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: P636982

Luminaire Tested: GWS-SA4B-830-U-RW-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:	P636982
	TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2209-782-51)
Test Lab:	COOPER LIGHTING SOLUTIONS
Issue Date:	1/10/2023
Manufacturer:	COOPER LIGHTING SOLUTIONS
Product Line:	McGRAW-EDISON
Catalog Number:	GWS-SA4B-830-U-RW-W-GRSWH
Description:	GALLEON WALL SLIM LUMINAIRE. (4) LIGHTSQUARES WITH 16 LEDS EACH AND RECTANGULAR WIDE OPTICS W/ FACTORY INSTALLED GLARE SHIELD, WH
Light Source:	(64) 3000K CCT, 80 CRI LEDS
Ballast/Driver:	-

Summary

Lumens per Lamp:	N/A
Luminaire Lumens:	10136.1 lumens
Efficiency:	N/A
Efficacy:	107.4 lumens/watt
Luminous Opening:	Rectangular (W 1' x L: 1' x H: 0')
IES Classification:	Type V - Short
BUG Rating:	B3 - U0 - G1

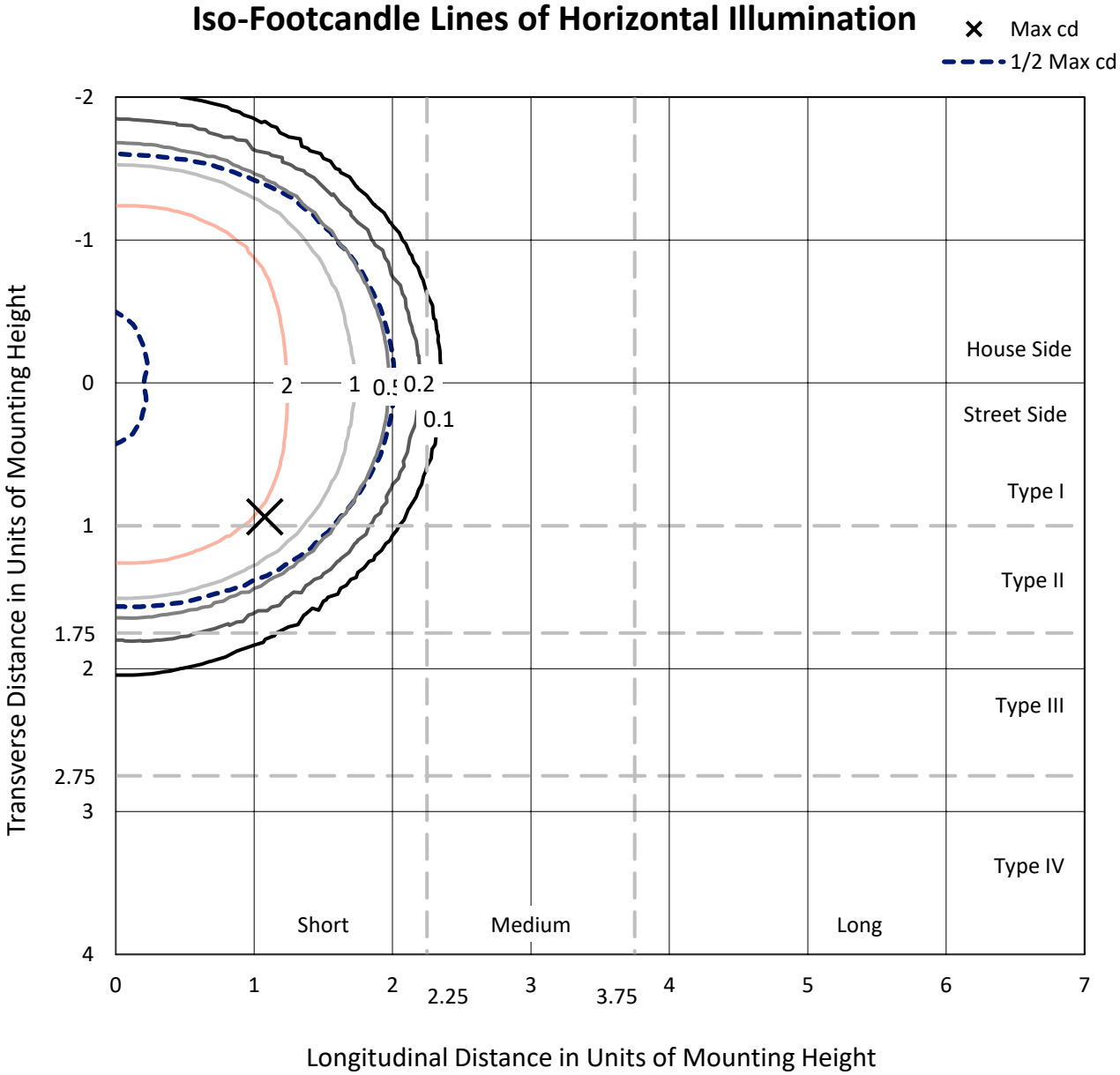
Input Watts (W):	94.4
Input Voltage (V):	120
Input Current (Ain):	NR
Voltage Rise (V):	NR
Power Factor:	NR
Total Harmonic Distortion (THDi):	NR
Frequency (hertz):	0
Stabilization Time:	NR
Operation Time:	NR
Ambient Temperature (°C):	NR
Test Distance:	28.75 FT

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

Scaled Data Report

REPORT NUMBER: P636982
CATALOG NUMBER: GWS-SA4B-830-U-RW-W-GRSWH

Iso-Footcandle Lines of Horizontal Illumination



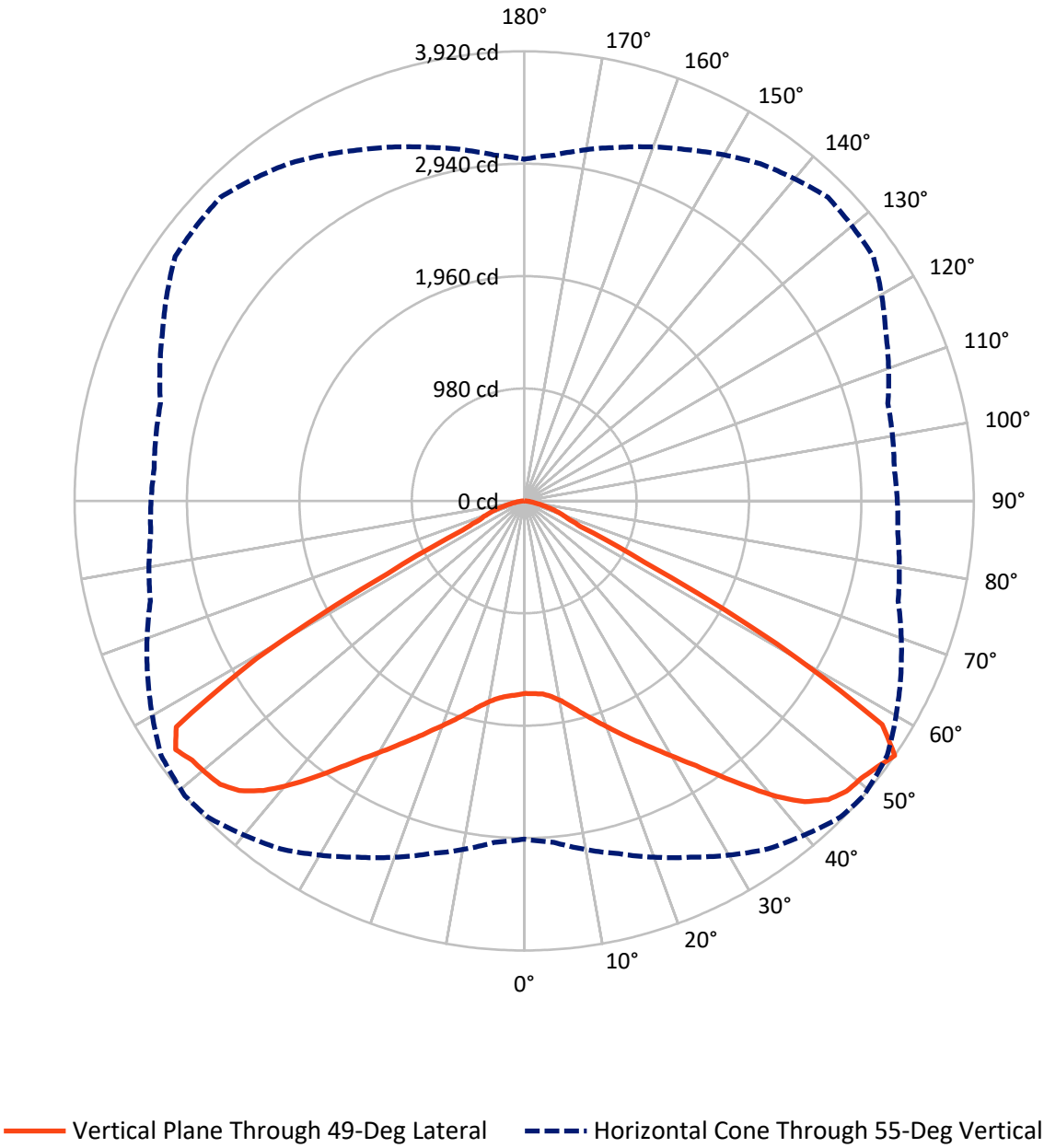
Based on 20 foot mounting height. Maximum calculated value = 4.7 fc
Type V - Short - N/A

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

Scaled Data Report

REPORT NUMBER: P636982
CATALOG NUMBER: GWS-SA4B-830-U-RW-W-GRSWH

Luminous Intensity Polar Plot



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

Scaled Data Report

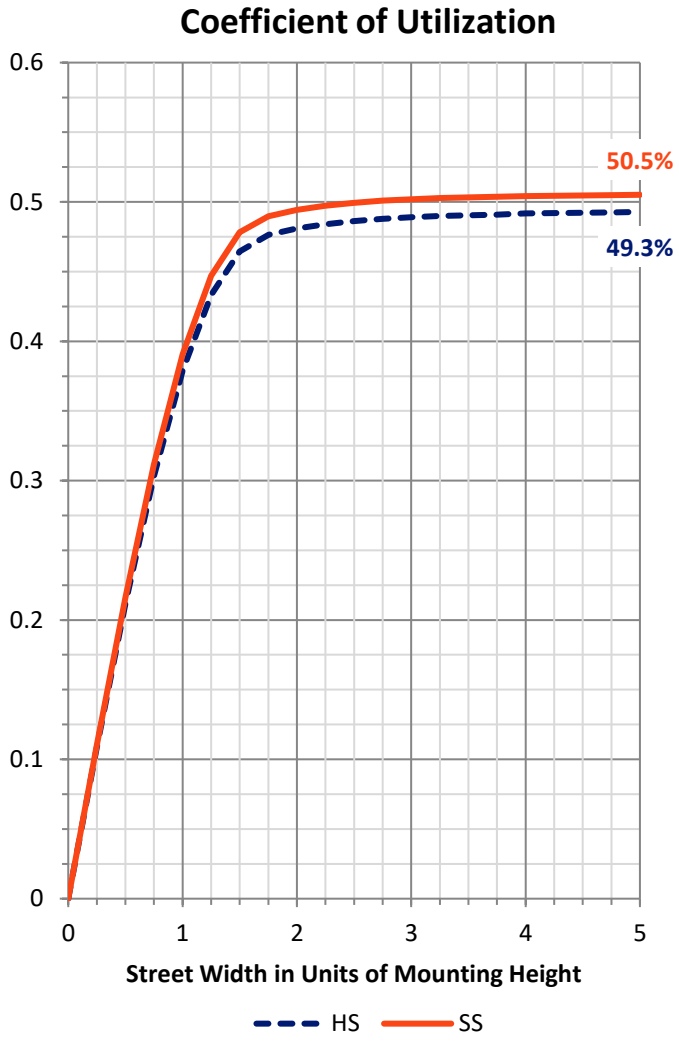
REPORT NUMBER: P636982
CATALOG NUMBER: GWS-SA4B-830-U-RW-W-GRSWH

FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	5018.3	0.0	5018.3
	% Fixture	49.5	0.0	49.5
Street Side	Lumens	5117.8	0.0	5117.8
	% Fixture	50.5	0.0	50.5
Total	Lumens	10136.1	0.0	10136.1
	% Fixture	100.0	0.0	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	163.8	1.6
10°-20°	540.3	5.3
20°-30°	1029.1	10.2
30°-40°	1744.5	17.2
40°-50°	2625.3	25.9
50°-60°	2873.7	28.4
60°-70°	908.7	9.0
70°-80°	218.1	2.2
80°-90°	32.7	0.3
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°	10136.1	100.0
0°-180°	10136.1	100.0



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

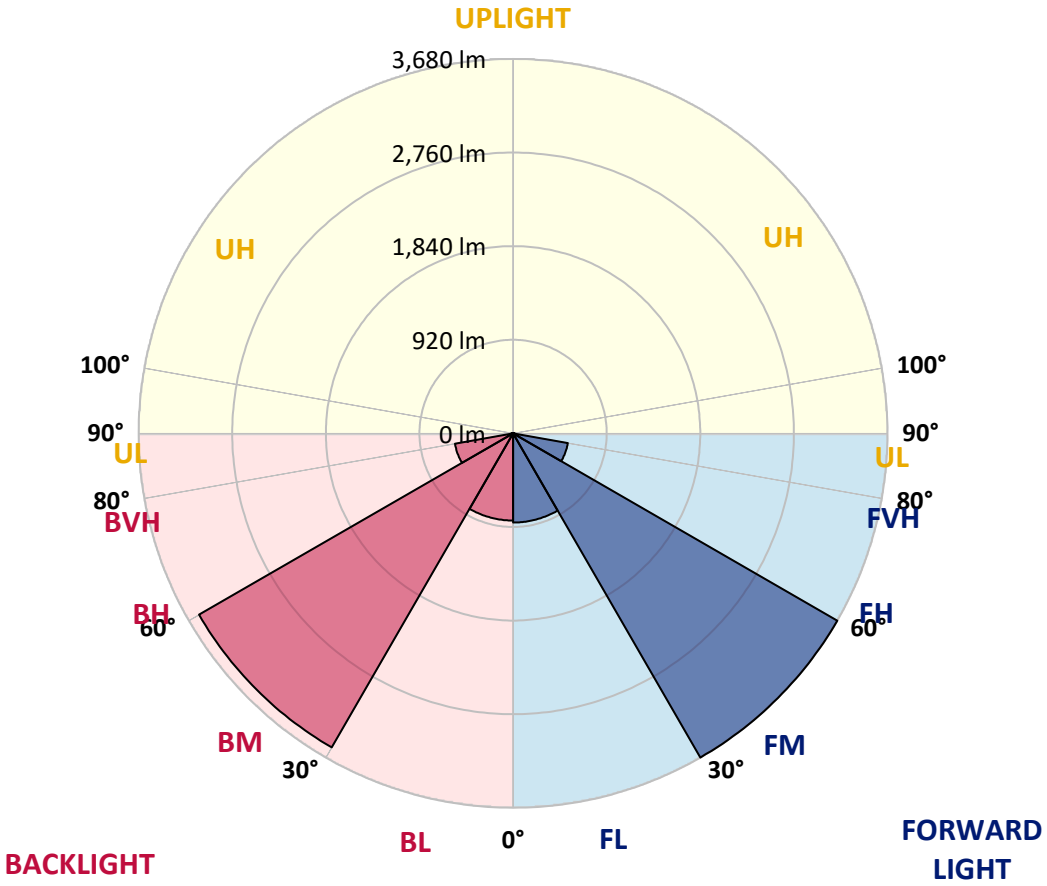
Scaled Data Report

REPORT NUMBER: P636982
CATALOG NUMBER: GWS-SA4B-830-U-RW-W-GRSWH

LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit B	U	G
FL	(0°-30°)	876.4	8.6			
FM	(30°-60°)	3679.7	36.3			
FH	(60°-80°)	546.6	5.4			G0/660
FVH	(80°-90°)	15.1	0.1			G1/100
BL	(0°-30°)	856.8	8.5	B2/1000		
BM	(30°-60°)	3563.8	35.2	B3/5000		
BH	(60°-80°)	580.2	5.7	B2/1000		G0/660
BVH	(80°-90°)	17.6	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



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

Scaled Data Report

REPORT NUMBER: P636982
CATALOG NUMBER: GWS-SA4B-830-U-RW-W-GRSWH

CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	45°	49°	55°	65°	75°	85°
0°	1679.1	1679.1	1679.1	1679.1	1679.1	1679.1	*1679.1*	1679.1	1679.1	1679.1	1679.1
2.5°	1654.4	1656.0	1659.3	1665.1	1670.9	1679.1	*1682.4*	1686.5	1685.7	1690.6	1690.6
5°	1646.1	1648.6	1653.6	1661.8	1671.7	1687.3	*1691.5*	1701.4	1711.3	1723.6	1727.7
7.5°	1656.0	1659.3	1665.1	1678.3	1693.1	1713.7	*1722.0*	1738.5	1757.4	1779.7	1788.7
10°	1675.0	1679.1	1689.0	1710.4	1734.3	1765.7	*1773.1*	1793.7	1824.2	1854.7	1872.8
12.5°	1696.4	1703.0	1721.1	1754.9	1790.4	1831.6	*1843.1*	1868.7	1901.7	1941.2	1966.0
15°	1721.1	1726.9	1754.9	1802.8	1858.0	1912.4	*1925.6*	1950.3	1987.4	2026.1	2060.8
17.5°	1773.1	1783.0	1815.9	1871.2	1935.5	1999.8	*2014.6*	2042.6	2072.3	2102.8	2135.8
20°	1844.0	1852.2	1894.2	1962.7	2038.5	2097.0	*2111.9*	2136.6	2150.6	2166.3	2194.3
22.5°	1914.9	1926.4	1974.2	2055.0	2144.0	2207.5	*2219.0*	2242.1	2232.2	2227.3	2245.4
25°	2003.1	2018.7	2065.7	2153.9	2244.6	2322.9	*2332.0*	2351.7	2335.3	2309.7	2308.9
27.5°	2112.7	2126.7	2175.3	2266.0	2355.9	2437.5	*2454.8*	2481.2	2444.9	2413.6	2391.3
30°	2242.9	2252.0	2305.6	2402.0	2494.3	2571.8	*2594.1*	2620.5	2593.3	2541.3	2519.1
32.5°	2394.6	2407.0	2468.8	2570.2	2652.6	2730.1	*2752.3*	2785.3	2755.6	2697.1	2669.1
35°	2576.8	2589.1	2654.3	2764.7	2848.8	2928.8	*2944.4*	2971.6	2934.5	2866.9	2844.7
37.5°	2774.6	2790.3	2872.7	2977.4	3065.6	3158.7	*3159.6*	3167.8	3115.0	3031.0	3006.2
40°	2997.2	3017.8	3100.2	3209.0	3315.3	3391.2	*3390.4*	3367.3	3278.3	3148.0	3110.1
42.5°	3217.3	3233.7	3317.0	3429.1	3535.4	3607.2	*3585.7*	3529.7	3401.1	3223.9	3173.6
45°	3376.3	3388.7	3476.1	3602.2	3710.2	3754.7	*3716.0*	3648.4	3474.4	3271.7	3197.5
47.5°	3451.4	3467.8	3556.0	3681.3	3803.3	3828.9	*3782.7*	3719.3	3517.3	3316.2	3216.4
50°	3411.0	3432.4	3532.1	3648.4	3786.0	3838.8	*3805.8*	3742.3	3562.6	3359.9	3250.2
52.5°	3306.3	3326.9	3453.0	3594.0	3749.8	3854.4	*3853.6*	3801.7	3614.6	3372.2	3251.9
55°	*2948.5*	*2988.9*	*3185.1*	*3428.3*	*3705.2*	*3900.6*	*3920.4*	*3865.2*	*3622.8*	*3375.5*	*3269.2*
57.5°	1919.0	1989.9	2176.2	2492.7	3048.3	3547.8	*3681.3*	3694.5	3563.5	3361.5	3272.5
60°	801.2	858.1	1005.7	1215.8	1675.0	2269.3	*2528.1*	2787.8	3101.0	3214.8	3242.0
62.5°	497.9	502.8	517.7	565.5	718.8	1008.9	*1175.5*	1418.6	1884.4	2280.8	2463.8
65°	449.2	451.7	455.0	451.7	459.1	494.6	*539.1*	624.0	813.6	1010.6	1244.7
67.5°	395.7	399.0	401.4	399.0	401.4	403.1	*408.0*	415.4	450.1	478.1	499.5
70°	319.8	324.8	328.9	327.2	337.1	337.1	*342.1*	347.9	365.2	385.8	400.6
72.5°	244.0	239.9	244.8	246.5	255.5	260.5	*267.9*	274.5	294.3	306.6	325.6
75°	158.3	154.1	161.6	165.7	178.0	184.6	*191.2*	197.8	211.8	220.1	238.2
77.5°	85.7	84.9	92.3	98.1	111.3	119.5	*124.5*	129.4	141.0	143.4	155.0
80°	49.5	49.5	54.4	58.5	66.8	75.8	*80.8*	84.9	93.1	95.6	100.6
82.5°	27.2	27.2	29.7	32.1	38.7	43.7	*47.8*	51.1	58.5	61.0	63.5
85°	13.2	12.4	14.0	15.7	18.1	20.6	*23.1*	24.7	30.5	32.1	35.4
87.5°	1.6	1.6	1.6	2.5	3.3	4.9	*5.8*	5.8	9.1	10.7	12.4
90°	0.0	0.0	0.0	0.0	0.0	0.0	*0.0*	0.0	0.0	0.0	0.0

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

Scaled Data Report

REPORT NUMBER: P636982
CATALOG NUMBER: GWS-SA4B-830-U-RW-W-GRSWH

CANDELA DISTRIBUTION (continued):

	90°	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°
0°	1679.1	1679.1	1679.1	1679.1	1679.1	1679.1	1679.1	1679.1	1679.1	1679.1	1679.1
2.5°	1695.6	1684.9	1691.5	1693.9	1693.9	1691.5	1680.8	1677.5	1672.5	1665.1	1665.1
5°	1733.5	1725.3	1726.9	1722.8	1712.9	1700.5	1680.8	1670.9	1662.6	1653.6	1652.7
7.5°	1798.6	1787.9	1786.3	1770.6	1744.2	1717.8	1688.2	1670.0	1657.7	1646.1	1645.3
10°	1883.5	1873.6	1861.3	1830.0	1791.2	1752.5	1712.1	1687.3	1669.2	1652.7	1651.9
12.5°	1978.3	1966.8	1943.7	1897.5	1848.9	1811.0	1764.8	1726.9	1699.7	1677.5	1673.3
15°	2081.4	2064.9	2025.3	1970.9	1923.1	1882.7	1833.3	1778.8	1737.6	1702.2	1698.1
17.5°	2160.5	2139.1	2096.2	2045.1	2005.5	1965.1	1900.8	1832.4	1773.1	1728.6	1722.0
20°	2214.9	2197.6	2149.0	2111.0	2088.0	2052.5	1977.5	1900.0	1833.3	1777.2	1773.9
22.5°	2265.2	2244.6	2196.8	2174.5	2174.5	2150.6	2078.9	1987.4	1909.1	1844.0	1835.7
25°	2322.1	2299.8	2263.5	2261.1	2272.6	2261.9	2175.3	2077.2	1985.7	1912.4	1899.2
27.5°	2401.2	2376.5	2355.0	2369.9	2386.4	2374.8	2278.4	2164.6	2068.2	1994.0	1982.5
30°	2527.3	2496.8	2477.0	2495.2	2527.3	2493.5	2388.8	2268.5	2171.2	2089.6	2083.8
32.5°	2674.0	2639.4	2618.8	2647.7	2676.5	2623.8	2519.9	2404.5	2302.3	2216.6	2206.7
35°	2850.4	2806.8	2776.3	2815.0	2844.7	2792.7	2689.7	2580.1	2466.3	2377.3	2364.1
37.5°	3007.1	2954.3	2933.7	2988.1	3027.7	2993.9	2881.8	2778.7	2654.3	2557.0	2551.2
40°	3120.8	3068.9	3054.0	3143.9	3213.1	3204.9	3104.3	2986.5	2869.4	2757.3	2746.6
42.5°	3170.3	3134.0	3137.3	3258.5	3365.6	3418.4	3328.5	3202.4	3089.5	2973.3	2965.8
45°	3181.0	3158.7	3185.1	3336.8	3477.7	3585.7	3509.1	3403.5	3275.8	3163.7	3160.4
47.5°	3192.5	3180.2	3220.6	3381.3	3548.6	3673.9	3631.1	3522.2	3392.8	3283.2	3275.0
50°	3219.7	3214.8	3260.1	3412.6	3582.4	3697.8	3649.2	3541.2	3408.5	3300.5	3280.7
52.5°	3228.0	3219.7	3284.8	3461.3	3638.5	3697.0	3592.3	3451.4	3317.8	3197.5	3176.9
55°	*3253.5*	*3238.7*	*3283.2*	*3479.4*	*3716.0*	*3744.8*	*3589.0*	*3378.0*	*3191.7*	*3027.7*	*2979.0*
57.5°	3260.1	3243.6	3272.5	3449.7	3631.9	3606.3	3154.6	2726.0	2374.8	2192.6	2213.3
60°	3224.7	3229.6	3180.2	3160.4	2913.1	2571.8	1931.3	1543.9	1212.6	1072.4	1102.9
62.5°	2454.8	2475.4	2306.4	2005.5	1542.3	1222.4	808.6	628.1	531.7	506.9	511.1
65°	1238.9	1267.0	1091.4	902.6	671.0	542.4	469.0	454.2	449.2	443.5	443.5
67.5°	490.5	498.7	492.1	460.8	428.6	417.1	413.8	412.2	406.4	403.1	403.9
70°	394.0	400.6	390.7	370.9	357.7	356.9	355.3	352.0	347.9	347.9	350.3
72.5°	321.5	328.1	314.1	301.7	291.8	284.4	280.3	277.8	272.0	272.0	274.5
75°	236.6	240.7	229.2	227.5	216.8	209.4	202.8	199.5	192.1	188.8	191.2
77.5°	157.4	156.6	150.8	150.8	146.7	137.7	130.2	122.8	112.9	106.3	108.0
80°	102.2	102.2	99.7	99.7	95.6	88.2	79.1	71.7	65.9	61.0	61.0
82.5°	65.1	64.3	63.5	62.6	61.0	53.6	47.0	42.0	37.9	34.6	35.4
85°	36.3	36.3	34.6	34.6	31.3	27.2	23.9	20.6	18.1	17.3	17.3
87.5°	12.4	12.4	11.5	11.5	9.9	7.4	5.8	4.9	4.1	3.3	4.1
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

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

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

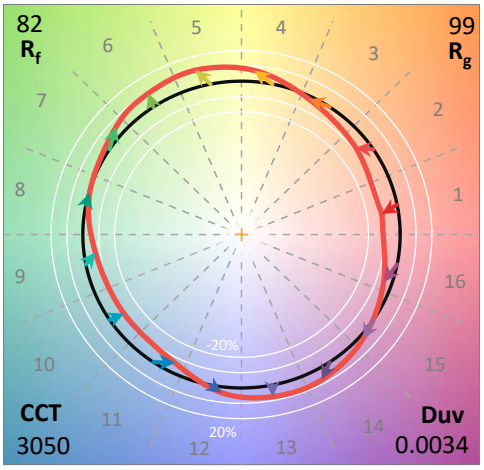
Test Information

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

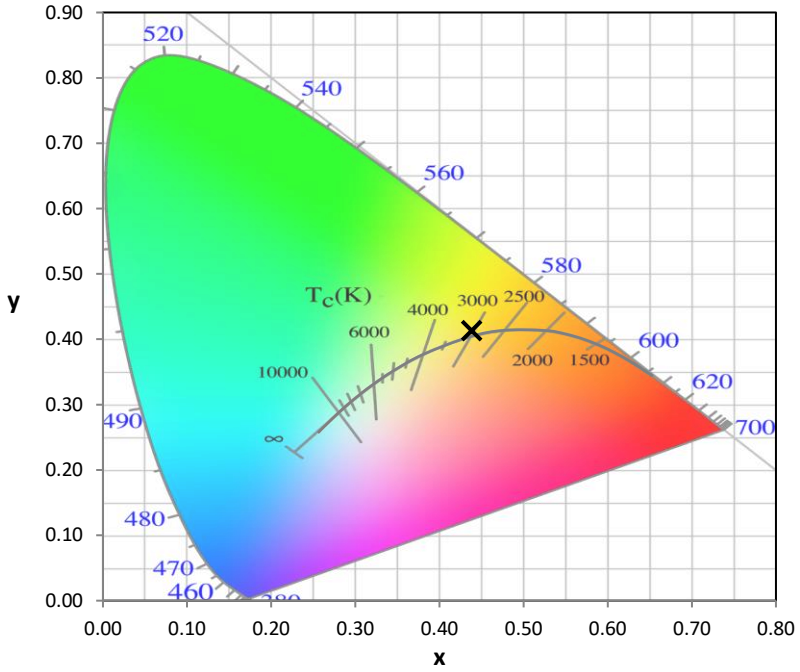
Stabilization Time:	20M
Operation Time:	1H 20M
Sphere Temperature (°C):	24.2

REPORT NUMBER: SP1-2408-195-9

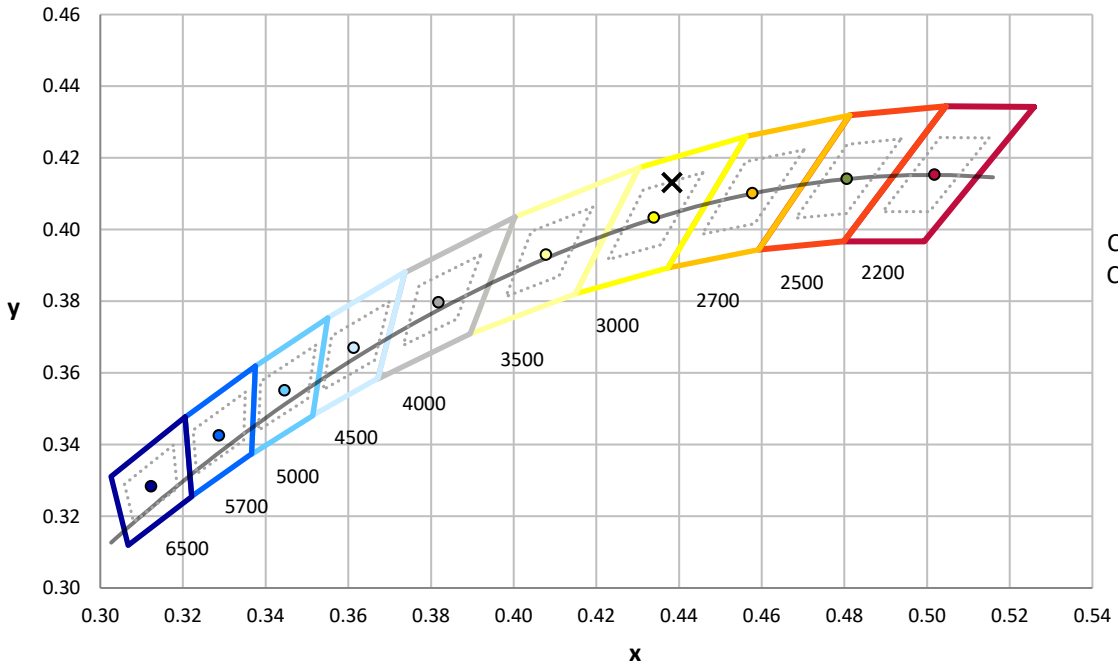
Measurement and Test Equipment			
Instrument	Identification Number	Calibration Date	Calibration Due Date
Photometer	IN0058	6/18/2024	12/18/2024
Power Meter	INXT2011004	2/8/2024	2/8/2025
AC Power Source	IN0063	10/24/2023	10/24/2024
DC Power Source	IN0208	10/24/2023	10/24/2024
Sphere Thermometer	IN0085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

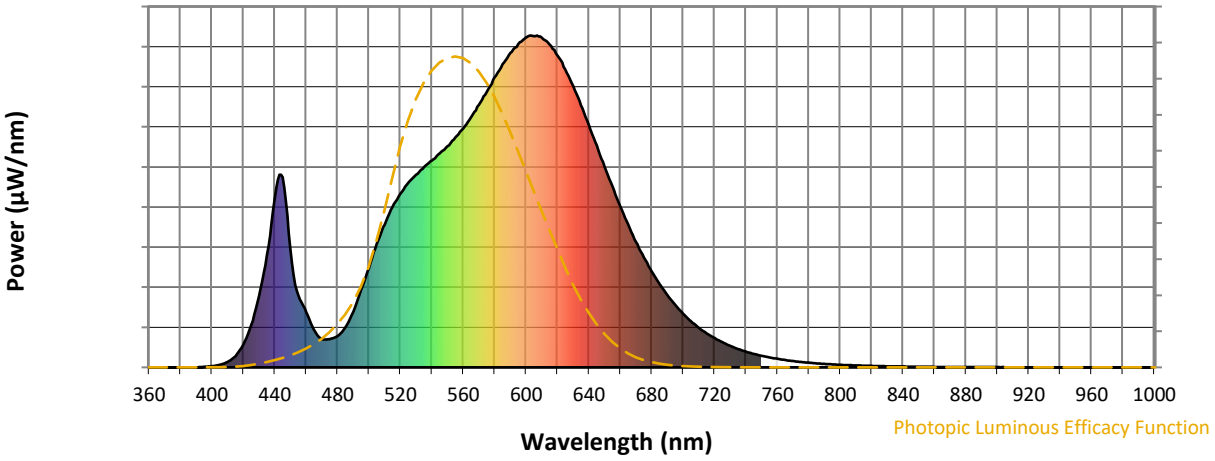


CCT = 3050K
CIE x = 0.4383
CIE y = 0.4131
Duv = 0.0034

Point lies inside the ANSI 3000K 4-step quadrangle

REPORT NUMBER: SP1-2408-195-9

Photopic Flux vs. Wavelength

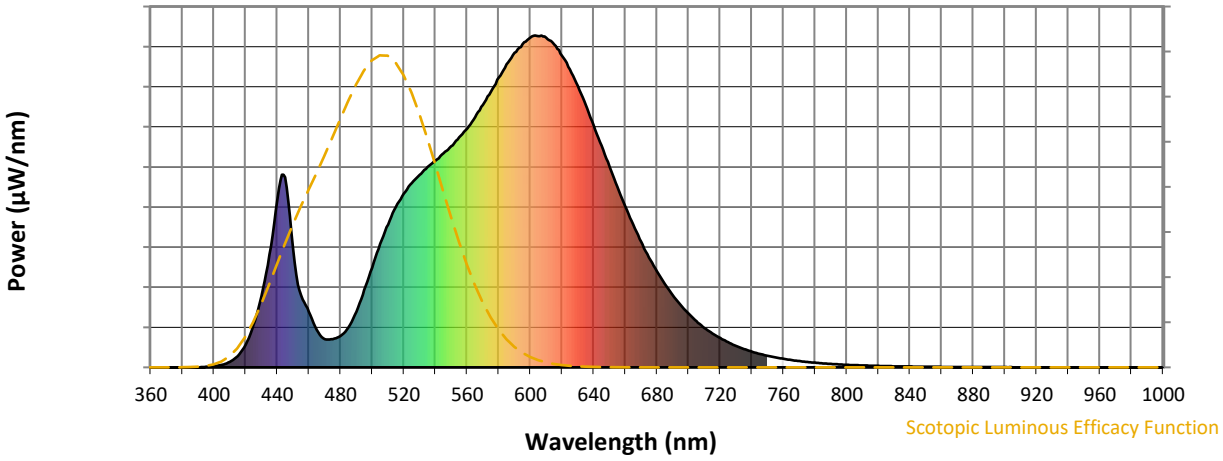


Photopic Lumens: NR

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			

REPORT NUMBER: SP1-2408-195-9

Scotopic Flux vs. Wavelength

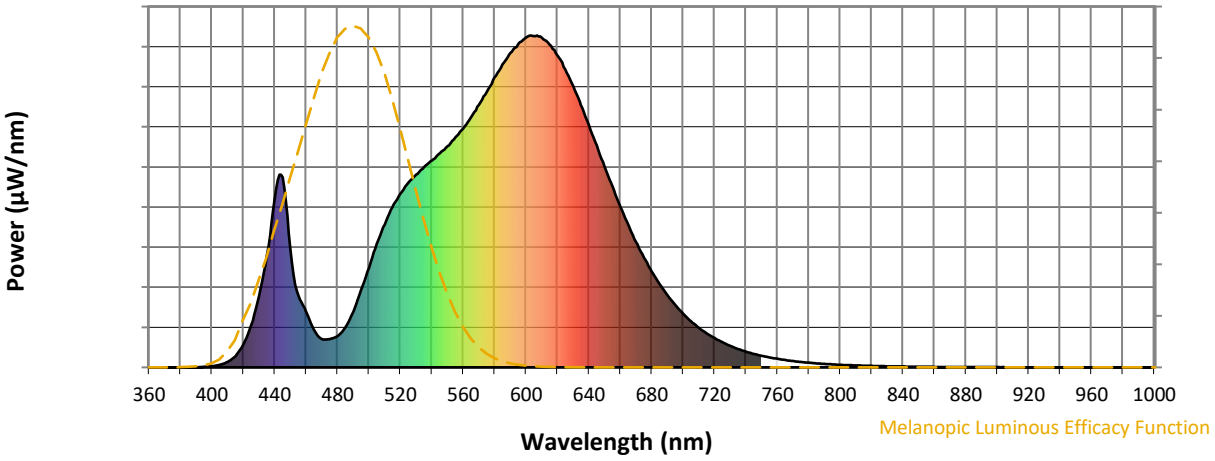


Scotopic Lumens: NR **S/P: 1.27**

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			

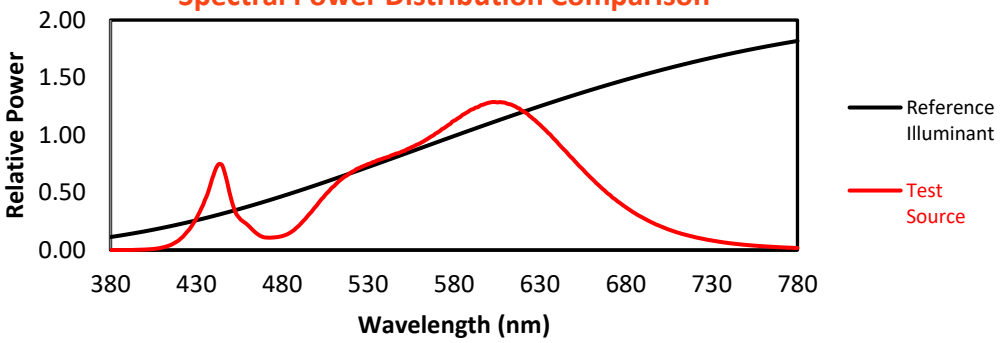
REPORT NUMBER: SP1-2408-195-9

TM-30-18

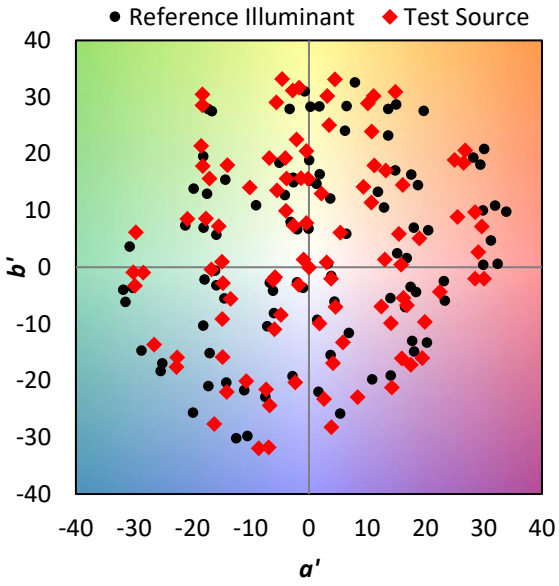
Summary

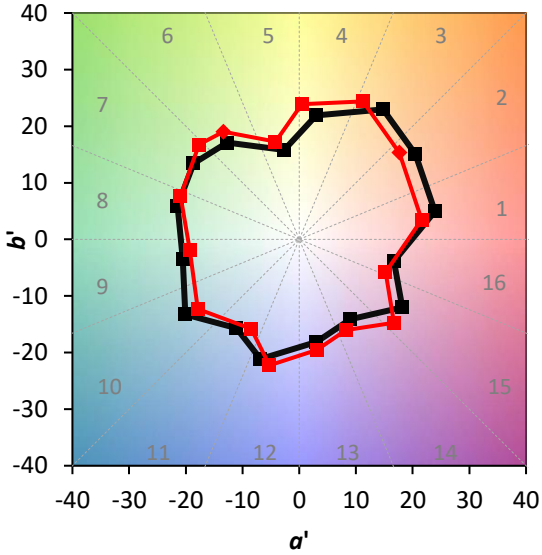
R_f = 81.5
R_g = 99.2
CIE R_a = 81.0
R_9 = 7.1

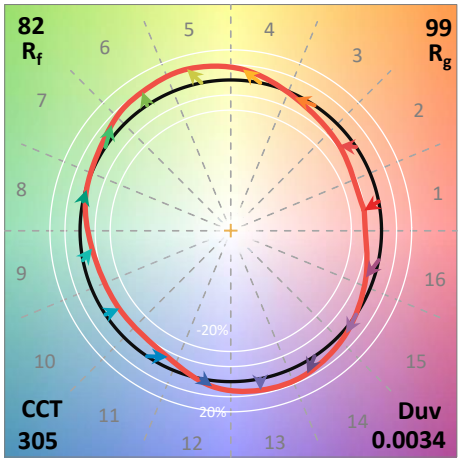
Spectral Power Distribution Comparison

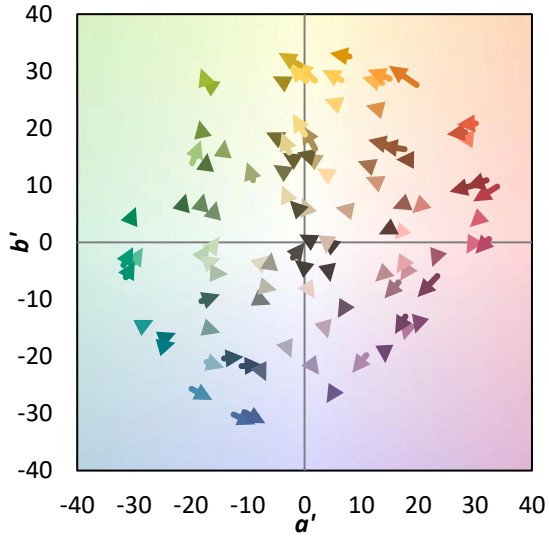


Color Vector Graphics







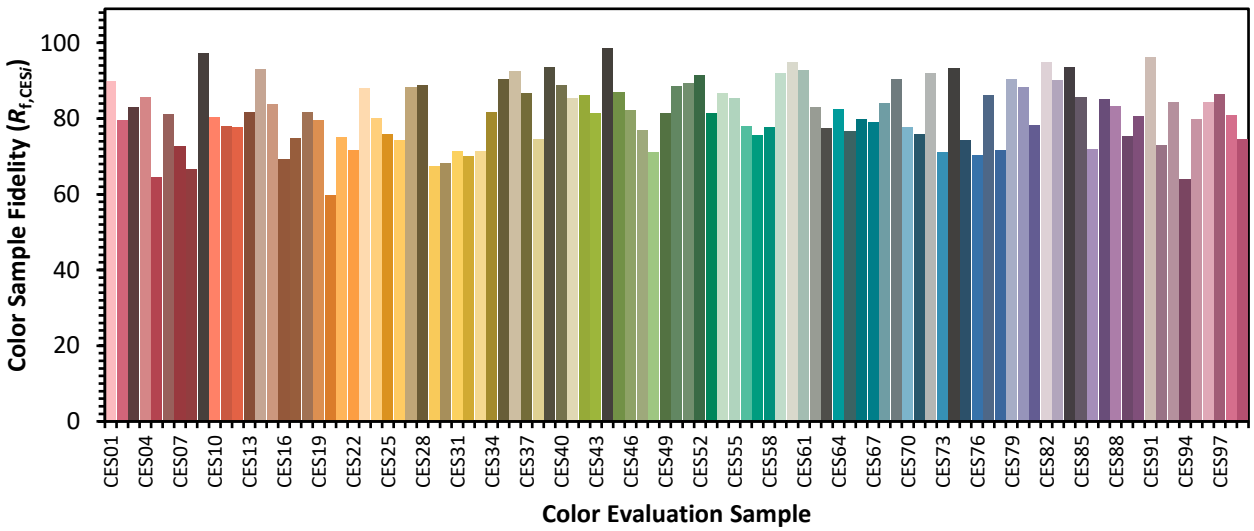


REPORT NUMBER: SP1-2408-195-9

TM-30-18

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

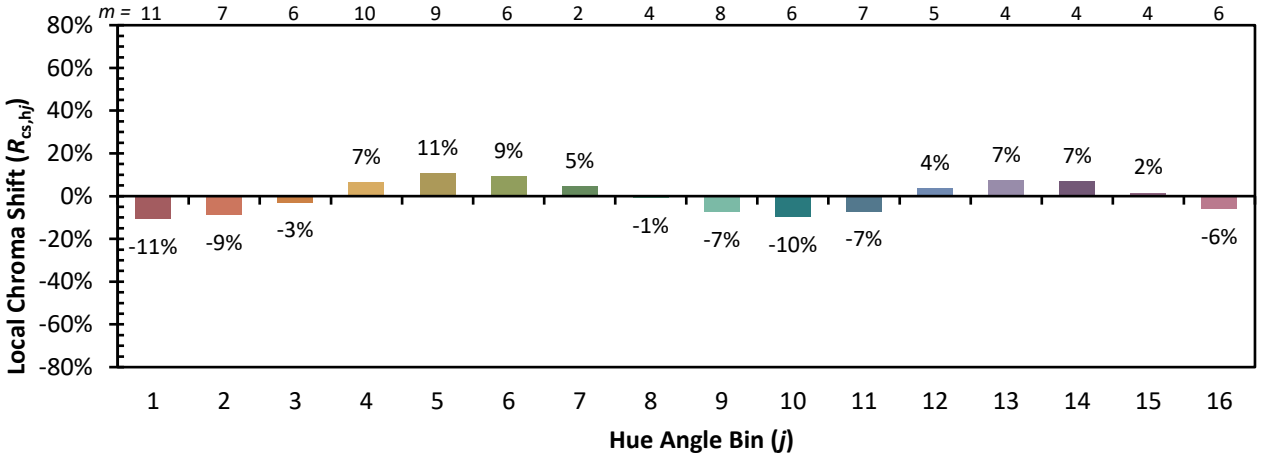
CES01 = 86	CES26 = 74	CES51 = 89	CES76 = 70
CES02 = 63	CES27 = 88	CES52 = 92	CES77 = 86
CES03 = 31	CES28 = 89	CES53 = 81	CES78 = 72
CES04 = 70	CES29 = 67	CES54 = 87	CES79 = 90
CES05 = 50	CES30 = 68	CES55 = 85	CES80 = 88
CES06 = 51	CES31 = 71	CES56 = 78	CES81 = 78
CES07 = 42	CES32 = 70	CES57 = 76	CES82 = 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	

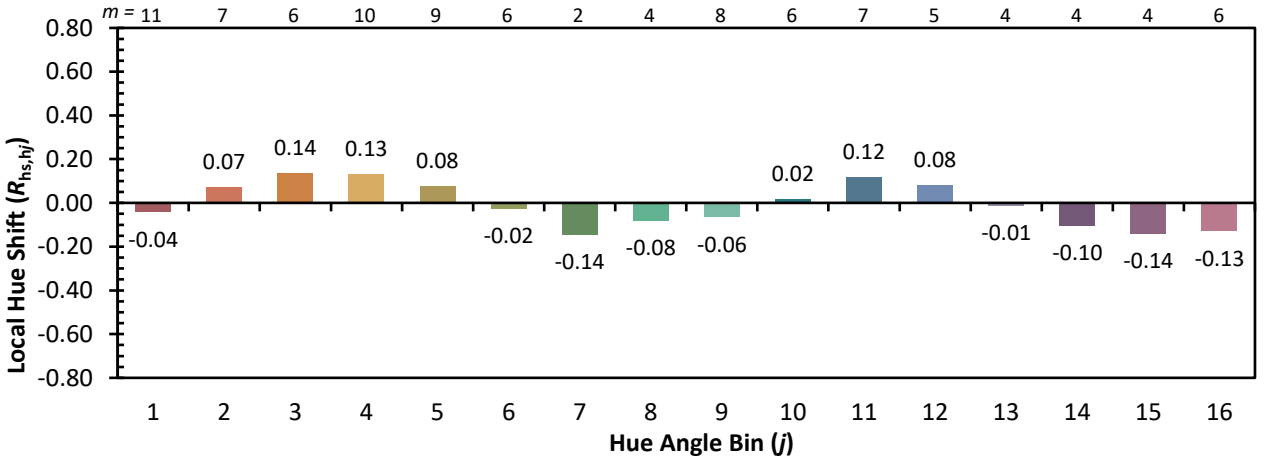


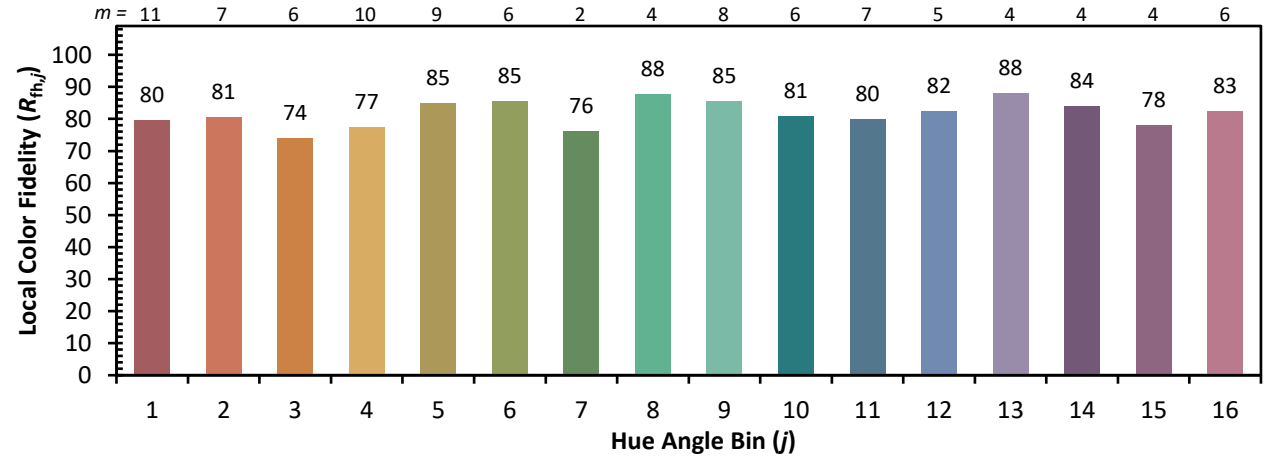
REPORT NUMBER: SP1-2408-195-9

TM-30-18

Color Rendition by Hue-Angle Bin



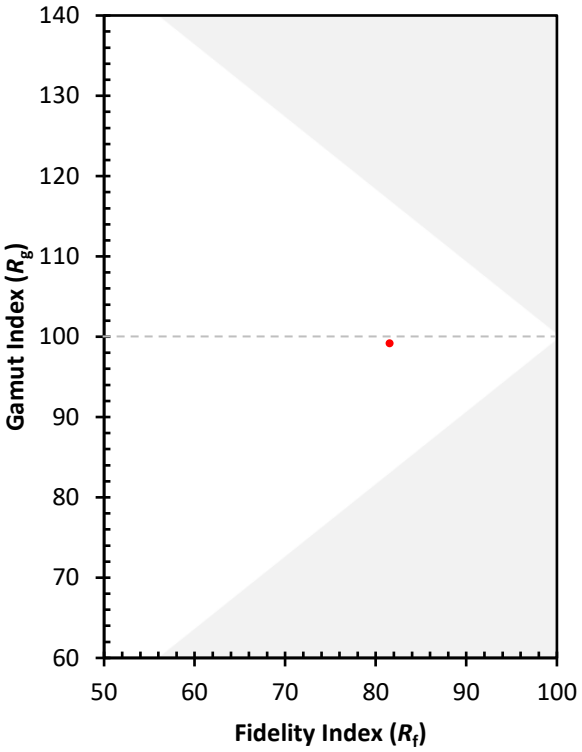


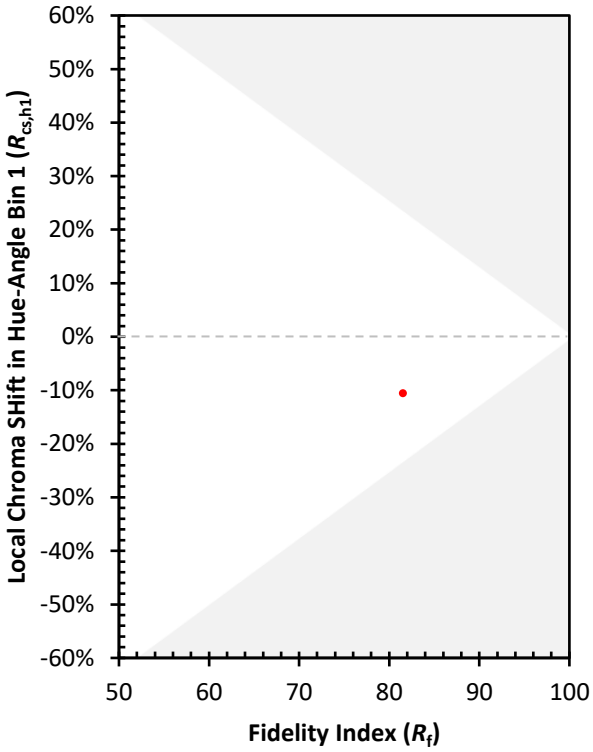


REPORT NUMBER: SP1-2408-195-9

TM-30-18

Measure Comparisons





(END OF REPORT)