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: METALUX

Report Number: P1590681

Luminaire Tested: 24CGTX-45-B40-HCD

Issue Date: 9/4/2026

Report Generated By 670265710 / DESKTOP-98SHLC4

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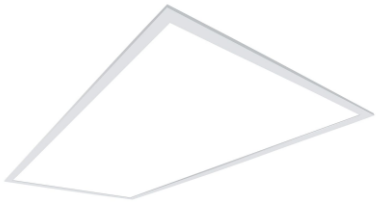
Scaled Data Report

Test Information

Test Method:	LM-79-2019
Report Number:	P1590681
	TEST IS SCALED FROM IESNA LM-79-24 TEST DATA (G3-2510-581-27)
Test Lab:	COOPER LIGHTING SOLUTIONS
Issue Date:	9/4/2026
Manufacturer:	COOPER LIGHTING SOLUTIONS
Product Line:	METALUX
Catalog Number:	24CGTX-45-B40-HCD
Description:	2X4 4500 LUMEN CGTX TROFFER WITH BIO UP LEDS AT 4000K CCT WITH FROSTED SMOOTH LENS
Light Source:	4000K CCT, 80 CRI LEDS
Ballast/Driver:	-

Summary

Lumens per Lamp:	N/A
Luminaire Lumens:	4461.3 lumens
Efficiency:	N/A
Efficacy:	113.5 lumens/watt
Spacing Criteria (0/90/45):	1.28 / 1.27 / 1.39
Luminous Opening:	Rectangular (W 2' x L: 4' x H: 0')
CIE Type:	Direct
Input Watts (W):	39.3
Input Voltage (V):	120
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:	24 FT

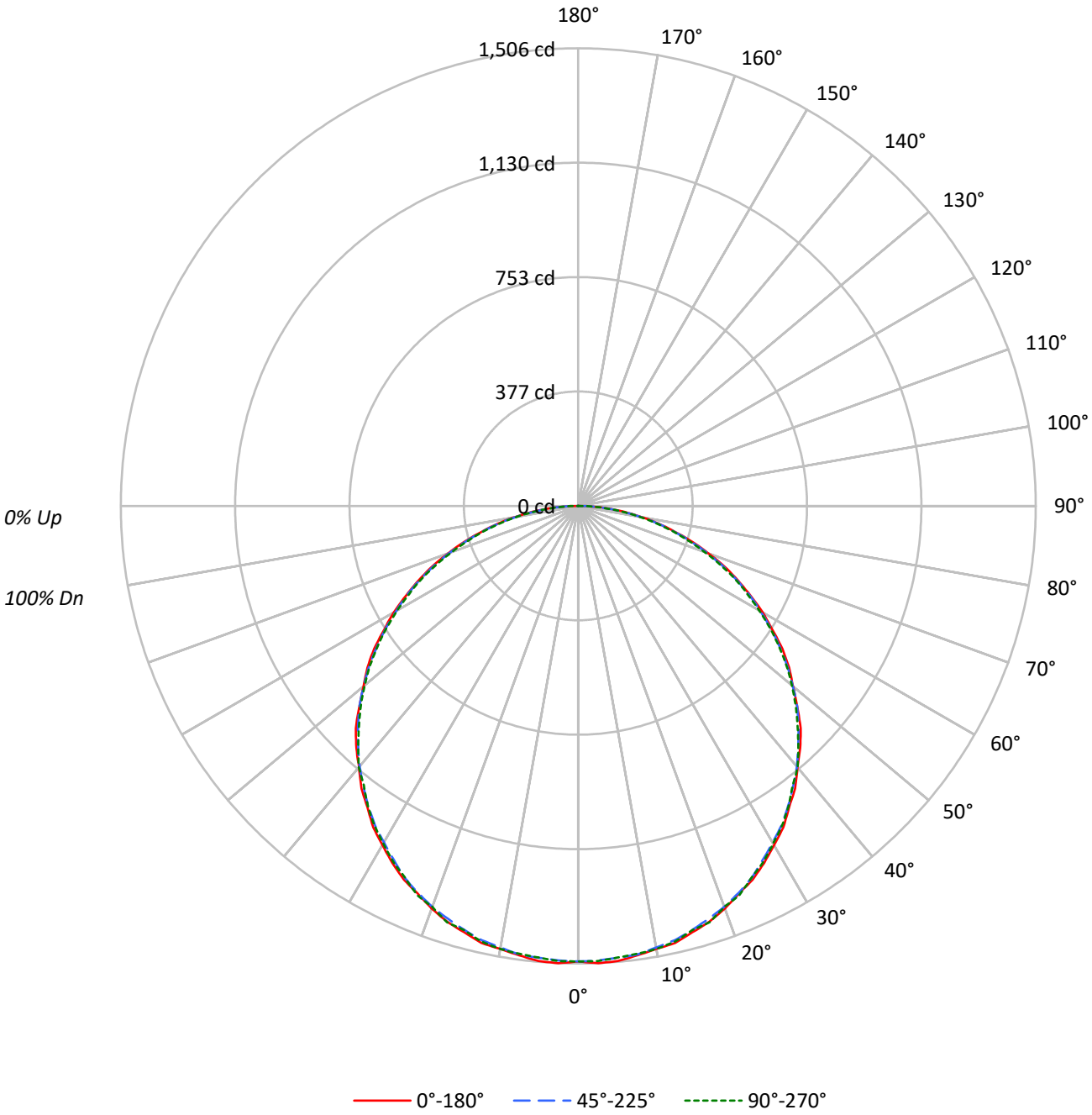


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Scaled Data Report

TEST NUMBER: P1590681
CATALOG NUMBER: 24CGTX-45-B40-HCD

Luminous Intensity Polar Plot



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Scaled Data Report

TEST NUMBER: P1590681
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COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	20				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	0
RCR																		
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100
1	108	103	99	95	106	101	97	93	97	93	90	93	90	88	89	87	85	83
2	98	90	83	77	96	88	81	76	84	79	74	81	76	72	78	74	71	68
3	89	79	70	63	87	77	69	63	74	67	62	71	65	61	69	64	60	57
4	82	69	60	54	79	68	60	53	66	58	52	63	57	52	61	55	51	49
5	75	62	53	46	73	61	52	46	59	51	45	57	50	45	55	49	44	42
6	69	56	47	40	67	55	46	40	53	45	39	51	44	39	50	43	39	37
7	64	50	42	35	62	50	41	35	48	40	35	47	40	35	45	39	34	32
8	60	46	37	31	58	45	37	31	44	36	31	43	36	31	41	35	31	29
9	56	42	34	28	54	42	34	28	40	33	28	39	33	28	38	32	28	26
10	52	39	31	26	51	38	31	25	37	30	25	36	30	25	36	29	25	23

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	2017	2017	2017
5°	2030	2016	2015
10°	2023	2016	2023
15°	2024	2013	2014
20°	2019	2011	2011
25°	2015	2005	2004
30°	2002	1987	1994
35°	1987	1979	1982
40°	1972	1966	1973
45°	1970	1950	1941
50°	1931	1929	1920
55°	1924	1900	1892
60°	1888	1864	1850
65°	1844	1829	1813
70°	1792	1773	1740
75°	1711	1694	1669
80°	1635	1603	1572
85°	1484	1447	1422

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
Vertical Angle: 45°
Luminance: 1970 cd/sqm

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TEST NUMBER: P1590681
CATALOG NUMBER: 24CGTX-45-B40-HCD

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	142.2	3.2
10°-20°	408.8	9.2
20°-30°	622.1	13.9
30°-40°	754.4	16.9
40°-50°	790.5	17.7
50°-60°	724.1	16.2
60°-70°	567.1	12.7
70°-80°	345.0	7.7
80°-90°	107.1	2.4
90°-100°	0.0	0.0
100°-110°	0.0	0.0
110°-120°	0.0	0.0
120°-130°	0.0	0.0
130°-140°	0.0	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°	1173.1	26.3
0°-40°	1927.5	43.2
0°-60°	3442.1	77.2
0°-90°	4461.3	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4461.3	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1499	1499	1499	1499	1499	
5°	1503	1498	1493	1493	1492	143
15°	1453	1449	1445	1448	1446	410
25°	1357	1348	1351	1349	1350	625
35°	1210	1206	1205	1204	1207	759
45°	1036	1024	1025	1024	1020	795
55°	820	813	810	808	807	730
65°	579	575	574	568	570	573
75°	329	328	326	322	321	351
85°	96	97	94	93	92	109
90°	0	0	0	0	0	

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Scaled Data Report

TEST NUMBER: P1590681
CATALOG NUMBER: 24CGTX-45-B40-HCD

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	*1499.1*	1499.1	1499.1	1499.1	1499.1
2.5°	*1506.5*	*1502.4*	*1497.5*	*1495.0*	*1499.1*
5°	*1503.2*	1498.3	1492.6	1492.6	1491.8
7.5°	*1491.8*	1492.6	1489.3	1485.3	1486.9
10°	*1480.4*	1480.4	1475.5	1476.3	1480.4
12.5°	*1473.1*	1465.7	1464.1	1462.5	1469.0
15°	*1452.7*	1449.4	1445.4	1447.8	1446.2
17.5°	*1434.8*	1429.1	1425.0	1425.0	1436.4
20°	*1410.3*	1403.8	1404.6	1400.5	1404.6
22.5°	*1381.0*	1378.5	1378.5	1377.7	1385.9
25°	*1357.4*	1348.4	1350.8	1349.2	1350.0
27.5°	*1324.8*	1318.3	1314.2	1314.2	1319.9
30°	*1288.9*	1283.2	1279.1	1278.3	1283.2
32.5°	*1255.5*	1243.3	1245.7	1244.9	1248.2
35°	*1209.9*	1205.8	1205.0	1204.2	1206.6
37.5°	*1172.4*	1164.3	1161.8	1161.0	1159.4
40°	*1122.7*	1121.1	1119.5	1116.2	1123.5
42.5°	*1081.2*	1074.6	1072.2	1073.0	1072.2
45°	*1035.5*	1024.1	1024.9	1024.1	1020.1
47.5°	*977.7*	974.4	977.7	971.2	970.4
50°	*922.3*	922.3	921.5	917.4	917.4
52.5°	*875.0*	867.7	867.7	862.8	864.4
55°	*820.4*	813.1	809.9	808.2	806.6
57.5°	*756.9*	753.6	752.0	749.6	748.7
60°	*701.5*	697.4	692.5	690.9	687.6
62.5°	*638.8*	637.1	634.7	632.2	627.4
65°	*579.3*	575.2	574.4	567.9	569.5
67.5°	*519.8*	515.7	512.5	509.2	505.1
70°	*455.4*	452.2	450.6	445.7	442.4
72.5°	*395.1*	391.9	388.6	382.9	379.7
75°	*329.2*	328.3	325.9	321.8	321.0
77.5°	*272.1*	269.7	267.2	264.0	260.7
80°	*211.0*	210.2	206.9	205.3	202.9
82.5°	*154.8*	152.4	149.1	147.5	145.8
85°	*96.1*	97.0	93.7	92.9	92.1
87.5°	*44.8*	44.8	46.4	47.3	44.8
90°	*0.0*	0.0	0.0	0.0	0.0

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TEST NUMBER: P1590681
CATALOG NUMBER: 24CGTX-45-B40-HCD

CIE UGR TABLE:

Reflectances:											
	Ceiling	0.7	0.7	0.5	0.5	0.3	0.7	0.7	0.5	0.5	0.3
	Wall	0.5	0.3	0.5	0.3	0.3	0.5	0.3	0.5	0.3	0.3
	Reference plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
Room dimensions		Viewed crosswise					Viewed endwise				
X=2H	Y=2H	14.43	16.09	14.80	16.41	16.72	14.38	16.05	14.75	16.36	16.68
	3H	16.38	17.89	16.76	18.22	18.58	16.29	17.80	16.67	18.13	18.49
	4H	17.15	18.57	17.54	18.92	19.29	17.04	18.46	17.43	18.81	19.18
	6H	17.75	19.08	18.16	19.44	19.83	17.62	18.94	18.03	19.30	19.69
	8H	17.97	19.23	18.39	19.62	20.02	17.82	19.08	18.24	19.47	19.87
	12H	18.12	19.33	18.55	19.71	20.14	17.96	19.17	18.39	19.56	19.98
4H	2H	15.10	16.52	15.50	16.87	17.25	15.07	16.49	15.46	16.84	17.21
	3H	17.28	18.48	17.69	18.87	19.27	17.20	18.40	17.61	18.80	19.20
	4H	18.18	19.27	18.61	19.68	20.11	18.08	19.17	18.51	19.58	20.01
	6H	18.93	19.88	19.38	20.32	20.77	18.80	19.75	19.25	20.19	20.65
	8H	19.20	20.09	19.66	20.53	21.00	19.06	19.95	19.52	20.39	20.86
	12H	19.41	20.21	19.88	20.68	21.15	19.25	20.06	19.73	20.53	21.00
8H	4H	18.53	19.42	18.99	19.87	20.33	18.44	19.34	18.90	19.78	20.24
	6H	19.42	20.17	19.91	20.65	21.13	19.31	20.05	19.80	20.54	21.01
	8H	19.78	20.45	20.29	20.95	21.44	19.65	20.32	20.16	20.82	21.31
	12H	20.07	20.67	20.58	21.16	21.72	19.93	20.52	20.43	21.01	21.57
12H	4H	18.58	19.38	19.06	19.86	20.33	18.49	19.30	18.97	19.77	20.24
	6H	19.49	20.16	20.00	20.67	21.15	19.39	20.06	19.89	20.56	21.05
	8H	19.92	20.51	20.42	21.00	21.56	19.79	20.39	20.30	20.88	21.43

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

Report Prepared for

Cooper Lighting Solutions

Metalux

Report Number: SP1-2510-581-3-R2

Test Date: 01/21/2026

Luminaire Tested: 24CGTX-55-B40-HCD

Data in this report applies to families of products including 24CGTX-55HE

Report Generated By FNC07603 / LDUCLS01DT446
Version: v7.05

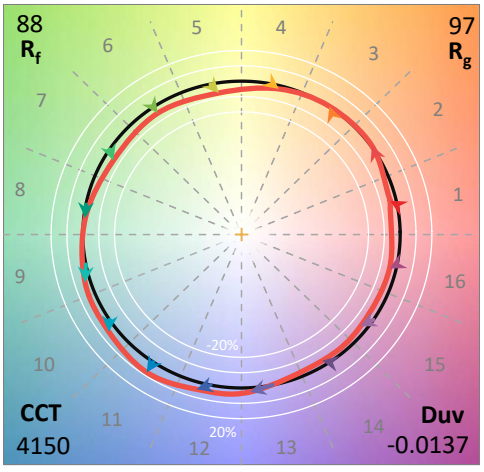
Test Information

Test Method:	LM-79-2019
Report Number:	SP1-2510-581-3-R2
Test Lab:	COOPER LIGHTING SOLUTIONS
Photometer:	SP1 - 76IN SPHERE
Measurement Geometry:	4π
Issue Date:	07/28/2026
Manufacturer:	COOPER LIGHTING SOLUTIONS
Product Line:	Metalux
Catalog Number:	**24CGTX-55-B40-HCD**
Description:	*THIS IS A REVISION OF REPORT SP1-2510-581-3-R2 TO UPDATE THE CATALOG INFORMATION* 2X4 CGTX 5500 lumen with BioUp Boards with fixed CCT 4000K - Control Volatge at 4V

Spectral Parameters

CCT (K):	4150
CIE u':	0.2306
CIE v':	0.4822
Duv:	-0.0137
CIE x:	0.3662
CIE y:	0.3403
CIE z:	0.2935
Peak Wavelength (nm):	630
Dominant Wavelength (nm):	595
Purity:	11.98102
Rf:	88
Rg:	97.3

CRI (Ra):	87.7
R1:	92.1
R2:	87.5
R3:	86.1
R4:	91.4
R5:	90.5
R6:	81.3
R7:	84.9
R8:	87.7
R9:	87.2
R10:	76.5
R11:	92.8
R12:	70.9
R13:	90.1
R14:	93.9
R15:	92.9



Test Conditions

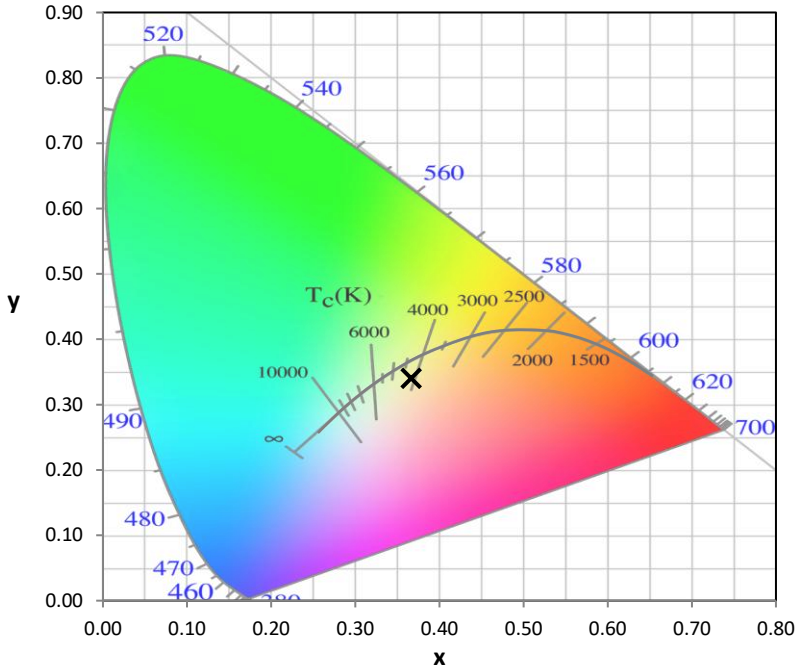
Stabilization Time:	20M
Operation Time:	1H 20M
Sphere Temperature (°C):	25.1

REPORT NUMBER: SP1-2510-581-3-R2

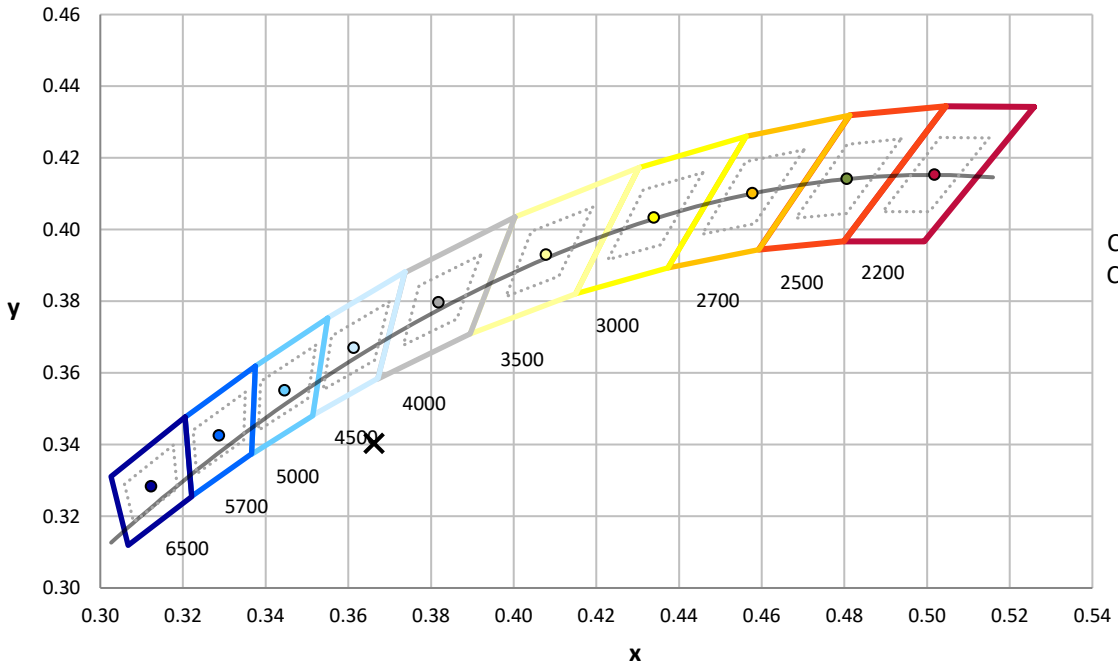
Measurement and Test Equipment			
Instrument	Identification Number	Calibration Date	Calibration Due Date
Photometer	76INCH SPHERE IN0058	12/16/2025	6/16/2026
Power Meter	XITRON INXT2011004	10/21/2025	10/21/2026
AC Power Source	CHROMA 61603 IN0063	10/21/2025	10/21/2026
DC Power Source	AGILENT E3634A IN0208	10/21/2025	10/21/2026
Sphere Thermometer	ONSET IN0085	10/21/2025	10/21/2026
Room Thermometer	ONSET IN0046	10/21/2025	10/21/2026

REPORT NUMBER: SP1-2510-581-3-R2

CIE 1931 Chromaticity Diagram



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

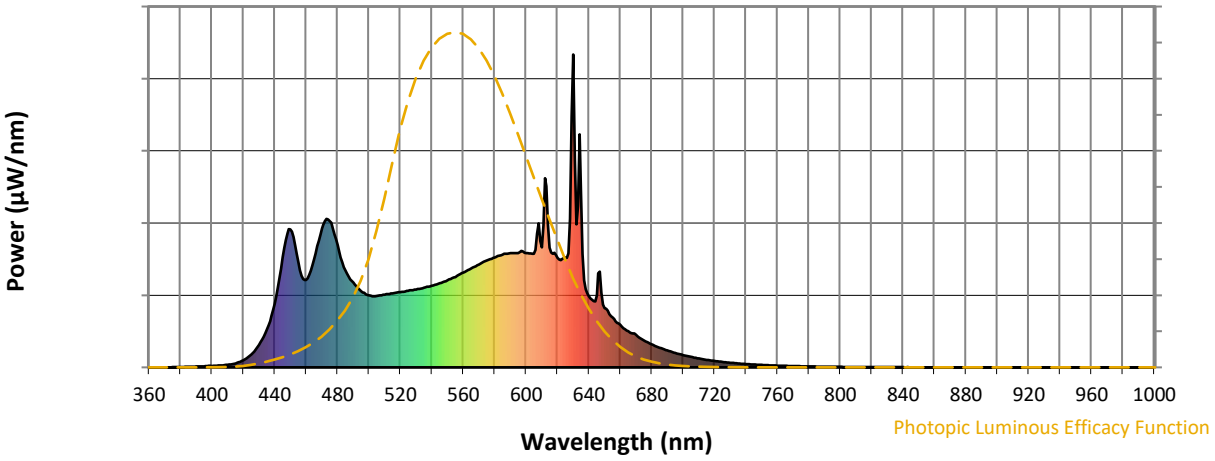


CCT = 4150K
CIE x = 0.3662
CIE y = 0.3403
Duv = -0.0137

Point lies outside the range

REPORT NUMBER: SP1-2510-581-3-R2

Photopic Flux vs. Wavelength

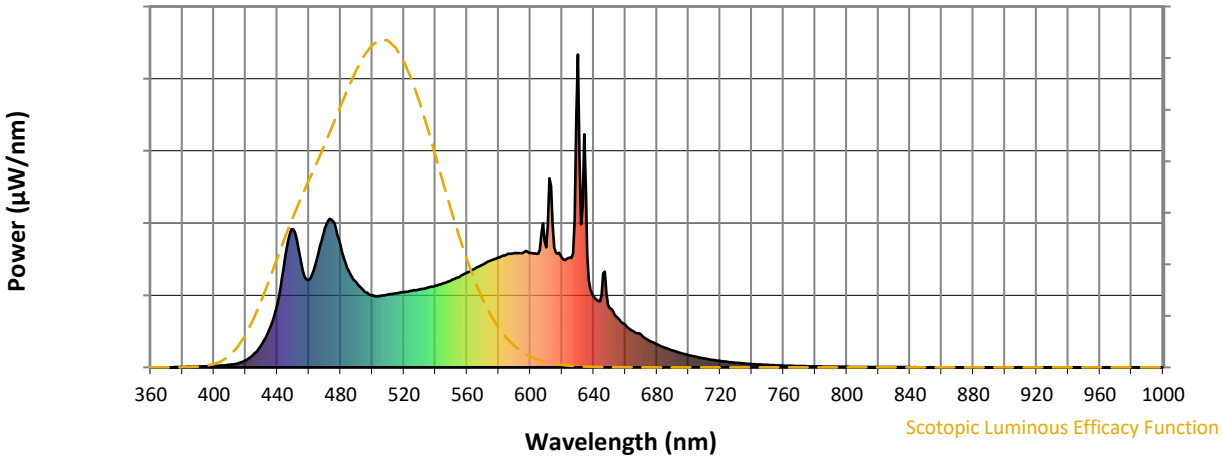


Photopic Lumens: NR

λ (nm)	Power W^/nm	Lumens (ϕ/nm)	λ (nm)	Power W^/nm	Lumens (ϕ/nm)	λ (nm)	Power W^/nm	Lumens (ϕ/nm)	λ (nm)	Power W^/nm	Lumens (ϕ/nm)	λ (nm)	Power W^/nm	Lumens (ϕ/nm)
360	0	NR	490	271	NR	620	350	NR	750	8	NR	880	0	NR
365	0	NR	495	243	NR	625	351	NR	755	7	NR	885	0	NR
370	0	NR	500	230	NR	630	1000	NR	760	6	NR	890	0	NR
375	1	NR	505	228	NR	635	567	NR	765	5	NR	895	0	NR
380	1	NR	510	233	NR	640	228	NR	770	4	NR	900	0	NR
385	2	NR	515	236	NR	645	230	NR	775	3	NR	905	0	NR
390	3	NR	520	241	NR	650	189	NR	780	3	NR	910	0	NR
395	4	NR	525	244	NR	655	160	NR	785	3	NR	915	0	NR
400	5	NR	530	248	NR	660	136	NR	790	2	NR	920	0	NR
405	6	NR	535	255	NR	665	115	NR	795	2	NR	925	0	NR
410	8	NR	540	260	NR	670	104	NR	800	2	NR	930	0	NR
415	13	NR	545	269	NR	675	86	NR	805	1	NR	935	0	NR
420	23	NR	550	278	NR	680	74	NR	810	1	NR	940	0	NR
425	41	NR	555	289	NR	685	63	NR	815	1	NR	945	0	NR
430	71	NR	560	303	NR	690	54	NR	820	1	NR	950	0	NR
435	122	NR	565	316	NR	695	46	NR	825	1	NR	955	0	NR
440	203	NR	570	329	NR	700	39	NR	830	1	NR	960	0	NR
445	351	NR	575	341	NR	705	33	NR	835	1	NR	965	0	NR
450	441	NR	580	351	NR	710	28	NR	840	1	NR	970	0	NR
455	336	NR	585	360	NR	715	24	NR	845	1	NR	975	0	NR
460	280	NR	590	365	NR	720	20	NR	850	0	NR	980	0	NR
465	345	NR	595	365	NR	725	17	NR	855	0	NR	985	0	NR
470	444	NR	600	365	NR	730	15	NR	860	0	NR	990	0	NR
475	467	NR	605	364	NR	735	12	NR	865	0	NR	995	0	NR
480	390	NR	610	384	NR	740	11	NR	870	0	NR	1000	0	NR
485	310	NR	615	383	NR	745	9	NR	875	0	NR			

REPORT NUMBER: SP1-2510-581-3-R2

Scotopic Flux vs. Wavelength

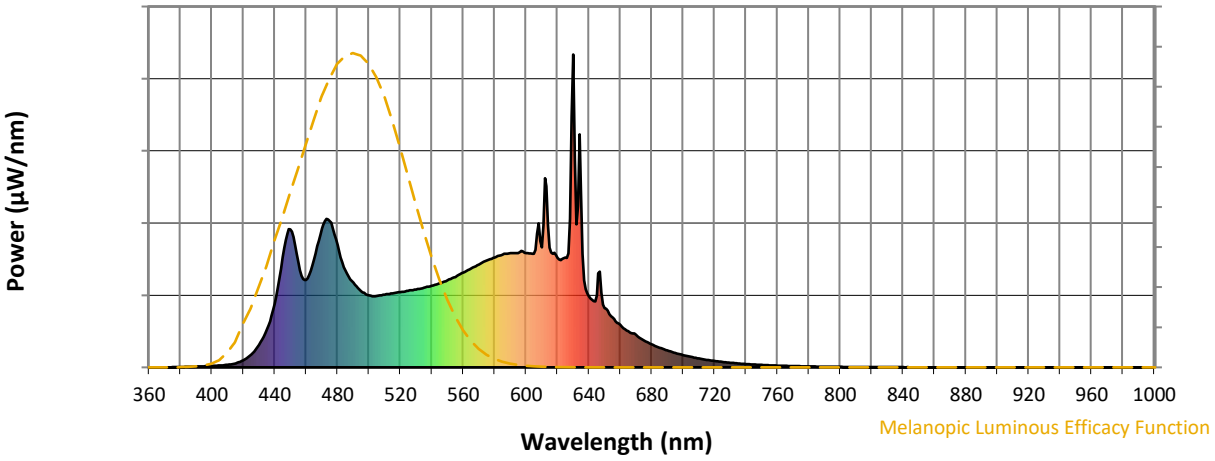


Scotopic Lumens: NR **S/P: 2.05**

λ (nm)	Power W^/nm	Lumens (ϕ/nm)	λ (nm)	Power W^/nm	Lumens (ϕ/nm)	λ (nm)	Power W^/nm	Lumens (ϕ/nm)	λ (nm)	Power W^/nm	Lumens (ϕ/nm)	λ (nm)	Power W^/nm	Lumens (ϕ/nm)
360	0	NR	490	271	NR	620	350	NR	750	8	NR	880	0	NR
365	0	NR	495	243	NR	625	351	NR	755	7	NR	885	0	NR
370	0	NR	500	230	NR	630	1000	NR	760	6	NR	890	0	NR
375	1	NR	505	228	NR	635	567	NR	765	5	NR	895	0	NR
380	1	NR	510	233	NR	640	228	NR	770	4	NR	900	0	NR
385	2	NR	515	236	NR	645	230	NR	775	3	NR	905	0	NR
390	3	NR	520	241	NR	650	189	NR	780	3	NR	910	0	NR
395	4	NR	525	244	NR	655	160	NR	785	3	NR	915	0	NR
400	5	NR	530	248	NR	660	136	NR	790	2	NR	920	0	NR
405	6	NR	535	255	NR	665	115	NR	795	2	NR	925	0	NR
410	8	NR	540	260	NR	670	104	NR	800	2	NR	930	0	NR
415	13	NR	545	269	NR	675	86	NR	805	1	NR	935	0	NR
420	23	NR	550	278	NR	680	74	NR	810	1	NR	940	0	NR
425	41	NR	555	289	NR	685	63	NR	815	1	NR	945	0	NR
430	71	NR	560	303	NR	690	54	NR	820	1	NR	950	0	NR
435	122	NR	565	316	NR	695	46	NR	825	1	NR	955	0	NR
440	203	NR	570	329	NR	700	39	NR	830	1	NR	960	0	NR
445	351	NR	575	341	NR	705	33	NR	835	1	NR	965	0	NR
450	441	NR	580	351	NR	710	28	NR	840	1	NR	970	0	NR
455	336	NR	585	360	NR	715	24	NR	845	1	NR	975	0	NR
460	280	NR	590	365	NR	720	20	NR	850	0	NR	980	0	NR
465	345	NR	595	365	NR	725	17	NR	855	0	NR	985	0	NR
470	444	NR	600	365	NR	730	15	NR	860	0	NR	990	0	NR
475	467	NR	605	364	NR	735	12	NR	865	0	NR	995	0	NR
480	390	NR	610	384	NR	740	11	NR	870	0	NR	1000	0	NR
485	310	NR	615	383	NR	745	9	NR	875	0	NR			

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Melanopic Flux vs. Wavelength



Melanopic Lumens: NR **M/P: 4.67**

λ (nm)	Power W^/nm	Lumens (ϕ/nm)	λ (nm)	Power W^/nm	Lumens (ϕ/nm)	λ (nm)	Power W^/nm	Lumens (ϕ/nm)	λ (nm)	Power W^/nm	Lumens (ϕ/nm)	λ (nm)	Power W^/nm	Lumens (ϕ/nm)
360	0	NR	490	271	NR	620	350	NR	750	8	NR	880	0	NR
365	0	NR	495	243	NR	625	351	NR	755	7	NR	885	0	NR
370	0	NR	500	230	NR	630	1000	NR	760	6	NR	890	0	NR
375	1	NR	505	228	NR	635	567	NR	765	5	NR	895	0	NR
380	1	NR	510	233	NR	640	228	NR	770	4	NR	900	0	NR
385	2	NR	515	236	NR	645	230	NR	775	3	NR	905	0	NR
390	3	NR	520	241	NR	650	189	NR	780	3	NR	910	0	NR
395	4	NR	525	244	NR	655	160	NR	785	3	NR	915	0	NR
400	5	NR	530	248	NR	660	136	NR	790	2	NR	920	0	NR
405	6	NR	535	255	NR	665	115	NR	795	2	NR	925	0	NR
410	8	NR	540	260	NR	670	104	NR	800	2	NR	930	0	NR
415	13	NR	545	269	NR	675	86	NR	805	1	NR	935	0	NR
420	23	NR	550	278	NR	680	74	NR	810	1	NR	940	0	NR
425	41	NR	555	289	NR	685	63	NR	815	1	NR	945	0	NR
430	71	NR	560	303	NR	690	54	NR	820	1	NR	950	0	NR
435	122	NR	565	316	NR	695	46	NR	825	1	NR	955	0	NR
440	203	NR	570	329	NR	700	39	NR	830	1	NR	960	0	NR
445	351	NR	575	341	NR	705	33	NR	835	1	NR	965	0	NR
450	441	NR	580	351	NR	710	28	NR	840	1	NR	970	0	NR
455	336	NR	585	360	NR	715	24	NR	845	1	NR	975	0	NR
460	280	NR	590	365	NR	720	20	NR	850	0	NR	980	0	NR
465	345	NR	595	365	NR	725	17	NR	855	0	NR	985	0	NR
470	444	NR	600	365	NR	730	15	NR	860	0	NR	990	0	NR
475	467	NR	605	364	NR	735	12	NR	865	0	NR	995	0	NR
480	390	NR	610	384	NR	740	11	NR	870	0	NR	1000	0	NR
485	310	NR	615	383	NR	745	9	NR	875	0	NR			

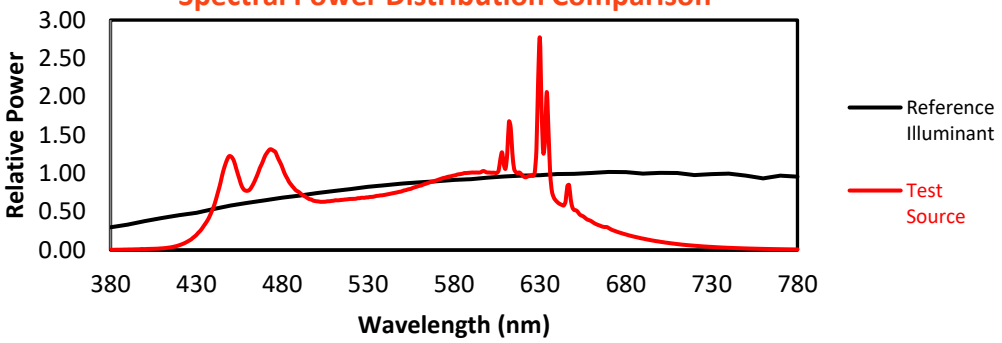
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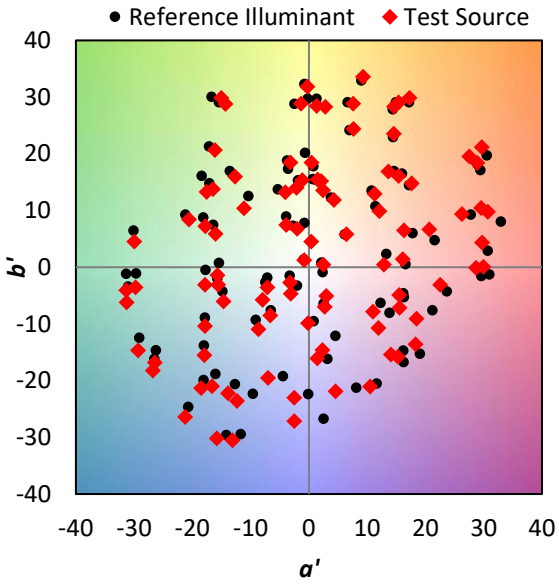
Summary

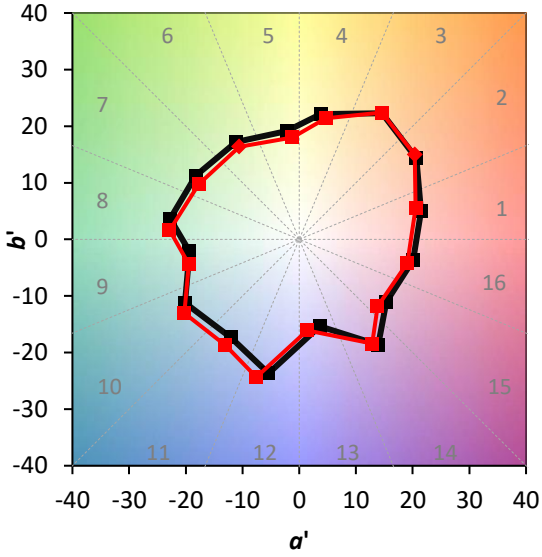
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R_9 = 87.2

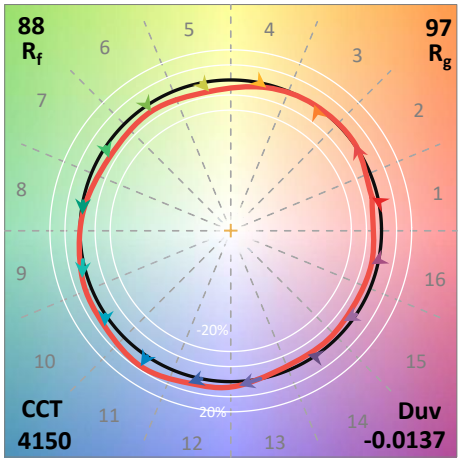
Spectral Power Distribution Comparison

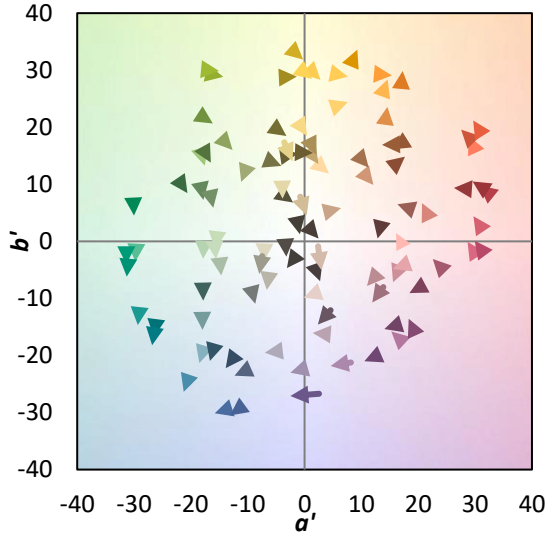


Color Vector Graphics







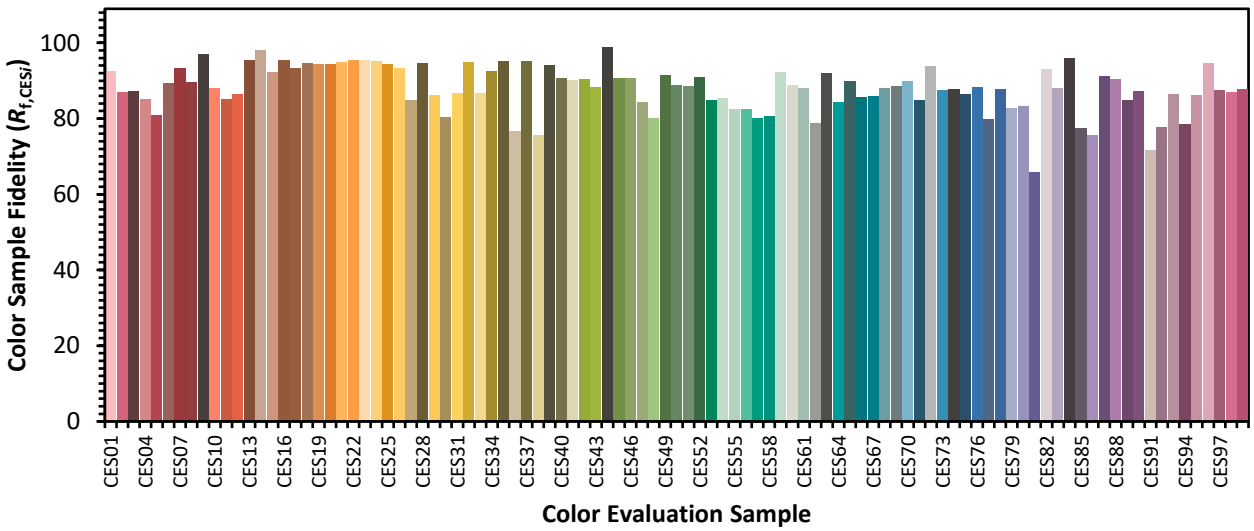


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Individual Sample Fidelity Index ($R_{f,i}$)

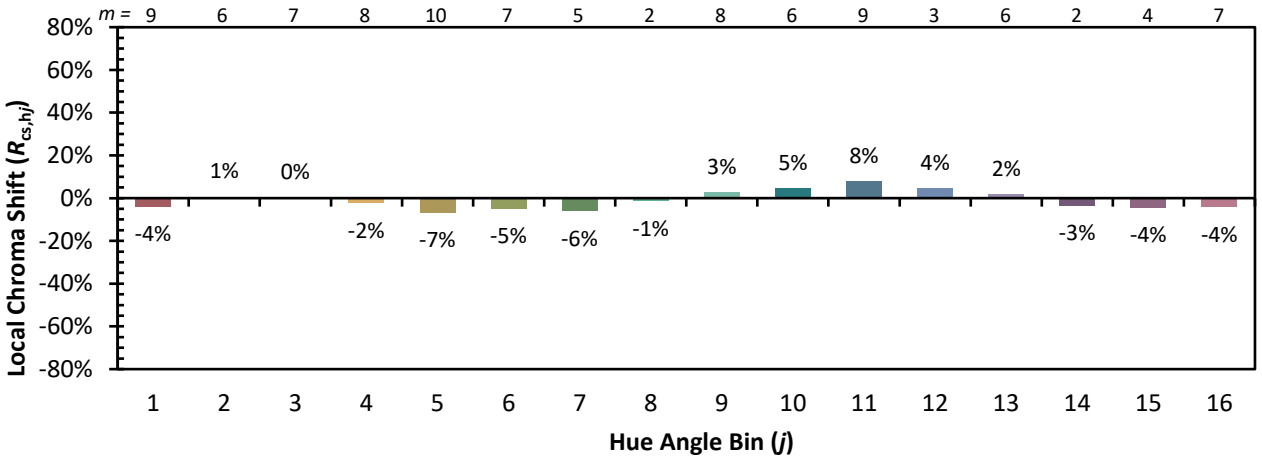
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CES02 = 62	CES27 = 85	CES52 = 91	CES77 = 80
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CES04 = 70	CES29 = 86	CES54 = 85	CES79 = 83
CES05 = 49	CES30 = 80	CES55 = 83	CES80 = 83
CES06 = 51	CES31 = 87	CES56 = 83	CES81 = 66
CES07 = 42	CES32 = 95	CES57 = 80	CES82 = 93
CES08 = 41	CES33 = 87	CES58 = 81	CES83 = 88
CES09 = 29	CES34 = 93	CES59 = 92	CES84 = 96
CES10 = 75	CES35 = 95	CES60 = 89	CES85 = 77
CES11 = 58	CES36 = 77	CES61 = 88	CES86 = 76
CES12 = 64	CES37 = 95	CES62 = 79	CES87 = 91
CES13 = 43	CES38 = 76	CES63 = 92	CES88 = 90
CES14 = 74	CES39 = 94	CES64 = 84	CES89 = 85
CES15 = 71	CES40 = 91	CES65 = 90	CES90 = 87
CES16 = 47	CES41 = 90	CES66 = 86	CES91 = 72
CES17 = 49	CES42 = 90	CES67 = 86	CES92 = 78
CES18 = 56	CES43 = 88	CES68 = 88	CES93 = 86
CES19 = 71	CES44 = 99	CES69 = 89	CES94 = 79
CES20 = 66	CES45 = 91	CES70 = 90	CES95 = 86
CES21 = 85	CES46 = 91	CES71 = 85	CES96 = 95
CES22 = 78	CES47 = 84	CES72 = 94	CES97 = 88
CES23 = 91	CES48 = 80	CES73 = 87	CES98 = 87
CES24 = 90	CES49 = 91	CES74 = 88	CES99 = 88
CES25 = 71	CES50 = 89	CES75 = 87	

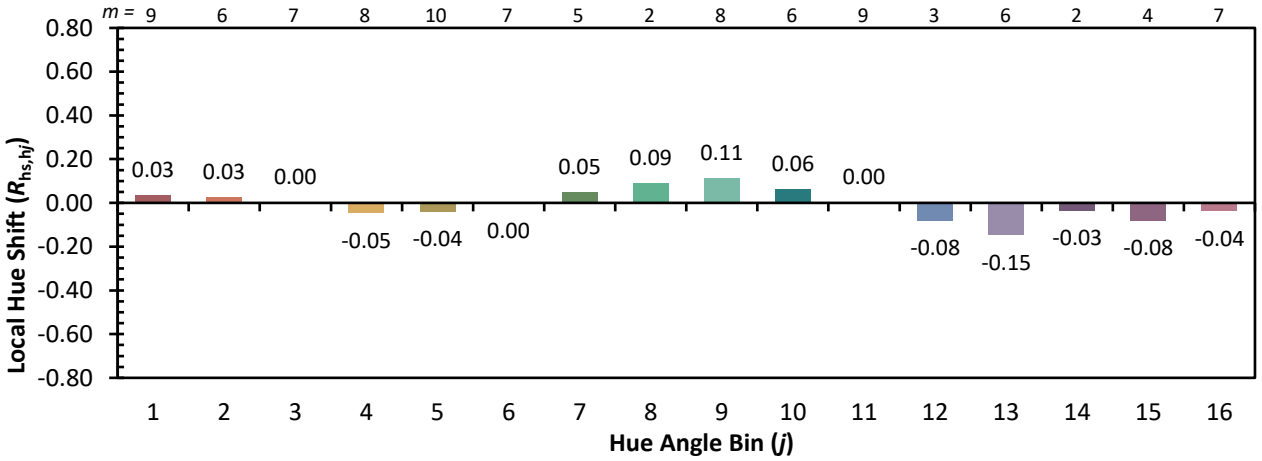


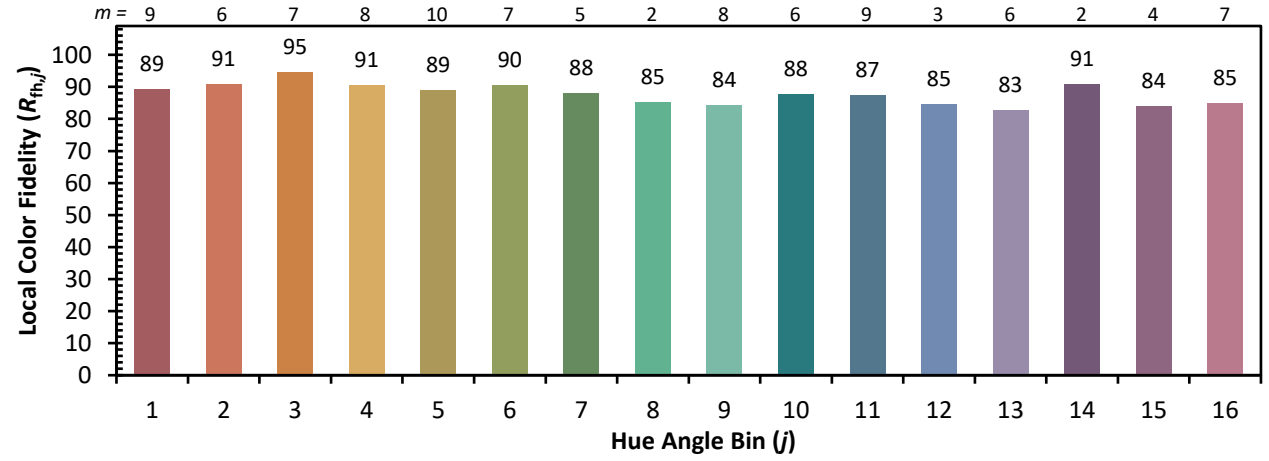
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Color Rendition by Hue-Angle Bin



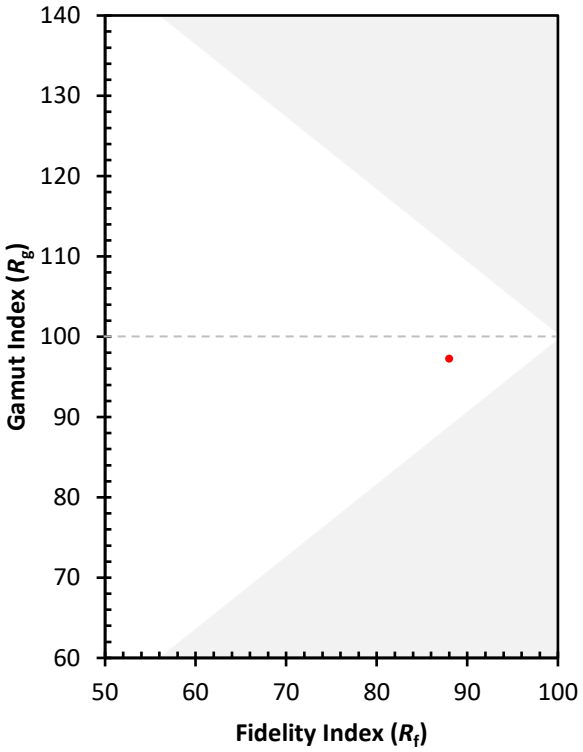


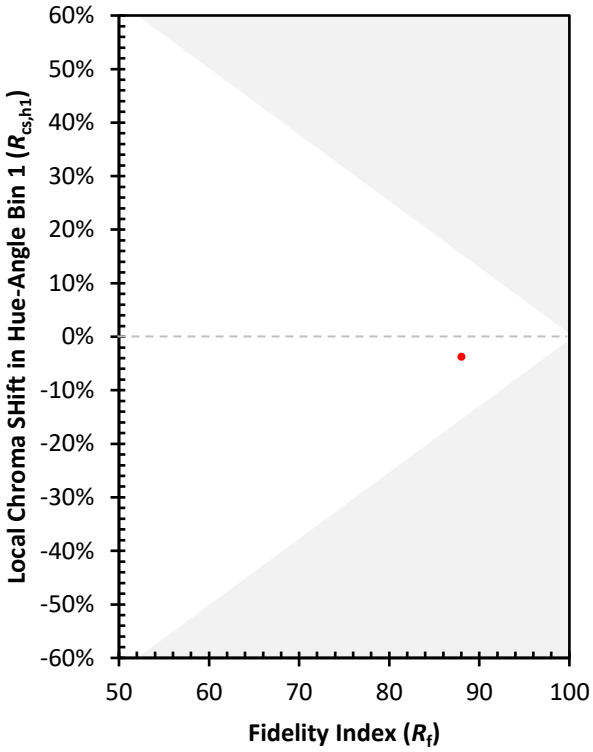


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Measure Comparisons





(END OF REPORT)