

Signify Classified - Internal  
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: P634009

Luminaire Tested: GWS-SA2F-830-U-AFL-W-HSS

Issue Date: 1/10/2023

**Test Information**

Test Method: LM-79-2019  
Report Number: P634009  
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-SA2F-830-U-AFL-W-HSS  
Description: GALLEON WALL SLIM LUMINAIRE. (2) LIGHTSQUARES WITH 16 LEDS EACH AND  
AUTOMOTIVE FRONTLINE OPTICS WITH HOUSE SIDE SHIELD  
Light Source: (32) 3000K CCT, 80 CRI LEDS  
Ballast/Driver: -

**Summary**

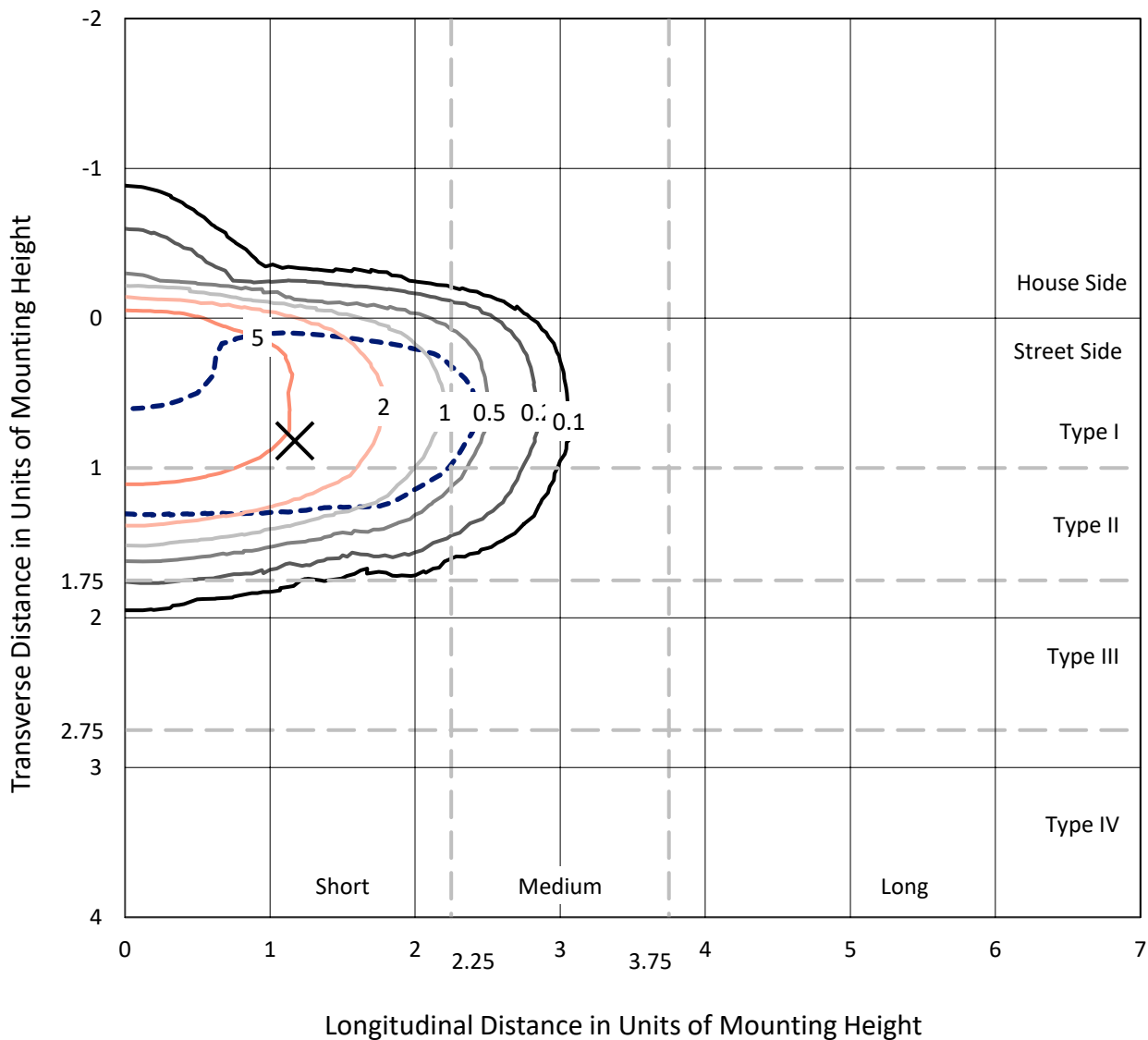
Lumens per Lamp: N/A  
Luminaire Lumens: 10807 lumens  
Efficiency: N/A  
Efficacy: 86.8 lumens/watt  
Luminous Opening: Rectangular (W 1' x L: 0.5' x H: 0')  
IES Classification: Type II - Short  
BUG Rating: B1 - U0 - G1  
  
Input Watts (W): 124.5  
Input Voltage (V): 120  
Input Current (Ain): NR  
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



REPORT NUMBER: P634009  
 CATALOG NUMBER: GWS-SA2F-830-U-AFL-W-HSS

### Iso-Footcandle Lines of Horizontal Illumination

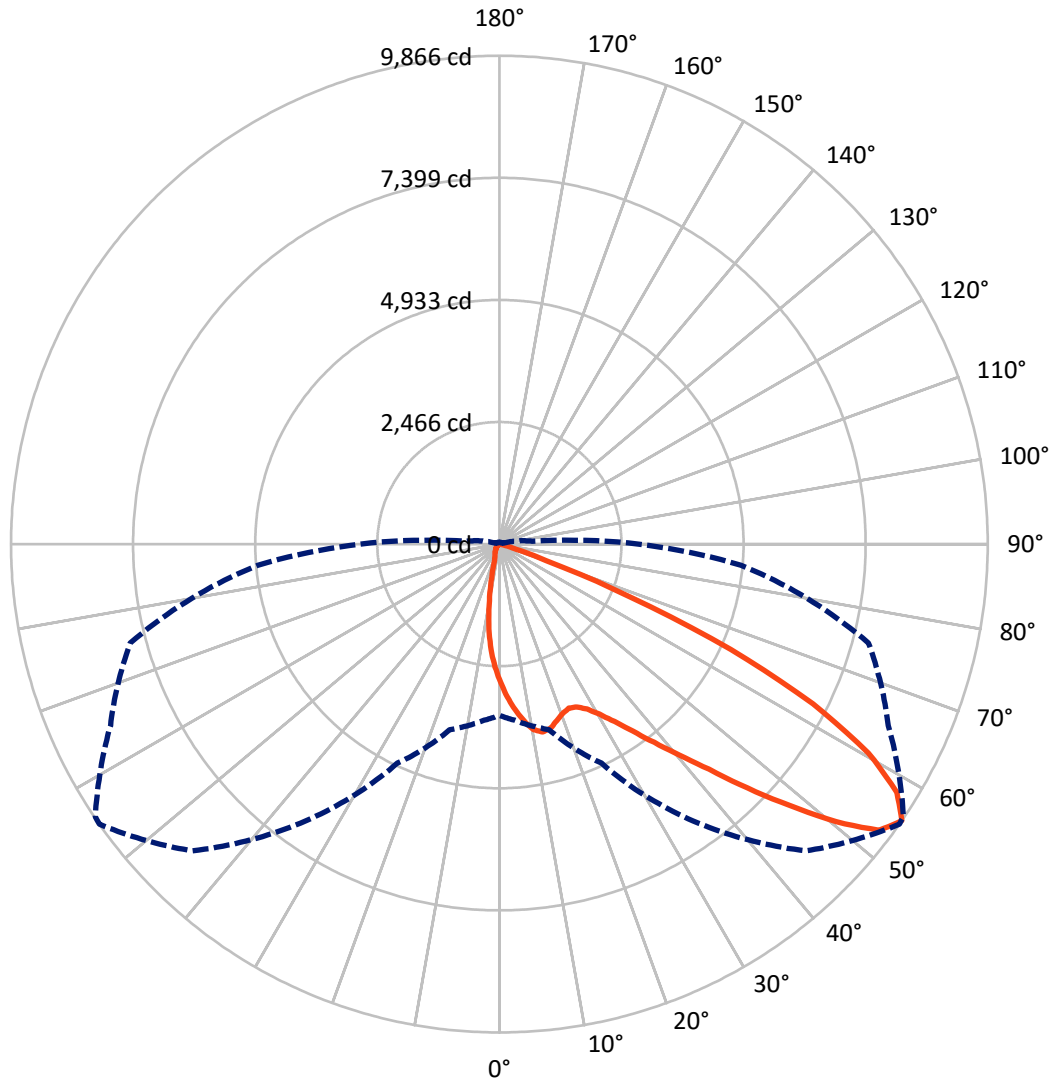
✕ Max cd  
 - - - 1/2 Max cd



Based on 20 foot mounting height. Maximum calculated value = 9.1 fc  
 Type II - Short - N/A

REPORT NUMBER: P634009  
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### Luminous Intensity Polar Plot



— Vertical Plane Through 55-Deg Lateral    - - - Horizontal Cone Through 55-Deg Vertical

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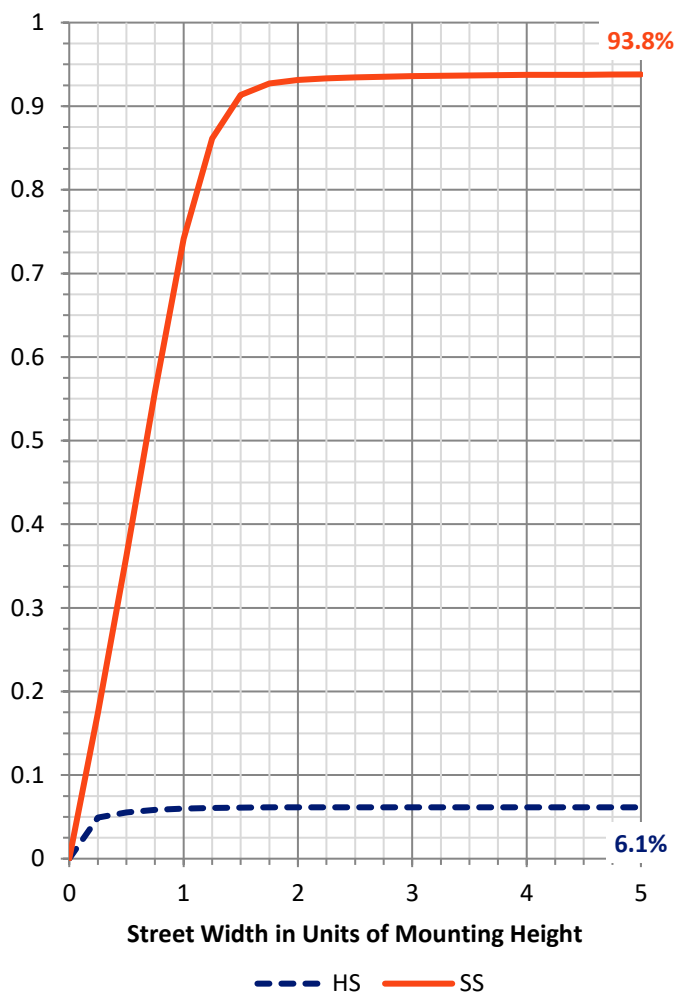
**FLUX DISTRIBUTION:**

		Downward	Upward	Total
<b>House Side</b>	Lumens	666.8	0.0	666.8
	% Fixture	6.2	0.0	6.2
<b>Street Side</b>	Lumens	10140.2	0.0	10140.2
	% Fixture	93.8	0.0	93.8
<b>Total</b>	Lumens	10807.0	0.0	10807.0
	% Fixture	100.0	0.0	100.0

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	246.7	2.3
10°-20°	594.9	5.5
20°-30°	990.7	9.2
30°-40°	1688.1	15.6
40°-50°	2755.6	25.5
50°-60°	2885.0	26.7
60°-70°	1455.1	13.5
70°-80°	183.8	1.7
80°-90°	7.0	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°	10807.0	100.0
0°-180°	10807.0	100.0

**Coefficient of Utilization**



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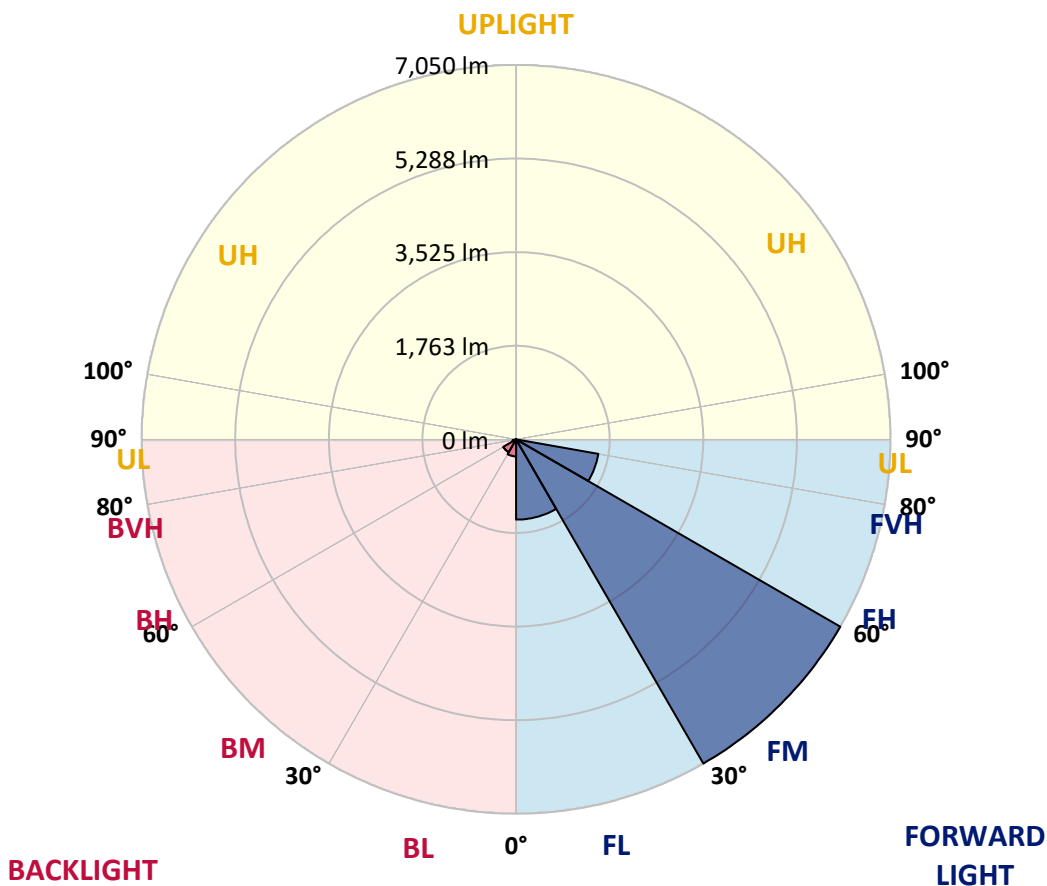
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**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	1511.7	14.0			
FM (30°-60°)	7050.0	65.2			
FH (60°-80°)	1572.1	14.5			G1/1800
FVH (80°-90°)	6.3	0.1			G0/10
BL (0°-30°)	320.5	3.0	B1/500		
BM (30°-60°)	278.8	2.6	B1/1000		
BH (60°-80°)	66.9	0.6	B0/110		G0/110
BVH (80°-90°)	0.6	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-G1**

Type II Short





REPORT NUMBER: P634009  
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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	15°	25°	35°	45°	55°	56°	65°	75°	85°
0°	2791.9	2791.9	2791.9	2791.9	2791.9	2791.9	2791.9	2791.9	2791.9	2791.9	2791.9
2.5°	3254.7	3239.0	3263.1	3235.3	3188.2	3148.5	3096.8	3078.3	2995.1	2916.6	2840.9
5°	3650.2	3654.8	3647.4	3608.6	3542.1	3468.2	3363.8	3340.7	3195.6	3046.0	2884.3
7.5°	3748.1	3745.3	3761.0	3775.8	3764.7	3727.8	3614.1	3591.0	3410.9	3186.4	2950.8
10°	3446.0	3447.8	3480.2	3579.9	3703.7	3832.2	3814.6	3801.7	3625.2	3345.3	3024.7
12.5°	3019.2	3035.8	3070.0	3212.3	3422.0	3713.9	3895.0	3907.9	3822.0	3519.9	3111.6
15°	2834.4	2838.1	2865.8	2951.7	3107.9	3468.2	3860.8	3896.8	3986.4	3695.4	3205.8
17.5°	2829.8	2834.4	2846.4	2884.3	2985.9	3275.1	3750.9	3813.7	4110.2	3883.9	3318.5
20°	3003.5	3000.7	2992.4	2972.0	3016.4	3211.3	3649.2	3718.5	4177.7	4067.7	3432.1
22.5°	3318.5	3314.8	3277.8	3193.8	3157.7	3269.5	3599.3	3662.2	4218.3	4231.3	3525.4
25°	3681.6	3707.4	3638.1	3510.7	3422.0	3418.3	3643.7	3688.0	4253.4	4376.3	3589.2
27.5°	4079.8	4088.1	4028.9	3885.7	3757.3	3656.6	3772.1	3805.4	4292.2	4505.7	3625.2
30°	4516.7	4514.0	4446.5	4280.2	4124.1	3979.1	3988.3	4001.2	4382.8	4653.5	3664.9
32.5°	5062.7	5074.7	4954.6	4728.3	4540.8	4340.3	4271.0	4272.8	4546.3	4843.8	3725.0
35°	5804.6	5775.0	5616.1	5293.7	4974.0	4757.9	4639.6	4629.4	4798.5	5099.7	3829.4
37.5°	6511.3	6514.1	6347.8	5993.1	5589.3	5248.4	5081.2	5053.5	5153.3	5454.5	4003.1
40°	7001.9	7011.2	6941.9	6756.2	6328.4	5846.2	5600.4	5571.8	5613.4	5903.4	4230.3
42.5°	7261.5	7287.4	7306.8	7350.2	7025.9	6592.6	6214.8	6212.0	6168.6	6415.3	4493.6
45°	7271.7	7310.5	7428.7	7725.3	7762.2	7444.4	7033.3	6971.4	6804.2	6963.1	4729.2
47.5°	6869.8	6959.4	7210.7	7798.3	8186.3	8291.6	7884.2	7846.3	7377.0	7396.4	4905.7
50°	5933.0	6026.3	6489.2	7424.1	8293.5	8964.2	8818.2	8739.7	7855.6	7682.8	4990.7
52.5°	4972.2	5057.2	5371.3	6533.5	7849.1	9175.7	9605.3	9512.0	8285.1	7782.6	4955.6
55°	3459.8	3573.5	3880.2	4883.5	6825.5	8763.7	9865.9	9846.5	8668.6	7719.7	4901.1
57.5°	1696.2	1808.9	2114.7	3010.8	5056.3	7651.4	9467.7	9570.2	8897.7	7652.3	4856.7
60°	708.6	754.8	860.1	1321.1	2828.9	5782.4	8568.8	8711.0	8757.2	7560.8	4852.1
62.5°	411.1	418.5	429.6	547.8	1100.3	3314.8	7108.2	7310.5	8019.1	7439.8	4779.1
65°	310.4	313.2	308.6	336.3	454.5	1257.4	5135.7	5411.0	6693.3	6966.8	4490.9
67.5°	255.0	255.0	243.0	248.5	285.5	471.2	2835.3	3219.6	4952.8	5726.1	3708.4
70°	203.2	207.9	202.3	194.9	204.2	260.5	1008.9	1250.9	2884.3	3381.3	2162.7
72.5°	154.3	154.3	163.5	158.0	151.5	163.5	352.0	395.4	1157.6	1409.8	780.7
75°	119.2	122.9	129.3	123.8	114.6	97.0	169.1	179.2	349.2	328.0	174.6
77.5°	61.0	61.9	82.2	90.5	85.0	59.1	73.9	81.3	113.6	101.6	64.7
80°	37.0	38.8	46.2	71.1	56.4	31.4	30.5	32.3	53.6	46.2	26.8
82.5°	15.7	16.6	25.9	25.9	23.1	12.0	12.0	12.0	25.9	24.0	11.1
85°	0.0	0.0	4.6	3.7	3.7	4.6	4.6	4.6	6.5	9.2	5.5
87.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.9	2.8	2.8
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-SA2F-830-U-AFL-W-HSS

**CANDELA DISTRIBUTION (continued):**

	90°	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°
0°	2791.9	2791.9	2791.9	2791.9	2791.9	2791.9	2791.9	2791.9	2791.9	2791.9	2791.9
2.5°	2791.9	2732.8	2653.3	2581.3	2484.3	2429.7	2354.0	2292.1	2239.4	2222.8	2215.4
5°	2792.8	2691.2	2521.2	2351.2	2142.4	1978.0	1808.9	1675.0	1565.0	1529.9	1520.7
7.5°	2811.3	2661.6	2386.3	2077.8	1728.5	1440.3	1182.5	951.6	844.4	808.4	801.0
10°	2836.2	2636.7	2230.2	1749.8	1248.1	877.7	621.8	473.9	403.7	364.9	370.5
12.5°	2868.6	2616.4	2057.4	1395.0	825.9	482.3	341.8	286.4	271.6	264.2	260.5
15°	2912.0	2592.3	1843.1	1043.0	506.3	310.4	263.3	248.5	243.0	239.3	238.4
17.5°	2956.3	2564.6	1625.1	733.5	336.3	257.8	236.5	229.1	225.4	222.6	221.7
20°	3003.5	2517.5	1369.2	505.3	265.1	231.9	218.0	209.7	205.1	200.5	199.6
22.5°	3023.8	2441.8	1124.3	353.8	235.6	213.4	195.9	185.7	180.2	176.5	176.5
25°	3004.4	2318.9	871.2	268.8	214.3	193.1	175.5	164.4	159.8	156.1	156.1
27.5°	2952.6	2160.9	635.6	222.6	191.2	171.8	155.2	145.0	141.4	139.5	139.5
30°	2895.4	1961.3	448.1	191.2	165.4	149.7	135.8	129.3	128.4	126.6	126.6
32.5°	2846.4	1774.7	308.6	168.1	146.0	130.3	121.0	118.3	119.2	117.3	118.3
35°	2819.6	1591.8	229.1	149.7	130.3	115.5	110.9	110.9	110.9	109.9	109.9
37.5°	2830.7	1411.7	186.6	136.7	116.4	105.3	100.7	102.5	104.4	104.4	104.4
40°	2886.1	1251.8	165.4	124.7	104.4	96.1	92.4	95.2	97.9	99.8	99.8
42.5°	2956.3	1122.5	149.7	114.6	96.1	86.8	85.0	87.8	90.5	92.4	92.4
45°	3000.7	992.2	134.0	101.6	87.8	76.7	76.7	80.4	79.5	80.4	80.4
47.5°	3021.0	888.8	118.3	87.8	74.8	66.5	67.4	69.3	67.4	69.3	69.3
50°	2971.1	784.4	104.4	73.0	61.9	58.2	60.1	59.1	59.1	62.8	62.8
52.5°	2879.7	706.8	92.4	61.9	52.7	51.7	53.6	49.9	50.8	50.8	49.9
55°	2812.2	662.4	82.2	53.6	45.3	46.2	45.3	38.8	35.1	31.4	30.5
57.5°	2779.0	644.9	74.8	48.0	40.6	40.6	37.0	26.8	20.3	15.7	13.9
60°	2771.6	623.6	67.4	41.6	36.0	34.2	26.8	15.7	10.2	7.4	6.5
62.5°	2701.4	571.9	61.0	33.3	31.4	27.7	16.6	9.2	5.5	3.7	2.8
65°	2471.3	470.2	54.5	25.9	24.0	20.3	10.2	5.5	2.8	0.9	0.0
67.5°	1966.0	333.5	48.0	19.4	16.6	12.9	6.5	3.7	0.9	0.0	0.0
70°	1133.6	180.2	39.7	13.9	11.1	8.3	4.6	1.8	0.0	0.0	0.0
72.5°	378.8	84.1	30.5	9.2	8.3	6.5	2.8	0.9	0.0	0.0	0.0
75°	83.1	49.9	20.3	6.5	5.5	4.6	1.8	0.0	0.0	0.0	0.0
77.5°	31.4	35.1	10.2	4.6	3.7	2.8	0.9	0.0	0.0	0.0	0.0
80°	12.0	23.1	4.6	2.8	2.8	0.9	0.0	0.0	0.0	0.0	0.0
82.5°	6.5	9.2	2.8	1.8	1.8	0.0	0.0	0.0	0.0	0.0	0.0
85°	3.7	4.6	1.8	0.9	0.9	0.0	0.0	0.0	0.0	0.0	0.0
87.5°	1.8	0.9	0.9	0.9	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



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.

**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  
 CIE u': 0.2476  
 CIE v': 0.5251  
 Duv: 0.0034  
 CIE x: 0.4383  
 CIE y: 0.4131  
 CIE z: 0.1487  
 Peak Wavelength (nm): 603  
 Dominant Wavelength (nm): 581  
 Purity: 55.55201  
 Rf: 81.5  
 Rg: 99.2

CRI (Ra):	81.0		
R1:	79.6	R9:	7.1
R2:	85.6	R10:	67.0
R3:	92.0	R11:	82.7
R4:	82.6	R12:	63.2
R5:	78.9	R13:	80.3
R6:	81.7	R14:	95.0
R7:	85.2	R15:	71.7
R8:	62.0		



**Test Conditions**

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

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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

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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

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**Photopic Flux vs. Wavelength**



**Photopic Lumens: NR**

$\lambda$ (nm)	Power W <sup>^</sup> /nm	Lumens ( $\phi$ /nm)	$\lambda$ (nm)	Power W <sup>^</sup> /nm	Lumens ( $\phi$ /nm)	$\lambda$ (nm)	Power W <sup>^</sup> /nm	Lumens ( $\phi$ /nm)	$\lambda$ (nm)	Power W <sup>^</sup> /nm	Lumens ( $\phi$ /nm)	$\lambda$ (nm)	Power W <sup>^</sup> /nm	Lumens ( $\phi$ /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 <sup>^</sup> /nm	Lumens (φ/nm)	λ (nm)	Power W <sup>^</sup> /nm	Lumens (φ/nm)	λ (nm)	Power W <sup>^</sup> /nm	Lumens (φ/nm)	λ (nm)	Power W <sup>^</sup> /nm	Lumens (φ/nm)	λ (nm)	Power W <sup>^</sup> /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 <sup>^</sup> /nm	Lumens (φ/nm)	λ (nm)	Power W <sup>^</sup> /nm	Lumens (φ/nm)	λ (nm)	Power W <sup>^</sup> /nm	Lumens (φ/nm)	λ (nm)	Power W <sup>^</sup> /nm	Lumens (φ/nm)	λ (nm)	Power W <sup>^</sup> /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			

**Summary**

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



**Color Vector Graphics**



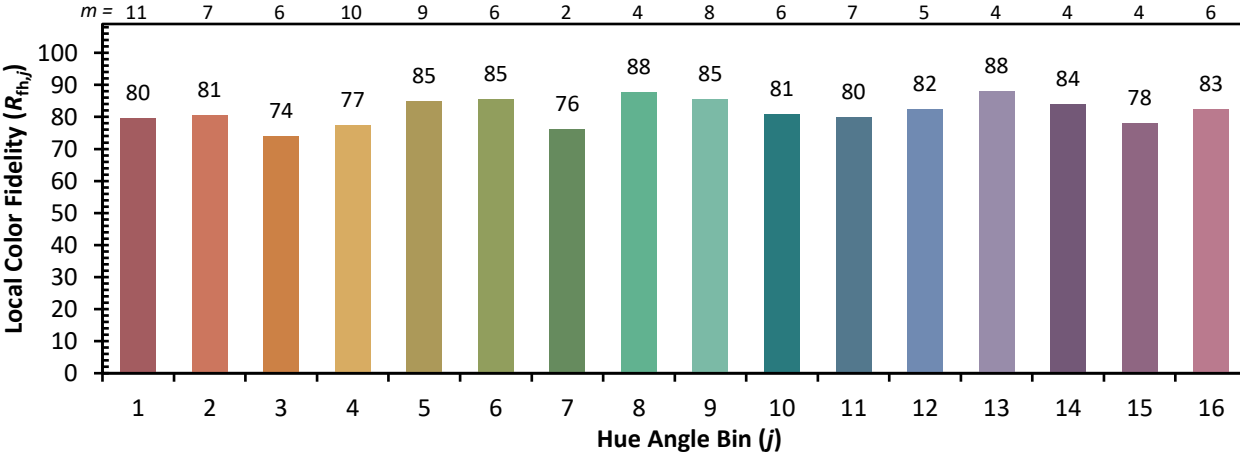


**Individual Sample Fidelity Index ( $R_{f,i}$ )**

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	



Color Rendition by Hue-Angle Bin



Measure Comparisons



(END OF REPORT)