

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: P1436554

Luminaire Tested: EHBR1-60-UNV-M-L935

Issue Date: 3/25/2026

Test Information

Test Method: LM-79-2019
Report Number: P1436554
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2603-725-1)
Test Lab: INNOVATION CENTER
Issue Date: 3/25/2026
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: METALUX
Catalog Number: EHBR1-60-UNV-M-L935
Description: Elevate Round Highbay at, 60000 lumens, 3500K 90CRI LEDs with M lens
Light Source: -
Ballast/Driver: -

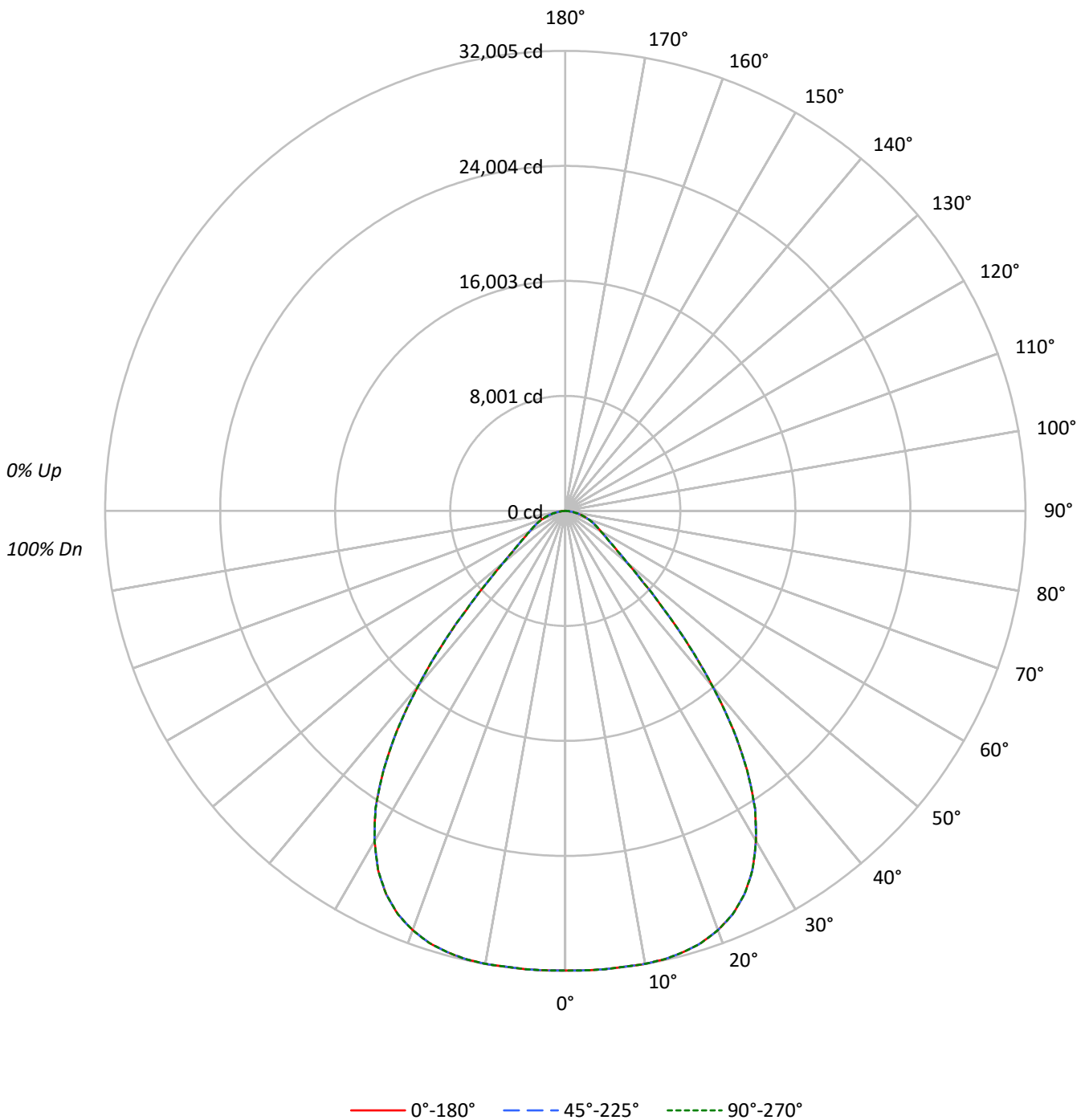
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 54116.9 lumens
Efficiency: N/A
Efficacy: 163.8 lumens/watt
Spacing Criteria (0/90/45): 1.21 / 1.21 / 1.15
Luminous Opening: Circular (Dia: 1.71' x H: 0')
CIE Type: Direct

Input Watts (W): 330.4
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: P1436554
CATALOG NUMBER: EHBR1-60-UNV-M-L935

Luminous Intensity Polar Plot





TEST NUMBER: P1436554
 CATALOG NUMBER: EHBR1-60-UNV-M-L935

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	0
RCR																		
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100
1	112	108	105	102	109	106	103	100	102	99	97	98	96	94	94	93	92	90
2	104	98	93	88	102	96	91	87	93	89	85	90	86	83	87	84	82	80
3	97	89	83	78	95	87	82	77	85	80	76	82	78	74	80	76	73	71
4	91	81	74	69	89	80	73	68	78	72	68	75	71	67	73	69	66	64
5	85	74	67	62	83	73	66	61	71	65	61	70	64	60	68	63	60	58
6	79	68	61	56	78	67	61	55	66	60	55	64	59	55	63	58	54	52
7	74	63	56	51	73	62	55	50	61	55	50	60	54	50	58	53	50	48
8	70	58	51	46	69	58	51	46	57	50	46	55	50	46	54	49	45	44
9	66	54	47	42	65	54	47	42	53	47	42	52	46	42	51	46	42	40
10	62	51	44	39	61	50	44	39	49	43	39	48	43	39	48	42	39	37

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	150152	150152	150152
5°	150872	150872	150872
10°	152577	152577	152577
15°	154488	154488	154488
20°	155102	155102	155102
25°	152604	152604	152604
30°	143837	143837	143837
35°	126369	126369	126369
40°	97800	97800	97800
45°	64611	64611	64611
50°	41273	41273	41273
55°	31264	31264	31264
60°	26860	26860	26860
65°	25090	25090	25090
70°	23741	23741	23741
75°	21563	21563	21563
80°	18482	18482	18482
85°	12619	12619	12619

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 64611 cd/sqm



TEST NUMBER: P1436554
 CATALOG NUMBER: EHBR1-60-UNV-M-L935

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	3053.8	5.6
10°-20°	8968.0	16.6
20°-30°	13456.2	24.9
30°-40°	13538.3	25.0
40°-50°	7749.7	14.3
50°-60°	3544.5	6.5
60°-70°	2248.9	4.2
70°-80°	1261.5	2.3
80°-90°	295.9	0.5
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°	25478.0	47.1
0°-40°	39016.4	72.1
0°-60°	50310.6	93.0
0°-90°	54116.9	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	54116.9	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	31974	31974	31974	31974	31974	
5°	32005	32005	32005	32005	32005	3054
15°	31776	31776	31776	31776	31776	8968
25°	29451	29451	29451	29451	29451	13456
35°	22043	22043	22043	22043	22043	13538
45°	9729	9729	9729	9729	9729	7750
55°	3819	3819	3819	3819	3819	3545
65°	2258	2258	2258	2258	2258	2249
75°	1188	1188	1188	1188	1188	1261
85°	234	234	234	234	234	296
90°	0	0	0	0	0	



TEST NUMBER: P1436554
 CATALOG NUMBER: EHBR1-60-UNV-M-L935

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	31973.7	31973.7	31973.7	31973.7	31973.7
2.5°	31989.2	31989.2	31989.2	31989.2	31989.2
5°	32004.8	32004.8	32004.8	32004.8	32004.8
7.5°	31982.8	31982.8	31982.8	31982.8	31982.8
10°	31996.6	31996.6	31996.6	31996.6	31996.6
12.5°	31941.7	31941.7	31941.7	31941.7	31941.7
15°	31776.1	31776.1	31776.1	31776.1	31776.1
17.5°	31502.5	31502.5	31502.5	31502.5	31502.5
20°	31036.0	31036.0	31036.0	31036.0	31036.0
22.5°	30394.6	30394.6	30394.6	30394.6	30394.6
25°	29451.4	29451.4	29451.4	29451.4	29451.4
27.5°	28182.5	28182.5	28182.5	28182.5	28182.5
30°	26525.6	26525.6	26525.6	26525.6	26525.6
32.5°	24564.1	24564.1	24564.1	24564.1	24564.1
35°	22042.8	22042.8	22042.8	22042.8	22042.8
37.5°	19186.6	19186.6	19186.6	19186.6	19186.6
40°	15953.5	15953.5	15953.5	15953.5	15953.5
42.5°	12748.7	12748.7	12748.7	12748.7	12748.7
45°	9728.7	9728.7	9728.7	9728.7	9728.7
47.5°	7323.5	7323.5	7323.5	7323.5	7323.5
50°	5649.3	5649.3	5649.3	5649.3	5649.3
52.5°	4564.3	4564.3	4564.3	4564.3	4564.3
55°	3818.6	3818.6	3818.6	3818.6	3818.6
57.5°	3269.8	3269.8	3269.8	3269.8	3269.8
60°	2859.8	2859.8	2859.8	2859.8	2859.8
62.5°	2543.3	2543.3	2543.3	2543.3	2543.3
65°	2257.9	2257.9	2257.9	2257.9	2257.9
67.5°	1995.3	1995.3	1995.3	1995.3	1995.3
70°	1729.1	1729.1	1729.1	1729.1	1729.1
72.5°	1461.0	1461.0	1461.0	1461.0	1461.0
75°	1188.4	1188.4	1188.4	1188.4	1188.4
77.5°	929.5	929.5	929.5	929.5	929.5
80°	683.4	683.4	683.4	683.4	683.4
82.5°	445.6	445.6	445.6	445.6	445.6
85°	234.2	234.2	234.2	234.2	234.2
87.5°	66.8	66.8	66.8	66.8	66.8
90°	0.0	0.0	0.0	0.0	0.0



TEST NUMBER: P1436554
 CATALOG NUMBER: EHBR1-60-UNV-M-L935

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	20.77	22.04	21.13	22.35	22.67	20.77	22.04	21.13	22.35	22.67
	3H	22.34	23.47	22.72	23.80	24.17	22.34	23.47	22.72	23.80	24.17
	4H	22.93	23.98	23.33	24.33	24.71	22.93	23.98	23.33	24.33	24.71
	6H	23.32	24.29	23.74	24.66	25.05	23.32	24.29	23.74	24.66	25.05
	8H	23.42	24.34	23.85	24.73	25.14	23.42	24.34	23.85	24.73	25.14
	12H	23.46	24.34	23.90	24.72	25.15	23.46	24.34	23.90	24.72	25.15
4H	2H	21.25	22.31	21.66	22.66	23.04	21.25	22.31	21.66	22.66	23.04
	3H	23.06	23.92	23.47	24.33	24.73	23.06	23.92	23.47	24.33	24.73
	4H	23.76	24.54	24.20	24.96	25.40	23.76	24.54	24.20	24.96	25.40
	6H	24.27	24.94	24.74	25.39	25.85	24.27	24.94	24.74	25.39	25.85
	8H	24.41	25.03	24.88	25.48	25.95	24.41	25.03	24.88	25.48	25.95
	12H	24.47	25.02	24.96	25.50	25.98	24.47	25.02	24.96	25.50	25.98
8H	4H	23.99	24.61	24.46	25.06	25.53	23.99	24.61	24.46	25.06	25.53
	6H	24.60	25.11	25.11	25.61	26.09	24.60	25.11	25.11	25.61	26.09
	8H	24.80	25.25	25.32	25.77	26.26	24.80	25.25	25.32	25.77	26.26
	12H	24.91	25.31	25.43	25.81	26.38	24.91	25.31	25.43	25.81	26.38
12H	4H	23.99	24.54	24.48	25.02	25.50	23.99	24.54	24.48	25.02	25.50
	6H	24.62	25.08	25.15	25.60	26.09	24.62	25.08	25.15	25.60	26.09
	8H	24.86	25.26	25.38	25.76	26.33	24.86	25.26	25.38	25.76	26.33

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

Report Prepared for

Cooper Lighting Solutions

Metalux

Report Number: SP1-2506-472-6

Test Date: 08/01/2025

Luminaire Tested: EHBR-60-L935-N

Data in this report applies to families of products including EHBR-60-L935-N

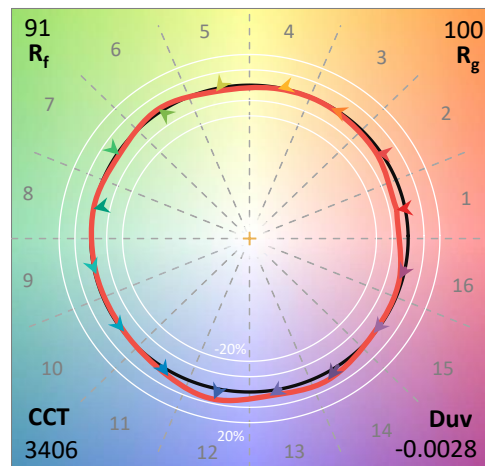
Test Information

Test Method: LM-79-2019
 Report Number: SP1-2506-472-6
 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-L935-N**
 Description: Elevate Round Highbay at, 60000 lumens, 3500K 90CRI LEDs with N lens

Spectral Parameters

CCT (K): 3406
 CIE u': 0.2394
 CIE v': 0.5094
 Duv: -0.0028
 CIE x: 0.4076
 CIE y: 0.3856
 CIE z: 0.2068
 Peak Wavelength (nm): 630
 Dominant Wavelength (nm): 582
 Purity: 38.0517
 Rf: 91.3
 Rg: 100

CRI (Ra):	94.6		
R1:	96.6	R9:	63.8
R2:	98.4	R10:	94.7
R3:	98.1	R11:	96.6
R4:	95.8	R12:	80.9
R5:	96.2	R13:	97.4
R6:	95.4	R14:	98.3
R7:	91.8	R15:	93.1
R8:	84.4		



Test Conditions

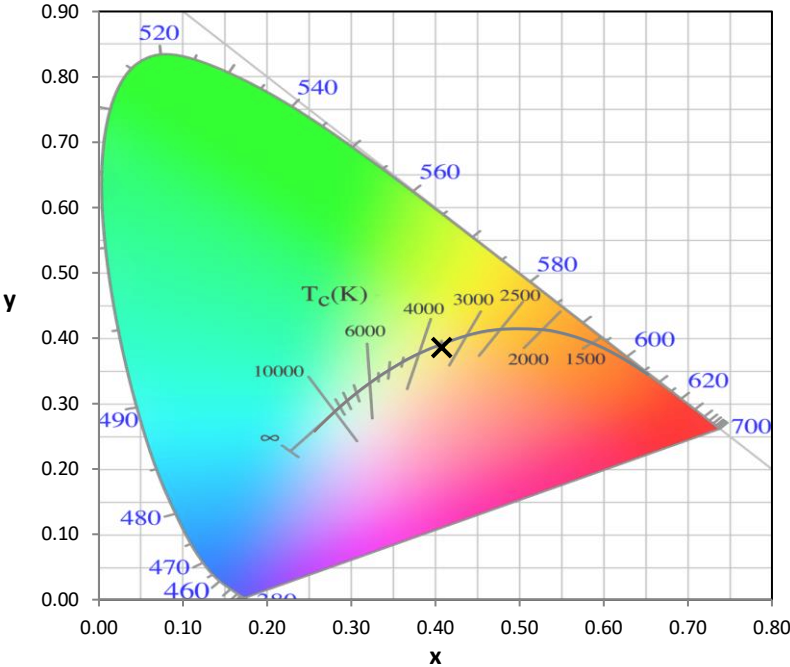
Stabilization Time: 35M
 Operation Time: 1H 35M
 Sphere Temperature (°C): 25.0

REPORT NUMBER: SP1-2506-472-6

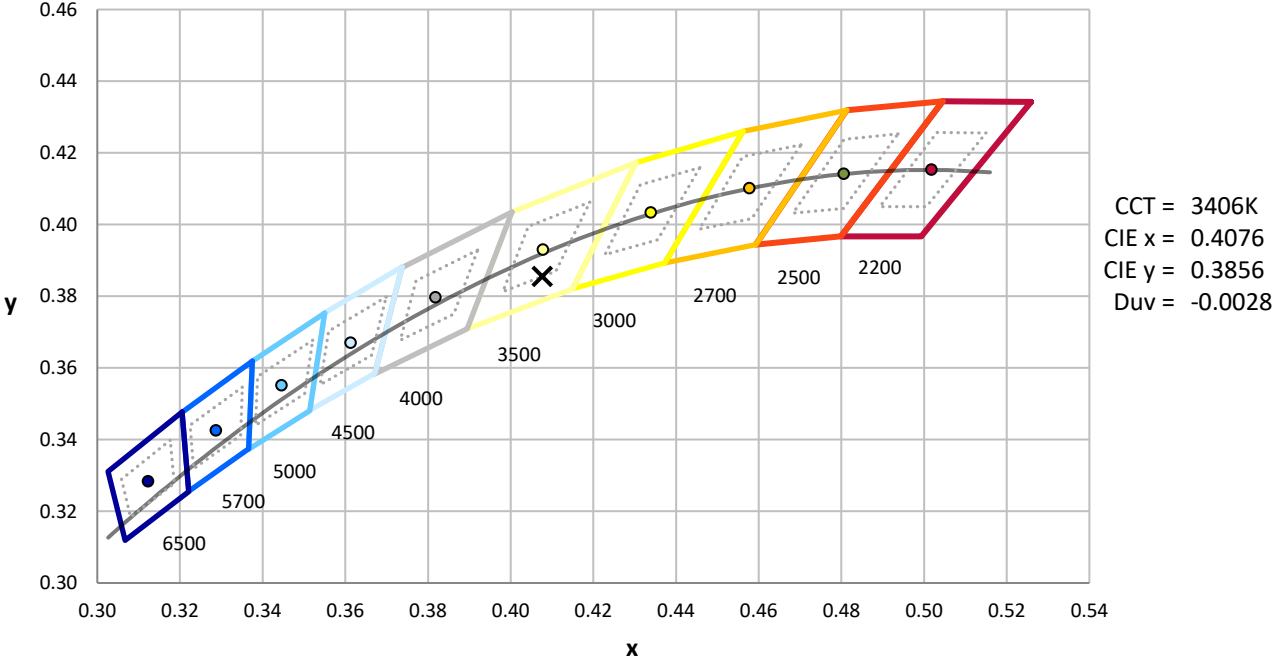
Measurement and Test Equipment			
Instrument	Identification Number	Calibration Date	Calibration Due Date
Photometer	76INCH SPHERE IN0058	6/16/2025	12/16/2025
Power Meter	XITRON INXT2011004	1/21/2025	1/21/2026
AC Power Source	CHROMA 61603 IN0063	10/22/2024	10/22/2025
DC Power Source	AGILENT E3634A IN0208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

REPORT NUMBER: SP1-2506-472-6

CIE 1931 Chromaticity Diagram



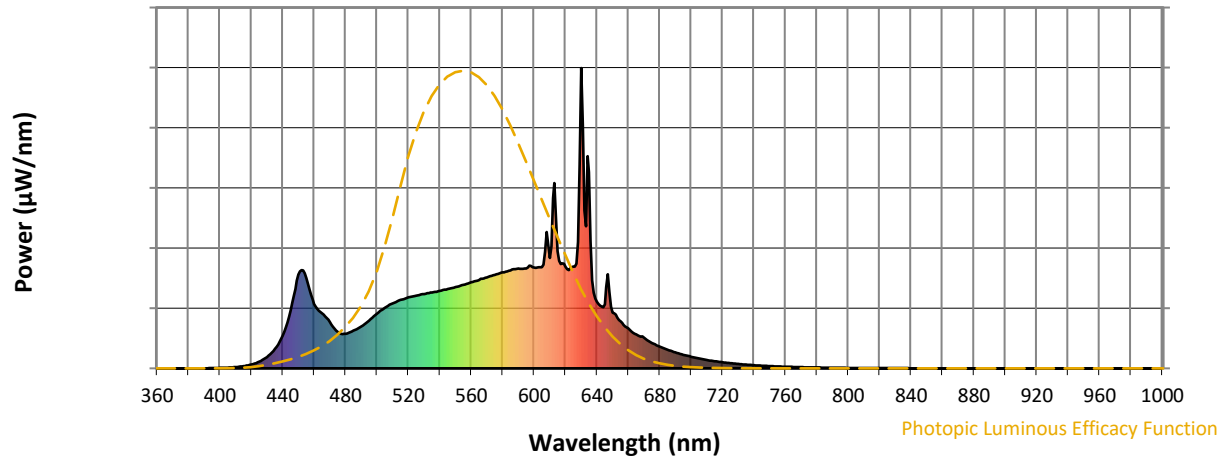
CIE 1931 Chromaticity Diagram with 2017 ANSI 7-Step and 4-Step Quadrangles



Point lies inside the ANSI 3500K 4-step quadrangle

REPORT NUMBER: SP1-2506-472-6

Photopic Flux vs. Wavelength

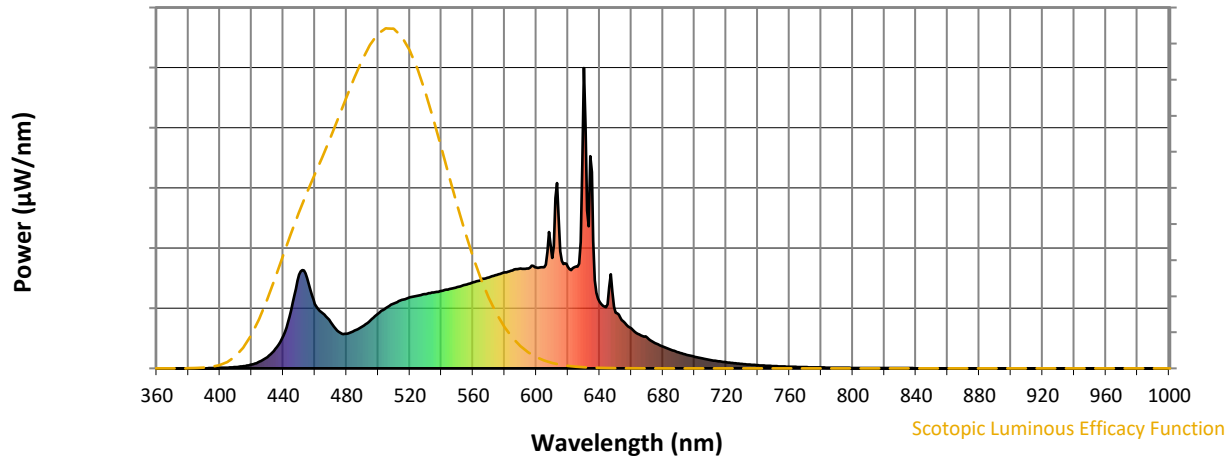


Photopic Lumens: NR

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	140	NR	620	338	NR	750	8	NR	880	0	NR
365	0	NR	495	159	NR	625	339	NR	755	7	NR	885	0	NR
370	0	NR	500	182	NR	630	1000	NR	760	5	NR	890	0	NR
375	0	NR	505	202	NR	635	653	NR	765	5	NR	895	0	NR
380	0	NR	510	216	NR	640	222	NR	770	4	NR	900	0	NR
385	0	NR	515	228	NR	645	214	NR	775	3	NR	905	0	NR
390	0	NR	520	236	NR	650	185	NR	780	3	NR	910	0	NR
395	1	NR	525	242	NR	655	157	NR	785	3	NR	915	0	NR
400	2	NR	530	248	NR	660	133	NR	790	2	NR	920	0	NR
405	3	NR	535	253	NR	665	113	NR	795	2	NR	925	0	NR
410	4	NR	540	258	NR	670	103	NR	800	2	NR	930	0	NR
415	7	NR	545	264	NR	675	85	NR	805	1	NR	935	0	NR
420	13	NR	550	270	NR	680	72	NR	810	1	NR	940	0	NR
425	22	NR	555	278	NR	685	62	NR	815	1	NR	945	0	NR
430	38	NR	560	286	NR	690	53	NR	820	1	NR	950	0	NR
435	65	NR	565	295	NR	695	45	NR	825	1	NR	955	0	NR
440	108	NR	570	303	NR	700	39	NR	830	1	NR	960	0	NR
445	193	NR	575	311	NR	705	33	NR	835	1	NR	965	0	NR
450	312	NR	580	319	NR	710	28	NR	840	1	NR	970	0	NR
455	300	NR	585	326	NR	715	24	NR	845	0	NR	975	0	NR
460	214	NR	590	332	NR	720	20	NR	850	0	NR	980	0	NR
465	184	NR	595	333	NR	725	17	NR	855	0	NR	985	0	NR
470	153	NR	600	336	NR	730	15	NR	860	0	NR	990	0	NR
475	122	NR	605	337	NR	735	12	NR	865	0	NR	995	0	NR
480	115	NR	610	367	NR	740	10	NR	870	0	NR	1000	0	NR
485	125	NR	615	390	NR	745	9	NR	875	0	NR			

REPORT NUMBER: SP1-2506-472-6

Scotopic Flux vs. Wavelength



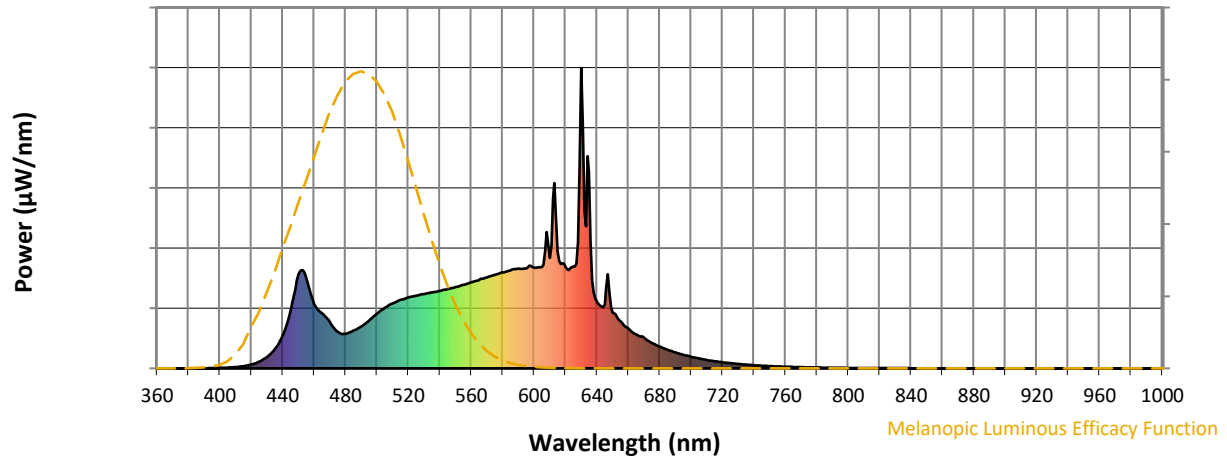
Scotopic Lumens: NR

S/P: 1.62

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	140	NR	620	338	NR	750	8	NR	880	0	NR
365	0	NR	495	159	NR	625	339	NR	755	7	NR	885	0	NR
370	0	NR	500	182	NR	630	1000	NR	760	5	NR	890	0	NR
375	0	NR	505	202	NR	635	653	NR	765	5	NR	895	0	NR
380	0	NR	510	216	NR	640	222	NR	770	4	NR	900	0	NR
385	0	NR	515	228	NR	645	214	NR	775	3	NR	905	0	NR
390	0	NR	520	236	NR	650	185	NR	780	3	NR	910	0	NR
395	1	NR	525	242	NR	655	157	NR	785	3	NR	915	0	NR
400	2	NR	530	248	NR	660	133	NR	790	2	NR	920	0	NR
405	3	NR	535	253	NR	665	113	NR	795	2	NR	925	0	NR
410	4	NR	540	258	NR	670	103	NR	800	2	NR	930	0	NR
415	7	NR	545	264	NR	675	85	NR	805	1	NR	935	0	NR
420	13	NR	550	270	NR	680	72	NR	810	1	NR	940	0	NR
425	22	NR	555	278	NR	685	62	NR	815	1	NR	945	0	NR
430	38	NR	560	286	NR	690	53	NR	820	1	NR	950	0	NR
435	65	NR	565	295	NR	695	45	NR	825	1	NR	955	0	NR
440	108	NR	570	303	NR	700	39	NR	830	1	NR	960	0	NR
445	193	NR	575	311	NR	705	33	NR	835	1	NR	965	0	NR
450	312	NR	580	319	NR	710	28	NR	840	1	NR	970	0	NR
455	300	NR	585	326	NR	715	24	NR	845	0	NR	975	0	NR
460	214	NR	590	332	NR	720	20	NR	850	0	NR	980	0	NR
465	184	NR	595	333	NR	725	17	NR	855	0	NR	985	0	NR
470	153	NR	600	336	NR	730	15	NR	860	0	NR	990	0	NR
475	122	NR	605	337	NR	735	12	NR	865	0	NR	995	0	NR
480	115	NR	610	367	NR	740	10	NR	870	0	NR	1000	0	NR
485	125	NR	615	390	NR	745	9	NR	875	0	NR			

REPORT NUMBER: SP1-2506-472-6

Melanopic Flux vs. Wavelength



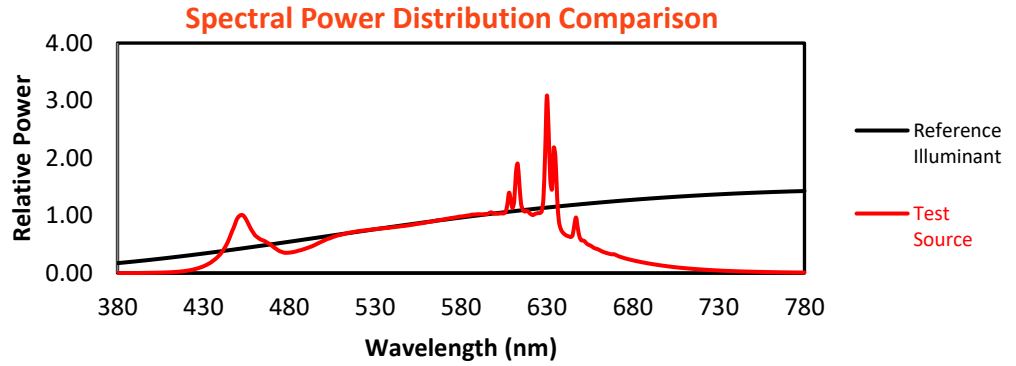
Melanopic Lumens: NR

M/P: 3.3

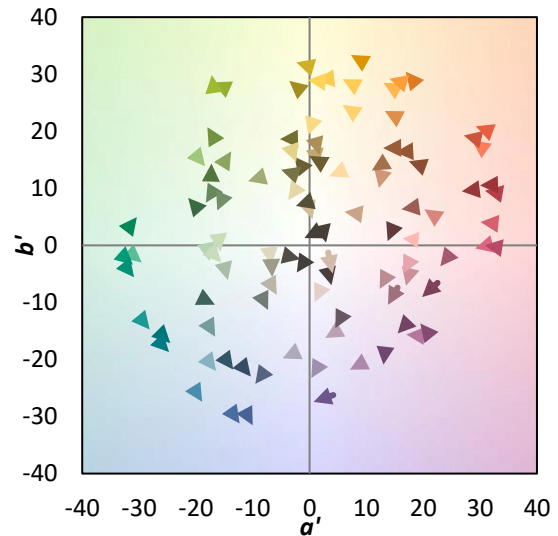
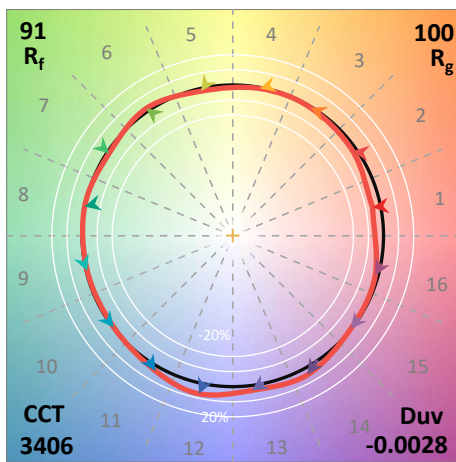
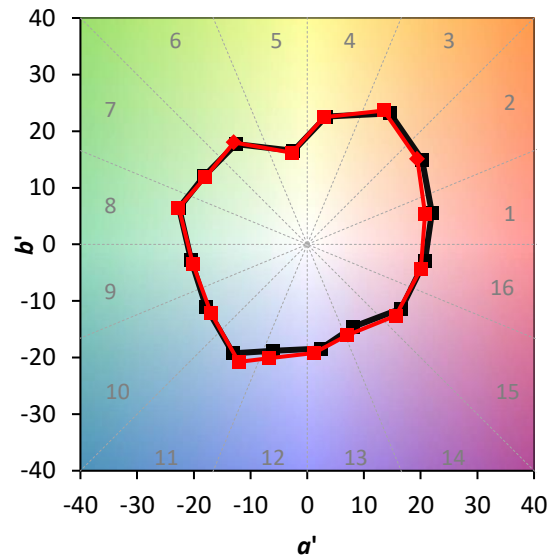
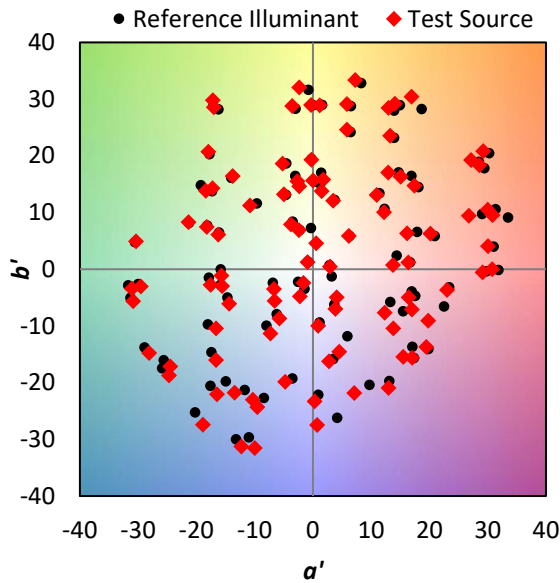
λ (nm)	Power W [^] /nm	Lumens (φ/nm)	λ (nm)	Power W [^] /nm	Lumens (φ/nm)	λ (nm)	Power W [^] /nm	Lumens (φ/nm)	λ (nm)	Power W [^] /nm	Lumens (φ/nm)	λ (nm)	Power W [^] /nm	Lumens (φ/nm)
360	0	NR	490	140	NR	620	338	NR	750	8	NR	880	0	NR
365	0	NR	495	159	NR	625	339	NR	755	7	NR	885	0	NR
370	0	NR	500	182	NR	630	1000	NR	760	5	NR	890	0	NR
375	0	NR	505	202	NR	635	653	NR	765	5	NR	895	0	NR
380	0	NR	510	216	NR	640	222	NR	770	4	NR	900	0	NR
385	0	NR	515	228	NR	645	214	NR	775	3	NR	905	0	NR
390	0	NR	520	236	NR	650	185	NR	780	3	NR	910	0	NR
395	1	NR	525	242	NR	655	157	NR	785	3	NR	915	0	NR
400	2	NR	530	248	NR	660	133	NR	790	2	NR	920	0	NR
405	3	NR	535	253	NR	665	113	NR	795	2	NR	925	0	NR
410	4	NR	540	258	NR	670	103	NR	800	2	NR	930	0	NR
415	7	NR	545	264	NR	675	85	NR	805	1	NR	935	0	NR
420	13	NR	550	270	NR	680	72	NR	810	1	NR	940	0	NR
425	22	NR	555	278	NR	685	62	NR	815	1	NR	945	0	NR
430	38	NR	560	286	NR	690	53	NR	820	1	NR	950	0	NR
435	65	NR	565	295	NR	695	45	NR	825	1	NR	955	0	NR
440	108	NR	570	303	NR	700	39	NR	830	1	NR	960	0	NR
445	193	NR	575	311	NR	705	33	NR	835	1	NR	965	0	NR
450	312	NR	580	319	NR	710	28	NR	840	1	NR	970	0	NR
455	300	NR	585	326	NR	715	24	NR	845	0	NR	975	0	NR
460	214	NR	590	332	NR	720	20	NR	850	0	NR	980	0	NR
465	184	NR	595	333	NR	725	17	NR	855	0	NR	985	0	NR
470	153	NR	600	336	NR	730	15	NR	860	0	NR	990	0	NR
475	122	NR	605	337	NR	735	12	NR	865	0	NR	995	0	NR
480	115	NR	610	367	NR	740	10	NR	870	0	NR	1000	0	NR
485	125	NR	615	390	NR	745	9	NR	875	0	NR			

Summary

$R_f = 91.3$
 $R_g = 100$
 $CIE R_a = 94.6$
 $R_9 = 63.8$

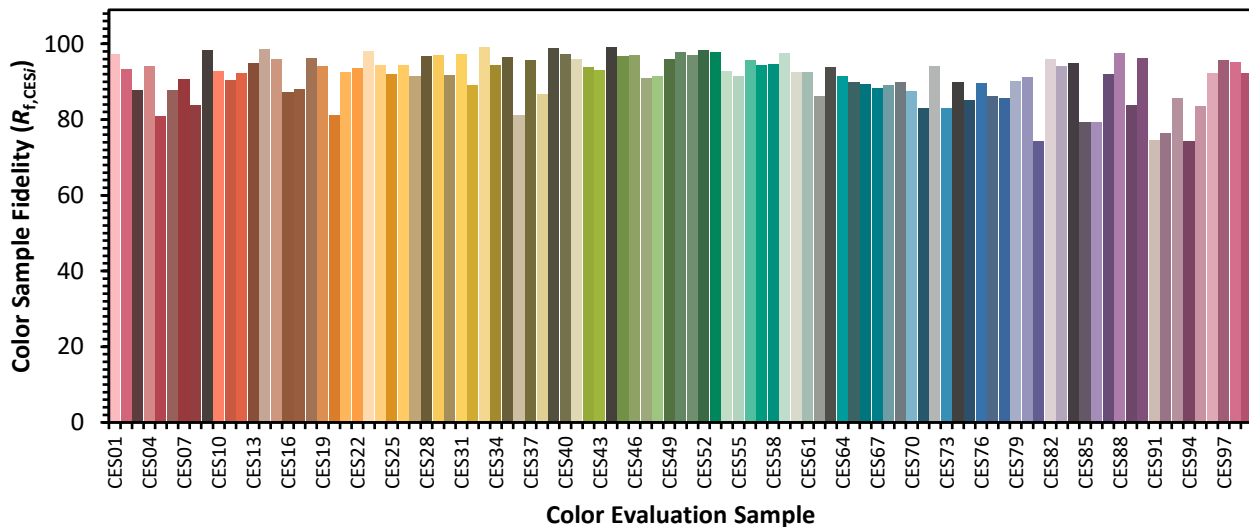


Color Vector Graphics

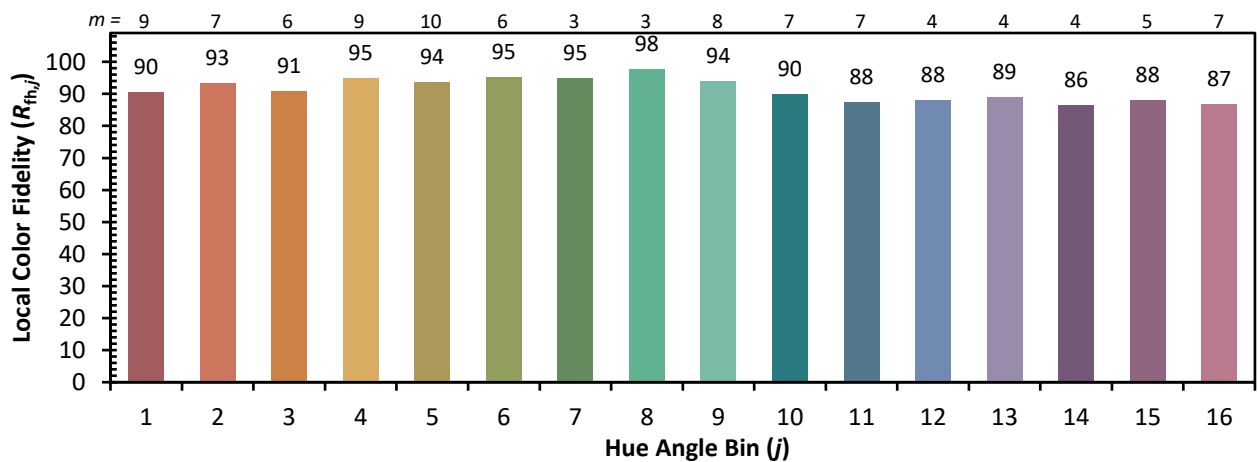
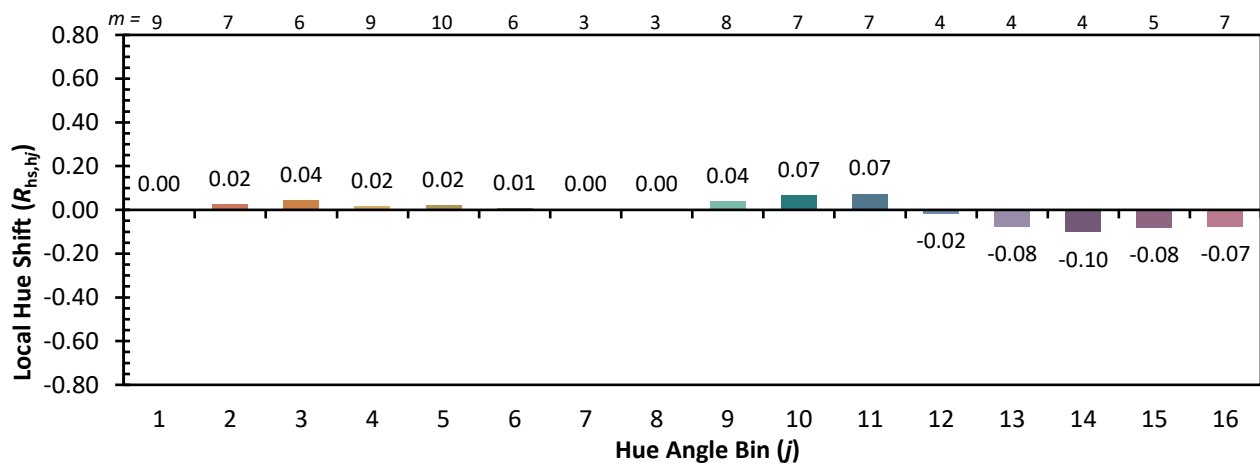
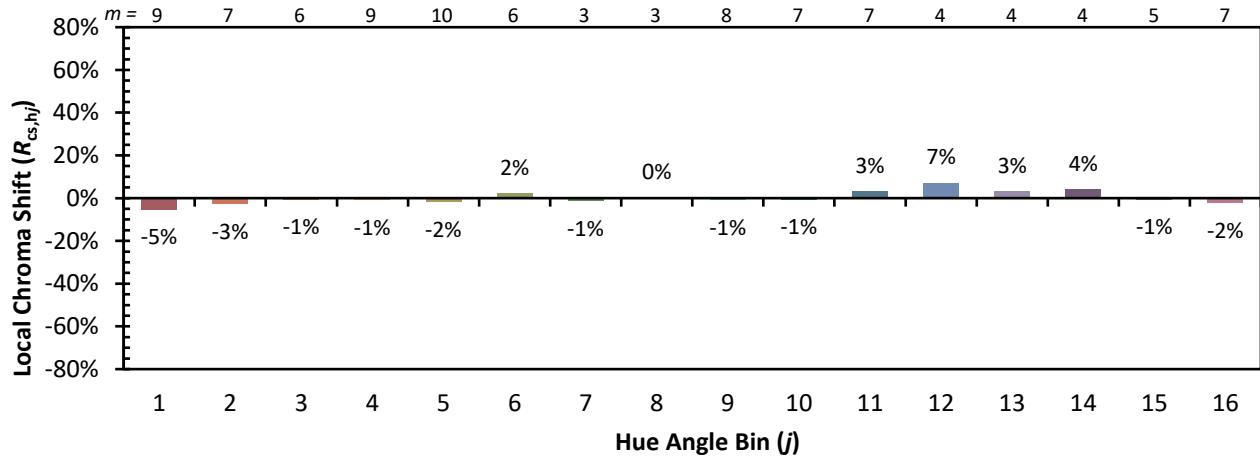


Individual Sample Fidelity Index ($R_{f,i}$)

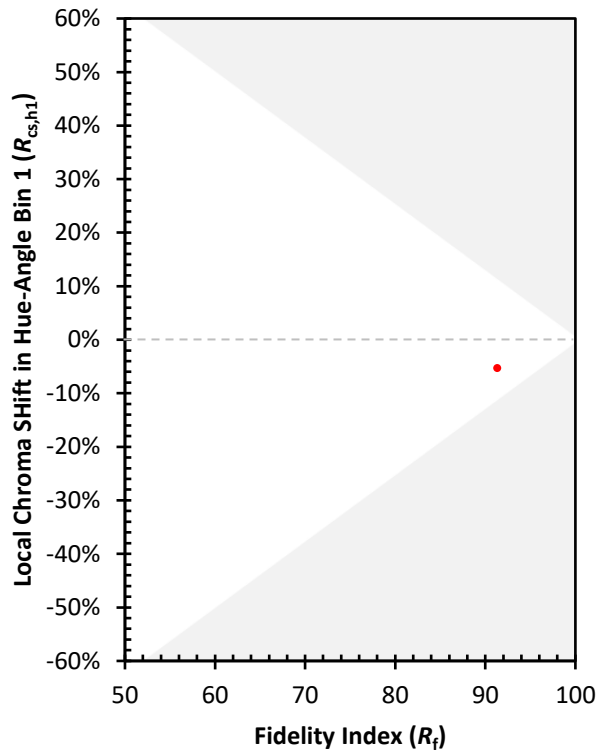
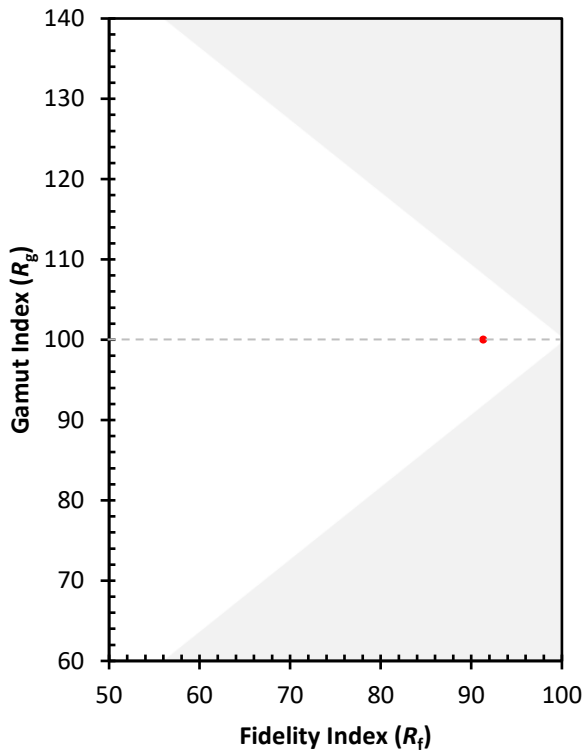
CES01 = 86	CES26 = 94	CES51 = 97	CES76 = 90
CES02 = 63	CES27 = 92	CES52 = 98	CES77 = 86
CES03 = 31	CES28 = 97	CES53 = 98	CES78 = 86
CES04 = 70	CES29 = 97	CES54 = 93	CES79 = 90
CES05 = 50	CES30 = 92	CES55 = 92	CES80 = 91
CES06 = 51	CES31 = 97	CES56 = 96	CES81 = 74
CES07 = 43	CES32 = 89	CES57 = 94	CES82 = 96
CES08 = 41	CES33 = 99	CES58 = 95	CES83 = 94
CES09 = 29	CES34 = 94	CES59 = 98	CES84 = 95
CES10 = 75	CES35 = 97	CES60 = 92	CES85 = 79
CES11 = 58	CES36 = 81	CES61 = 93	CES86 = 79
CES12 = 64	CES37 = 96	CES62 = 86	CES87 = 92
CES13 = 44	CES38 = 87	CES63 = 94	CES88 = 98
CES14 = 74	CES39 = 99	CES64 = 91	CES89 = 84
CES15 = 72	CES40 = 97	CES65 = 90	CES90 = 96
CES16 = 48	CES41 = 96	CES66 = 89	CES91 = 75
CES17 = 49	CES42 = 94	CES67 = 88	CES92 = 76
CES18 = 56	CES43 = 93	CES68 = 89	CES93 = 86
CES19 = 71	CES44 = 99	CES69 = 90	CES94 = 74
CES20 = 67	CES45 = 97	CES70 = 88	CES95 = 83
CES21 = 86	CES46 = 97	CES71 = 83	CES96 = 92
CES22 = 78	CES47 = 91	CES72 = 94	CES97 = 96
CES23 = 91	CES48 = 91	CES73 = 83	CES98 = 95
CES24 = 90	CES49 = 96	CES74 = 90	CES99 = 92
CES25 = 71	CES50 = 98	CES75 = 85	



Color Rendition by Hue-Angle Bin



Measure Comparisons



(END OF REPORT)