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: P638990

Luminaire Tested: GWS-SA4F-830-U-T2R-W

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:	P638990
	TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2209-782-11)
Test Lab:	COOPER LIGHTING SOLUTIONS
Issue Date:	1/10/2023
Manufacturer:	COOPER LIGHTING SOLUTIONS
Product Line:	McGRAW-EDISON
Catalog Number:	GWS-SA4F-830-U-T2R-W
Description:	GALLEON WALL SLIM LUMINAIRE. (4) LIGHTSQUARES WITH 16 LEDS EACH AND TYPE II ROADWAY OPTICS
Light Source:	(64) 3000K CCT, 80 CRI LEDS
Ballast/Driver:	-

Summary

Lumens per Lamp:	N/A
Luminaire Lumens:	27560.6 lumens
Efficiency:	N/A
Efficacy:	122.3 lumens/watt
Luminous Opening:	Rectangular (W 1' x L: 1' x H: 0')
IES Classification:	Type II - Short
BUG Rating:	B3 - 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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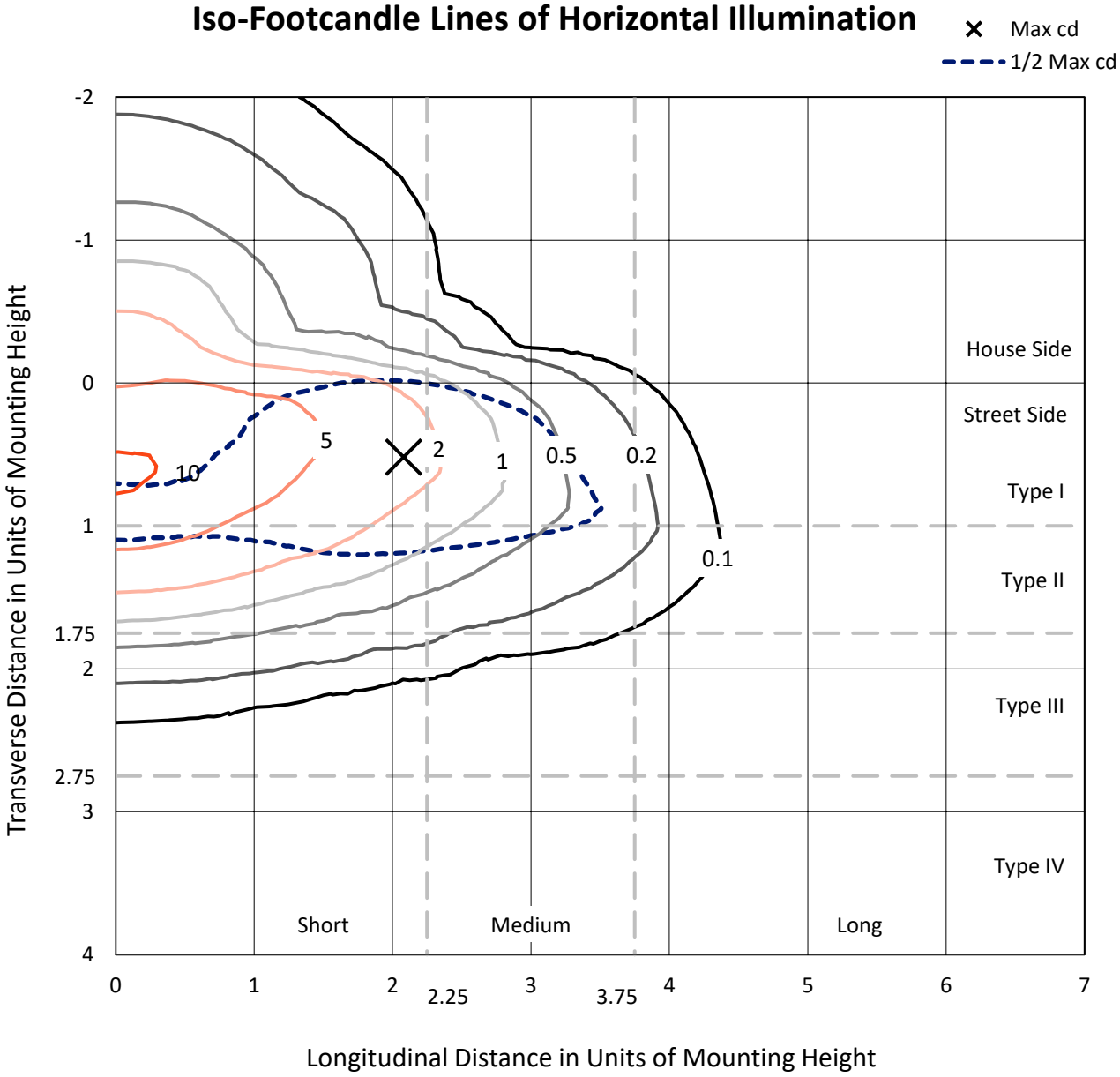
Scaled Data Report

REPORT NUMBER: P638990
CATALOG NUMBER: GWS-SA4F-830-U-T2R-W

Iso-Footcandle Lines of Horizontal Illumination



Based on 25 foot mounting height. Maximum calculated value = 10.8 fc
Type II - Short - N/A

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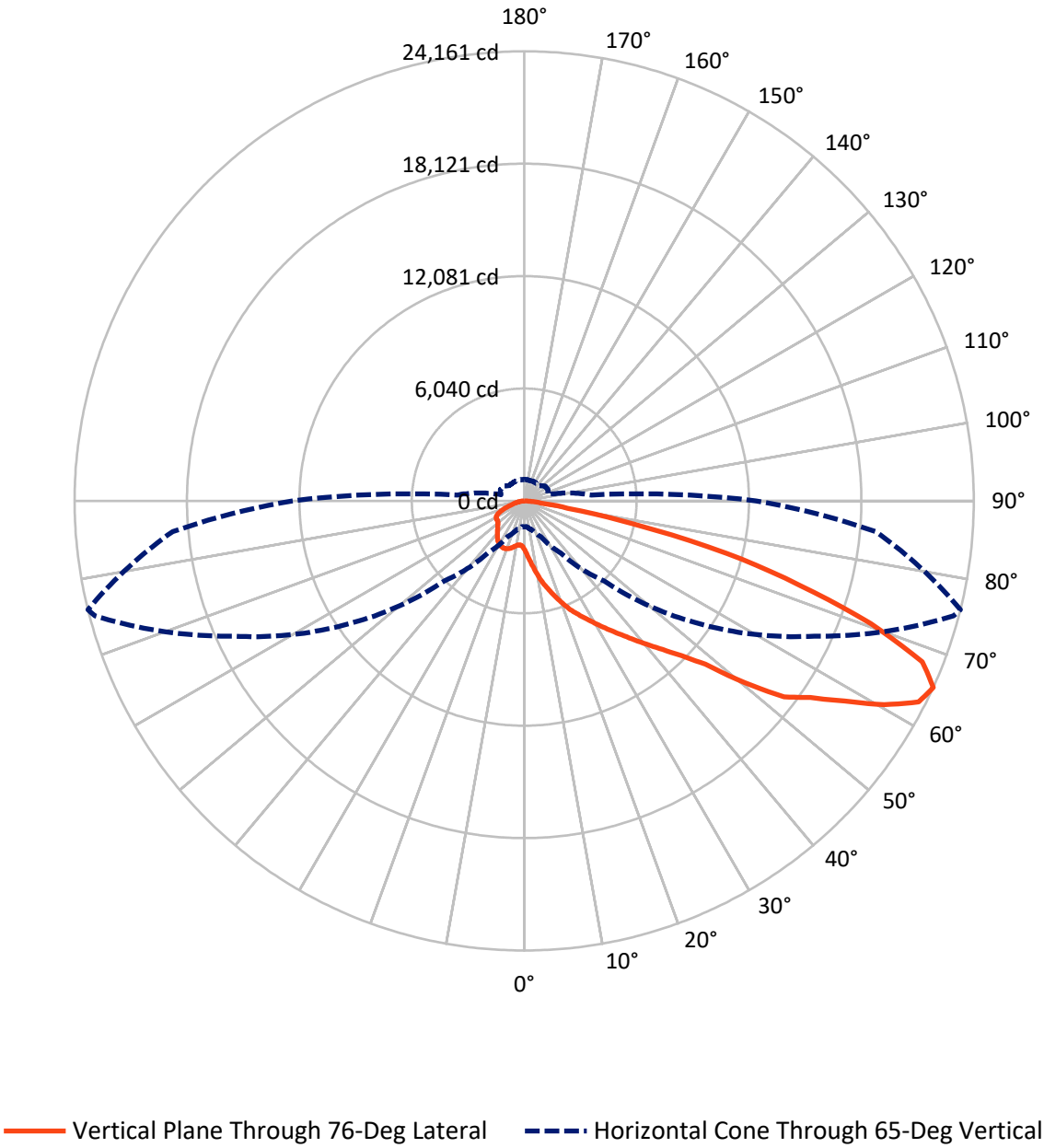
Luminous Intensity Polar Plot



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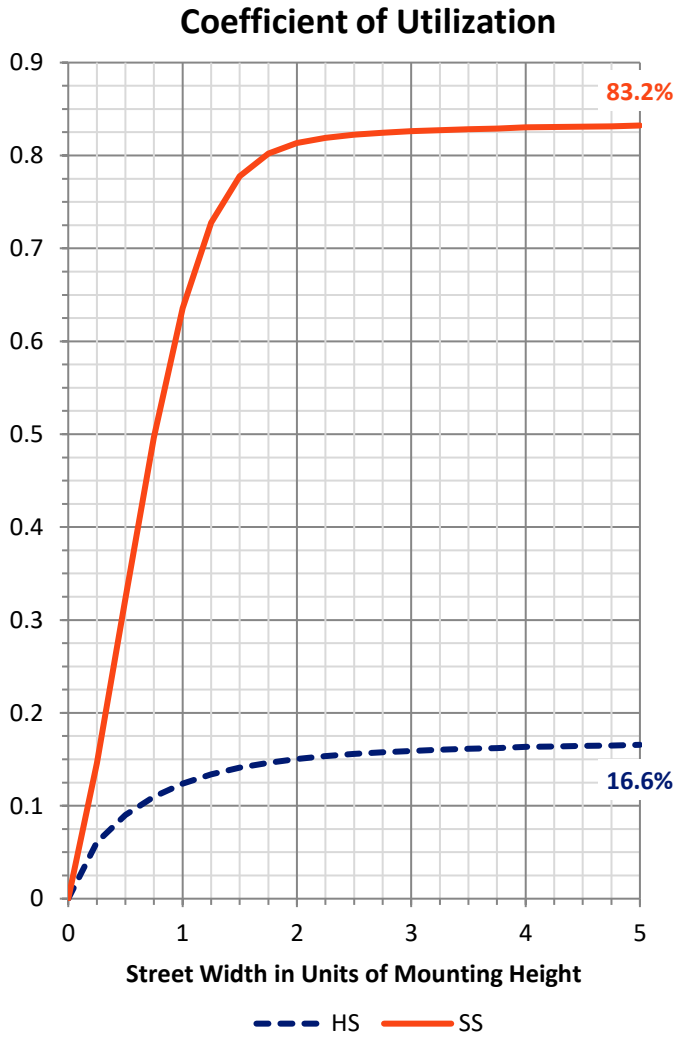
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	4606.8	0.0	4606.8
	% Fixture	16.7	0.0	16.7
Street Side	Lumens	22953.8	0.0	22953.8
	% Fixture	83.3	0.0	83.3
Total	Lumens	27560.6	0.0	27560.6
	% Fixture	100.0	0.0	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	310.1	1.1
10°-20°	1181.0	4.3
20°-30°	2301.6	8.4
30°-40°	3849.4	14.0
40°-50°	5511.5	20.0
50°-60°	6524.9	23.7
60°-70°	5425.5	19.7
70°-80°	2220.2	8.1
80°-90°	236.4	0.9
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°	27560.6	100.0
0°-180°	27560.6	100.0



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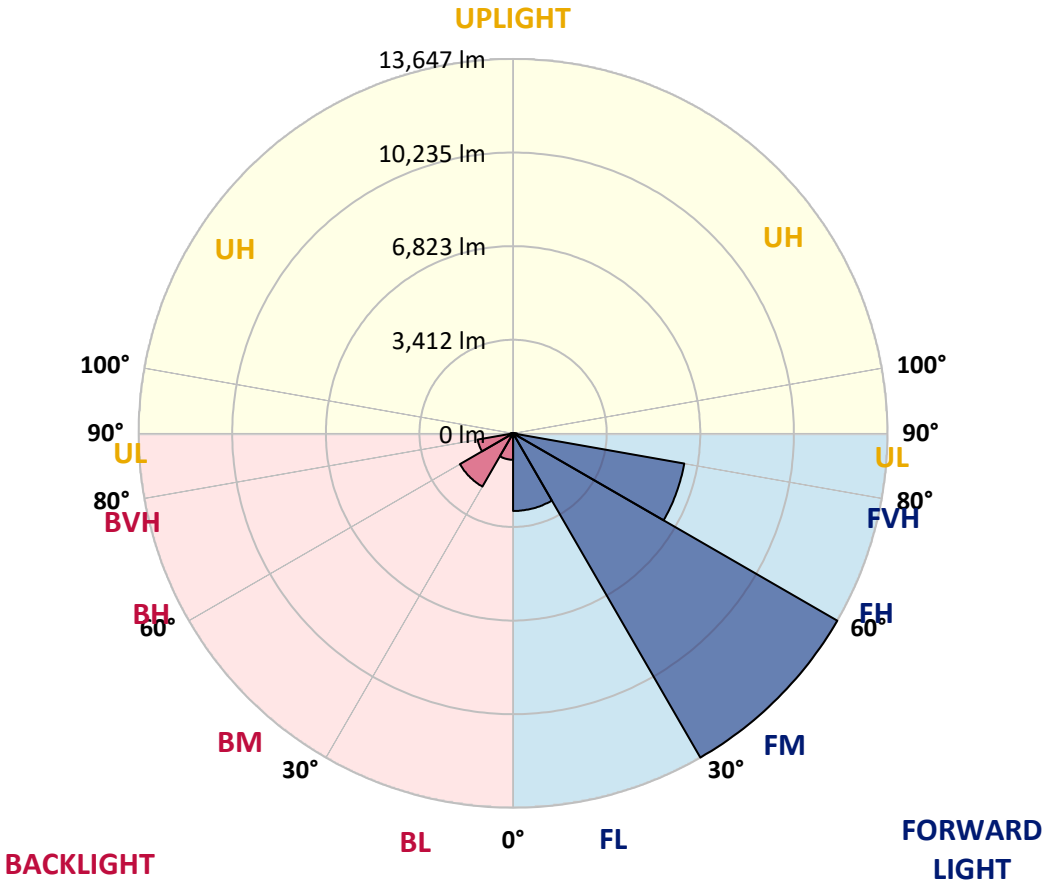
REPORT NUMBER: P638990
CATALOG NUMBER: GWS-SA4F-830-U-T2R-W

LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit B	U	G
FL	(0°-30°)	2829.0	10.3			
FM	(30°-60°)	13647.0	49.5			
FH	(60°-80°)	6336.9	23.0			G3/7500
FVH	(80°-90°)	141.0	0.5			G2/225
BL	(0°-30°)	963.7	3.5	B2/1000		
BM	(30°-60°)	2238.8	8.1	B2/2500		
BH	(60°-80°)	1308.8	4.7	B3/2500		G3/2500
BVH	(80°-90°)	95.4	0.3			G1/100
UL	(90°-100°)	0.0	0.0		U0/0	
UH	(100°-180°)	0.0	0.0		U0/0	

BUG Rating: B3-U0-G3
Type II Short



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Scaled Data Report

REPORT NUMBER: P638990
CATALOG NUMBER: GWS-SA4F-830-U-T2R-W

CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	45°	55°	65°	75°	76°	85°
0°	2609.9	2609.9	2609.9	2609.9	2609.9	2609.9	2609.9	2609.9	2609.9	*2609.9*	2609.9
2.5°	3658.1	3671.7	3627.1	3611.6	3507.0	3365.5	3247.3	3069.1	2904.4	*2879.2*	2732.0
5°	4646.3	4588.1	4537.8	4504.8	4359.5	4198.7	3948.7	3613.5	3262.8	*3220.2*	2902.5
7.5°	5233.3	5223.6	5161.6	5142.3	5029.9	4869.1	4611.4	4194.8	3685.2	*3615.5*	3133.0
10°	5704.2	5698.4	5667.3	5684.8	5582.1	5425.2	5175.2	4745.1	4148.3	*4078.6*	3390.7
12.5°	6114.9	6124.6	6118.8	6182.7	6130.4	6008.4	5748.7	5276.0	4611.4	*4535.8*	3704.6
15°	6415.2	6423.0	6452.1	6591.6	6620.6	6595.4	6331.9	5797.2	5068.6	*4960.1*	4028.2
17.5°	6500.5	6516.0	6585.8	6810.5	6967.4	7072.1	6876.4	6328.1	5518.2	*5400.0*	4357.6
20°	6614.8	6632.3	6702.0	6936.4	7167.0	7405.3	7370.5	6866.7	5971.5	*5874.7*	4690.8
22.5°	7143.8	7130.2	7099.2	7211.6	7376.3	7672.7	7759.9	7384.0	6440.4	*6347.4*	5059.0
25°	8162.9	8137.7	7940.1	7837.4	7783.2	7963.4	8118.4	7854.8	6897.7	*6758.2*	5401.9
27.5°	9286.7	9273.1	9021.3	8777.1	8443.9	8366.4	8457.4	8265.6	7341.4	*7200.0*	5700.3
30°	10350.4	10309.7	10046.2	9740.1	9294.5	8961.2	8827.5	8668.6	7827.7	*7680.5*	6049.0
32.5°	11301.8	11249.4	10939.4	10600.4	10133.4	9740.1	9341.0	9096.8	8378.0	*8207.5*	6405.6
35°	12082.6	12030.3	11712.5	11352.1	10838.7	10548.1	10001.7	9561.8	8937.9	*8765.5*	6826.0
37.5°	12687.1	12638.7	12307.4	11952.8	11505.2	11274.6	10799.9	10085.0	9583.1	*9403.0*	7271.6
40°	13026.2	12991.3	12725.9	12444.9	12069.0	11869.5	11656.3	10745.7	10305.9	*10125.7*	7796.7
42.5°	13128.9	13105.6	12919.6	12774.3	12520.5	12369.4	12491.4	11522.6	11077.0	*10920.1*	8387.7
45°	12871.2	12871.2	12816.9	12890.6	12902.2	12900.2	13328.4	12400.4	12024.5	*11852.0*	9220.8
47.5°	12212.4	12255.0	12334.5	12696.8	13078.5	13398.2	14306.9	13570.6	13243.2	*13101.7*	10400.8
50°	11007.3	11123.5	11394.8	12102.0	12913.8	13727.6	15233.1	15300.9	15612.8	*15362.9*	12136.8
52.5°	9242.1	9224.7	9916.4	10923.9	12162.0	13741.1	15742.6	16827.7	17666.6	*17494.2*	13427.3
55°	7345.3	7316.2	7961.4	9350.6	11009.2	13221.9	16048.8	17527.1	18805.9	*18650.9*	14587.9
57.5°	5624.7	5587.9	6161.4	7415.0	9381.6	12119.4	15990.6	18360.3	20373.4	*20294.0*	16165.0
60°	3871.2	3826.7	4363.4	5460.0	7455.7	10433.7	15347.4	18788.5	22208.3	*22235.4*	17852.6
62.5°	2325.1	2299.9	2689.3	3539.9	5363.2	8345.1	13841.9	18528.8	23669.2	*23791.2*	18937.7
65°	*1402.8*	*1385.4*	*1614.0*	*2111.9*	*3402.3*	*6089.7*	*11520.7*	*17201.6*	*23880.4*	*24161.3*	*18962.9*
67.5°	1021.1	1023.0	1088.9	1286.5	1984.1	3933.2	8645.4	14822.3	22779.8	*23070.5*	17767.4
70°	887.4	891.3	926.2	970.7	1199.3	2251.4	5620.8	11700.9	19526.7	*19751.4*	14901.7
72.5°	788.6	788.6	811.8	835.1	937.8	1371.8	3011.0	8178.4	15411.3	*15471.4*	11373.4
75°	693.6	687.8	699.5	711.1	813.8	959.1	1464.8	5698.4	11383.1	*11243.6*	7351.1
77.5°	552.2	546.4	548.3	560.0	653.0	685.9	742.1	3559.3	6415.2	*6054.9*	3247.3
80°	393.3	389.4	410.8	439.8	482.5	420.4	465.0	1722.5	2544.0	*2367.7*	1259.4
82.5°	234.4	242.2	275.1	298.4	333.3	263.5	300.3	575.5	901.0	*877.7*	511.5
85°	32.9	34.9	98.8	114.3	143.4	102.7	158.9	259.6	360.4	*385.6*	180.2
87.5°	0.0	0.0	0.0	0.0	0.0	0.0	13.6	46.5	102.7	*104.6*	44.6
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: P638990
CATALOG NUMBER: GWS-SA4F-830-U-T2R-W

CANDELA DISTRIBUTION (continued):

	90°	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°
0°	2609.9	2609.9	2609.9	2609.9	2609.9	2609.9	2609.9	2609.9	2609.9	2609.9	2609.9
2.5°	2656.4	2565.3	2435.5	2327.0	2235.9	2162.3	2100.3	2053.8	2040.2	2020.9	2020.9
5°	2753.3	2588.6	2356.1	2191.4	2096.4	2040.2	2001.5	1982.1	1972.4	1960.8	1955.0
7.5°	2887.0	2656.4	2342.5	2175.9	2102.2	2067.4	2042.2	2030.6	2022.8	2011.2	2011.2
10°	3071.0	2757.1	2385.1	2230.1	2172.0	2137.1	2108.1	2088.7	2071.2	2053.8	2049.9
12.5°	3270.6	2888.9	2462.6	2303.8	2241.8	2199.1	2158.4	2129.4	2108.1	2086.7	2080.9
15°	3491.5	3024.5	2545.9	2375.4	2297.9	2239.8	2191.4	2146.8	2117.7	2086.7	2082.9
17.5°	3708.5	3162.1	2615.7	2423.9	2325.1	2253.4	2183.6	2125.5	2088.7	2053.8	2044.1
20°	3968.1	3299.7	2664.1	2437.4	2319.3	2224.3	2141.0	2067.4	2026.7	1986.0	1980.2
22.5°	4206.4	3427.5	2687.4	2418.1	2274.7	2162.3	2065.4	1986.0	1941.4	1900.7	1893.0
25°	4437.0	3539.9	2677.7	2371.6	2206.9	2077.1	1976.3	1896.9	1854.2	1811.6	1800.0
27.5°	4659.8	3615.5	2639.0	2299.9	2121.6	1982.1	1885.2	1813.6	1776.7	1739.9	1724.4
30°	4878.8	3685.2	2578.9	2206.9	2013.1	1883.3	1803.9	1753.5	1716.7	1677.9	1666.3
32.5°	5099.6	3735.6	2487.8	2098.4	1902.7	1796.1	1747.7	1710.9	1672.1	1633.4	1621.7
35°	5322.5	3756.9	2377.4	1974.4	1809.7	1739.9	1722.5	1679.9	1627.5	1581.0	1565.5
37.5°	5587.9	3776.3	2239.8	1852.3	1728.3	1712.8	1708.9	1645.0	1583.0	1519.0	1501.6
40°	5907.6	3801.5	2098.4	1741.9	1662.4	1703.1	1687.6	1600.4	1476.4	1414.4	1395.0
42.5°	6299.0	3848.0	1951.1	1641.1	1614.0	1666.3	1648.9	1491.9	1408.6	1373.7	1364.0
45°	6874.4	4018.5	1803.9	1561.7	1577.2	1614.0	1586.9	1428.0	1395.0	1371.8	1360.2
47.5°	7899.4	4280.1	1676.0	1501.6	1548.1	1567.5	1462.9	1410.5	1385.4	1354.4	1340.8
50°	8965.1	4394.4	1573.3	1464.8	1515.2	1524.9	1395.0	1387.3	1369.9	1336.9	1323.4
52.5°	9685.8	4378.9	1511.3	1451.2	1488.0	1451.2	1364.0	1362.1	1350.5	1311.7	1296.2
55°	10499.6	4406.0	1484.2	1455.1	1476.4	1327.2	1325.3	1331.1	1325.3	1282.7	1274.9
57.5°	11598.2	4489.3	1470.6	1468.7	1468.7	1267.2	1288.5	1296.2	1284.6	1265.2	1259.4
60°	12654.2	4495.1	1445.4	1484.2	1462.9	1230.3	1245.8	1253.6	1240.0	1236.2	1234.2
62.5°	13051.4	4216.1	1389.2	1472.5	1439.6	1189.7	1201.3	1205.2	1191.6	1201.3	1199.3
65°	*12460.4*	*3623.2*	*1296.2*	*1416.4*	*1367.9*	*1152.8*	*1145.1*	*1154.8*	*1131.5*	*1156.7*	*1158.7*
67.5°	11063.4	2879.2	1154.8	1309.8	1267.2	1112.2	1096.7	1096.7	1057.9	1096.7	1094.7
70°	8920.5	2034.4	947.5	1139.3	1156.7	1063.7	1056.0	1011.4	949.4	1007.5	1001.7
72.5°	6762.1	1460.9	746.0	901.0	995.9	995.9	997.8	922.3	850.6	877.7	854.5
75°	4283.9	1028.8	596.8	689.8	780.8	873.8	918.4	778.9	715.0	703.3	691.7
77.5°	1929.8	676.2	465.0	529.0	554.1	689.8	839.0	670.4	583.2	558.0	550.3
80°	808.0	420.4	331.3	373.9	341.0	579.3	740.1	521.2	428.2	393.3	368.1
82.5°	354.6	249.9	211.2	201.5	213.1	430.1	552.2	346.8	267.4	362.3	366.2
85°	149.2	131.8	108.5	98.8	87.2	164.7	259.6	135.6	166.6	94.9	77.5
87.5°	34.9	38.8	29.1	19.4	11.6	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

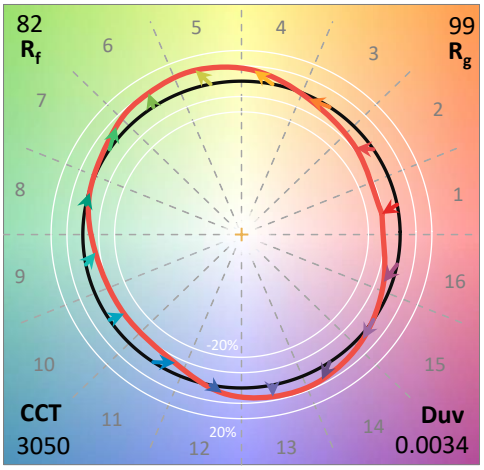
Test Information

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

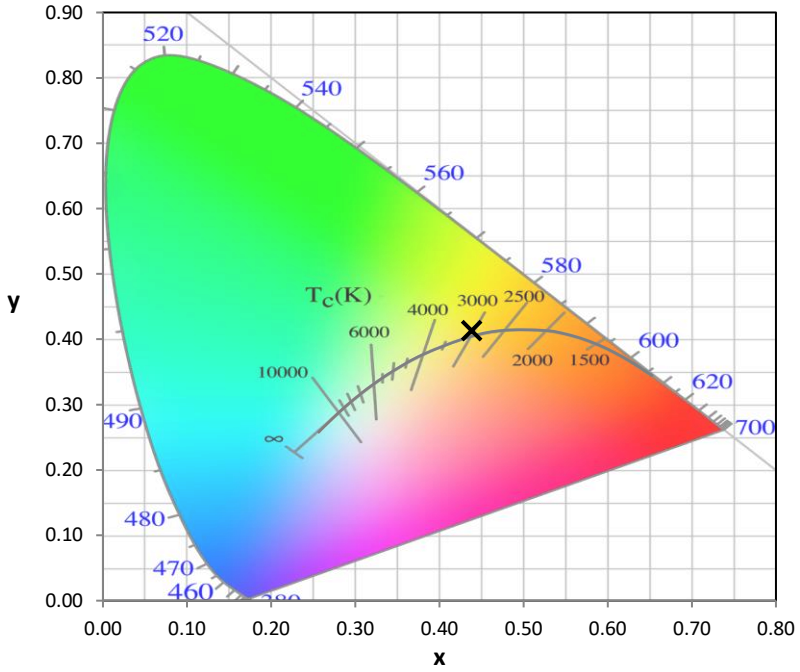
Stabilization Time:	20M
Operation Time:	1H 20M
Sphere Temperature (°C):	24.2

REPORT NUMBER: SP1-2408-195-9

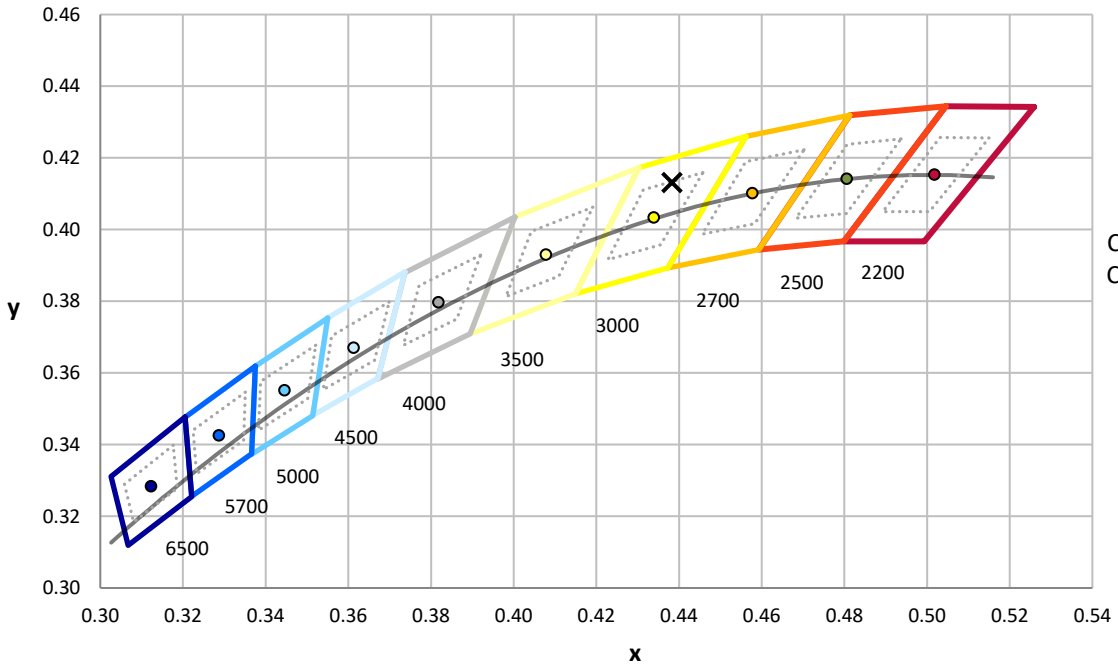
Measurement and Test Equipment			
Instrument	Identification Number	Calibration Date	Calibration Due Date
Photometer	IN0058	6/18/2024	12/18/2024
Power Meter	INXT2011004	2/8/2024	2/8/2025
AC Power Source	IN0063	10/24/2023	10/24/2024
DC Power Source	IN0208	10/24/2023	10/24/2024
Sphere Thermometer	IN0085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

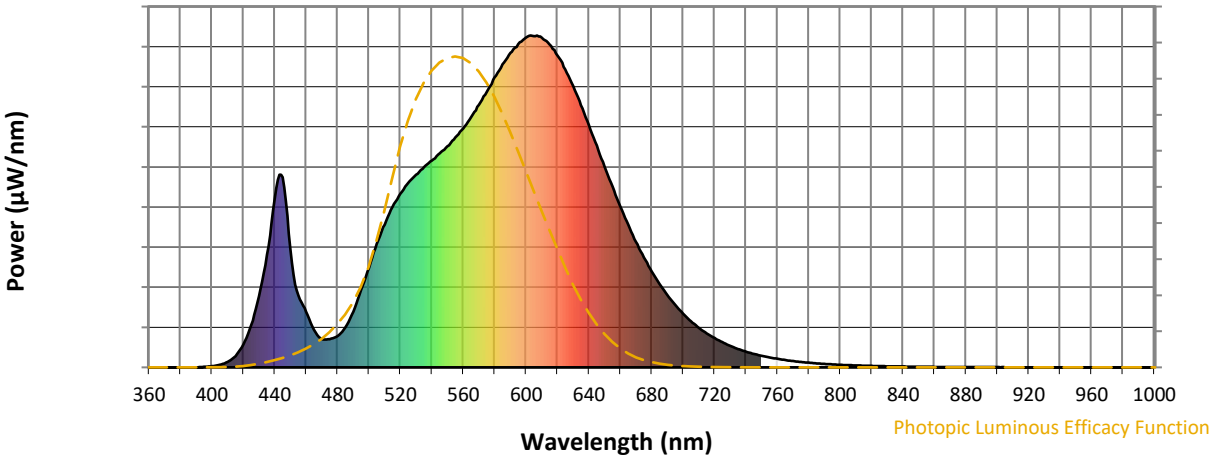


CCT = 3050K
CIE x = 0.4383
CIE y = 0.4131
Duv = 0.0034

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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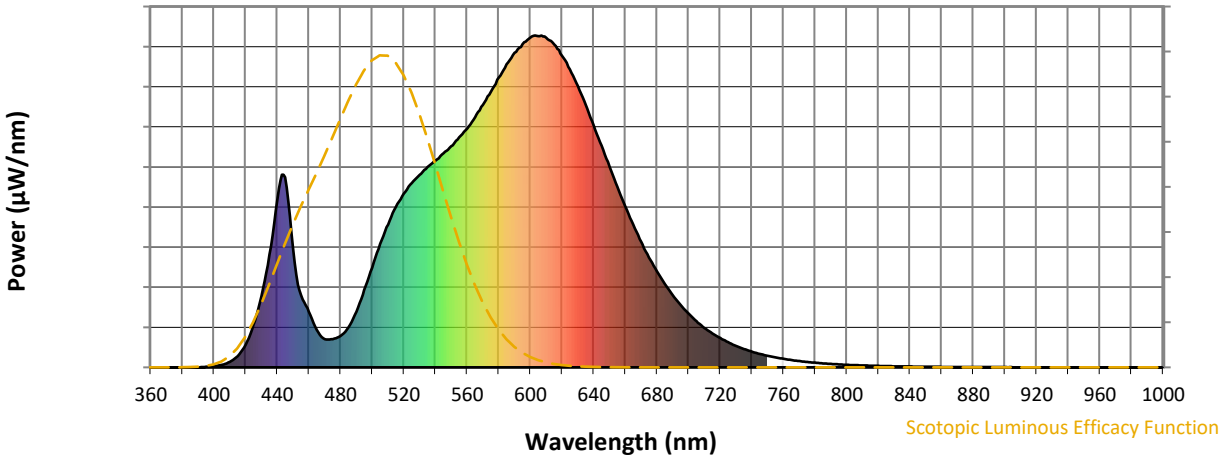
Scotopic Flux vs. Wavelength



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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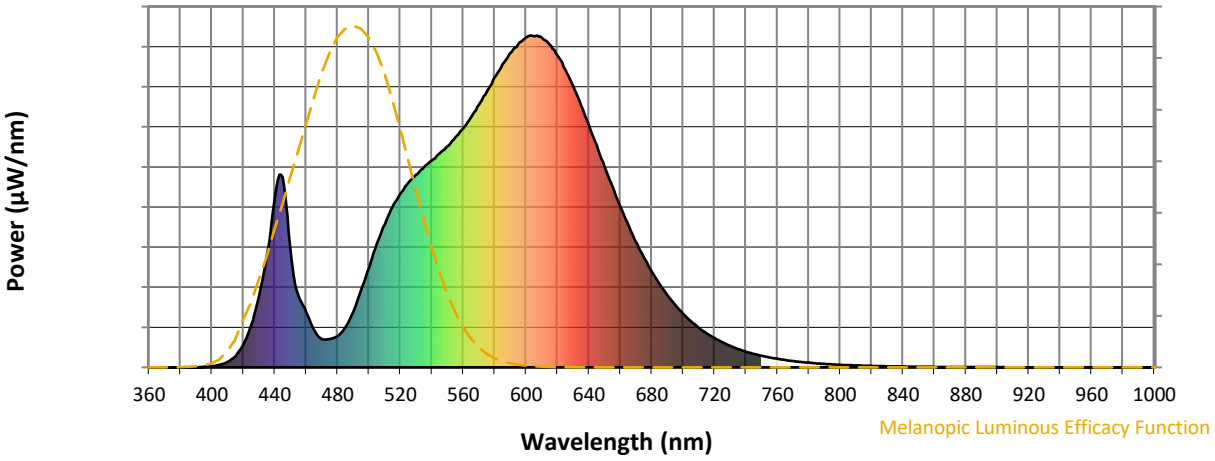
Melanopic Flux vs. Wavelength



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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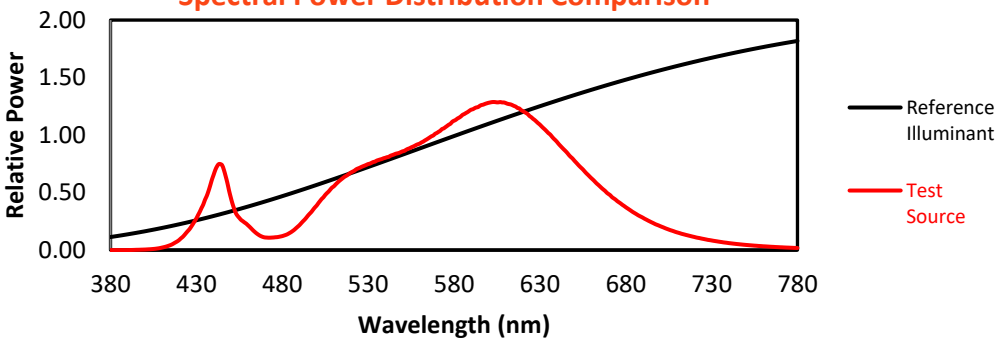
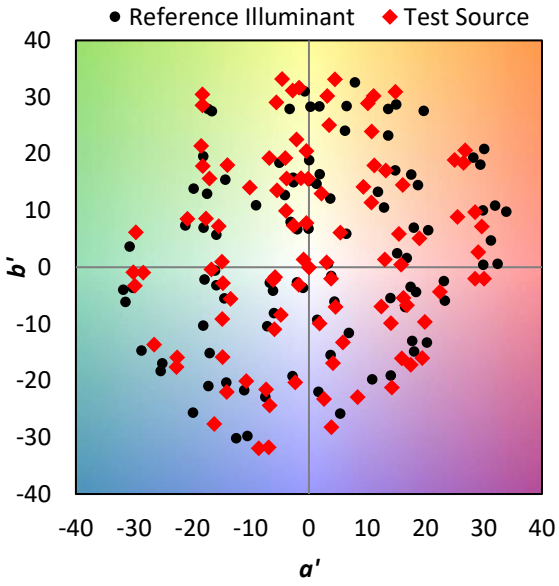
Summary

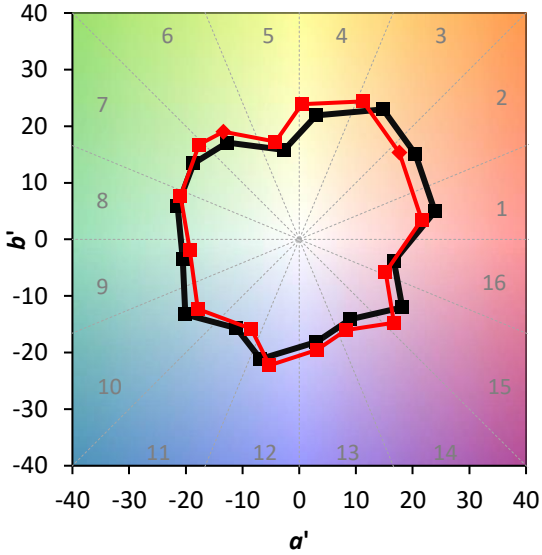
R_f = 81.5
R_g = 99.2
CIE R_a = 81.0
R_9 = 7.1

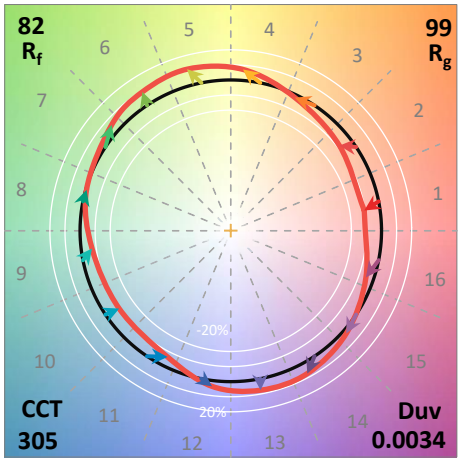
Spectral Power Distribution Comparison

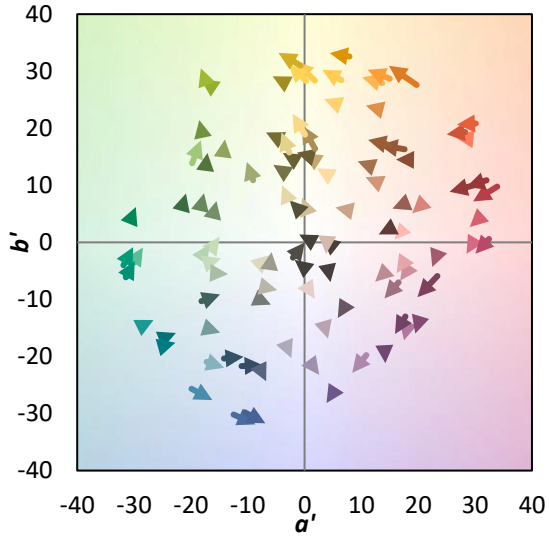


Color Vector Graphics









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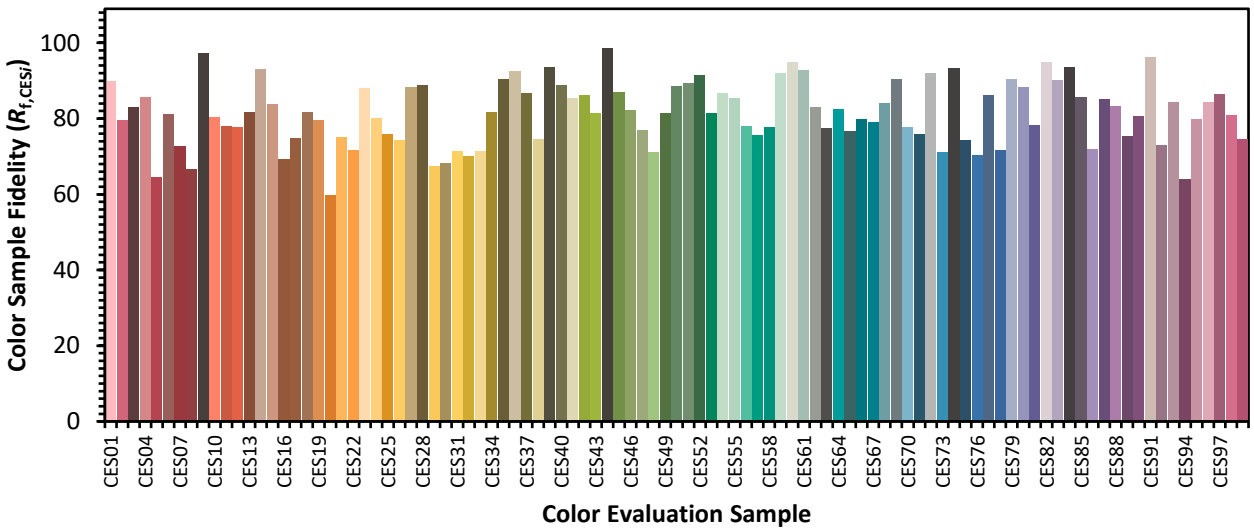
Individual Sample Fidelity Index ($R_{f,i}$)

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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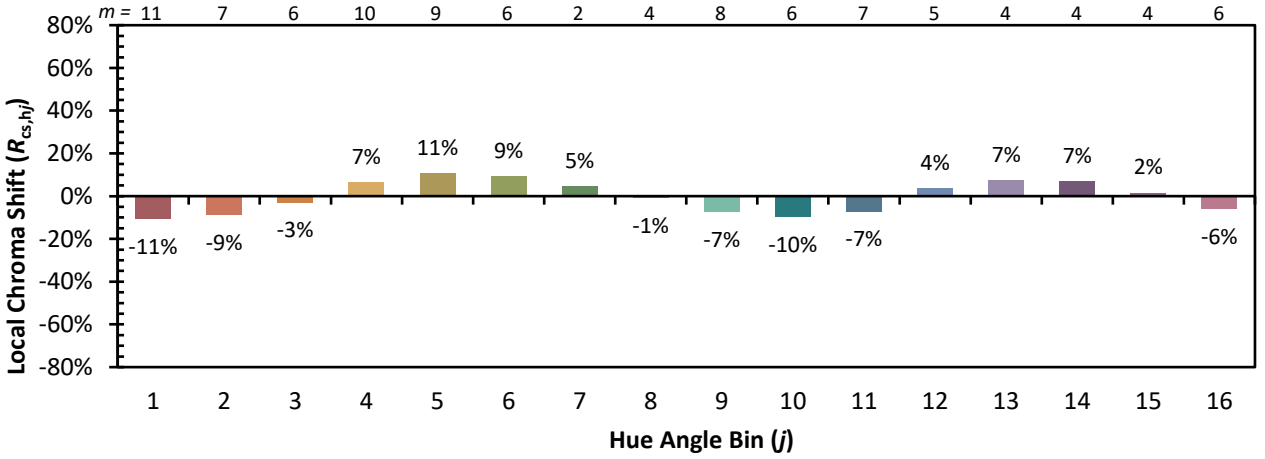
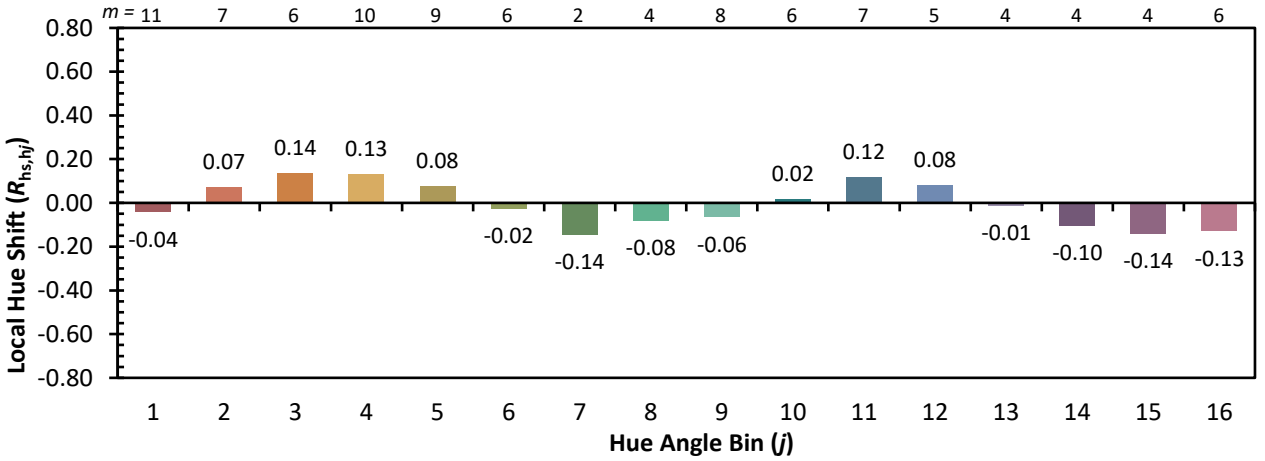
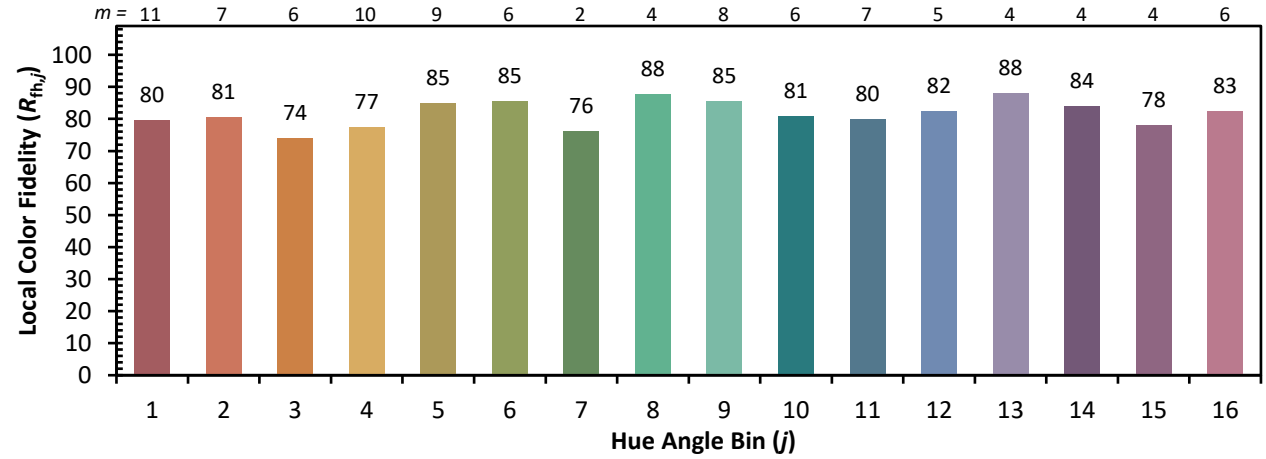
Color Rendition by Hue-Angle Bin







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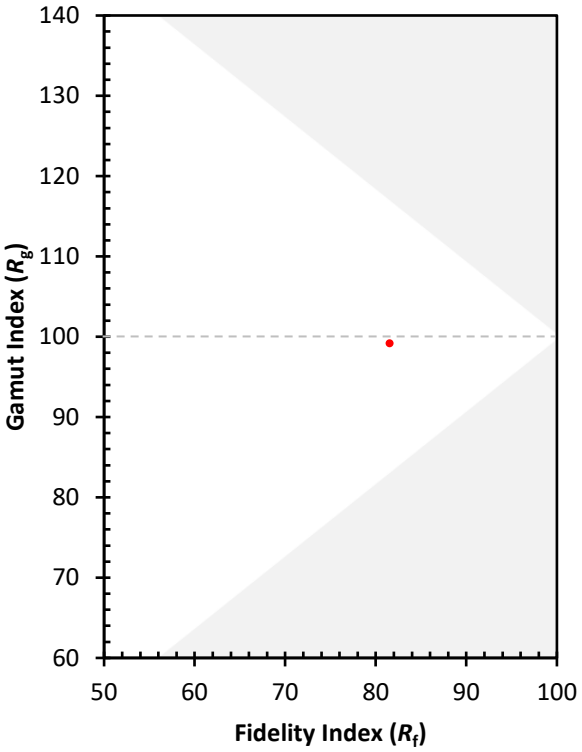
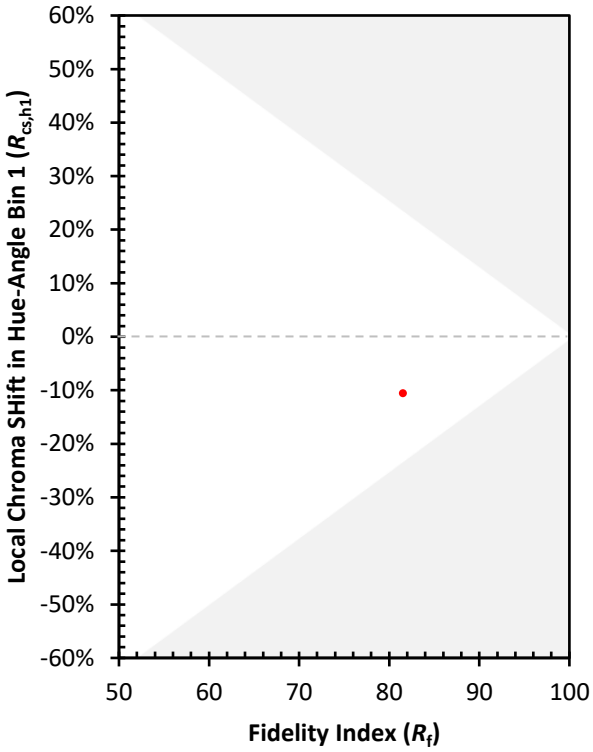
Measure Comparisons





(END OF REPORT)