

Classified  
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: io LED

Report Number: P895826

Luminaire Tested: **GRZ-15L-940-10x30-X-UNV-STD-1F**

Issue Date: 11/20/2024



**Test Information**

Test Method: LM-79-08  
Report Number: P895826  
Test Lab: INNOVATION CENTER(G3)  
Issue Date: 11/20/2024  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: io LED  
Catalog Number: GRZ-15L-940-10x30-X-UNV-STD-1F  
Description: iO LED 90CRI 4000K GRAZER 1500 lumens per ft WITH 10 deg x 30 deg OPTIC  
Light Source: 4000K CCT, 90 CRI LEDS  
Ballast/Driver: ELECTRONIC DRIVER

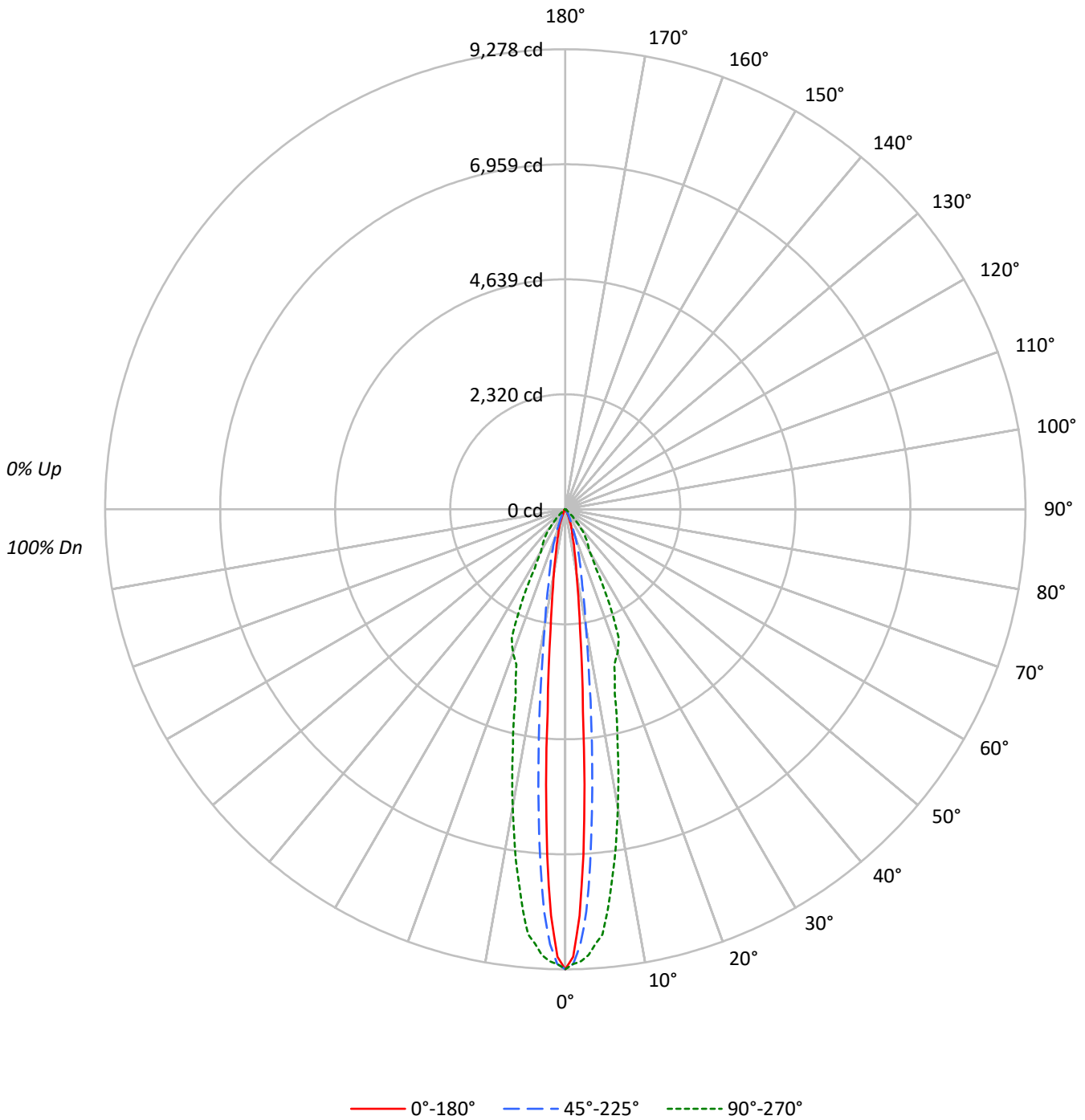
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 1470.6 lumens  
Efficiency: N/A  
Efficacy: 98.7 lumens/watt  
Spacing Criteria (0/90/45): 0.16 / 0.44 / 0.26  
Luminous Opening: Rectangular (W 1' x L: 0.17' x H: 0')  
CIE Type: Direct

Input Watts (W): 14.9  
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: 25 FT

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### 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	114	112	110	108	112	110	108	106	106	104	103	102	101	100	99	98	97	97	98	97	95
2	110	106	102	100	108	104	101	99	101	99	96	98	96	94	95	94	92	92	94	92	91
3	106	100	96	93	104	99	95	92	97	93	91	94	92	90	92	90	88	92	90	88	87
4	102	96	91	88	100	95	91	87	93	89	86	91	88	85	89	86	84	89	86	84	83
5	98	92	87	83	97	91	86	83	89	85	82	87	84	82	86	83	81	86	83	81	80
6	95	88	83	80	94	87	83	79	86	82	79	84	81	78	83	80	78	83	80	78	77
7	92	84	80	76	91	84	79	76	83	79	76	82	78	75	81	77	75	81	77	75	74
8	89	81	77	73	88	81	76	73	80	76	73	79	75	73	78	75	72	78	75	72	71
9	86	79	74	71	85	78	74	71	77	73	71	77	73	70	76	73	70	76	73	70	69
10	84	76	72	69	83	76	71	68	75	71	68	74	71	68	74	70	68	74	70	68	67

**AVERAGE LUMINANCE (cd/sqm):**

	0°	45°	90°
0°	599079	599079	599079
5°	265336	398412	558057
10°	86089	155432	400121
15°	37562	76789	257961
20°	21157	39270	211744
25°	7573	17412	149908
30°	4630	8955	72465
35°	3484	5762	58118
40°	2790	4189	38403
45°	2392	2520	19551
50°	2773	1527	9151
55°	2949	1238	4503
60°	2492	1072	2673
65°	2108	1268	2108
70°	1831	1303	1831
75°	1372	1023	1372
80°	1041	1041	1041
85°	1037	1037	1037



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	493.5	33.6
10°-20°	481.9	32.8
20°-30°	270.1	18.4
30°-40°	122.0	8.3
40°-50°	61.7	4.2
50°-60°	23.0	1.6
60°-70°	11.4	0.8
70°-80°	5.9	0.4
80°-90°	1.2	0.1
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°	1245.5	84.7
0°-40°	1367.4	93.0
0°-60°	1452.1	98.7
0°-90°	1470.6	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1470.6	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	9278	9278	9278	9278	9278	
5°	4094	4694	6147	7890	8610	313
15°	562	693	1149	2512	3859	174
25°	106	119	244	912	2104	60
35°	44	30	73	291	737	28
45°	26	23	28	131	214	22
55°	26	13	11	40	40	23
65°	14	11	8	12	14	14
75°	6	7	4	5	6	6
85°	1	1	1	0	1	1
90°	0	0	0	0	0	

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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	15°	25°	35°	45°	55°	65°	75°	85°	90°
0°	9277.9	9277.9	9277.9	9277.9	9277.9	9277.9	9277.9	9277.9	9277.9	9277.9	9277.9
1°	9025.3	9026.7	9094.3	9050.2	9157.8	9173.0	9159.2	9184.0	9190.9	9152.3	9173.0
2°	8199.7	8224.5	8264.6	8496.4	8602.8	8775.4	8920.3	9044.6	9098.5	9120.5	9117.8
3°	6980.6	6964.0	7161.4	7383.7	7764.8	8126.4	8482.6	8717.4	8924.4	8990.7	9003.1
4°	5559.8	5494.9	5833.2	6020.9	6536.0	7186.2	7821.4	8328.0	8669.1	8809.9	8776.7
5°	4093.6	4208.2	4444.3	4777.0	5339.0	6146.7	6995.7	7755.1	8293.5	8530.9	8609.7
6°	3189.3	3167.3	3357.7	3763.6	4331.0	5198.0	6168.7	7121.3	7791.0	8076.7	8144.3
7°	2460.3	2446.5	2635.6	2924.2	3400.5	4292.4	5366.6	6479.3	7300.8	7623.9	7621.1
8°	1949.5	1941.2	2072.3	2300.1	2750.3	3504.0	4572.7	5772.5	6714.0	7148.9	7148.9
9°	1575.3	1593.3	1673.3	1874.8	2229.7	2860.7	3908.5	5173.2	6139.8	6565.0	6602.3
10°	1313.0	1322.6	1387.5	1553.3	1848.6	2370.6	3284.6	4476.1	5573.6	6112.2	6102.5
12.5°	851.8	872.6	919.5	1025.7	1241.2	1567.1	2182.8	3138.1	4248.2	4786.6	4877.9
15°	561.9	566.0	624.0	716.6	887.7	1148.7	1579.5	2291.8	3171.4	3781.6	3858.9
17.5°	419.7	423.9	437.7	492.9	618.5	840.8	1190.1	1742.3	2577.6	3193.5	3281.8
20°	307.9	294.1	290.0	321.7	419.7	571.5	868.4	1358.5	2091.7	2922.8	3081.5
22.5°	179.4	176.7	169.8	196.0	270.7	375.5	590.9	1014.7	1768.6	2602.5	2822.1
25°	106.3	103.5	102.1	124.2	169.8	244.4	403.2	767.7	1346.1	1913.6	2104.1
27.5°	77.3	74.5	67.6	77.3	111.8	168.4	284.5	555.0	923.6	1230.2	1333.7
30°	62.1	59.3	46.9	51.1	77.3	120.1	208.4	383.8	655.9	914.0	971.9
32.5°	52.4	49.7	35.9	37.3	53.8	91.1	162.9	295.5	530.1	791.1	856.0
35°	44.2	41.4	29.0	30.4	41.4	73.1	133.9	243.1	434.9	680.7	737.3
37.5°	37.3	34.5	24.8	26.2	35.9	60.7	121.5	209.9	360.4	559.1	614.3
40°	33.1	30.4	22.1	24.8	33.1	49.7	107.7	178.0	295.5	432.1	455.6
42.5°	29.0	26.2	22.1	24.8	30.4	38.6	78.7	142.2	240.3	310.7	330.0
45°	26.2	24.8	20.7	23.5	26.2	27.6	49.7	110.4	193.2	214.1	214.1
47.5°	27.6	24.8	19.3	20.7	20.7	20.7	30.4	86.9	150.4	144.9	140.8
50°	27.6	23.5	17.9	16.6	16.6	15.2	20.7	67.6	111.8	92.5	91.1
52.5°	27.6	23.5	16.6	15.2	13.8	12.4	15.2	51.1	78.7	59.3	59.3
55°	26.2	22.1	13.8	12.4	11.0	11.0	12.4	35.9	53.8	41.4	40.0
57.5°	23.5	19.3	12.4	11.0	11.0	9.7	9.7	23.5	41.4	31.7	27.6
60°	19.3	16.6	11.0	11.0	11.0	8.3	8.3	15.2	33.1	23.5	20.7
62.5°	16.6	13.8	11.0	11.0	11.0	8.3	6.9	11.0	27.6	19.3	16.6
65°	13.8	11.0	9.7	11.0	11.0	8.3	5.5	8.3	23.5	15.2	13.8
67.5°	11.0	9.7	8.3	9.7	9.7	6.9	4.1	5.5	19.3	12.4	11.0
70°	9.7	8.3	6.9	8.3	9.7	6.9	4.1	5.5	15.2	9.7	9.7
72.5°	6.9	6.9	6.9	8.3	8.3	5.5	2.8	4.1	12.4	8.3	8.3
75°	5.5	5.5	5.5	6.9	6.9	4.1	2.8	2.8	9.7	6.9	5.5
77.5°	4.1	4.1	4.1	5.5	5.5	2.8	1.4	2.8	6.9	4.1	4.1
80°	2.8	2.8	2.8	4.1	4.1	2.8	1.4	1.4	4.1	2.8	2.8
82.5°	1.4	1.4	1.4	2.8	2.8	1.4	1.4	1.4	1.4	1.4	1.4
85°	1.4	1.4	1.4	1.4	1.4	1.4	0.0	0.0	1.4	1.4	1.4
87.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

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Report Prepared for

Cooper Lighting Solutions

(formerly Eaton)

iO LED

Report Number: SP1-2101-124-4

Luminaire Tested: GRZ-05L-940-10X10-X-UNV-STD-2F

Test Date: 02/11/2021

**Test Information**

Test Method: LM-79-08  
 Report Number: SP1-2101-124-4  
 Test Lab: COOPER LIGHTING SOLUTIONS  
 Photometer: SP1  
 Measurement Geometry: 4π  
 Issue Date: 02/11/2021  
 Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
 Product Line: iO LED  
 Catalog Number: **GRZ-05L-940-10X10-X-UNV-STD-2F**  
 Description: IO LED Wall Grazer GRZ

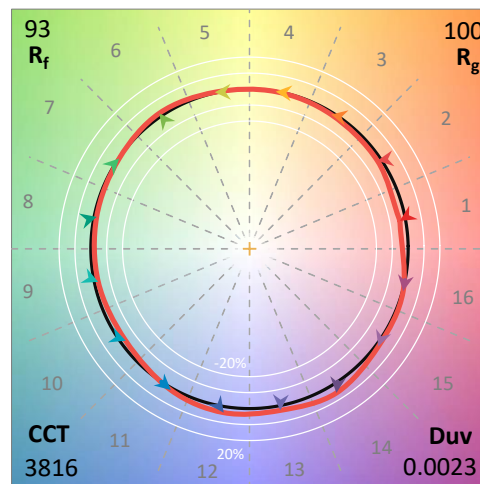
**Spectral Parameters**

CCT (K): 3816  
 CIE u': 0.2273  
 CIE v': 0.5079  
 Duv: 0.0023  
 CIE x: 0.3907  
 CIE y: 0.3879  
 CIE z: 0.2214  
 Peak Wavelength (nm): 614  
 Dominant Wavelength (nm): 578  
 Purity: 33.8  
  
 Rf: 93.1  
 Rg: 100.2

CRI (Ra):	93.3		
R1:	93.7	R9:	69.2
R2:	94.3	R10:	85.8
R3:	93.9	R11:	94.6
R4:	94.7	R12:	78.9
R5:	92.9	R13:	93.7
R6:	92.1	R14:	96.1
R7:	95.7		
R8:	88.8		

**Test Conditions**

Stabilization Time: 162M  
 Operation Time: 12H  
 Room Temperature (°C) / RH%: 25.1/41%  
 Sphere Temperature (°C): 24.1



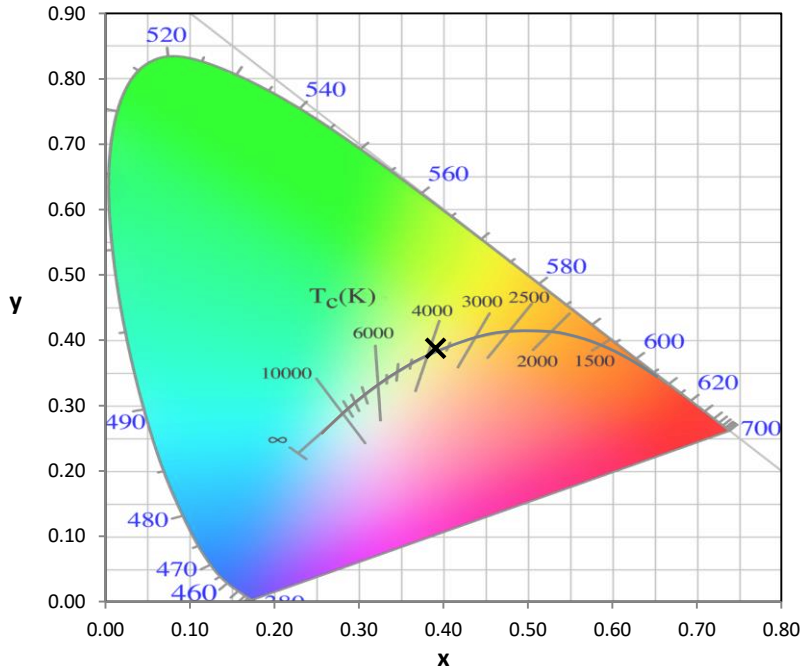


REPORT NUMBER: SP1-2101-124-4

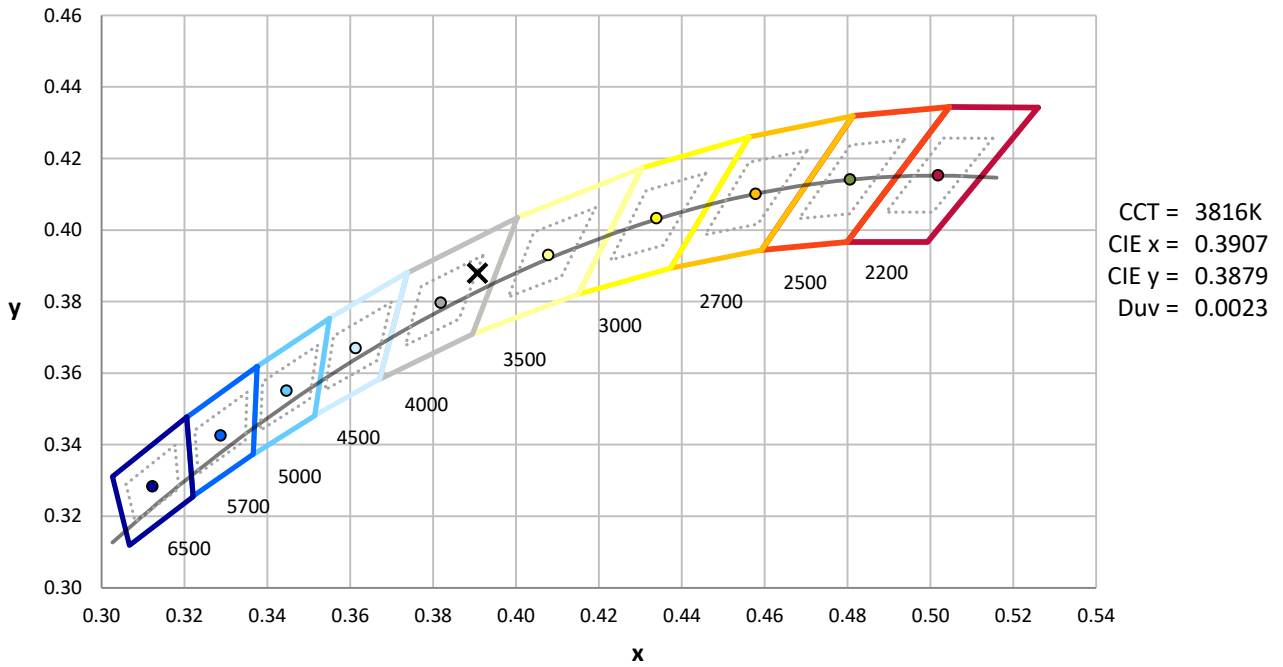
Measurement and Test Equipment			
Instrument	Identification Number	Calibration Date	Calibration Due Date
Photometer	IN0058	1/31/2021	7/31/2021
Power Meter	IN0071	12/1/2020	12/1/2021
AC Power Source	IN0063	12/1/2020	12/1/2021
DC Power Source	IN0208	12/1/2020	12/1/2021
Sphere Thermometer	IN0085	12/1/2020	12/1/2021
Room Thermometer	IN0046	12/1/2020	12/1/2021

REPORT NUMBER: SP1-2101-124-4

**CIE 1931 Chromaticity Diagram**



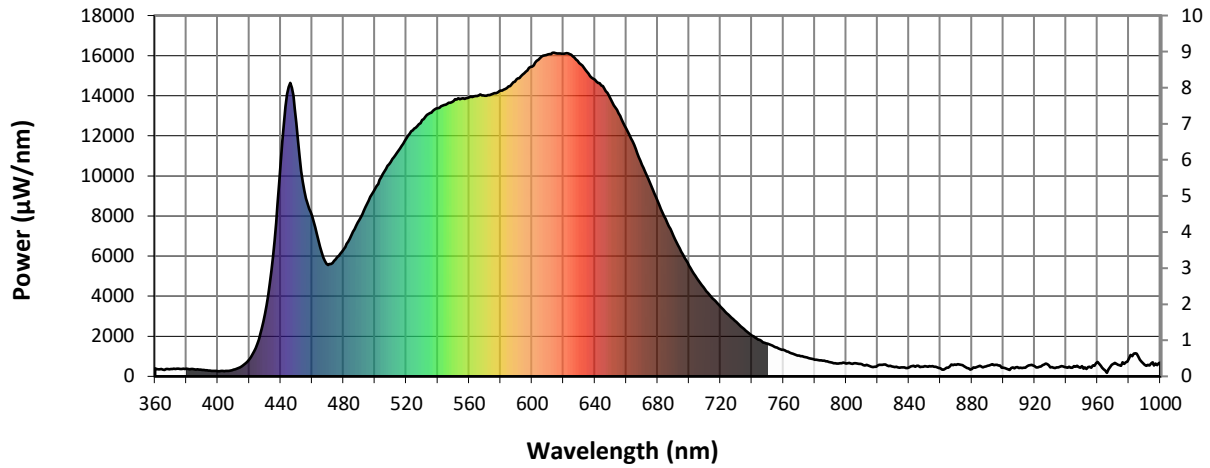
**CIE 1931 Chromaticity Diagram with 2017 ANSI 7-Step and 4-Step Quadrangles**



Point lies inside the ANSI 4000K 7-step quadrangle

REPORT NUMBER: SP1-2101-124-4

**Photopic Flux vs. Wavelength**

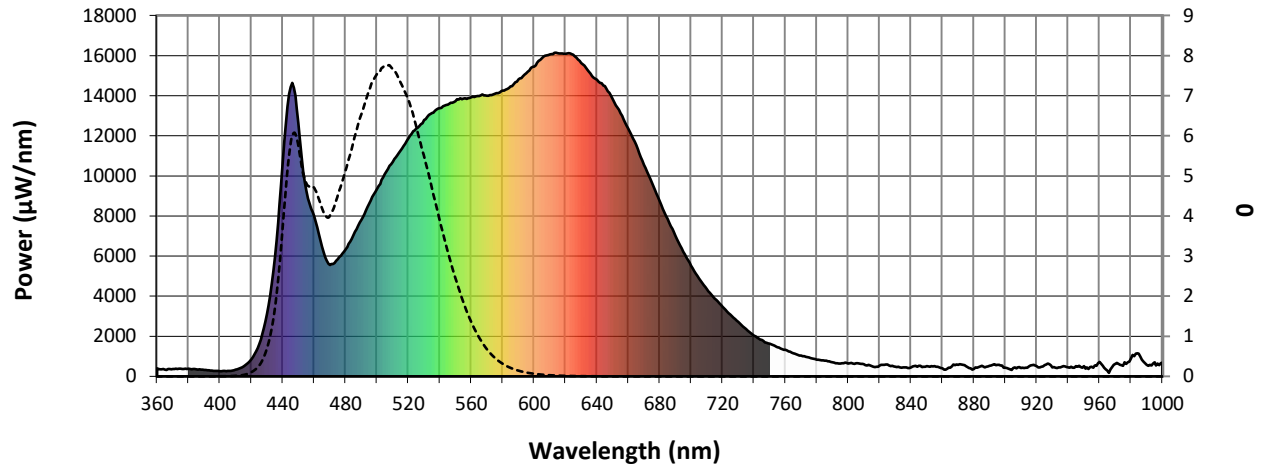


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λ (nm)	Power (µW/nm)	Lumens (φ/nm)	λ (nm)	Power (µW/nm)	Lumens (φ/nm)	λ (nm)	Power (µW/nm)	Lumens (φ/nm)	λ (nm)	Power (µW/nm)	Lumens (φ/nm)	λ (nm)	Power (µW/nm)	Lumens (φ/nm)
360	405	0.0	490	7814	1.1	620	16090	4.2	750	1625	0.0	880	367	0.0
365	335	0.0	495	8606	1.6	625	16048	3.5	755	1453	0.0	885	533	0.0
370	363	0.0	500	9360	2.1	630	15632	2.8	760	1318	0.0	890	535	0.0
375	388	0.0	505	10093	2.8	635	15196	2.3	765	1153	0.0	895	583	0.0
380	378	0.0	510	10690	3.7	640	14791	1.8	770	1033	0.0	900	438	0.0
385	344	0.0	515	11247	4.7	645	14481	1.4	775	948	0.0	905	410	0.0
390	323	0.0	520	11881	5.8	650	13840	1.0	780	831	0.0	910	413	0.0
395	292	0.0	525	12359	6.6	655	13125	0.8	785	778	0.0	915	489	0.0
400	261	0.0	530	12780	7.5	660	12353	0.5	790	708	0.0	920	518	0.0
405	272	0.0	535	13137	8.1	665	11536	0.4	795	643	0.0	925	563	0.0
410	331	0.0	540	13369	8.7	670	10559	0.2	800	645	0.0	930	452	0.0
415	497	0.0	545	13551	9.0	675	9658	0.2	805	648	0.0	935	454	0.0
420	847	0.0	550	13731	9.3	680	8746	0.1	810	610	0.0	940	446	0.0
425	1620	0.0	555	13860	9.5	685	7852	0.1	815	505	0.0	945	516	0.0
430	3114	0.0	560	13921	9.5	690	7031	0.0	820	544	0.0	950	514	0.0
435	5958	0.1	565	13987	9.3	695	6210	0.0	825	591	0.0	955	487	0.0
440	10649	0.2	570	14001	9.1	700	5517	0.0	830	484	0.0	960	723	0.0
445	14435	0.3	575	14097	8.8	705	4890	0.0	835	440	0.0	965	281	0.0
450	12623	0.3	580	14256	8.5	710	4342	0.0	840	452	0.0	970	627	0.0
455	9257	0.3	585	14467	8.0	715	3886	0.0	845	527	0.0	975	532	0.0
460	8011	0.3	590	14814	7.7	720	3470	0.0	850	515	0.0	980	902	0.0
465	6473	0.3	595	15120	7.2	725	3080	0.0	855	517	0.0	985	1126	0.0
470	5561	0.3	600	15449	6.7	730	2713	0.0	860	406	0.0	990	578	0.0
475	5845	0.5	605	15859	6.1	735	2357	0.0	865	434	0.0	995	699	0.0
480	6344	0.6	610	16059	5.5	740	2032	0.0	870	578	0.0	1000	687	0.0
485	7040	0.8	615	16120	4.9	745	1812	0.0	875	517	0.0			

REPORT NUMBER: SP1-2101-124-4

**Scotopic Flux vs. Wavelength**



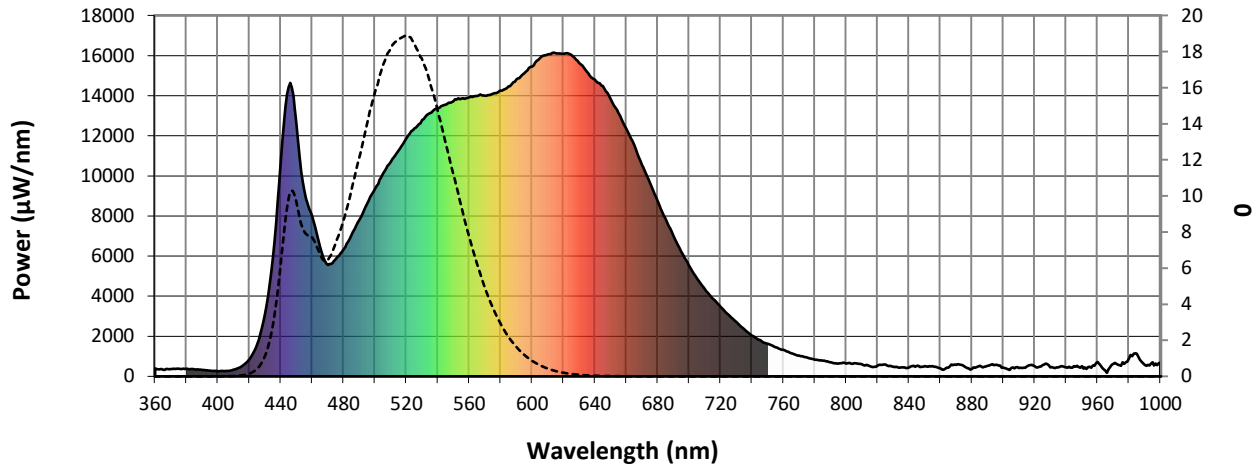
**Scotopic Lumens: 1669.3**

**S/P: 1.71**

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	405	0.0	490	7814	12.0	620	16090	0.2	750	1625	0.0	880	367	0.0
365	335	0.0	495	8606	13.9	625	16048	0.1	755	1453	0.0	885	533	0.0
370	363	0.0	500	9360	15.7	630	15632	0.1	760	1318	0.0	890	535	0.0
375	388	0.0	505	10093	17.2	635	15196	0.1	765	1153	0.0	895	583	0.0
380	378	0.0	510	10690	18.1	640	14791	0.0	770	1033	0.0	900	438	0.0
385	344	0.0	515	11247	18.6	645	14481	0.0	775	948	0.0	905	410	0.0
390	323	0.0	520	11881	18.9	650	13840	0.0	780	831	0.0	910	413	0.0
395	292	0.0	525	12359	18.5	655	13125	0.0	785	778	0.0	915	489	0.0
400	261	0.0	530	12780	17.6	660	12353	0.0	790	708	0.0	920	518	0.0
405	272	0.0	535	13137	16.4	665	11536	0.0	795	643	0.0	925	563	0.0
410	331	0.0	540	13369	14.8	670	10559	0.0	800	645	0.0	930	452	0.0
415	497	0.1	545	13551	13.0	675	9658	0.0	805	648	0.0	935	454	0.0
420	847	0.1	550	13731	11.2	680	8746	0.0	810	610	0.0	940	446	0.0
425	1620	0.4	555	13860	9.5	685	7852	0.0	815	505	0.0	945	516	0.0
430	3114	1.1	560	13921	7.8	690	7031	0.0	820	544	0.0	950	514	0.0
435	5958	2.7	565	13987	6.3	695	6210	0.0	825	591	0.0	955	487	0.0
440	10649	6.0	570	14001	4.9	700	5517	0.0	830	484	0.0	960	723	0.0
445	14435	9.7	575	14097	3.8	705	4890	0.0	835	440	0.0	965	281	0.0
450	12623	9.8	580	14256	2.9	710	4342	0.0	840	452	0.0	970	627	0.0
455	9257	8.1	585	14467	2.2	715	3886	0.0	845	527	0.0	975	532	0.0
460	8011	7.7	590	14814	1.6	720	3470	0.0	850	515	0.0	980	902	0.0
465	6473	6.8	595	15120	1.2	725	3080	0.0	855	517	0.0	985	1126	0.0
470	5561	6.4	600	15449	0.9	730	2713	0.0	860	406	0.0	990	578	0.0
475	5845	7.3	605	15859	0.6	735	2357	0.0	865	434	0.0	995	699	0.0
480	6344	8.6	610	16059	0.4	740	2032	0.0	870	578	0.0	1000	687	0.0
485	7040	10.2	615	16120	0.3	745	1812	0.0	875	517	0.0			

REPORT NUMBER: SP1-2101-124-4

**Melanopic Flux vs. Wavelength**

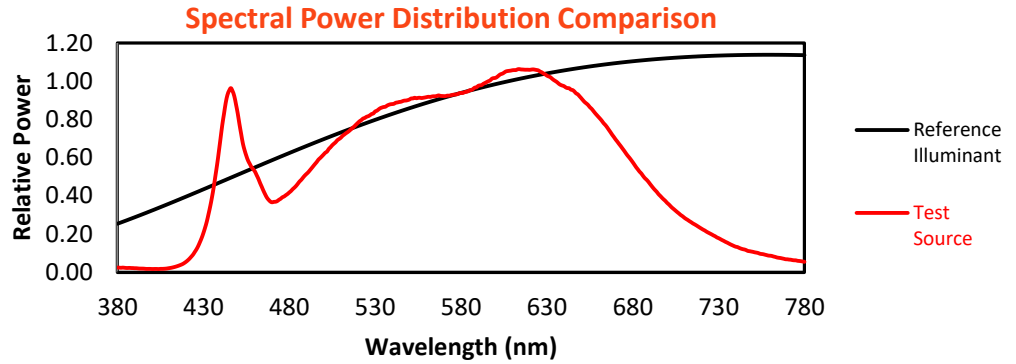


**Melanopic Lumens: 670.2 M/P: 0.69**

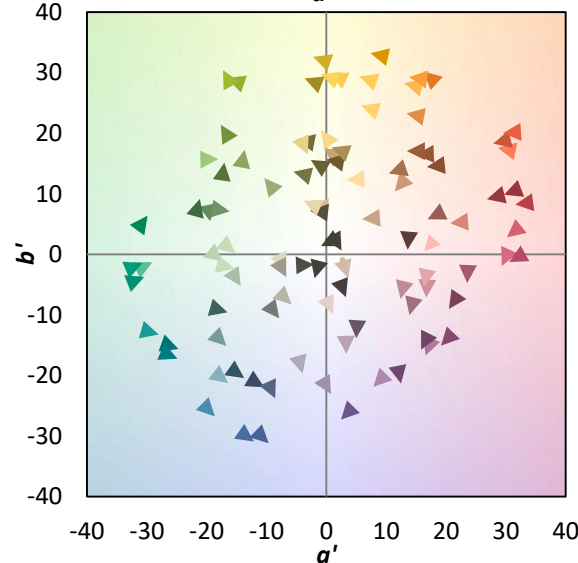
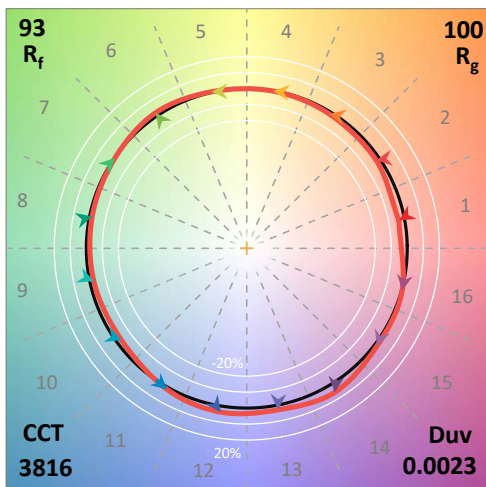
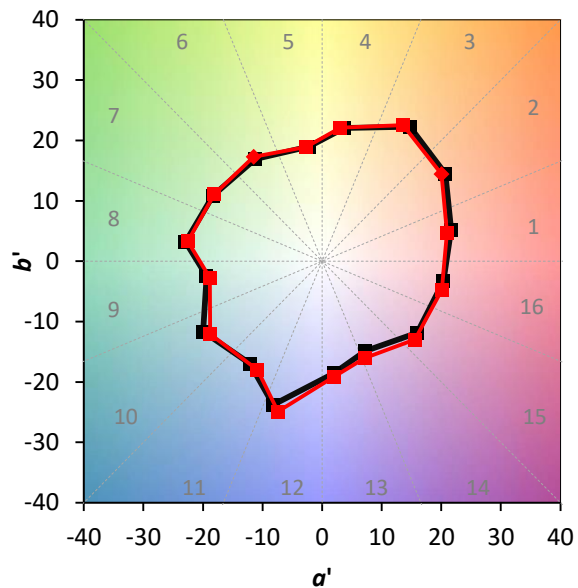
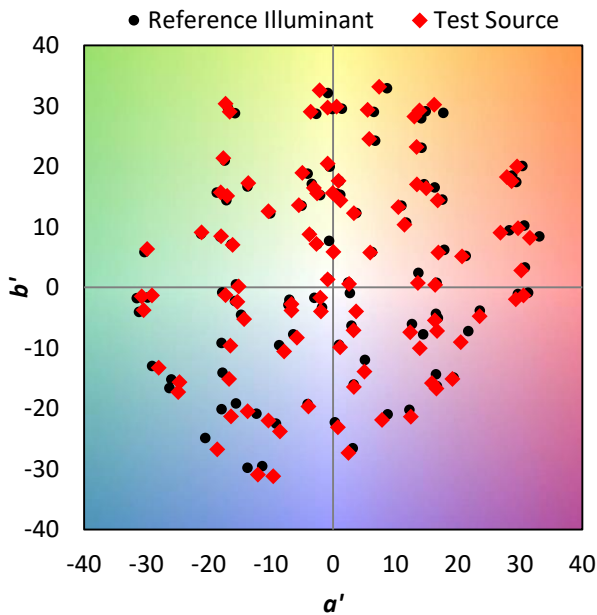
λ (nm)	Power (µW/nm)	Lumens (φ/nm)	λ (nm)	Power (µW/nm)	Lumens (φ/nm)	λ (nm)	Power (µW/nm)	Lumens (φ/nm)	λ (nm)	Power (µW/nm)	Lumens (φ/nm)	λ (nm)	Power (µW/nm)	Lumens (φ/nm)
360	405	0.0	490	7814	6.5	620	16090	0.0	750	1625	0.0	880	367	0.0
365	335	0.0	495	8606	7.1	625	16048	0.0	755	1453	0.0	885	533	0.0
370	363	0.0	500	9360	7.5	630	15632	0.0	760	1318	0.0	890	535	0.0
375	388	0.0	505	10093	7.7	635	15196	0.0	765	1153	0.0	895	583	0.0
380	378	0.0	510	10690	7.7	640	14791	0.0	770	1033	0.0	900	438	0.0
385	344	0.0	515	11247	7.3	645	14481	0.0	775	948	0.0	905	410	0.0
390	323	0.0	520	11881	6.9	650	13840	0.0	780	831	0.0	910	413	0.0
395	292	0.0	525	12359	6.3	655	13125	0.0	785	778	0.0	915	489	0.0
400	261	0.0	530	12780	5.5	660	12353	0.0	790	708	0.0	920	518	0.0
405	272	0.0	535	13137	4.7	665	11536	0.0	795	643	0.0	925	563	0.0
410	331	0.0	540	13369	3.9	670	10559	0.0	800	645	0.0	930	452	0.0
415	497	0.0	545	13551	3.1	675	9658	0.0	805	648	0.0	935	454	0.0
420	847	0.1	550	13731	2.5	680	8746	0.0	810	610	0.0	940	446	0.0
425	1620	0.3	555	13860	1.9	685	7852	0.0	815	505	0.0	945	516	0.0
430	3114	0.7	560	13921	1.4	690	7031	0.0	820	544	0.0	950	514	0.0
435	5958	1.6	565	13987	1.0	695	6210	0.0	825	591	0.0	955	487	0.0
440	10649	3.6	570	14001	0.7	700	5517	0.0	830	484	0.0	960	723	0.0
445	14435	5.7	575	14097	0.5	705	4890	0.0	835	440	0.0	965	281	0.0
450	12623	5.8	580	14256	0.3	710	4342	0.0	840	452	0.0	970	627	0.0
455	9257	4.9	585	14467	0.2	715	3886	0.0	845	527	0.0	975	532	0.0
460	8011	4.7	590	14814	0.1	720	3470	0.0	850	515	0.0	980	902	0.0
465	6473	4.2	595	15120	0.1	725	3080	0.0	855	517	0.0	985	1126	0.0
470	5561	4.0	600	15449	0.1	730	2713	0.0	860	406	0.0	990	578	0.0
475	5845	4.5	605	15859	0.0	735	2357	0.0	865	434	0.0	995	699	0.0
480	6344	5.1	610	16059	0.0	740	2032	0.0	870	578	0.0	1000	687	0.0
485	7040	5.8	615	16120	0.0	745	1812	0.0	875	517	0.0			

**Summary**

$R_f = 93.1$   
 $R_g = 100.2$   
 CIE  $R_a = 93.3$   
 $R_9 = 69.2$

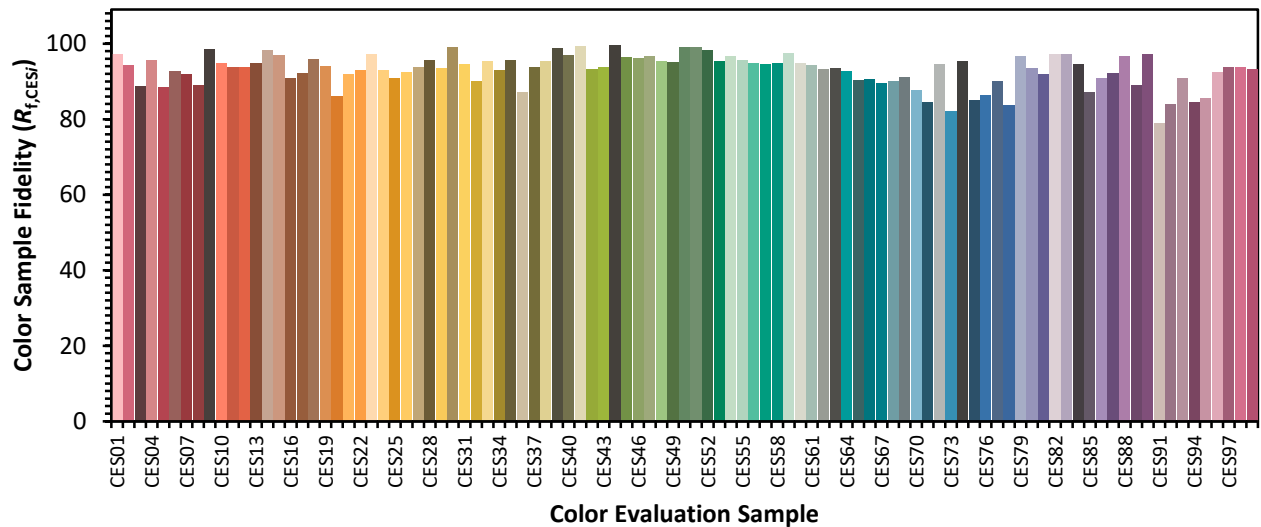


**Color Vector Graphics**

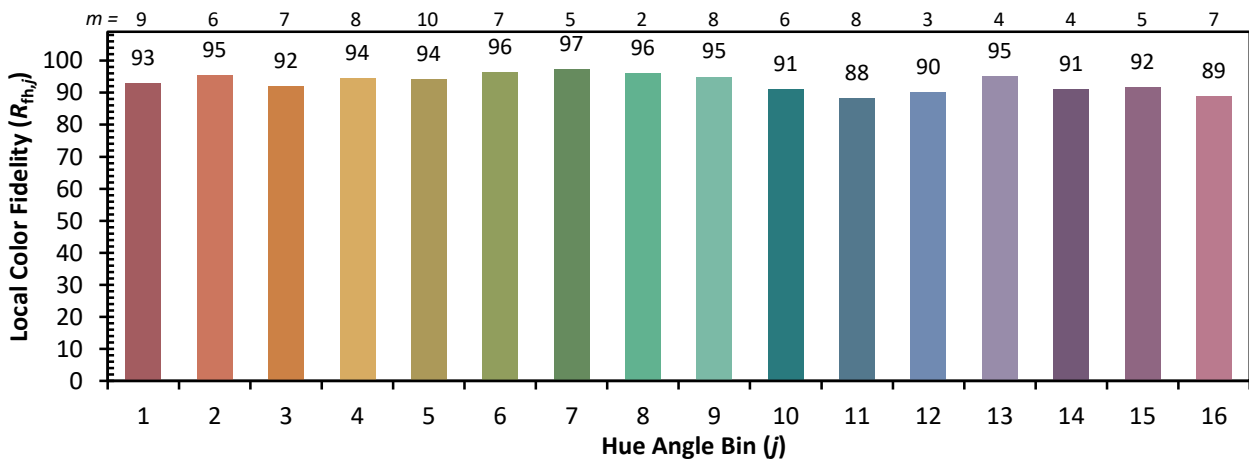
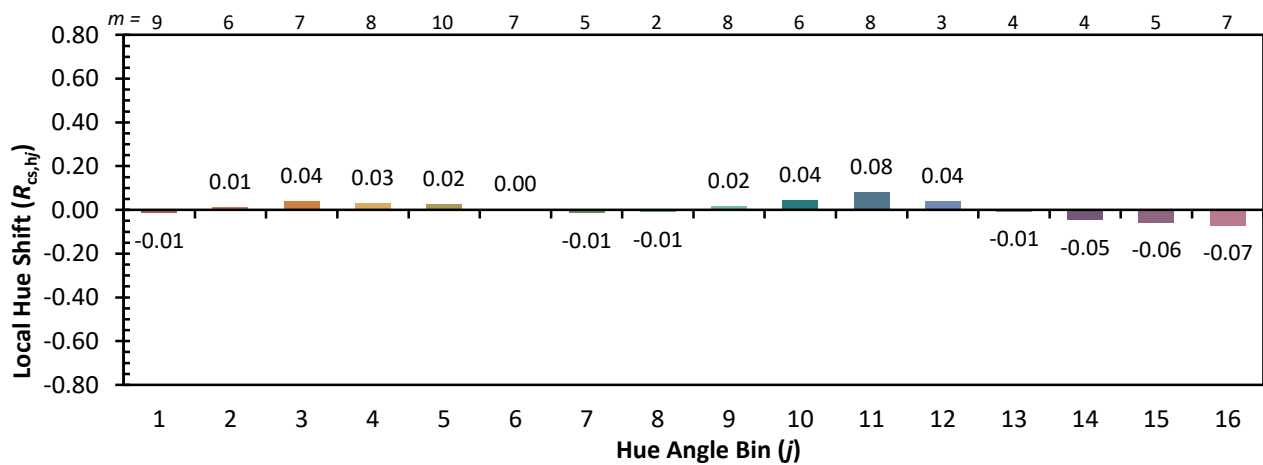
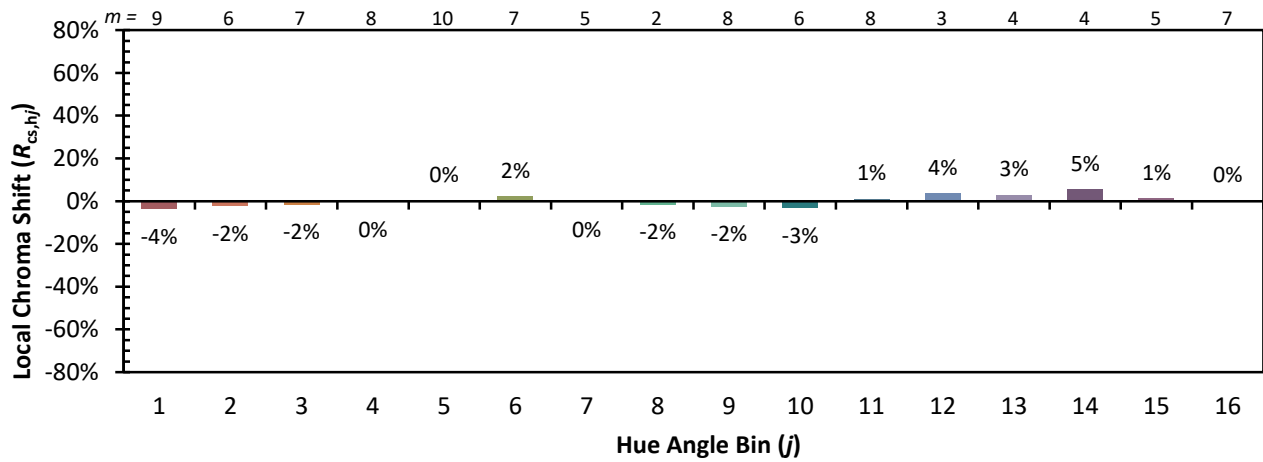


**Individual Sample Fidelity Index ( $R_{f,i}$ )**

CES01 = 86	CES26 = 93	CES51 = 99	CES76 = 86
CES02 = 62	CES27 = 94	CES52 = 98	CES77 = 90
CES03 = 31	CES28 = 96	CES53 = 95	CES78 = 84
CES04 = 69	CES29 = 94	CES54 = 97	CES79 = 97
CES05 = 49	CES30 = 99	CES55 = 96	CES80 = 94
CES06 = 51	CES31 = 95	CES56 = 95	CES81 = 92
CES07 = 42	CES32 = 90	CES57 = 94	CES82 = 97
CES08 = 41	CES33 = 96	CES58 = 95	CES83 = 97
CES09 = 29	CES34 = 93	CES59 = 97	CES84 = 95
CES10 = 74	CES35 = 96	CES60 = 95	CES85 = 87
CES11 = 57	CES36 = 87	CES61 = 94	CES86 = 91
CES12 = 63	CES37 = 94	CES62 = 93	CES87 = 92
CES13 = 43	CES38 = 95	CES63 = 94	CES88 = 97
CES14 = 74	CES39 = 99	CES64 = 93	CES89 = 89
CES15 = 71	CES40 = 97	CES65 = 90	CES90 = 97
CES16 = 47	CES41 = 99	CES66 = 91	CES91 = 79
CES17 = 49	CES42 = 93	CES67 = 90	CES92 = 84
CES18 = 56	CES43 = 94	CES68 = 90	CES93 = 91
CES19 = 71	CES44 = 100	CES69 = 91	CES94 = 85
CES20 = 66	CES45 = 96	CES70 = 88	CES95 = 86
CES21 = 85	CES46 = 96	CES71 = 85	CES96 = 93
CES22 = 78	CES47 = 97	CES72 = 95	CES97 = 94
CES23 = 91	CES48 = 96	CES73 = 82	CES98 = 94
CES24 = 90	CES49 = 95	CES74 = 95	CES99 = 93
CES25 = 71	CES50 = 99	CES75 = 85	

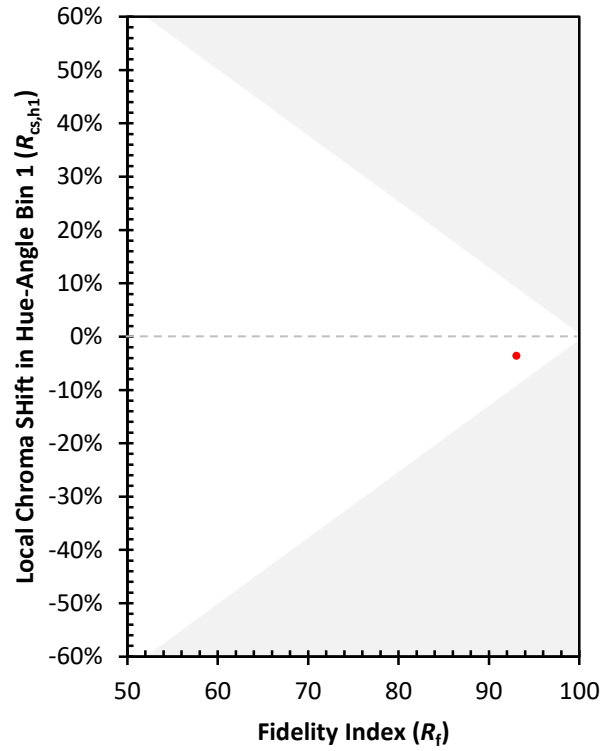
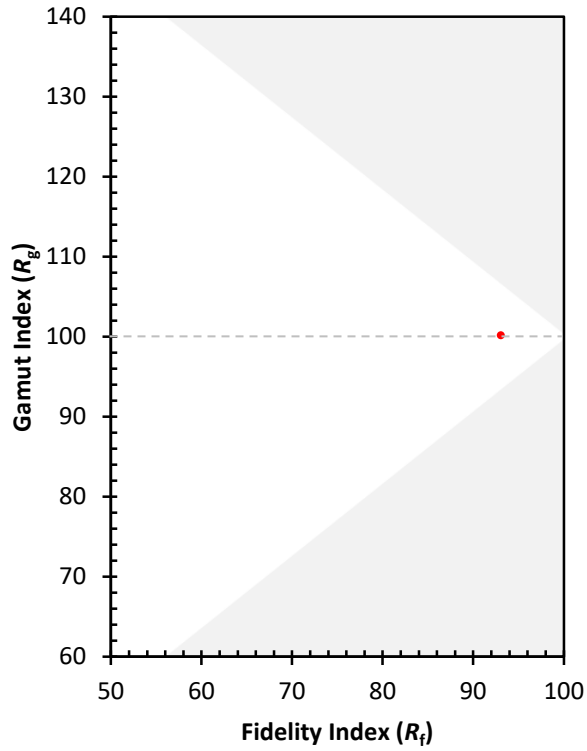


Color Rendition by Hue-Angle Bin





Measure Comparisons



(END OF REPORT)