

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: iO LED

Report Number: P861234

Luminaire Tested: CS-SL-9SCT-120-ID-UNV-W-SA-STD-4F (Low-4000K)

Issue Date: 8/14/2024

**Test Information**

Test Method: LM-79-2019  
Report Number: P861234  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2312-259-3)  
Test Lab: COOPER LIGHTING SOLUTIONS  
Issue Date: 8/14/2024  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: iO LED  
Catalog Number: CS-SL-9SCT-120-ID-UNV-W-SA-STD-4F (Low-4000K)  
Description: iO CovSelect LED LINEAR LUMINAIRE, 4 FOOT, HIGH OUTPUT  
ADJUSTED TO 4000K  
Light Source: 4000 CCT, 90 CRI LEDS  
Ballast/Driver: -

**Summary**

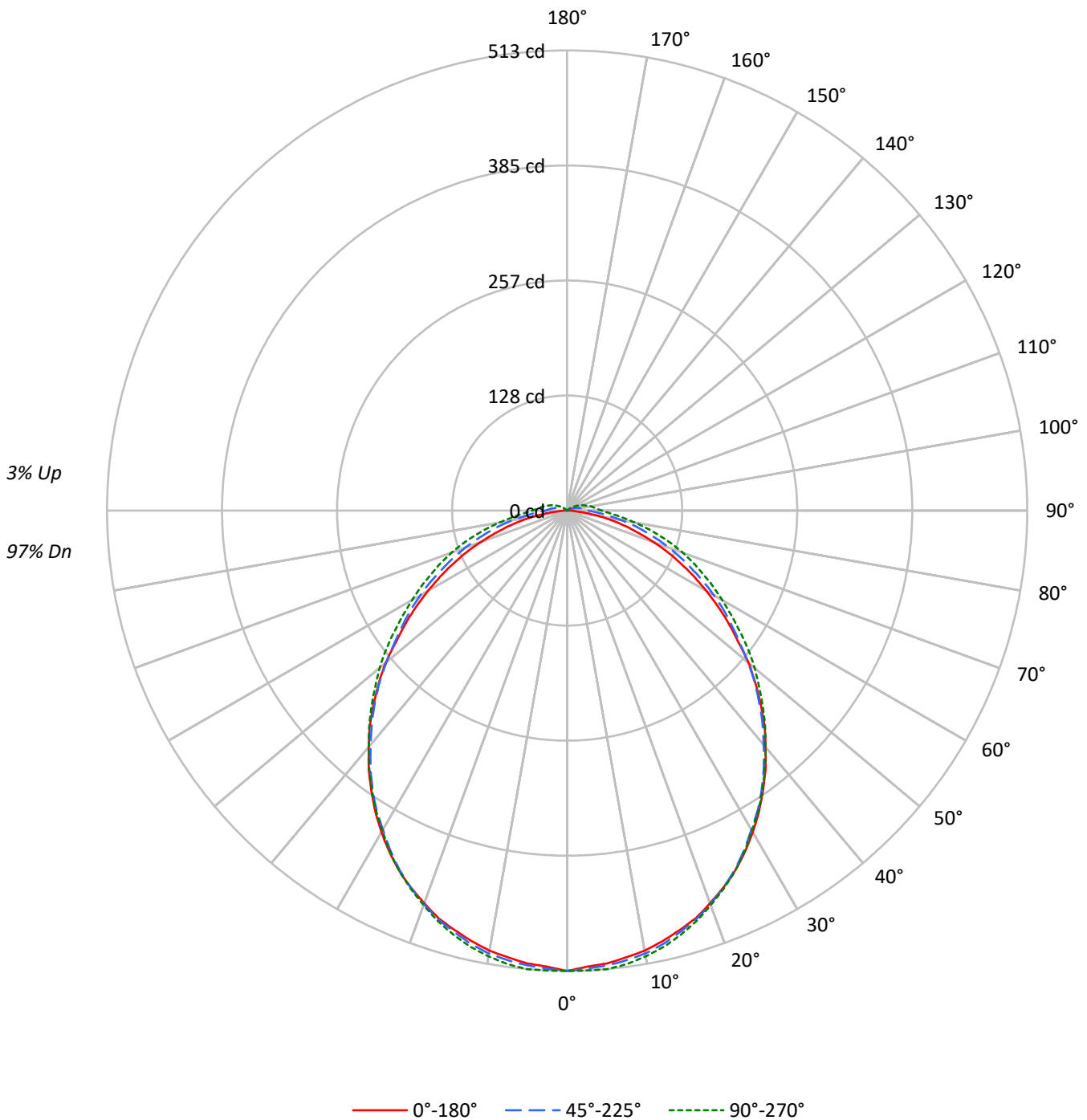
Lumens per Lamp: N/A  
Luminaire Lumens: 1390.5 lumens  
Efficiency: N/A  
Efficacy: 132.4 lumens/watt  
Spacing Criteria (0/90/45): 1.2 / 1.2 / 1.3  
Luminous Opening: Rectangular w/ Sides (W: 0.08' x L: 4' x H: 0.02')  
CIE Type: Direct  
  
Input Watts (W): 10.5  
Input Voltage (V): 120  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: 0.9839  
Total Harmonic Distortion (THDi): 0.0826  
Frequency (hertz): 60  
Stabilization Time: 0.333 HR  
Operation Time: 3 HR  
Ambient Temperature (°C): NR  
Test Distance: 24 FT



TEST NUMBER: P861234

CATALOG NUMBER: CS-SL-9SCT-120-ID-UNV-W-SA-STD-4F (Low-4000K)

### Luminous Intensity Polar Plot





TEST NUMBER: P861234

CATALOG NUMBER: CS-SL-9SCT-120-ID-UNV-W-SA-STD-4F (Low-4000K)

**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	50	30	10	0		
RCR																										
0	118	118	118	118	115	115	115	115	110	110	110	104	104	104	100	100	100	97								
1	108	103	99	95	105	100	96	93	96	92	89	91	89	86	87	85	83	81								
2	98	90	83	77	95	88	81	76	84	79	74	80	76	72	77	73	70	68								
3	90	79	71	65	87	77	70	64	74	68	62	71	65	61	68	63	59	57								
4	82	70	62	55	80	69	61	54	66	59	53	63	57	52	61	56	51	49								
5	76	63	54	47	73	62	53	47	59	52	46	57	51	46	55	49	45	43								
6	70	57	48	42	68	56	47	41	54	46	41	52	45	40	50	44	40	37								
7	65	52	43	37	63	51	42	37	49	41	36	47	41	36	46	40	35	33								
8	61	47	39	33	59	46	38	33	45	38	32	43	37	32	42	36	32	30								
9	57	43	35	30	55	43	35	30	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°	16572	16572	16572
5°	16421	16240	16279
10°	16318	15934	15847
15°	16161	15508	15337
20°	15977	15056	14741
25°	15753	14529	14143
30°	15391	13872	13421
35°	14949	13247	12732
40°	14438	12473	11987
45°	13861	11722	11267
50°	13191	10878	10559
55°	12294	10040	9754
60°	11457	9285	8991
65°	10594	8434	8312
70°	9532	7625	7662
75°	8310	6673	6822
80°	6629	5652	5892
85°	4161	4561	5071

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 13861 cd/sqm



TEST NUMBER: P861234

CATALOG NUMBER: CS-SL-9SCT-120-ID-UNV-W-SA-STD-4F (Low-4000K)

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	48.5	3.5
10°-20°	137.7	9.9
20°-30°	204.0	14.7
30°-40°	237.4	17.1
40°-50°	235.5	16.9
50°-60°	202.9	14.6
60°-70°	152.4	11.0
70°-80°	93.8	6.7
80°-90°	40.5	2.9
90°-100°	19.1	1.4
100°-110°	11.3	0.8
110°-120°	5.4	0.4
120°-130°	1.9	0.1
130°-140°	0.1	0.0
140°-150°	0.0	0.0
150°-160°	0.0	0.0
160°-170°	0.0	0.0
170°-180°	0.0	0.0
0°-30°	390.1	28.1
0°-40°	627.5	45.1
0°-60°	1065.9	76.7
0°-90°	1352.6	97.3
90°-120°	35.9	2.6
90°-150°	37.9	2.7
90°-180°	38.0	2.7
0°-180°	1390.5	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	513	513	513	513	513	
5°	507	515	509	509	513	48
15°	484	493	486	487	490	137
25°	443	448	442	440	443	204
35°	381	384	378	377	380	238
45°	305	306	303	305	308	235
55°	220	222	224	232	235	197
65°	140	144	153	163	167	139
75°	68	76	90	101	106	72
85°	12	23	38	48	53	15
90°	0	10	24	34	39	0
95°	0	5	19	28	31	0
105°	0	1	11	19	22	0
115°	0	0	4	11	13	0
125°	0	0	1	4	5	0
135°	0	0	0	0	0	0
145°	0	0	0	0	0	0
155°	0	0	0	0	0	0
165°	0	0	0	0	0	0
175°	0	0	0	0	0	0
180°	0	0	0	0	0	0



TEST NUMBER: P861234

CATALOG NUMBER: CS-SL-9SCT-120-ID-UNV-W-SA-STD-4F (Low-4000K)

**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	513.2	513.2	513.2	513.2	513.2
2.5°	508.9	517.5	511.1	511.1	513.2
5°	506.8	515.4	508.9	508.9	513.2
7.5°	502.5	512.2	505.7	505.7	510.0
10°	498.1	506.8	501.4	501.4	504.6
12.5°	491.7	500.3	494.9	494.9	498.1
15°	484.1	492.7	486.3	487.4	489.5
17.5°	476.6	484.1	477.7	477.7	479.8
20°	465.8	473.3	466.9	465.8	468.0
22.5°	455.0	461.5	455.0	453.9	456.1
25°	443.2	448.5	442.1	439.9	443.2
27.5°	429.1	433.4	427.0	425.9	428.1
30°	414.0	417.3	410.8	409.7	411.9
32.5°	397.9	401.1	395.7	394.6	396.8
35°	380.6	383.8	378.5	377.4	379.5
37.5°	363.4	365.5	360.1	360.1	362.3
40°	344.0	346.1	340.7	341.8	344.0
42.5°	325.6	326.7	322.4	323.5	326.7
45°	305.1	306.2	303.0	305.1	308.4
47.5°	284.7	285.7	283.6	286.8	290.0
50°	264.2	265.2	263.1	268.5	272.8
52.5°	240.4	242.6	242.6	250.1	254.5
55°	220.0	222.1	224.3	231.8	235.1
57.5°	199.5	201.6	207.0	213.5	216.7
60°	179.0	182.2	188.7	196.2	199.5
62.5°	159.6	162.8	171.4	179.0	183.3
65°	140.2	144.5	153.1	162.8	167.1
67.5°	121.8	126.2	136.9	146.6	152.0
70°	102.4	108.9	120.8	131.5	136.9
72.5°	84.1	91.6	104.6	117.5	121.8
75°	67.9	75.5	89.5	101.4	105.7
77.5°	51.8	60.4	75.5	86.3	90.6
80°	36.7	46.4	61.5	72.2	76.6
82.5°	22.6	33.4	48.5	59.3	63.6
85°	11.9	22.6	37.7	48.5	52.8
87.5°	3.2	14.0	29.1	39.9	44.2
90°	0.0	9.7	23.7	34.5	38.8
92.5°	0.0	7.5	21.6	31.3	34.5
95°	0.0	5.4	19.4	28.0	31.3
97.5°	0.0	4.3	17.3	25.9	29.1
100°	0.0	3.2	15.1	23.7	27.0
102.5°	0.0	2.2	12.9	21.6	23.7
105°	0.0	1.1	10.8	19.4	21.6
107.5°	0.0	1.1	8.6	17.3	19.4
110°	0.0	1.1	7.5	15.1	17.3



TEST NUMBER: P861234

CATALOG NUMBER: CS-SL-9SCT-120-ID-UNV-W-SA-STD-4F (Low-4000K)

**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°
112.5°	0.0	0.0	5.4	12.9	15.1
115°	0.0	0.0	4.3	10.8	12.9
117.5°	0.0	0.0	3.2	8.6	10.8
120°	0.0	0.0	2.2	6.5	8.6
122.5°	0.0	0.0	2.2	5.4	7.5
125°	0.0	0.0	1.1	4.3	5.4
127.5°	0.0	0.0	1.1	3.2	4.3
130°	0.0	0.0	0.0	2.2	3.2
132.5°	0.0	0.0	0.0	0.0	0.0
135°	0.0	0.0	0.0	0.0	0.0
137.5°	0.0	0.0	0.0	0.0	0.0
140°	0.0	0.0	0.0	0.0	0.0
142.5°	0.0	0.0	0.0	0.0	0.0
145°	0.0	0.0	0.0	0.0	0.0
147.5°	0.0	0.0	0.0	0.0	0.0
150°	0.0	0.0	0.0	0.0	0.0
152.5°	0.0	0.0	0.0	0.0	0.0
155°	0.0	0.0	0.0	0.0	0.0
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

Signify Classified - Internal  
Cooper Lighting Solutions Photometric Lab  
1121 Highway 74 South  
Peachtree City, GA 30269



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

Report Prepared for

Cooper Lighting Solutions

iO LED

Report Number: SP1-2312-259-5

Test Date: 02/01/2024

Luminaire Tested: CS-SL-8SCT-120-ID-UNV-W-SA-STD-1F (LOW-4000K)

Data in this report applies to families of CS-SL-8SCT products



**Test Information**

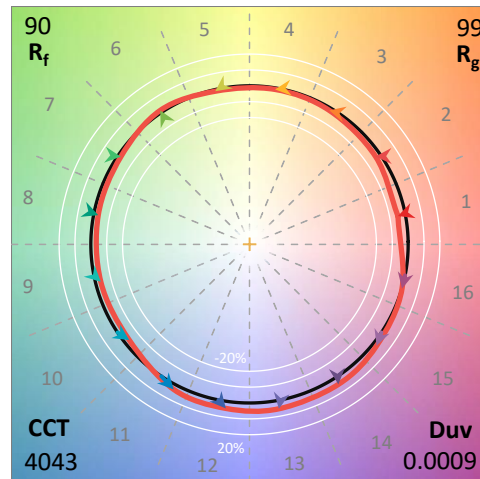
Test Method: LM-79-2019  
 Report Number: SP1-2312-259-5  
 Test Lab: COOPER LIGHTING SOLUTIONS  
 Photometer: SP1 - 76IN SPHERE  
 Measurement Geometry: 4π  
 Issue Date: 02/08/2024  
 Manufacturer: COOPER LIGHTING SOLUTIONS  
 Product Line: iO LED  
 Catalog Number: **CS-SL-9SCT-120-ID-UNV-W-SA-STD-1F (LOW-4000K)**  
 Description: IO LED COVSELECT ARCHITECTURAL COVE

**Spectral Parameters**

CCT (K): 4043  
 CIE u': 0.2238  
 CIE v': 0.5019  
 Duv: 0.0009  
 CIE x: 0.3791  
 CIE y: 0.3779  
 CIE z: 0.2429  
 Peak Wavelength (nm): 450  
 Dominant Wavelength (nm): 578  
 Purity: 27.3

CRI (Ra):	91.9		
R1:	92.0	R9:	63.5
R2:	93.8	R10:	84.4
R3:	94.1	R11:	92.1
R4:	92.4	R12:	69.5
R5:	91.0	R13:	92.4
R6:	90.4	R14:	96.4
R7:	94.7		
R8:	86.3		

Rf: 90.4  
 Rg: 99.3



**Test Conditions**

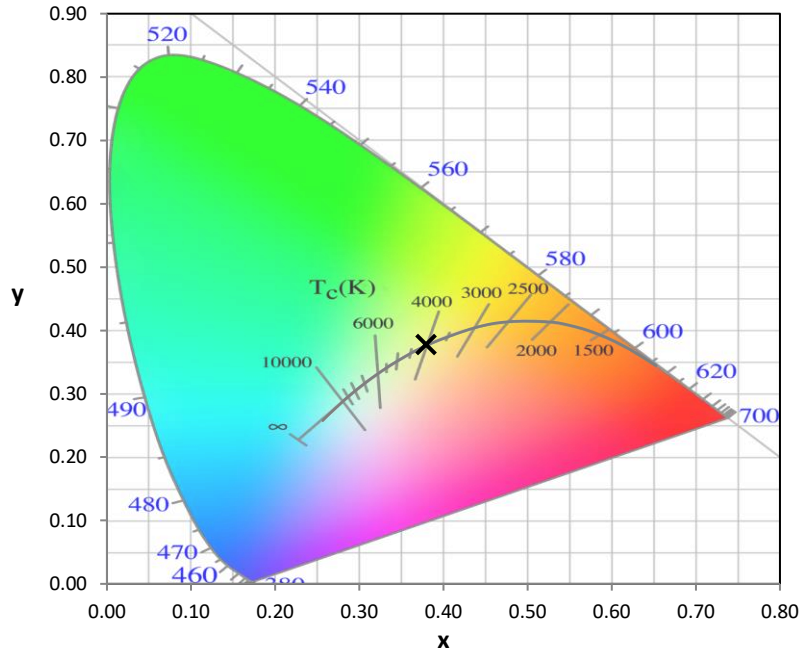
Stabilization Time: 12M  
 Operation Time: 12H  
 Room Temperature (°C) / RH%: 25.4/24%  
 Sphere Temperature (°C): 25.1

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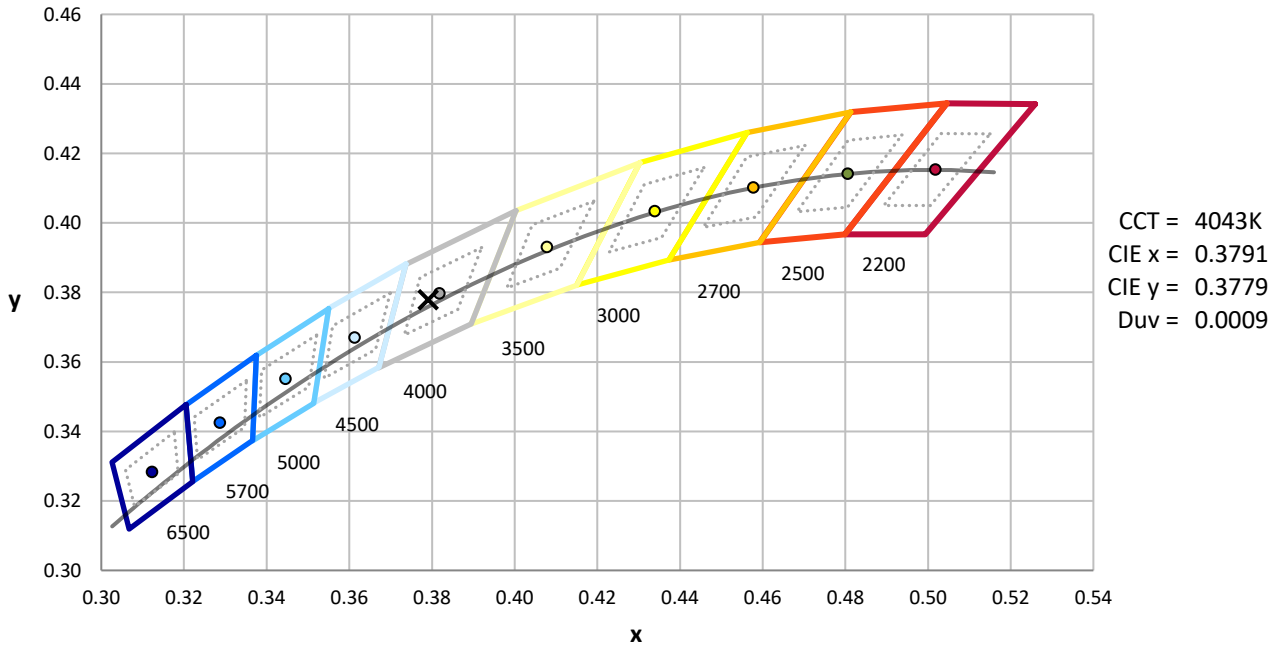
Measurement and Test Equipment			
Instrument	Identification Number	Calibration Date	Calibration Due Date
Photometer	76INCH SPHERE IN0058	8/9/2023	2/9/2024
Power Meter	XITRON 2801 IN0071	10/23/2023	10/23/2024
AC Power Source	CHROMA 61603 IN0063	10/24/2023	10/24/2024
DC Power Source	AGILENT E3634A IN0208	10/24/2023	10/24/2024
Sphere Thermometer	ONSET IN0085	10/24/2023	10/24/2024
Room Thermometer	ONSET IN0046	10/24/2023	10/24/2024

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CIE 1931 Chromaticity Diagram



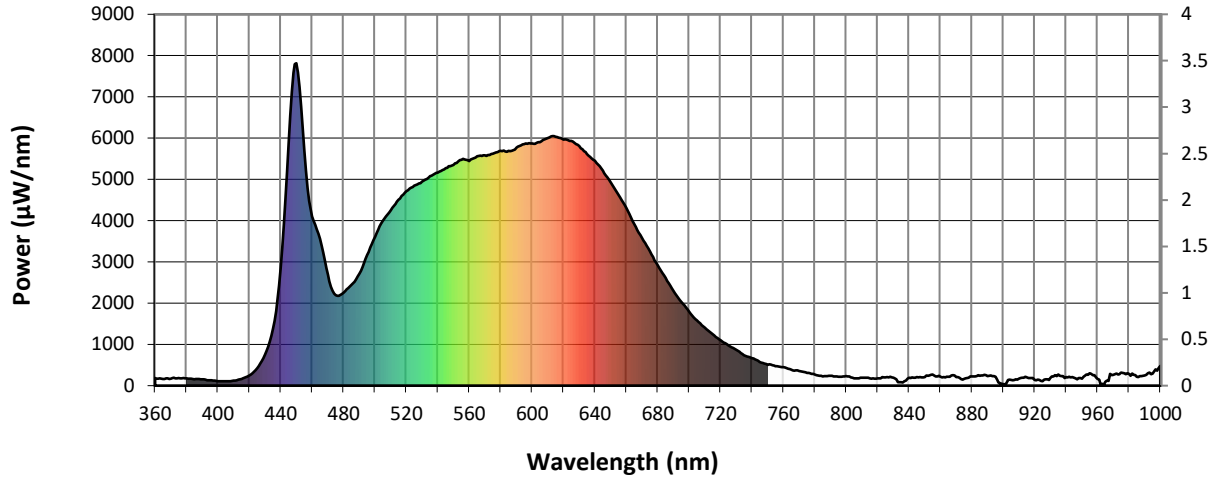
CIE 1931 Chromaticity Diagram with 2017 ANSI 7-Step and 4-Step Quadrangles



Point lies inside the ANSI 4000K 4-step quadrangle

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**Photopic Flux vs. Wavelength**

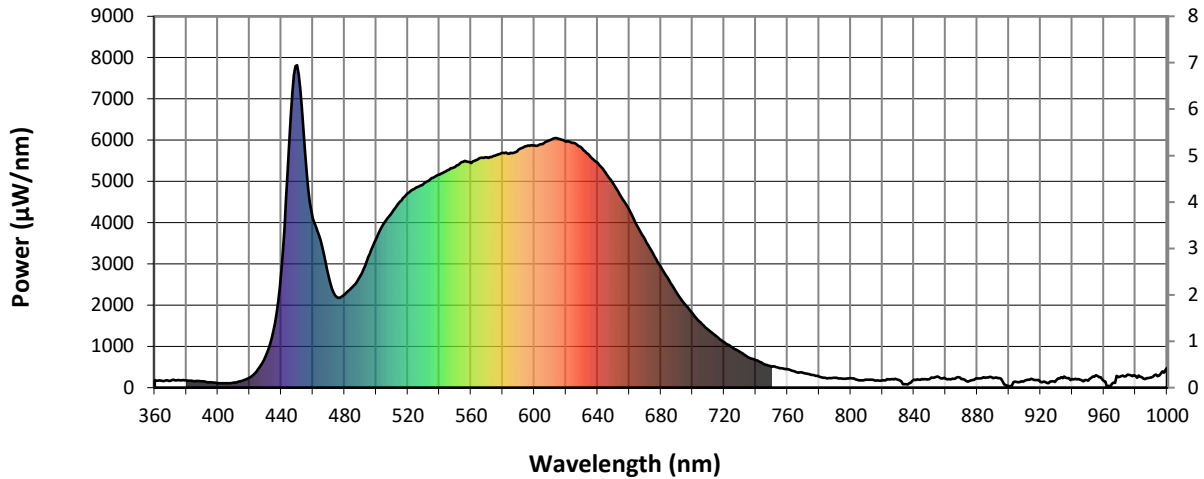


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λ (nm)	Power (µW/nm)	Lumens (φ/nm)	λ (nm)	Power (µW/nm)	Lumens (φ/nm)	λ (nm)	Power (µW/nm)	Lumens (φ/nm)	λ (nm)	Power (µW/nm)	Lumens (φ/nm)	λ (nm)	Power (µW/nm)	Lumens (φ/nm)
360	186	NR	490	2712	NR	620	5962	NR	750	506	NR	880	220	NR
365	164	NR	495	3160	NR	625	5931	NR	755	475	NR	885	241	NR
370	172	NR	500	3608	NR	630	5805	NR	760	448	NR	890	235	NR
375	183	NR	505	3994	NR	635	5611	NR	765	384	NR	895	217	NR
380	176	NR	510	4248	NR	640	5451	NR	770	353	NR	900	39	NR
385	156	NR	515	4503	NR	645	5207	NR	775	311	NR	905	141	NR
390	153	NR	520	4710	NR	650	4930	NR	780	269	NR	910	171	NR
395	132	NR	525	4842	NR	655	4621	NR	785	225	NR	915	203	NR
400	109	NR	530	4943	NR	660	4314	NR	790	242	NR	920	136	NR
405	104	NR	535	5075	NR	665	3913	NR	795	214	NR	925	111	NR
410	120	NR	540	5166	NR	670	3578	NR	800	230	NR	930	182	NR
415	163	NR	545	5271	NR	675	3254	NR	805	180	NR	935	266	NR
420	248	NR	550	5351	NR	680	2923	NR	810	190	NR	940	206	NR
425	426	NR	555	5473	NR	685	2609	NR	815	179	NR	945	189	NR
430	751	NR	560	5446	NR	690	2301	NR	820	174	NR	950	170	NR
435	1375	NR	565	5562	NR	695	2028	NR	825	202	NR	955	299	NR
440	2849	NR	570	5585	NR	700	1795	NR	830	193	NR	960	164	NR
445	5885	NR	575	5621	NR	705	1580	NR	835	81	NR	965	90	NR
450	7814	NR	580	5694	NR	710	1400	NR	840	190	NR	970	259	NR
455	5689	NR	585	5691	NR	715	1245	NR	845	206	NR	975	320	NR
460	4100	NR	590	5769	NR	720	1098	NR	850	210	NR	980	283	NR
465	3561	NR	595	5854	NR	725	978	NR	855	271	NR	985	216	NR
470	2685	NR	600	5869	NR	730	865	NR	860	216	NR	990	245	NR
475	2192	NR	605	5900	NR	735	739	NR	865	215	NR	995	291	NR
480	2259	NR	610	6000	NR	740	663	NR	870	210	NR	1000	480	NR
485	2441	NR	615	6029	NR	745	569	NR	875	159	NR			

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Scotopic Flux vs. Wavelength



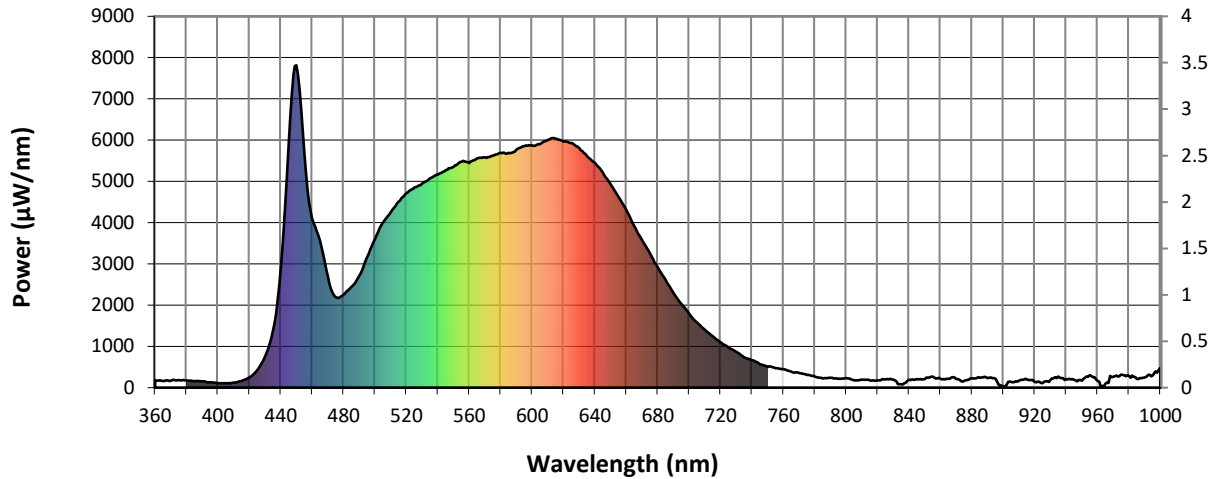
Scotopic Lumens: 672.5

S/P: 1.78

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	186	NR	490	2712	NR	620	5962	NR	750	506	NR	880	220	NR
365	164	NR	495	3160	NR	625	5931	NR	755	475	NR	885	241	NR
370	172	NR	500	3608	NR	630	5805	NR	760	448	NR	890	235	NR
375	183	NR	505	3994	NR	635	5611	NR	765	384	NR	895	217	NR
380	176	NR	510	4248	NR	640	5451	NR	770	353	NR	900	39	NR
385	156	NR	515	4503	NR	645	5207	NR	775	311	NR	905	141	NR
390	153	NR	520	4710	NR	650	4930	NR	780	269	NR	910	171	NR
395	132	NR	525	4842	NR	655	4621	NR	785	225	NR	915	203	NR
400	109	NR	530	4943	NR	660	4314	NR	790	242	NR	920	136	NR
405	104	NR	535	5075	NR	665	3913	NR	795	214	NR	925	111	NR
410	120	NR	540	5166	NR	670	3578	NR	800	230	NR	930	182	NR
415	163	NR	545	5271	NR	675	3254	NR	805	180	NR	935	266	NR
420	248	NR	550	5351	NR	680	2923	NR	810	190	NR	940	206	NR
425	426	NR	555	5473	NR	685	2609	NR	815	179	NR	945	189	NR
430	751	NR	560	5446	NR	690	2301	NR	820	174	NR	950	170	NR
435	1375	NR	565	5562	NR	695	2028	NR	825	202	NR	955	299	NR
440	2849	NR	570	5585	NR	700	1795	NR	830	193	NR	960	164	NR
445	5885	NR	575	5621	NR	705	1580	NR	835	81	NR	965	90	NR
450	7814	NR	580	5694	NR	710	1400	NR	840	190	NR	970	259	NR
455	5689	NR	585	5691	NR	715	1245	NR	845	206	NR	975	320	NR
460	4100	NR	590	5769	NR	720	1098	NR	850	210	NR	980	283	NR
465	3561	NR	595	5854	NR	725	978	NR	855	271	NR	985	216	NR
470	2685	NR	600	5869	NR	730	865	NR	860	216	NR	990	245	NR
475	2192	NR	605	5900	NR	735	739	NR	865	215	NR	995	291	NR
480	2259	NR	610	6000	NR	740	663	NR	870	210	NR	1000	480	NR
485	2441	NR	615	6029	NR	745	569	NR	875	159	NR			

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**Melanopic Flux vs. Wavelength**



**Melanopic Lumens: 274.2**

**M/P: 0.72**

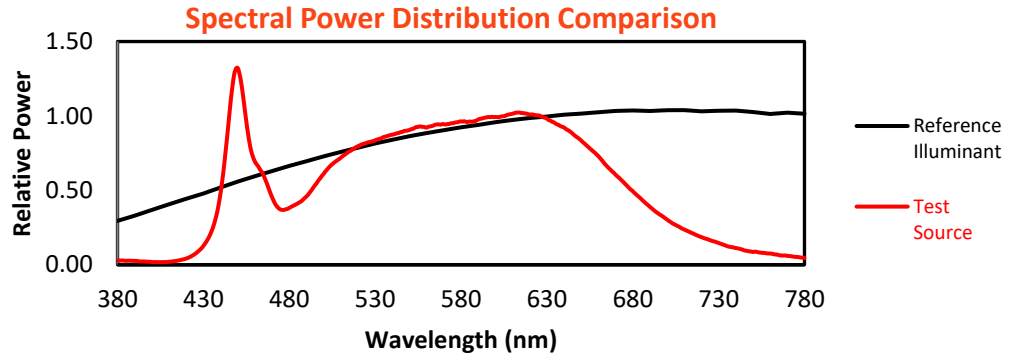
λ (nm)	Power (µW/nm)	Lumens (φ/nm)	λ (nm)	Power (µW/nm)	Lumens (φ/nm)	λ (nm)	Power (µW/nm)	Lumens (φ/nm)	λ (nm)	Power (µW/nm)	Lumens (φ/nm)	λ (nm)	Power (µW/nm)	Lumens (φ/nm)
360	186	NR	490	2712	NR	620	5962	NR	750	506	NR	880	220	NR
365	164	NR	495	3160	NR	625	5931	NR	755	475	NR	885	241	NR
370	172	NR	500	3608	NR	630	5805	NR	760	448	NR	890	235	NR
375	183	NR	505	3994	NR	635	5611	NR	765	384	NR	895	217	NR
380	176	NR	510	4248	NR	640	5451	NR	770	353	NR	900	39	NR
385	156	NR	515	4503	NR	645	5207	NR	775	311	NR	905	141	NR
390	153	NR	520	4710	NR	650	4930	NR	780	269	NR	910	171	NR
395	132	NR	525	4842	NR	655	4621	NR	785	225	NR	915	203	NR
400	109	NR	530	4943	NR	660	4314	NR	790	242	NR	920	136	NR
405	104	NR	535	5075	NR	665	3913	NR	795	214	NR	925	111	NR
410	120	NR	540	5166	NR	670	3578	NR	800	230	NR	930	182	NR
415	163	NR	545	5271	NR	675	3254	NR	805	180	NR	935	266	NR
420	248	NR	550	5351	NR	680	2923	NR	810	190	NR	940	206	NR
425	426	NR	555	5473	NR	685	2609	NR	815	179	NR	945	189	NR
430	751	NR	560	5446	NR	690	2301	NR	820	174	NR	950	170	NR
435	1375	NR	565	5562	NR	695	2028	NR	825	202	NR	955	299	NR
440	2849	NR	570	5585	NR	700	1795	NR	830	193	NR	960	164	NR
445	5885	NR	575	5621	NR	705	1580	NR	835	81	NR	965	90	NR
450	7814	NR	580	5694	NR	710	1400	NR	840	190	NR	970	259	NR
455	5689	NR	585	5691	NR	715	1245	NR	845	206	NR	975	320	NR
460	4100	NR	590	5769	NR	720	1098	NR	850	210	NR	980	283	NR
465	3561	NR	595	5854	NR	725	978	NR	855	271	NR	985	216	NR
470	2685	NR	600	5869	NR	730	865	NR	860	216	NR	990	245	NR
475	2192	NR	605	5900	NR	735	739	NR	865	215	NR	995	291	NR
480	2259	NR	610	6000	NR	740	663	NR	870	210	NR	1000	480	NR
485	2441	NR	615	6029	NR	745	569	NR	875	159	NR			

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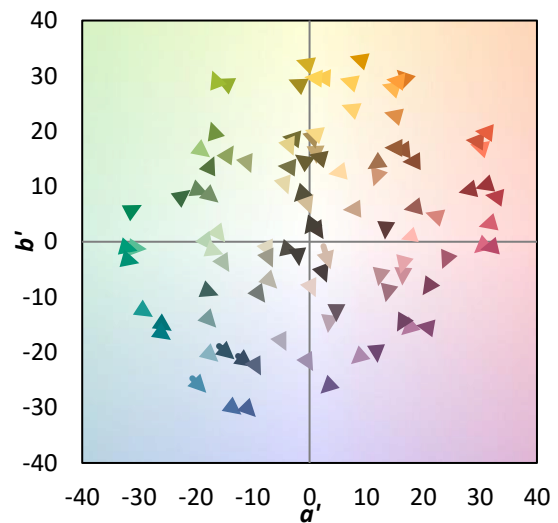
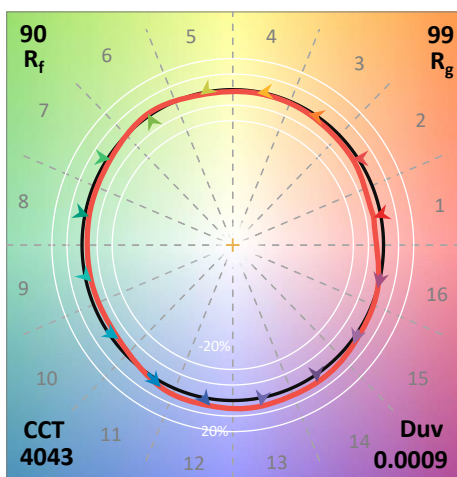
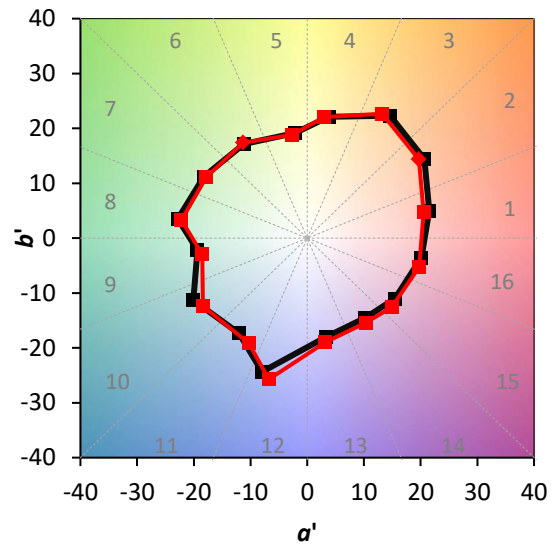
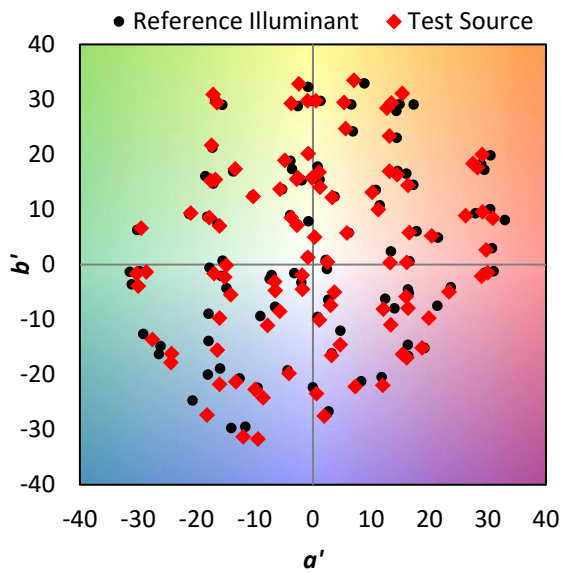
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**Summary**

$R_f = 90.4$   
 $R_g = 99.3$   
 CIE  $R_a = 91.9$   
 $R_9 = 63.5$



**Color Vector Graphics**

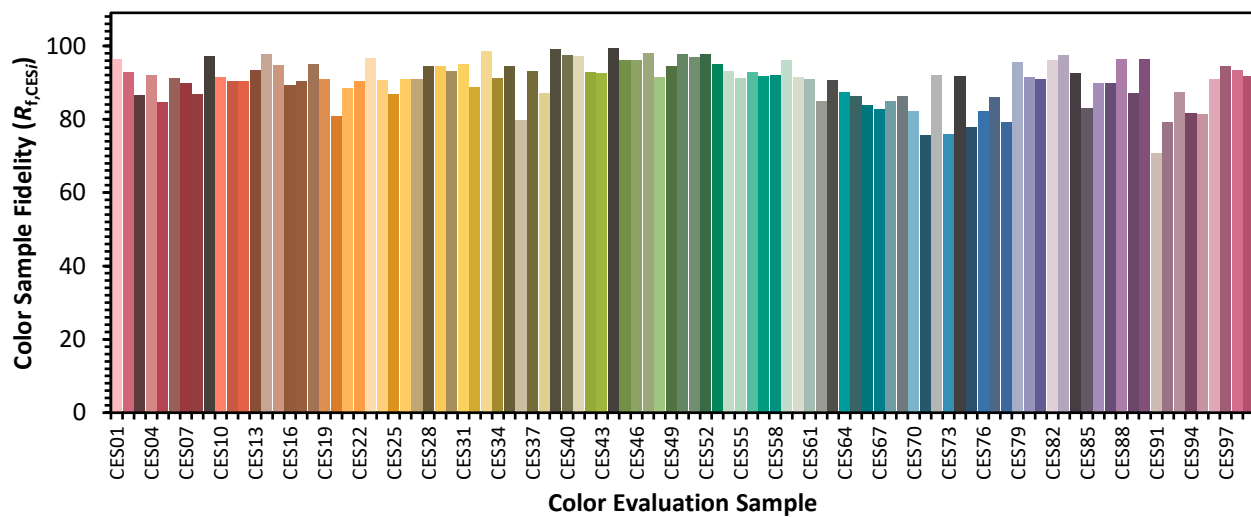


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**Individual Sample Fidelity Index ( $R_{f,i}$ )**

CES01 = 85	CES26 = 91	CES51 = 97	CES76 = 82
CES02 = 61	CES27 = 91	CES52 = 98	CES77 = 86
CES03 = 31	CES28 = 94	CES53 = 95	CES78 = 79
CES04 = 69	CES29 = 94	CES54 = 93	CES79 = 95
CES05 = 49	CES30 = 93	CES55 = 91	CES80 = 92
CES06 = 50	CES31 = 95	CES56 = 93	CES81 = 91
CES07 = 42	CES32 = 89	CES57 = 92	CES82 = 96
CES08 = 41	CES33 = 99	CES58 = 92	CES83 = 98
CES09 = 29	CES34 = 91	CES59 = 96	CES84 = 93
CES10 = 74	CES35 = 94	CES60 = 91	CES85 = 83
CES11 = 57	CES36 = 80	CES61 = 91	CES86 = 90
CES12 = 63	CES37 = 93	CES62 = 85	CES87 = 90
CES13 = 43	CES38 = 87	CES63 = 91	CES88 = 96
CES14 = 74	CES39 = 99	CES64 = 87	CES89 = 87
CES15 = 71	CES40 = 97	CES65 = 86	CES90 = 96
CES16 = 47	CES41 = 97	CES66 = 84	CES91 = 71
CES17 = 49	CES42 = 93	CES67 = 83	CES92 = 79
CES18 = 56	CES43 = 93	CES68 = 85	CES93 = 87
CES19 = 71	CES44 = 99	CES69 = 86	CES94 = 82
CES20 = 66	CES45 = 96	CES70 = 82	CES95 = 81
CES21 = 85	CES46 = 96	CES71 = 76	CES96 = 91
CES22 = 78	CES47 = 98	CES72 = 92	CES97 = 94
CES23 = 91	CES48 = 92	CES73 = 76	CES98 = 93
CES24 = 90	CES49 = 95	CES74 = 92	CES99 = 92
CES25 = 71	CES50 = 98	CES75 = 78	

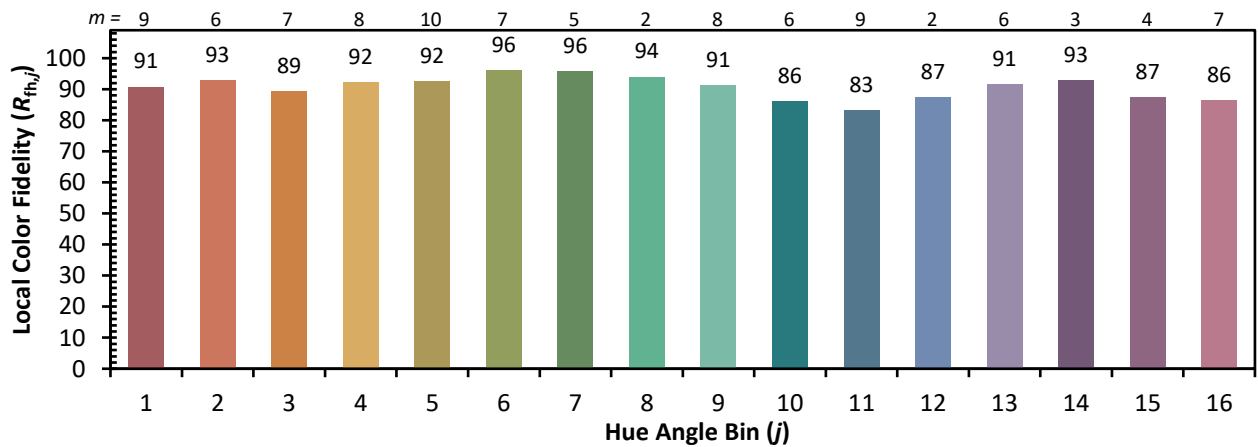
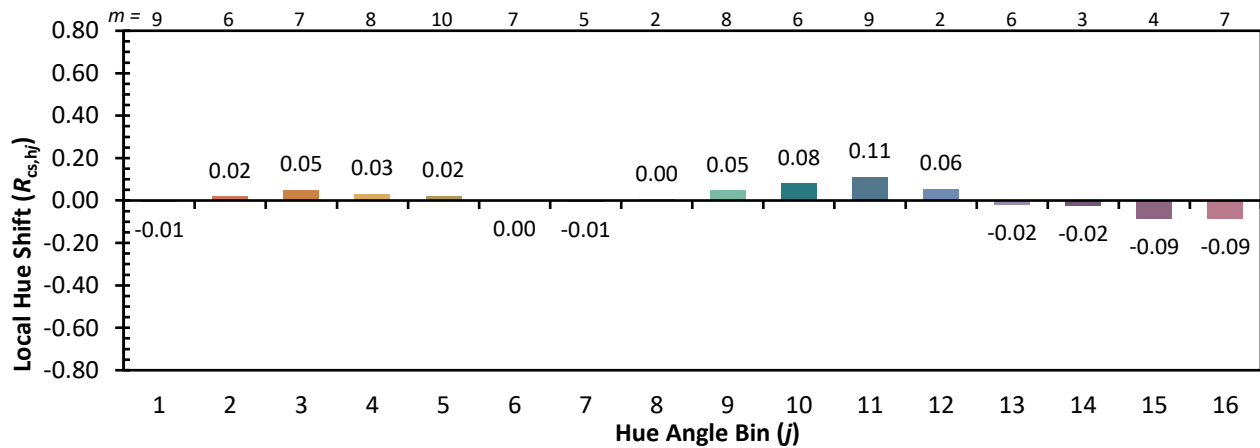
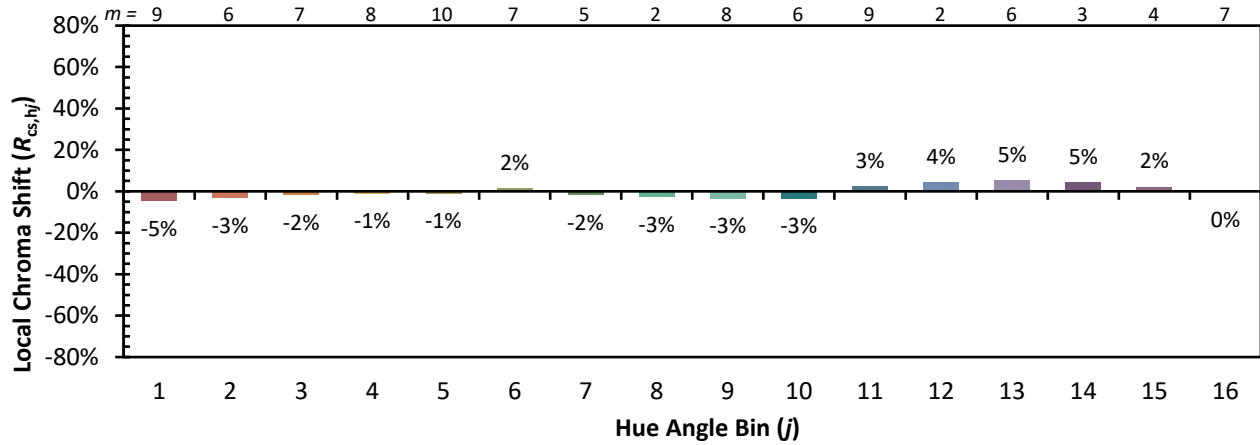




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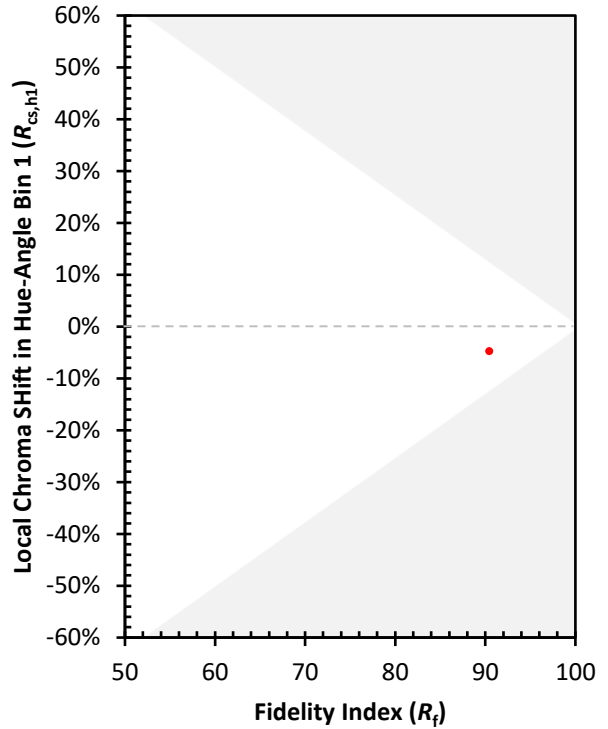
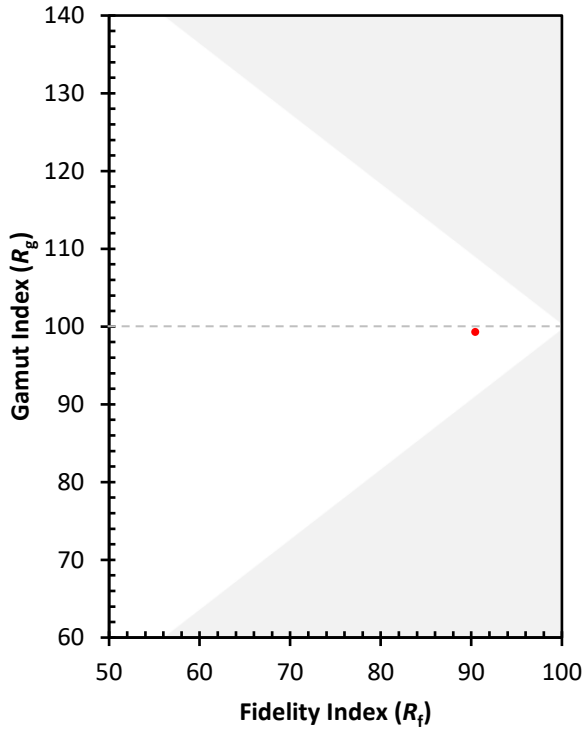
Color Rendition by Hue-Angle Bin



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Measure Comparisons



(END OF REPORT)