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: P637969

Luminaire Tested: GWS-SA4D-830-U-AFL-W-HSS

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:	P637969
	TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2209-782-48)
Test Lab:	COOPER LIGHTING SOLUTIONS
Issue Date:	1/10/2023
Manufacturer:	COOPER LIGHTING SOLUTIONS
Product Line:	McGRAW-EDISON
Catalog Number:	GWS-SA4D-830-U-AFL-W-HSS
Description:	GALLEON WALL SLIM LUMINAIRE. (4) LIGHTSQUARES WITH 16 LEDS EACH AND AUTOMOTIVE FRONTLINE OPTICS WITH HOUSE SIDE SHIELD
Light Source:	(64) 3000K CCT, 80 CRI LEDS
Ballast/Driver:	-

Summary

Lumens per Lamp:	N/A
Luminaire Lumens:	16313.8 lumens
Efficiency:	N/A
Efficacy:	100.6 lumens/watt
Luminous Opening:	Rectangular (W 1' x L: 1' x H: 0')
IES Classification:	Type II - Short
BUG Rating:	B1 - U0 - G2

Input Watts (W):	162.1
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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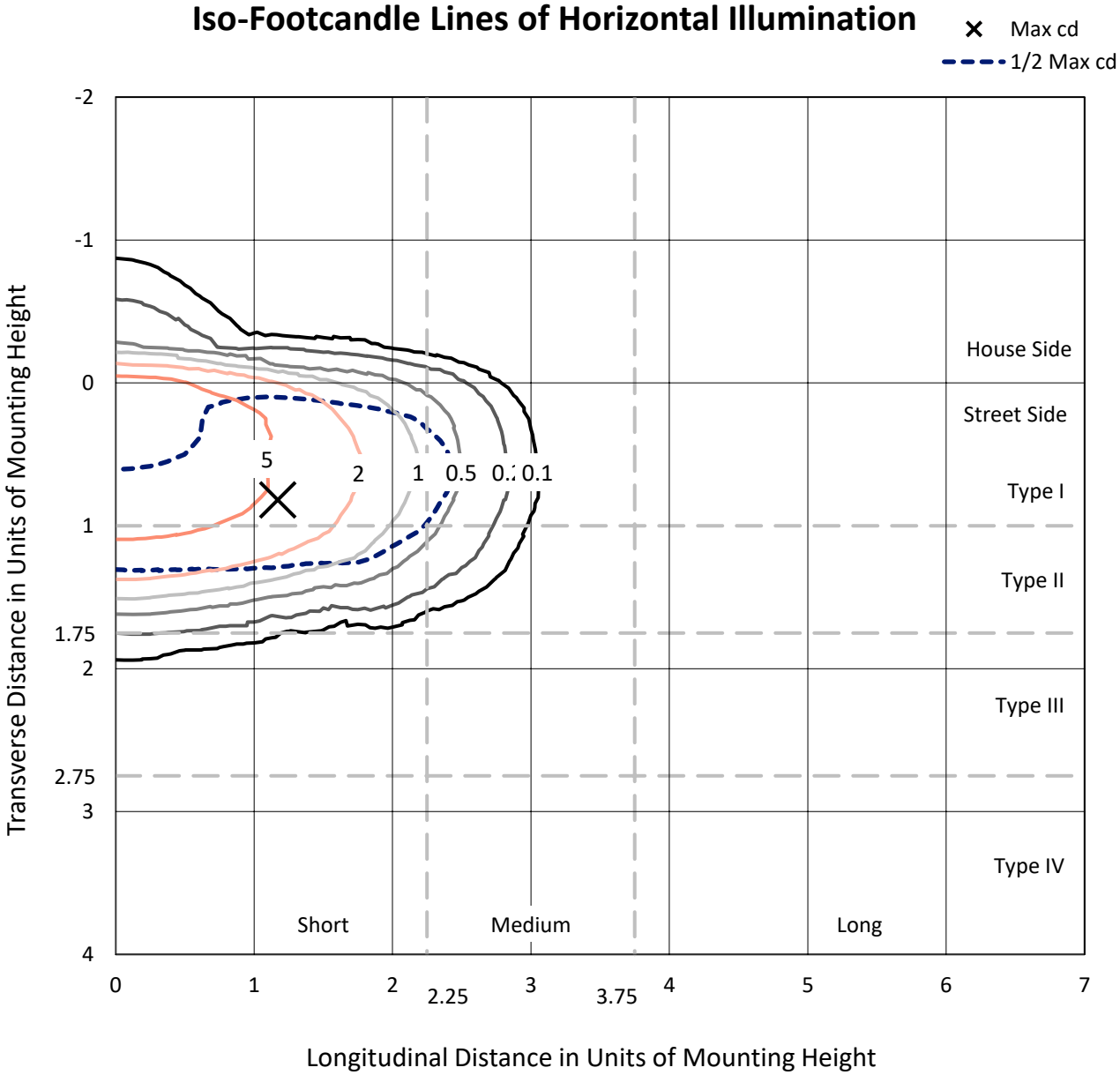
REPORT NUMBER: P637969
CATALOG NUMBER: GWS-SA4D-830-U-AFL-W-HSS

Iso-Footcandle Lines of Horizontal Illumination



Based on 25 foot mounting height. Maximum calculated value = 8.8 fc
Type II - Short - N/A

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REPORT NUMBER: P637969
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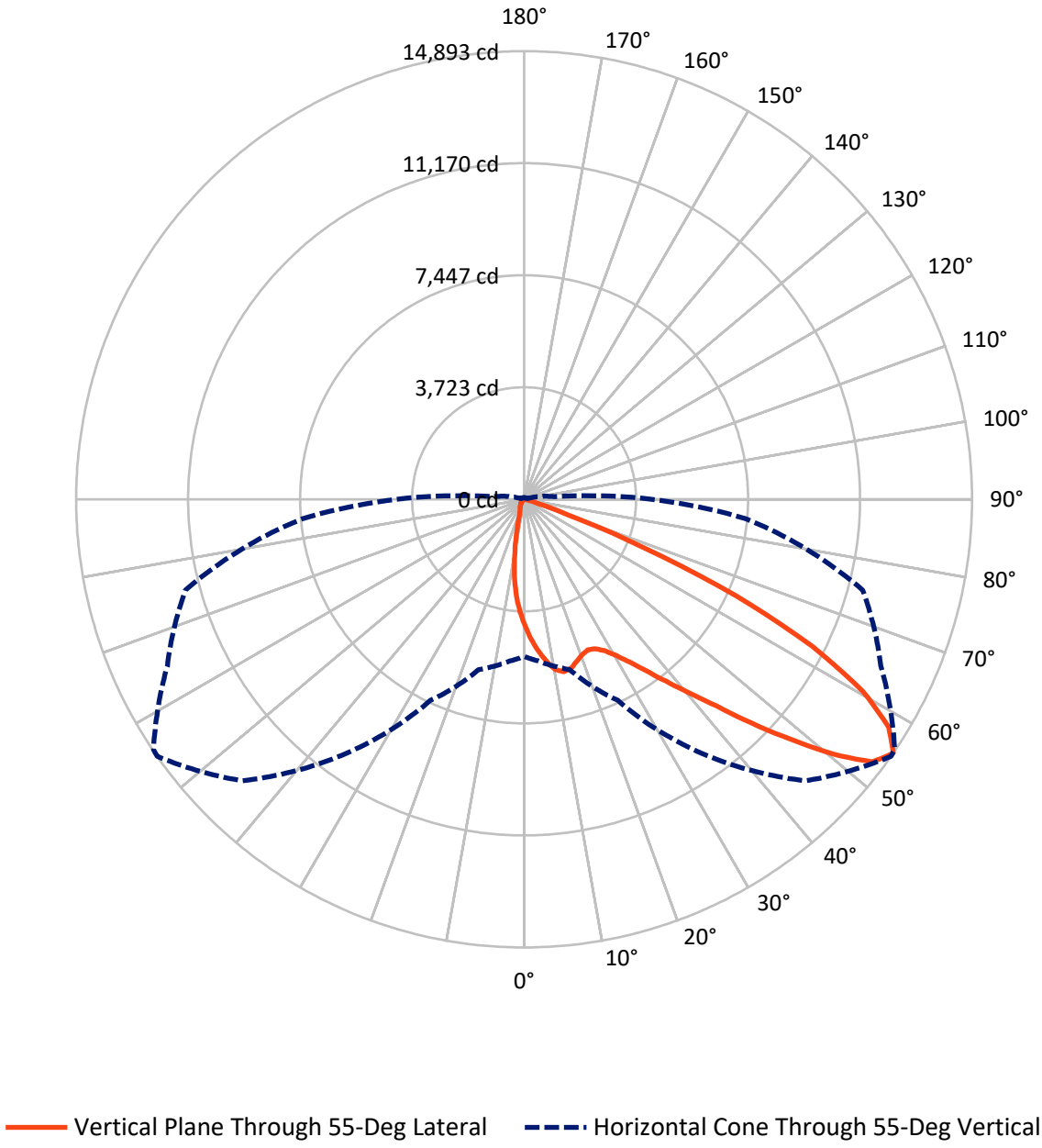
Luminous Intensity Polar Plot



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REPORT NUMBER: P637969
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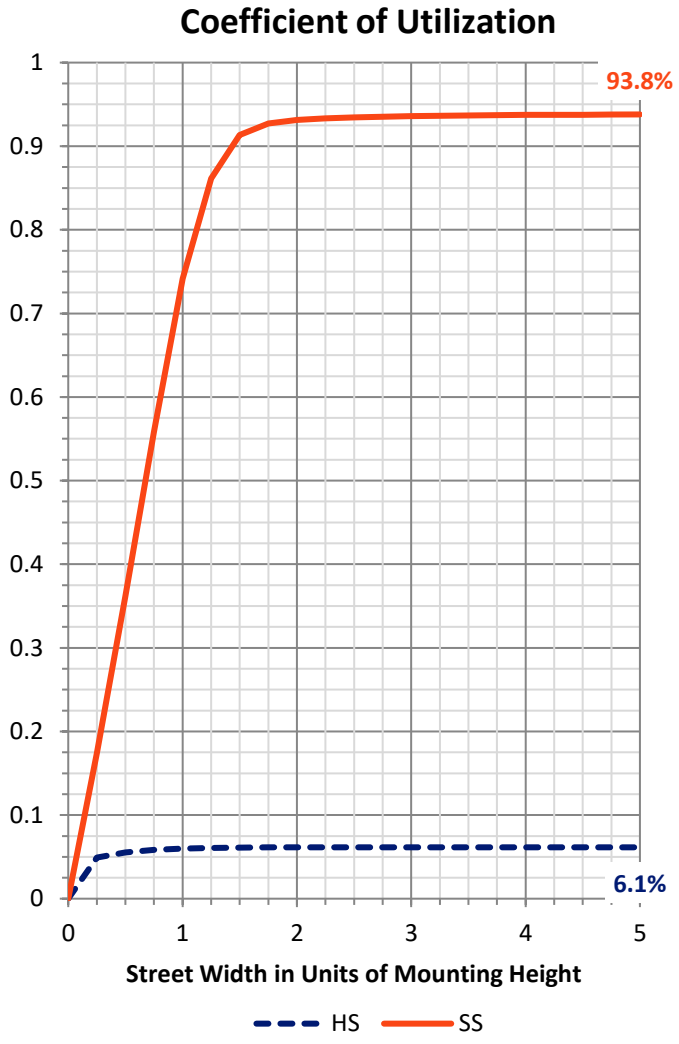
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	1006.6	0.0	1006.6
	% Fixture	6.2	0.0	6.2
Street Side	Lumens	15307.2	0.0	15307.2
	% Fixture	93.8	0.0	93.8
Total	Lumens	16313.8	0.0	16313.8
	% Fixture	100.0	0.0	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	372.5	2.3
10°-20°	898.0	5.5
20°-30°	1495.5	9.2
30°-40°	2548.4	15.6
40°-50°	4159.8	25.5
50°-60°	4355.1	26.7
60°-70°	2196.6	13.5
70°-80°	277.5	1.7
80°-90°	10.5	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°-90°	16313.8	100.0
0°-180°	16313.8	100.0



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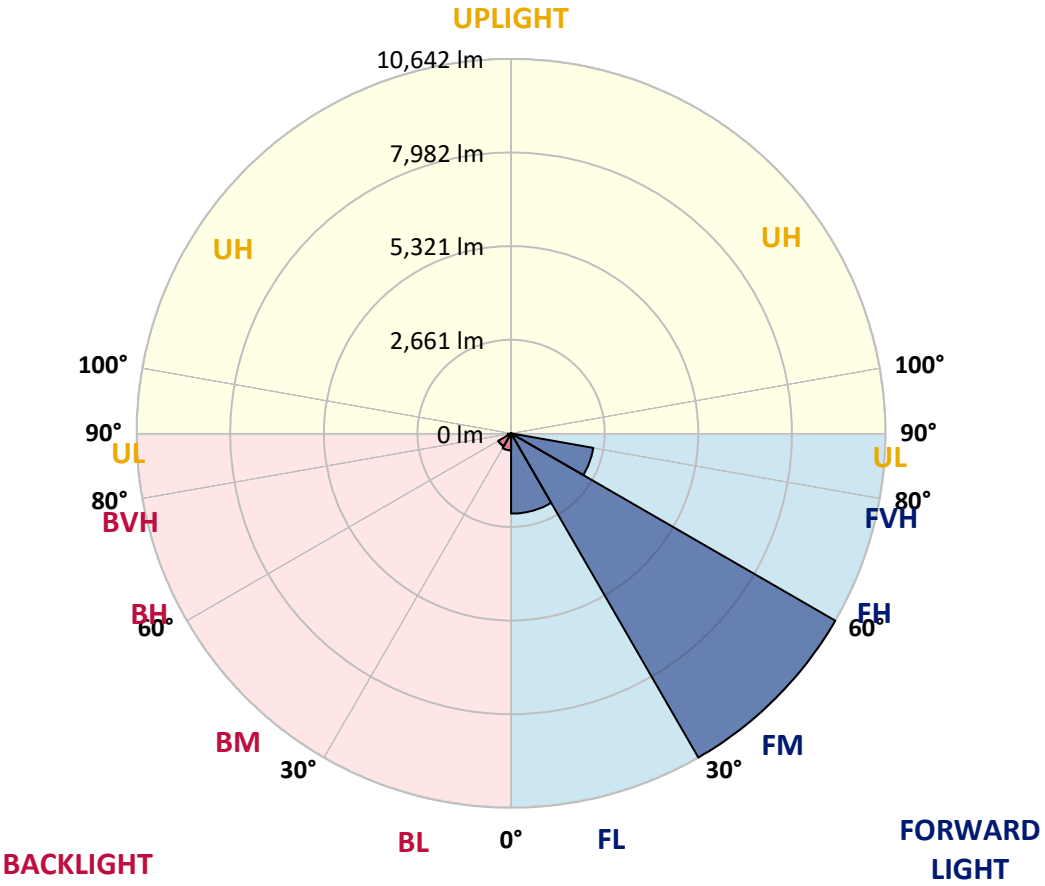
LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit B	U	G
FL	(0°-30°)	2282.1	14.0			
FM	(30°-60°)	10642.4	65.2			
FH	(60°-80°)	2373.1	14.5			G2/5000
FVH	(80°-90°)	9.6	0.1			G0/10
BL	(0°-30°)	483.8	3.0	B1/500		
BM	(30°-60°)	420.9	2.6	B1/1000		
BH	(60°-80°)	101.0	0.6	B0/110		G0/110
BVH	(80°-90°)	1.0	0.0			G0/10
UL	(90°-100°)	0.0	0.0		U0/0	
UH	(100°-180°)	0.0	0.0		U0/0	

BUG Rating: B1-U0-G2
Type II Short



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Scaled Data Report

REPORT NUMBER: P637969
CATALOG NUMBER: GWS-SA4D-830-U-AFL-W-HSS

CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	45°	55°	56°	65°	75°	85°
0°	4214.5	4214.5	4214.5	4214.5	4214.5	4214.5	4214.5	4214.5	4214.5	4214.5	4214.5
2.5°	4913.2	4889.5	4925.8	4883.9	4812.8	4752.9	4674.8	4646.9	4521.3	4402.8	4288.4
5°	5510.1	5517.1	5505.9	5447.4	5347.0	5235.4	5077.8	5042.9	4824.0	4598.0	4354.0
7.5°	5658.0	5653.8	5677.5	5699.8	5683.1	5627.3	5455.7	5420.9	5148.9	4810.0	4454.4
10°	5201.9	5204.7	5253.5	5404.1	5591.0	5784.9	5758.4	5738.8	5472.5	5049.9	4566.0
12.5°	4557.6	4582.7	4634.3	4849.1	5165.7	5606.4	5879.7	5899.2	5769.5	5313.5	4697.1
15°	4278.7	4284.3	4326.1	4455.8	4691.5	5235.4	5828.1	5882.5	6017.8	5578.5	4839.3
17.5°	4271.7	4278.7	4296.8	4354.0	4507.4	4943.9	5662.1	5757.0	6204.6	5863.0	5009.5
20°	4533.9	4529.7	4517.2	4486.5	4553.4	4847.7	5508.7	5613.3	6306.5	6140.5	5181.0
22.5°	5009.5	5003.9	4948.1	4821.2	4766.8	4935.5	5433.4	5528.3	6367.8	6387.3	5321.9
25°	5557.5	5596.6	5492.0	5299.5	5165.7	5160.1	5500.4	5567.3	6420.8	6606.3	5418.1
27.5°	6158.6	6171.2	6081.9	5865.8	5671.9	5519.9	5694.2	5744.4	6479.4	6801.5	5472.5
30°	6818.3	6814.1	6712.3	6461.3	6225.6	6006.6	6020.6	6040.1	6616.1	7024.7	5532.4
32.5°	7642.5	7660.6	7479.3	7137.6	6854.5	6551.9	6447.3	6450.1	6862.9	7312.0	5623.1
35°	8762.4	8717.7	8477.9	7991.2	7508.6	7182.3	7003.8	6988.4	7243.6	7698.3	5780.7
37.5°	9829.3	9833.4	9582.4	9046.9	8437.4	7922.8	7670.4	7628.6	7779.2	8233.8	6042.9
40°	10569.8	10583.7	10479.1	10198.8	9553.1	8825.1	8454.2	8410.9	8473.7	8911.6	6385.9
42.5°	10961.7	11000.7	11030.0	11095.6	10606.1	9952.0	9381.6	9377.4	9311.9	9684.2	6783.4
45°	10977.0	11035.6	11214.1	11661.8	11717.6	11237.8	10617.2	10523.8	10271.3	10511.2	7139.0
47.5°	10370.4	10505.6	10885.0	11772.0	12357.7	12516.7	11901.7	11844.5	11136.0	11165.3	7405.4
50°	8956.2	9097.1	9795.8	11207.1	12519.5	13532.0	13311.6	13193.1	11858.4	11597.6	7533.7
52.5°	7505.8	7634.1	8108.3	9862.7	11848.7	13851.3	14499.8	14359.0	12506.9	11748.2	7480.7
55°	5222.8	5394.4	5857.4	7371.9	10303.4	13229.3	14893.1	14863.8	13085.7	11653.4	7398.4
57.5°	2560.5	2730.7	3192.3	4545.1	7632.7	11550.2	14292.0	14446.8	13431.5	11551.6	7331.5
60°	1069.7	1139.4	1298.4	1994.3	4270.3	8728.9	12935.1	13149.8	13219.6	11413.5	7324.5
62.5°	620.6	631.8	648.5	827.0	1661.0	5003.9	10730.2	11035.6	12105.3	11230.8	7214.4
65°	468.6	472.8	465.8	507.6	686.2	1898.1	7752.7	8168.3	10104.0	10516.8	6779.2
67.5°	384.9	384.9	366.8	375.2	430.9	711.3	4280.1	4860.2	7476.5	8643.8	5598.0
70°	306.8	313.8	305.4	294.3	308.2	393.3	1522.9	1888.3	4354.0	5104.3	3264.8
72.5°	232.9	232.9	246.8	238.5	228.7	246.8	531.3	596.9	1747.5	2128.2	1178.5
75°	179.9	185.5	195.2	186.9	172.9	146.4	255.2	270.6	527.2	495.1	263.6
77.5°	92.0	93.4	124.1	136.7	128.3	89.3	111.6	122.7	171.5	153.4	97.6
80°	55.8	58.6	69.7	107.4	85.1	47.4	46.0	48.8	80.9	69.7	40.4
82.5°	23.7	25.1	39.0	39.0	34.9	18.1	18.1	18.1	39.0	36.3	16.7
85°	0.0	0.0	7.0	5.6	5.6	7.0	7.0	7.0	9.8	13.9	8.4
87.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.4	4.2	4.2
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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CATALOG NUMBER: GWS-SA4D-830-U-AFL-W-HSS

CANDELA DISTRIBUTION (continued):

	90°	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°
0°	4214.5	4214.5	4214.5	4214.5	4214.5	4214.5	4214.5	4214.5	4214.5	4214.5	4214.5
2.5°	4214.5	4125.3	4005.3	3896.6	3750.1	3667.8	3553.5	3460.0	3380.5	3355.4	3344.3
5°	4215.9	4062.5	3805.9	3549.3	3234.1	2985.9	2730.7	2528.4	2362.5	2309.5	2295.5
7.5°	4243.8	4017.9	3602.3	3136.5	2609.3	2174.2	1785.1	1436.5	1274.7	1220.3	1209.1
10°	4281.5	3980.2	3366.6	2641.4	1884.1	1324.9	938.6	715.4	609.4	550.9	559.2
12.5°	4330.3	3949.6	3105.8	2105.9	1246.8	728.0	516.0	432.3	410.0	398.9	393.3
15°	4395.8	3913.3	2782.3	1574.5	764.2	468.6	397.5	375.2	366.8	361.2	359.8
17.5°	4462.8	3871.5	2453.1	1107.3	507.6	389.1	357.0	345.9	340.3	336.1	334.7
20°	4533.9	3800.3	2066.8	762.9	400.3	350.0	329.1	316.6	309.6	302.6	301.2
22.5°	4564.6	3686.0	1697.2	534.1	355.6	322.2	295.7	280.3	272.0	266.4	266.4
25°	4535.3	3500.5	1315.1	405.8	323.6	291.5	265.0	248.2	241.3	235.7	235.7
27.5°	4457.2	3262.0	959.5	336.1	288.7	259.4	234.3	219.0	213.4	210.6	210.6
30°	4370.7	2960.8	676.4	288.7	249.6	225.9	205.0	195.2	193.9	191.1	191.1
32.5°	4296.8	2679.1	465.8	253.8	220.3	196.6	182.7	178.5	179.9	177.1	178.5
35°	4256.4	2402.9	345.9	225.9	196.6	174.3	167.4	167.4	167.4	166.0	166.0
37.5°	4273.1	2131.0	281.7	206.4	175.7	159.0	152.0	154.8	157.6	157.6	157.6
40°	4356.8	1889.7	249.6	188.3	157.6	145.0	139.5	143.6	147.8	150.6	150.6
42.5°	4462.8	1694.5	225.9	172.9	145.0	131.1	128.3	132.5	136.7	139.5	139.5
45°	4529.7	1497.8	202.2	153.4	132.5	115.8	115.8	121.3	119.9	121.3	121.3
47.5°	4560.4	1341.6	178.5	132.5	113.0	100.4	101.8	104.6	101.8	104.6	104.6
50°	4485.1	1184.0	157.6	110.2	93.4	87.9	90.7	89.3	89.3	94.8	94.8
52.5°	4347.0	1066.9	139.5	93.4	79.5	78.1	80.9	75.3	76.7	76.7	75.3
55°	*4245.2*	*999.9*	*124.1*	*80.9*	*68.3*	*69.7*	*68.3*	*58.6*	*53.0*	*47.4*	*46.0*
57.5°	4195.0	973.4	113.0	72.5	61.4	61.4	55.8	40.4	30.7	23.7	20.9
60°	4183.8	941.4	101.8	62.8	54.4	51.6	40.4	23.7	15.3	11.2	9.8
62.5°	4077.9	863.3	92.0	50.2	47.4	41.8	25.1	13.9	8.4	5.6	4.2
65°	3730.6	709.9	82.3	39.0	36.3	30.7	15.3	8.4	4.2	1.4	0.0
67.5°	2967.7	503.5	72.5	29.3	25.1	19.5	9.8	5.6	1.4	0.0	0.0
70°	1711.2	272.0	60.0	20.9	16.7	12.6	7.0	2.8	0.0	0.0	0.0
72.5°	571.8	126.9	46.0	13.9	12.6	9.8	4.2	1.4	0.0	0.0	0.0
75°	125.5	75.3	30.7	9.8	8.4	7.0	2.8	0.0	0.0	0.0	0.0
77.5°	47.4	53.0	15.3	7.0	5.6	4.2	1.4	0.0	0.0	0.0	0.0
80°	18.1	34.9	7.0	4.2	4.2	1.4	0.0	0.0	0.0	0.0	0.0
82.5°	9.8	13.9	4.2	2.8	2.8	0.0	0.0	0.0	0.0	0.0	0.0
85°	5.6	7.0	2.8	1.4	1.4	0.0	0.0	0.0	0.0	0.0	0.0
87.5°	2.8	1.4	1.4	1.4	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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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

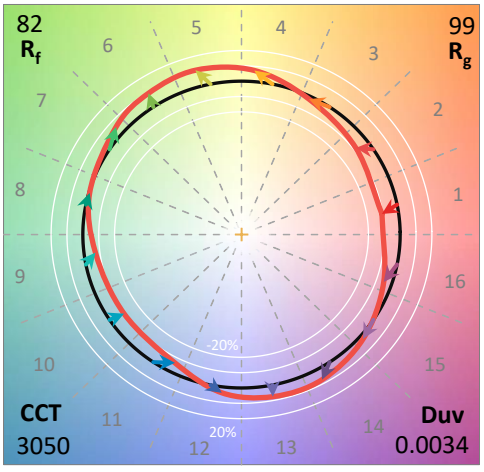
Test Information

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	CRI (Ra):	81.0		
CIE u':	0.2476	R1:	79.6	R9:	7.1
CIE v':	0.5251	R2:	85.6	R10:	67.0
Duv:	0.0034	R3:	92.0	R11:	82.7
CIE x:	0.4383	R4:	82.6	R12:	63.2
CIE y:	0.4131	R5:	78.9	R13:	80.3
CIE z:	0.1487	R6:	81.7	R14:	95.0
Peak Wavelength (nm):	603	R7:	85.2	R15:	71.7
Dominant Wavelength (nm):	581	R8:	62.0		
Purity:	55.55201				

Rf:	81.5
Rg:	99.2



Test Conditions

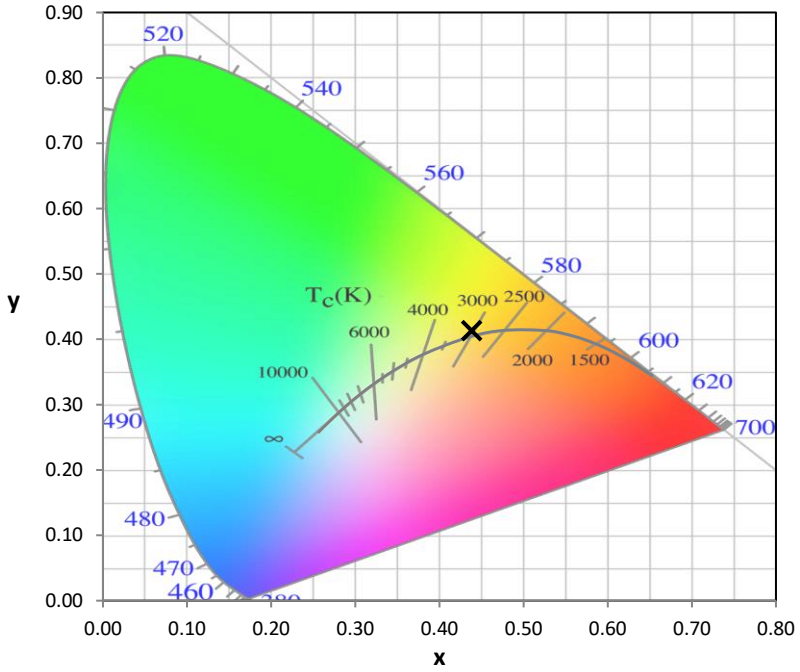
Stabilization Time:	20M
Operation Time:	1H 20M
Sphere Temperature (°C):	24.2

REPORT NUMBER: SP1-2408-195-9

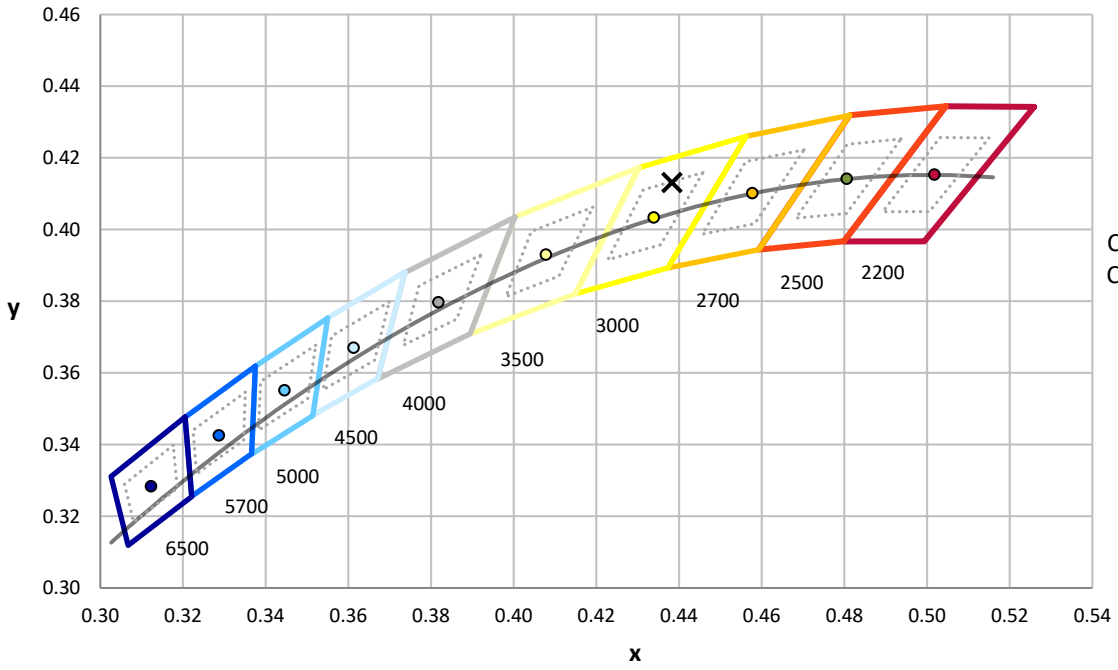
Measurement and Test Equipment			
Instrument	Identification Number	Calibration Date	Calibration Due Date
Photometer	IN0058	6/18/2024	12/18/2024
Power Meter	INXT2011004	2/8/2024	2/8/2025
AC Power Source	IN0063	10/24/2023	10/24/2024
DC Power Source	IN0208	10/24/2023	10/24/2024
Sphere Thermometer	IN0085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

REPORT NUMBER: SP1-2408-195-9

CIE 1931 Chromaticity Diagram



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

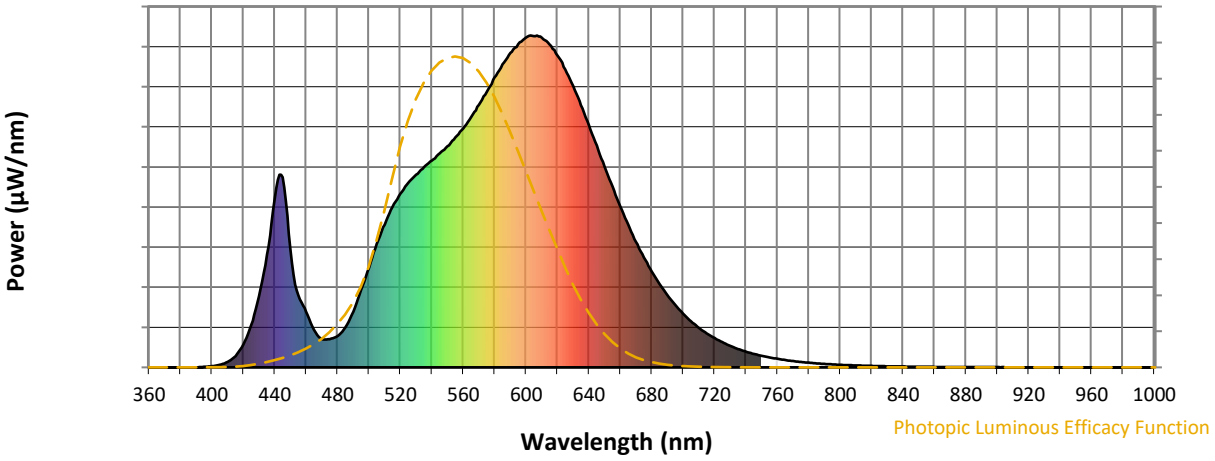


CCT = 3050K
CIE x = 0.4383
CIE y = 0.4131
Duv = 0.0034

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			

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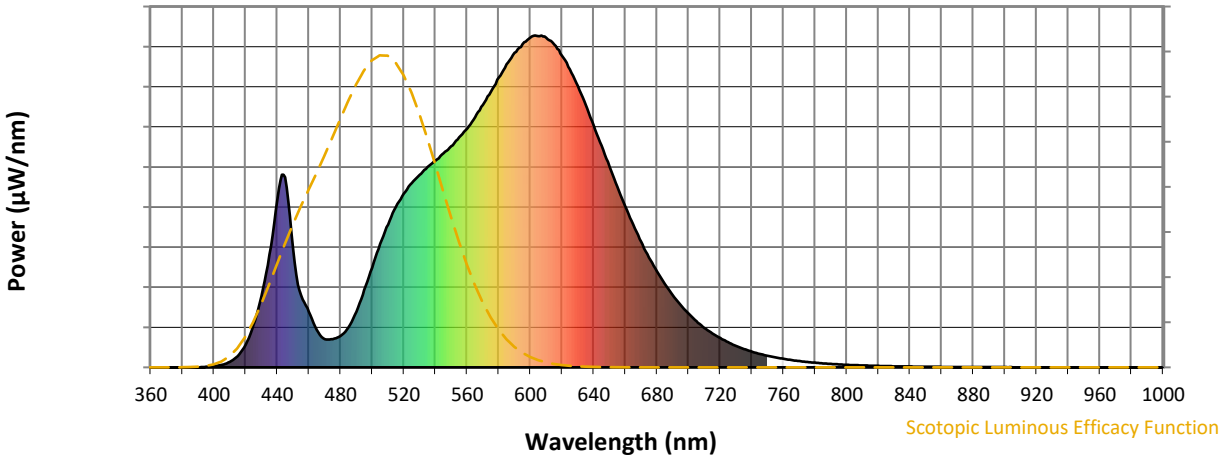
Scotopic Flux vs. Wavelength



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			

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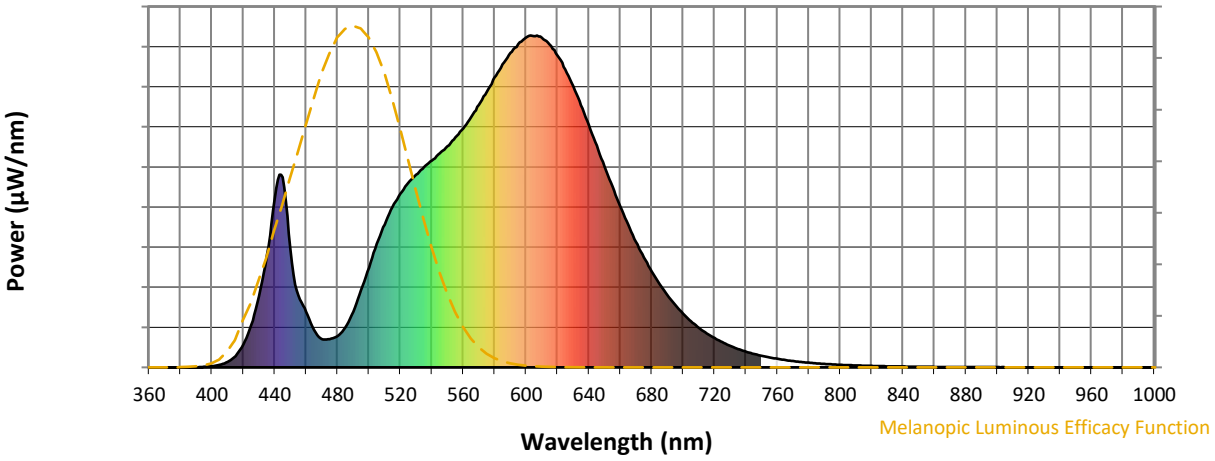
Melanopic Flux vs. Wavelength



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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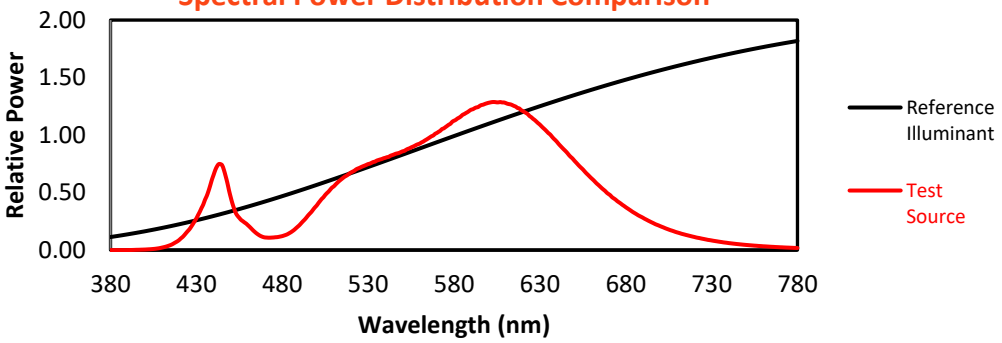
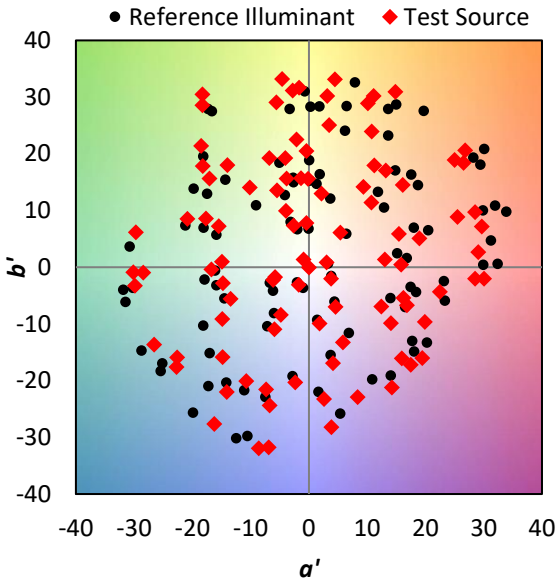
Summary

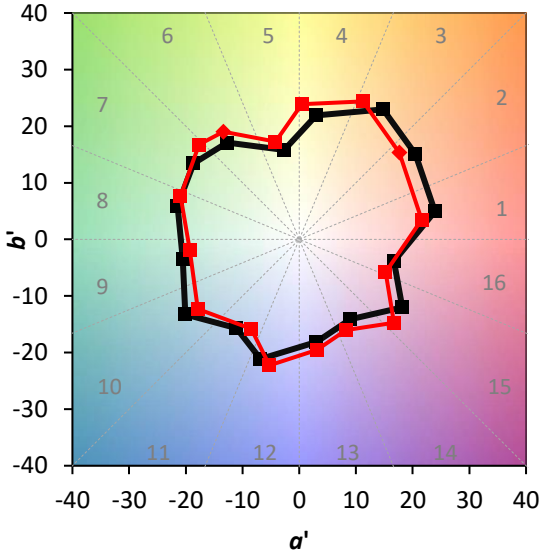
R_f = 81.5
R_g = 99.2
CIE R_a = 81.0
R_9 = 7.1

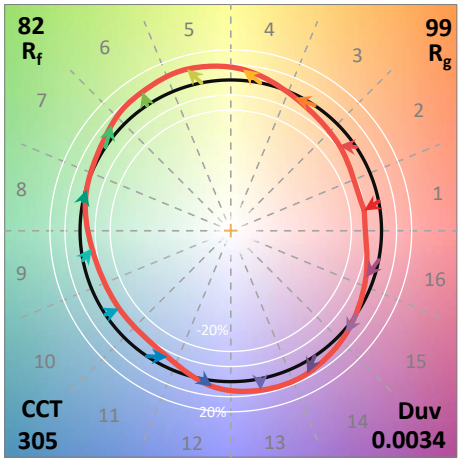
Spectral Power Distribution Comparison

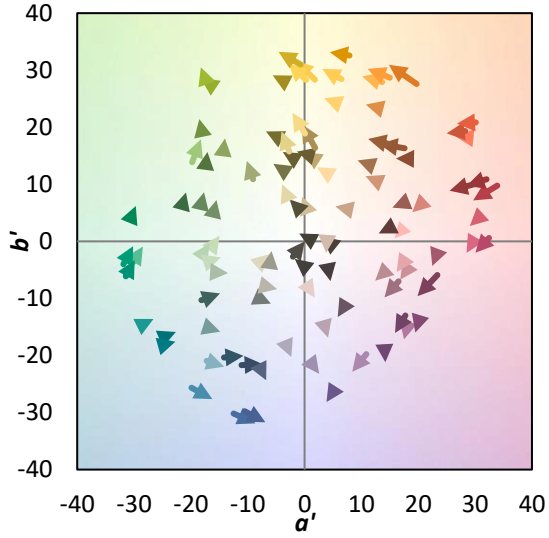


Color Vector Graphics









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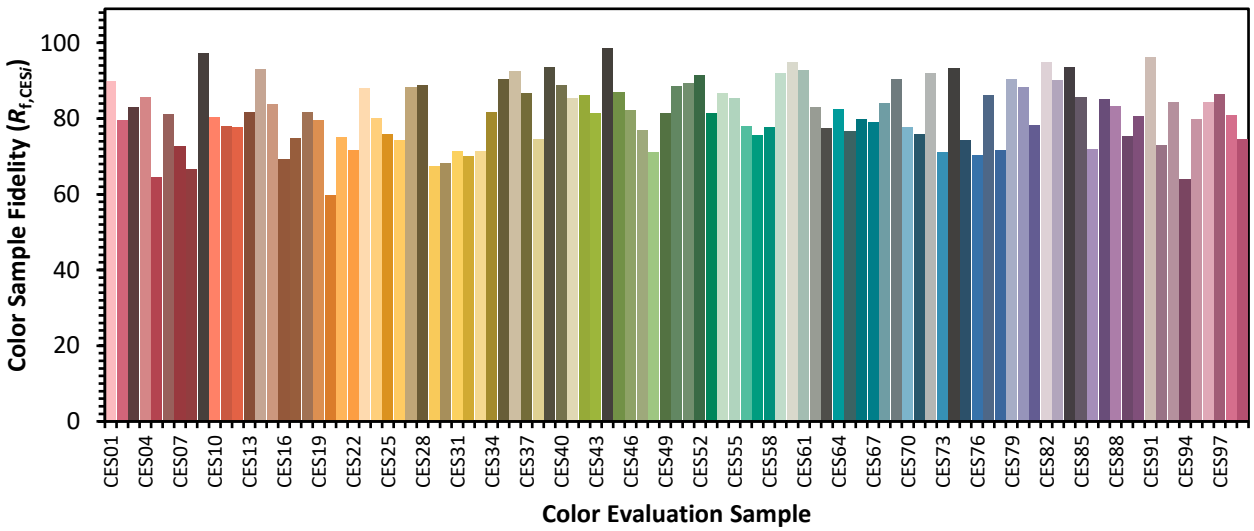
Individual Sample Fidelity Index ($R_{f,i}$)

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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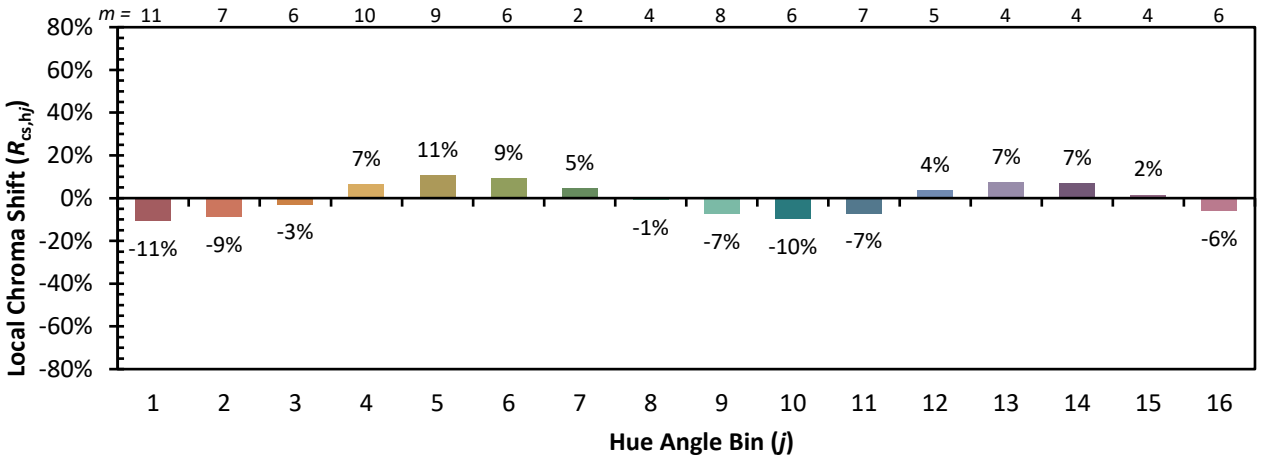
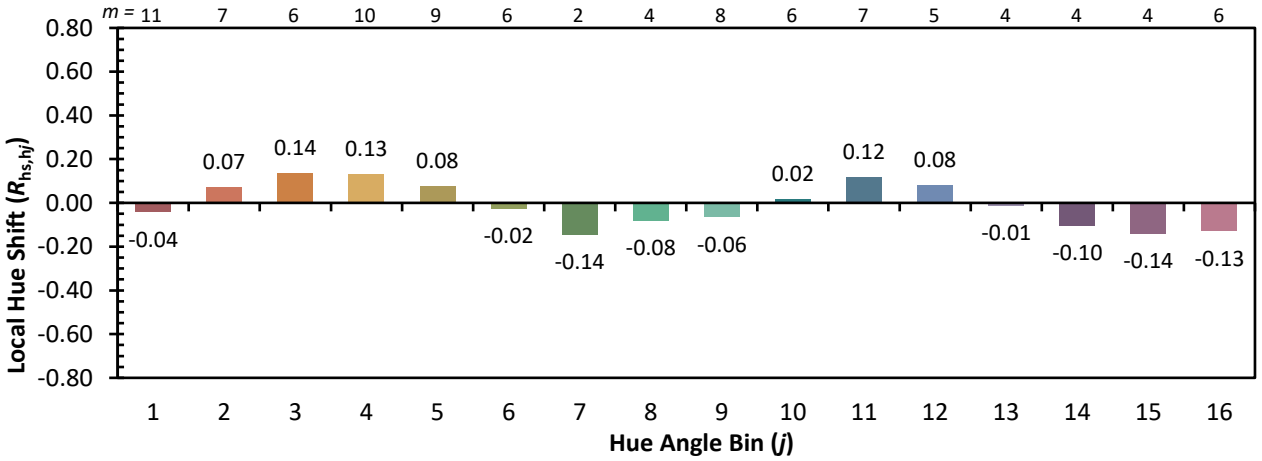
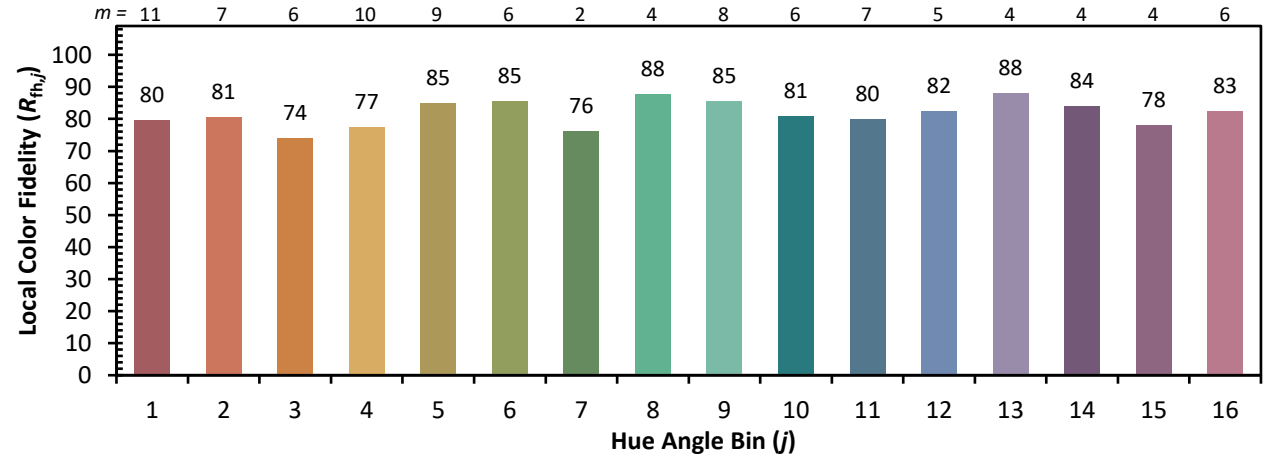
Color Rendition by Hue-Angle Bin







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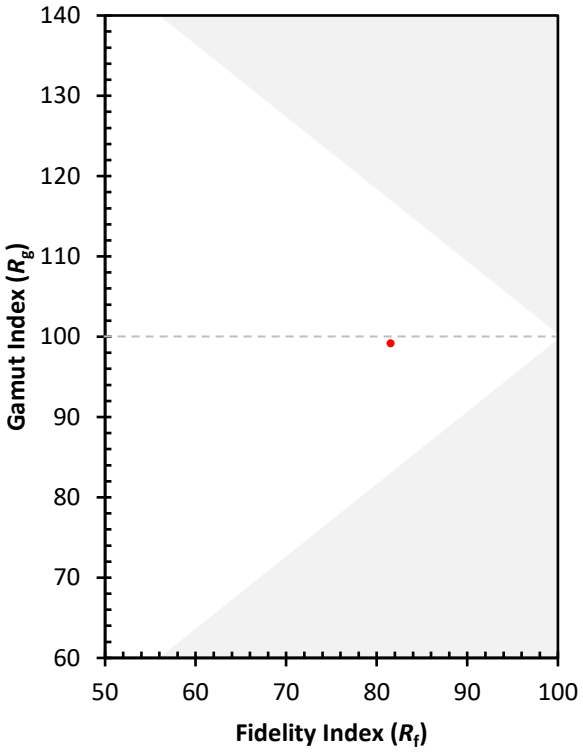
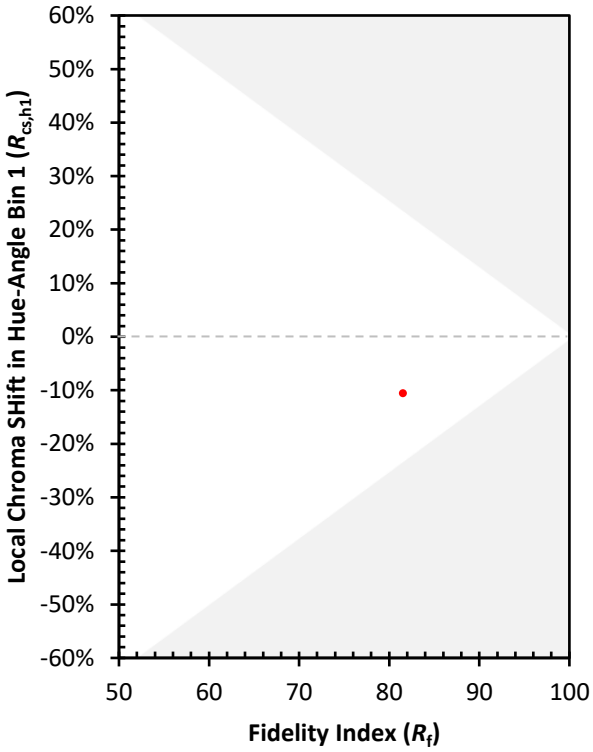
Measure Comparisons





(END OF REPORT)