

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: P1433297

Luminaire Tested: EHBR1-48-UNV-N-L930

Issue Date: 3/13/2026

Test Information

Test Method: LM-79-2019
Report Number: P1433297
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2601-654-3)
Test Lab: INNOVATION CENTER
Issue Date: 3/13/2026
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: METALUX
Catalog Number: EHBR1-48-UNV-N-L930
Description: Elevate Round Highbay at, 49000 lumens, 3000K 90CRI LEDs with N lens
Light Source: -
Ballast/Driver: -

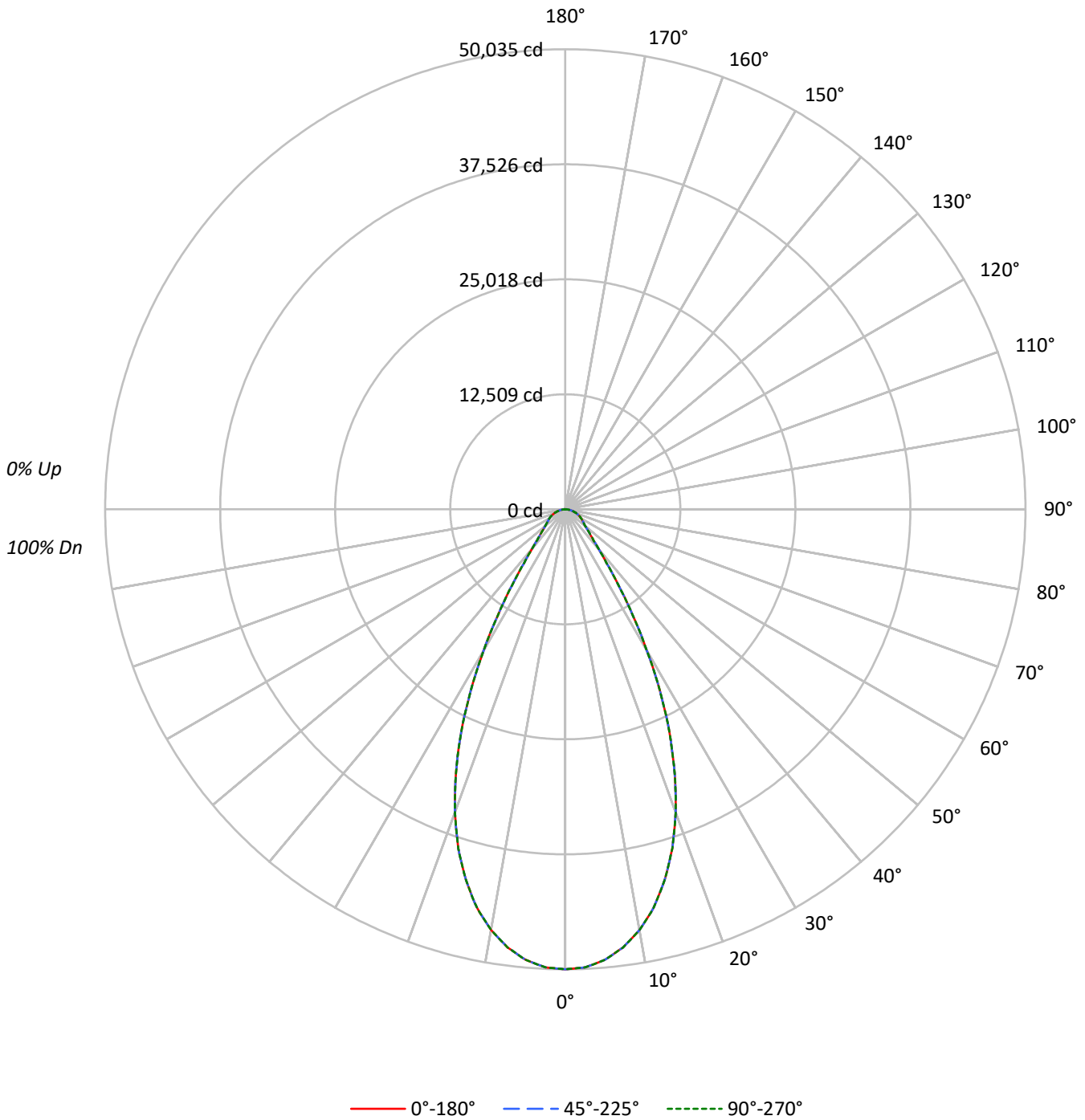
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 42876.2 lumens
Efficiency: N/A
Efficacy: 165.8 lumens/watt
Spacing Criteria (0/90/45): 0.82 / 0.82 / 0.8
Luminous Opening: Circular (Dia: 1.71' x H: 0')
CIE Type: Direct

Input Watts (W): 258.6
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: 24 FT

TEST NUMBER: P1433297
CATALOG NUMBER: EHBR1-48-UNV-N-L930

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				10			0	
RW	70	50	30	10	70	50	30	10	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	102	102	102	100
1	112	109	106	104	110	107	104	102	103	101	99	99	97	96	96	94	93	96	94	93	91
2	106	100	96	92	104	98	94	91	95	92	89	92	89	87	89	87	85	89	87	85	83
3	100	92	87	82	98	91	86	82	88	84	80	86	82	79	84	80	78	84	80	78	76
4	94	86	80	75	92	85	79	74	82	77	74	80	76	73	78	75	72	78	75	72	70
5	89	80	74	69	87	79	73	68	77	72	68	75	71	67	74	70	67	74	70	67	65
6	85	75	68	64	83	74	68	63	72	67	63	71	66	63	70	65	62	70	65	62	61
7	80	70	64	59	79	70	63	59	68	63	59	67	62	58	66	61	58	66	61	58	57
8	76	66	60	55	75	66	59	55	64	59	55	63	58	55	62	58	55	62	58	55	53
9	73	62	56	52	72	62	56	52	61	56	52	60	55	52	59	55	51	59	55	51	50
10	69	59	53	49	68	59	53	49	58	52	49	57	52	49	56	52	48	56	52	48	47

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	234970	234970	234970
5°	231910	231910	231910
10°	221558	221558	221558
15°	202948	202948	202948
20°	175306	175306	175306
25°	138930	138930	138930
30°	96104	96104	96104
35°	57590	57590	57590
40°	34410	34410	34410
45°	24980	24980	24980
50°	20806	20806	20806
55°	19216	19216	19216
60°	18771	18771	18771
65°	18391	18391	18391
70°	17766	17766	17766
75°	17039	17039	17039
80°	15742	15742	15742
85°	12975	12975	12975

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 24980 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	4609.0	10.7
10°-20°	11569.4	27.0
20°-30°	12097.0	28.2
30°-40°	6554.5	15.3
40°-50°	3015.4	7.0
50°-60°	2125.0	5.0
60°-70°	1635.4	3.8
70°-80°	991.4	2.3
80°-90°	279.1	0.7
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°	28275.5	65.9
0°-40°	34830.0	81.2
0°-60°	39970.4	93.2
0°-90°	42876.2	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	42876.2	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	50035	50035	50035	50035	50035	
5°	49196	49196	49196	49196	49196	4609
15°	41744	41744	41744	41744	41744	11569
25°	26812	26812	26812	26812	26812	12097
35°	10046	10046	10046	10046	10046	6555
45°	3761	3761	3761	3761	3761	3015
55°	2347	2347	2347	2347	2347	2125
65°	1655	1655	1655	1655	1655	1635
75°	939	939	939	939	939	991
85°	241	241	241	241	241	279
90°	1	1	1	1	1	



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 CATALOG NUMBER: EHBR1-48-UNV-N-L930

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	50035.1	50035.1	50035.1	50035.1	50035.1
2.5°	49857.7	49857.7	49857.7	49857.7	49857.7
5°	49195.7	49195.7	49195.7	49195.7	49195.7
7.5°	48065.7	48065.7	48065.7	48065.7	48065.7
10°	46462.5	46462.5	46462.5	46462.5	46462.5
12.5°	44390.6	44390.6	44390.6	44390.6	44390.6
15°	41743.7	41743.7	41743.7	41743.7	41743.7
17.5°	38672.7	38672.7	38672.7	38672.7	38672.7
20°	35078.8	35078.8	35078.8	35078.8	35078.8
22.5°	31077.4	31077.4	31077.4	31077.4	31077.4
25°	26812.4	26812.4	26812.4	26812.4	26812.4
27.5°	22290.8	22290.8	22290.8	22290.8	22290.8
30°	17722.9	17722.9	17722.9	17722.9	17722.9
32.5°	13601.7	13601.7	13601.7	13601.7	13601.7
35°	10045.6	10045.6	10045.6	10045.6	10045.6
37.5°	7375.9	7375.9	7375.9	7375.9	7375.9
40°	5613.1	5613.1	5613.1	5613.1	5613.1
42.5°	4500.9	4500.9	4500.9	4500.9	4500.9
45°	3761.3	3761.3	3761.3	3761.3	3761.3
47.5°	3228.3	3228.3	3228.3	3228.3	3228.3
50°	2847.9	2847.9	2847.9	2847.9	2847.9
52.5°	2570.0	2570.0	2570.0	2570.0	2570.0
55°	2347.0	2347.0	2347.0	2347.0	2347.0
57.5°	2166.0	2166.0	2166.0	2166.0	2166.0
60°	1998.6	1998.6	1998.6	1998.6	1998.6
62.5°	1831.1	1831.1	1831.1	1831.1	1831.1
65°	1655.1	1655.1	1655.1	1655.1	1655.1
67.5°	1475.6	1475.6	1475.6	1475.6	1475.6
70°	1293.9	1293.9	1293.9	1293.9	1293.9
72.5°	1117.2	1117.2	1117.2	1117.2	1117.2
75°	939.1	939.1	939.1	939.1	939.1
77.5°	764.5	764.5	764.5	764.5	764.5
80°	582.1	582.1	582.1	582.1	582.1
82.5°	407.5	407.5	407.5	407.5	407.5
85°	240.8	240.8	240.8	240.8	240.8
87.5°	86.2	86.2	86.2	86.2	86.2
90°	1.4	1.4	1.4	1.4	1.4



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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	18.88	20.04	19.25	20.35	20.67	18.88	20.04	19.25	20.35	20.67
	3H	20.76	21.79	21.14	22.12	22.49	20.76	21.79	21.14	22.12	22.49
	4H	21.49	22.45	21.89	22.80	23.19	21.49	22.45	21.89	22.80	23.19
	6H	22.03	22.91	22.45	23.29	23.68	22.03	22.91	22.45	23.29	23.68
	8H	22.20	23.03	22.63	23.43	23.83	22.20	23.03	22.63	23.43	23.83
	12H	22.30	23.09	22.73	23.48	23.91	22.30	23.09	22.73	23.48	23.91
4H	2H	19.47	20.44	19.88	20.79	21.17	19.47	20.44	19.88	20.79	21.17
	3H	21.56	22.35	21.97	22.76	23.16	21.56	22.35	21.97	22.76	23.16
	4H	22.41	23.12	22.85	23.54	23.99	22.41	23.12	22.85	23.54	23.99
	6H	23.08	23.70	23.55	24.14	24.61	23.08	23.70	23.55	24.14	24.61
	8H	23.29	23.87	23.77	24.31	24.79	23.29	23.87	23.77	24.31	24.79
	12H	23.43	23.93	23.92	24.42	24.89	23.43	23.93	23.92	24.42	24.89
8H	4H	22.70	23.27	23.17	23.72	24.19	22.70	23.27	23.17	23.72	24.19
	6H	23.50	23.96	24.01	24.46	24.95	23.50	23.96	24.01	24.46	24.95
	8H	23.79	24.20	24.32	24.72	25.22	23.79	24.20	24.32	24.72	25.22
	12H	24.01	24.37	24.53	24.86	25.44	24.01	24.37	24.53	24.86	25.44
12H	4H	22.71	23.21	23.20	23.69	24.17	22.71	23.21	23.20	23.69	24.17
	6H	23.55	23.96	24.08	24.48	24.97	23.55	23.96	24.08	24.48	24.97
	8H	23.90	24.26	24.42	24.75	25.33	23.90	24.26	24.42	24.75	25.33

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

Report Prepared for

Cooper Lighting Solutions

Metalux

Report Number: SP1-2506-472-5

Test Date: 08/01/2025

Luminaire Tested: EHBR-60-L930-N

Data in this report applies to families of products including EHBR-60-L930-N

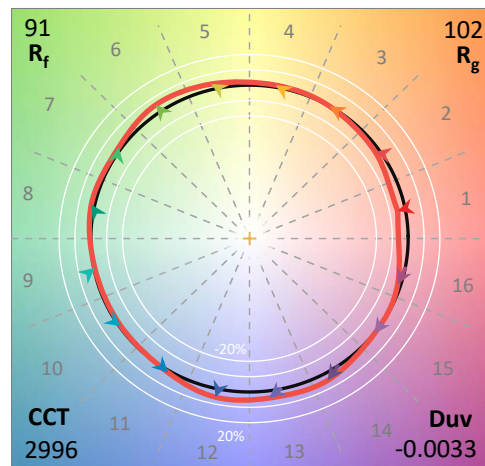
Test Information

Test Method: LM-79-2019
 Report Number: SP1-2506-472-5
 Test Lab: COOPER LIGHTING SOLUTIONS
 Photometer: SP1 - 76IN SPHERE
 Measurement Geometry: 4π
 Issue Date: 08/05/2025
 Manufacturer: COOPER LIGHTING SOLUTIONS
 Product Line: Metalux
 Catalog Number: **EHBR-60-L930-N**
 Description: Elevate Round Highbay at, 60000 lumens, 3000K 90CRI LEDs with N lens

Spectral Parameters

CCT (K): 2996
 CIE u': 0.2519
 CIE v': 0.5169
 Duv: -0.0033
 CIE x: 0.4325
 CIE y: 0.3945
 CIE z: 0.1730
 Peak Wavelength (nm): 630
 Dominant Wavelength (nm): 584
 Purity: 48.21818
 Rf: 91.3
 Rg: 102

CRI (Ra):	94.4		
R1:	96.8	R9:	61.4
R2:	98.1	R10:	94.4
R3:	97.8	R11:	95.7
R4:	95.6	R12:	88.5
R5:	96.9	R13:	97.3
R6:	95.7	R14:	97.8
R7:	90.9	R15:	92.3
R8:	83.0		



Test Conditions

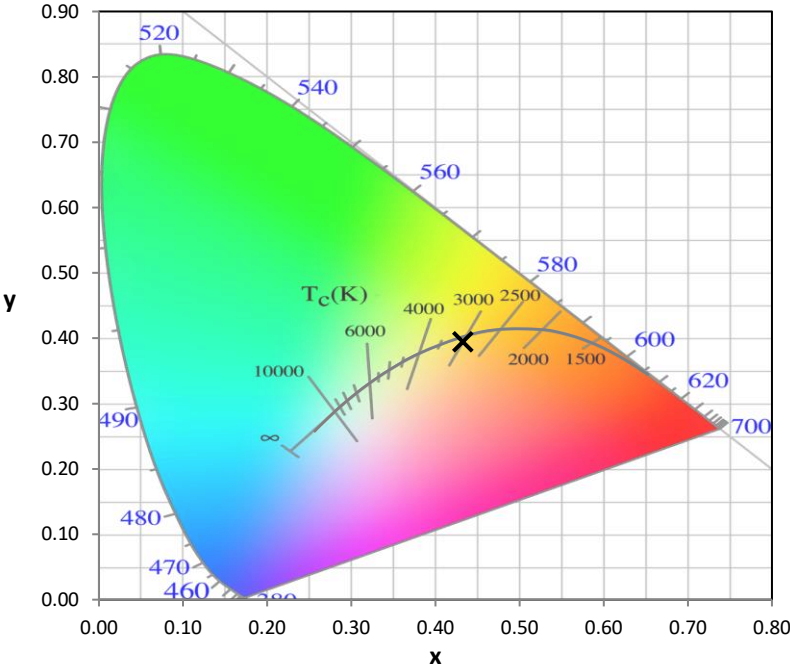
Stabilization Time: 40M
 Operation Time: 1H 40M
 Sphere Temperature (°C): 25.0

REPORT NUMBER: SP1-2506-472-5

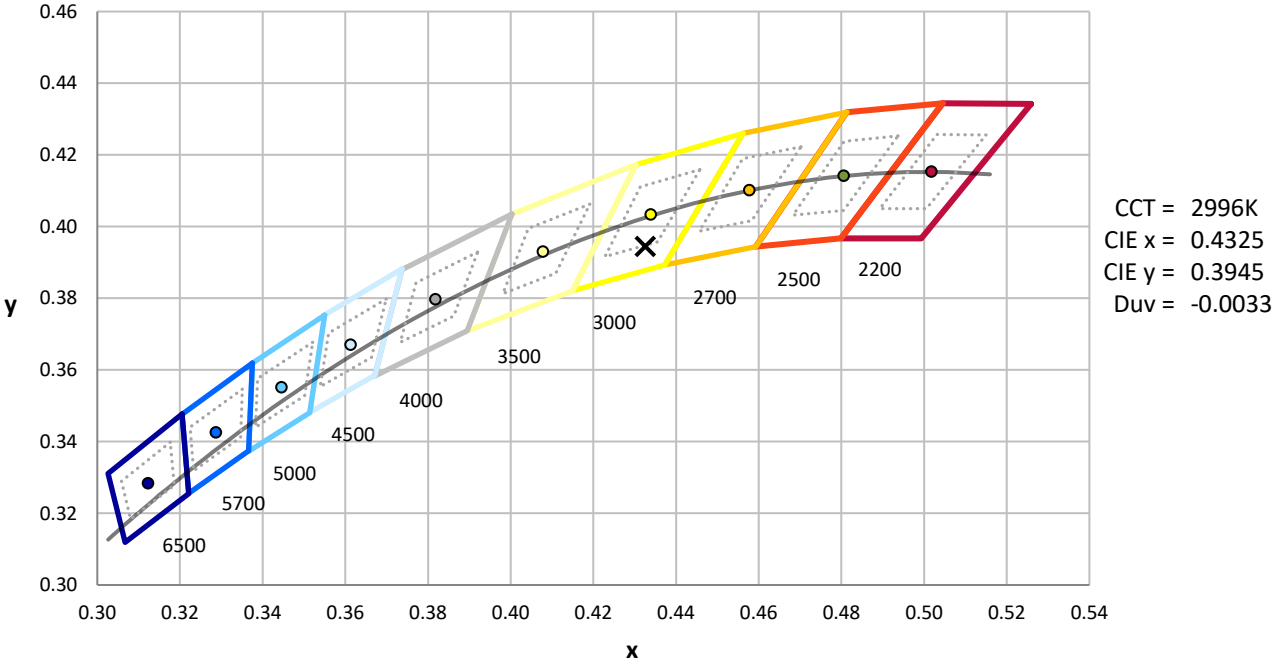
Measurement and Test Equipment			
Instrument	Identification Number	Calibration Date	Calibration Due Date
Photometer	76INCH SPHERE IN0058	6/16/2025	12/16/2025
Power Meter	XITRON INXT2011004	1/21/2025	1/21/2026
AC Power Source	CHROMA 61603 IN0063	10/22/2024	10/22/2025
DC Power Source	AGILENT E3634A IN0208	10/22/2024	10/22/2025
Sphere Thermometer	ONSET IN0085	10/22/2024	10/22/2025
Room Thermometer	ONSET IN0046	10/22/2024	10/22/2025

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CIE 1931 Chromaticity Diagram



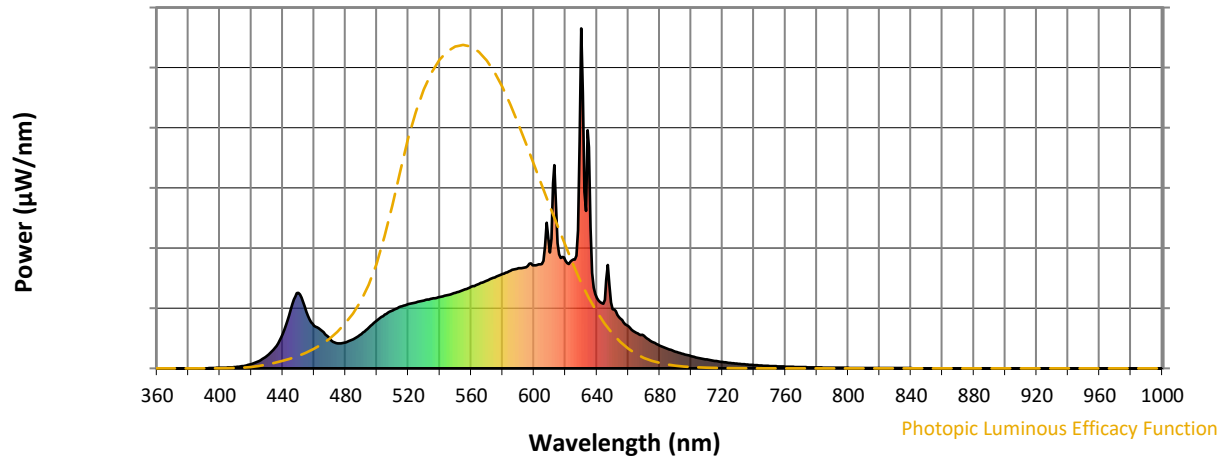
CIE 1931 Chromaticity Diagram with 2017 ANSI 7-Step and 4-Step Quadrangles



Point lies inside the ANSI 3000K 7-step quadrangle

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Photopic Flux vs. Wavelength

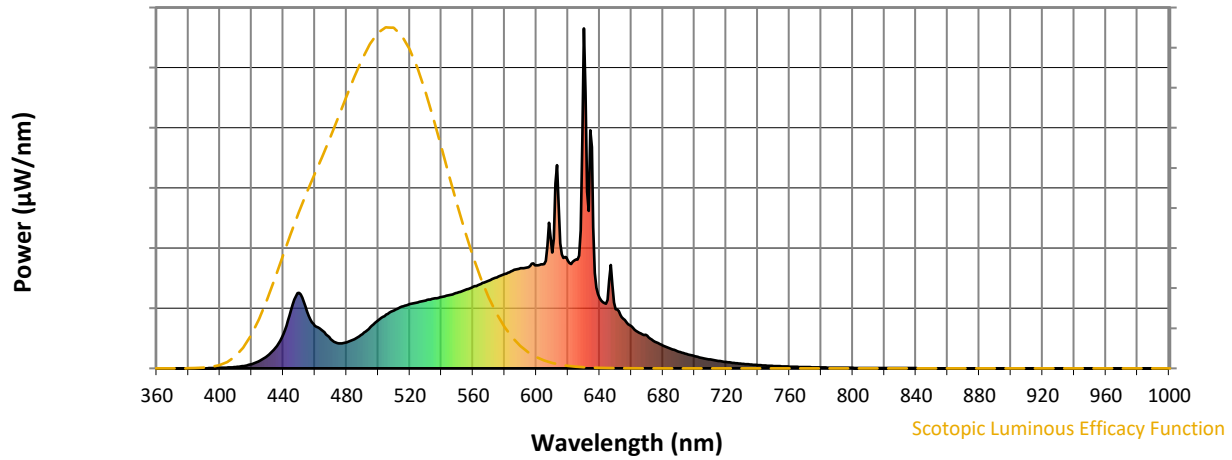


Photopic Lumens: NR

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	101	NR	620	317	NR	750	7	NR	880	0	NR
365	0	NR	495	121	NR	625	320	NR	755	6	NR	885	0	NR
370	0	NR	500	141	NR	630	1000	NR	760	5	NR	890	0	NR
375	0	NR	505	158	NR	635	651	NR	765	4	NR	895	0	NR
380	0	NR	510	171	NR	640	207	NR	770	4	NR	900	0	NR
385	0	NR	515	182	NR	645	201	NR	775	3	NR	905	0	NR
390	0	NR	520	189	NR	650	174	NR	780	3	NR	910	0	NR
395	1	NR	525	194	NR	655	146	NR	785	2	NR	915	0	NR
400	1	NR	530	199	NR	660	124	NR	790	2	NR	920	0	NR
405	3	NR	535	205	NR	665	105	NR	795	2	NR	925	0	NR
410	4	NR	540	210	NR	670	96	NR	800	1	NR	930	0	NR
415	7	NR	545	216	NR	675	79	NR	805	1	NR	935	0	NR
420	13	NR	550	222	NR	680	67	NR	810	1	NR	940	0	NR
425	22	NR	555	230	NR	685	58	NR	815	1	NR	945	0	NR
430	37	NR	560	240	NR	690	49	NR	820	1	NR	950	0	NR
435	60	NR	565	248	NR	695	42	NR	825	1	NR	955	0	NR
440	101	NR	570	258	NR	700	36	NR	830	1	NR	960	0	NR
445	172	NR	575	268	NR	705	30	NR	835	1	NR	965	0	NR
450	223	NR	580	278	NR	710	26	NR	840	1	NR	970	0	NR
455	167	NR	585	287	NR	715	22	NR	845	0	NR	975	0	NR
460	126	NR	590	295	NR	720	19	NR	850	0	NR	980	0	NR
465	111	NR	595	298	NR	725	16	NR	855	0	NR	985	0	NR
470	86	NR	600	303	NR	730	14	NR	860	0	NR	990	0	NR
475	74	NR	605	307	NR	735	12	NR	865	0	NR	995	0	NR
480	77	NR	610	341	NR	740	10	NR	870	0	NR	1000	0	NR
485	86	NR	615	368	NR	745	8	NR	875	0	NR			

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Scotopic Flux vs. Wavelength



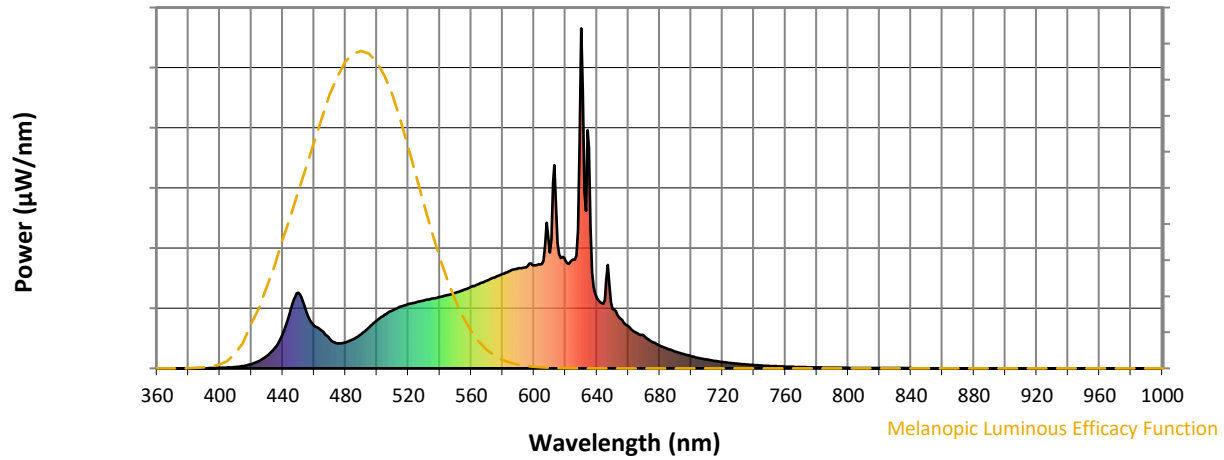
Scotopic Lumens: NR

S/P: 1.44

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	101	NR	620	317	NR	750	7	NR	880	0	NR
365	0	NR	495	121	NR	625	320	NR	755	6	NR	885	0	NR
370	0	NR	500	141	NR	630	1000	NR	760	5	NR	890	0	NR
375	0	NR	505	158	NR	635	651	NR	765	4	NR	895	0	NR
380	0	NR	510	171	NR	640	207	NR	770	4	NR	900	0	NR
385	0	NR	515	182	NR	645	201	NR	775	3	NR	905	0	NR
390	0	NR	520	189	NR	650	174	NR	780	3	NR	910	0	NR
395	1	NR	525	194	NR	655	146	NR	785	2	NR	915	0	NR
400	1	NR	530	199	NR	660	124	NR	790	2	NR	920	0	NR
405	3	NR	535	205	NR	665	105	NR	795	2	NR	925	0	NR
410	4	NR	540	210	NR	670	96	NR	800	1	NR	930	0	NR
415	7	NR	545	216	NR	675	79	NR	805	1	NR	935	0	NR
420	13	NR	550	222	NR	680	67	NR	810	1	NR	940	0	NR
425	22	NR	555	230	NR	685	58	NR	815	1	NR	945	0	NR
430	37	NR	560	240	NR	690	49	NR	820	1	NR	950	0	NR
435	60	NR	565	248	NR	695	42	NR	825	1	NR	955	0	NR
440	101	NR	570	258	NR	700	36	NR	830	1	NR	960	0	NR
445	172	NR	575	268	NR	705	30	NR	835	1	NR	965	0	NR
450	223	NR	580	278	NR	710	26	NR	840	1	NR	970	0	NR
455	167	NR	585	287	NR	715	22	NR	845	0	NR	975	0	NR
460	126	NR	590	295	NR	720	19	NR	850	0	NR	980	0	NR
465	111	NR	595	298	NR	725	16	NR	855	0	NR	985	0	NR
470	86	NR	600	303	NR	730	14	NR	860	0	NR	990	0	NR
475	74	NR	605	307	NR	735	12	NR	865	0	NR	995	0	NR
480	77	NR	610	341	NR	740	10	NR	870	0	NR	1000	0	NR
485	86	NR	615	368	NR	745	8	NR	875	0	NR			

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Melanopic Flux vs. Wavelength



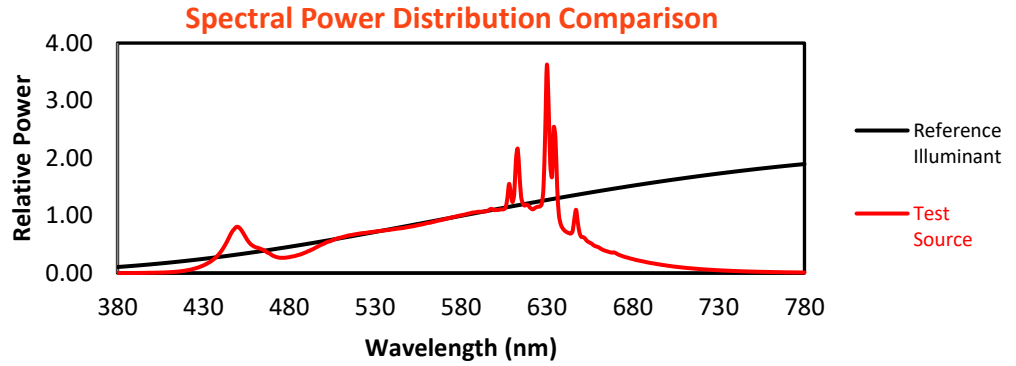
Melanopic Lumens: NR

M/P: 2.85

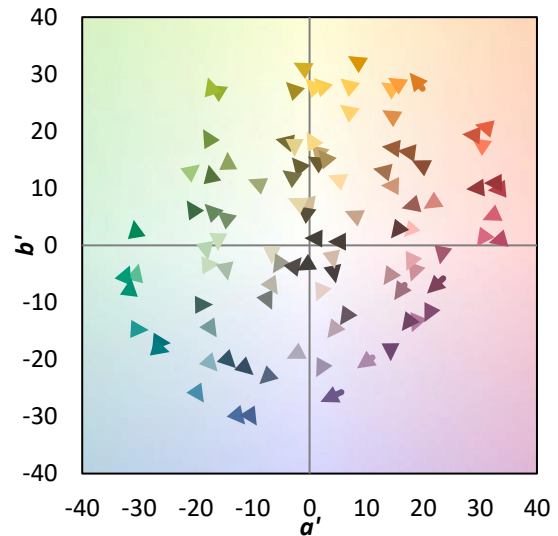
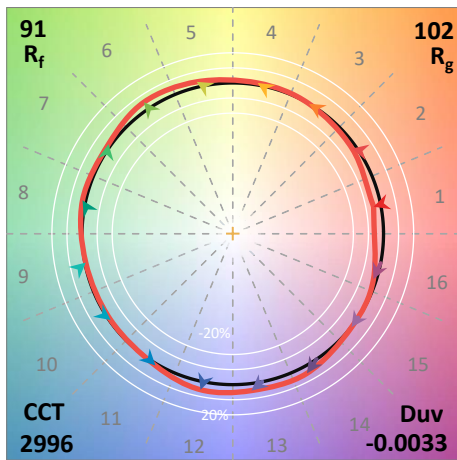
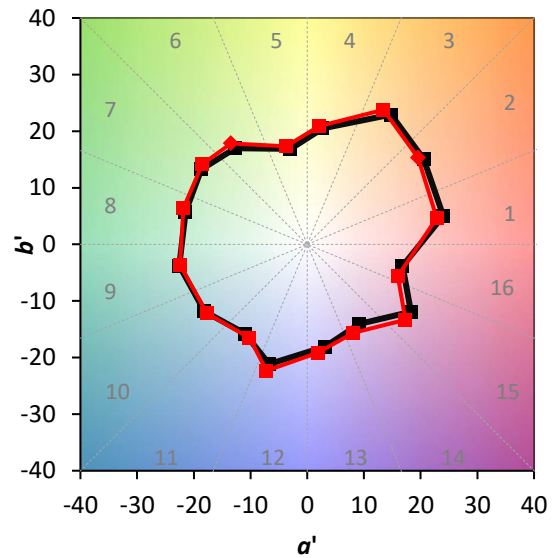
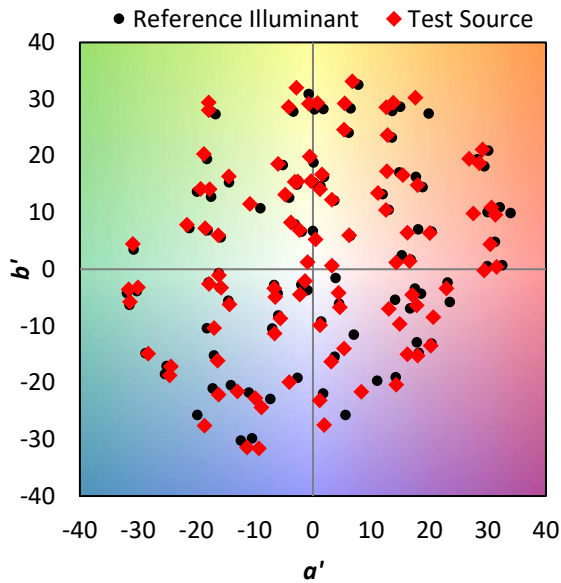
λ (nm)	Power W [^] /nm	Lumens (φ/nm)	λ (nm)	Power W [^] /nm	Lumens (φ/nm)	λ (nm)	Power W [^] /nm	Lumens (φ/nm)	λ (nm)	Power W [^] /nm	Lumens (φ/nm)	λ (nm)	Power W [^] /nm	Lumens (φ/nm)
360	0	NR	490	101	NR	620	317	NR	750	7	NR	880	0	NR
365	0	NR	495	121	NR	625	320	NR	755	6	NR	885	0	NR
370	0	NR	500	141	NR	630	1000	NR	760	5	NR	890	0	NR
375	0	NR	505	158	NR	635	651	NR	765	4	NR	895	0	NR
380	0	NR	510	171	NR	640	207	NR	770	4	NR	900	0	NR
385	0	NR	515	182	NR	645	201	NR	775	3	NR	905	0	NR
390	0	NR	520	189	NR	650	174	NR	780	3	NR	910	0	NR
395	1	NR	525	194	NR	655	146	NR	785	2	NR	915	0	NR
400	1	NR	530	199	NR	660	124	NR	790	2	NR	920	0	NR
405	3	NR	535	205	NR	665	105	NR	795	2	NR	925	0	NR
410	4	NR	540	210	NR	670	96	NR	800	1	NR	930	0	NR
415	7	NR	545	216	NR	675	79	NR	805	1	NR	935	0	NR
420	13	NR	550	222	NR	680	67	NR	810	1	NR	940	0	NR
425	22	NR	555	230	NR	685	58	NR	815	1	NR	945	0	NR
430	37	NR	560	240	NR	690	49	NR	820	1	NR	950	0	NR
435	60	NR	565	248	NR	695	42	NR	825	1	NR	955	0	NR
440	101	NR	570	258	NR	700	36	NR	830	1	NR	960	0	NR
445	172	NR	575	268	NR	705	30	NR	835	1	NR	965	0	NR
450	223	NR	580	278	NR	710	26	NR	840	1	NR	970	0	NR
455	167	NR	585	287	NR	715	22	NR	845	0	NR	975	0	NR
460	126	NR	590	295	NR	720	19	NR	850	0	NR	980	0	NR
465	111	NR	595	298	NR	725	16	NR	855	0	NR	985	0	NR
470	86	NR	600	303	NR	730	14	NR	860	0	NR	990	0	NR
475	74	NR	605	307	NR	735	12	NR	865	0	NR	995	0	NR
480	77	NR	610	341	NR	740	10	NR	870	0	NR	1000	0	NR
485	86	NR	615	368	NR	745	8	NR	875	0	NR			

Summary

$R_f = 91.3$
 $R_g = 102$
 $CIE R_a = 94.4$
 $R_9 = 61.4$

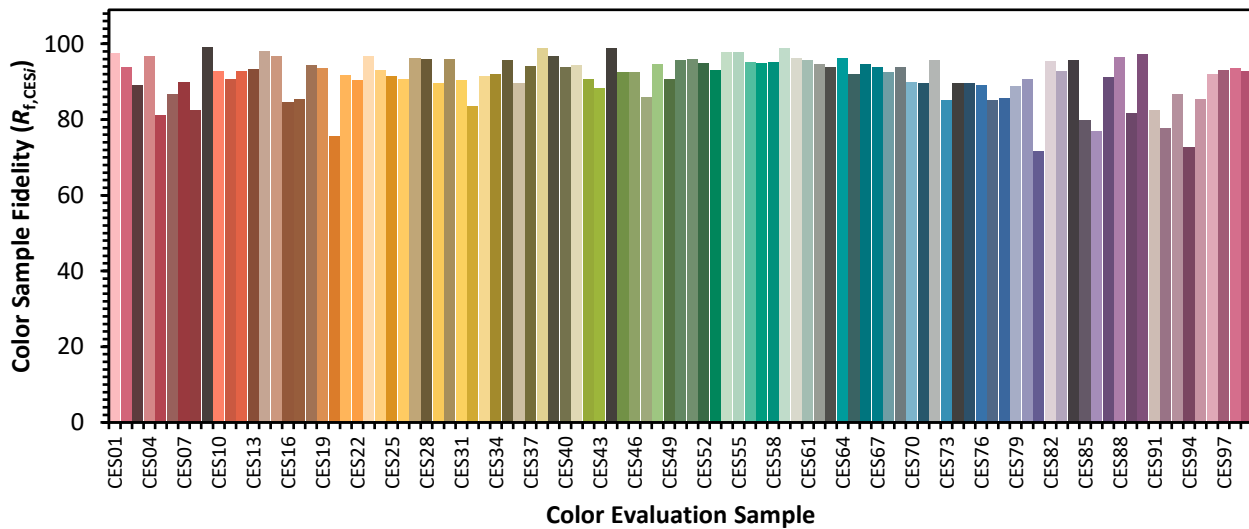


Color Vector Graphics

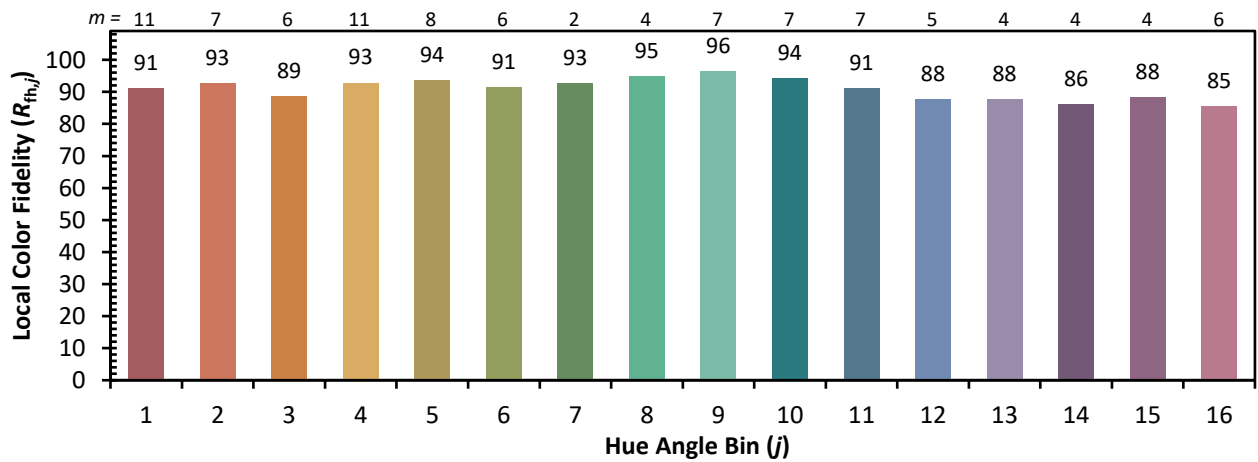
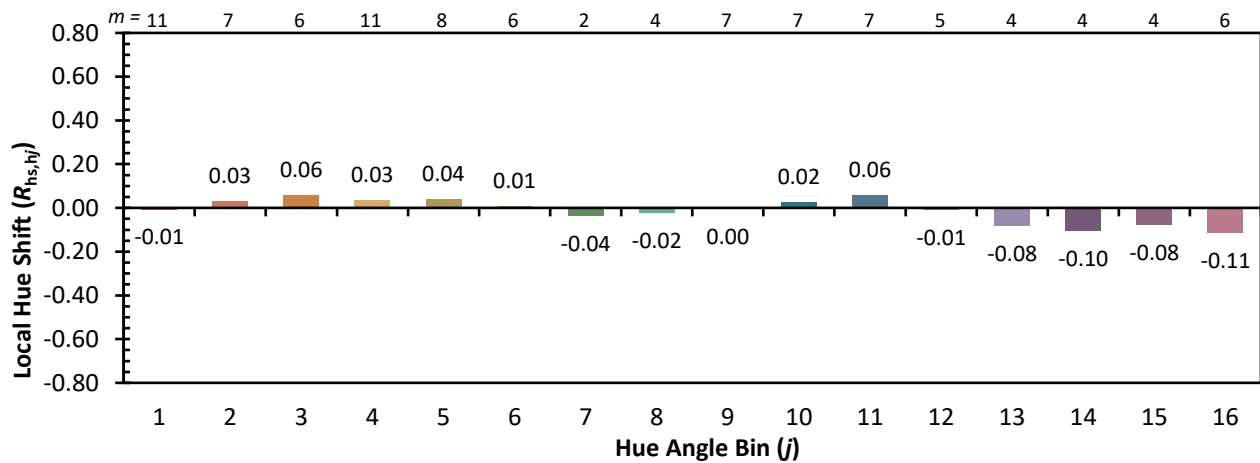
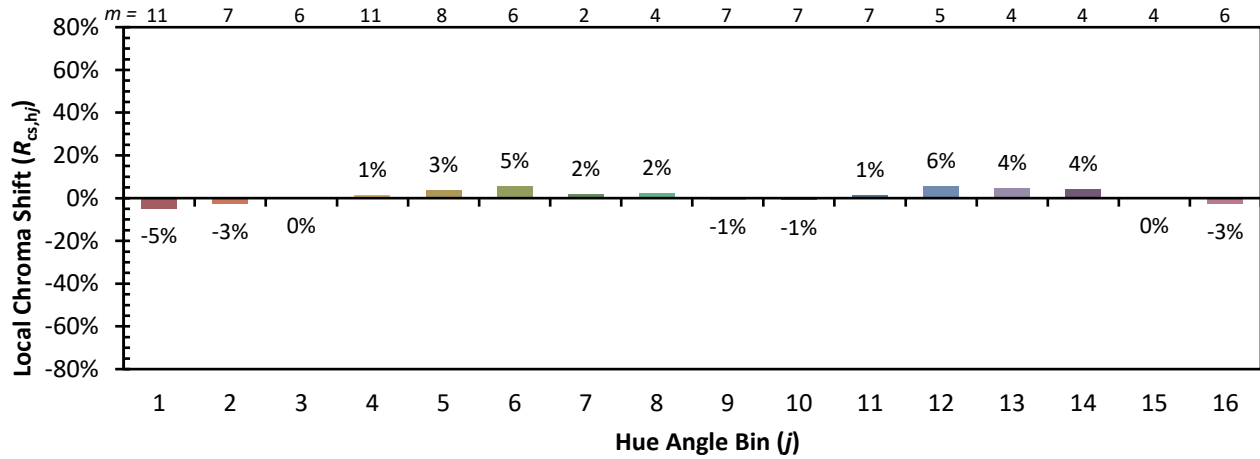


Individual Sample Fidelity Index ($R_{f,i}$)

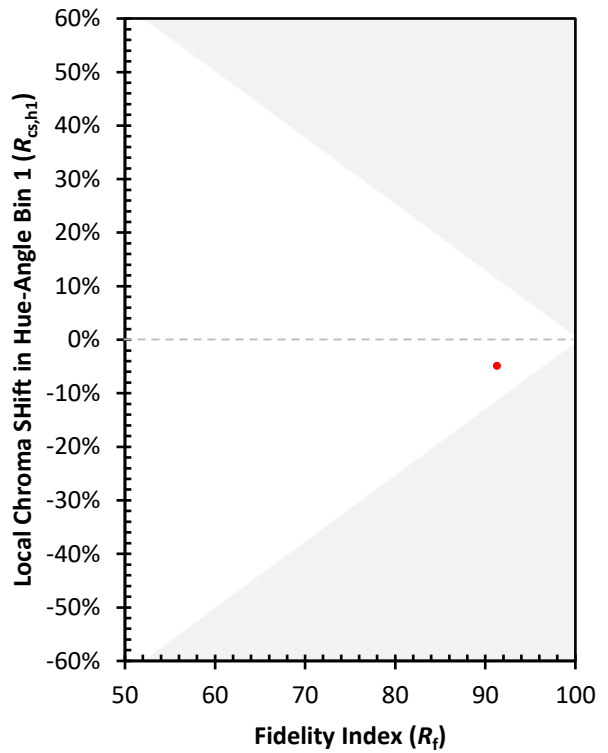
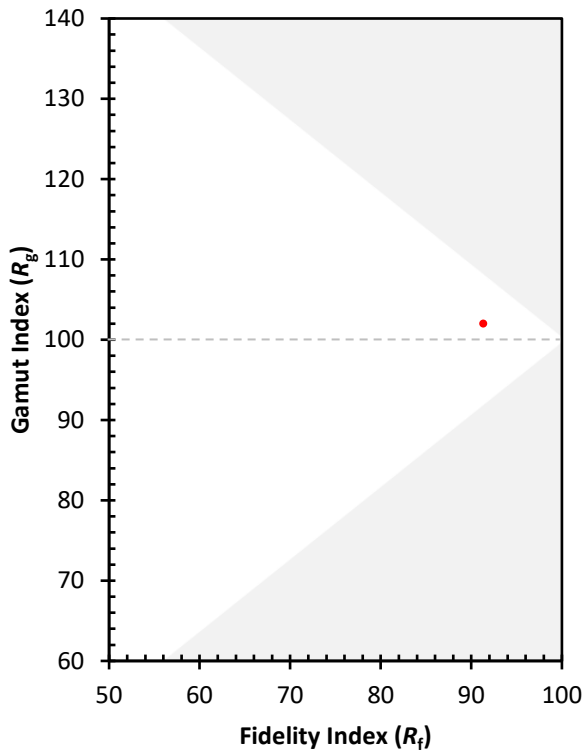
CES01 = 86	CES26 = 91	CES51 = 96	CES76 = 89
CES02 = 63	CES27 = 96	CES52 = 95	CES77 = 85
CES03 = 32	CES28 = 96	CES53 = 93	CES78 = 86
CES04 = 70	CES29 = 90	CES54 = 98	CES79 = 89
CES05 = 51	CES30 = 96	CES55 = 98	CES80 = 91
CES06 = 51	CES31 = 90	CES56 = 95	CES81 = 72
CES07 = 44	CES32 = 84	CES57 = 95	CES82 = 95
CES08 = 42	CES33 = 91	CES58 = 95	CES83 = 93
CES09 = 29	CES34 = 92	CES59 = 99	CES84 = 96
CES10 = 76	CES35 = 96	CES60 = 96	CES85 = 80
CES11 = 59	CES36 = 90	CES61 = 96	CES86 = 77
CES12 = 65	CES37 = 94	CES62 = 95	CES87 = 91
CES13 = 44	CES38 = 99	CES63 = 94	CES88 = 96
CES14 = 74	CES39 = 97	CES64 = 96	CES89 = 82
CES15 = 72	CES40 = 94	CES65 = 92	CES90 = 97
CES16 = 48	CES41 = 94	CES66 = 95	CES91 = 82
CES17 = 50	CES42 = 91	CES67 = 94	CES92 = 78
CES18 = 57	CES43 = 88	CES68 = 93	CES93 = 87
CES19 = 72	CES44 = 99	CES69 = 94	CES94 = 73
CES20 = 67	CES45 = 93	CES70 = 90	CES95 = 85
CES21 = 86	CES46 = 93	CES71 = 90	CES96 = 92
CES22 = 79	CES47 = 86	CES72 = 96	CES97 = 93
CES23 = 92	CES48 = 95	CES73 = 85	CES98 = 94
CES24 = 91	CES49 = 91	CES74 = 90	CES99 = 93
CES25 = 72	CES50 = 96	CES75 = 90	



Color Rendition by Hue-Angle Bin



Measure Comparisons



(END OF REPORT)