

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: P828785

Luminaire Tested: **OHB-12HE-W-UNV-L740-CD**

Issue Date: 5/3/2024



Test Information

Test Method: LM-79-08
Report Number: P828785
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2106-285-4)
Test Lab: INNOVATION CENTER
Issue Date: 5/3/2024
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: METALUX
Catalog Number: OHB-12HE-W-UNV-L740-CD
Description: 12000 LUMEN OHB HE LED LUMINAIRE WITH 70CRI, 4000K LEDS AND WIDE LENS
Light Source: -
Ballast/Driver: -

Summary

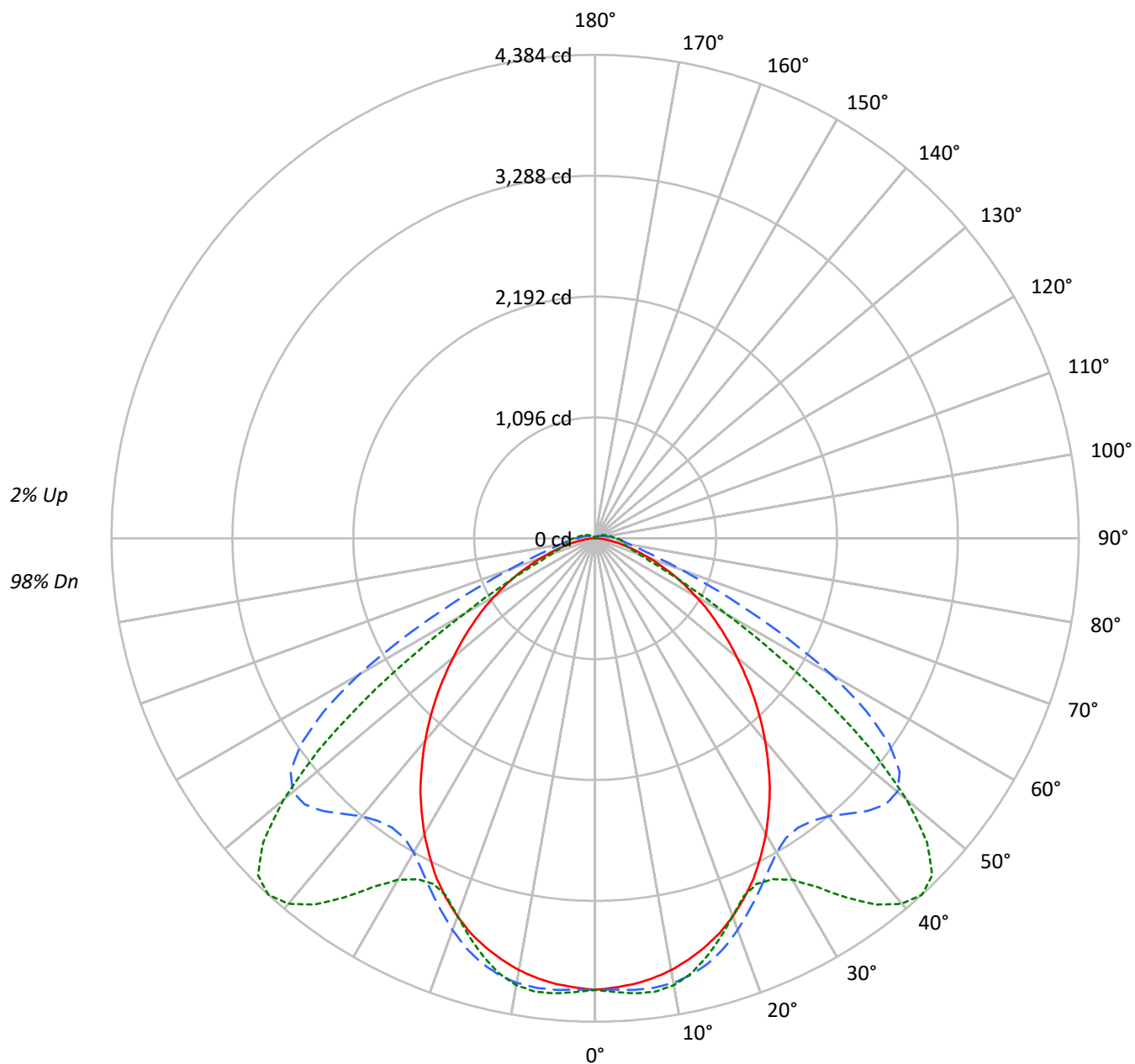
Lumens per Lamp: N/A
Luminaire Lumens: 12262.0 lumens
Efficiency: N/A
Efficacy: 175.2 lumens/watt
Spacing Criteria (0/90/45): 1.14 / 1.58 / 1.62
Luminous Opening: Rectangular w/ Sides (W: 1.67' x L: 1.93' x H: 0.17')
CIE Type: Direct

Input Watts (W): 70
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: P828785

CATALOG NUMBER: OHB-12HE-W-UNV-L740-CD

Luminous Intensity Polar Plot





TEST NUMBER: P828785

CATALOG NUMBER: OHB-12HE-W-UNV-L740-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	105	105	105	100	100	100			98
1	109	104	100	96	106	102	98	95	97	94	91	93	90	88	89	87	85			83
2	99	91	85	79	96	89	83	78	85	80	76	82	77	74	78	75	72			70
3	90	80	72	66	88	78	71	65	75	69	64	72	67	62	69	65	61			59
4	83	71	62	56	80	69	61	55	67	60	54	64	58	53	62	57	52			50
5	76	63	54	48	74	62	54	47	60	52	47	57	51	46	55	50	45			43
6	70	57	48	41	68	56	47	41	54	46	41	52	45	40	50	44	40			38
7	65	51	43	36	63	50	42	36	49	41	36	47	40	35	45	40	35			33
8	60	47	38	32	58	46	38	32	44	37	32	43	36	31	42	36	31			29
9	56	43	34	29	55	42	34	29	41	34	28	39	33	28	38	32	28			26
10	52	39	31	26	51	39	31	26	38	31	26	36	30	26	35	30	25			24

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	13680	13680	13680
5°	13503	13626	13769
10°	13285	13570	13718
15°	12977	13311	13213
20°	12574	12820	12501
25°	12054	12233	12185
30°	11379	11789	13037
35°	10619	11968	15160
40°	9748	12917	17403
45°	8842	14595	18559
50°	7903	16066	17112
55°	7019	15961	12932
60°	6122	13415	7799
65°	5181	9187	4640
70°	4131	5875	3270
75°	3054	4144	2923
80°	2089	3551	3102
85°	1280	3731	4313



TEST NUMBER: P828785

CATALOG NUMBER: OHB-12HE-W-UNV-L740-CD

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	391.3	3.2
10°-20°	1108.2	9.0
20°-30°	1621.6	13.2
30°-40°	2106.0	17.2
40°-50°	2571.7	21.0
50°-60°	2264.8	18.5
60°-70°	1180.2	9.6
70°-80°	506.1	4.1
80°-90°	243.1	2.0
90°-100°	114.2	0.9
100°-110°	71.0	0.6
110°-120°	42.0	0.3
120°-130°	22.8	0.2
130°-140°	11.4	0.1
140°-150°	5.5	0.0
150°-160°	1.9	0.0
160°-170°	0.0	0.0
170°-180°	0.0	0.0
0°-30°	3121.2	25.5
0°-40°	5227.2	42.6
0°-60°	10063.8	82.1
0°-90°	11993.2	97.8
90°-120°	227.2	1.9
90°-150°	266.9	2.2
90°-180°	269.0	2.2
0°-180°	12262.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	4095	4095	4095	4095	4095	
5°	4057	4088	4110	4146	4142	385
15°	3839	3947	3985	3955	3923	1081
25°	3402	3584	3523	3456	3460	1561
35°	2761	3053	3206	3738	3978	1721
45°	2033	2558	3496	4233	4322	1568
55°	1354	2241	3256	2855	2538	1215
65°	777	1552	1491	829	713	768
75°	313	726	479	328	311	341
85°	66	259	244	239	241	74
90°	1	94	161	184	188	5
95°	2	55	128	150	155	1
105°	4	31	83	100	102	4
115°	5	18	51	63	64	5
125°	6	9	30	39	40	5
135°	5	5	14	24	25	4
145°	7	5	6	12	13	4
155°	7	7	5	5	5	2
165°	0	0	0	0	0	0
175°	0	0	0	0	0	0
180°	0	0	0	0	0	



TEST NUMBER: P828785

CATALOG NUMBER: OHB-12HE-W-UNV-L740-CD

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	4095.3	4095.3	4095.3	4095.3	4095.3
2.5°	4077.6	4095.3	4096.2	4120.9	4118.3
5°	4057.3	4088.2	4110.3	4146.5	4142.1
7.5°	4023.7	4072.3	4111.2	4150.9	4147.4
10°	3976.0	4042.3	4093.5	4126.2	4115.6
12.5°	3914.2	4001.6	4052.0	4059.1	4038.7
15°	3839.1	3946.8	3984.8	3954.8	3923.0
17.5°	3754.2	3880.6	3893.8	3828.5	3788.7
20°	3648.2	3792.2	3779.0	3688.8	3644.7
22.5°	3530.7	3695.0	3652.6	3558.1	3515.7
25°	3401.7	3583.7	3522.7	3456.5	3460.0
27.5°	3250.6	3457.4	3398.2	3428.2	3484.7
30°	3096.9	3324.8	3288.6	3463.5	3574.9
32.5°	2928.1	3188.8	3221.4	3566.9	3748.9
35°	2761.1	3052.7	3205.5	3738.3	3977.8
37.5°	2576.5	2914.9	3231.2	3936.2	4187.2
40°	2397.1	2780.6	3289.5	4113.8	4325.9
42.5°	2214.2	2660.4	3387.6	4219.0	4384.2
45°	2033.1	2557.9	3496.2	4233.1	4321.5
47.5°	1851.9	2471.3	3571.3	4120.9	4080.3
50°	1677.0	2394.4	3576.6	3851.4	3685.3
52.5°	1513.5	2323.8	3479.4	3422.0	3164.0
55°	1353.6	2240.7	3255.9	2854.8	2537.6
57.5°	1207.8	2125.8	2911.3	2245.1	1898.8
60°	1053.2	1970.3	2466.0	1642.5	1369.5
62.5°	910.9	1776.8	1966.8	1143.3	984.3
65°	776.6	1552.4	1490.6	828.8	713.0
67.5°	634.4	1320.0	1100.0	604.4	530.1
70°	523.1	1104.4	819.1	470.1	426.8
72.5°	409.1	899.5	612.3	381.7	357.8
75°	312.8	726.3	478.9	327.8	311.0
77.5°	230.6	574.3	385.2	289.8	273.9
80°	161.7	452.4	322.5	258.9	252.7
82.5°	108.7	349.9	274.8	246.5	247.4
85°	66.3	258.9	243.9	238.6	241.2
87.5°	31.8	183.8	209.4	217.4	220.0
90°	0.9	93.7	160.8	183.8	188.2
92.5°	0.0	71.6	141.4	164.3	168.8
95°	1.8	54.8	128.1	150.2	154.6
97.5°	1.8	45.1	114.9	137.8	140.5
100°	2.7	38.9	102.5	124.6	127.2
102.5°	2.7	34.5	91.9	111.3	113.1
105°	3.5	30.9	83.1	99.8	101.6



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CATALOG NUMBER: OHB-12HE-W-UNV-L740-CD

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	5.3	21.2	58.3	70.7	72.5
115°	5.3	17.7	51.2	62.7	64.5
117.5°	6.2	15.9	45.1	55.7	56.5
120°	6.2	13.3	38.9	49.5	50.4
122.5°	6.2	10.6	34.5	44.2	45.1
125°	6.2	8.8	30.0	38.9	39.8
127.5°	5.3	6.2	25.6	34.5	35.3
130°	5.3	5.3	21.2	30.0	31.8
132.5°	5.3	5.3	17.7	26.5	28.3
135°	5.3	5.3	14.1	23.9	24.7
137.5°	5.3	5.3	11.5	20.3	22.1
140°	5.3	5.3	8.8	17.7	18.6
142.5°	6.2	5.3	8.0	15.0	15.9
145°	7.1	5.3	6.2	11.5	13.3
147.5°	7.1	6.2	6.2	9.7	10.6
150°	7.1	7.1	5.3	7.1	8.8
152.5°	7.1	7.1	5.3	5.3	7.1
155°	7.1	7.1	5.3	5.3	5.3
157.5°	0.0	0.0	0.0	0.0	0.0
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



Report Generated By 670246072 / DESKTOP-50001EG





— 0°-180° - - 45°-225° - - - 90°-270°







107.5°	4.4	27.4	74.2	89.2	91.0
110°	4.4	23.9	65.4	79.5	81.3



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

Report Prepared for

Cooper Lighting Solutions

METALUX

Report Number: SP1-2307-100-3

Test Date: 08/03/2023

Luminaire Tested: OHB-15SE-N-UNV-L740-CD

Data in this report applies to families of products including OHB-15SE-N-UNV-L740-CD.

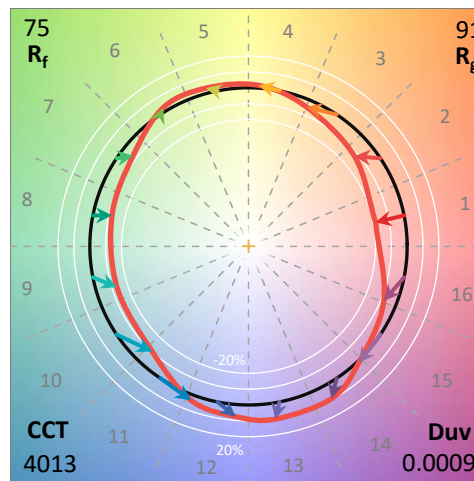
Test Information

Test Method: LM-79-2019
 Report Number: SP1-2307-100-3
 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-L740-CD**
 Description: 15000 LUMEN OHB SE LED LUMINAIRE WITH 70CRI, 4000K LEDS AND NARROW LENS

LENS

Spectral Parameters

CCT (K):	4013	CRI (Ra):	71.9		
CIE u':	0.2243	R1:	67.7	R9:	-37.4
CIE v':	0.5023	R2:	81.2	R10:	55.0
Duv:	0.0009	R3:	90.6	R11:	61.2
CIE x:	0.3803	R4:	67.3	R12:	42.7
CIE y:	0.3785	R5:	67.5	R13:	70.6
CIE z:	0.2412	R6:	72.5	R14:	94.8
Peak Wavelength (nm):	454	R7:	80.1		
Dominant Wavelength (nm):	578	R8:	48.1		
Purity:	27.9				
Rf:	74.7				
Rg:	90.6				



Test Conditions

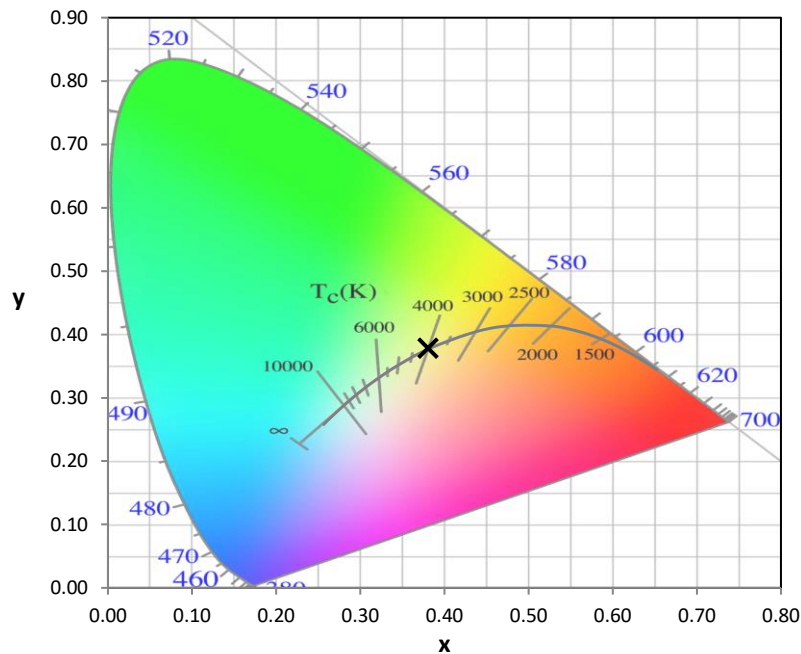
Stabilization Time: 24M
 Operation Time: 12H
 Room Temperature (°C) / RH%: 25.7/58%
 Sphere Temperature (°C): 25.2

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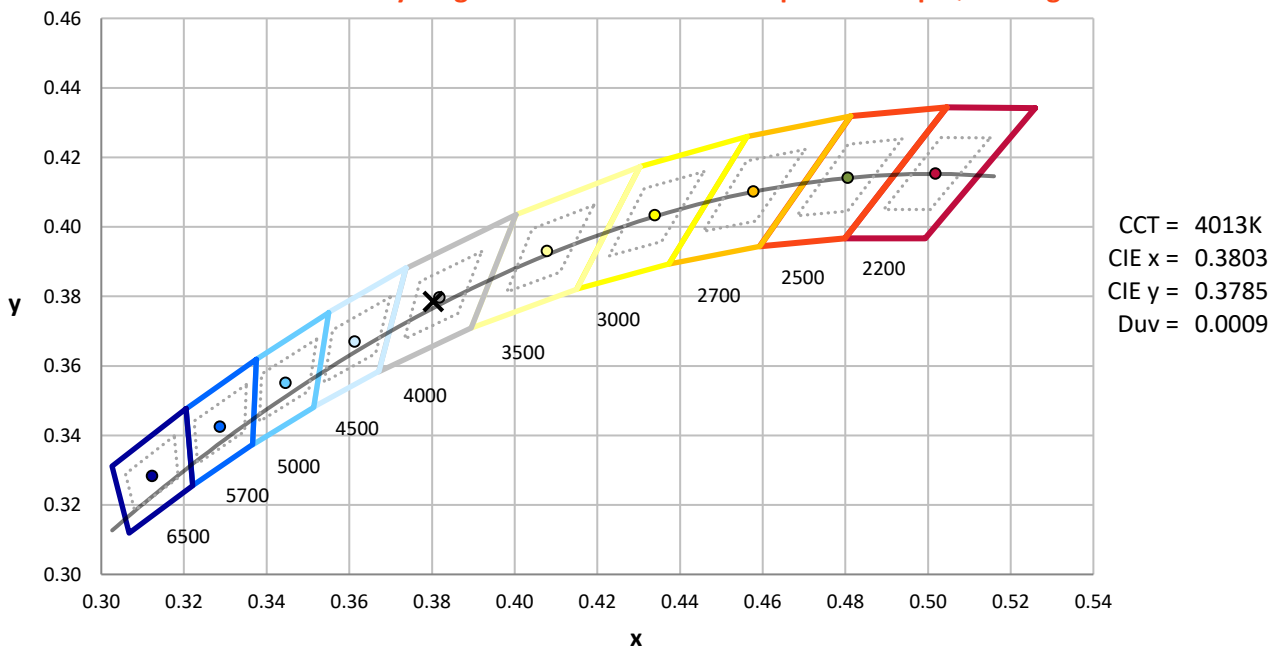
Measurement and Test Equipment			
Instrument	Identification Number	Calibration Date	Calibration Due Date
Photometer	76INCH SPHERE IN0058	2/9/2023	8/9/2023
Power Meter	XITRON 2801 IN0071	11/29/2022	11/29/2023
AC Power Source	CHROMA 61603 IN0063	11/28/2022	11/28/2023
DC Power Source	AGILENT E3634A IN0208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



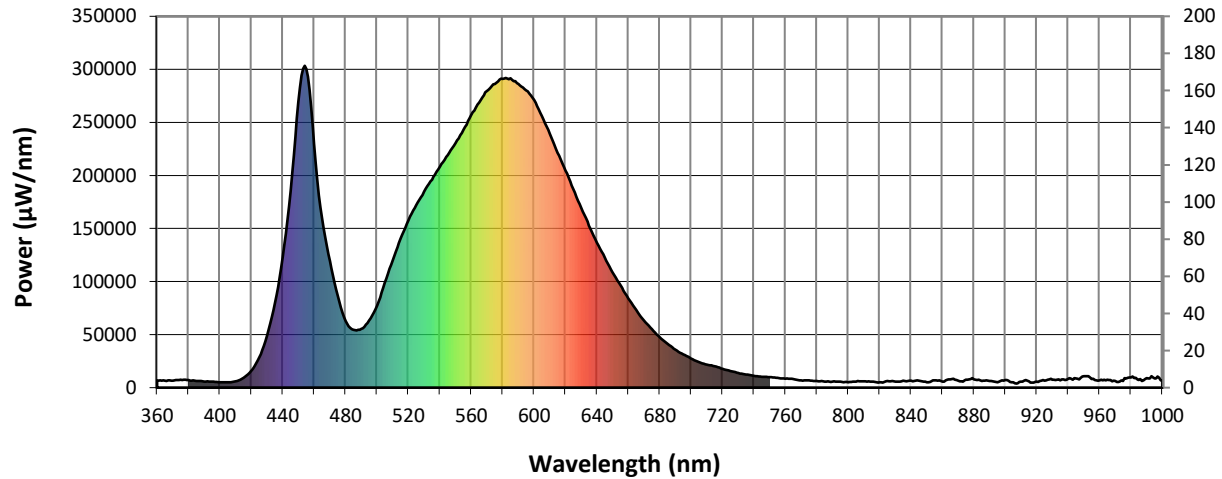
CIE 1931 Chromaticity Diagram with 2017 ANSI 7-Step and 4-Step Quadrangles



Point lies inside the ANSI 4000K 4-step quadrangle

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Photopic Flux vs. Wavelength

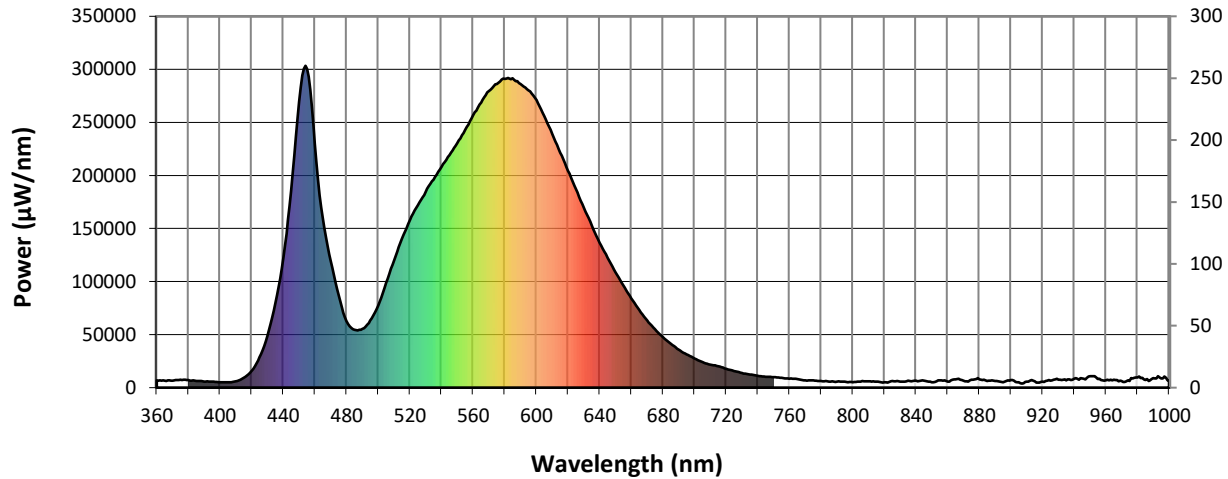


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λ (nm)	Power (μW/nm)	Lumens (φ/nm)	λ (nm)	Power (μW/nm)	Lumens (φ/nm)	λ (nm)	Power (μW/nm)	Lumens (φ/nm)	λ (nm)	Power (μW/nm)	Lumens (φ/nm)	λ (nm)	Power (μW/nm)	Lumens (φ/nm)
360	6930	NR	490	55345	NR	620	204359	NR	750	9973	NR	880	7740	NR
365	6548	NR	495	63140	NR	625	187136	NR	755	9262	NR	885	6139	NR
370	6520	NR	500	77260	NR	630	169554	NR	760	8423	NR	890	6392	NR
375	7463	NR	505	98785	NR	635	152565	NR	765	8205	NR	895	5061	NR
380	7033	NR	510	119863	NR	640	136700	NR	770	6817	NR	900	7326	NR
385	6403	NR	515	140055	NR	645	122449	NR	775	6792	NR	905	5039	NR
390	5734	NR	520	157790	NR	650	108580	NR	780	6216	NR	910	5717	NR
395	5717	NR	525	171938	NR	655	96370	NR	785	5732	NR	915	5977	NR
400	4977	NR	530	184920	NR	660	84194	NR	790	5647	NR	920	5766	NR
405	5006	NR	535	196020	NR	665	73166	NR	795	5584	NR	925	6611	NR
410	5959	NR	540	208194	NR	670	63358	NR	800	5174	NR	930	7338	NR
415	9179	NR	545	219324	NR	675	55149	NR	805	5757	NR	935	6930	NR
420	15787	NR	550	230377	NR	680	47533	NR	810	6012	NR	940	8242	NR
425	28518	NR	555	242973	NR	685	41350	NR	815	5577	NR	945	8766	NR
430	48907	NR	560	256802	NR	690	35841	NR	820	5086	NR	950	10931	NR
435	79961	NR	565	268752	NR	695	31197	NR	825	6404	NR	955	8190	NR
440	122565	NR	570	279406	NR	700	27528	NR	830	5767	NR	960	6809	NR
445	185397	NR	575	286045	NR	705	24001	NR	835	6610	NR	965	7570	NR
450	269609	NR	580	291082	NR	710	21755	NR	840	6428	NR	970	6365	NR
455	300483	NR	585	291620	NR	715	20058	NR	845	6469	NR	975	6203	NR
460	229777	NR	590	286117	NR	720	17690	NR	850	5020	NR	980	9515	NR
465	159722	NR	595	280083	NR	725	15738	NR	855	6786	NR	985	7323	NR
470	119038	NR	600	270967	NR	730	13744	NR	860	5776	NR	990	9023	NR
475	86663	NR	605	255964	NR	735	12435	NR	865	7909	NR	995	8813	NR
480	62772	NR	610	239107	NR	740	11118	NR	870	6451	NR	1000	6436	NR
485	54561	NR	615	221194	NR	745	10318	NR	875	7611	NR			

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Scotopic Flux vs. Wavelength



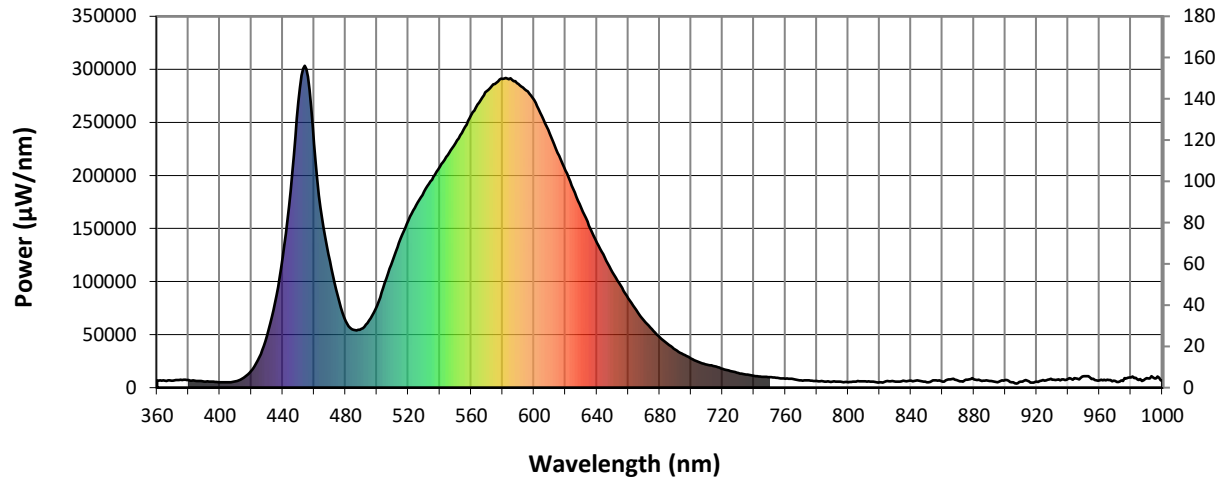
Scotopic Lumens: 24452.5

S/P: 1.56

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	6930	NR	490	55345	NR	620	204359	NR	750	9973	NR	880	7740	NR
365	6548	NR	495	63140	NR	625	187136	NR	755	9262	NR	885	6139	NR
370	6520	NR	500	77260	NR	630	169554	NR	760	8423	NR	890	6392	NR
375	7463	NR	505	98785	NR	635	152565	NR	765	8205	NR	895	5061	NR
380	7033	NR	510	119863	NR	640	136700	NR	770	6817	NR	900	7326	NR
385	6403	NR	515	140055	NR	645	122449	NR	775	6792	NR	905	5039	NR
390	5734	NR	520	157790	NR	650	108580	NR	780	6216	NR	910	5717	NR
395	5717	NR	525	171938	NR	655	96370	NR	785	5732	NR	915	5977	NR
400	4977	NR	530	184920	NR	660	84194	NR	790	5647	NR	920	5766	NR
405	5006	NR	535	196020	NR	665	73166	NR	795	5584	NR	925	6611	NR
410	5959	NR	540	208194	NR	670	63358	NR	800	5174	NR	930	7338	NR
415	9179	NR	545	219324	NR	675	55149	NR	805	5757	NR	935	6930	NR
420	15787	NR	550	230377	NR	680	47533	NR	810	6012	NR	940	8242	NR
425	28518	NR	555	242973	NR	685	41350	NR	815	5577	NR	945	8766	NR
430	48907	NR	560	256802	NR	690	35841	NR	820	5086	NR	950	10931	NR
435	79961	NR	565	268752	NR	695	31197	NR	825	6404	NR	955	8190	NR
440	122565	NR	570	279406	NR	700	27528	NR	830	5767	NR	960	6809	NR
445	185397	NR	575	286045	NR	705	24001	NR	835	6610	NR	965	7570	NR
450	269609	NR	580	291082	NR	710	21755	NR	840	6428	NR	970	6365	NR
455	300483	NR	585	291620	NR	715	20058	NR	845	6469	NR	975	6203	NR
460	229777	NR	590	286117	NR	720	17690	NR	850	5020	NR	980	9515	NR
465	159722	NR	595	280083	NR	725	15738	NR	855	6786	NR	985	7323	NR
470	119038	NR	600	270967	NR	730	13744	NR	860	5776	NR	990	9023	NR
475	86663	NR	605	255964	NR	735	12435	NR	865	7909	NR	995	8813	NR
480	62772	NR	610	239107	NR	740	11118	NR	870	6451	NR	1000	6436	NR
485	54561	NR	615	221194	NR	745	10318	NR	875	7611	NR			

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Melanopic Flux vs. Wavelength



Melanopic Lumens: 9678.5

M/P: 0.62

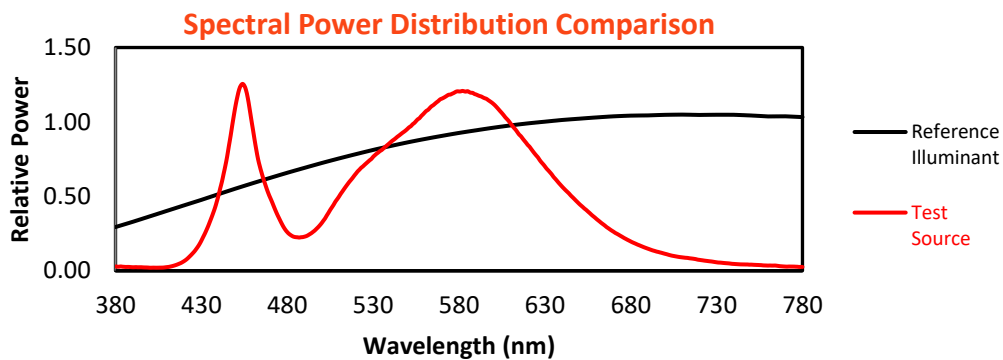
λ (nm)	Power (μW/nm)	Lumens (φ/nm)	λ (nm)	Power (μW/nm)	Lumens (φ/nm)	λ (nm)	Power (μW/nm)	Lumens (φ/nm)	λ (nm)	Power (μW/nm)	Lumens (φ/nm)	λ (nm)	Power (μW/nm)	Lumens (φ/nm)
360	6930	NR	490	55345	NR	620	204359	NR	750	9973	NR	880	7740	NR
365	6548	NR	495	63140	NR	625	187136	NR	755	9262	NR	885	6139	NR
370	6520	NR	500	77260	NR	630	169554	NR	760	8423	NR	890	6392	NR
375	7463	NR	505	98785	NR	635	152565	NR	765	8205	NR	895	5061	NR
380	7033	NR	510	119863	NR	640	136700	NR	770	6817	NR	900	7326	NR
385	6403	NR	515	140055	NR	645	122449	NR	775	6792	NR	905	5039	NR
390	5734	NR	520	157790	NR	650	108580	NR	780	6216	NR	910	5717	NR
395	5717	NR	525	171938	NR	655	96370	NR	785	5732	NR	915	5977	NR
400	4977	NR	530	184920	NR	660	84194	NR	790	5647	NR	920	5766	NR
405	5006	NR	535	196020	NR	665	73166	NR	795	5584	NR	925	6611	NR
410	5959	NR	540	208194	NR	670	63358	NR	800	5174	NR	930	7338	NR
415	9179	NR	545	219324	NR	675	55149	NR	805	5757	NR	935	6930	NR
420	15787	NR	550	230377	NR	680	47533	NR	810	6012	NR	940	8242	NR
425	28518	NR	555	242973	NR	685	41350	NR	815	5577	NR	945	8766	NR
430	48907	NR	560	256802	NR	690	35841	NR	820	5086	NR	950	10931	NR
435	79961	NR	565	268752	NR	695	31197	NR	825	6404	NR	955	8190	NR
440	122565	NR	570	279406	NR	700	27528	NR	830	5767	NR	960	6809	NR
445	185397	NR	575	286045	NR	705	24001	NR	835	6610	NR	965	7570	NR
450	269609	NR	580	291082	NR	710	21755	NR	840	6428	NR	970	6365	NR
455	300483	NR	585	291620	NR	715	20058	NR	845	6469	NR	975	6203	NR
460	229777	NR	590	286117	NR	720	17690	NR	850	5020	NR	980	9515	NR
465	159722	NR	595	280083	NR	725	15738	NR	855	6786	NR	985	7323	NR
470	119038	NR	600	270967	NR	730	13744	NR	860	5776	NR	990	9023	NR
475	86663	NR	605	255964	NR	735	12435	NR	865	7909	NR	995	8813	NR
480	62772	NR	610	239107	NR	740	11118	NR	870	6451	NR	1000	6436	NR
485	54561	NR	615	221194	NR	745	10318	NR	875	7611	NR			

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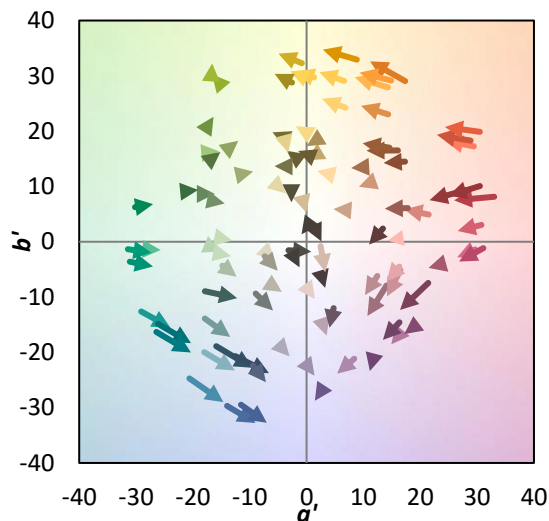
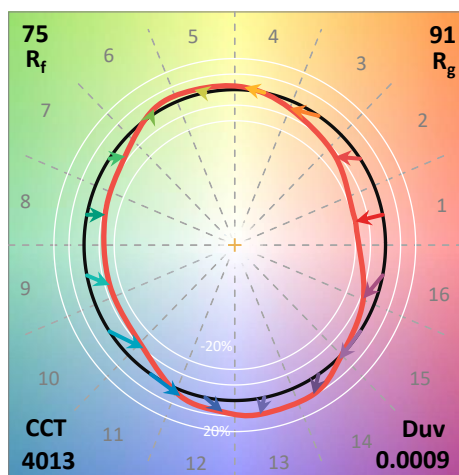
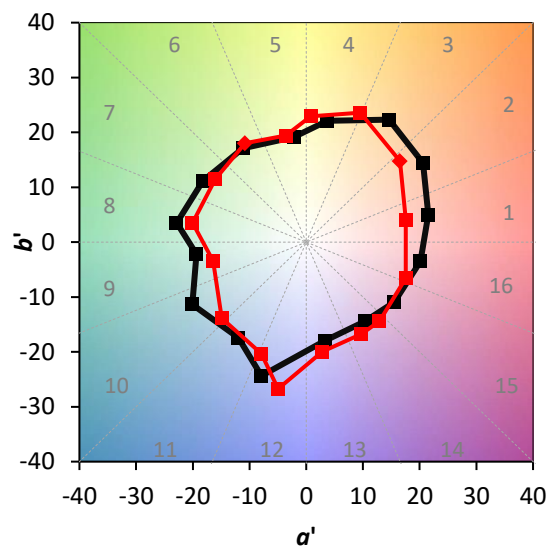
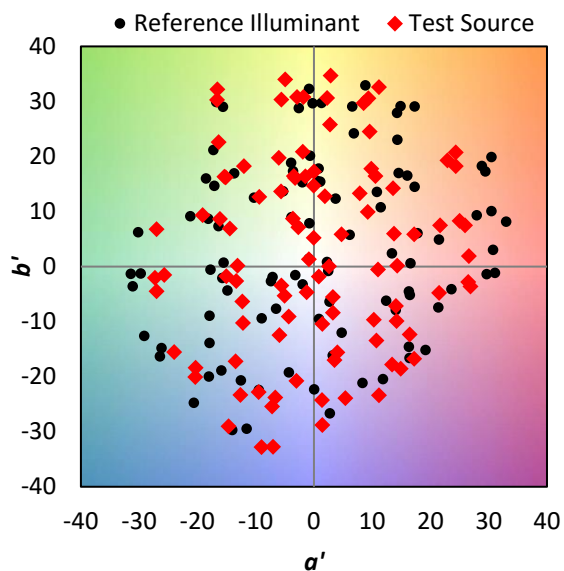
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Summary

$R_f = 74.7$
 $R_g = 90.6$
 CIE $R_a = 71.9$
 $R_g = -37.4$



Color Vector Graphics

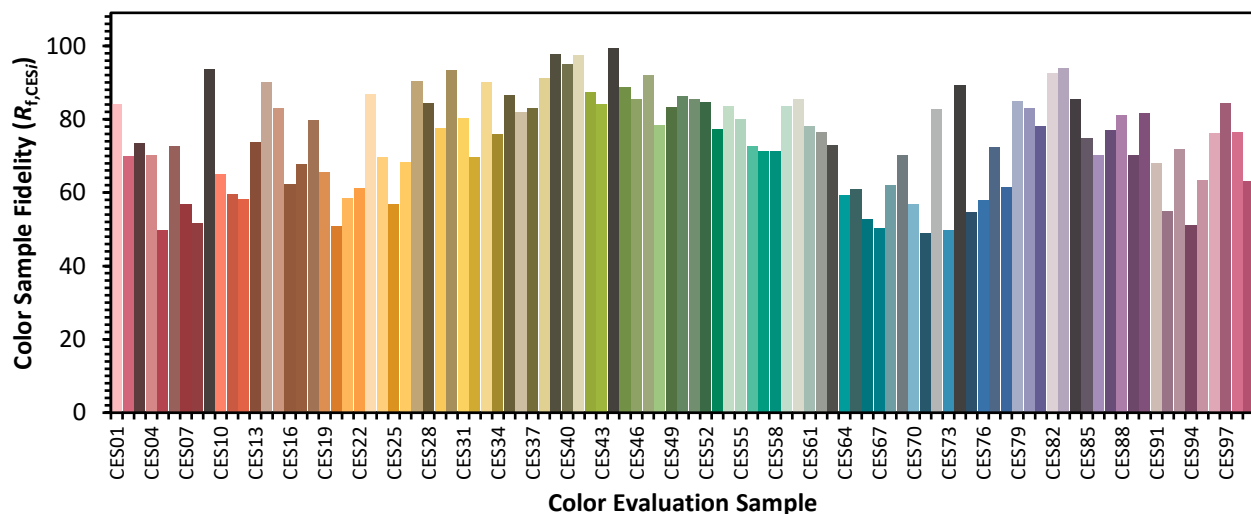


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Individual Sample Fidelity Index ($R_{f,i}$)

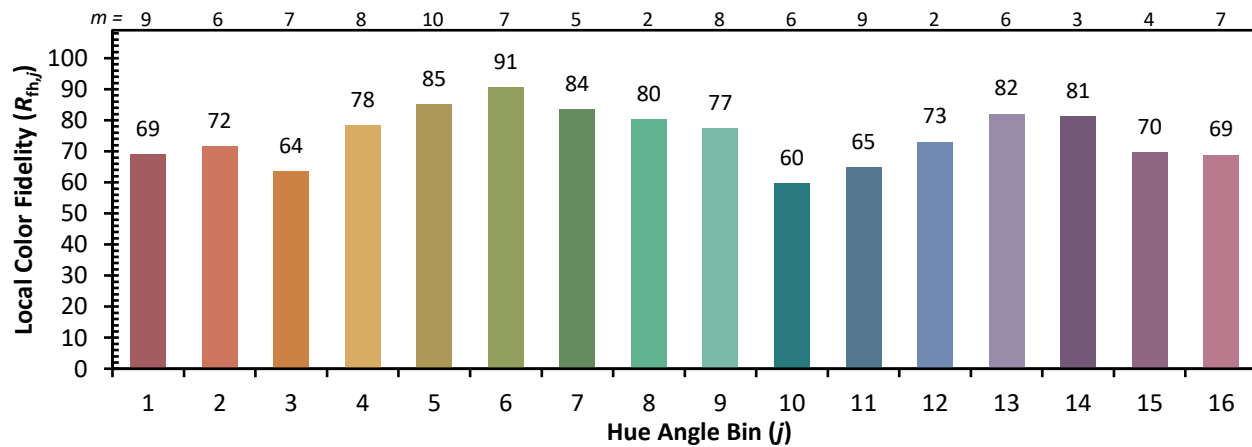
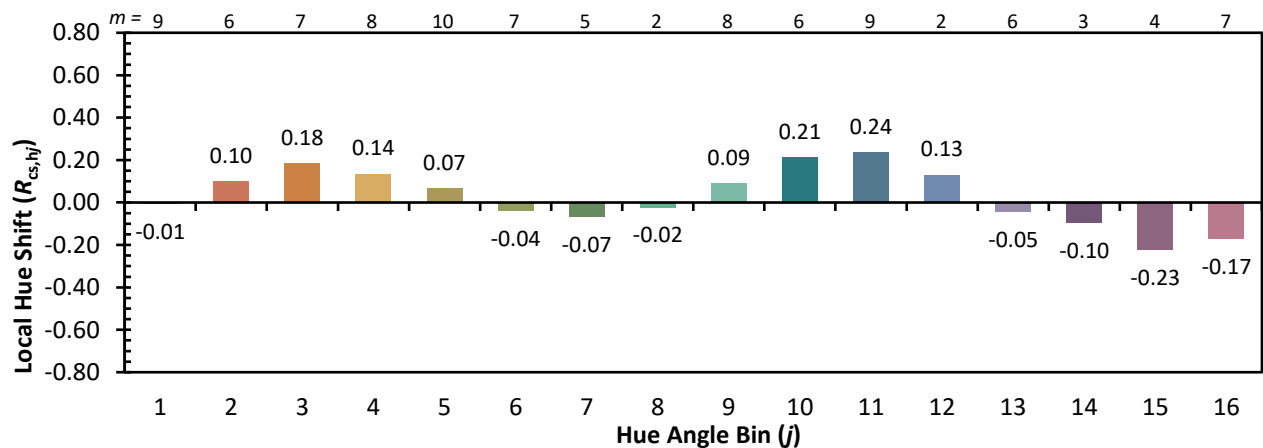
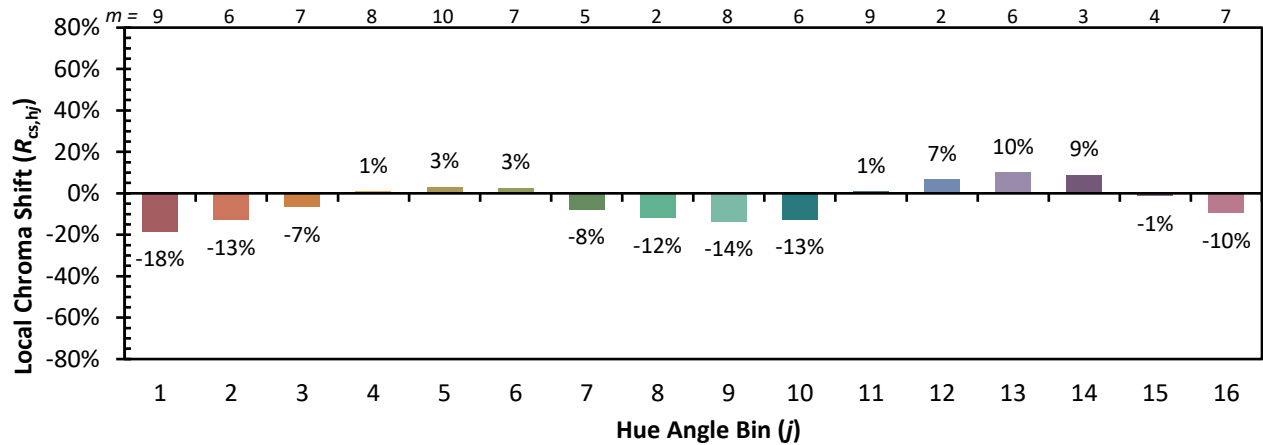
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CES02 = 61	CES27 = 90	CES52 = 85	CES77 = 72
CES03 = 30	CES28 = 84	CES53 = 77	CES78 = 61
CES04 = 70	CES29 = 77	CES54 = 83	CES79 = 85
CES05 = 47	CES30 = 93	CES55 = 80	CES80 = 83
CES06 = 50	CES31 = 80	CES56 = 73	CES81 = 78
CES07 = 39	CES32 = 70	CES57 = 71	CES82 = 93
CES08 = 39	CES33 = 90	CES58 = 71	CES83 = 94
CES09 = 29	CES34 = 76	CES59 = 84	CES84 = 85
CES10 = 74	CES35 = 87	CES60 = 85	CES85 = 75
CES11 = 57	CES36 = 82	CES61 = 78	CES86 = 70
CES12 = 63	CES37 = 83	CES62 = 76	CES87 = 77
CES13 = 42	CES38 = 91	CES63 = 73	CES88 = 81
CES14 = 74	CES39 = 98	CES64 = 59	CES89 = 70
CES15 = 71	CES40 = 95	CES65 = 61	CES90 = 82
CES16 = 46	CES41 = 97	CES66 = 53	CES91 = 68
CES17 = 49	CES42 = 87	CES67 = 50	CES92 = 55
CES18 = 56	CES43 = 84	CES68 = 62	CES93 = 72
CES19 = 72	CES44 = 99	CES69 = 70	CES94 = 51
CES20 = 64	CES45 = 89	CES70 = 57	CES95 = 63
CES21 = 86	CES46 = 86	CES71 = 49	CES96 = 76
CES22 = 78	CES47 = 92	CES72 = 83	CES97 = 84
CES23 = 92	CES48 = 78	CES73 = 50	CES98 = 76
CES24 = 91	CES49 = 83	CES74 = 89	CES99 = 63
CES25 = 72	CES50 = 86	CES75 = 55	



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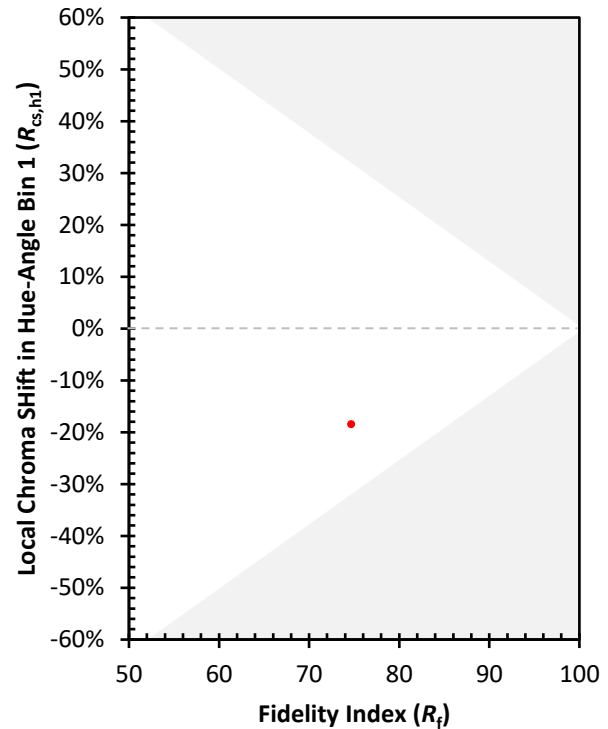
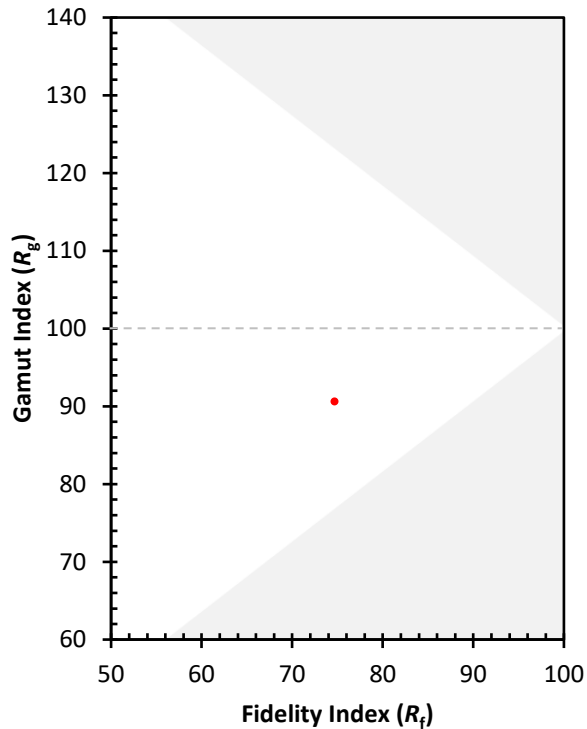
Color Rendition by Hue-Angle Bin



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Measure Comparisons



(END OF REPORT)