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: McGRAW-EDISON

Report Number: P633999

Luminaire Tested: GWS-SA2F-830-U-5MQ-W-GRSWH

Issue Date: 1/10/2023

Report Generated By 670246102 / DESKTOP-G35701P

Cooper Lighting Solutions Photometric Lab
1121 Highway 74 South
Peachtree City, GA 30269

Scaled Data Report

Test Information

Test Method:	LM-79-2019
Report Number:	P633999
	TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2209-782-6)
Test Lab:	COOPER LIGHTING SOLUTIONS
Issue Date:	1/10/2023
Manufacturer:	COOPER LIGHTING SOLUTIONS
Product Line:	McGRAW-EDISON
Catalog Number:	GWS-SA2F-830-U-5MQ-W-GRSWH
Description:	GALLEON WALL SLIM LUMINAIRE. (2) LIGHTSQUARES WITH 16 LEDS EACH AND TYPE V MEDIUM OPTICS W/ FACTORY INSTALLED GLARE SHIELD, WH
Light Source:	(32) 3000K CCT, 80 CRI LEDS
Ballast/Driver:	-

Summary

Lumens per Lamp:	N/A
Luminaire Lumens:	11283.7 lumens
Efficiency:	N/A
Efficacy:	90.6 lumens/watt
Luminous Opening:	Rectangular (W 1' x L: 0.5' x H: 0')
IES Classification:	Type V - Short
BUG Rating:	B3 - U0 - G1

Input Watts (W):	124.5
Input Voltage (V):	120
Input Current (Ain):	NR
Voltage Rise (V):	NR
Power Factor:	NR
Total Harmonic Distortion (THDi):	NR
Frequency (hertz):	0
Stabilization Time:	NR
Operation Time:	NR
Ambient Temperature (°C):	NR
Test Distance:	28.75 FT

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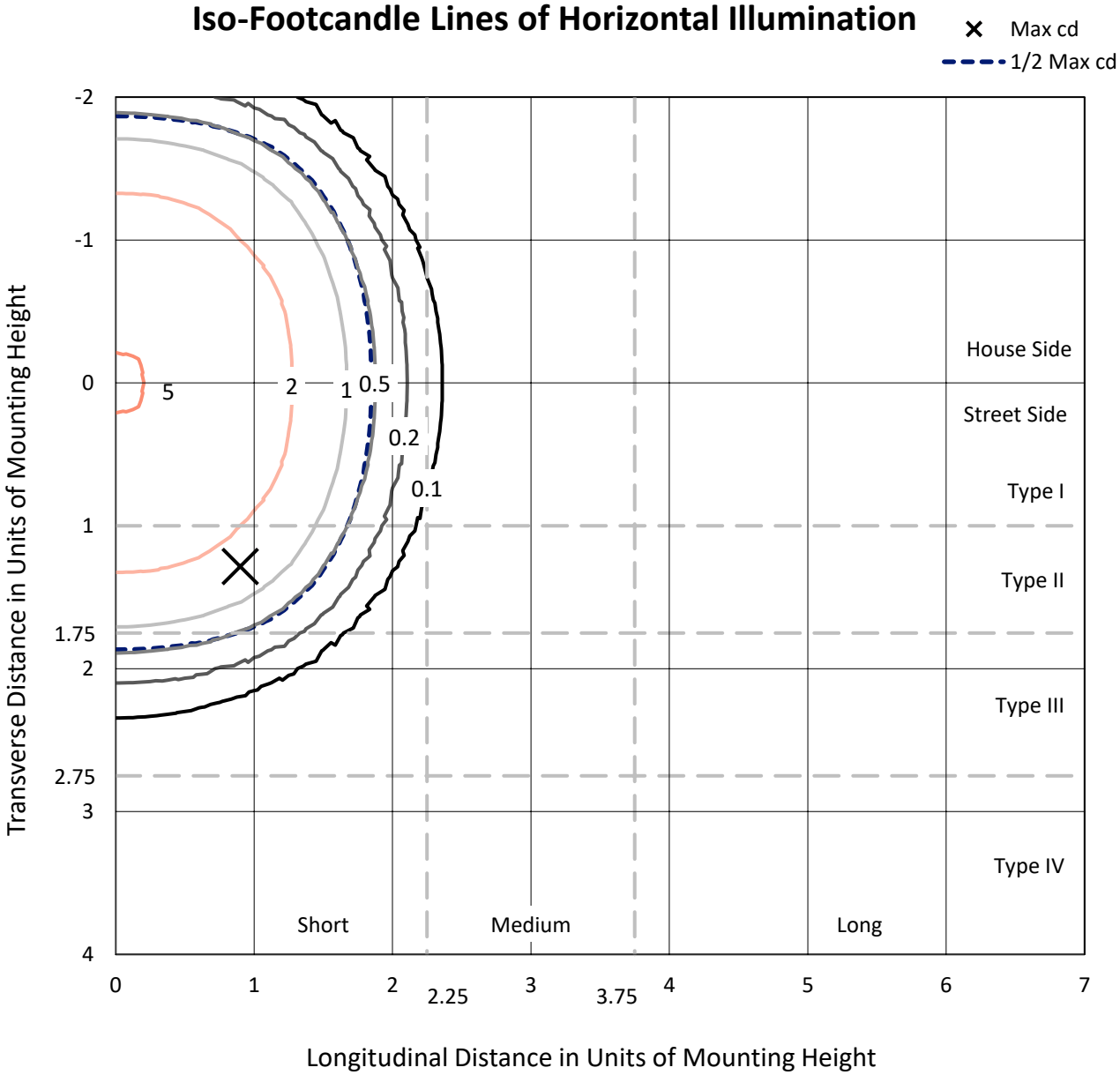
Scaled Data Report

REPORT NUMBER: P633999
CATALOG NUMBER: GWS-SA2F-830-U-5MQ-W-GRSWH

Iso-Footcandle Lines of Horizontal Illumination



Based on 20 foot mounting height. Maximum calculated value = 5.4 fc
Type V - Short - N/A

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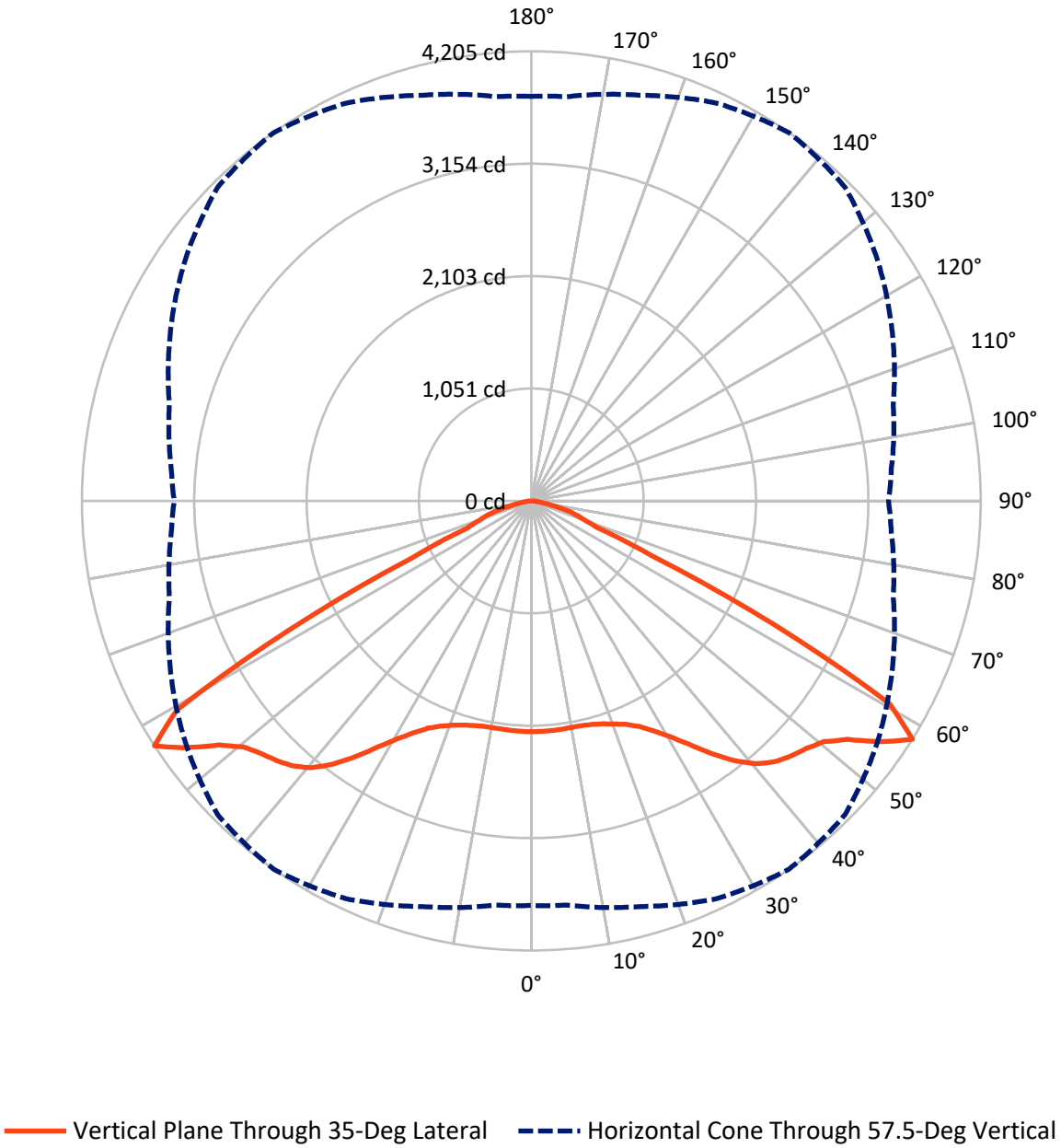
Luminous Intensity Polar Plot



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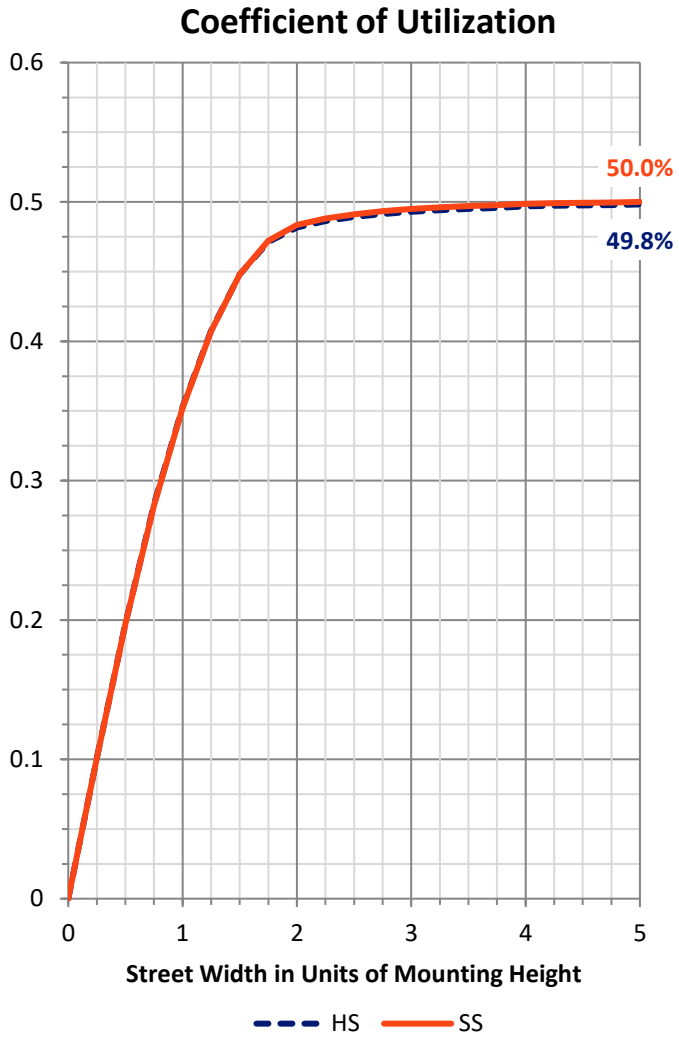
REPORT NUMBER: P633999
CATALOG NUMBER: GWS-SA2F-830-U-5MQ-W-GRSWH

FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	5641.9	0.0	5641.9
	% Fixture	50.0	0.0	50.0
Street Side	Lumens	5641.9	0.0	5641.9
	% Fixture	50.0	0.0	50.0
Total	Lumens	11283.7	0.0	11283.7
	% Fixture	100.0	0.0	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	205.4	1.8
10°-20°	612.8	5.4
20°-30°	1069.2	9.5
30°-40°	1753.3	15.5
40°-50°	2582.1	22.9
50°-60°	3295.3	29.2
60°-70°	1388.8	12.3
70°-80°	331.7	2.9
80°-90°	45.2	0.4
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°	11283.7	100.0
0°-180°	11283.7	100.0



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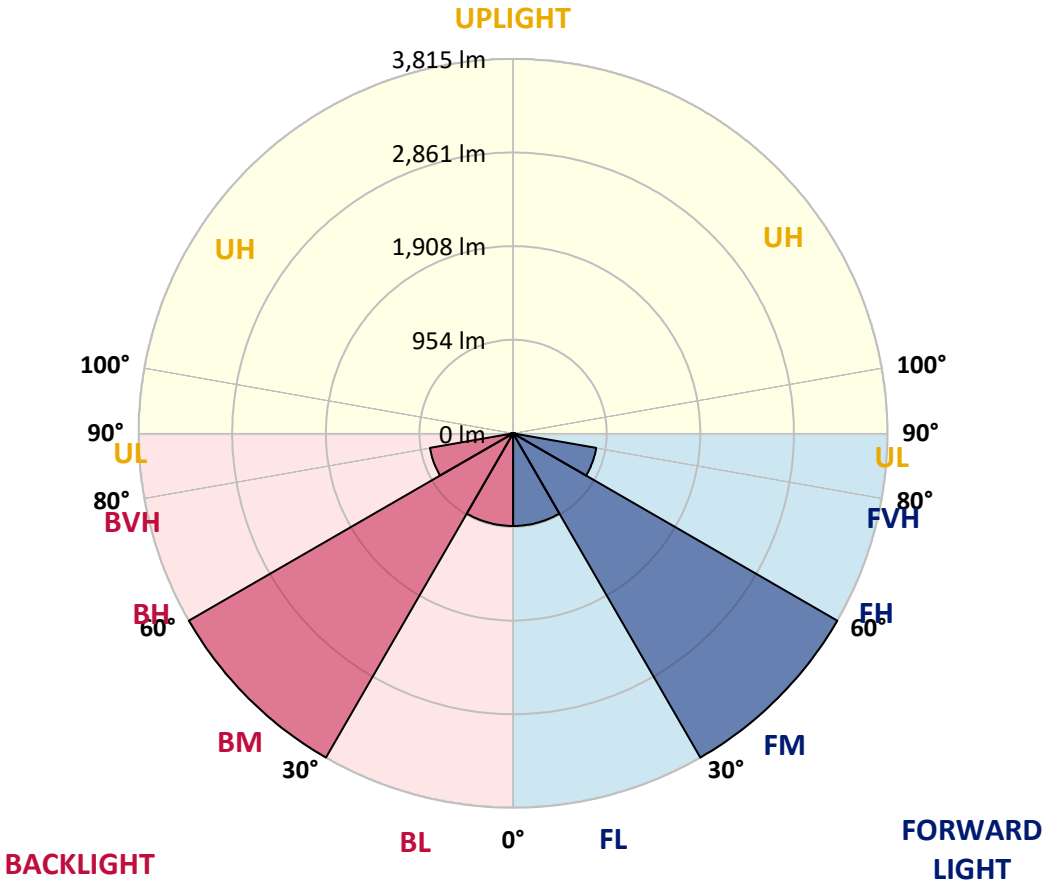
Scaled Data Report

REPORT NUMBER: P633999
CATALOG NUMBER: GWS-SA2F-830-U-5MQ-W-GRSWH

LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit B	U	G
FL	(0°-30°)	943.7	8.4			
FM	(30°-60°)	3815.3	33.8			
FH	(60°-80°)	860.3	7.6			G1/1800
FVH	(80°-90°)	22.6	0.2			G1/100
BL	(0°-30°)	943.7	8.4	B2/1000		
BM	(30°-60°)	3815.3	33.8	B3/5000		
BH	(60°-80°)	860.3	7.6	B2/1000		G1/1800
BVH	(80°-90°)	22.6	0.2			G1/100
UL	(90°-100°)	0.0	0.0		U0/0	
UH	(100°-180°)	0.0	0.0		U0/0	

BUG Rating: B3-U0-G1
Type V Short



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REPORT NUMBER: P633999
CATALOG NUMBER: GWS-SA2F-830-U-5MQ-W-GRSWH

CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	45°	55°	65°	75°	85°	90°
0°	2159.0	2159.0	2159.0	2159.0	2159.0	2159.0	2159.0	2159.0	2159.0	2159.0	2159.0
2.5°	2146.1	2146.1	2150.7	2155.3	2157.2	2165.5	2164.5	2161.8	2159.9	2154.4	2161.8
5°	2150.7	2150.7	2154.4	2157.2	2156.2	2162.7	2159.9	2155.3	2152.5	2147.0	2155.3
7.5°	2149.8	2149.8	2152.5	2155.3	2153.5	2159.0	2154.4	2147.9	2143.3	2137.8	2145.1
10°	2137.8	2139.6	2142.4	2148.8	2151.6	2159.9	2153.5	2143.3	2135.9	2129.4	2136.8
12.5°	2135.9	2137.8	2141.5	2149.8	2154.4	2166.4	2158.1	2141.5	2130.4	2122.1	2129.4
15°	2144.2	2146.1	2151.6	2161.8	2169.2	2182.1	2170.1	2147.0	2131.3	2120.2	2126.7
17.5°	2154.4	2157.2	2165.5	2180.3	2192.3	2206.1	2191.3	2163.6	2141.5	2126.7	2132.2
20°	2165.5	2169.2	2182.1	2204.3	2226.4	2244.0	2225.5	2188.6	2161.8	2142.4	2147.9
22.5°	2184.9	2189.5	2206.1	2237.5	2270.8	2296.7	2273.6	2223.7	2188.6	2163.6	2168.2
25°	2224.6	2230.1	2251.4	2289.3	2336.4	2367.8	2335.5	2279.1	2230.1	2199.7	2204.3
27.5°	2294.8	2297.6	2325.3	2375.2	2433.4	2469.4	2430.6	2364.1	2309.6	2274.5	2278.2
30°	2387.2	2395.5	2423.2	2488.8	2558.1	2606.1	2555.3	2476.8	2414.0	2371.5	2375.2
32.5°	2499.9	2505.4	2547.0	2615.4	2715.2	2770.6	2701.3	2608.0	2532.2	2480.5	2484.2
35°	2647.7	2652.3	2692.1	2778.9	2899.9	2951.7	2872.2	2765.0	2677.3	2628.3	2642.2
37.5°	2824.2	2832.5	2861.1	2947.0	3081.9	3132.7	3041.3	2941.5	2850.0	2804.8	2814.9
40°	3013.6	3012.6	3035.7	3111.5	3234.4	3265.8	3183.5	3104.1	3025.6	2996.0	3012.6
42.5°	3176.2	3171.5	3188.2	3251.0	3336.0	3338.7	3284.2	3239.9	3184.5	3164.1	3179.8
45°	3289.8	3291.6	3316.6	3360.0	3403.4	3380.3	3363.7	3356.3	3312.9	3285.2	3287.9
47.5°	3379.4	3386.8	3426.5	3456.1	3461.6	3422.8	3445.9	3457.0	3421.0	3378.5	3366.5
50°	3458.8	3470.9	3522.6	3554.0	3542.0	3493.0	3538.3	3554.9	3475.5	3394.2	3370.2
52.5°	3603.0	3616.8	3679.6	3720.3	3706.4	3657.5	3700.0	3640.8	3506.9	3407.1	3376.6
55°	3833.0	3839.5	3916.1	3982.7	3976.2	3916.1	3882.0	3750.8	3588.2	3484.7	3456.1
57.5°	3784.0	3795.1	3928.2	4105.5	4205.3	4150.8	3950.3	3726.8	3506.0	3381.2	3342.4
60°	2977.5	3004.3	3169.7	3481.9	3847.8	3846.9	3474.6	3127.2	2861.1	2695.8	2679.1
62.5°	1738.7	1757.1	1907.7	2223.7	2551.6	2572.0	2310.5	2072.2	1839.4	1727.6	1674.0
65°	823.1	822.2	882.3	1024.5	1246.3	1263.8	1185.3	1055.0	917.4	879.5	869.3
67.5°	607.9	607.9	603.3	613.4	655.9	665.2	655.9	634.7	621.7	630.1	624.5
70°	527.5	528.4	522.9	520.1	520.1	517.3	521.0	529.4	534.9	546.0	540.4
72.5°	427.7	428.7	428.7	429.6	430.5	426.8	432.4	437.0	437.9	441.6	437.9
75°	303.9	305.8	311.3	316.0	319.6	319.6	321.5	322.4	318.7	323.3	316.0
77.5°	167.2	169.1	179.2	187.5	195.9	196.8	199.5	201.4	199.5	203.2	197.7
80°	92.4	94.2	98.9	102.5	109.0	114.6	118.3	120.1	120.1	122.9	120.1
82.5°	52.7	54.5	57.3	59.1	64.7	69.3	73.0	75.8	75.8	76.7	74.8
85°	24.9	24.9	26.8	28.6	31.4	33.3	37.9	40.6	40.6	42.5	40.6
87.5°	3.7	4.6	5.5	5.5	7.4	9.2	11.1	12.0	13.9	14.8	14.8
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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LM-79-2019: Approved Method: Electrical and Photometric Measurements of Solid-State Lighting Products

Report Prepared for

Cooper Lighting Solutions

MCGRAW EDISON

Report Number: SP1-2408-195-9

Test Date: 08/07/2024

Luminaire Tested: GALN-SB1A-830-U-5WQ

Data in this report applies to families of products including GALN-SB1A-830-U-5WQ.

Report Generated By FNC07603 / LDUCLS01DT446
Version: v7.04

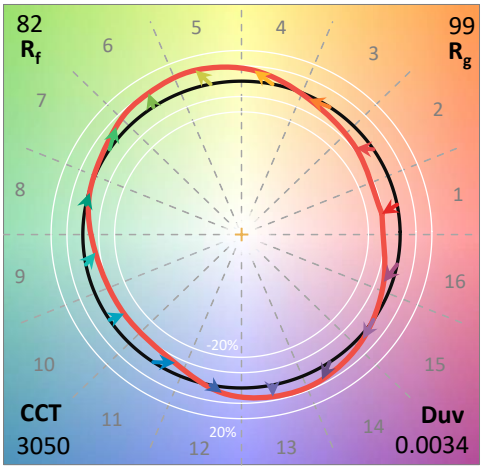
Test Information

Test Method:	LM-79-2019
Report Number:	SP1-2408-195-9
Test Lab:	COOPER LIGHTING SOLUTIONS
Photometer:	SP1 - 76IN SPHERE
Measurement Geometry:	4π
Issue Date:	08/07/2024
Manufacturer:	COOPER LIGHTING SOLUTIONS
Product Line:	MCGRAW EDISON
Catalog Number:	**GALN-SB1A-830-U-5WQ**
Description:	GALLEON AREA AND ROADWAY LUMINAIRE. (1) 80 CRI, 3000K, 350MA HIGH DENSITY LIGHTSQUARE WITH 26 LEDS AND TYPE V WIDE OPTICS

Spectral Parameters

CCT (K):	3050
CIE u':	0.2476
CIE v':	0.5251
Duv:	0.0034
CIE x:	0.4383
CIE y:	0.4131
CIE z:	0.1487
Peak Wavelength (nm):	603
Dominant Wavelength (nm):	581
Purity:	55.55201
Rf:	81.5
Rg:	99.2

CRI (Ra):	81.0
R1:	79.6
R2:	85.6
R3:	92.0
R4:	82.6
R5:	78.9
R6:	81.7
R7:	85.2
R8:	62.0
R9:	7.1
R10:	67.0
R11:	82.7
R12:	63.2
R13:	80.3
R14:	95.0
R15:	71.7



Test Conditions

Stabilization Time:	20M
Operation Time:	1H 20M
Sphere Temperature (°C):	24.2

REPORT NUMBER: SP1-2408-195-9

Measurement and Test Equipment			
Instrument	Identification Number	Calibration Date	Calibration Due Date
Photometer	IN0058	6/18/2024	12/18/2024
Power Meter	INXT2011004	2/8/2024	2/8/2025
AC Power Source	IN0063	10/24/2023	10/24/2024
DC Power Source	IN0208	10/24/2023	10/24/2024
Sphere Thermometer	IN0085	10/24/2023	10/24/2024
Room Thermometer	IN0046	10/24/2023	10/24/2024

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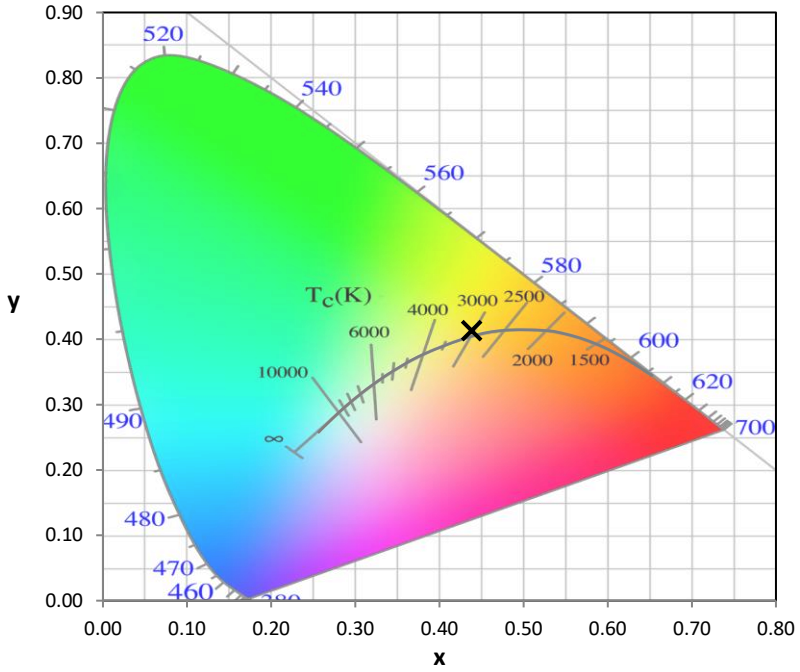
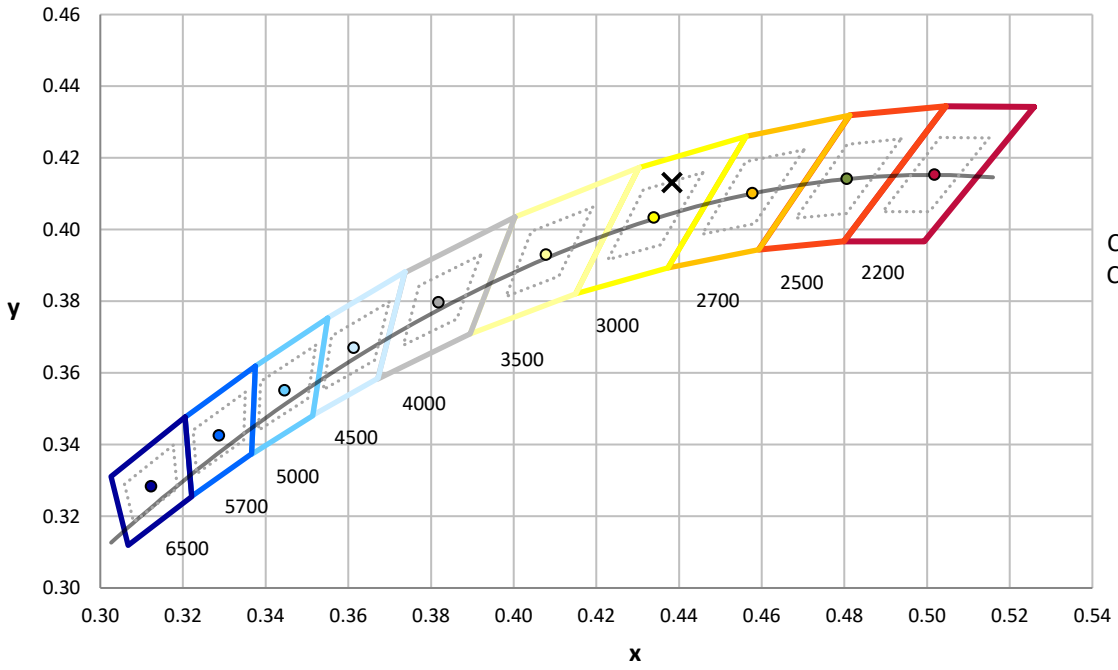
CIE 1931 Chromaticity Diagram



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

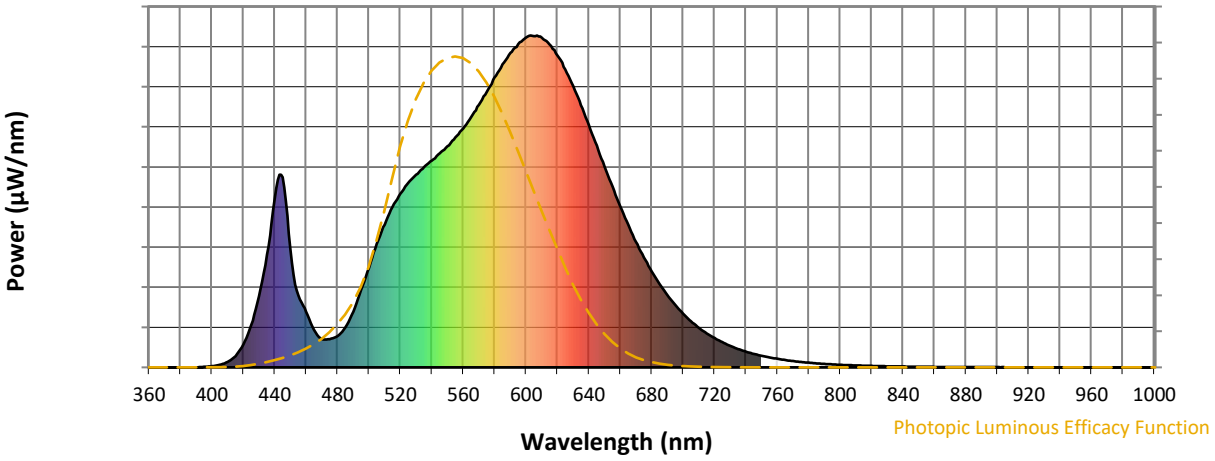


CCT = 3050K
CIE x = 0.4383
CIE y = 0.4131
Duv = 0.0034

Point lies inside the ANSI 3000K 4-step quadrangle

REPORT NUMBER: SP1-2408-195-9

Photopic Flux vs. Wavelength

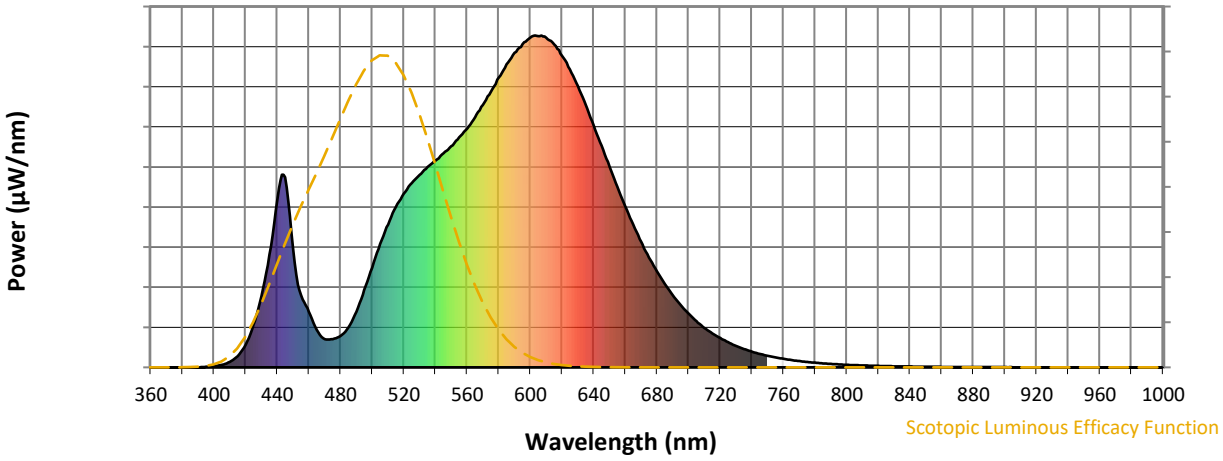


Photopic Lumens: NR

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	168	NR	620	940	NR	750	35	NR	880	1	NR
365	0	NR	495	233	NR	625	897	NR	755	30	NR	885	1	NR
370	0	NR	500	300	NR	630	847	NR	760	26	NR	890	1	NR
375	0	NR	505	372	NR	635	790	NR	765	22	NR	895	1	NR
380	0	NR	510	430	NR	640	730	NR	770	19	NR	900	1	NR
385	0	NR	515	483	NR	645	668	NR	775	16	NR	905	1	NR
390	0	NR	520	524	NR	650	605	NR	780	14	NR	910	0	NR
395	2	NR	525	555	NR	655	545	NR	785	12	NR	915	0	NR
400	4	NR	530	581	NR	660	485	NR	790	10	NR	920	0	NR
405	7	NR	535	604	NR	665	430	NR	795	9	NR	925	0	NR
410	17	NR	540	623	NR	670	378	NR	800	8	NR	930	0	NR
415	34	NR	545	645	NR	675	331	NR	805	7	NR	935	0	NR
420	68	NR	550	667	NR	680	290	NR	810	6	NR	940	0	NR
425	128	NR	555	693	NR	685	251	NR	815	5	NR	945	0	NR
430	214	NR	560	719	NR	690	218	NR	820	4	NR	950	0	NR
435	339	NR	565	754	NR	695	188	NR	825	4	NR	955	0	NR
440	507	NR	570	791	NR	700	162	NR	830	3	NR	960	0	NR
445	573	NR	575	830	NR	705	139	NR	835	3	NR	965	0	NR
450	356	NR	580	873	NR	710	119	NR	840	3	NR	970	0	NR
455	217	NR	585	913	NR	715	102	NR	845	2	NR	975	0	NR
460	168	NR	590	948	NR	720	88	NR	850	2	NR	980	0	NR
465	113	NR	595	974	NR	725	76	NR	855	2	NR	985	0	NR
470	85	NR	600	994	NR	730	65	NR	860	1	NR	990	0	NR
475	85	NR	605	998	NR	735	55	NR	865	1	NR	995	0	NR
480	94	NR	610	994	NR	740	47	NR	870	1	NR	1000	0	NR
485	120	NR	615	973	NR	745	41	NR	875	1	NR			

REPORT NUMBER: SP1-2408-195-9

Scotopic Flux vs. Wavelength

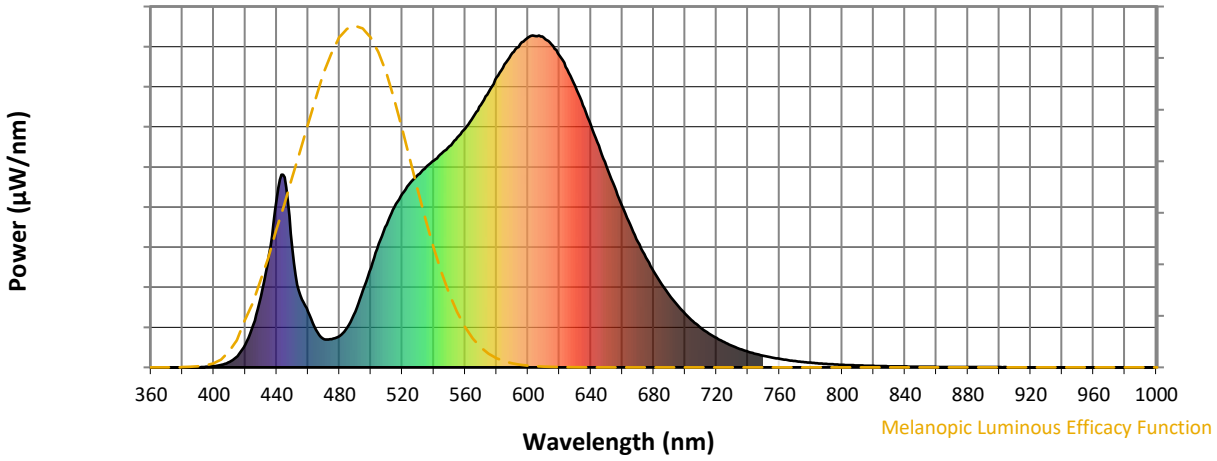


Scotopic Lumens: NR **S/P: 1.27**

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	168	NR	620	940	NR	750	35	NR	880	1	NR
365	0	NR	495	233	NR	625	897	NR	755	30	NR	885	1	NR
370	0	NR	500	300	NR	630	847	NR	760	26	NR	890	1	NR
375	0	NR	505	372	NR	635	790	NR	765	22	NR	895	1	NR
380	0	NR	510	430	NR	640	730	NR	770	19	NR	900	1	NR
385	0	NR	515	483	NR	645	668	NR	775	16	NR	905	1	NR
390	0	NR	520	524	NR	650	605	NR	780	14	NR	910	0	NR
395	2	NR	525	555	NR	655	545	NR	785	12	NR	915	0	NR
400	4	NR	530	581	NR	660	485	NR	790	10	NR	920	0	NR
405	7	NR	535	604	NR	665	430	NR	795	9	NR	925	0	NR
410	17	NR	540	623	NR	670	378	NR	800	8	NR	930	0	NR
415	34	NR	545	645	NR	675	331	NR	805	7	NR	935	0	NR
420	68	NR	550	667	NR	680	290	NR	810	6	NR	940	0	NR
425	128	NR	555	693	NR	685	251	NR	815	5	NR	945	0	NR
430	214	NR	560	719	NR	690	218	NR	820	4	NR	950	0	NR
435	339	NR	565	754	NR	695	188	NR	825	4	NR	955	0	NR
440	507	NR	570	791	NR	700	162	NR	830	3	NR	960	0	NR
445	573	NR	575	830	NR	705	139	NR	835	3	NR	965	0	NR
450	356	NR	580	873	NR	710	119	NR	840	3	NR	970	0	NR
455	217	NR	585	913	NR	715	102	NR	845	2	NR	975	0	NR
460	168	NR	590	948	NR	720	88	NR	850	2	NR	980	0	NR
465	113	NR	595	974	NR	725	76	NR	855	2	NR	985	0	NR
470	85	NR	600	994	NR	730	65	NR	860	1	NR	990	0	NR
475	85	NR	605	998	NR	735	55	NR	865	1	NR	995	0	NR
480	94	NR	610	994	NR	740	47	NR	870	1	NR	1000	0	NR
485	120	NR	615	973	NR	745	41	NR	875	1	NR			

REPORT NUMBER: SP1-2408-195-9

Melanopic Flux vs. Wavelength



Melanopic Lumens: NR **M/P: 2.32**

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	168	NR	620	940	NR	750	35	NR	880	1	NR
365	0	NR	495	233	NR	625	897	NR	755	30	NR	885	1	NR
370	0	NR	500	300	NR	630	847	NR	760	26	NR	890	1	NR
375	0	NR	505	372	NR	635	790	NR	765	22	NR	895	1	NR
380	0	NR	510	430	NR	640	730	NR	770	19	NR	900	1	NR
385	0	NR	515	483	NR	645	668	NR	775	16	NR	905	1	NR
390	0	NR	520	524	NR	650	605	NR	780	14	NR	910	0	NR
395	2	NR	525	555	NR	655	545	NR	785	12	NR	915	0	NR
400	4	NR	530	581	NR	660	485	NR	790	10	NR	920	0	NR
405	7	NR	535	604	NR	665	430	NR	795	9	NR	925	0	NR
410	17	NR	540	623	NR	670	378	NR	800	8	NR	930	0	NR
415	34	NR	545	645	NR	675	331	NR	805	7	NR	935	0	NR
420	68	NR	550	667	NR	680	290	NR	810	6	NR	940	0	NR
425	128	NR	555	693	NR	685	251	NR	815	5	NR	945	0	NR
430	214	NR	560	719	NR	690	218	NR	820	4	NR	950	0	NR
435	339	NR	565	754	NR	695	188	NR	825	4	NR	955	0	NR
440	507	NR	570	791	NR	700	162	NR	830	3	NR	960	0	NR
445	573	NR	575	830	NR	705	139	NR	835	3	NR	965	0	NR
450	356	NR	580	873	NR	710	119	NR	840	3	NR	970	0	NR
455	217	NR	585	913	NR	715	102	NR	845	2	NR	975	0	NR
460	168	NR	590	948	NR	720	88	NR	850	2	NR	980	0	NR
465	113	NR	595	974	NR	725	76	NR	855	2	NR	985	0	NR
470	85	NR	600	994	NR	730	65	NR	860	1	NR	990	0	NR
475	85	NR	605	998	NR	735	55	NR	865	1	NR	995	0	NR
480	94	NR	610	994	NR	740	47	NR	870	1	NR	1000	0	NR
485	120	NR	615	973	NR	745	41	NR	875	1	NR			

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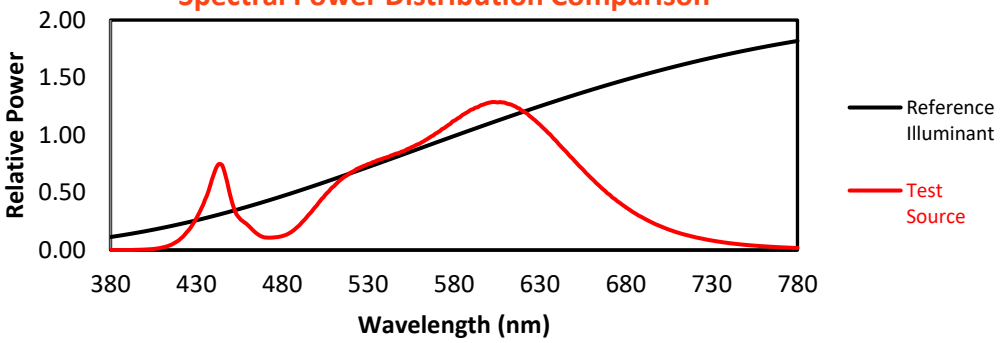
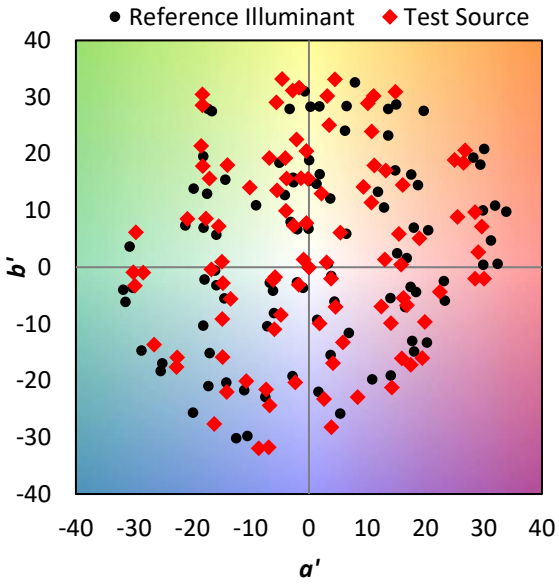
Summary

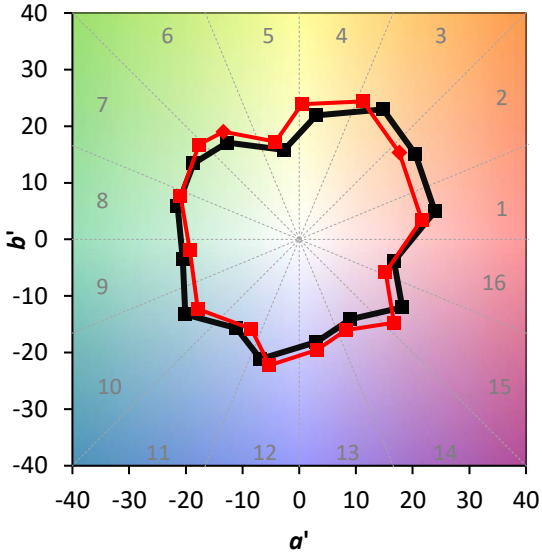
R_f = 81.5
R_g = 99.2
CIE R_a = 81.0
R_9 = 7.1

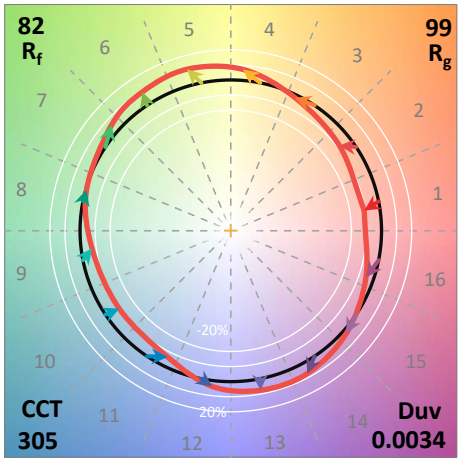
Spectral Power Distribution Comparison

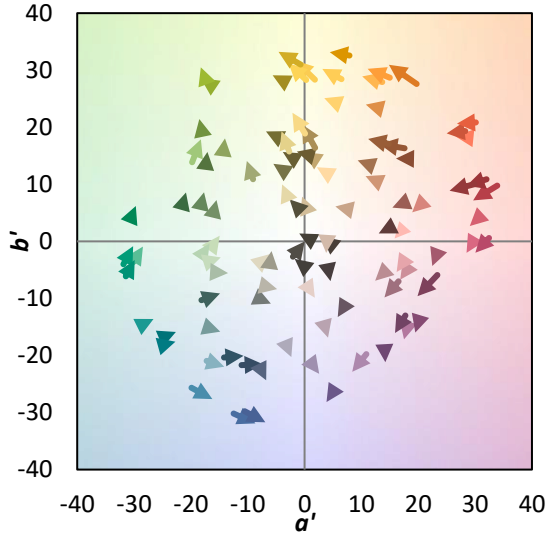


Color Vector Graphics









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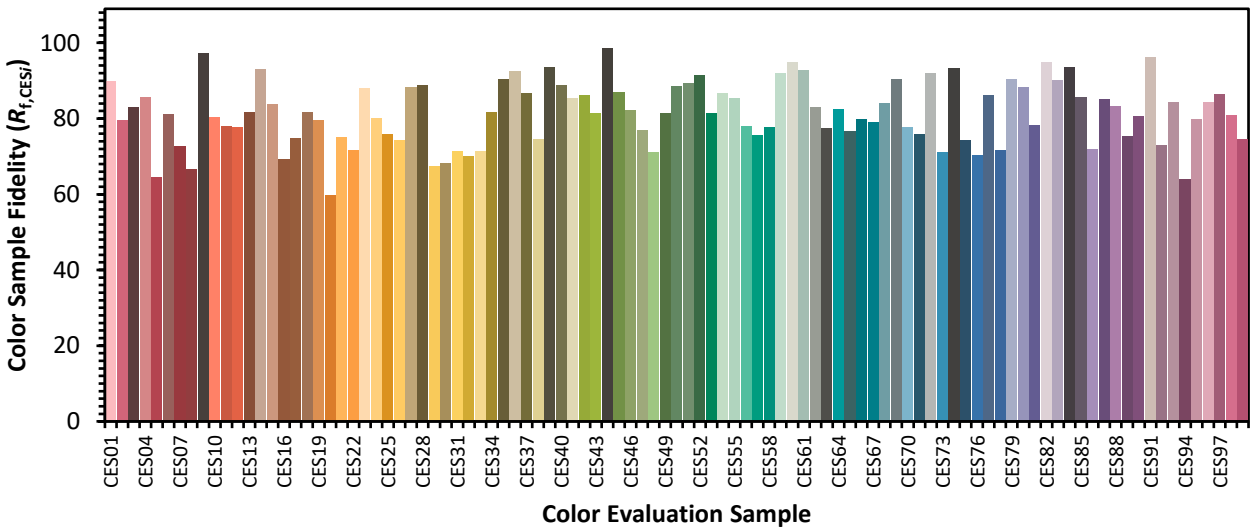
Individual Sample Fidelity Index ($R_{f,i}$)

CES01 = 86	CES26 = 74	CES51 = 89	CES76 = 70
CES02 = 63	CES27 = 88	CES52 = 92	CES77 = 86
CES03 = 31	CES28 = 89	CES53 = 81	CES78 = 72
CES04 = 70	CES29 = 67	CES54 = 87	CES79 = 90
CES05 = 50	CES30 = 68	CES55 = 85	CES80 = 88
CES06 = 51	CES31 = 71	CES56 = 78	CES81 = 78
CES07 = 42	CES32 = 70	CES57 = 76	CES82 = 95
CES08 = 41	CES33 = 71	CES58 = 78	CES83 = 90
CES09 = 29	CES34 = 82	CES59 = 92	CES84 = 94
CES10 = 76	CES35 = 90	CES60 = 95	CES85 = 86
CES11 = 59	CES36 = 93	CES61 = 93	CES86 = 72
CES12 = 65	CES37 = 87	CES62 = 83	CES87 = 85
CES13 = 43	CES38 = 75	CES63 = 77	CES88 = 83
CES14 = 74	CES39 = 94	CES64 = 83	CES89 = 75
CES15 = 71	CES40 = 89	CES65 = 77	CES90 = 81
CES16 = 47	CES41 = 85	CES66 = 80	CES91 = 96
CES17 = 50	CES42 = 86	CES67 = 79	CES92 = 73
CES18 = 56	CES43 = 81	CES68 = 84	CES93 = 84
CES19 = 72	CES44 = 99	CES69 = 91	CES94 = 64
CES20 = 66	CES45 = 87	CES70 = 78	CES95 = 80
CES21 = 87	CES46 = 82	CES71 = 76	CES96 = 84
CES22 = 79	CES47 = 77	CES72 = 92	CES97 = 87
CES23 = 92	CES48 = 71	CES73 = 71	CES98 = 81
CES24 = 91	CES49 = 81	CES74 = 93	CES99 = 74
CES25 = 72	CES50 = 89	CES75 = 74	



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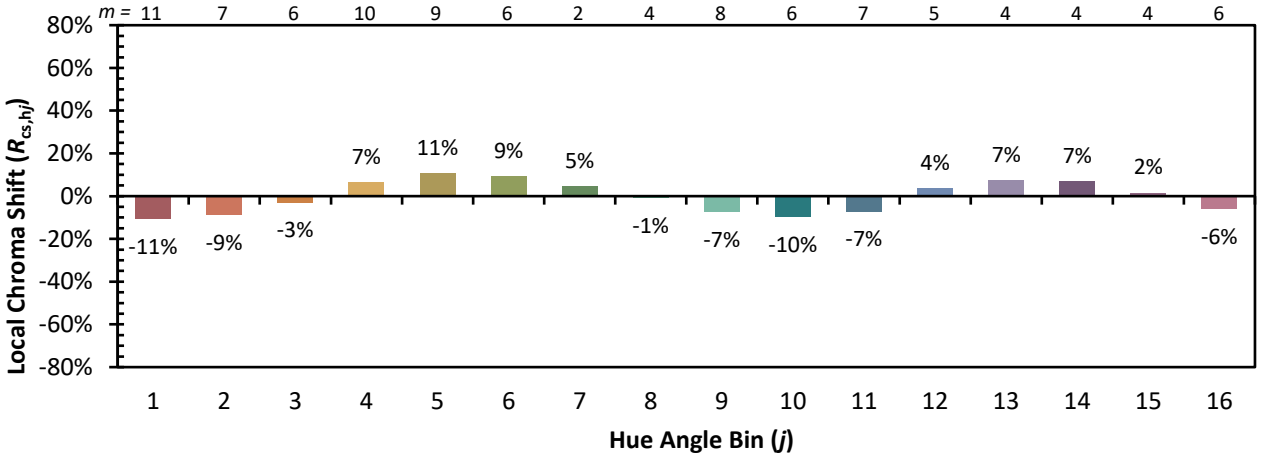
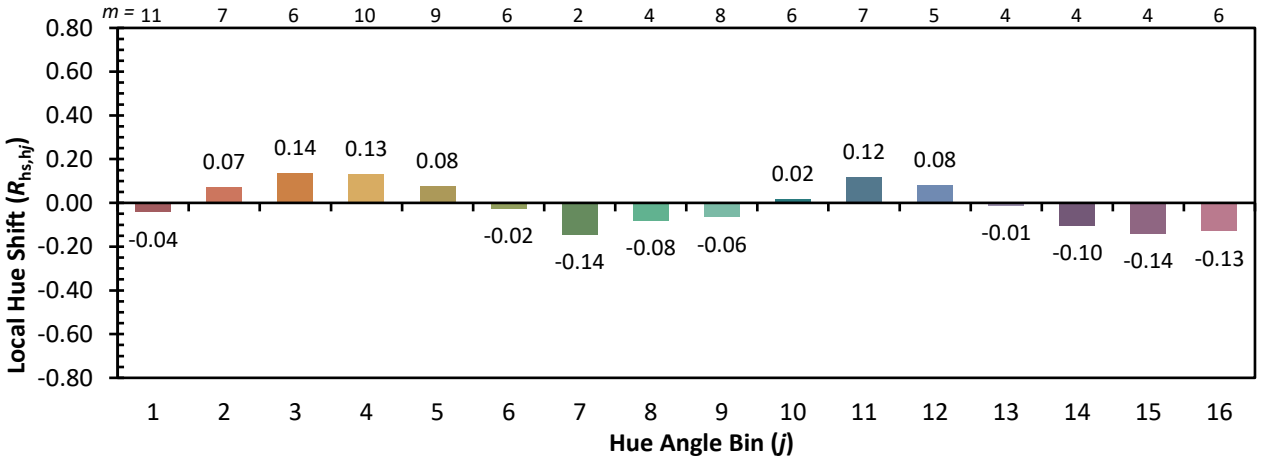
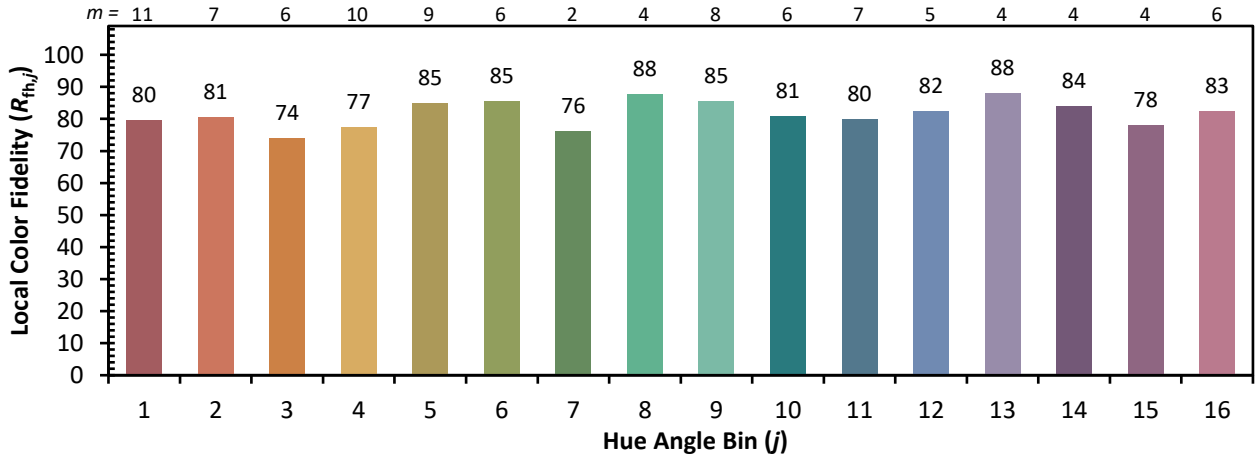
Color Rendition by Hue-Angle Bin







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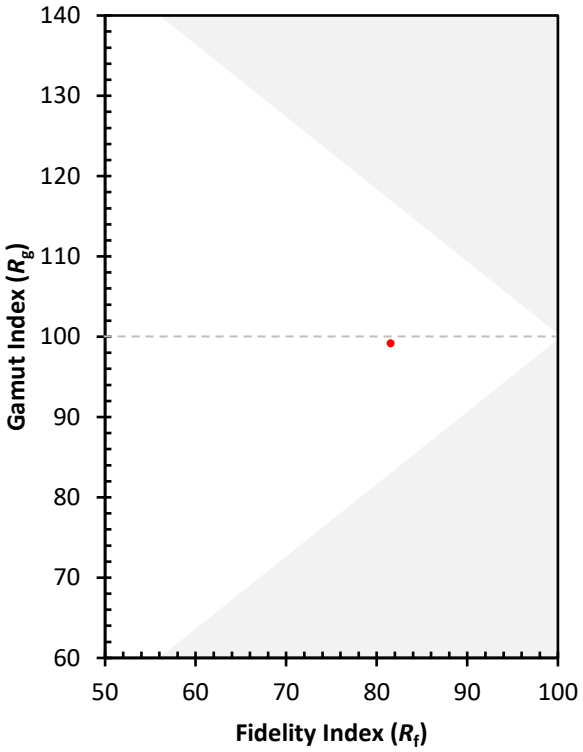
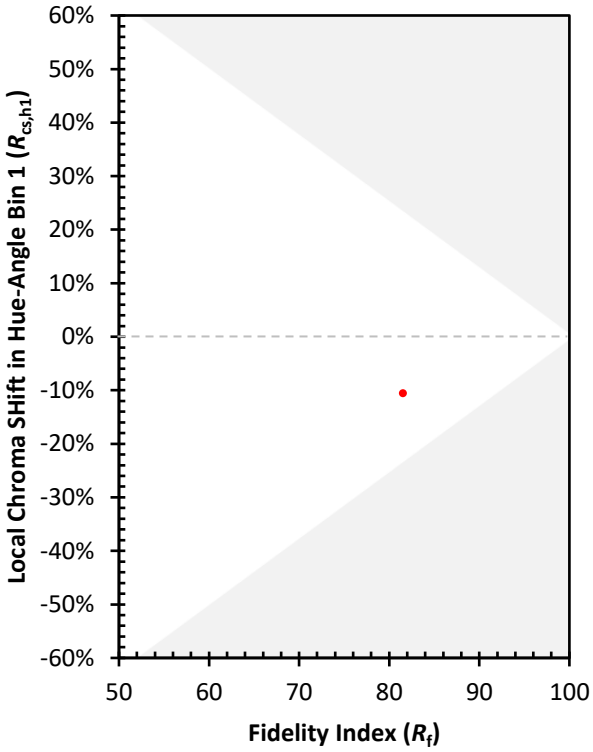
Measure Comparisons





(END OF REPORT)