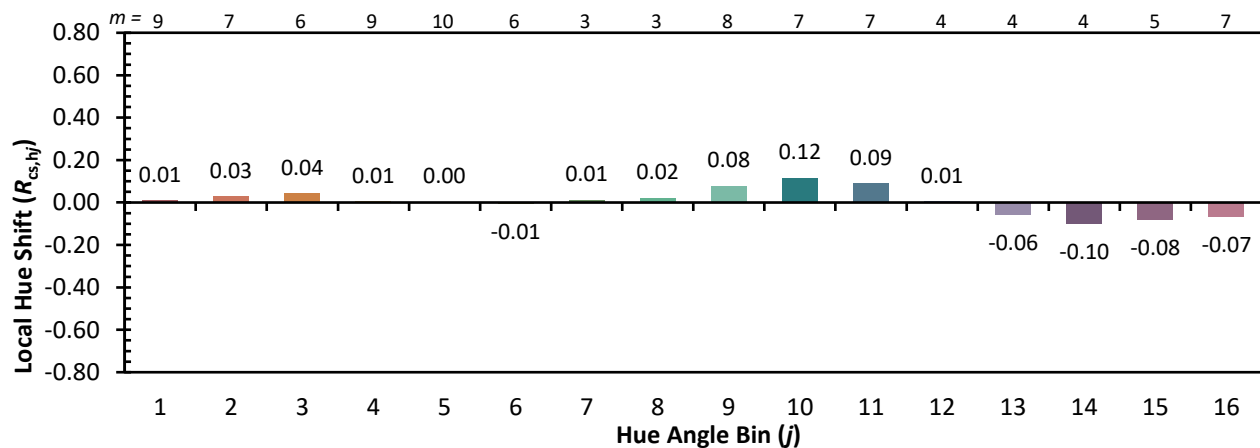
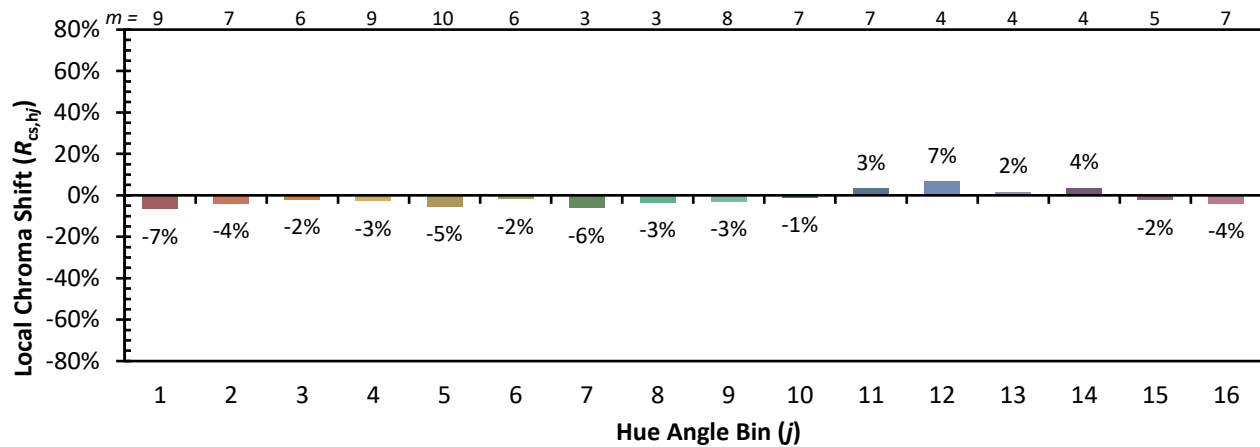
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CES02 = 62	CES27 = 89	CES52 = 95	CES77 = 88
CES03 = 31	CES28 = 97	CES53 = 92	CES78 = 87
CES04 = 70	CES29 = 93	CES54 = 89	CES79 = 93
CES05 = 49	CES30 = 82	CES55 = 86	CES80 = 92
CES06 = 51	CES31 = 95	CES56 = 87	CES81 = 82
CES07 = 42	CES32 = 94	CES57 = 85	CES82 = 97
CES08 = 41	CES33 = 91	CES58 = 85	CES83 = 95
CES09 = 29	CES34 = 96	CES59 = 94	CES84 = 94
CES10 = 75	CES35 = 97	CES60 = 89	CES85 = 80
CES11 = 58	CES36 = 77	CES61 = 89	CES86 = 82
CES12 = 64	CES37 = 97	CES62 = 79	CES87 = 90
CES13 = 43	CES38 = 78	CES63 = 88	CES88 = 93
CES14 = 74	CES39 = 97	CES64 = 83	CES89 = 85
CES15 = 71	CES40 = 98	CES65 = 84	CES90 = 92
CES16 = 47	CES41 = 92	CES66 = 80	CES91 = 72
CES17 = 50	CES42 = 99	CES67 = 80	CES92 = 75
CES18 = 56	CES43 = 95	CES68 = 85	CES93 = 85
CES19 = 71	CES44 = 99	CES69 = 86	CES94 = 77
CES20 = 66	CES45 = 96	CES70 = 84	CES95 = 81
CES21 = 86	CES46 = 94	CES71 = 77	CES96 = 91
CES22 = 78	CES47 = 91	CES72 = 93	CES97 = 93
CES23 = 91	CES48 = 83	CES73 = 81	CES98 = 91
CES24 = 90	CES49 = 95	CES74 = 89	CES99 = 87
CES25 = 71	CES50 = 93	CES75 = 81	



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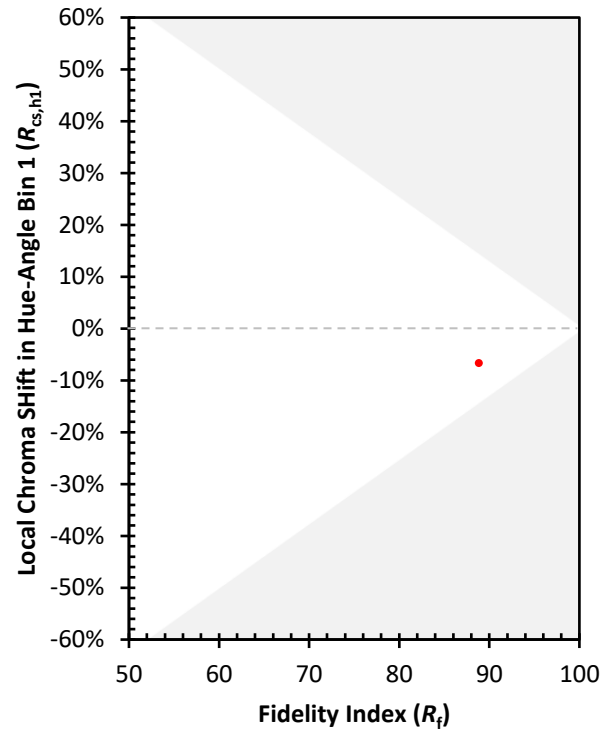
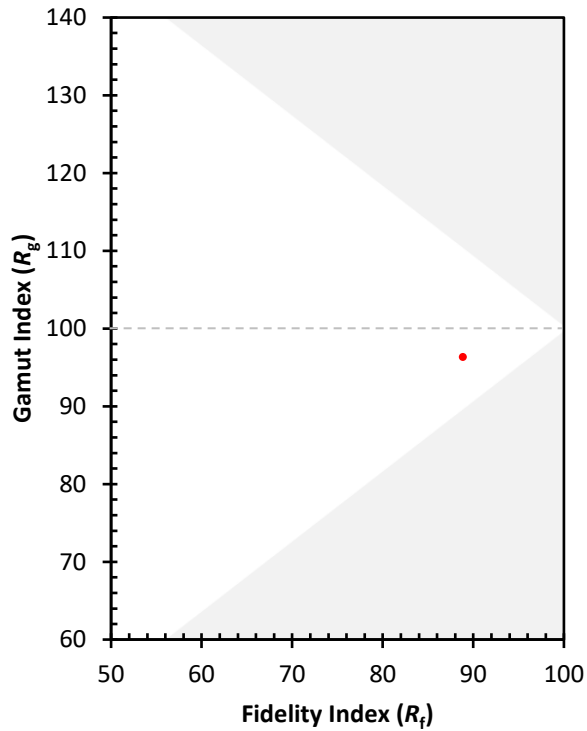
Color Rendition by Hue-Angle Bin



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Measure Comparisons



(END OF REPORT)