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: P638993

Luminaire Tested: GWS-SA4F-830-U-T3-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:	P638993
	TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2209-782-26)
Test Lab:	COOPER LIGHTING SOLUTIONS
Issue Date:	1/10/2023
Manufacturer:	COOPER LIGHTING SOLUTIONS
Product Line:	McGRAW-EDISON
Catalog Number:	GWS-SA4F-830-U-T3-W-HSS
Description:	GALLEON WALL SLIM LUMINAIRE. (4) LIGHTSQUARES WITH 16 LEDS EACH AND TYPE III OPTICS WITH HOUSE SIDE SHIELD
Light Source:	(64) 3000K CCT, 80 CRI LEDS
Ballast/Driver:	-

Summary

Lumens per Lamp:	N/A
Luminaire Lumens:	19843.1 lumens
Efficiency:	N/A
Efficacy:	88.1 lumens/watt
Luminous Opening:	Rectangular (W 1' x L: 1' x H: 0')
IES Classification:	Type III - Short
BUG Rating:	B2 - U0 - G3

Input Watts (W):	225.3
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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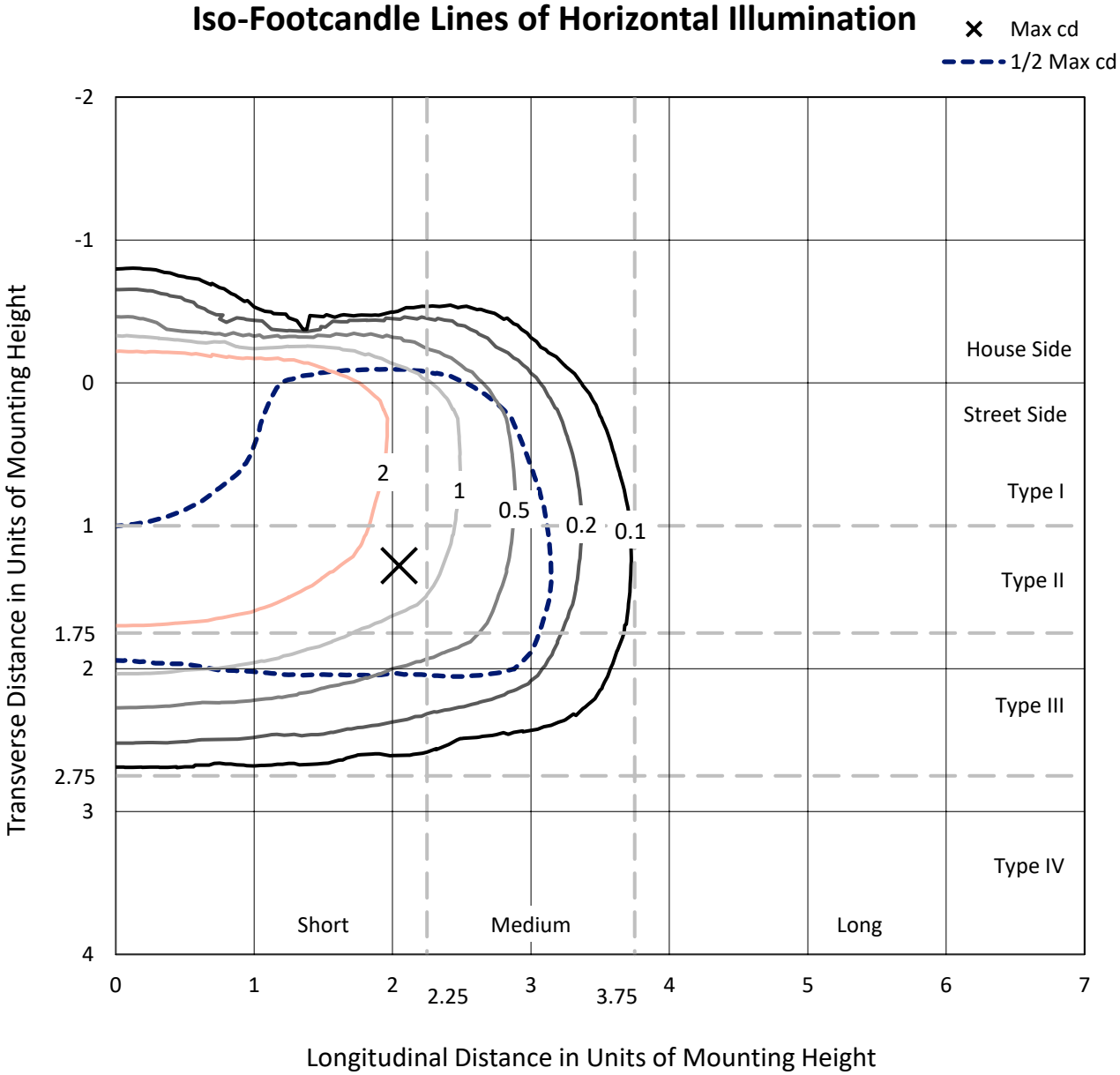
Scaled Data Report

REPORT NUMBER: P638993
CATALOG NUMBER: GWS-SA4F-830-U-T3-W-HSS

Iso-Footcandle Lines of Horizontal Illumination



Based on 25 foot mounting height. Maximum calculated value = 4.8 fc
Type III - Short - N/A

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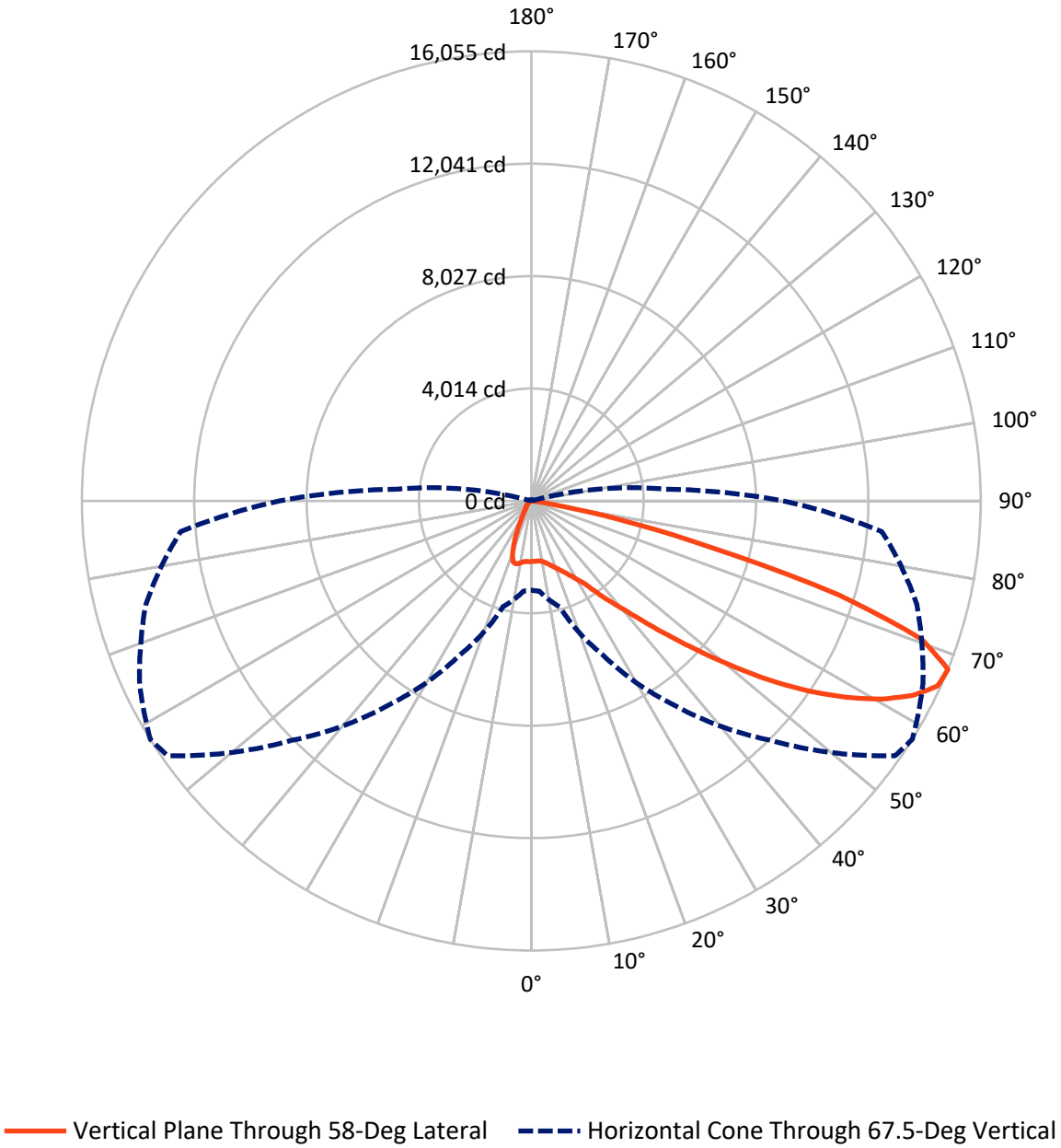
Luminous Intensity Polar Plot



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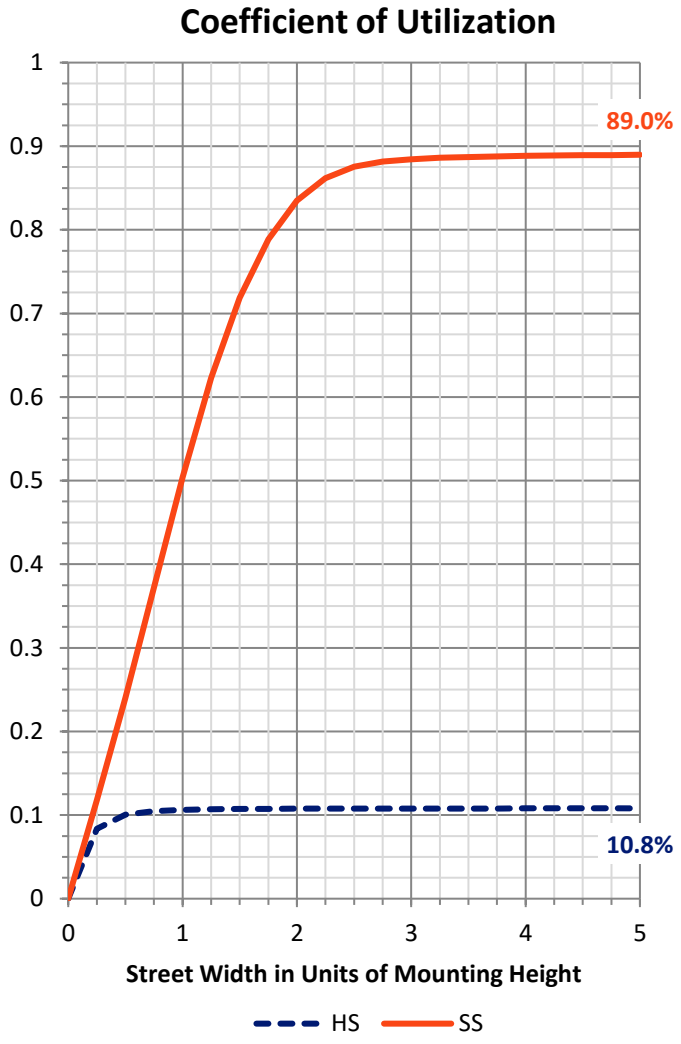
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	2164.8	0.0	2164.8
	% Fixture	10.9	0.0	10.9
Street Side	Lumens	17678.3	0.0	17678.3
	% Fixture	89.1	0.0	89.1
Total	Lumens	19843.1	0.0	19843.1
	% Fixture	100.0	0.0	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	203.1	1.0
10°-20°	570.3	2.9
20°-30°	995.5	5.0
30°-40°	1777.8	9.0
40°-50°	3249.5	16.4
50°-60°	5404.3	27.2
60°-70°	5870.0	29.6
70°-80°	1723.5	8.7
80°-90°	49.1	0.2
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°	19843.1	100.0
0°-180°	19843.1	100.0



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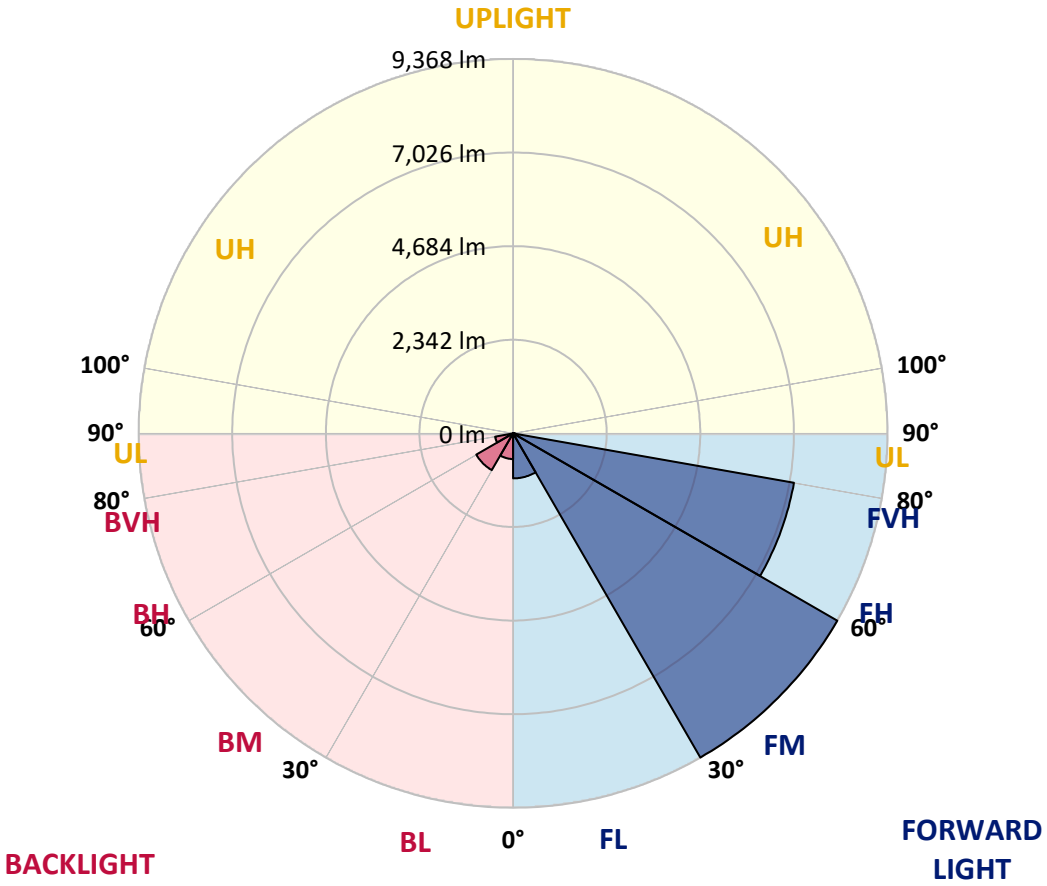
CATALOG NUMBER: GWS-SA4F-830-U-T3-W-HSS

LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit B	U	G
FL	(0°-30°)	1126.8	5.7			
FM	(30°-60°)	9368.3	47.2			
FH	(60°-80°)	7136.5	36.0			G3/7500
FVH	(80°-90°)	46.7	0.2			G1/100
BL	(0°-30°)	642.1	3.2	B2/1000		
BM	(30°-60°)	1063.3	5.4	B2/2500		
BH	(60°-80°)	457.0	2.3	B1/500		G1/500
BVH	(80°-90°)	2.4	0.0			G0/10
UL	(90°-100°)	0.0	0.0		U0/0	
UH	(100°-180°)	0.0	0.0		U0/0	

BUG Rating: B2-U0-G3
Type III Short



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REPORT NUMBER: P638993
CATALOG NUMBER: GWS-SA4F-830-U-T3-W-HSS

CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	45°	55°	58°	65°	75°	85°
0°	2162.3	2162.3	2162.3	2162.3	2162.3	2162.3	2162.3	2162.3	2162.3	2162.3	2162.3
2.5°	2121.6	2117.7	2117.7	2133.2	2135.2	2142.9	2160.4	2162.3	2172.0	2168.1	2154.6
5°	2011.2	2013.1	2024.7	2051.9	2075.1	2104.2	2146.8	2156.5	2177.8	2189.4	2181.7
7.5°	1908.5	1910.4	1927.9	1970.5	2015.1	2073.2	2142.9	2162.3	2204.9	2235.9	2237.9
10°	1869.7	1867.8	1885.2	1933.7	1991.8	2073.2	2173.9	2199.1	2263.1	2317.3	2327.0
12.5°	1881.4	1879.4	1896.9	1941.4	2005.4	2108.1	2228.2	2263.1	2344.4	2427.7	2445.2
15°	1927.9	1925.9	1937.5	1974.4	2044.1	2150.7	2297.9	2350.2	2452.9	2553.7	2580.8
17.5°	2067.4	2057.7	2046.1	2049.9	2090.6	2201.1	2387.1	2451.0	2578.9	2699.0	2722.3
20°	2315.4	2290.2	2259.2	2218.5	2199.1	2274.7	2489.8	2563.4	2718.4	2855.9	2859.8
22.5°	2689.3	2679.6	2607.9	2489.8	2406.4	2408.4	2609.9	2695.1	2885.0	3036.1	3014.8
25°	3210.5	3204.7	3094.3	2900.5	2683.5	2609.9	2762.9	2850.1	3082.6	3243.5	3175.6
27.5°	3857.7	3817.0	3687.2	3425.6	3102.0	2871.4	2956.7	3034.2	3291.9	3443.0	3315.1
30°	4421.5	4423.4	4301.4	4028.2	3663.9	3264.8	3193.1	3260.9	3483.7	3642.6	3487.6
32.5°	4964.0	4981.4	4847.7	4601.7	4202.5	3778.2	3532.2	3543.8	3729.8	3902.2	3714.3
35°	5467.8	5481.3	5388.3	5179.1	4807.1	4314.9	4004.9	3999.1	4099.9	4276.2	4030.1
37.5°	6031.6	6045.2	5954.1	5766.1	5417.4	4929.1	4541.6	4533.9	4574.6	4717.9	4437.0
40°	6632.2	6657.4	6556.7	6397.8	6064.5	5651.8	5165.5	5095.8	5055.1	5223.6	4964.0
42.5°	7240.6	7279.4	7244.5	7085.6	6800.8	6459.8	5975.4	5866.9	5779.7	5990.9	5715.8
45°	7996.3	8042.8	8027.3	7905.2	7684.3	7407.3	6950.0	6824.0	6783.4	6979.1	6651.6
47.5°	8722.8	8773.2	8829.4	8802.3	8645.3	8517.5	8009.8	7938.1	7926.5	8135.8	7628.1
50°	9263.4	9309.9	9525.0	9680.0	9786.6	9759.4	9319.6	9213.0	9195.6	9329.3	8658.9
52.5°	9650.9	9695.5	9991.9	10476.3	10867.7	11080.8	10637.1	10613.9	10519.0	10472.5	9623.8
55°	9951.3	10013.3	10325.2	11057.6	11846.2	12318.9	12041.9	11958.6	11714.4	11447.0	10519.0
57.5°	10011.3	10036.5	10476.3	11464.5	12605.7	13371.0	13371.0	13225.7	12754.9	12384.8	11553.6
60°	9472.7	9550.2	10145.0	11431.5	12931.2	14058.9	14473.5	14372.7	13737.2	13281.9	12549.5
62.5°	8277.2	8364.4	9089.0	10643.0	12605.7	14200.3	15308.6	15293.1	14576.2	14024.0	13374.9
65°	6347.4	6411.4	7043.0	8903.0	11230.0	13655.8	15905.3	15948.0	15238.8	14514.2	13659.7
67.5°	3189.2	3233.8	3915.8	6082.0	8901.1	12088.4	15864.7	16054.5	15440.3	14254.6	12572.8
70°	1114.1	1158.7	1480.3	2609.9	5417.4	9230.5	14492.9	14802.9	14256.5	12167.8	9275.0
72.5°	381.7	403.0	614.2	968.8	2108.1	5471.6	11020.8	11487.7	10509.3	8168.7	5330.2
75°	217.0	230.6	329.4	525.1	883.5	1800.0	6252.5	6539.2	6126.5	4452.5	2193.3
77.5°	147.3	158.9	205.4	298.4	488.3	579.3	2549.8	3210.5	2799.8	1453.2	560.0
80°	87.2	94.9	125.9	176.3	249.9	224.8	546.4	726.6	935.8	434.0	168.6
82.5°	40.7	46.5	81.4	116.3	125.9	94.9	160.8	195.7	263.5	213.1	69.8
85°	0.0	0.0	27.1	48.4	46.5	27.1	44.6	48.4	71.7	106.6	27.1
87.5°	0.0	0.0	0.0	0.0	0.0	1.9	3.9	5.8	11.6	21.3	11.6
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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Scaled Data Report

REPORT NUMBER: P638993
CATALOG NUMBER: GWS-SA4F-830-U-T3-W-HSS

CANDELA DISTRIBUTION (continued):

	90°	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°
0°	2162.3	2162.3	2162.3	2162.3	2162.3	2162.3	2162.3	2162.3	2162.3	2162.3	2162.3
2.5°	2170.1	2156.5	2172.0	2164.2	2172.0	2170.1	2154.6	2144.9	2144.9	2127.4	2121.6
5°	2197.2	2183.6	2187.5	2170.1	2166.2	2156.5	2137.1	2129.4	2129.4	2111.9	2106.1
7.5°	2257.2	2235.9	2232.1	2197.2	2181.7	2154.6	2119.7	2106.1	2104.2	2086.7	2080.9
10°	2352.2	2327.0	2309.6	2265.0	2220.4	2166.2	2092.6	2030.6	1995.7	1949.2	1945.3
12.5°	2468.4	2437.4	2410.3	2342.5	2268.9	2146.8	1929.8	1703.1	1563.6	1453.2	1460.9
15°	2598.3	2569.2	2526.6	2423.9	2272.7	1955.0	1501.6	1152.8	982.3	891.3	887.4
17.5°	2739.7	2697.1	2627.3	2487.8	2150.7	1493.9	976.5	689.8	600.6	569.6	561.9
20°	2871.4	2819.1	2731.9	2501.4	1798.0	1011.4	610.3	534.8	519.3	509.6	509.6
22.5°	3011.0	2945.1	2815.3	2396.7	1336.9	647.1	519.3	501.8	490.2	476.6	474.7
25°	3152.4	3067.1	2890.8	2123.6	875.8	509.6	486.3	466.9	445.6	424.3	418.5
27.5°	3272.5	3162.1	2949.0	1716.7	561.9	459.2	443.7	410.8	381.7	358.4	354.6
30°	3415.9	3274.5	2974.1	1255.5	441.8	404.9	381.7	346.8	311.9	288.7	280.9
32.5°	3607.7	3452.7	2935.4	817.6	391.4	356.5	319.7	279.0	244.1	218.9	215.1
35°	3906.1	3722.0	2757.1	521.2	354.6	308.1	263.5	220.9	191.8	172.4	168.6
37.5°	4270.4	4099.9	2464.6	391.4	317.8	267.4	215.1	174.4	153.1	139.5	135.6
40°	4810.9	4572.6	2102.2	342.9	280.9	226.7	176.3	143.4	127.9	116.3	112.4
42.5°	5512.3	5130.6	1685.7	311.9	246.1	189.9	143.4	118.2	104.6	96.9	94.9
45°	6331.9	5675.1	1245.8	280.9	213.1	156.9	118.2	96.9	87.2	81.4	79.4
47.5°	7170.9	6151.7	860.3	248.0	182.1	129.8	98.8	83.3	75.6	67.8	65.9
50°	8066.0	6554.7	587.1	215.1	155.0	106.6	85.3	75.6	65.9	60.1	58.1
52.5°	8722.8	6703.9	408.8	186.0	131.8	91.1	75.6	67.8	60.1	52.3	50.4
55°	9329.3	6700.0	310.0	156.9	112.4	79.4	67.8	60.1	52.3	46.5	44.6
57.5°	9933.8	6647.7	244.1	133.7	96.9	71.7	60.1	52.3	48.4	40.7	38.8
60°	10325.2	6450.1	189.9	112.4	83.3	62.0	52.3	46.5	40.7	34.9	32.9
62.5°	10532.5	6175.0	145.3	89.1	67.8	54.3	46.5	40.7	34.9	29.1	27.1
65°	10251.6	5686.7	114.3	69.8	52.3	46.5	38.8	32.9	27.1	21.3	19.4
67.5°	*9005.7*	*4795.4*	*89.1*	*56.2*	*40.7*	*34.9*	*32.9*	*27.1*	*19.4*	*15.5*	*13.6*
70°	6364.8	3284.1	69.8	42.6	31.0	27.1	25.2	21.3	15.5	11.6	9.7
72.5°	3493.4	1656.6	50.4	31.0	23.3	21.3	19.4	17.4	13.6	9.7	9.7
75°	1344.7	455.3	36.8	21.3	15.5	15.5	13.6	13.6	11.6	7.8	7.8
77.5°	350.7	135.6	23.3	13.6	9.7	9.7	9.7	7.8	7.8	5.8	5.8
80°	112.4	44.6	13.6	9.7	7.8	5.8	5.8	3.9	5.8	3.9	3.9
82.5°	36.8	15.5	7.8	7.8	5.8	3.9	3.9	1.9	1.9	0.0	0.0
85°	13.6	7.8	5.8	3.9	3.9	3.9	1.9	0.0	0.0	0.0	0.0
87.5°	7.8	3.9	3.9	3.9	3.9	1.9	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

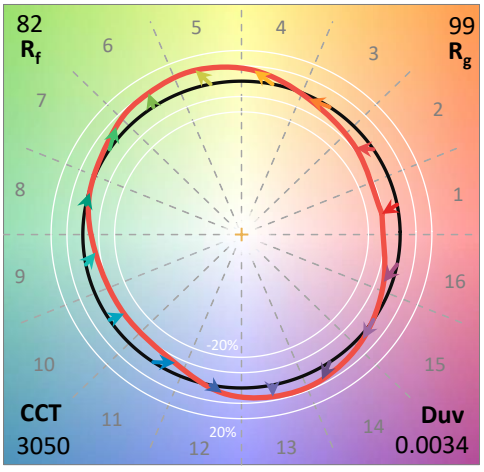
Test Information

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

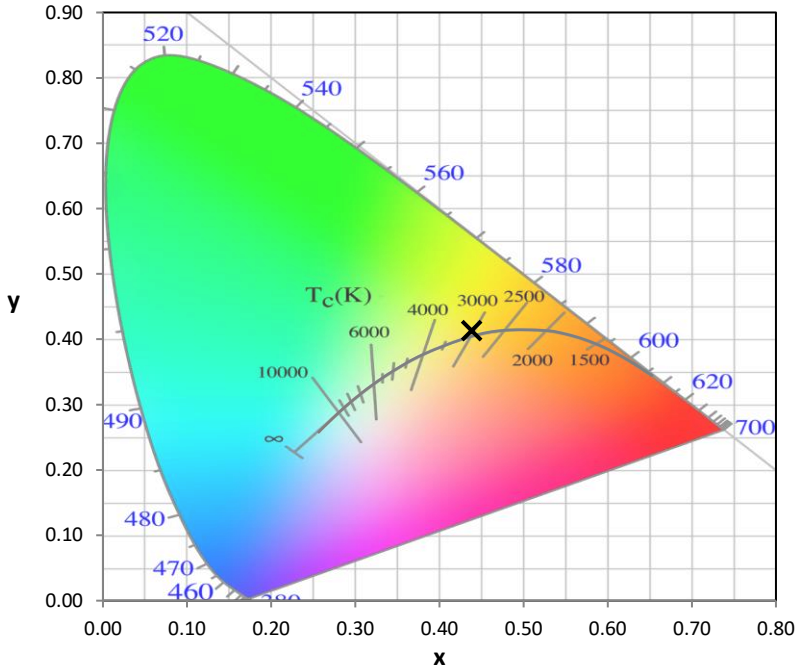
Stabilization Time:	20M
Operation Time:	1H 20M
Sphere Temperature (°C):	24.2

REPORT NUMBER: SP1-2408-195-9

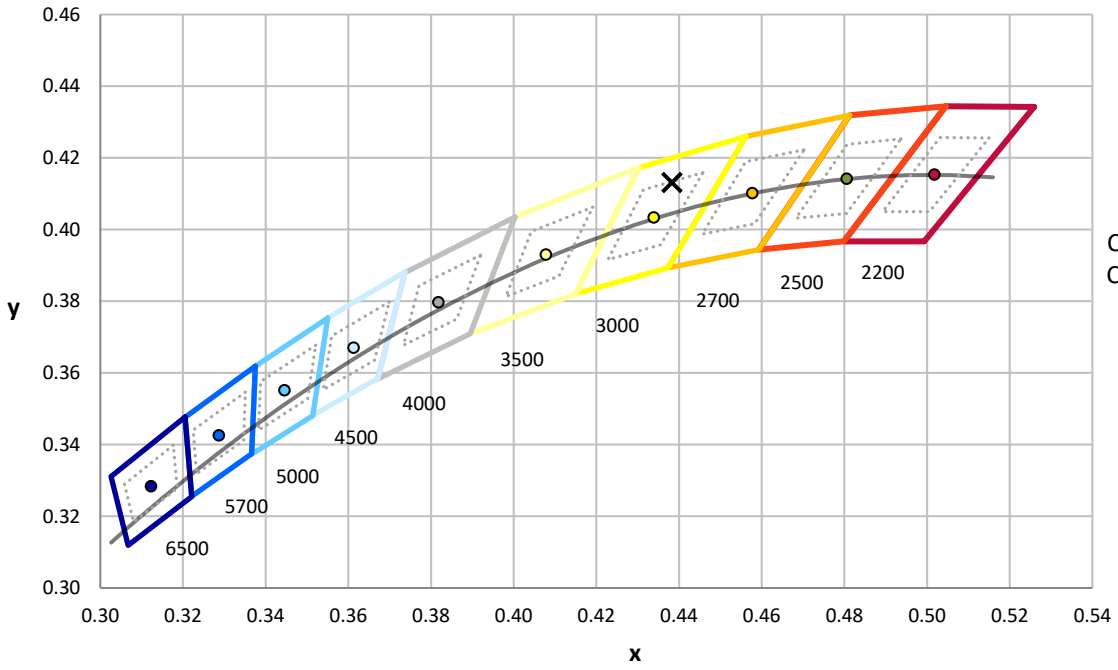
Measurement and Test Equipment			
Instrument	Identification Number	Calibration Date	Calibration Due Date
Photometer	IN0058	6/18/2024	12/18/2024
Power Meter	INXT2011004	2/8/2024	2/8/2025
AC Power Source	IN0063	10/24/2023	10/24/2024
DC Power Source	IN0208	10/24/2023	10/24/2024
Sphere Thermometer	IN0085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

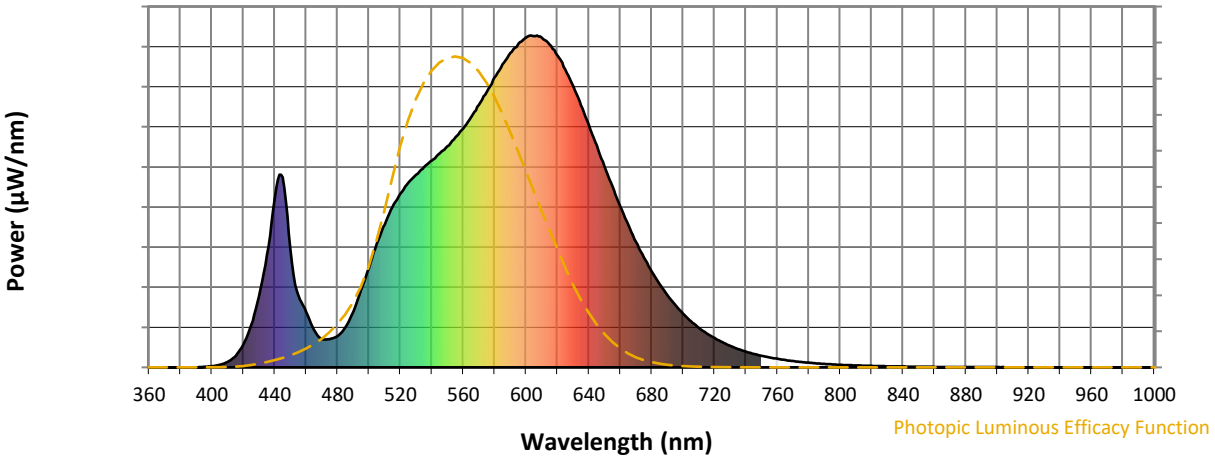


CCT = 3050K
CIE x = 0.4383
CIE y = 0.4131
Duv = 0.0034

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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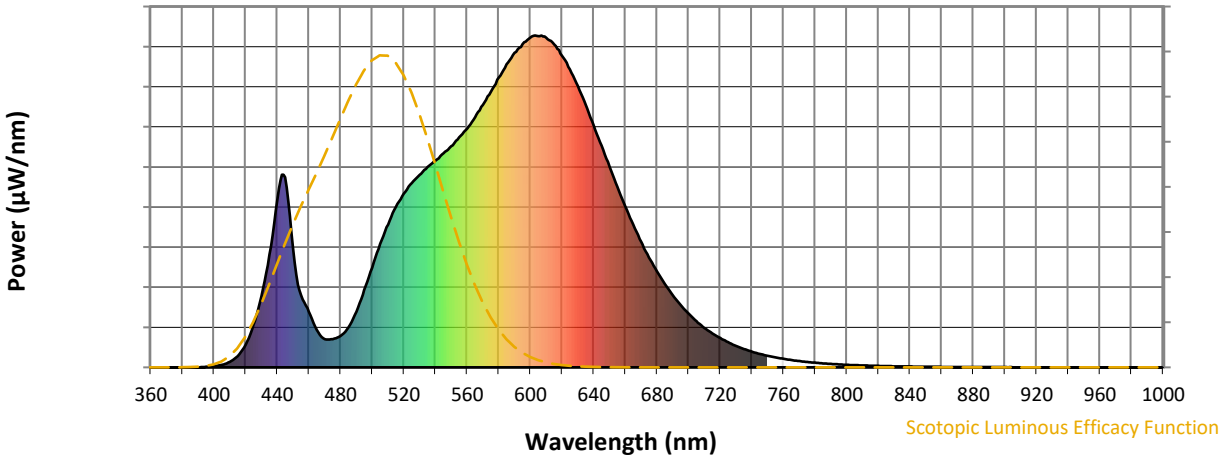
Scotopic Flux vs. Wavelength



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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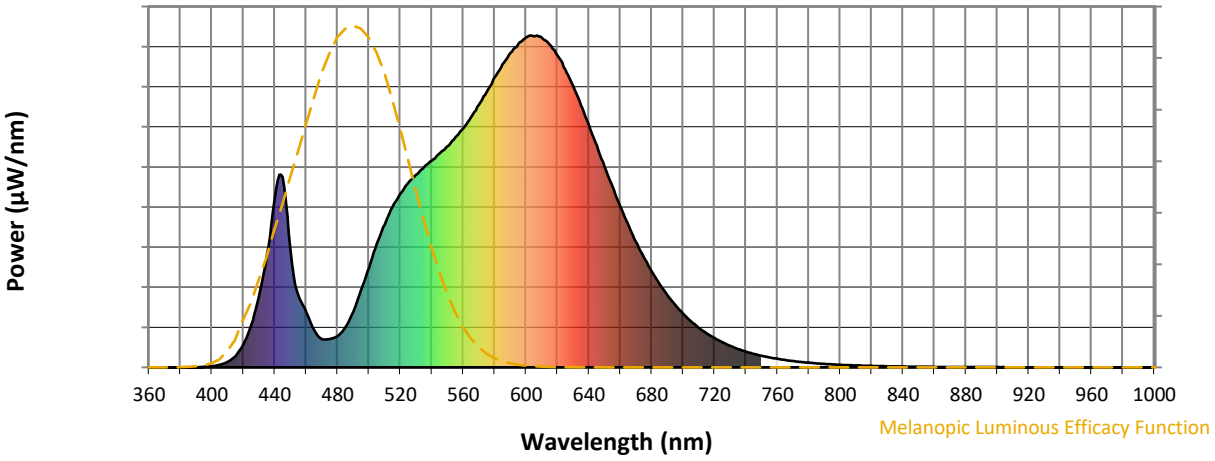
Melanopic Flux vs. Wavelength



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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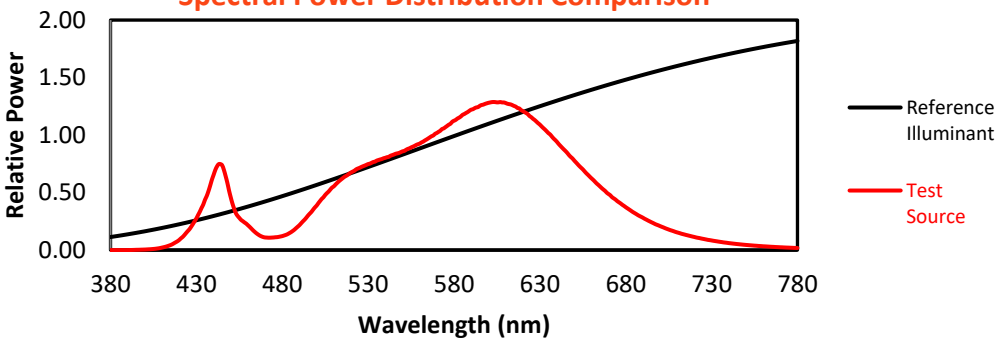
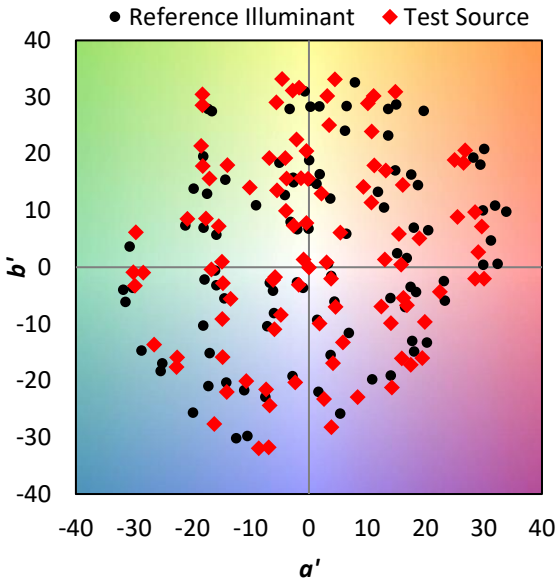
Summary

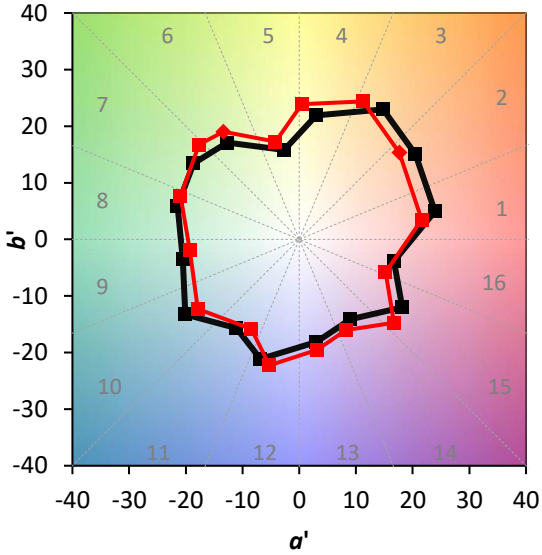
R_f = 81.5
R_g = 99.2
CIE R_a = 81.0
R_9 = 7.1

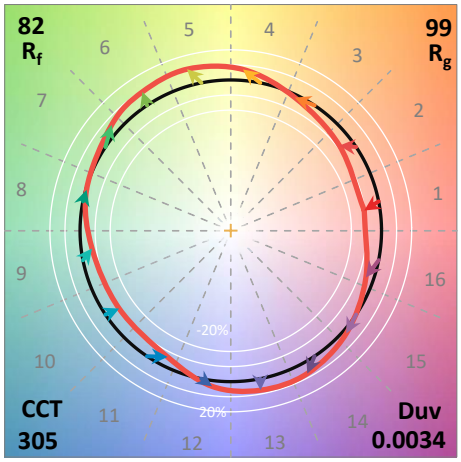
Spectral Power Distribution Comparison

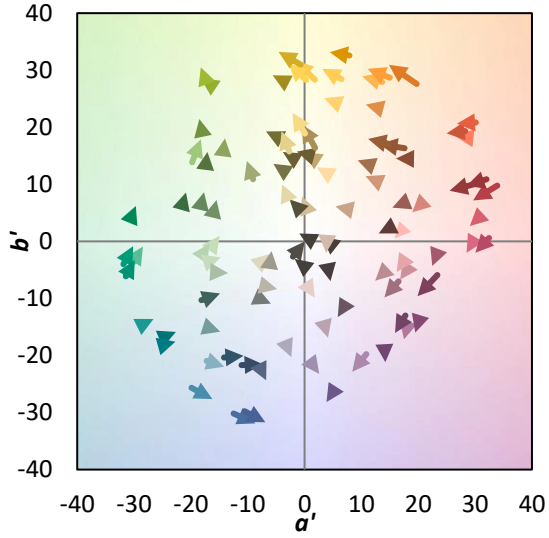


Color Vector Graphics









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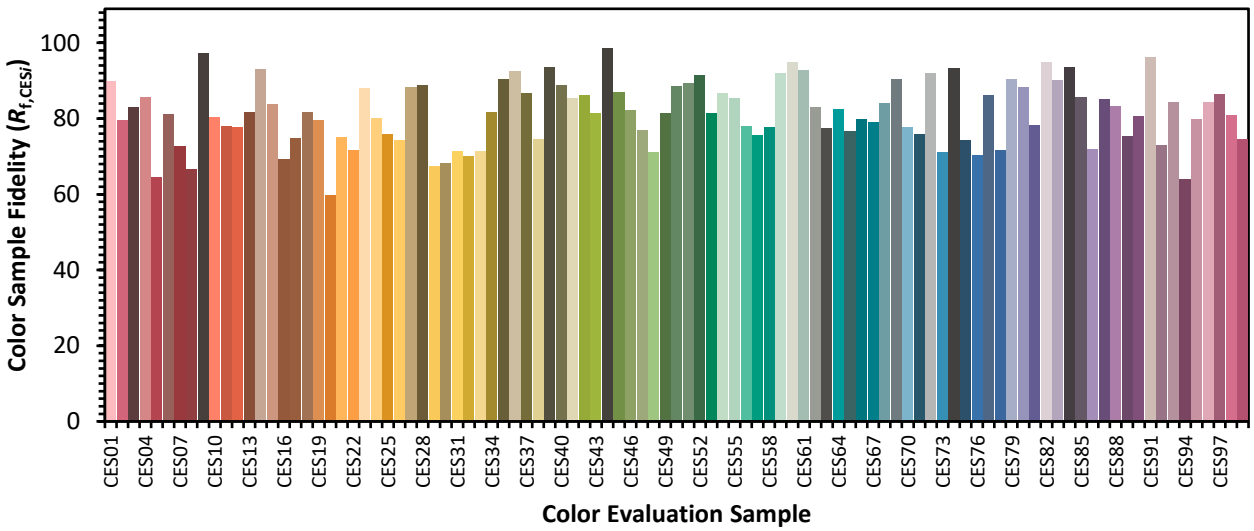
Individual Sample Fidelity Index ($R_{f,i}$)

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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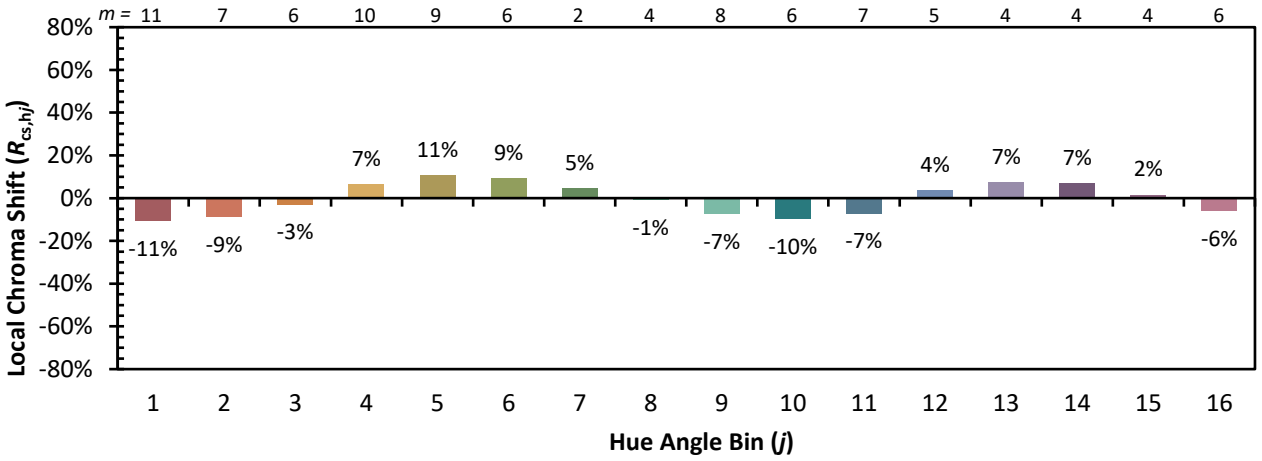
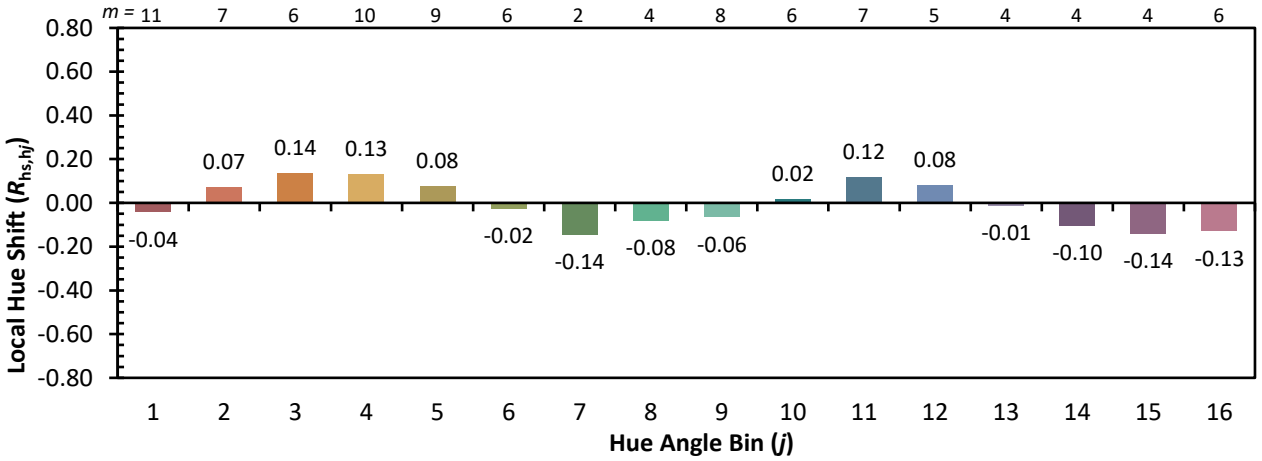
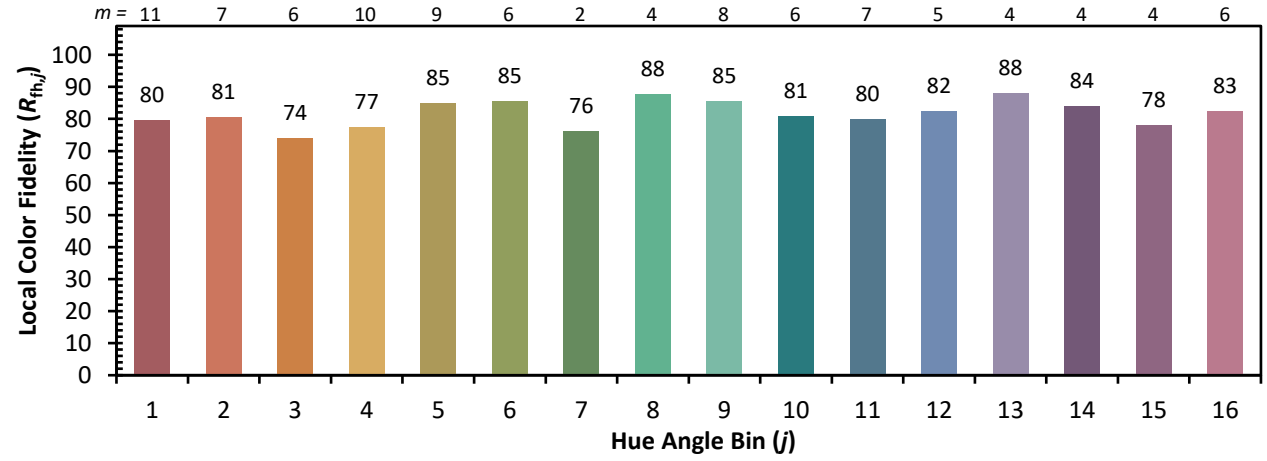
Color Rendition by Hue-Angle Bin







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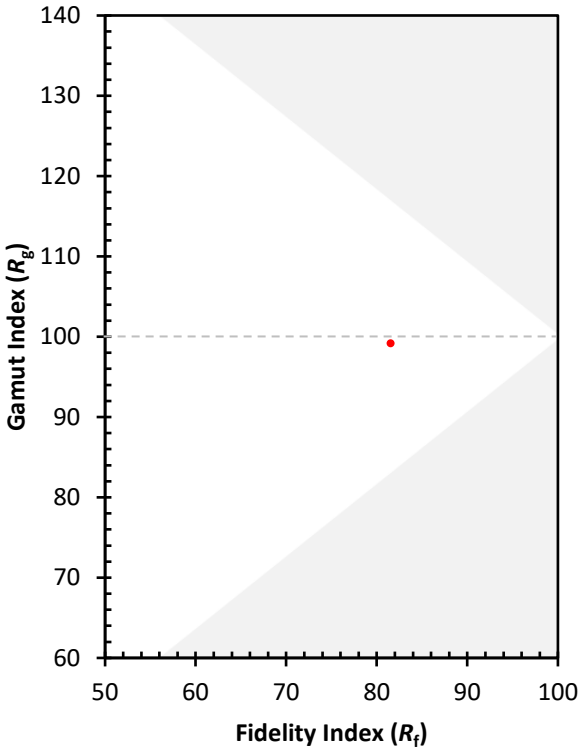
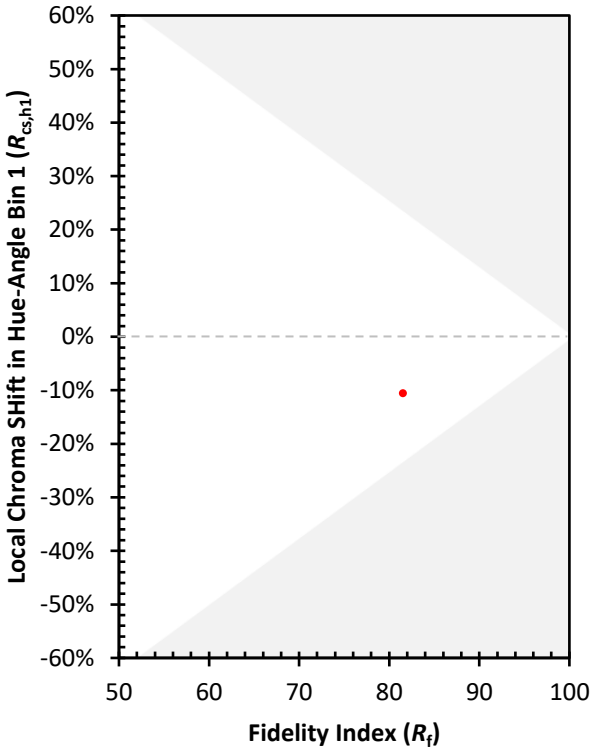
Measure Comparisons





(END OF REPORT)