

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: P895843

Luminaire Tested: **GRZ-10L-930-17x30-X-UNV-STD-1F**

Issue Date: 11/20/2024



**Test Information**

Test Method: LM-79-08  
Report Number: P895843  
Test Lab: INNOVATION CENTER(G3)  
Issue Date: 11/20/2024  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: io LED  
Catalog Number: GRZ-10L-930-17x30-X-UNV-STD-1F  
Description: iO LED 90CRI 3000K GRAZER 1000 lumens per ft WITH 17 deg x 30 deg OPTIC  
Light Source: 3000K CCT, 90 CRI LEDS  
Ballast/Driver: ELECTRONIC DRIVER

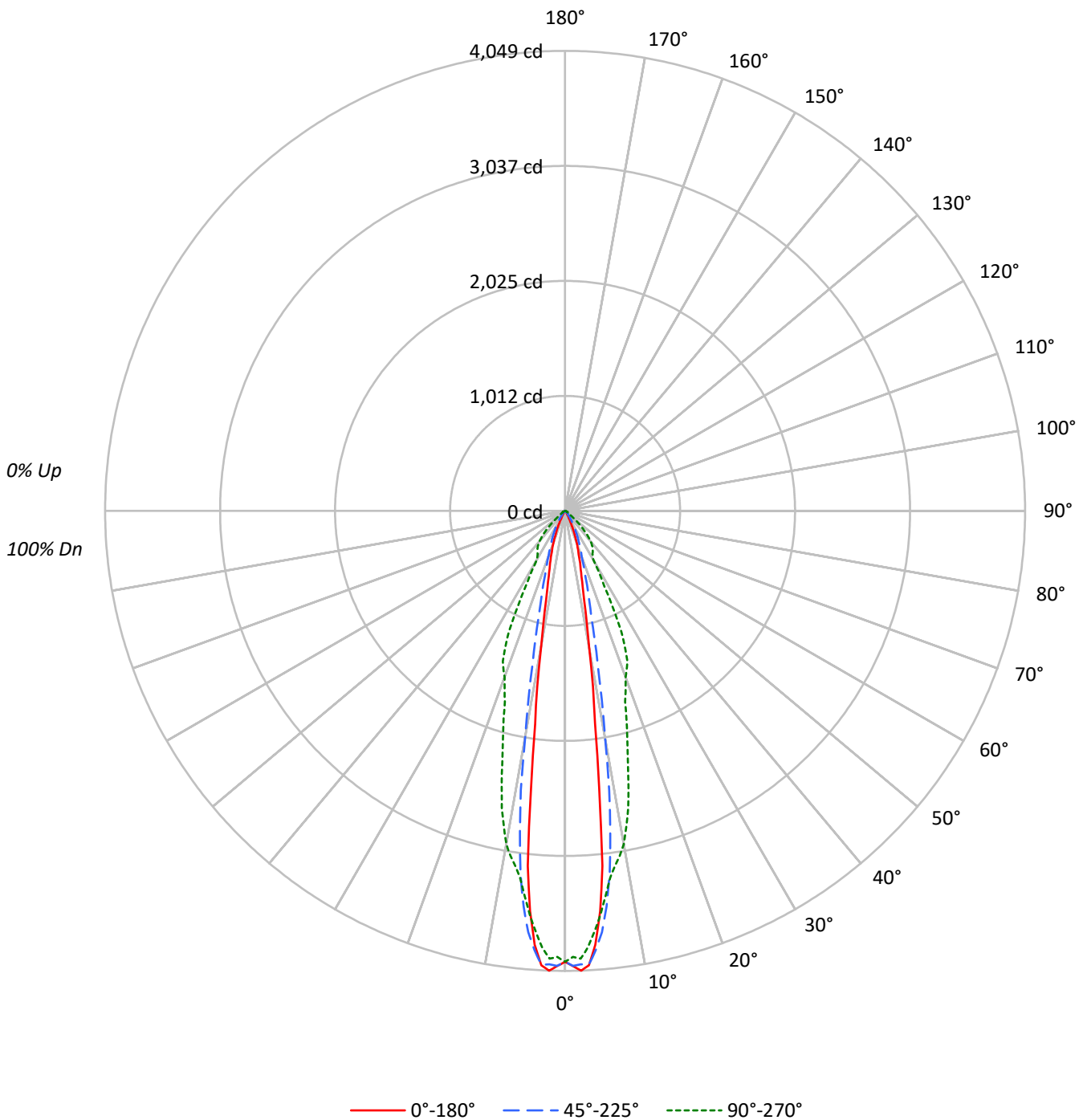
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 962.6 lumens  
Efficiency: N/A  
Efficacy: 96.3 lumens/watt  
Spacing Criteria (0/90/45): 0.27 / 0.52 / 0.34  
Luminous Opening: Rectangular (W 1' x L: 0.17' x H: 0')  
CIE Type: Direct

Input Watts (W): 10  
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

TEST NUMBER: P895843  
CATALOG NUMBER: GRZ-10L-930-17x30-X-UNV-STD-1F

### Luminous Intensity Polar Plot





TEST NUMBER: P895843

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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	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	102	102	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	97	97	97	97	97	97	97	97	97	97	95				
2	110	105	102	99	107	104	100	98	100	98	96	98	95	94	95	93	92	92	92	92	92	92	92	92	92	92	92	92	90				
3	105	100	95	92	103	98	94	91	96	93	90	93	91	88	91	89	87	87	87	87	87	87	87	87	87	87	87	87	86				
4	101	95	90	86	99	94	89	86	92	88	85	90	86	84	88	85	83	83	83	83	83	83	83	83	83	83	83	83	82				
5	97	90	85	82	96	89	85	81	88	84	81	86	83	80	85	82	79	79	79	79	79	79	79	79	79	79	79	79	78				
6	94	86	81	78	92	86	81	77	84	80	77	83	79	76	82	78	76	76	76	76	76	76	76	76	76	76	76	76	75				
7	90	83	78	74	89	82	77	74	81	77	74	80	76	73	79	75	73	73	73	73	73	73	73	73	73	73	73	73	72				
8	87	79	75	71	86	79	74	71	78	74	71	77	73	71	76	73	70	70	70	70	70	70	70	70	70	70	70	70	69				
9	84	77	72	68	83	76	72	68	75	71	68	74	71	68	74	70	68	68	68	68	68	68	68	68	68	68	68	68	67				
10	82	74	69	66	81	73	69	66	73	69	66	72	68	66	71	68	65	65	65	65	65	65	65	65	65	65	65	65	64				

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

	0°	45°	90°
0°	256229	256229	256229
5°	229155	241217	231287
10°	79841	132694	195297
15°	35490	55137	141478
20°	20690	29568	106989
25°	8884	18845	83322
30°	2990	11691	36795
35°	1829	6038	33493
40°	1576	3456	29426
45°	1708	2685	20583
50°	1346	1256	9031
55°	1205	1205	3614
60°	1149	1266	3332
65°	1222	1222	3132
70°	1171	1001	2360
75°	898	898	1123
80°	669	669	669
85°	667	667	667



TEST NUMBER: P895843  
 CATALOG NUMBER: GRZ-10L-930-17x30-X-UNV-STD-1F

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	291.4	30.3
10°-20°	308.2	32.0
20°-30°	190.8	19.8
30°-40°	96.5	10.0
40°-50°	47.8	5.0
50°-60°	14.2	1.5
60°-70°	8.8	0.9
70°-80°	4.2	0.4
80°-90°	0.7	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°	790.4	82.1
0°-40°	887.0	92.1
0°-60°	949.0	98.6
0°-90°	962.6	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	962.6	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	3968	3968	3968	3968	3968	
5°	3535	3612	3722	3618	3568	247
15°	531	589	825	1443	2116	158
25°	125	156	264	634	1170	63
35°	23	25	77	284	425	15
45°	19	17	29	78	225	14
55°	11	10	11	16	32	10
65°	8	10	8	5	20	8
75°	4	5	4	2	4	4
85°	1	1	1	0	1	1
90°	0	0	0	0	0	

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TEST NUMBER: P895843

CATALOG NUMBER: GRZ-10L-930-17x30-X-UNV-STD-1F

**CANDELA DISTRIBUTION (FULL):**

	0°	5°	15°	25°	35°	45°	55°	65°	75°	85°	90°
0°	3968.2	3968.2	3968.2	3968.2	3968.2	3968.2	3968.2	3968.2	3968.2	3968.2	3968.2
1°	4008.3	3995.8	3998.5	4014.5	4024.3	4005.6	3978.9	3958.4	3967.3	3939.7	3926.4
2°	4049.3	4039.5	4033.2	4038.6	4017.2	3993.2	3965.6	3950.4	3945.1	3930.8	3944.2
3°	4004.7	3992.3	3995.8	4008.3	3997.6	3999.4	3930.8	3884.5	3880.1	3861.4	3846.2
4°	3828.4	3837.3	3855.1	3856.9	3869.4	3873.0	3848.9	3760.7	3762.4	3727.7	3710.8
5°	3535.4	3541.6	3595.0	3617.3	3697.4	3721.5	3727.7	3620.9	3610.2	3557.7	3568.3
6°	3142.5	3027.7	3171.0	3228.0	3389.3	3498.8	3537.2	3520.2	3466.7	3406.2	3407.1
7°	2452.2	2462.0	2544.0	2701.6	3001.7	3213.8	3371.5	3406.2	3335.0	3292.2	3252.0
8°	1891.0	1932.0	2048.7	2215.2	2513.7	2856.6	3142.5	3220.9	3203.1	3160.3	3154.1
9°	1565.9	1534.8	1628.2	1761.0	2046.9	2487.9	2840.6	3007.1	3058.8	3072.2	3074.9
10°	1217.7	1254.2	1298.7	1436.7	1679.0	2023.8	2487.0	2745.2	2880.7	2956.3	2978.6
11°	986.1	999.4	1056.4	1186.5	1369.0	1686.1	2154.7	2445.9	2654.4	2807.6	2827.2
12°	811.5	823.0	861.3	957.6	1123.2	1375.3	1777.9	2142.2	2455.7	2634.8	2674.9
13°	689.5	702.8	734.0	808.8	937.1	1157.0	1435.8	1830.5	2191.2	2445.0	2480.7
14°	592.3	607.5	627.9	693.9	798.1	954.0	1191.9	1568.6	1955.1	2240.3	2287.4
15°	530.9	532.7	554.9	600.3	692.1	824.8	1029.7	1345.0	1738.8	2059.4	2116.4
17.5°	399.1	396.4	399.1	434.7	488.1	585.2	726.0	999.4	1418.9	1697.7	1760.1
20°	301.1	301.9	295.7	316.2	360.7	430.3	546.9	813.2	1242.6	1521.4	1557.0
22.5°	209.3	207.6	210.2	229.8	272.6	336.7	428.5	663.6	1132.1	1403.8	1433.2
25°	124.7	127.3	138.1	161.3	203.1	264.5	350.0	536.2	927.3	1108.1	1169.5
27.5°	72.1	73.0	81.9	106.8	147.0	205.8	287.7	417.8	642.2	738.4	754.5
30°	40.1	40.1	46.3	62.3	99.7	156.8	235.2	346.5	465.9	492.6	493.5
32.5°	26.7	26.7	28.5	36.5	61.4	114.0	191.5	298.4	404.4	442.7	449.0
35°	23.2	22.3	23.2	25.8	38.3	76.6	147.0	253.9	372.3	417.8	424.9
37.5°	20.5	20.5	21.4	24.0	29.4	49.9	104.2	201.3	329.5	386.5	394.6
40°	18.7	18.7	19.6	24.0	29.4	41.0	65.9	146.1	271.7	340.2	349.1
42.5°	17.8	17.8	17.8	21.4	27.6	37.4	38.3	93.5	209.3	279.7	293.0
45°	18.7	17.8	16.0	16.9	21.4	29.4	22.3	55.2	145.2	215.6	225.4
47.5°	17.8	17.8	16.9	16.0	16.0	19.6	14.2	30.3	90.8	149.7	155.0
50°	13.4	13.4	11.6	14.2	15.1	12.5	10.7	19.6	56.1	84.6	89.9
52.5°	11.6	11.6	10.7	10.7	12.5	11.6	8.0	16.0	35.6	47.2	49.0
55°	10.7	9.8	9.8	10.7	11.6	10.7	7.1	12.5	24.9	31.2	32.1
57.5°	9.8	9.8	9.8	9.8	11.6	10.7	7.1	8.9	19.6	24.9	27.6
60°	8.9	8.9	9.8	9.8	10.7	9.8	6.2	6.2	16.0	22.3	25.8
62.5°	8.0	8.9	8.9	9.8	10.7	8.9	5.3	4.5	12.5	20.5	24.0
65°	8.0	8.0	8.9	9.8	9.8	8.0	4.5	3.6	9.8	16.9	20.5
67.5°	7.1	7.1	8.0	8.9	9.8	7.1	2.7	2.7	8.0	14.2	16.9
70°	6.2	6.2	7.1	8.0	8.0	5.3	2.7	2.7	5.3	11.6	12.5
72.5°	5.3	5.3	6.2	7.1	7.1	4.5	1.8	1.8	3.6	8.9	8.0
75°	3.6	4.5	4.5	5.3	5.3	3.6	1.8	1.8	2.7	5.3	4.5
77.5°	2.7	2.7	3.6	4.5	4.5	2.7	0.9	0.9	1.8	3.6	2.7
80°	1.8	1.8	2.7	2.7	2.7	1.8	0.9	0.9	0.9	1.8	1.8
82.5°	0.9	0.9	1.8	1.8	1.8	0.9	0.9	0.9	0.9	0.9	0.9
85°	0.9	0.9	0.9	0.9	0.9	0.9	0.0	0.0	0.0	0.9	0.9
87.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



TEST NUMBER: P895843  
CATALOG NUMBER: GRZ-10L-930-17x30-X-UNV-STD-1F

**CANDELA DISTRIBUTION (continued):**

	0°	5°	15°	25°	35°	45°	55°	65°	75°	85°	90°
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

LM-79-08: Approved Method: Electrical and Photometric Measurements of Solid-State Lighting Products

Report Prepared for

Cooper Lighting Solutions

(formerly Eaton)

iO LED

Report Number: SP1-2101-124-2

Luminaire Tested: GRZ-05L-930-10X10-X-UNV-STD-2F

Test Date: 02/10/2021



**Test Information**

Test Method: LM-79-08  
 Report Number: SP1-2101-124-2  
 Test Lab: COOPER LIGHTING SOLUTIONS  
 Photometer: SP1  
 Measurement Geometry: 4π  
 Issue Date: 02/10/2021  
 Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
 Product Line: iO LED  
 Catalog Number: **GRZ-05L-930-10X10-X-UNV-STD-2F**  
 Description: IO LED Wall Grazer GRZ

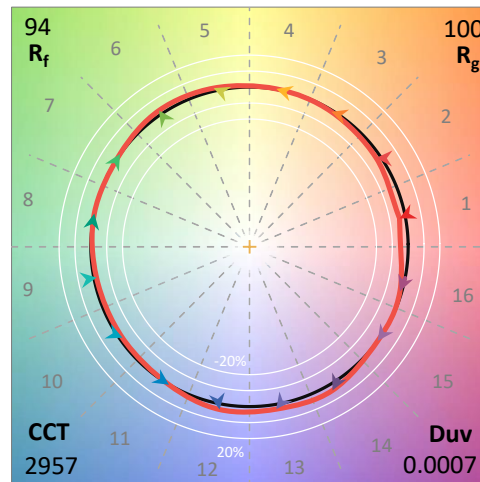
**Spectral Parameters**

CCT (K): 2957  
 CIE u': 0.2518  
 CIE v': 0.5232  
 Duv: 0.0007  
 CIE x: 0.4409  
 CIE y: 0.4072  
 CIE z: 0.1519  
 Peak Wavelength (nm): 624  
 Dominant Wavelength (nm): 582  
 Purity: 54.9  
  
 Rf: 93.7  
 Rg: 100.3

CRI (Ra):	94.1		
R1:	94.6	R9:	66.4
R2:	96.3	R10:	90.2
R3:	96.6	R11:	96.1
R4:	95.3	R12:	86.8
R5:	94.2	R13:	95.0
R6:	95.7	R14:	97.3
R7:	94.2		
R8:	85.7		

**Test Conditions**

Stabilization Time: 48M  
 Operation Time: 12H  
 Room Temperature (°C) / RH%: 25.4/38%  
 Sphere Temperature (°C): 24.4

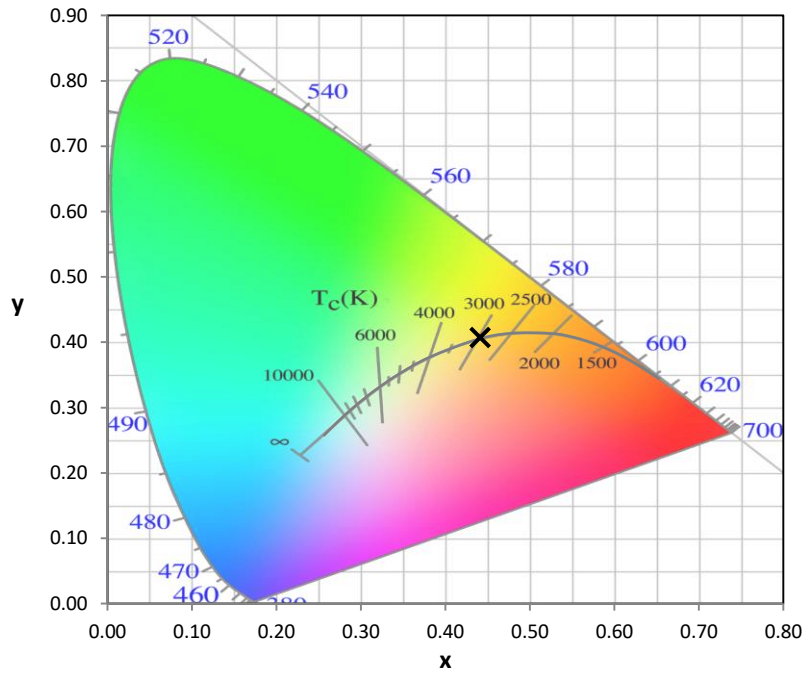


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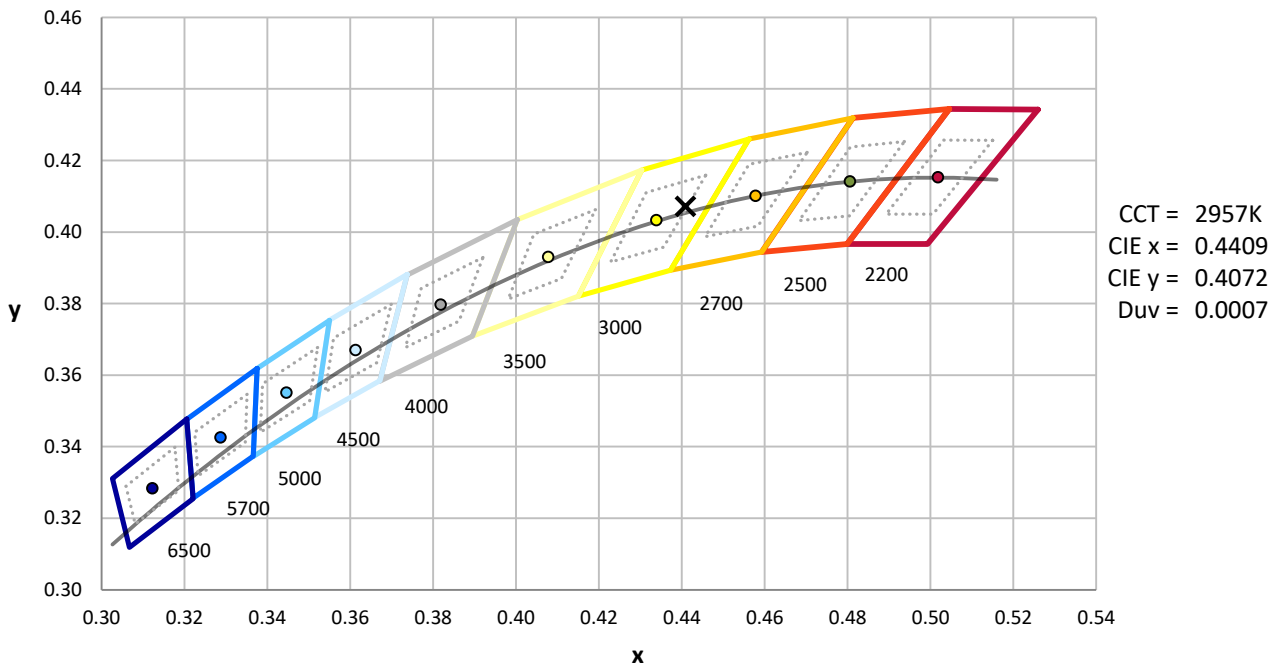
Measurement and Test Equipment			
Instrument	Identification Number	Calibration Date	Calibration Due Date
Photometer	IN0058	1/31/2021	7/31/2021
Power Meter	IN0071	12/1/2020	12/1/2021
AC Power Source	IN0063	12/1/2020	12/1/2021
DC Power Source	IN0208	12/1/2020	12/1/2021
Sphere Thermometer	IN0085	12/1/2020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

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**CIE 1931 Chromaticity Diagram**



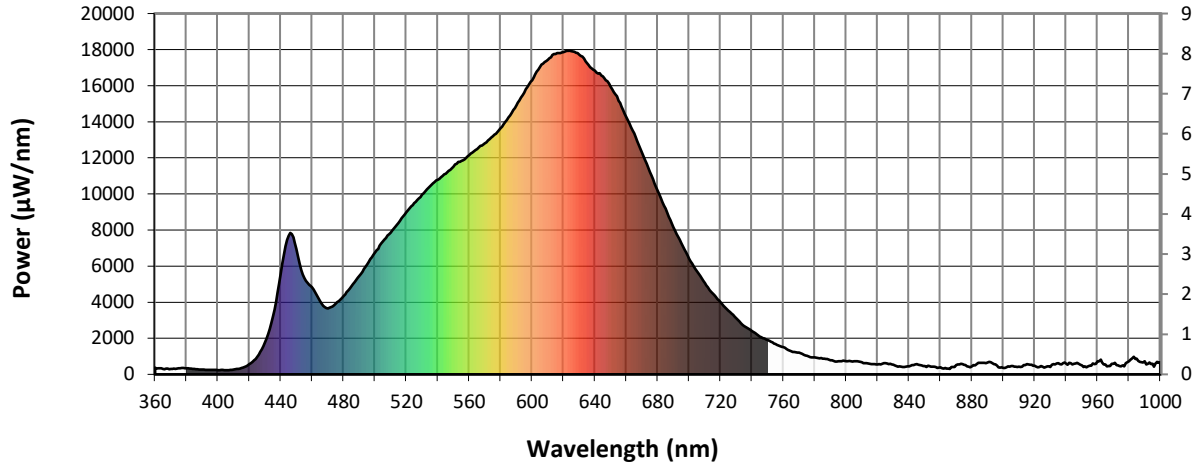
**CIE 1931 Chromaticity Diagram with 2017 ANSI 7-Step and 4-Step Quadrangles**



Point lies inside the ANSI 3000K 4-step quadrangle

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**Photopic Flux vs. Wavelength**

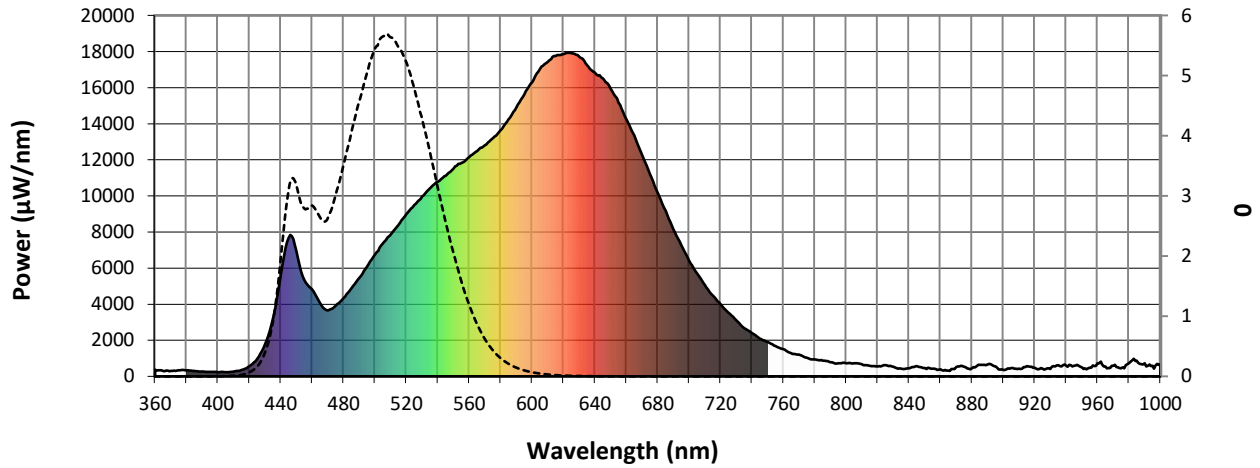


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λ (nm)	Power (µW/nm)	Lumens (Φ/nm)	λ (nm)	Power (µW/nm)	Lumens (Φ/nm)	λ (nm)	Power (µW/nm)	Lumens (Φ/nm)	λ (nm)	Power (µW/nm)	Lumens (Φ/nm)	λ (nm)	Power (µW/nm)	Lumens (Φ/nm)
360	368	0.0	490	5466	0.8	620	17862	4.6	750	1898	0.0	880	436	0.0
365	310	0.0	495	6091	1.1	625	17922	4.0	755	1681	0.0	885	632	0.0
370	293	0.0	500	6757	1.5	630	17723	3.2	760	1509	0.0	890	653	0.0
375	346	0.0	505	7358	2.1	635	17256	2.6	765	1279	0.0	895	546	0.0
380	338	0.0	510	7854	2.7	640	16836	2.0	770	1201	0.0	900	354	0.0
385	299	0.0	515	8389	3.5	645	16513	1.6	775	1028	0.0	905	454	0.0
390	270	0.0	520	8991	4.4	650	15949	1.2	780	937	0.0	910	426	0.0
395	252	0.0	525	9495	5.1	655	15172	0.9	785	877	0.0	915	565	0.0
400	234	0.0	530	9972	5.9	660	14269	0.6	790	784	0.0	920	483	0.0
405	236	0.0	535	10431	6.5	665	13357	0.4	795	723	0.0	925	418	0.0
410	267	0.0	540	10792	7.0	670	12286	0.3	800	735	0.0	930	416	0.0
415	349	0.0	545	11118	7.4	675	11211	0.2	805	729	0.0	935	626	0.0
420	560	0.0	550	11517	7.8	680	10179	0.1	810	667	0.0	940	584	0.0
425	974	0.0	555	11837	8.1	685	9184	0.1	815	584	0.0	945	579	0.0
430	1769	0.0	560	12154	8.3	690	8166	0.0	820	546	0.0	950	504	0.0
435	3208	0.0	565	12489	8.3	695	7279	0.0	825	620	0.0	955	485	0.0
440	5576	0.1	570	12803	8.3	700	6419	0.0	830	532	0.0	960	719	0.0
445	7682	0.2	575	13201	8.2	705	5709	0.0	835	420	0.0	965	552	0.0
450	6958	0.2	580	13645	8.1	710	5055	0.0	840	444	0.0	970	586	0.0
455	5347	0.2	585	14250	7.9	715	4482	0.0	845	562	0.0	975	439	0.0
460	4823	0.2	590	14919	7.7	720	3984	0.0	850	454	0.0	980	736	0.0
465	4070	0.2	595	15606	7.4	725	3526	0.0	855	433	0.0	985	863	0.0
470	3650	0.2	600	16305	7.0	730	3109	0.0	860	383	0.0	990	722	0.0
475	3914	0.3	605	17030	6.6	735	2684	0.0	865	322	0.0	995	579	0.0
480	4339	0.4	610	17428	6.0	740	2396	0.0	870	523	0.0	1000	672	0.0
485	4881	0.6	615	17762	5.4	745	2098	0.0	875	541	0.0			

REPORT NUMBER: SP1-2101-124-2

**Scotopic Flux vs. Wavelength**



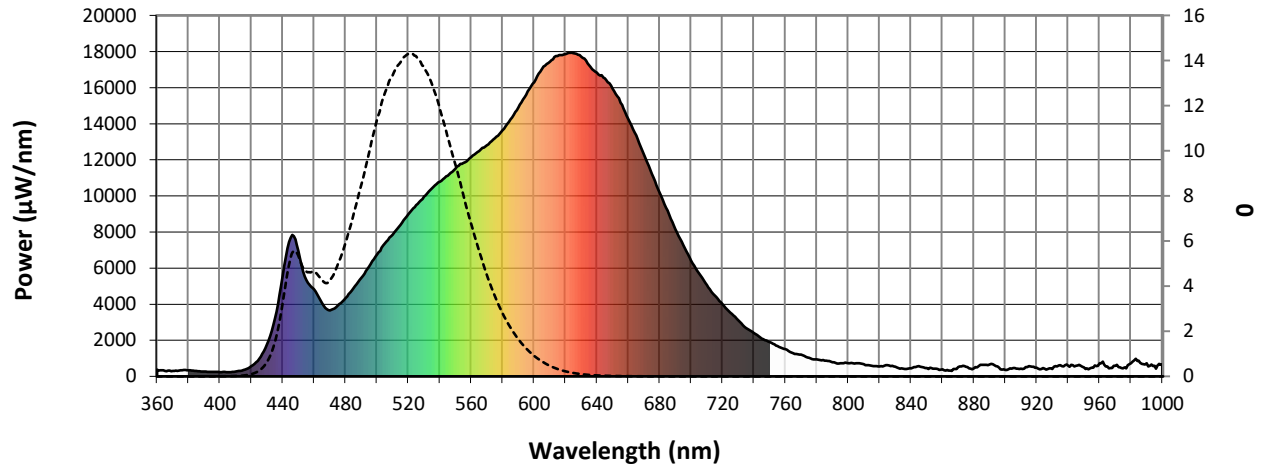
**Scotopic Lumens: 1239**

**S/P: 1.4**

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	368	0.0	490	5466	8.4	620	17862	0.2	750	1898	0.0	880	436	0.0
365	310	0.0	495	6091	9.8	625	17922	0.2	755	1681	0.0	885	632	0.0
370	293	0.0	500	6757	11.3	630	17723	0.1	760	1509	0.0	890	653	0.0
375	346	0.0	505	7358	12.5	635	17256	0.1	765	1279	0.0	895	546	0.0
380	338	0.0	510	7854	13.3	640	16836	0.0	770	1201	0.0	900	354	0.0
385	299	0.0	515	8389	13.9	645	16513	0.0	775	1028	0.0	905	454	0.0
390	270	0.0	520	8991	14.3	650	15949	0.0	780	937	0.0	910	426	0.0
395	252	0.0	525	9495	14.2	655	15172	0.0	785	877	0.0	915	565	0.0
400	234	0.0	530	9972	13.7	660	14269	0.0	790	784	0.0	920	483	0.0
405	236	0.0	535	10431	13.0	665	13357	0.0	795	723	0.0	925	418	0.0
410	267	0.0	540	10792	11.9	670	12286	0.0	800	735	0.0	930	416	0.0
415	349	0.0	545	11118	10.7	675	11211	0.0	805	729	0.0	935	626	0.0
420	560	0.1	550	11517	9.4	680	10179	0.0	810	667	0.0	940	584	0.0
425	974	0.2	555	11837	8.1	685	9184	0.0	815	584	0.0	945	579	0.0
430	1769	0.6	560	12154	6.8	690	8166	0.0	820	546	0.0	950	504	0.0
435	3208	1.4	565	12489	5.6	695	7279	0.0	825	620	0.0	955	485	0.0
440	5576	3.1	570	12803	4.5	700	6419	0.0	830	532	0.0	960	719	0.0
445	7682	5.1	575	13201	3.6	705	5709	0.0	835	420	0.0	965	552	0.0
450	6958	5.4	580	13645	2.8	710	5055	0.0	840	444	0.0	970	586	0.0
455	5347	4.7	585	14250	2.2	715	4482	0.0	845	562	0.0	975	439	0.0
460	4823	4.7	590	14919	1.7	720	3984	0.0	850	454	0.0	980	736	0.0
465	4070	4.3	595	15606	1.2	725	3526	0.0	855	433	0.0	985	863	0.0
470	3650	4.2	600	16305	0.9	730	3109	0.0	860	383	0.0	990	722	0.0
475	3914	4.9	605	17030	0.7	735	2684	0.0	865	322	0.0	995	579	0.0
480	4339	5.9	610	17428	0.5	740	2396	0.0	870	523	0.0	1000	672	0.0
485	4881	7.1	615	17762	0.3	745	2098	0.0	875	541	0.0			

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**Melanopic Flux vs. Wavelength**



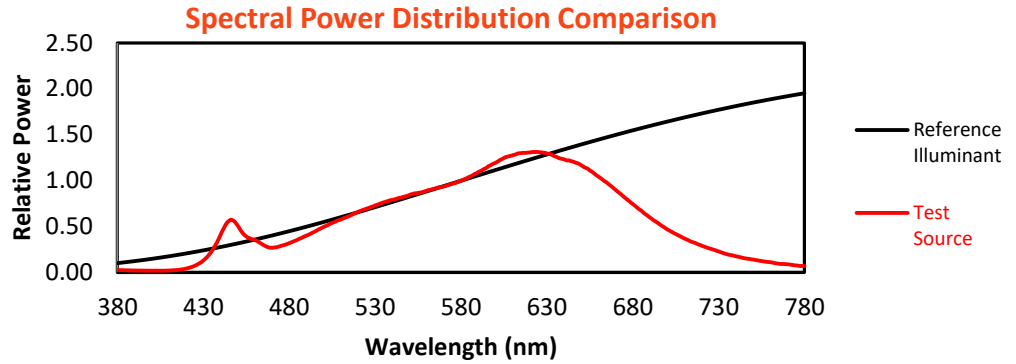
**Melanopic Lumens: 471.9**

**M/P: 0.53**

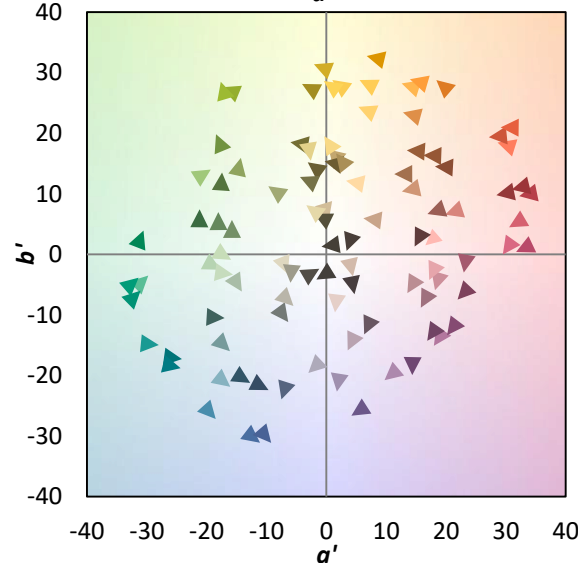
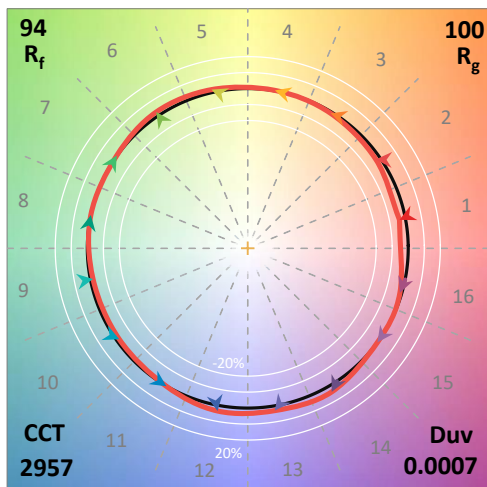
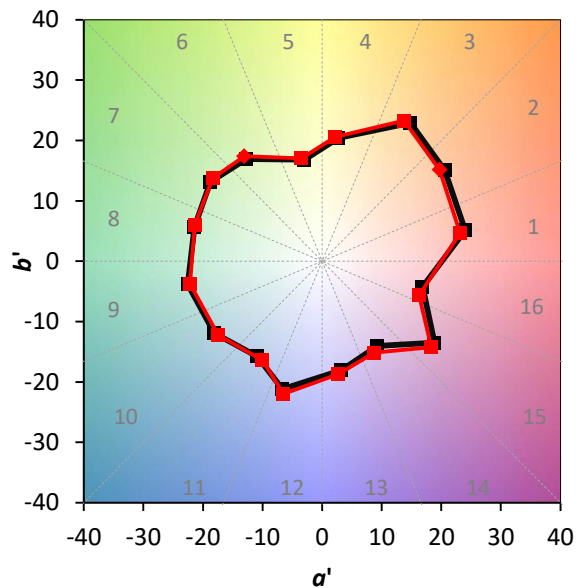
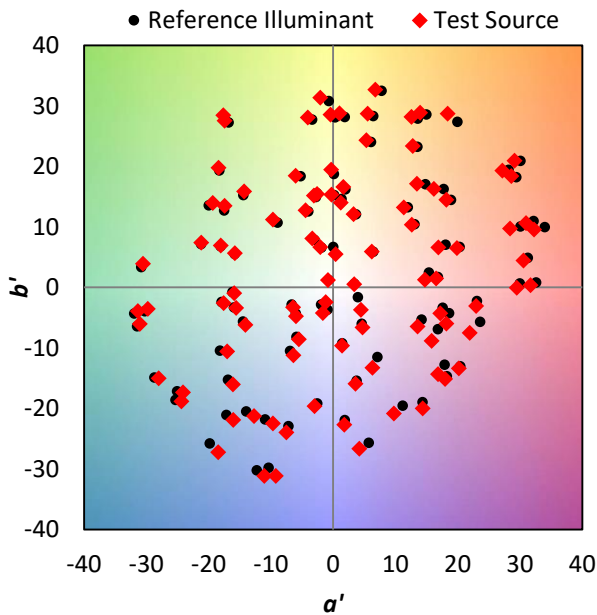
λ (nm)	Power (µW/nm)	Lumens (Φ/nm)	λ (nm)	Power (µW/nm)	Lumens (Φ/nm)	λ (nm)	Power (µW/nm)	Lumens (Φ/nm)	λ (nm)	Power (µW/nm)	Lumens (Φ/nm)	λ (nm)	Power (µW/nm)	Lumens (Φ/nm)
360	368	0.0	490	5466	4.5	620	17862	0.0	750	1898	0.0	880	436	0.0
365	310	0.0	495	6091	5.0	625	17922	0.0	755	1681	0.0	885	632	0.0
370	293	0.0	500	6757	5.4	630	17723	0.0	760	1509	0.0	890	653	0.0
375	346	0.0	505	7358	5.6	635	17256	0.0	765	1279	0.0	895	546	0.0
380	338	0.0	510	7854	5.6	640	16836	0.0	770	1201	0.0	900	354	0.0
385	299	0.0	515	8389	5.5	645	16513	0.0	775	1028	0.0	905	454	0.0
390	270	0.0	520	8991	5.2	650	15949	0.0	780	937	0.0	910	426	0.0
395	252	0.0	525	9495	4.8	655	15172	0.0	785	877	0.0	915	565	0.0
400	234	0.0	530	9972	4.3	660	14269	0.0	790	784	0.0	920	483	0.0
405	236	0.0	535	10431	3.8	665	13357	0.0	795	723	0.0	925	418	0.0
410	267	0.0	540	10792	3.2	670	12286	0.0	800	735	0.0	930	416	0.0
415	349	0.0	545	11118	2.6	675	11211	0.0	805	729	0.0	935	626	0.0
420	560	0.1	550	11517	2.1	680	10179	0.0	810	667	0.0	940	584	0.0
425	974	0.2	555	11837	1.6	685	9184	0.0	815	584	0.0	945	579	0.0
430	1769	0.4	560	12154	1.2	690	8166	0.0	820	546	0.0	950	504	0.0
435	3208	0.9	565	12489	0.9	695	7279	0.0	825	620	0.0	955	485	0.0
440	5576	1.9	570	12803	0.6	700	6419	0.0	830	532	0.0	960	719	0.0
445	7682	3.0	575	13201	0.4	705	5709	0.0	835	420	0.0	965	552	0.0
450	6958	3.2	580	13645	0.3	710	5055	0.0	840	444	0.0	970	586	0.0
455	5347	2.8	585	14250	0.2	715	4482	0.0	845	562	0.0	975	439	0.0
460	4823	2.8	590	14919	0.1	720	3984	0.0	850	454	0.0	980	736	0.0
465	4070	2.7	595	15606	0.1	725	3526	0.0	855	433	0.0	985	863	0.0
470	3650	2.6	600	16305	0.1	730	3109	0.0	860	383	0.0	990	722	0.0
475	3914	3.0	605	17030	0.0	735	2684	0.0	865	322	0.0	995	579	0.0
480	4339	3.5	610	17428	0.0	740	2396	0.0	870	523	0.0	1000	672	0.0
485	4881	4.0	615	17762	0.0	745	2098	0.0	875	541	0.0			

**Summary**

$R_f = 93.7$   
 $R_g = 100.3$   
 CIE  $R_a = 94.1$   
 $R_9 = 66.4$

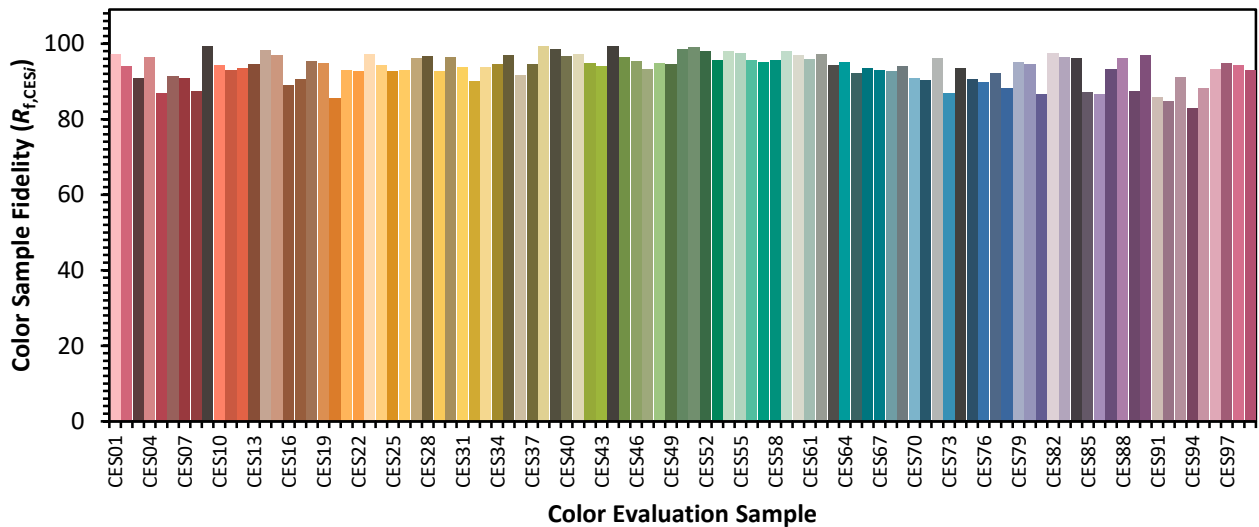


**Color Vector Graphics**



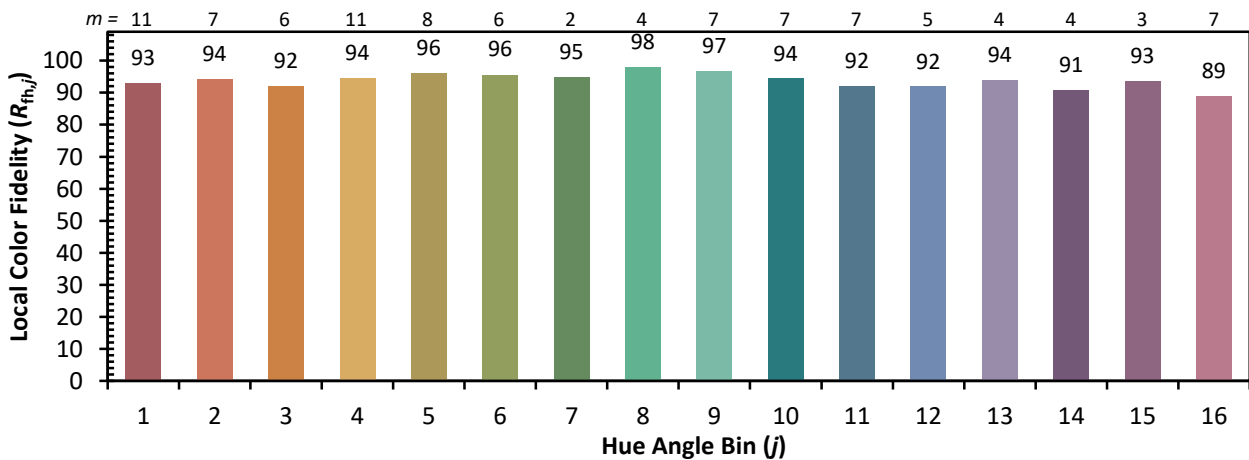
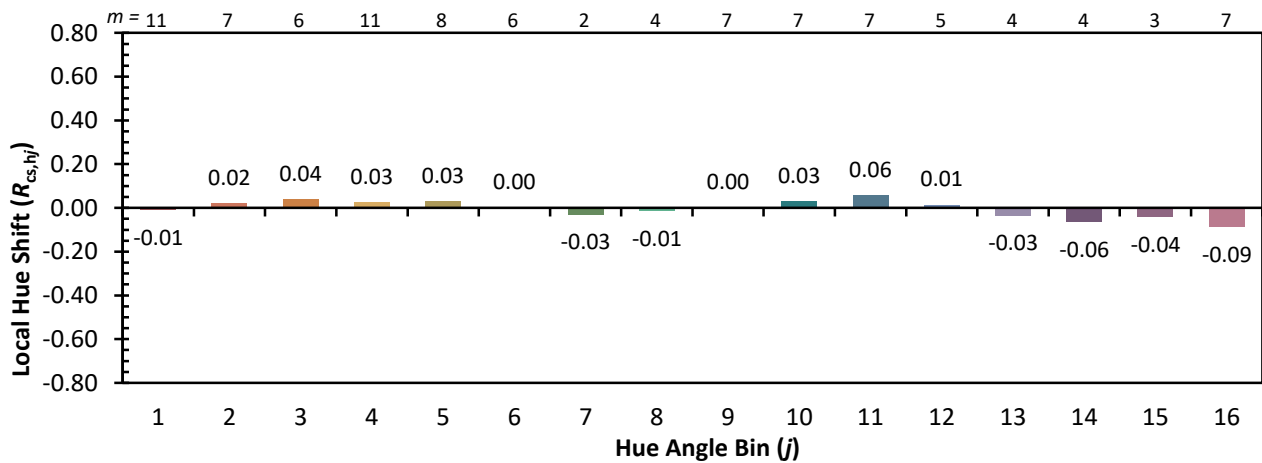
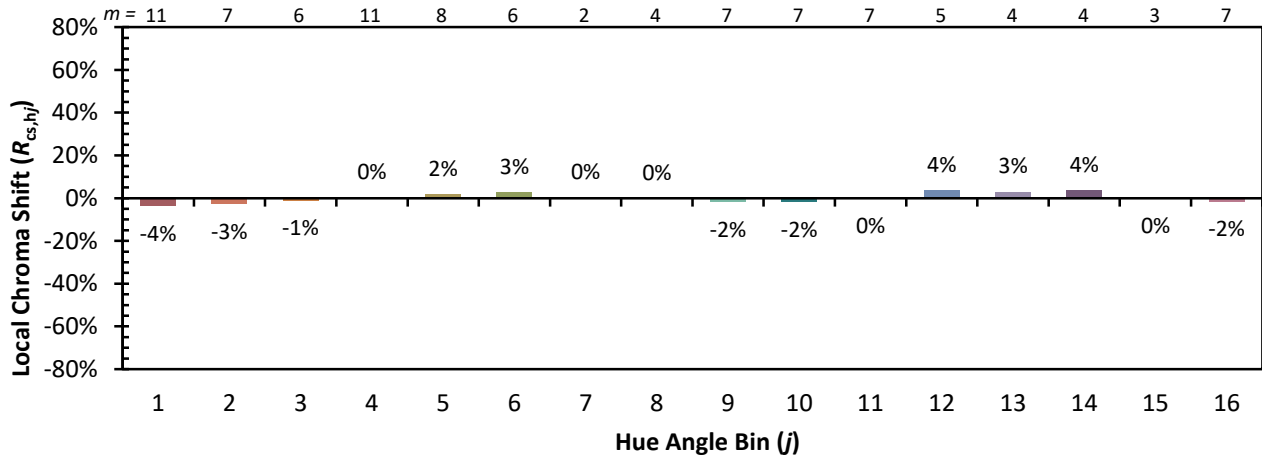
**Individual Sample Fidelity Index ( $R_{f,i}$ )**

CES01 = 86	CES26 = 93	CES51 = 99	CES76 = 90
CES02 = 63	CES27 = 96	CES52 = 98	CES77 = 92
CES03 = 32	CES28 = 97	CES53 = 96	CES78 = 88
CES04 = 70	CES29 = 93	CES54 = 98	CES79 = 95
CES05 = 51	CES30 = 96	CES55 = 98	CES80 = 95
CES06 = 51	CES31 = 94	CES56 = 96	CES81 = 87
CES07 = 44	CES32 = 90	CES57 = 95	CES82 = 97
CES08 = 42	CES33 = 94	CES58 = 96	CES83 = 96
CES09 = 29	CES34 = 94	CES59 = 98	CES84 = 96
CES10 = 76	CES35 = 97	CES60 = 97	CES85 = 87
CES11 = 59	CES36 = 92	CES61 = 96	CES86 = 87
CES12 = 65	CES37 = 95	CES62 = 97	CES87 = 93
CES13 = 44	CES38 = 99	CES63 = 94	CES88 = 96
CES14 = 74	CES39 = 99	CES64 = 95	CES89 = 87
CES15 = 72	CES40 = 97	CES65 = 92	CES90 = 97
CES16 = 48	CES41 = 97	CES66 = 94	CES91 = 86
CES17 = 50	CES42 = 95	CES67 = 93	CES92 = 85
CES18 = 57	CES43 = 94	CES68 = 93	CES93 = 91
CES19 = 72	CES44 = 99	CES69 = 94	CES94 = 83
CES20 = 67	CES45 = 96	CES70 = 91	CES95 = 88
CES21 = 86	CES46 = 95	CES71 = 90	CES96 = 93
CES22 = 79	CES47 = 93	CES72 = 96	CES97 = 95
CES23 = 92	CES48 = 95	CES73 = 87	CES98 = 94
CES24 = 91	CES49 = 95	CES74 = 94	CES99 = 93
CES25 = 72	CES50 = 99	CES75 = 90	

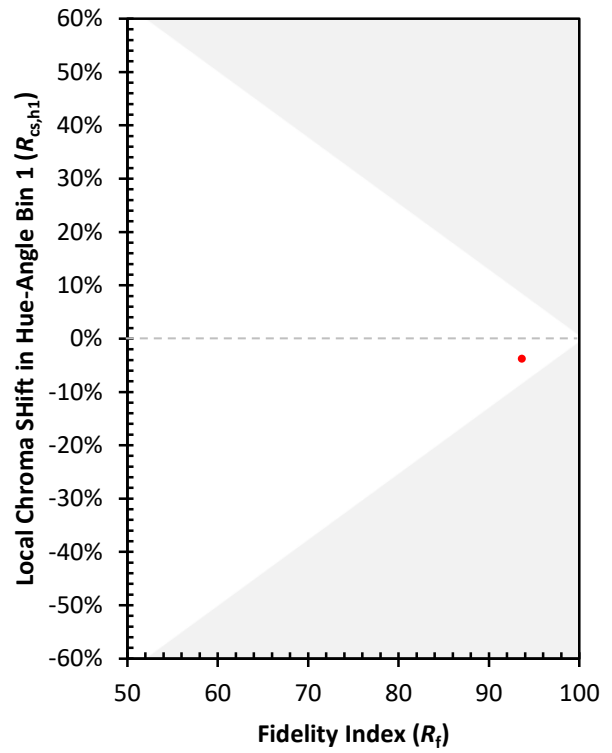
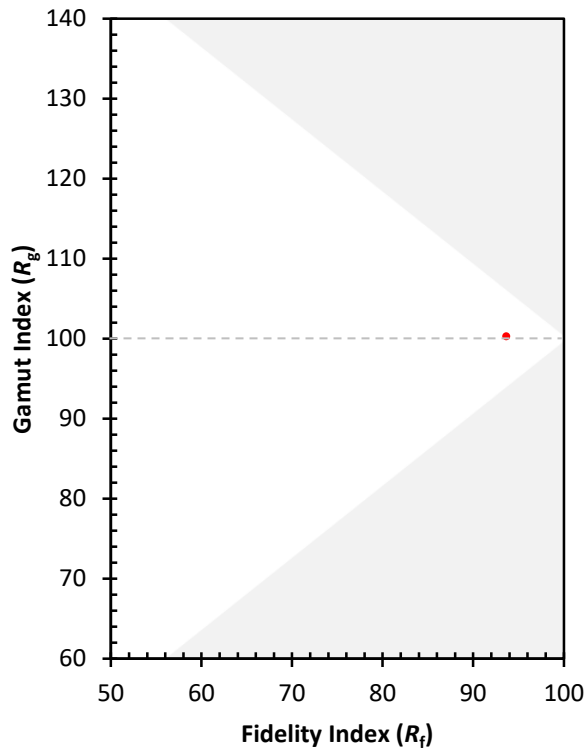




Color Rendition by Hue-Angle Bin



Measure Comparisons



(END OF REPORT)