

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: P830466

Luminaire Tested: **OHBL-48HE-MCL-UNV-L750-CD**

Issue Date: 5/3/2024



Test Information

Test Method: LM-79-08
Report Number: P830466
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2103-200-1)
Test Lab: INNOVATION CENTER
Issue Date: 5/3/2024
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: METALUX
Catalog Number: OHBL-48HE-MCL-UNV-L750-CD
Description: 48000 LUMEN OHBL HE LED LUMINAIRE WITH 70CRI, 5000K LEDS AND MEDIUM CLEAR LENS
Light Source: -
Ballast/Driver: -

Summary

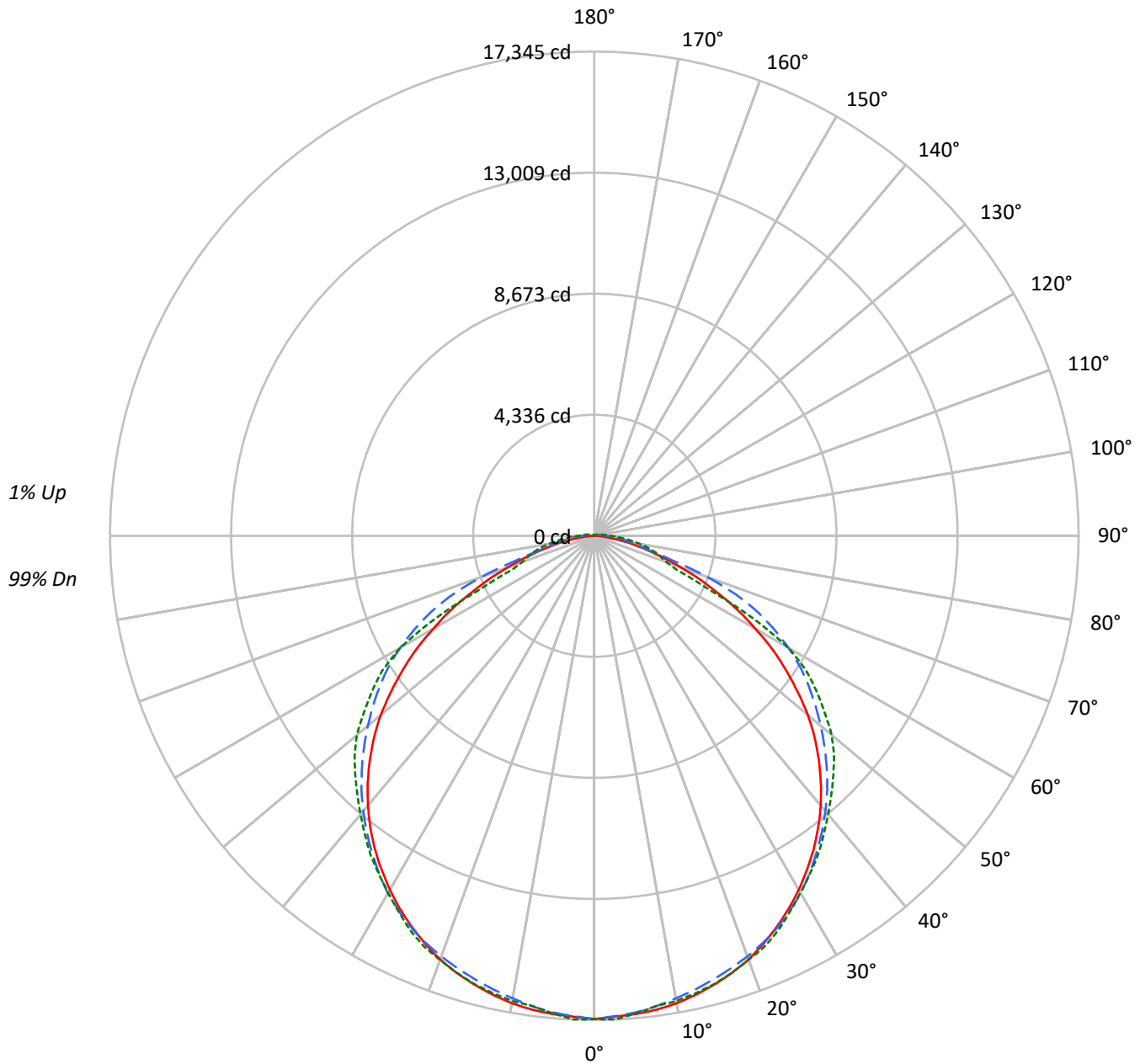
Lumens per Lamp: N/A
Luminaire Lumens: 48925.9 lumens
Efficiency: N/A
Efficacy: 183.9 lumens/watt
Spacing Criteria (0/90/45): 1.26 / 1.27 / 1.39
Luminous Opening: Rectangular w/ Sides (W: 1.8' x L: 3.78' x H: 0.17')
CIE Type: Direct

Input Watts (W): 266
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: P830466

CATALOG NUMBER: OHBL-48HE-MCL-UNV-L750-CD

Luminous Intensity Polar Plot





TEST NUMBER: P830466

CATALOG NUMBER: OHBL-48HE-MCL-UNV-L750-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	106	106	106	101	101	101			99
1	109	104	100	96	106	102	98	95	97	94	91	93	91	88	90	87	86			83
2	99	91	84	79	96	89	83	78	85	80	76	82	78	74	79	75	72			70
3	91	80	72	66	88	79	71	65	75	69	64	72	67	63	70	65	61			59
4	83	71	62	56	81	70	62	55	67	60	54	65	59	54	62	57	53			51
5	76	64	55	48	74	62	54	48	60	53	47	58	52	46	56	50	46			44
6	70	57	48	42	68	56	48	42	54	47	41	52	46	41	51	45	40			38
7	65	52	43	37	63	51	43	37	49	42	36	48	41	36	46	40	36			34
8	61	47	39	33	59	46	38	33	45	38	33	44	37	32	42	36	32			30
9	57	43	35	30	55	43	35	29	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°	27375	27375	27375
5°	27196	26978	27034
10°	27097	26569	26734
15°	26925	26264	26555
20°	26753	26071	26320
25°	26430	25877	26087
30°	26079	25572	25594
35°	25659	25087	25321
40°	25113	24586	24951
45°	24357	24006	24787
50°	23332	23347	24591
55°	21704	22697	23673
60°	19571	21747	21886
65°	16789	19985	13870
70°	13523	15601	10056
75°	10138	9261	10206
80°	7057	7700	9744
85°	4017	7055	9134



TEST NUMBER: P830466

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	1632.2	3.3
10°-20°	4680.3	9.6
20°-30°	7148.3	14.6
30°-40°	8673.4	17.7
40°-50°	9090.5	18.6
50°-60°	8237.4	16.8
60°-70°	5522.8	11.3
70°-80°	2480.0	5.1
80°-90°	899.9	1.8
90°-100°	270.9	0.6
100°-110°	127.8	0.3
110°-120°	64.0	0.1
120°-130°	35.3	0.1
130°-140°	24.3	0.0
140°-150°	16.3	0.0
150°-160°	12.1	0.0
160°-170°	7.8	0.0
170°-180°	2.5	0.0
0°-30°	13460.8	27.5
0°-40°	22134.2	45.2
0°-60°	39462.0	80.7
0°-90°	48364.8	98.9
90°-120°	462.7	0.9
90°-150°	538.7	1.1
90°-180°	561.0	1.1
0°-180°	48925.9	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	17310	17310	17310	17310	17310	
5°	17197	17258	17137	17190	17167	###
15°	16639	16574	16457	16602	16622	4698
25°	15458	15390	15498	15641	15596	7125
35°	13701	13733	13874	14021	13966	8563
45°	11371	11556	11771	12072	12109	8759
55°	8367	8770	9368	9744	9721	7469
65°	4911	5679	6448	5441	4443	4893
75°	1932	2803	2062	2110	2248	2112
85°	333	638	818	989	1036	406
90°	2	213	423	531	556	20
95°	2	133	290	353	363	3
105°	10	58	143	173	180	12
115°	20	30	73	93	98	19
125°	18	20	45	53	55	17
135°	22	25	28	40	42	18
145°	22	25	25	28	30	15
155°	25	28	28	28	25	12
165°	28	28	28	28	28	8
175°	28	28	25	22	22	3
180°	25	25	25	25	25	



TEST NUMBER: P830466

CATALOG NUMBER: OHBL-48HE-MCL-UNV-L750-CD

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	17310.1	17310.1	17310.1	17310.1	17310.1
2.5°	17240.0	17312.6	17222.5	17320.1	17345.1
5°	17197.4	17257.5	17137.4	17189.9	17167.4
7.5°	17119.8	17139.9	16997.2	17039.7	16994.7
10°	17004.7	16994.7	16827.0	16909.6	16919.6
12.5°	16834.5	16804.5	16654.3	16779.4	16781.9
15°	16639.3	16574.2	16456.6	16601.7	16621.8
17.5°	16414.0	16328.9	16251.3	16439.1	16409.0
20°	16151.2	16051.1	16036.1	16241.3	16166.2
22.5°	15825.8	15748.3	15783.3	15978.5	15931.0
25°	15457.9	15390.3	15498.0	15640.6	15595.6
27.5°	15070.0	15029.9	15152.6	15262.7	15175.1
30°	14644.5	14621.9	14784.6	14874.7	14764.6
32.5°	14181.4	14188.9	14344.1	14466.8	14364.1
35°	13700.9	13733.4	13873.6	14021.2	13966.2
37.5°	13172.8	13245.3	13385.5	13553.2	13495.6
40°	12614.6	12719.7	12874.9	13077.7	13025.1
42.5°	12011.4	12144.1	12344.3	12569.6	12564.6
45°	11370.7	11555.9	11771.1	12071.5	12109.0
47.5°	10704.9	10912.6	11185.5	11585.9	11643.5
50°	9981.6	10241.9	10582.3	11062.8	11097.9
52.5°	9175.6	9531.0	9981.6	10442.1	10399.6
55°	8367.2	8770.2	9368.4	9743.8	9721.3
57.5°	7561.3	8014.3	8740.1	9007.9	9005.4
60°	6660.2	7233.4	8026.8	8229.5	8029.3
62.5°	5826.8	6442.5	7265.9	7118.2	6432.5
65°	4910.7	5679.1	6447.5	5441.3	4442.6
67.5°	4097.2	4898.2	5476.3	3726.8	3191.2
70°	3278.8	4162.3	4269.9	2765.7	2728.2
72.5°	2553.0	3494.0	2945.9	2367.7	2487.9
75°	1932.2	2803.2	2062.4	2109.9	2247.6
77.5°	1409.1	2152.5	1604.4	1849.6	1962.3
80°	968.6	1524.3	1309.0	1554.3	1631.9
82.5°	608.2	1006.2	1048.7	1251.5	1331.5
85°	332.9	638.2	818.4	988.6	1036.2
87.5°	137.7	385.4	625.7	763.4	803.4
90°	2.5	212.7	423.0	530.6	555.6
92.5°	2.5	162.7	345.4	428.0	445.5
95°	2.5	132.7	290.3	352.9	362.9
97.5°	5.0	105.1	242.8	292.8	302.9
100°	7.5	87.6	202.7	245.3	252.8
102.5°	10.0	70.1	170.2	205.2	212.7
105°	10.0	57.6	142.7	172.7	180.2



TEST NUMBER: P830466

CATALOG NUMBER: OHBL-48HE-MCL-UNV-L750-CD

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	17.5	35.0	85.1	107.6	112.6
115°	20.0	30.0	72.6	92.6	97.6
117.5°	20.0	25.0	62.6	77.6	82.6
120°	20.0	22.5	55.1	67.6	70.1
122.5°	20.0	20.0	47.6	60.1	62.6
125°	17.5	20.0	45.1	52.6	55.1
127.5°	20.0	20.0	40.0	47.6	50.1
130°	20.0	22.5	35.0	45.1	45.1
132.5°	22.5	25.0	32.5	42.5	42.5
135°	22.5	25.0	27.5	40.0	42.5
137.5°	25.0	25.0	25.0	37.5	40.0
140°	25.0	25.0	22.5	32.5	35.0
142.5°	22.5	25.0	22.5	30.0	32.5
145°	22.5	25.0	25.0	27.5	30.0
147.5°	25.0	25.0	25.0	25.0	27.5
150°	25.0	25.0	25.0	25.0	25.0
152.5°	25.0	25.0	25.0	25.0	25.0
155°	25.0	27.5	27.5	27.5	25.0
157.5°	25.0	27.5	27.5	27.5	27.5
160°	25.0	27.5	27.5	27.5	27.5
162.5°	27.5	27.5	27.5	27.5	27.5
165°	27.5	27.5	27.5	27.5	27.5
167.5°	27.5	30.0	27.5	27.5	27.5
170°	27.5	27.5	27.5	25.0	25.0
172.5°	27.5	27.5	27.5	25.0	25.0
175°	27.5	27.5	25.0	22.5	22.5
177.5°	30.0	27.5	25.0	22.5	20.0
180°	25.0	25.0	25.0	25.0	25.0



Report Generated By 670246072 / DESKTOP-50001EG





— 0°-180° - - 45°-225° - - - 90°-270°







107.5°	12.5	47.6	122.6	147.7	152.7
110°	15.0	40.0	102.6	125.1	130.2



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

Report Prepared for

Cooper Lighting Solutions

METALUX

Report Number: SP1-2304-001-3

Test Date: 05/31/2023

Luminaire Tested: OHB-15SE-N-UNV-L750

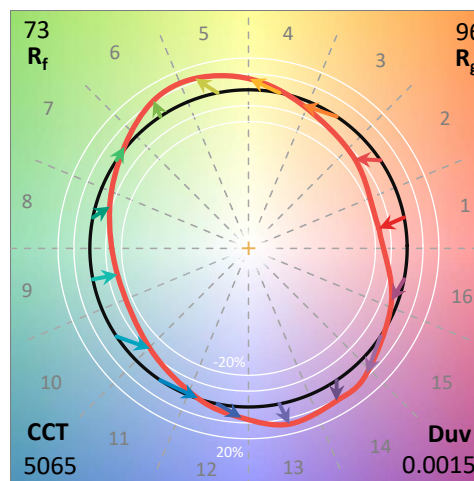
Data in this report applies to families of products including OHB-15SE-N-UNV-L750.

Test Information

Test Method: LM-79-2019
 Report Number: SP1-2304-001-3
 Test Lab: COOPER LIGHTING SOLUTIONS
 Photometer: SP1 - 76IN SPHERE
 Measurement Geometry: 4π
 Issue Date: 05/31/2023
 Manufacturer: COOPER LIGHTING SOLUTIONS
 Product Line: METALUX
 Catalog Number: **OHB-15SE-N-UNV-L750**
 Description: 15SE OHB WITH APT LEDS, NARROW LENS, 70CRI 5000K

Spectral Parameters

CCT (K):	5065	CRI (Ra):	72.1		
CIE u':	0.2097	R1:	70.0	R9:	-29.1
CIE v':	0.4852	R2:	76.6	R10:	44.1
Duv:	0.0015	R3:	81.0	R11:	70.8
CIE x:	0.3435	R4:	73.2	R12:	44.5
CIE y:	0.3531	R5:	70.9	R13:	70.5
CIE z:	0.3034	R6:	67.9	R14:	89.2
Peak Wavelength (nm):	448	R7:	79.9		
Dominant Wavelength (nm):	570	R8:	56.9		
Purity:	9.1				
Rf:	72.7				
Rg:	95.7				



Test Conditions

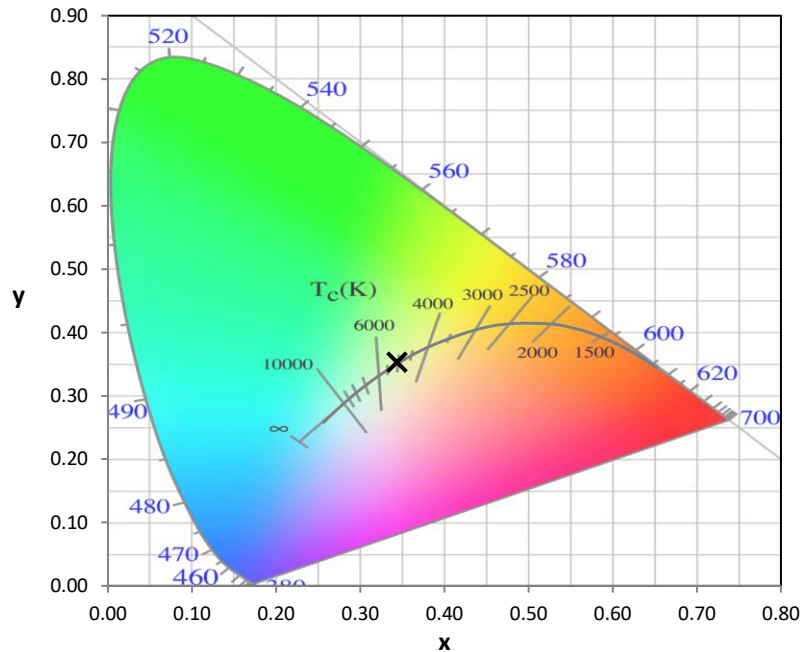
Stabilization Time: 23M
 Operation Time: 12H
 Room Temperature (°C) / RH%: 25.7/44%
 Sphere Temperature (°C): 25.3

REPORT NUMBER: SP1-2304-001-3

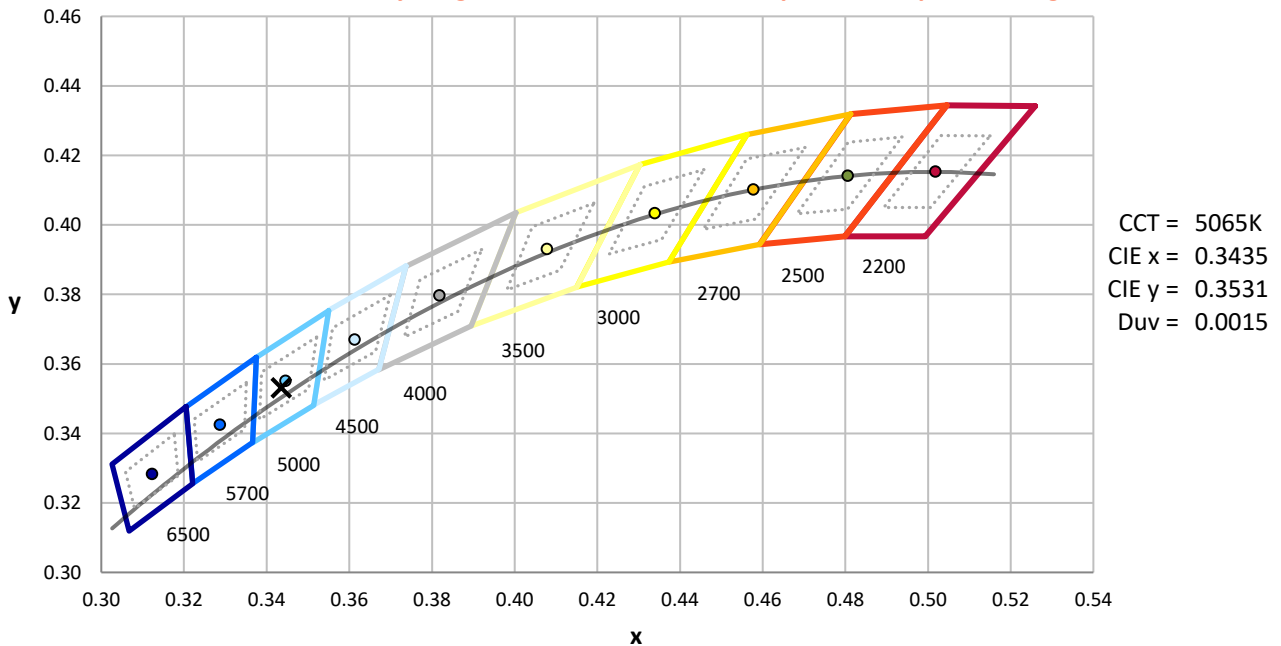
Measurement and Test Equipment			
Instrument	Identification Number	Calibration Date	Calibration Due Date
Photometer	76INCH SPHERE IN0058	2/9/2023	8/9/2023
Power Meter	XITRON 2801 IN0071	11/29/2022	11/29/2023
AC Power Source	CHROMA 61603 IN0063	11/28/2022	11/28/2023
DC Power Source	AGILENT E3634A IN0208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

REPORT NUMBER: SP1-2304-001-3

CIE 1931 Chromaticity Diagram



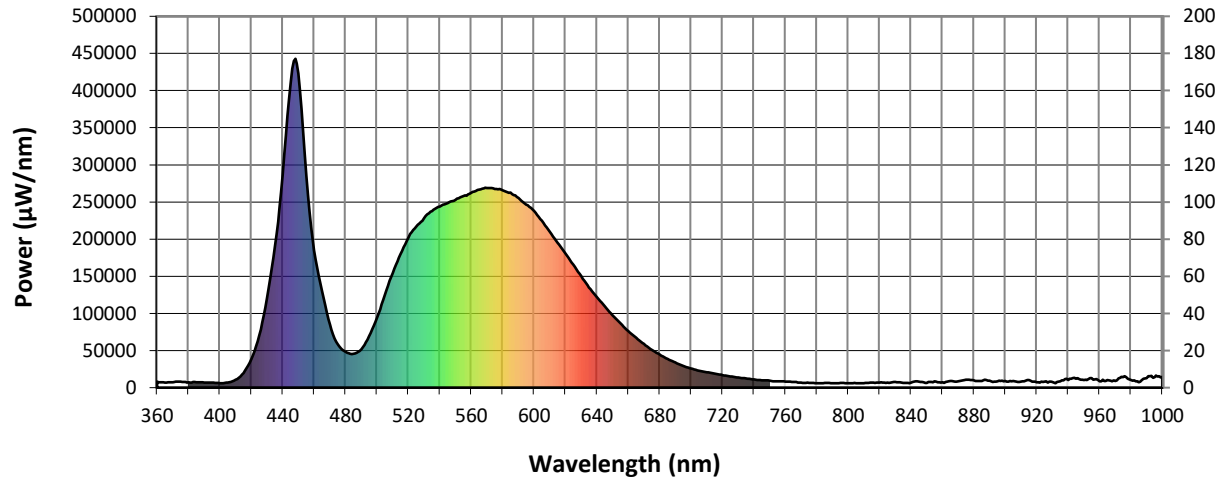
CIE 1931 Chromaticity Diagram with 2017 ANSI 7-Step and 4-Step Quadrangles



Point lies inside the ANSI 5000K 4-step quadrangle

REPORT NUMBER: SP1-2304-001-3

Photopic Flux vs. Wavelength

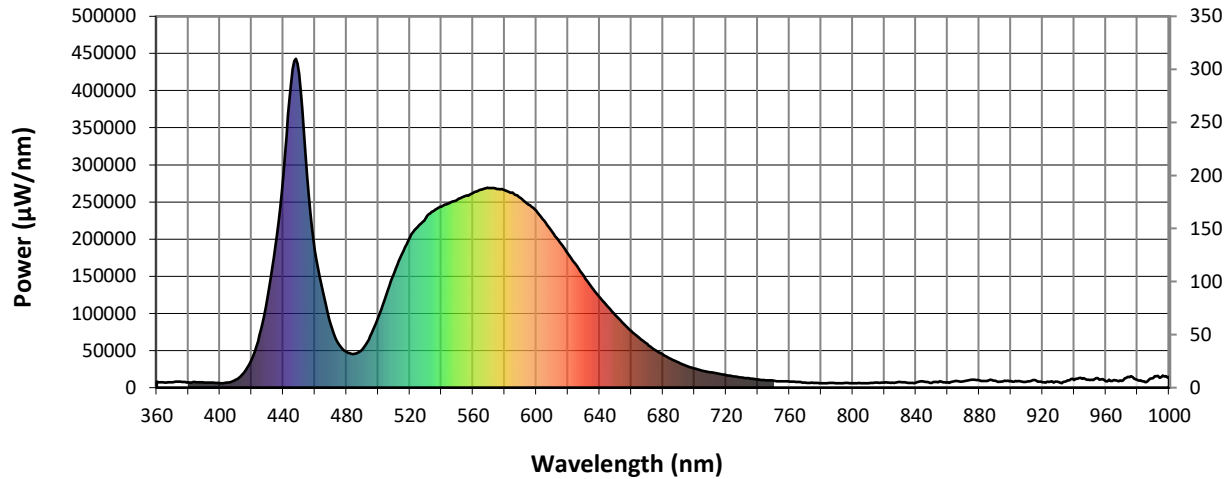


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λ (nm)	Power (μW/nm)	Lumens (φ/nm)	λ (nm)	Power (μW/nm)	Lumens (φ/nm)	λ (nm)	Power (μW/nm)	Lumens (φ/nm)	λ (nm)	Power (μW/nm)	Lumens (φ/nm)	λ (nm)	Power (μW/nm)	Lumens (φ/nm)
360	7901	NR	490	51801	NR	620	180332	NR	750	9189	NR	880	9627	NR
365	7002	NR	495	69123	NR	625	165678	NR	755	8359	NR	885	9124	NR
370	7284	NR	500	94270	NR	630	150434	NR	760	8168	NR	890	9197	NR
375	7942	NR	505	124521	NR	635	134965	NR	765	7713	NR	895	8690	NR
380	7035	NR	510	154116	NR	640	121856	NR	770	6636	NR	900	8804	NR
385	7297	NR	515	179594	NR	645	109311	NR	775	6555	NR	905	8894	NR
390	6671	NR	520	201941	NR	650	97492	NR	780	5754	NR	910	8101	NR
395	6834	NR	525	216547	NR	655	86413	NR	785	6320	NR	915	10080	NR
400	5920	NR	530	228346	NR	660	76250	NR	790	5938	NR	920	7255	NR
405	7007	NR	535	237949	NR	665	67186	NR	795	6403	NR	925	8009	NR
410	10588	NR	540	243629	NR	670	58769	NR	800	6035	NR	930	7697	NR
415	19827	NR	545	248627	NR	675	50698	NR	805	5970	NR	935	8410	NR
420	38440	NR	550	252906	NR	680	44590	NR	810	6014	NR	940	10423	NR
425	70453	NR	555	258102	NR	685	38628	NR	815	6644	NR	945	11776	NR
430	120416	NR	560	262415	NR	690	33765	NR	820	6798	NR	950	10166	NR
435	190652	NR	565	266550	NR	695	29058	NR	825	6635	NR	955	12930	NR
440	286544	NR	570	268921	NR	700	25892	NR	830	7694	NR	960	8476	NR
445	410304	NR	575	267672	NR	705	22943	NR	835	6370	NR	965	10058	NR
450	422855	NR	580	265623	NR	710	20733	NR	840	6700	NR	970	8998	NR
455	285343	NR	585	262668	NR	715	18943	NR	845	8162	NR	975	14305	NR
460	184907	NR	590	255270	NR	720	16835	NR	850	6467	NR	980	10085	NR
465	130219	NR	595	246513	NR	725	15199	NR	855	8359	NR	985	7311	NR
470	84822	NR	600	237819	NR	730	13533	NR	860	7106	NR	990	12758	NR
475	58457	NR	605	224633	NR	735	12345	NR	865	9174	NR	995	14051	NR
480	47999	NR	610	209648	NR	740	10946	NR	870	8374	NR	1000	14421	NR
485	45483	NR	615	195117	NR	745	9933	NR	875	10878	NR			

REPORT NUMBER: SP1-2304-001-3

Scotopic Flux vs. Wavelength



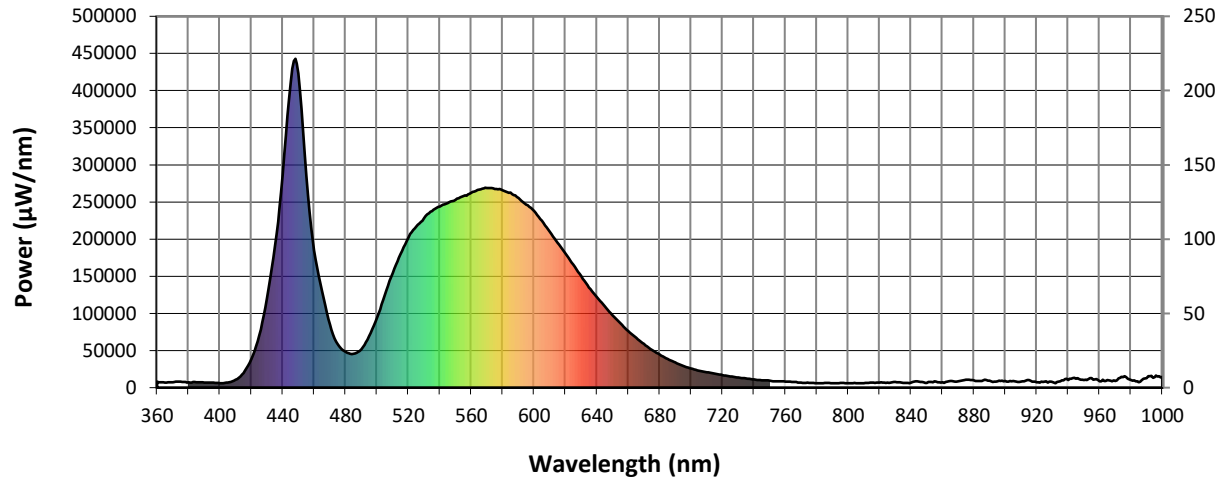
Scotopic Lumens: 28328.9

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	7901	NR	490	51801	NR	620	180332	NR	750	9189	NR	880	9627	NR
365	7002	NR	495	69123	NR	625	165678	NR	755	8359	NR	885	9124	NR
370	7284	NR	500	94270	NR	630	150434	NR	760	8168	NR	890	9197	NR
375	7942	NR	505	124521	NR	635	134965	NR	765	7713	NR	895	8690	NR
380	7035	NR	510	154116	NR	640	121856	NR	770	6636	NR	900	8804	NR
385	7297	NR	515	179594	NR	645	109311	NR	775	6555	NR	905	8894	NR
390	6671	NR	520	201941	NR	650	97492	NR	780	5754	NR	910	8101	NR
395	6834	NR	525	216547	NR	655	86413	NR	785	6320	NR	915	10080	NR
400	5920	NR	530	228346	NR	660	76250	NR	790	5938	NR	920	7255	NR
405	7007	NR	535	237949	NR	665	67186	NR	795	6403	NR	925	8009	NR
410	10588	NR	540	243629	NR	670	58769	NR	800	6035	NR	930	7697	NR
415	19827	NR	545	248627	NR	675	50698	NR	805	5970	NR	935	8410	NR
420	38440	NR	550	252906	NR	680	44590	NR	810	6014	NR	940	10423	NR
425	70453	NR	555	258102	NR	685	38628	NR	815	6644	NR	945	11776	NR
430	120416	NR	560	262415	NR	690	33765	NR	820	6798	NR	950	10166	NR
435	190652	NR	565	266550	NR	695	29058	NR	825	6635	NR	955	12930	NR
440	286544	NR	570	268921	NR	700	25892	NR	830	7694	NR	960	8476	NR
445	410304	NR	575	267672	NR	705	22943	NR	835	6370	NR	965	10058	NR
450	422855	NR	580	265623	NR	710	20733	NR	840	6700	NR	970	8998	NR
455	285343	NR	585	262668	NR	715	18943	NR	845	8162	NR	975	14305	NR
460	184907	NR	590	255270	NR	720	16835	NR	850	6467	NR	980	10085	NR
465	130219	NR	595	246513	NR	725	15199	NR	855	8359	NR	985	7311	NR
470	84822	NR	600	237819	NR	730	13533	NR	860	7106	NR	990	12758	NR
475	58457	NR	605	224633	NR	735	12345	NR	865	9174	NR	995	14051	NR
480	47999	NR	610	209648	NR	740	10946	NR	870	8374	NR	1000	14421	NR
485	45483	NR	615	195117	NR	745	9933	NR	875	10878	NR			

REPORT NUMBER: SP1-2304-001-3

Melanopic Flux vs. Wavelength



Melanopic Lumens: 11377.8 M/P: 0.71

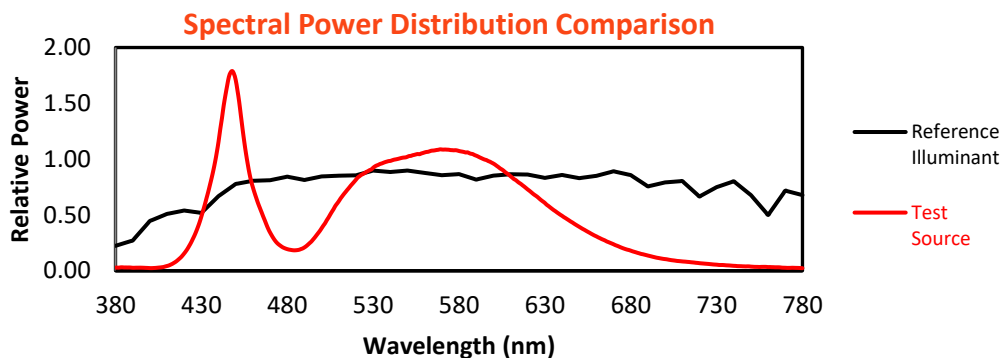
λ (nm)	Power (μW/nm)	Lumens (φ/nm)	λ (nm)	Power (μW/nm)	Lumens (φ/nm)	λ (nm)	Power (μW/nm)	Lumens (φ/nm)	λ (nm)	Power (μW/nm)	Lumens (φ/nm)	λ (nm)	Power (μW/nm)	Lumens (φ/nm)
360	7901	NR	490	51801	NR	620	180332	NR	750	9189	NR	880	9627	NR
365	7002	NR	495	69123	NR	625	165678	NR	755	8359	NR	885	9124	NR
370	7284	NR	500	94270	NR	630	150434	NR	760	8168	NR	890	9197	NR
375	7942	NR	505	124521	NR	635	134965	NR	765	7713	NR	895	8690	NR
380	7035	NR	510	154116	NR	640	121856	NR	770	6636	NR	900	8804	NR
385	7297	NR	515	179594	NR	645	109311	NR	775	6555	NR	905	8894	NR
390	6671	NR	520	201941	NR	650	97492	NR	780	5754	NR	910	8101	NR
395	6834	NR	525	216547	NR	655	86413	NR	785	6320	NR	915	10080	NR
400	5920	NR	530	228346	NR	660	76250	NR	790	5938	NR	920	7255	NR
405	7007	NR	535	237949	NR	665	67186	NR	795	6403	NR	925	8009	NR
410	10588	NR	540	243629	NR	670	58769	NR	800	6035	NR	930	7697	NR
415	19827	NR	545	248627	NR	675	50698	NR	805	5970	NR	935	8410	NR
420	38440	NR	550	252906	NR	680	44590	NR	810	6014	NR	940	10423	NR
425	70453	NR	555	258102	NR	685	38628	NR	815	6644	NR	945	11776	NR
430	120416	NR	560	262415	NR	690	33765	NR	820	6798	NR	950	10166	NR
435	190652	NR	565	266550	NR	695	29058	NR	825	6635	NR	955	12930	NR
440	286544	NR	570	268921	NR	700	25892	NR	830	7694	NR	960	8476	NR
445	410304	NR	575	267672	NR	705	22943	NR	835	6370	NR	965	10058	NR
450	422855	NR	580	265623	NR	710	20733	NR	840	6700	NR	970	8998	NR
455	285343	NR	585	262668	NR	715	18943	NR	845	8162	NR	975	14305	NR
460	184907	NR	590	255270	NR	720	16835	NR	850	6467	NR	980	10085	NR
465	130219	NR	595	246513	NR	725	15199	NR	855	8359	NR	985	7311	NR
470	84822	NR	600	237819	NR	730	13533	NR	860	7106	NR	990	12758	NR
475	58457	NR	605	224633	NR	735	12345	NR	865	9174	NR	995	14051	NR
480	47999	NR	610	209648	NR	740	10946	NR	870	8374	NR	1000	14421	NR
485	45483	NR	615	195117	NR	745	9933	NR	875	10878	NR			

REPORT NUMBER: SP1-2304-001-3

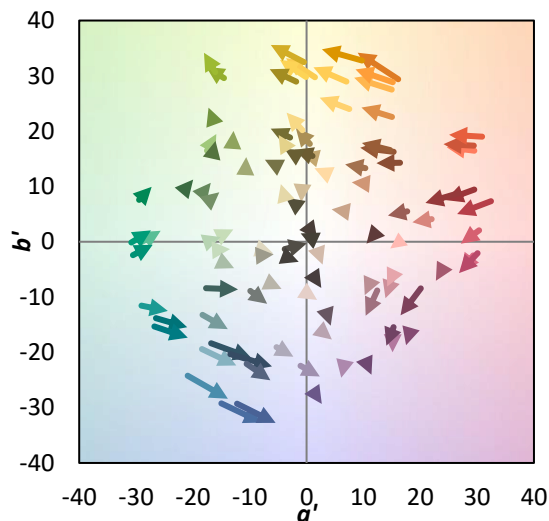
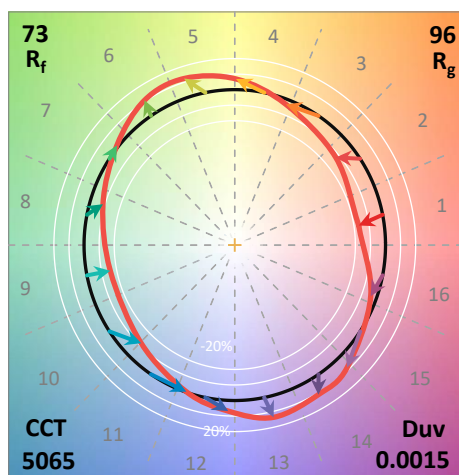
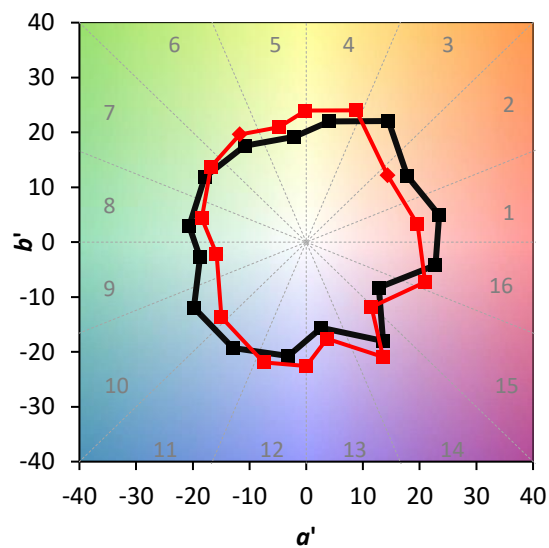
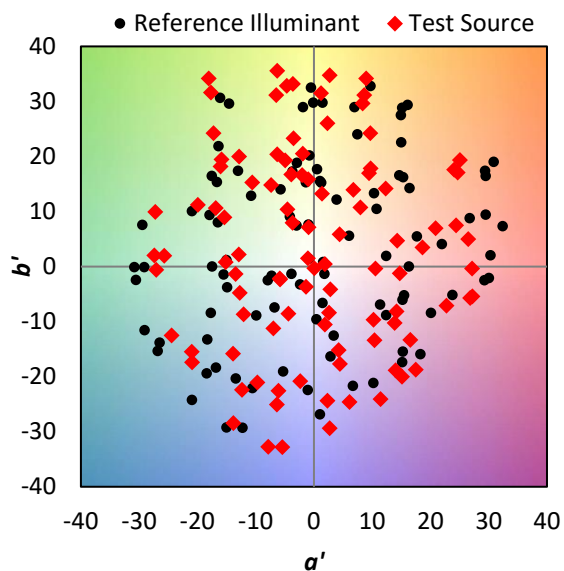
TM-30-18

Summary

$R_f = 72.7$
 $R_g = 95.7$
 CIE $R_a = 72.1$
 $R_g = -29.1$



Color Vector Graphics

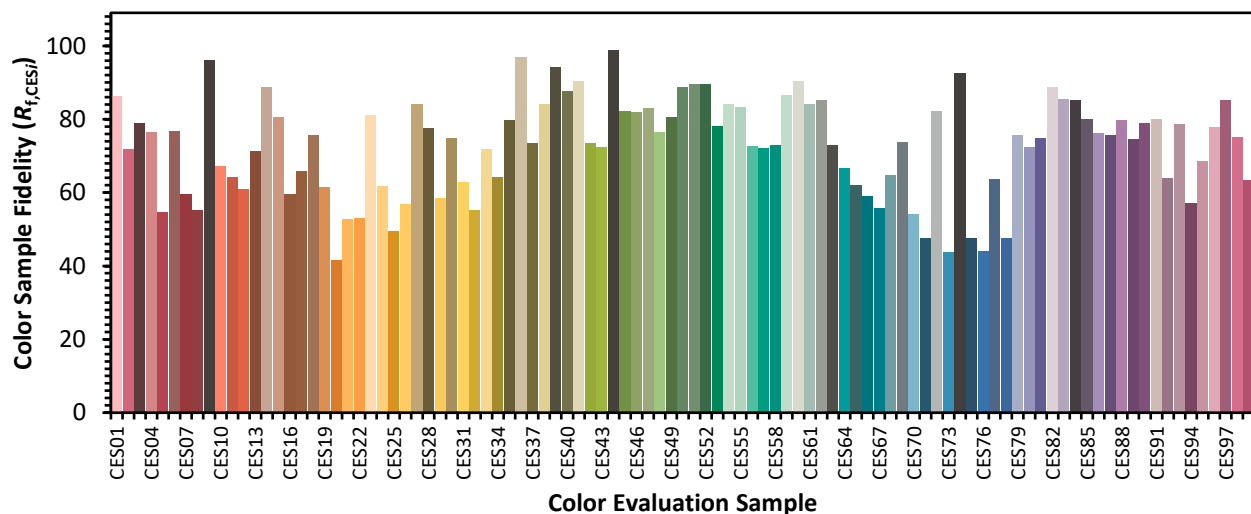


REPORT NUMBER: SP1-2304-001-3

TM-30-18

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

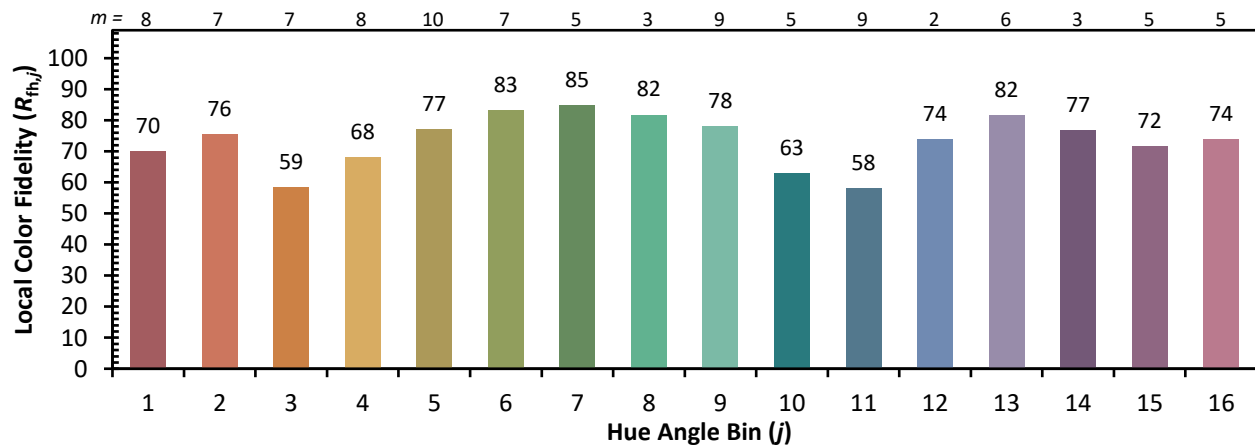
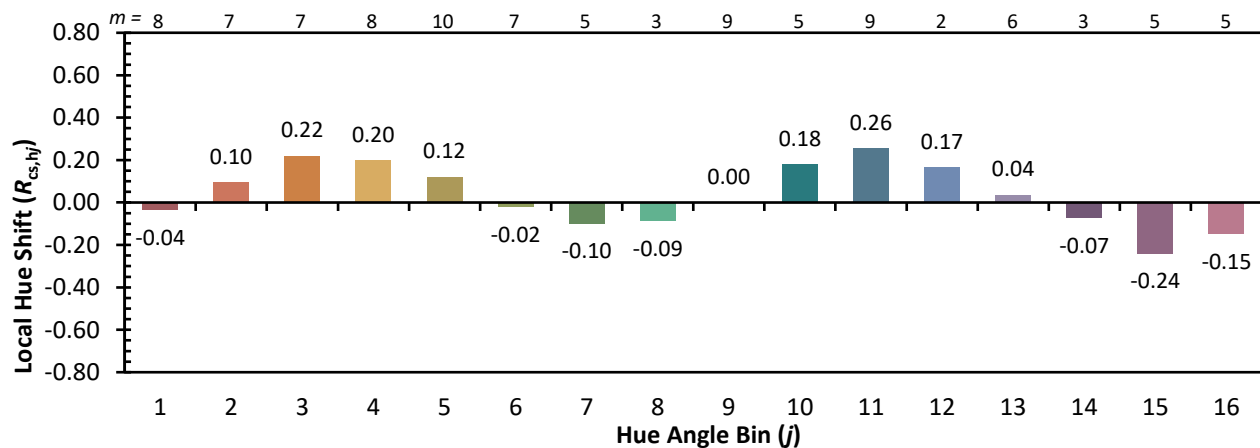
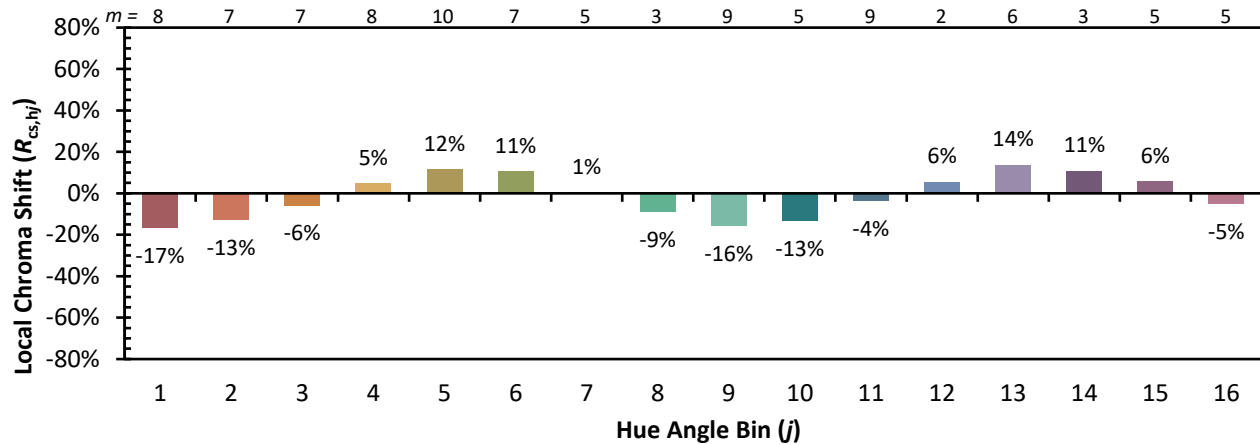
CES01 = 85	CES26 = 57	CES51 = 89	CES76 = 44
CES02 = 59	CES27 = 84	CES52 = 90	CES77 = 64
CES03 = 30	CES28 = 77	CES53 = 78	CES78 = 47
CES04 = 69	CES29 = 59	CES54 = 84	CES79 = 76
CES05 = 46	CES30 = 75	CES55 = 83	CES80 = 72
CES06 = 50	CES31 = 63	CES56 = 73	CES81 = 75
CES07 = 39	CES32 = 55	CES57 = 72	CES82 = 89
CES08 = 38	CES33 = 72	CES58 = 73	CES83 = 86
CES09 = 29	CES34 = 64	CES59 = 87	CES84 = 85
CES10 = 73	CES35 = 80	CES60 = 90	CES85 = 80
CES11 = 56	CES36 = 97	CES61 = 84	CES86 = 76
CES12 = 61	CES37 = 73	CES62 = 85	CES87 = 76
CES13 = 41	CES38 = 84	CES63 = 73	CES88 = 80
CES14 = 74	CES39 = 94	CES64 = 67	CES89 = 75
CES15 = 70	CES40 = 88	CES65 = 62	CES90 = 79
CES16 = 46	CES41 = 90	CES66 = 59	CES91 = 80
CES17 = 49	CES42 = 73	CES67 = 56	CES92 = 64
CES18 = 55	CES43 = 72	CES68 = 65	CES93 = 79
CES19 = 71	CES44 = 99	CES69 = 74	CES94 = 57
CES20 = 64	CES45 = 82	CES70 = 54	CES95 = 69
CES21 = 85	CES46 = 82	CES71 = 48	CES96 = 78
CES22 = 77	CES47 = 83	CES72 = 82	CES97 = 85
CES23 = 91	CES48 = 77	CES73 = 44	CES98 = 75
CES24 = 90	CES49 = 80	CES74 = 93	CES99 = 63
CES25 = 71	CES50 = 89	CES75 = 48	



REPORT NUMBER: SP1-2304-001-3

TM-30-18

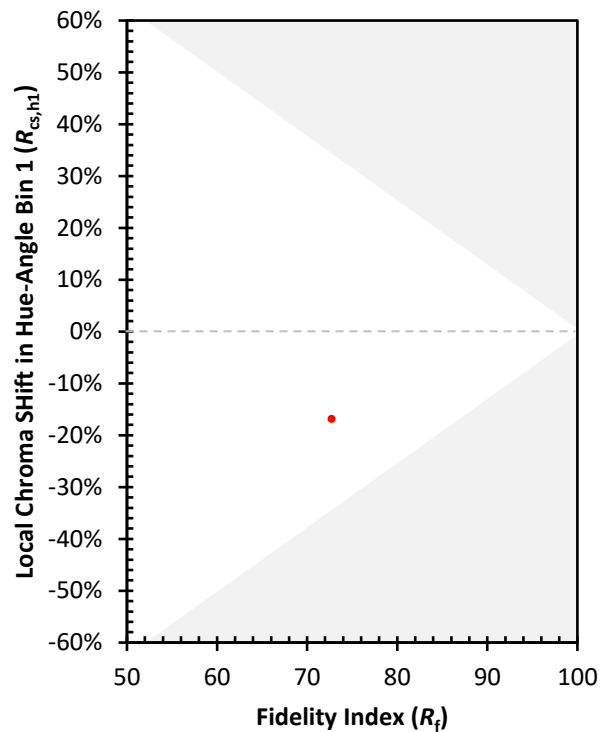
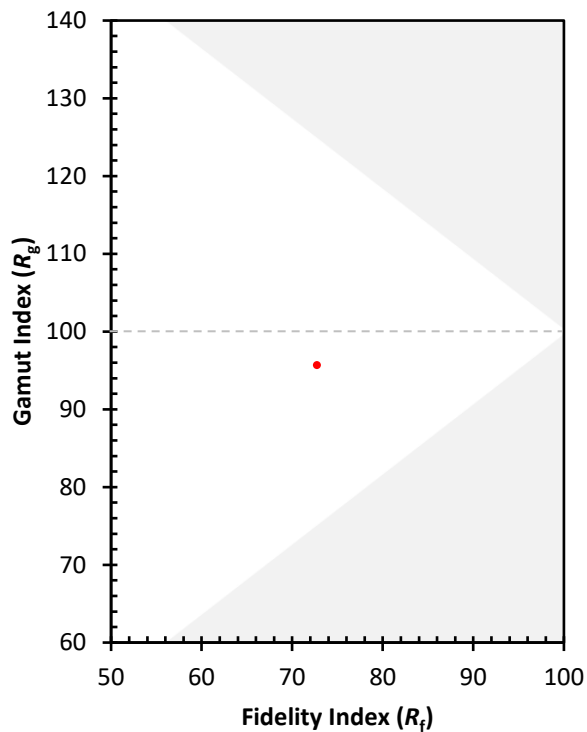
Color Rendition by Hue-Angle Bin



REPORT NUMBER: SP1-2304-001-3

TM-30-18

Measure Comparisons



(END OF REPORT)