

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: McGRAW-EDISON

Report Number: P459737

Luminaire Tested: **GLEON-SA9A-AMB-U-5WQ**

Issue Date: 1/6/2021

**Test Information**

Test Method: LM-79-08  
Report Number: P459737  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2003-697-2)  
Test Lab: INNOVATION CENTER  
Issue Date: 1/6/2021  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: McGRAW-EDISON  
Catalog Number: GLEON-SA9A-AMB-U-5WQ  
Description: GALLEON AREA AND ROADWAY LUMINAIRE  
(9) NARROW BAND AMBER, 500mA LIGHTSQUARES WITH 16 LEDS EACH AND TYPE V WIDE OPTICS  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 9463 lumens  
Efficiency: N/A  
Efficacy: 53.0 lumens/watt  
Luminous Opening: Rectangular (W 2.5' x L: 1' x H: 0')  
IES Classification: Type V - Short - Non-Cutoff  
BUG Rating: B4 - U0 - G2

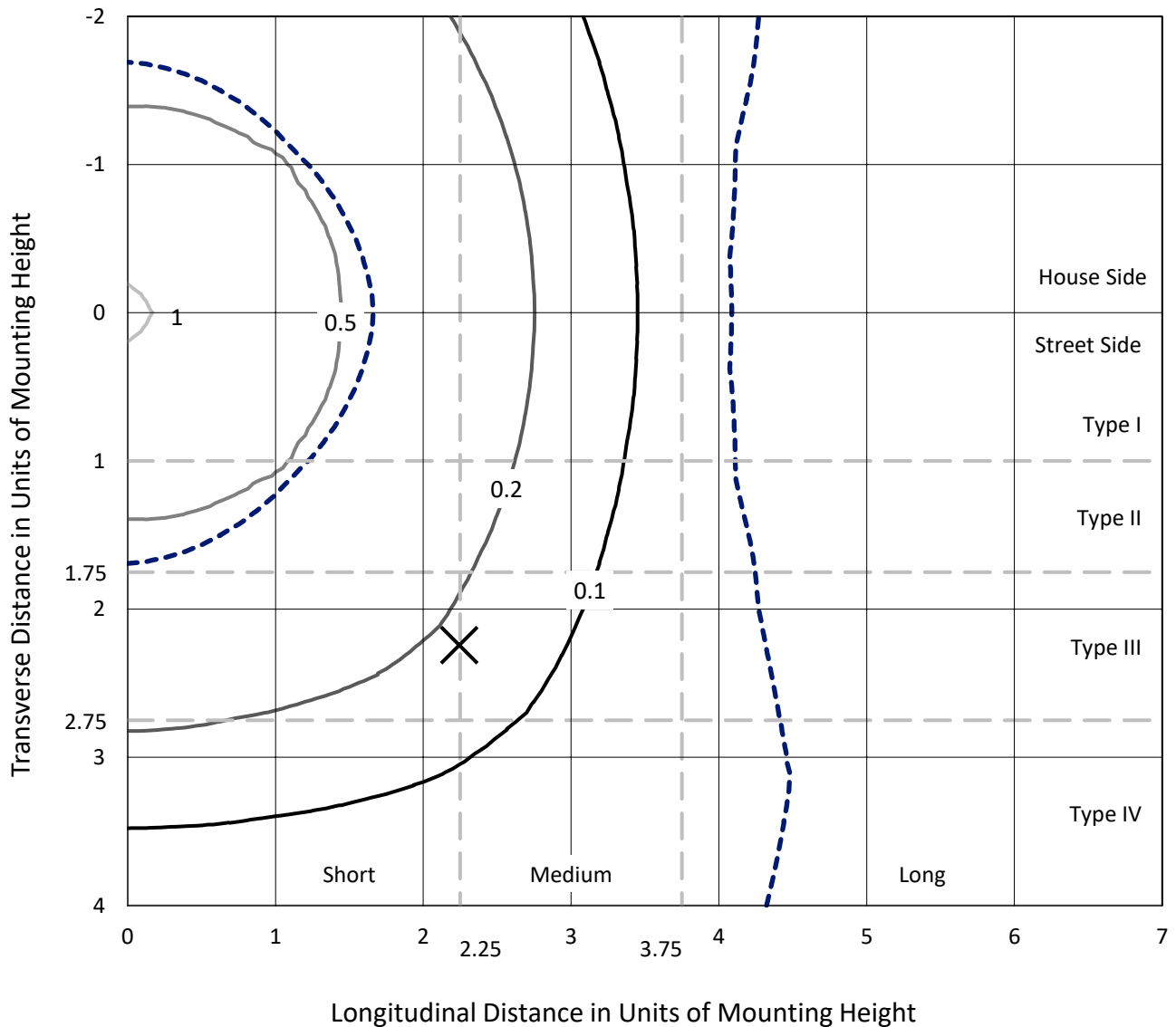
Input Watts (W): 178.5  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 28.75 FT



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 CATALOG NUMBER: GLEON-SA9A-AMB-U-5WQ

### Iso-Footcandle Lines of Horizontal Illumination

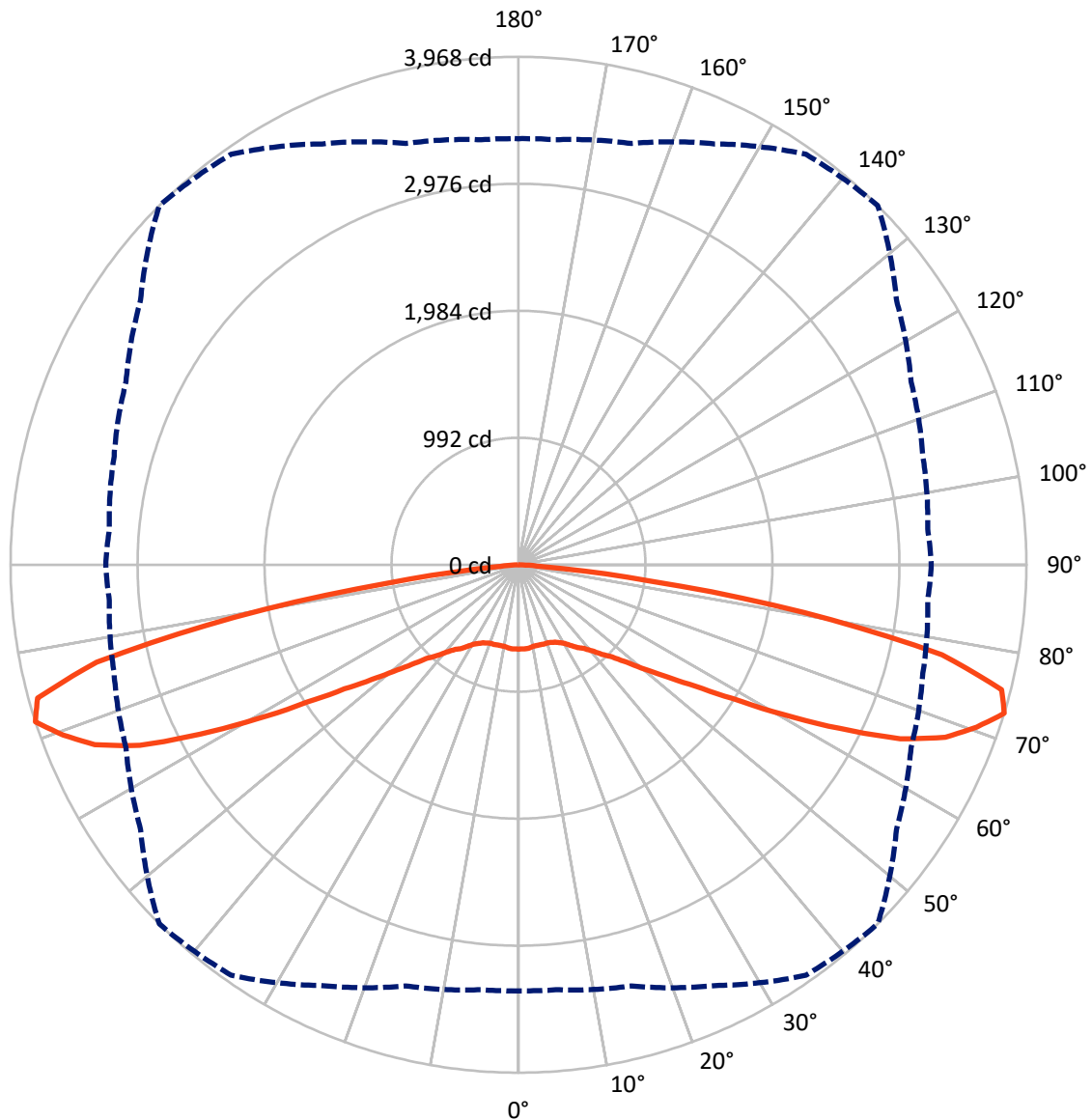
× Max cd  
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 1.1 fc  
 Type V - Short - Non-Cutoff

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### Luminous Intensity Polar Plot



— Vertical Plane Through 45-Deg Lateral      - - - Horizontal Cone Through 72.5-Deg Vertical

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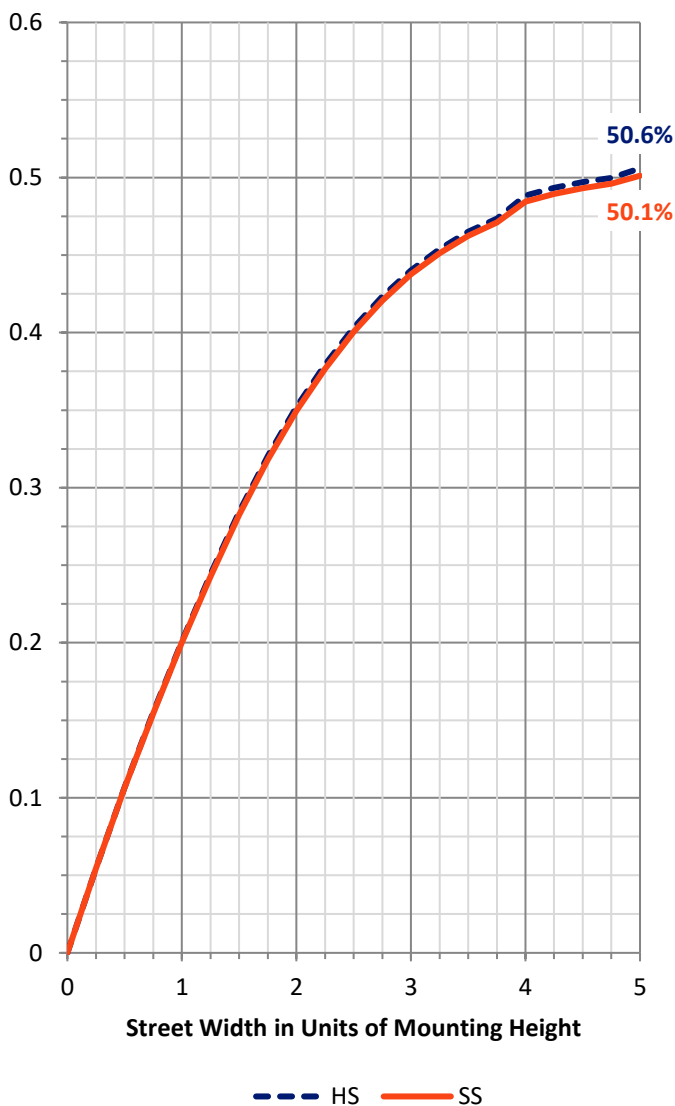
**FLUX DISTRIBUTION:**

		Downward	Upward	Total
<b>House Side</b>	Lumens	4731.5	0.0	4731.5
	% Fixture	50.0	0.0	50.0
<b>Street Side</b>	Lumens	4731.5	0.0	4731.5
	% Fixture	50.0	0.0	50.0
<b>Total</b>	Lumens	9463.0	0.0	9463.0
	% Fixture	100.0	0.0	100.0

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	62.6	0.7
10°-20°	185.9	2.0
20°-30°	318.4	3.4
30°-40°	499.2	5.3
40°-50°	826.2	8.7
50°-60°	1523.4	16.1
60°-70°	2829.9	29.9
70°-80°	2946.6	31.1
80°-90°	270.8	2.9
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°-90°	9463.0	100.0
0°-180°	9463.0	100.0

**Coefficient of Utilization**

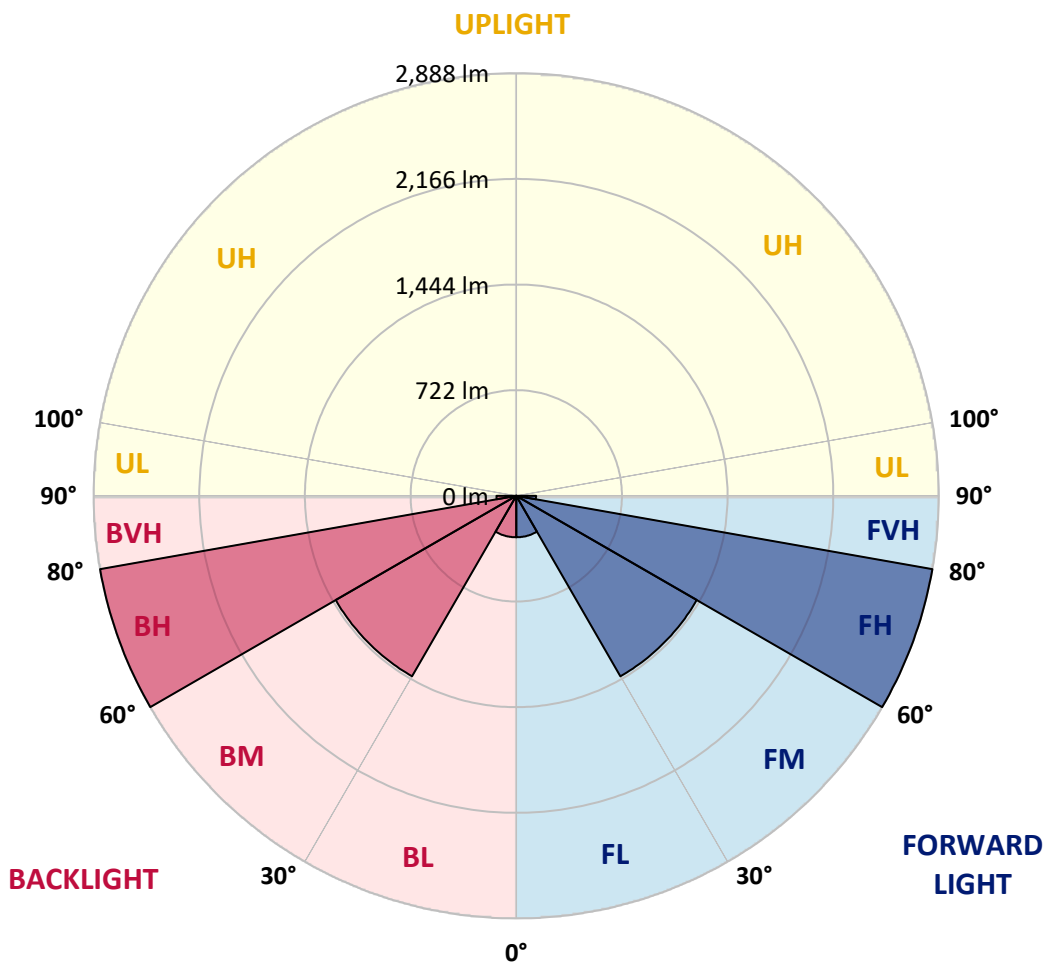


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**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	283.4	3.0			
FM (30°-60°)	1424.4	15.1			
FH (60°-80°)	2888.2	30.5			G2/5000
FVH (80°-90°)	135.4	1.4			G2/225
BL (0°-30°)	283.4	3.0	B1/500		
BM (30°-60°)	1424.4	15.1	B2/2500		
BH (60°-80°)	2888.2	30.5	B4/5000		G2/5000
BVH (80°-90°)	135.4	1.4			G2/225
UL (90°-100°)	0.0	0.0		U0/0	
UH (100°-180°)	0.0	0.0		U0/0	

**BUG Rating: B4-U0-G2**  
 Type V Short





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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	15°	25°	35°	45°	55°	65°	75°	85°	90°
0°	658.7	658.7	658.7	658.7	658.7	658.7	658.7	658.7	658.7	658.7	658.7
2.5°	662.6	662.6	662.6	658.7	658.7	658.7	658.7	658.7	658.7	658.7	658.7
5°	662.6	662.6	662.6	662.6	658.7	658.7	658.7	654.8	654.8	654.8	658.7
7.5°	658.7	662.6	658.7	658.7	654.8	654.8	651.0	651.0	651.0	651.0	651.0
10°	662.6	662.6	658.7	654.8	651.0	647.1	647.1	647.1	647.1	651.0	651.0
12.5°	666.5	666.5	658.7	651.0	651.0	647.1	647.1	647.1	647.1	651.0	654.8
15°	670.3	670.3	662.6	651.0	651.0	647.1	647.1	647.1	654.8	658.7	662.6
17.5°	678.1	674.2	662.6	654.8	651.0	651.0	651.0	651.0	658.7	666.5	666.5
20°	678.1	678.1	666.5	654.8	654.8	651.0	654.8	654.8	662.6	670.3	674.2
22.5°	689.7	685.8	670.3	662.6	658.7	658.7	662.6	662.6	670.3	678.1	682.0
25°	701.3	701.3	685.8	674.2	670.3	670.3	674.2	674.2	682.0	693.6	697.5
27.5°	724.6	720.7	705.2	693.6	689.7	689.7	697.5	697.5	701.3	713.0	716.8
30°	743.9	743.9	728.5	724.6	716.8	713.0	720.7	728.5	728.5	736.2	740.1
32.5°	759.4	759.4	751.7	751.7	755.6	751.7	759.4	755.6	751.7	759.4	759.4
35°	786.6	786.6	778.8	774.9	790.4	794.3	790.4	778.8	778.8	786.6	790.4
37.5°	829.2	829.2	821.4	813.7	817.6	829.2	817.6	813.7	821.4	833.1	836.9
40°	891.2	895.1	887.3	883.4	871.8	883.4	871.8	879.6	891.2	898.9	898.9
42.5°	960.9	964.8	953.2	945.4	949.3	957.1	941.6	945.4	960.9	972.6	972.6
45°	1069.4	1065.6	1046.2	1034.6	1022.9	1026.8	1019.1	1038.4	1053.9	1073.3	1081.1
47.5°	1174.0	1170.2	1162.4	1150.8	1135.3	1139.2	1139.2	1154.7	1174.0	1193.4	1193.4
50°	1305.8	1305.8	1294.2	1286.4	1274.8	1282.5	1274.8	1294.2	1317.4	1332.9	1336.8
52.5°	1456.9	1453.0	1453.0	1449.2	1441.4	1456.9	1445.3	1468.5	1487.9	1491.8	1499.5
55°	1615.8	1627.4	1642.9	1642.9	1654.5	1670.0	1662.3	1666.1	1681.6	1666.1	1673.9
57.5°	1821.1	1832.7	1856.0	1887.0	1925.7	1968.4	1941.2	1921.9	1890.9	1867.6	1863.7
60°	2034.2	2045.9	2092.4	2185.4	2282.2	2375.2	2293.8	2204.7	2135.0	2076.9	2073.0
62.5°	2266.7	2286.1	2352.0	2491.5	2677.4	2816.9	2689.1	2514.7	2386.8	2297.7	2301.6
65°	2572.8	2584.4	2654.2	2816.9	3107.5	3278.0	3080.4	2847.9	2689.1	2588.3	2592.2
67.5°	3033.9	3026.2	3061.0	3216.0	3456.3	3595.8	3359.4	3169.5	3006.8	2890.6	2909.9
70°	3355.5	3351.6	3374.9	3537.6	3770.1	3797.2	3560.9	3347.8	3212.2	3142.4	3142.4
72.5°	3328.4	3332.3	3405.9	3626.8	3913.5	3967.7	3603.5	3382.6	3270.3	3208.3	3223.8
75°	2692.9	2700.7	2909.9	3312.9	3793.4	3898.0	3506.6	3134.7	2809.2	2630.9	2599.9
77.5°	1294.2	1305.8	1615.8	2282.2	3061.0	3382.6	3033.9	2251.2	1646.8	1336.8	1367.8
80°	391.3	403.0	534.7	937.7	1751.4	2259.0	1813.4	926.1	472.7	344.9	344.9
82.5°	85.2	104.6	124.0	205.4	604.5	1030.7	604.5	228.6	139.5	100.7	93.0
85°	46.5	46.5	69.7	73.6	96.9	170.5	116.2	93.0	81.4	54.2	54.2
87.5°	19.4	19.4	34.9	34.9	38.7	27.1	42.6	46.5	46.5	27.1	27.1
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Signify Classified - Internal  
Cooper Lighting Solutions Photometric Lab  
1121 Highway 74 South  
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LM-79-2019: Approved Method: Electrical and Photometric Measurements of Solid-  
State Lighting Products

Report Prepared for

Cooper Lighting Solutions

STREETWORKS

Report Number: SP1-2005-791-1-R5

Test Date: 05/26/2020

Luminaire Tested: Light Squares Family Amber Color

Data in this report applies to families of products including Light Squares Family Amber Color



**Test Information**

Test Method: LM-79-2019  
 Report Number: SP1-2005-791-1-R5  
 Test Lab: COOPER LIGHTING SOLUTIONS  
 Photometer: SP1 - 76IN SPHERE  
 Measurement Geometry: 4π  
 Issue Date: 02/07/2024  
 Manufacturer: COOPER LIGHTING SOLUTIONS  
 Product Line: STREETWORKS  
 Catalog Number: **Light Squares Family Amber Color**  
 Description: Light Squares Family Amber Color

**Spectral Parameters**

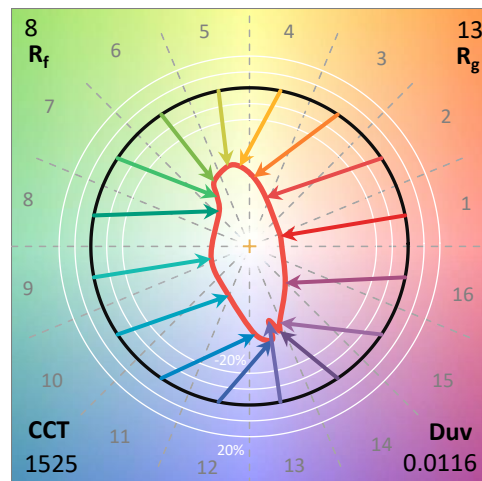
CCT (K): 1525  
 CIE u': 0.3546  
 CIE v': 0.5459  
 Duv: 0.0116  
 CIE x: 0.5918  
 CIE y: 0.4049  
 CIE z: 0.0033  
 Peak Wavelength (nm): 597  
 Dominant Wavelength (nm): 593  
 Purity: 99.6

CRI (Ra):	-20.7		
R1:	-32.5	R9:	-382.8
R2:	55.0	R10:	34.9
R3:	15.4	R11:	-92.4
R4:	-67.7	R12:	2.7
R5:	-38.7	R13:	-12.7
R6:	47.4	R14:	45.0
R7:	-9.2		
R8:	-135.0		

Rf: 8.4  
 Rg: 12.9

**Test Conditions**

Stabilization Time: 65M  
 Operation Time: 12H  
 Room Temperature (°C) / RH%: 25.6/42%  
 Sphere Temperature (°C): 25.2

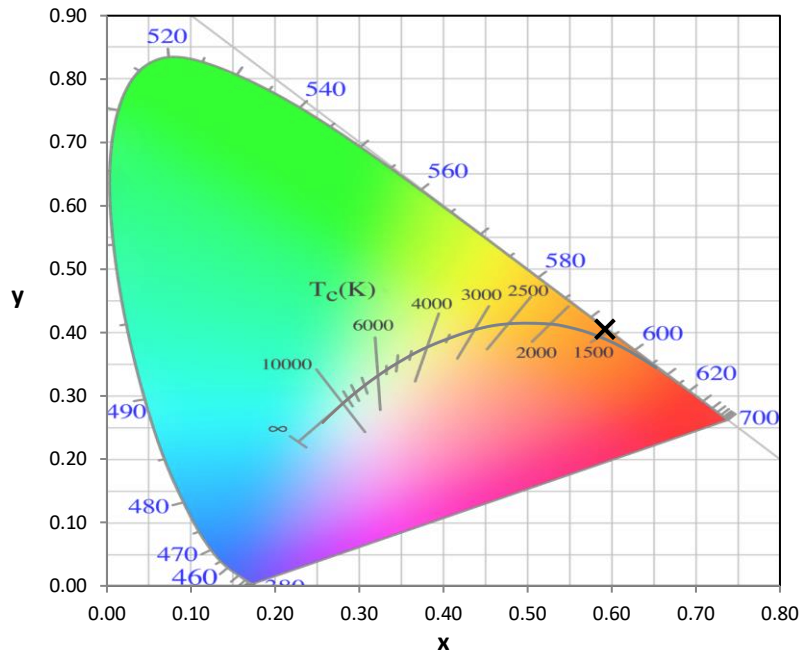


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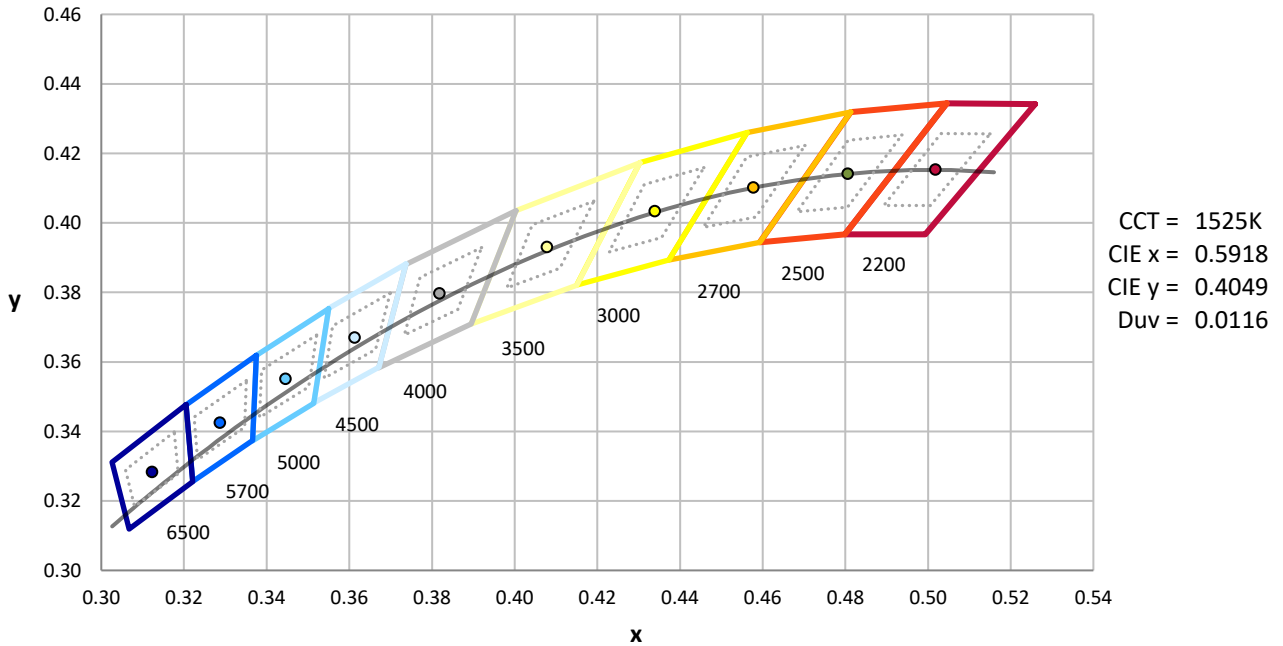
Measurement and Test Equipment			
Instrument	Identification Number	Calibration Date	Calibration Due Date
Photometer	76INCH SPHERE IN0058	1/17/2020	7/17/2020
Power Meter	XITRON 2801 IN0071	12/3/2019	12/3/2020
AC Power Source	CHROMA 61603 IN0063	12/3/2019	12/3/2020
DC Power Source	AGILENT E3634A IN0208	12/3/2019	12/3/2020
Sphere Thermometer	ONSET IN0085	12/3/2019	12/3/2020
Room Thermometer	ONSET IN0046	12/3/2019	12/3/2020

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CIE 1931 Chromaticity Diagram



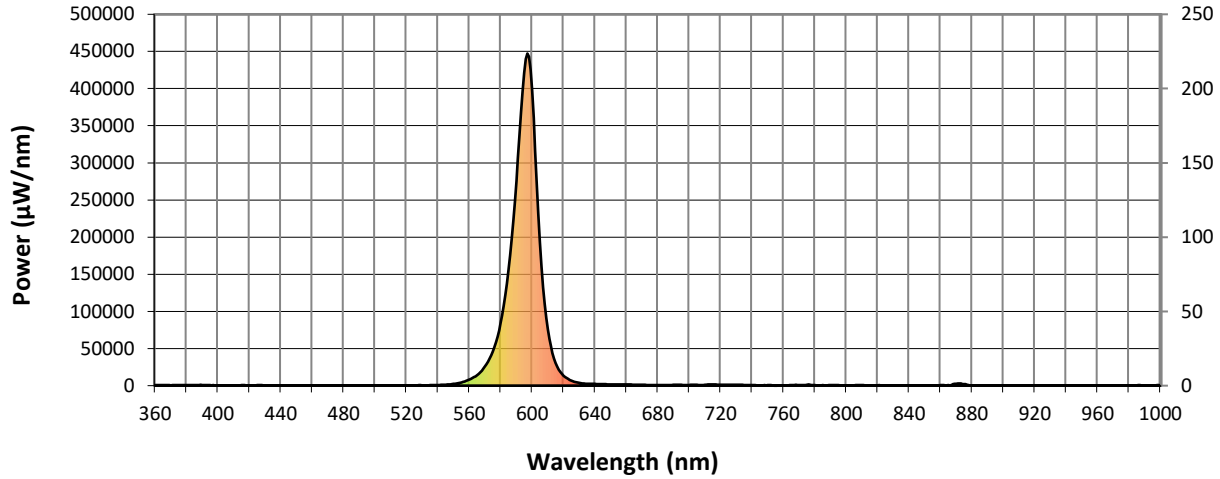
CIE 1931 Chromaticity Diagram with 2017 ANSI 7-Step and 4-Step Quadrangles



Point lies outside the range

REPORT NUMBER: SP1-2005-791-1-R5

**Photopic Flux vs. Wavelength**

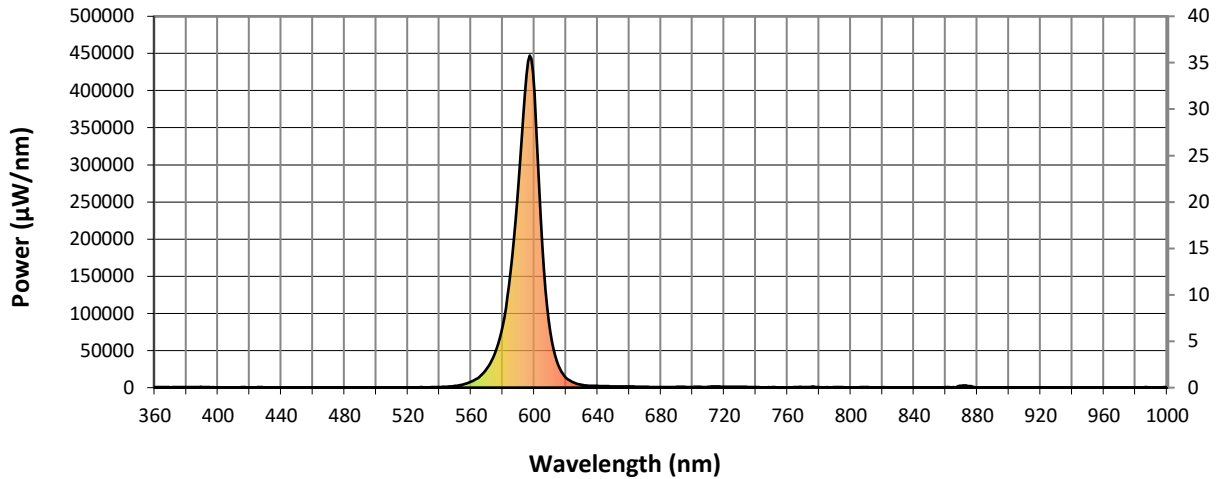


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λ (nm)	Power (µW/nm)	Lumens (φ/nm)	λ (nm)	Power (µW/nm)	Lumens (φ/nm)	λ (nm)	Power (µW/nm)	Lumens (φ/nm)	λ (nm)	Power (µW/nm)	Lumens (φ/nm)	λ (nm)	Power (µW/nm)	Lumens (φ/nm)
360	818	NR	490	224	NR	620	13485	NR	750	666	NR	880	467	NR
365	765	NR	495	377	NR	625	6667	NR	755	63	NR	885	232	NR
370	529	NR	500	342	NR	630	3617	NR	760	170	NR	890	396	NR
375	859	NR	505	327	NR	635	2624	NR	765	772	NR	895	250	NR
380	838	NR	510	403	NR	640	2321	NR	770	684	NR	900	194	NR
385	931	NR	515	396	NR	645	2019	NR	775	1108	NR	905	303	NR
390	814	NR	520	478	NR	650	1694	NR	780	562	NR	910	335	NR
395	695	NR	525	468	NR	655	1437	NR	785	582	NR	915	255	NR
400	338	NR	530	527	NR	660	1541	NR	790	675	NR	920	182	NR
405	555	NR	535	574	NR	665	1318	NR	795	578	NR	925	228	NR
410	491	NR	540	823	NR	670	1092	NR	800	147	NR	930	239	NR
415	563	NR	545	1340	NR	675	936	NR	805	559	NR	935	148	NR
420	360	NR	550	2313	NR	680	727	NR	810	727	NR	940	308	NR
425	598	NR	555	4294	NR	685	833	NR	815	444	NR	945	313	NR
430	464	NR	560	8017	NR	690	1005	NR	820	479	NR	950	345	NR
435	440	NR	565	14123	NR	695	1012	NR	825	224	NR	955	229	NR
440	368	NR	570	25560	NR	700	962	NR	830	333	NR	960	363	NR
445	428	NR	575	45938	NR	705	994	NR	835	379	NR	965	412	NR
450	279	NR	580	84007	NR	710	1014	NR	840	285	NR	970	272	NR
455	407	NR	585	155807	NR	715	1458	NR	845	333	NR	975	345	NR
460	365	NR	590	275552	NR	720	1076	NR	850	385	NR	980	449	NR
465	328	NR	595	421402	NR	725	1113	NR	855	558	NR	985	501	NR
470	249	NR	600	396839	NR	730	1144	NR	860	663	NR	990	343	NR
475	277	NR	605	193475	NR	735	799	NR	865	591	NR	995	152	NR
480	229	NR	610	75719	NR	740	692	NR	870	2634	NR	1000	132	NR
485	185	NR	615	30466	NR	745	414	NR	875	2146	NR			

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**Scotopic Flux vs. Wavelength**



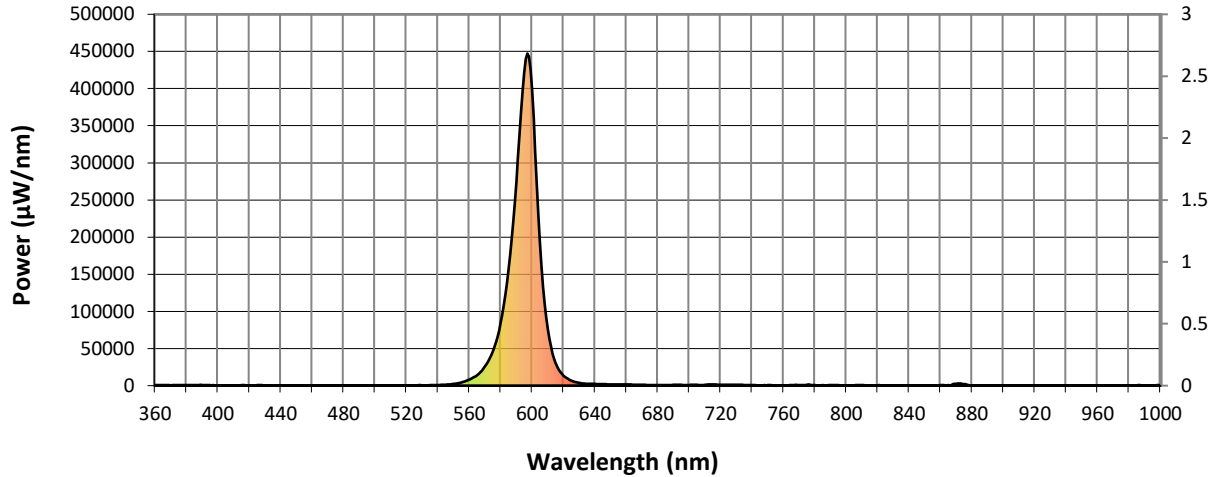
**Scotopic Lumens: 939.9**

**S/P: 0.23**

$\lambda$ (nm)	Power ( $\mu\text{W}/\text{nm}$ )	Lumens ( $\phi/\text{nm}$ )	$\lambda$ (nm)	Power ( $\mu\text{W}/\text{nm}$ )	Lumens ( $\phi/\text{nm}$ )	$\lambda$ (nm)	Power ( $\mu\text{W}/\text{nm}$ )	Lumens ( $\phi/\text{nm}$ )	$\lambda$ (nm)	Power ( $\mu\text{W}/\text{nm}$ )	Lumens ( $\phi/\text{nm}$ )	$\lambda$ (nm)	Power ( $\mu\text{W}/\text{nm}$ )	Lumens ( $\phi/\text{nm}$ )
360	818	NR	490	224	NR	620	13485	NR	750	666	NR	880	467	NR
365	765	NR	495	377	NR	625	6667	NR	755	63	NR	885	232	NR
370	529	NR	500	342	NR	630	3617	NR	760	170	NR	890	396	NR
375	859	NR	505	327	NR	635	2624	NR	765	772	NR	895	250	NR
380	838	NR	510	403	NR	640	2321	NR	770	684	NR	900	194	NR
385	931	NR	515	396	NR	645	2019	NR	775	1108	NR	905	303	NR
390	814	NR	520	478	NR	650	1694	NR	780	562	NR	910	335	NR
395	695	NR	525	468	NR	655	1437	NR	785	582	NR	915	255	NR
400	338	NR	530	527	NR	660	1541	NR	790	675	NR	920	182	NR
405	555	NR	535	574	NR	665	1318	NR	795	578	NR	925	228	NR
410	491	NR	540	823	NR	670	1092	NR	800	147	NR	930	239	NR
415	563	NR	545	1340	NR	675	936	NR	805	559	NR	935	148	NR
420	360	NR	550	2313	NR	680	727	NR	810	727	NR	940	308	NR
425	598	NR	555	4294	NR	685	833	NR	815	444	NR	945	313	NR
430	464	NR	560	8017	NR	690	1005	NR	820	479	NR	950	345	NR
435	440	NR	565	14123	NR	695	1012	NR	825	224	NR	955	229	NR
440	368	NR	570	25560	NR	700	962	NR	830	333	NR	960	363	NR
445	428	NR	575	45938	NR	705	994	NR	835	379	NR	965	412	NR
450	279	NR	580	84007	NR	710	1014	NR	840	285	NR	970	272	NR
455	407	NR	585	155807	NR	715	1458	NR	845	333	NR	975	345	NR
460	365	NR	590	275552	NR	720	1076	NR	850	385	NR	980	449	NR
465	328	NR	595	421402	NR	725	1113	NR	855	558	NR	985	501	NR
470	249	NR	600	396839	NR	730	1144	NR	860	663	NR	990	343	NR
475	277	NR	605	193475	NR	735	799	NR	865	591	NR	995	152	NR
480	229	NR	610	75719	NR	740	692	NR	870	2634	NR	1000	132	NR
485	185	NR	615	30466	NR	745	414	NR	875	2146	NR			

REPORT NUMBER: SP1-2005-791-1-R5

**Melanopic Flux vs. Wavelength**



**Melanopic Lumens: 115.1 M/P: 0.03**

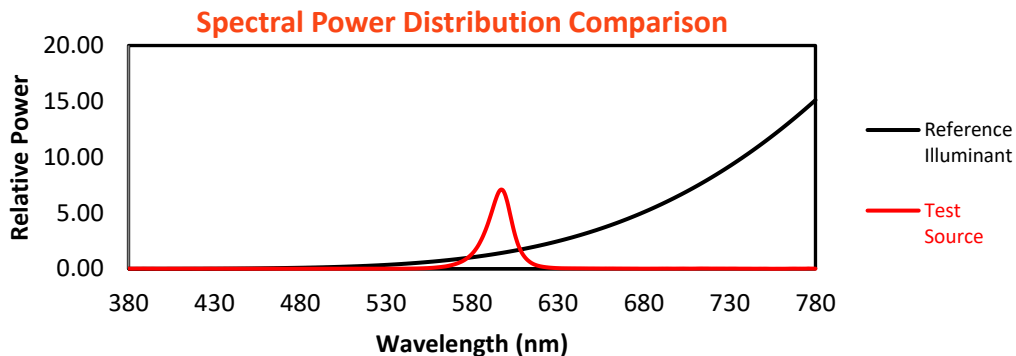
λ (nm)	Power (µW/nm)	Lumens (φ/nm)	λ (nm)	Power (µW/nm)	Lumens (φ/nm)	λ (nm)	Power (µW/nm)	Lumens (φ/nm)	λ (nm)	Power (µW/nm)	Lumens (φ/nm)	λ (nm)	Power (µW/nm)	Lumens (φ/nm)
360	818	NR	490	224	NR	620	13485	NR	750	666	NR	880	467	NR
365	765	NR	495	377	NR	625	6667	NR	755	63	NR	885	232	NR
370	529	NR	500	342	NR	630	3617	NR	760	170	NR	890	396	NR
375	859	NR	505	327	NR	635	2624	NR	765	772	NR	895	250	NR
380	838	NR	510	403	NR	640	2321	NR	770	684	NR	900	194	NR
385	931	NR	515	396	NR	645	2019	NR	775	1108	NR	905	303	NR
390	814	NR	520	478	NR	650	1694	NR	780	562	NR	910	335	NR
395	695	NR	525	468	NR	655	1437	NR	785	582	NR	915	255	NR
400	338	NR	530	527	NR	660	1541	NR	790	675	NR	920	182	NR
405	555	NR	535	574	NR	665	1318	NR	795	578	NR	925	228	NR
410	491	NR	540	823	NR	670	1092	NR	800	147	NR	930	239	NR
415	563	NR	545	1340	NR	675	936	NR	805	559	NR	935	148	NR
420	360	NR	550	2313	NR	680	727	NR	810	727	NR	940	308	NR
425	598	NR	555	4294	NR	685	833	NR	815	444	NR	945	313	NR
430	464	NR	560	8017	NR	690	1005	NR	820	479	NR	950	345	NR
435	440	NR	565	14123	NR	695	1012	NR	825	224	NR	955	229	NR
440	368	NR	570	25560	NR	700	962	NR	830	333	NR	960	363	NR
445	428	NR	575	45938	NR	705	994	NR	835	379	NR	965	412	NR
450	279	NR	580	84007	NR	710	1014	NR	840	285	NR	970	272	NR
455	407	NR	585	155807	NR	715	1458	NR	845	333	NR	975	345	NR
460	365	NR	590	275552	NR	720	1076	NR	850	385	NR	980	449	NR
465	328	NR	595	421402	NR	725	1113	NR	855	558	NR	985	501	NR
470	249	NR	600	396839	NR	730	1144	NR	860	663	NR	990	343	NR
475	277	NR	605	193475	NR	735	799	NR	865	591	NR	995	152	NR
480	229	NR	610	75719	NR	740	692	NR	870	2634	NR	1000	132	NR
485	185	NR	615	30466	NR	745	414	NR	875	2146	NR			

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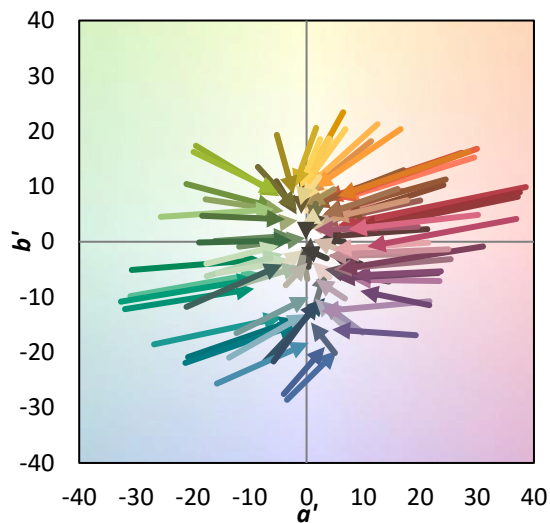
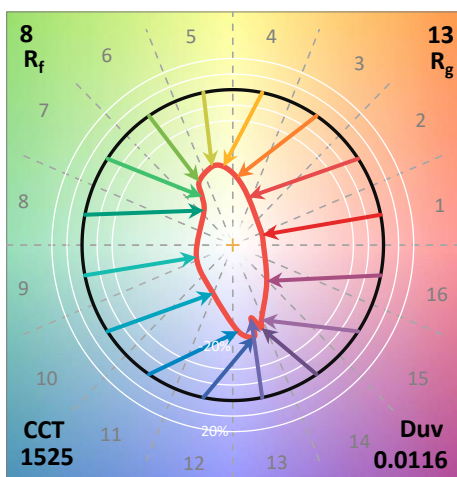
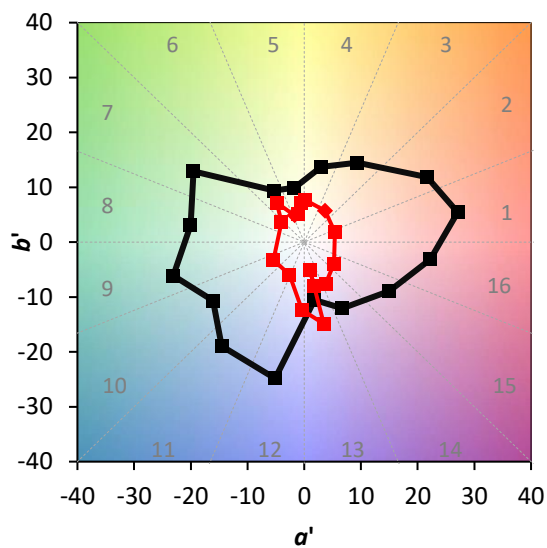
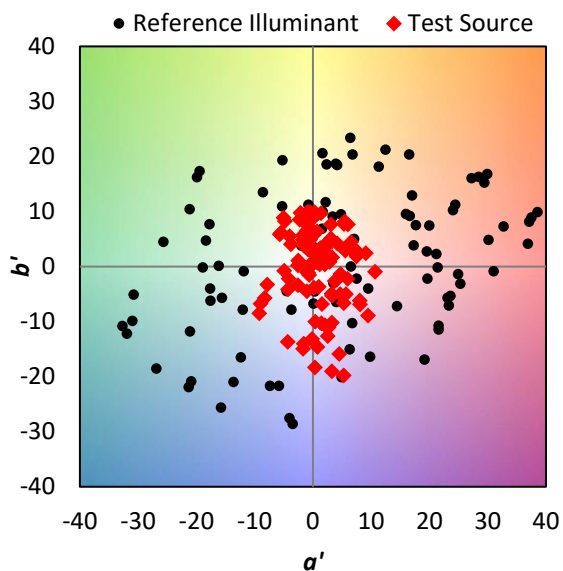
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**Summary**

$R_f = 8.4$   
 $R_g = 12.9$   
 CIE  $R_a = -20.7$   
 $R_9 = -382.8$



**Color Vector Graphics**

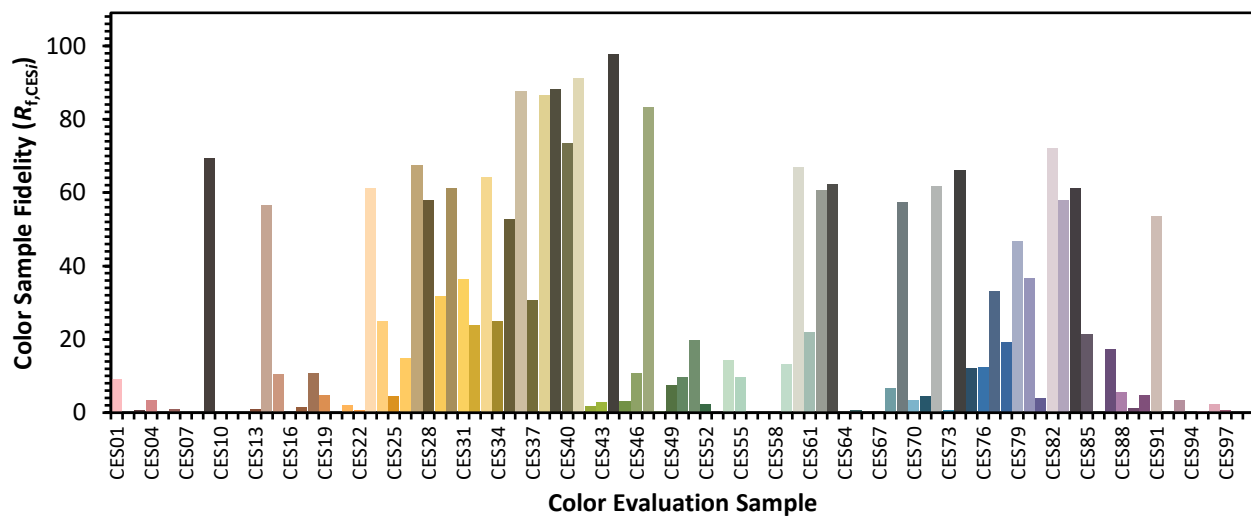


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**Individual Sample Fidelity Index ( $R_{f,i}$ )**

CES01 = 90	CES26 = 15	CES51 = 20	CES76 = 12
CES02 = 69	CES27 = 67	CES52 = 2	CES77 = 33
CES03 = 31	CES28 = 58	CES53 = 0	CES78 = 19
CES04 = 77	CES29 = 32	CES54 = 14	CES79 = 47
CES05 = 52	CES30 = 61	CES55 = 10	CES80 = 37
CES06 = 56	CES31 = 36	CES56 = 0	CES81 = 4
CES07 = 41	CES32 = 24	CES57 = 0	CES82 = 72
CES08 = 38	CES33 = 64	CES58 = 0	CES83 = 58
CES09 = 29	CES34 = 25	CES59 = 13	CES84 = 61
CES10 = 87	CES35 = 53	CES60 = 67	CES85 = 21
CES11 = 70	CES36 = 88	CES61 = 22	CES86 = 0
CES12 = 75	CES37 = 31	CES62 = 61	CES87 = 17
CES13 = 47	CES38 = 86	CES63 = 62	CES88 = 5
CES14 = 76	CES39 = 88	CES64 = 0	CES89 = 1
CES15 = 74	CES40 = 74	CES65 = 1	CES90 = 5
CES16 = 49	CES41 = 91	CES66 = 0	CES91 = 54
CES17 = 55	CES42 = 2	CES67 = 0	CES92 = 0
CES18 = 59	CES43 = 3	CES68 = 7	CES93 = 3
CES19 = 80	CES44 = 98	CES69 = 57	CES94 = 0
CES20 = 71	CES45 = 3	CES70 = 3	CES95 = 0
CES21 = 94	CES46 = 11	CES71 = 5	CES96 = 2
CES22 = 86	CES47 = 83	CES72 = 62	CES97 = 1
CES23 = 93	CES48 = 0	CES73 = 1	CES98 = 0
CES24 = 95	CES49 = 7	CES74 = 66	CES99 = 0
CES25 = 78	CES50 = 10	CES75 = 12	

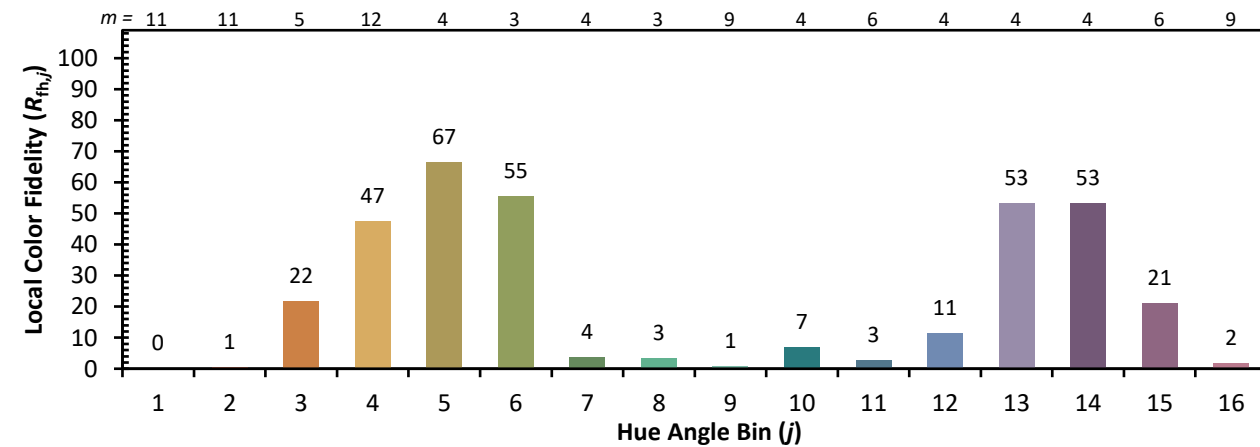
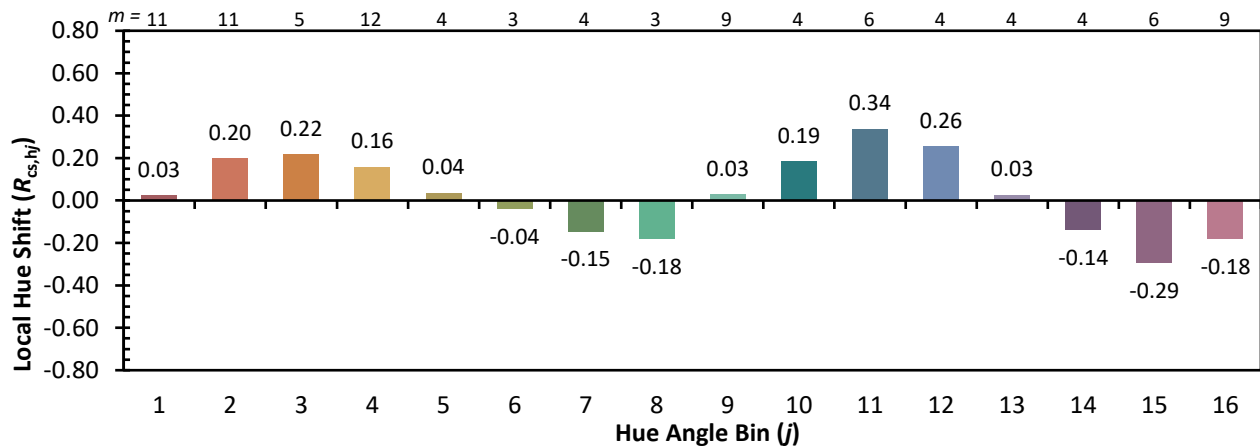
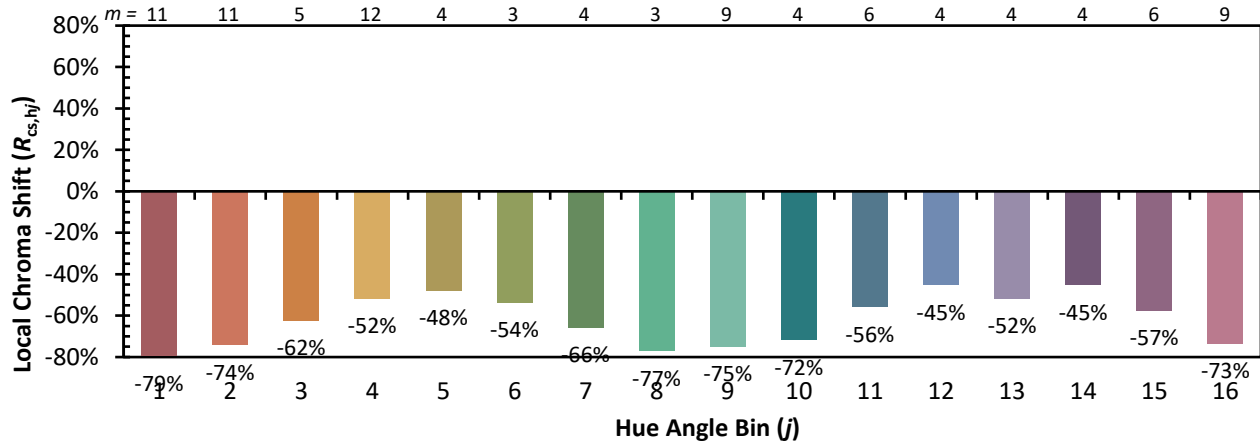




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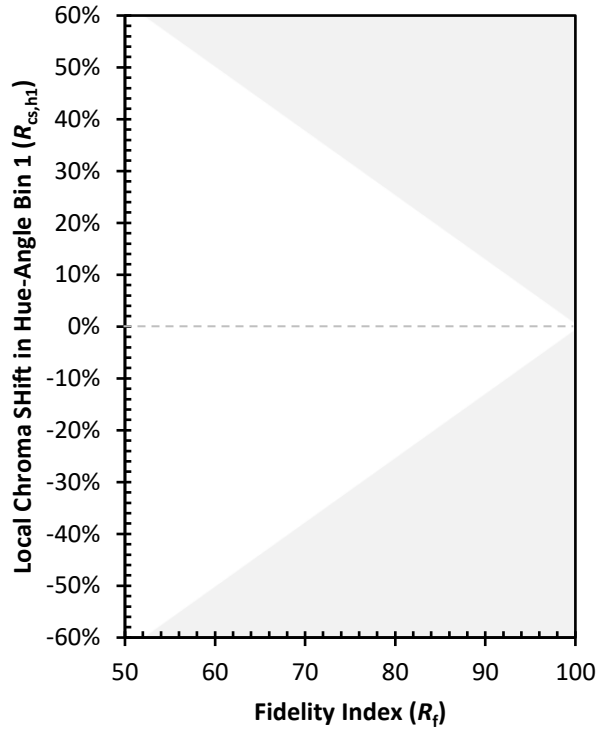
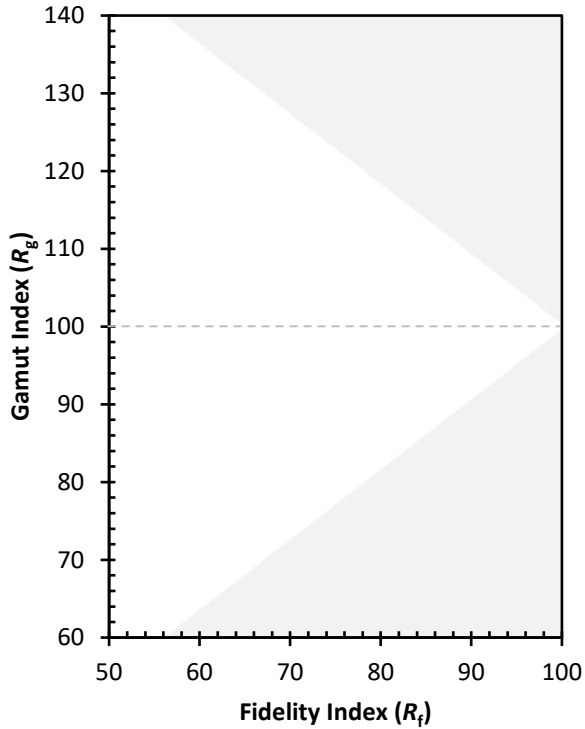
Color Rendition by Hue-Angle Bin



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Measure Comparisons



(END OF REPORT)