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: P638462

Luminaire Tested: GWS-SA4E-830-U-AFL-W-GRSBK

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:	P638462
	TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2209-782-46)
Test Lab:	COOPER LIGHTING SOLUTIONS
Issue Date:	1/10/2023
Manufacturer:	COOPER LIGHTING SOLUTIONS
Product Line:	McGRAW-EDISON
Catalog Number:	GWS-SA4E-830-U-AFL-W-GRSBK
Description:	GALLEON WALL SLIM LUMINAIRE. (4) LIGHTSQUARES WITH 16 LEDS EACH AND AUTOMOTIVE FRONTLINE OPTICS W/ FACTORY INSTALLED GLARE SHIELD, BK
Light Source:	(64) 3000K CCT, 80 CRI LEDS
Ballast/Driver:	-

Summary

Lumens per Lamp:	N/A
Luminaire Lumens:	18309.2 lumens
Efficiency:	N/A
Efficacy:	90.4 lumens/watt
Luminous Opening:	Rectangular (W 1' x L: 1' x H: 0')
IES Classification:	Type II - Short
BUG Rating:	B3 - U0 - G1

Input Watts (W):	202.6
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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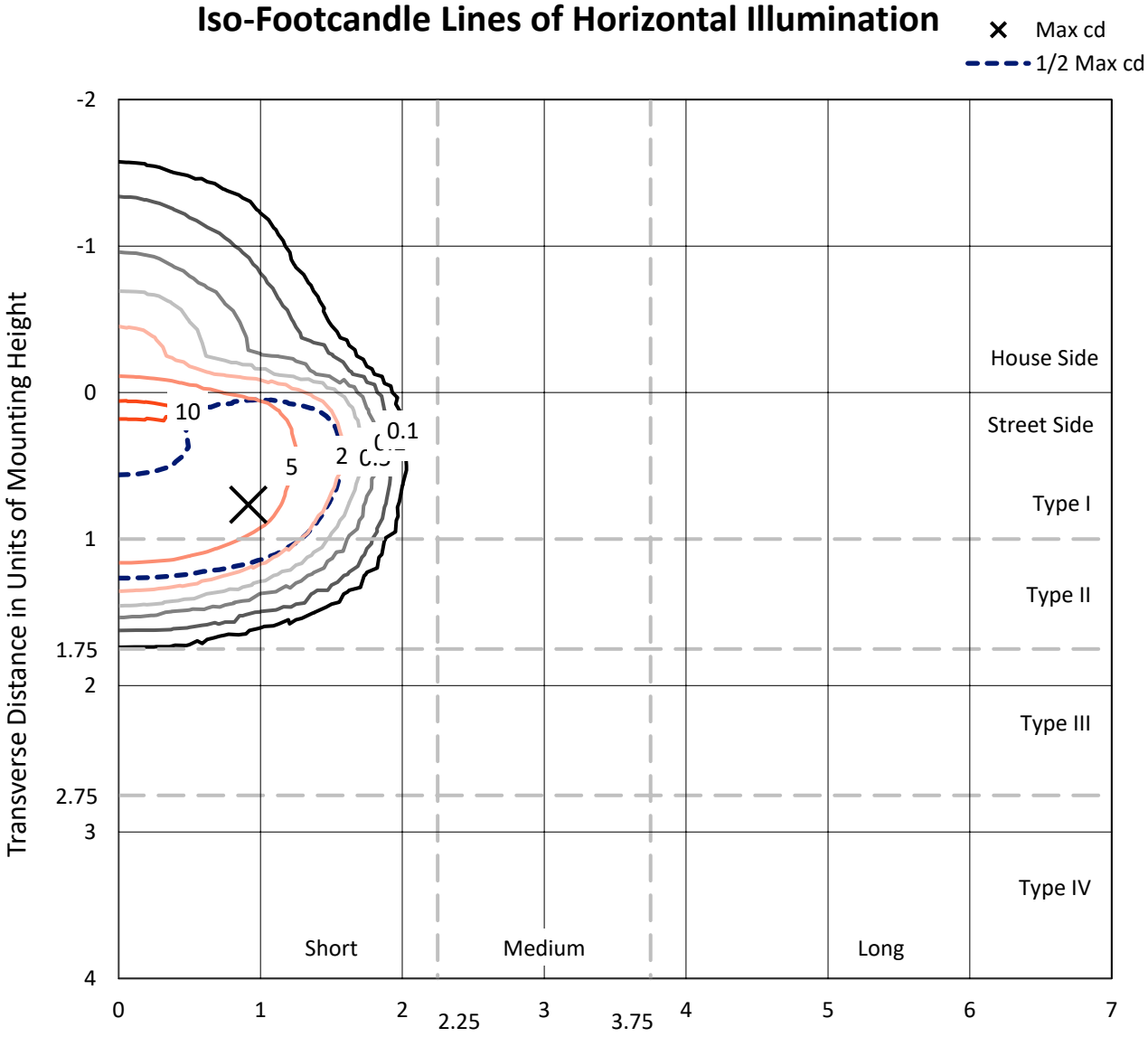
Scaled Data Report

REPORT NUMBER: P638462
CATALOG NUMBER: GWS-SA4E-830-U-AFL-W-GRSBK

Iso-Footcandle Lines of Horizontal Illumination



Based on 25 foot mounting height. Maximum calculated value = 11.4 fc
Type II - Short - N/A

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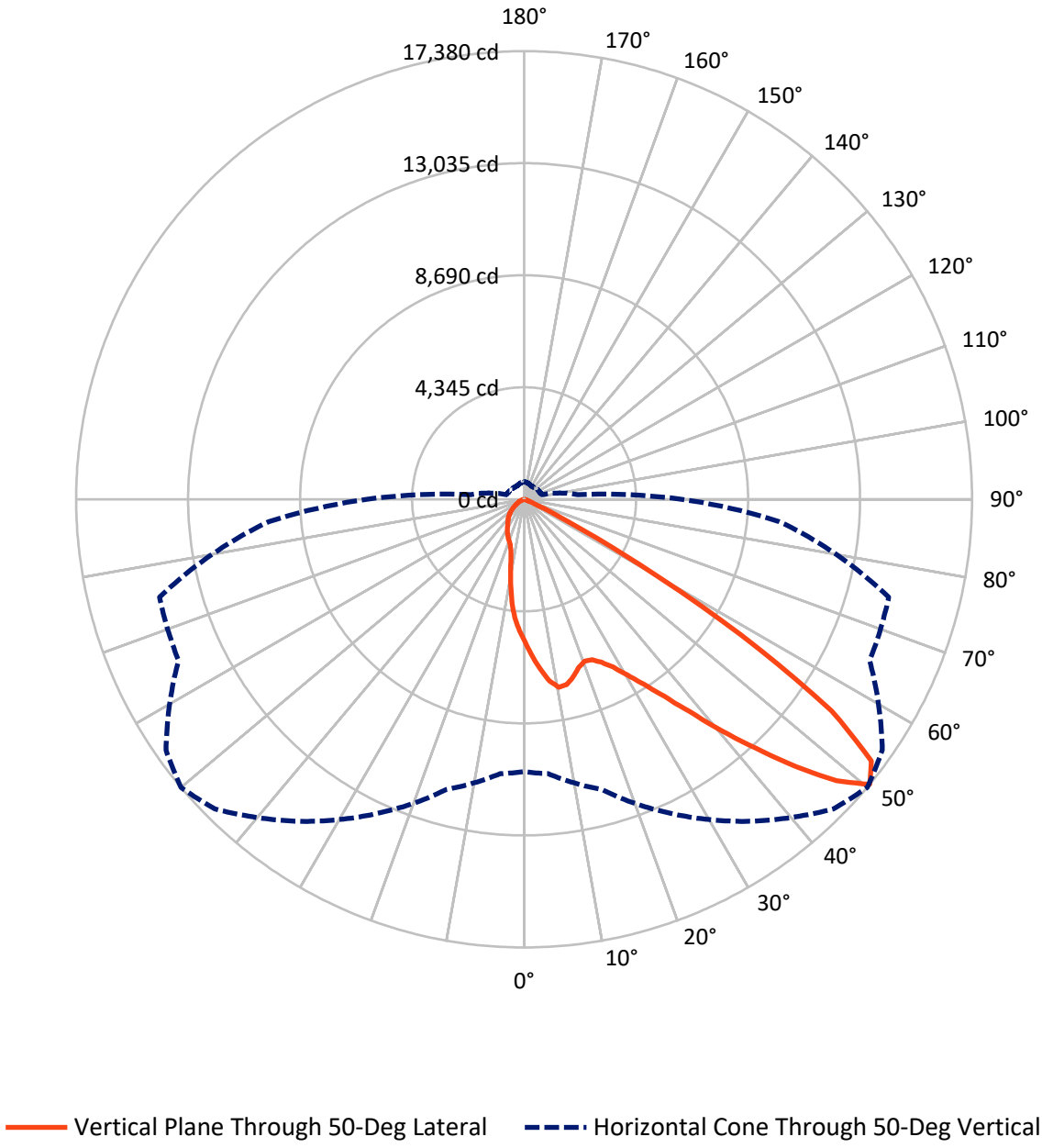
Luminous Intensity Polar Plot



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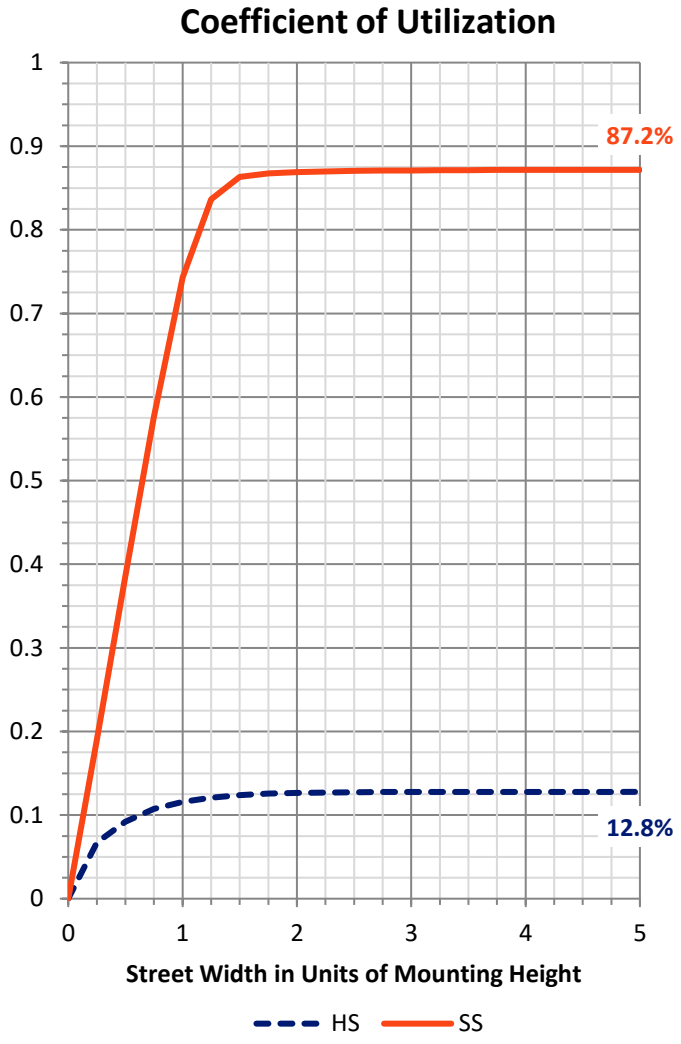
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	2352.4	0.0	2352.4
	% Fixture	12.8	0.0	12.8
Street Side	Lumens	15956.8	0.0	15956.8
	% Fixture	87.2	0.0	87.2
Total	Lumens	18309.2	0.0	18309.2
	% Fixture	100.0	0.0	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	514.6	2.8
10°-20°	1327.6	7.3
20°-30°	2191.0	12.0
30°-40°	3615.7	19.7
40°-50°	5720.8	31.2
50°-60°	4331.3	23.7
60°-70°	542.1	3.0
70°-80°	61.3	0.3
80°-90°	4.7	0.0
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°	18309.2	100.0
0°-180°	18309.2	100.0



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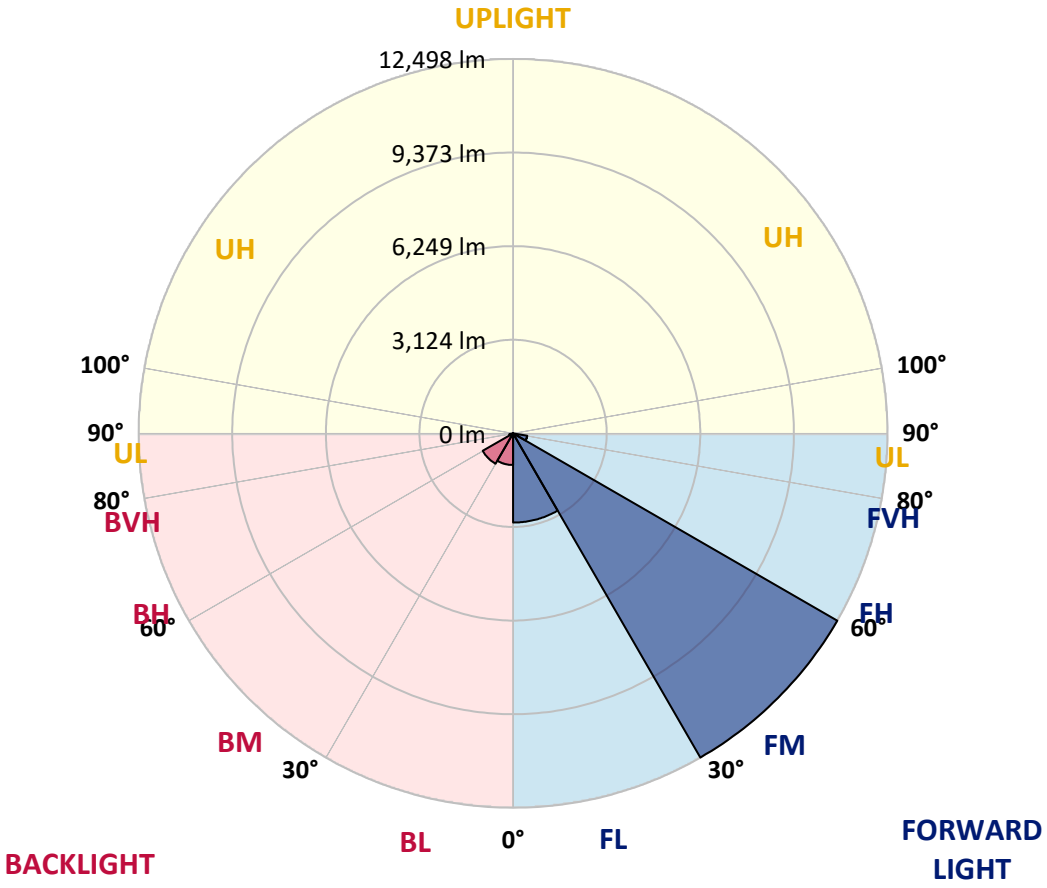
LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit B	U	G
FL	(0°-30°)	2977.3	16.3			
FM	(30°-60°)	12498.0	68.3			
FH	(60°-80°)	479.3	2.6			G0/660
FVH	(80°-90°)	2.2	0.0			G0/10
BL	(0°-30°)	1055.9	5.8	B3/2500		
BM	(30°-60°)	1169.9	6.4	B2/2500		
BH	(60°-80°)	124.1	0.7	B1/500		G1/500
BVH	(80°-90°)	2.5	0.0			G0/10
UL	(90°-100°)	0.0	0.0		U0/0	
UH	(100°-180°)	0.0	0.0		U0/0	

BUG Rating: B3-U0-G1
Type II Short



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REPORT NUMBER: P638462
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CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	45°	50°	55°	65°	75°	85°
0°	5547.0	5547.0	5547.0	5547.0	5547.0	5547.0	*5547.0*	5547.0	5547.0	5547.0	5547.0
2.5°	6320.7	6371.2	6357.3	6291.1	6219.6	6169.1	*6090.7*	6066.3	5888.5	5764.8	5634.1
5°	7084.0	7099.7	7082.3	7002.1	6876.6	6756.4	*6627.4*	6552.5	6254.5	5986.1	5712.5
7.5°	7267.0	7247.8	7280.9	7321.0	7303.6	7251.3	*7115.4*	7033.5	6678.0	6240.5	5825.8
10°	6695.4	6651.8	6775.6	6982.9	7200.8	7446.5	*7411.6*	7418.6	7091.0	6561.2	5973.9
12.5°	5937.3	5919.9	6012.3	6252.7	6679.7	7237.4	*7371.5*	7596.4	7469.1	6908.0	6143.0
15°	5604.5	5613.2	5668.9	5820.6	6127.3	6820.9	*7143.3*	7549.3	7807.2	7244.3	6329.4
17.5°	5655.0	5686.4	5684.6	5735.2	5921.6	6477.6	*6854.0*	7401.2	8068.6	7631.2	6543.8
20°	5998.3	6029.7	5982.6	5944.3	6007.0	6390.4	*6702.4*	7251.3	8244.6	8021.6	6770.3
22.5°	6512.4	6549.0	6437.5	6327.7	6287.6	6533.3	*6759.9*	7190.3	8378.8	8378.8	6972.5
25°	7134.5	7185.1	7012.6	6817.4	6705.8	6834.8	*7005.6*	7328.0	8516.5	8699.5	7110.1
27.5°	7829.9	7831.6	7683.5	7463.9	7254.8	7270.5	*7373.3*	7638.2	8668.1	9044.5	7218.2
30°	8612.3	8617.6	8420.6	8157.5	7894.4	7822.9	*7910.0*	8110.4	8983.5	9478.5	7368.1
32.5°	9623.1	9647.5	9365.2	8978.3	8636.7	8502.5	*8553.1*	8764.0	9485.4	10022.2	7592.9
35°	10989.4	11015.5	10599.0	10088.4	9544.7	9342.5	*9393.1*	9605.7	10212.1	10794.2	7951.9
37.5°	12338.2	12373.0	11951.3	11475.6	10729.7	10395.1	*10447.4*	10649.5	11303.0	11860.7	8526.9
40°	13270.5	13317.6	13186.9	12866.2	12174.4	11735.2	*11798.0*	11871.2	12503.7	13136.3	9272.8
42.5°	13762.0	13828.2	13884.0	14047.8	13683.5	13315.8	*13209.5*	13214.8	13725.4	14436.4	10048.3
45°	13791.6	13856.1	14141.9	14774.5	15051.6	14974.9	*14781.4*	14650.7	14657.7	15302.5	10532.8
47.5°	12833.1	12953.4	13488.4	14727.4	15769.5	16405.6	*16308.0*	15997.8	15049.8	15360.0	10480.5
50°	*10562.4*	*10680.9*	*11653.3*	*13436.1*	*15246.7*	*16977.2*	*17379.8*	*16963.3*	*14793.6*	*14643.8*	*9942.0*
52.5°	7671.3	7683.5	8314.3	10396.8	13127.6	15922.9	*16870.9*	16830.8	14403.3	13775.9	9206.6
55°	3643.9	3600.4	4309.7	5867.6	9079.4	12878.4	*14476.5*	14929.6	13849.1	13148.5	8636.7
57.5°	1061.3	1082.2	1397.6	2289.9	4541.4	8230.7	*9914.1*	10757.6	11367.5	10809.9	6698.9
60°	475.8	477.5	531.5	697.1	1512.6	3828.7	*5125.2*	6169.1	6796.5	6298.1	3323.3
62.5°	345.1	346.8	367.7	393.8	514.1	1296.6	*1922.2*	2561.7	2608.8	1707.8	841.7
65°	287.5	287.5	291.0	291.0	308.5	463.6	*583.8*	752.8	634.3	470.5	329.4
67.5°	231.8	233.5	237.0	237.0	231.8	231.8	*250.9*	275.3	294.5	364.2	303.2
70°	181.2	179.5	179.5	181.2	176.0	149.9	*162.1*	184.7	202.2	284.1	263.1
72.5°	141.2	142.9	141.2	134.2	122.0	88.9	*95.8*	120.2	129.0	177.8	177.8
75°	106.3	108.0	101.1	76.7	50.5	27.9	*36.6*	59.3	74.9	87.1	64.5
77.5°	13.9	13.9	10.5	10.5	8.7	10.5	*10.5*	13.9	20.9	20.9	15.7
80°	1.7	1.7	1.7	3.5	5.2	7.0	*7.0*	7.0	7.0	8.7	8.7
82.5°	1.7	1.7	1.7	1.7	5.2	5.2	*7.0*	7.0	7.0	7.0	7.0
85°	0.0	0.0	0.0	1.7	3.5	5.2	*5.2*	7.0	7.0	7.0	7.0
87.5°	0.0	0.0	0.0	1.7	3.5	5.2	*5.2*	5.2	7.0	7.0	7.0
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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Scaled Data Report

REPORT NUMBER: P638462
CATALOG NUMBER: GWS-SA4E-830-U-AFL-W-GRSBK

CANDELA DISTRIBUTION (continued):

	90°	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°
0°	5547.0	5547.0	5547.0	5547.0	5547.0	5547.0	5547.0	5547.0	5547.0	5547.0	5547.0
2.5°	5555.7	5454.6	5332.6	5249.0	5130.5	5052.0	4940.5	4865.6	4801.1	4750.6	4778.4
5°	5557.4	5397.1	5147.9	4935.3	4703.5	4490.9	4262.6	4083.1	3921.0	3847.8	3887.9
7.5°	5592.3	5362.2	4980.6	4602.4	4158.0	3718.9	3307.6	2973.0	2807.5	2729.0	2753.4
10°	5660.2	5346.6	4794.1	4166.8	3445.3	2845.8	2446.7	2220.2	2127.8	2079.0	2087.7
12.5°	5723.0	5336.1	4551.9	3593.4	2718.6	2208.0	2000.6	1969.2	1988.4	1990.1	1988.4
15°	5808.4	5316.9	4252.1	3004.4	2174.9	1908.2	1913.5	1958.8	2004.1	2018.0	2014.5
17.5°	5899.0	5287.3	3865.3	2439.8	1845.5	1821.1	1882.1	1943.1	1988.4	1995.4	1997.1
20°	5993.1	5226.3	3424.4	1991.9	1692.1	1754.9	1822.8	1868.2	1901.3	1911.7	1915.2
22.5°	6036.7	5097.3	2915.5	1671.2	1589.3	1673.0	1723.5	1782.8	1793.2	1754.9	1761.9
25°	6014.0	4879.5	2418.8	1455.1	1486.5	1570.2	1645.1	1615.5	1571.9	1544.0	1552.7
27.5°	5942.5	4590.2	1932.6	1296.6	1376.7	1483.0	1491.7	1458.6	1451.7	1429.0	1436.0
30°	5865.9	4257.4	1554.5	1169.3	1265.2	1376.7	1350.6	1362.8	1364.5	1338.4	1347.1
32.5°	5818.8	3908.8	1237.3	1083.9	1193.7	1214.6	1266.9	1291.3	1293.1	1232.1	1242.5
35°	5834.5	3565.5	1047.4	1014.2	1127.5	1122.3	1195.5	1209.4	1108.3	1024.7	1033.4
37.5°	5961.7	3248.4	939.3	960.2	1012.5	1052.6	1108.3	1016.0	993.3	955.0	960.2
40°	6198.7	2978.2	874.8	927.1	934.1	998.6	913.2	925.4	927.1	902.7	907.9
42.5°	6475.8	2753.4	836.5	907.9	890.5	901.0	815.6	840.0	866.1	855.7	857.4
45°	6615.2	2533.9	803.4	841.7	846.9	747.6	728.4	754.6	787.7	792.9	794.7
47.5°	6491.5	2324.7	768.5	745.9	780.7	681.4	658.7	667.4	705.8	726.7	730.2
50°	*6113.3*	*2084.2*	*716.2*	*660.5*	*641.3*	*611.7*	*590.8*	*592.5*	*636.1*	*672.7*	*679.6*
52.5°	5581.8	1833.3	630.9	559.4	515.8	538.5	543.7	533.3	573.3	609.9	616.9
55°	5066.0	1519.6	500.1	454.8	414.8	463.6	477.5	463.6	475.8	500.1	501.9
57.5°	3567.3	859.1	383.4	376.4	343.3	397.3	420.0	399.1	378.2	393.8	397.3
60°	1653.8	449.6	294.5	294.5	285.8	341.6	379.9	350.3	310.2	317.2	322.4
62.5°	517.6	284.1	216.1	203.9	233.5	291.0	322.4	292.8	245.7	245.7	252.7
65°	292.8	244.0	170.8	156.8	190.0	233.5	252.7	221.3	179.5	176.0	176.0
67.5°	271.9	231.8	151.6	127.2	134.2	149.9	156.8	135.9	123.7	122.0	123.7
70°	224.8	193.4	122.0	87.1	81.9	80.2	83.6	78.4	74.9	76.7	81.9
72.5°	139.4	116.8	76.7	52.3	45.3	43.6	43.6	43.6	41.8	41.8	41.8
75°	50.5	43.6	34.9	26.1	22.7	20.9	20.9	22.7	20.9	19.2	17.4
77.5°	15.7	13.9	13.9	13.9	12.2	10.5	8.7	8.7	7.0	5.2	5.2
80°	8.7	8.7	8.7	8.7	7.0	7.0	5.2	3.5	1.7	1.7	0.0
82.5°	8.7	8.7	8.7	7.0	7.0	7.0	5.2	3.5	1.7	0.0	0.0
85°	7.0	7.0	7.0	7.0	7.0	7.0	5.2	3.5	1.7	0.0	0.0
87.5°	7.0	7.0	7.0	7.0	7.0	7.0	5.2	3.5	1.7	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

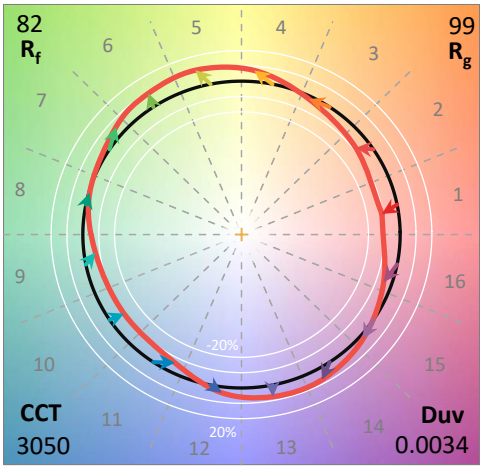
Test Information

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

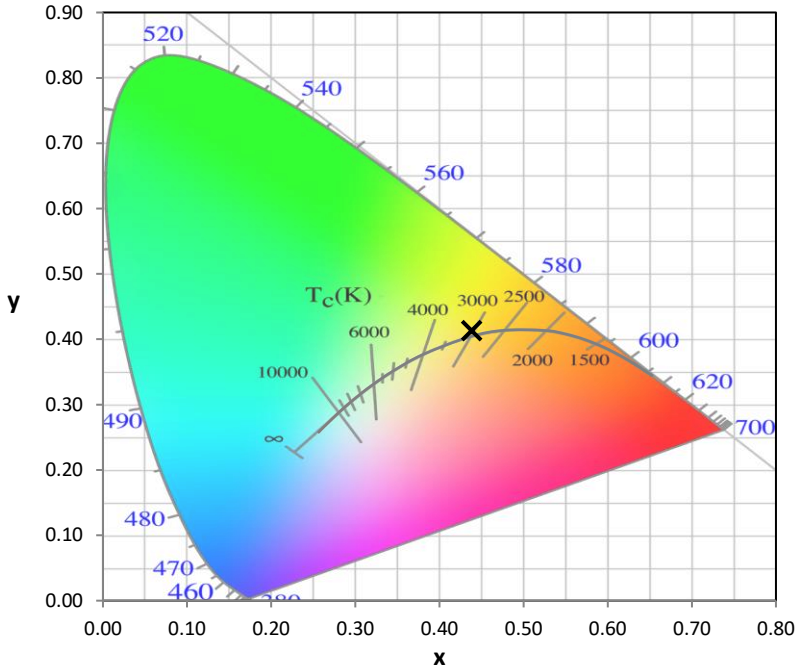
Stabilization Time:	20M
Operation Time:	1H 20M
Sphere Temperature (°C):	24.2

REPORT NUMBER: SP1-2408-195-9

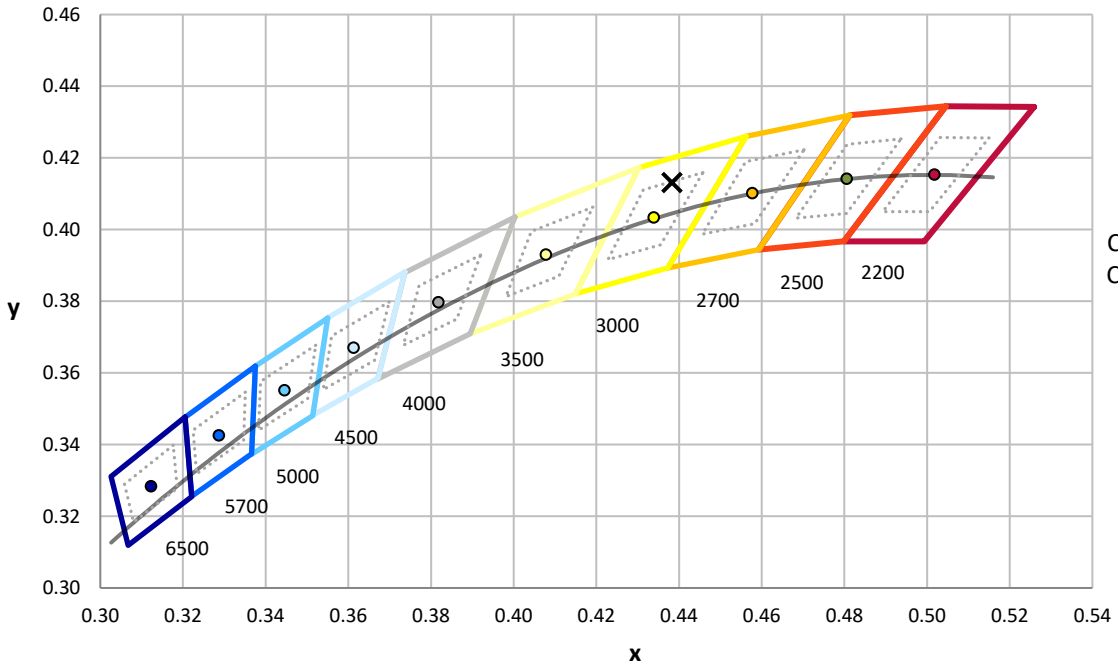
Measurement and Test Equipment			
Instrument	Identification Number	Calibration Date	Calibration Due Date
Photometer	IN0058	6/18/2024	12/18/2024
Power Meter	INXT2011004	2/8/2024	2/8/2025
AC Power Source	IN0063	10/24/2023	10/24/2024
DC Power Source	IN0208	10/24/2023	10/24/2024
Sphere Thermometer	IN0085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

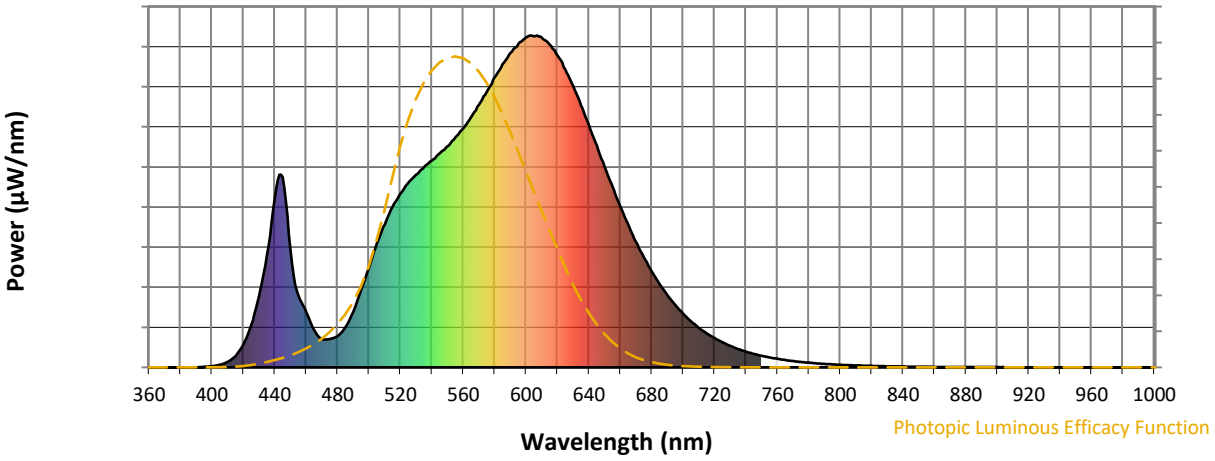


CCT = 3050K
CIE x = 0.4383
CIE y = 0.4131
Duv = 0.0034

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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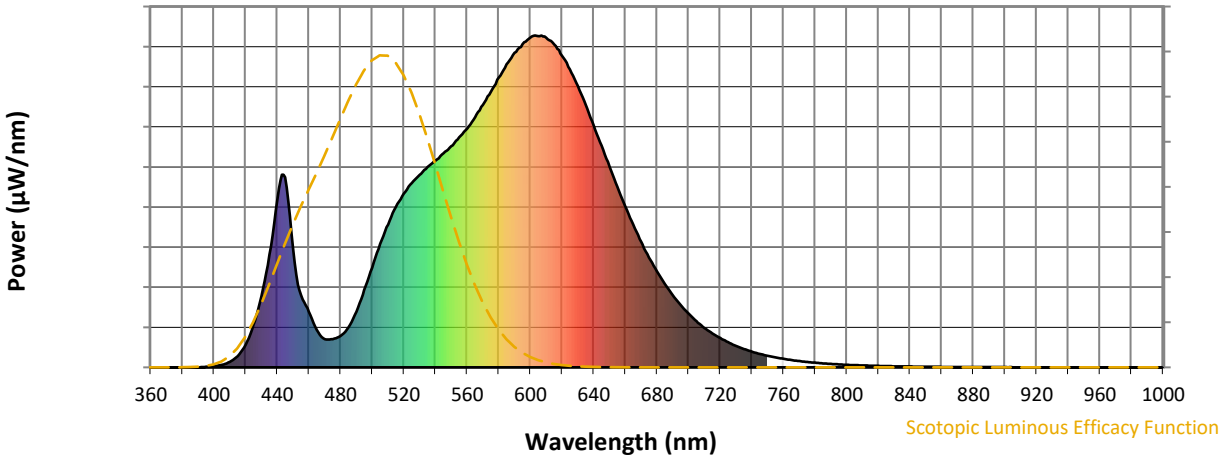
Scotopic Flux vs. Wavelength



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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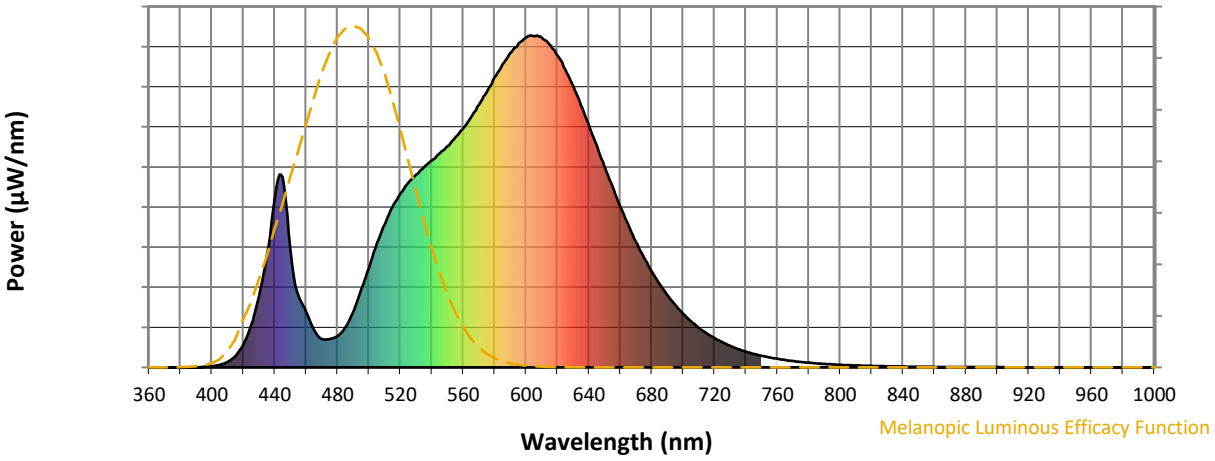
Melanopic Flux vs. Wavelength



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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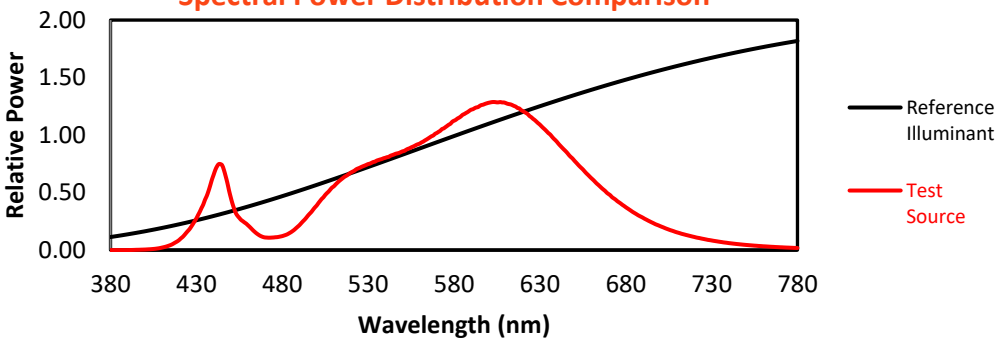
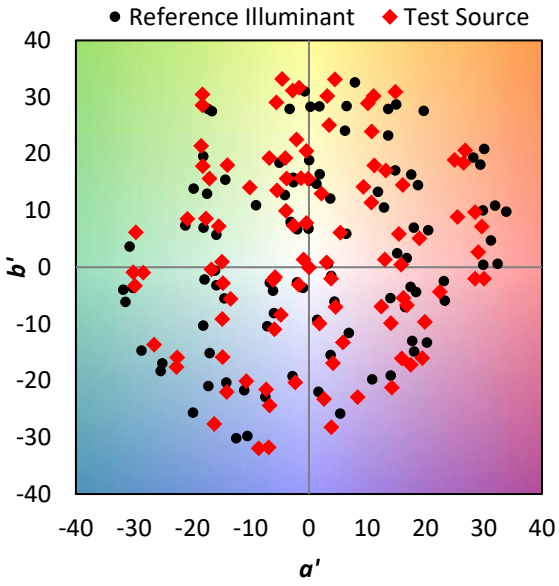
Summary

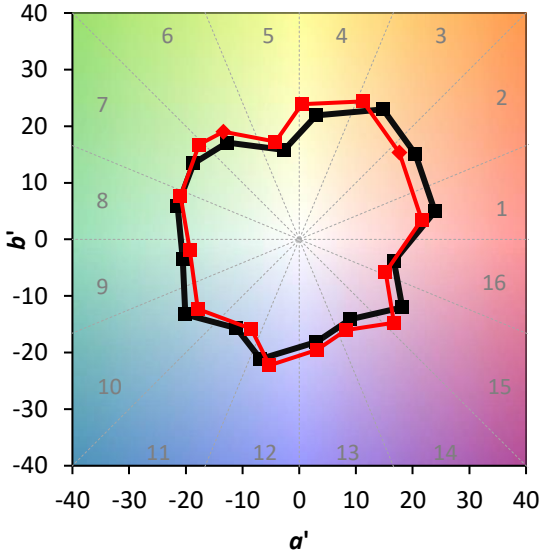
R_f = 81.5
R_g = 99.2
CIE R_a = 81.0
R_9 = 7.1

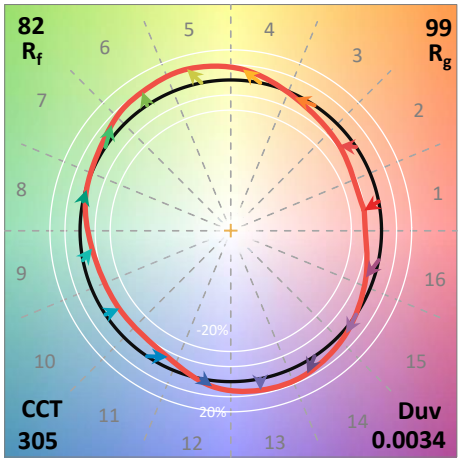
Spectral Power Distribution Comparison

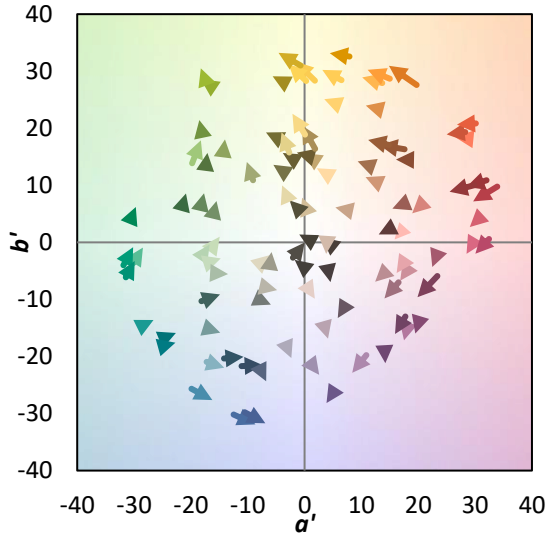


Color Vector Graphics









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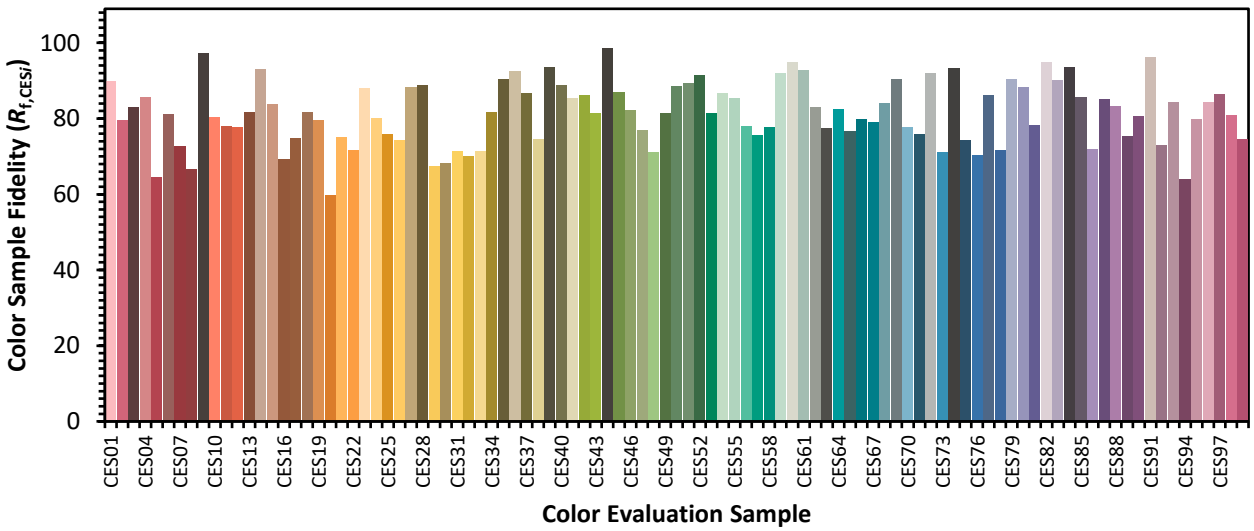
Individual Sample Fidelity Index ($R_{f,i}$)

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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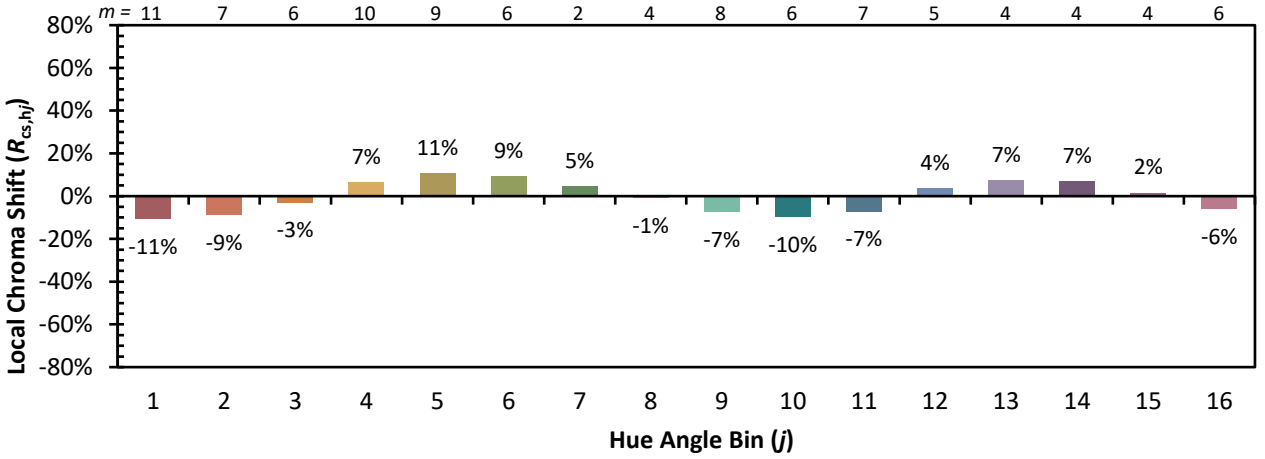
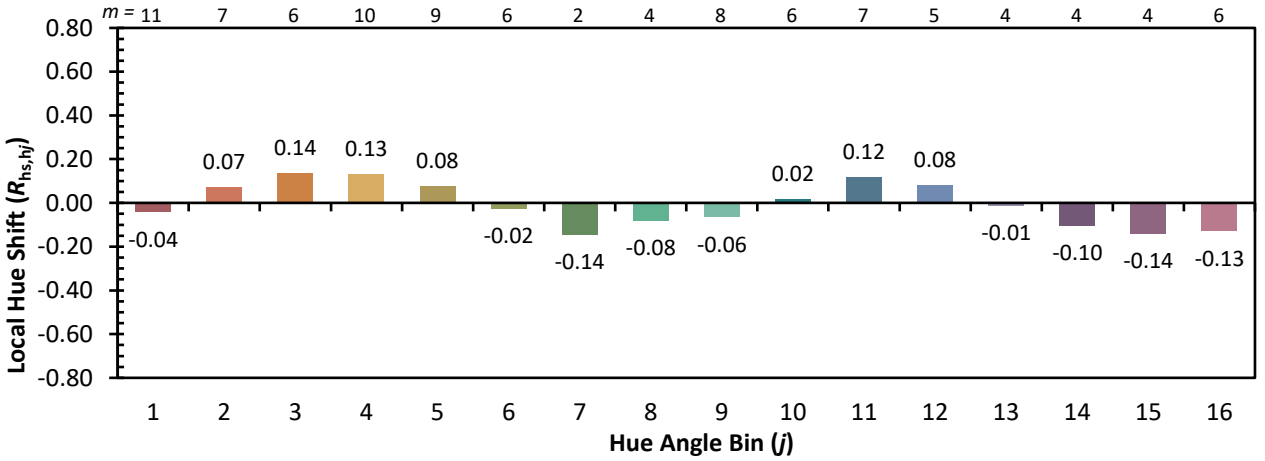
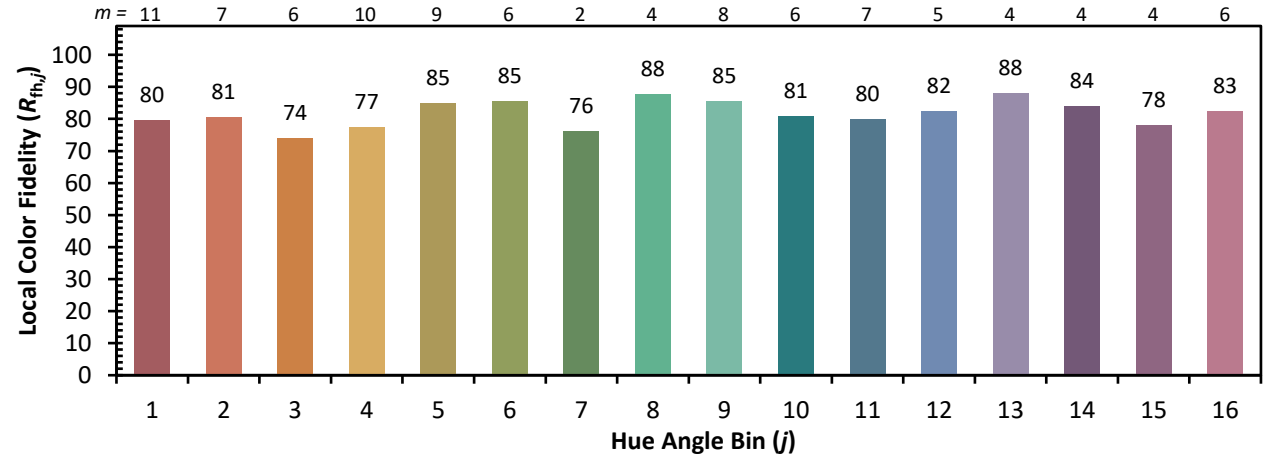
Color Rendition by Hue-Angle Bin







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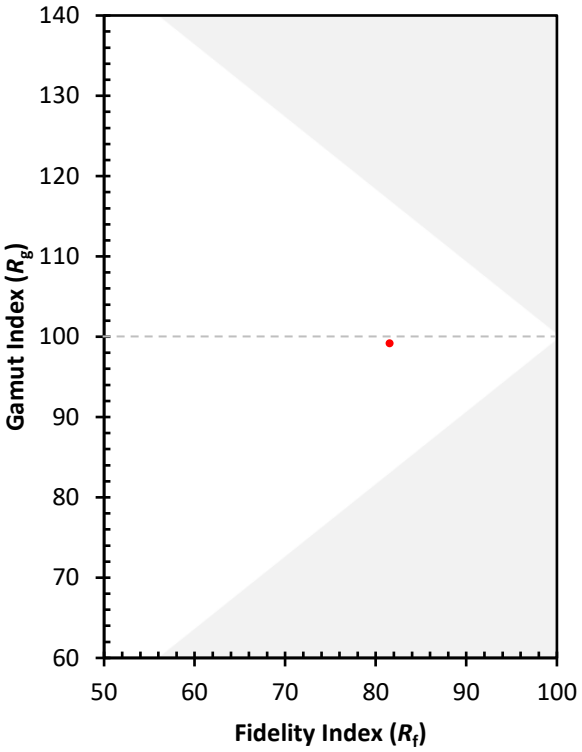
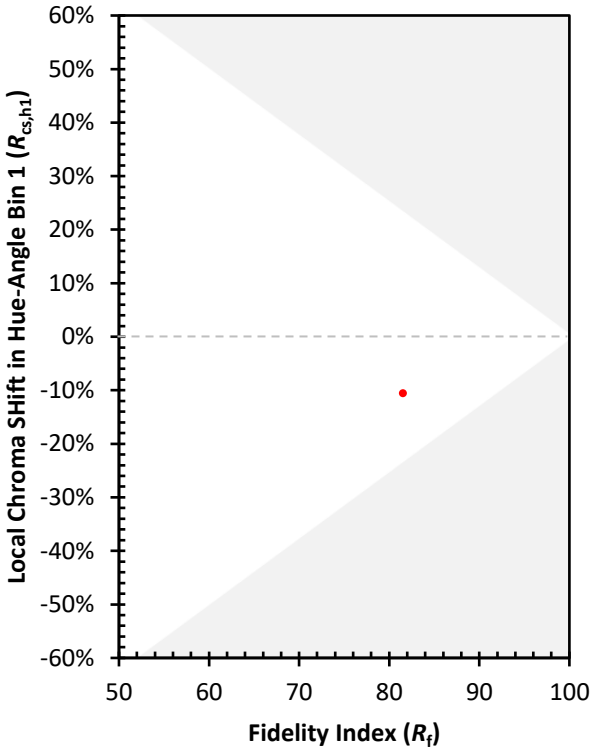
Measure Comparisons





(END OF REPORT)