

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: P640941

Luminaire Tested: GWS-SA5E-830-U-RW-W-GRSBK

Issue Date: 1/10/2023

**Test Information**

Test Method: LM-79-2019  
Report Number: P640941  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2209-782-50)  
Test Lab: COOPER LIGHTING SOLUTIONS  
Issue Date: 1/10/2023  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: McGRAW-EDISON  
Catalog Number: GWS-SA5E-830-U-RW-W-GRSBK  
Description: GALLEON WALL SLIM LUMINAIRE. (5) LIGHTSQUARES WITH 16 LEDS EACH AND RECTANGULAR WIDE OPTICS W/ FACTORY INSTALLED GLARE SHIELD, BK  
Light Source: (80) 3000K CCT, 80 CRI LEDS  
Ballast/Driver: -

**Summary**

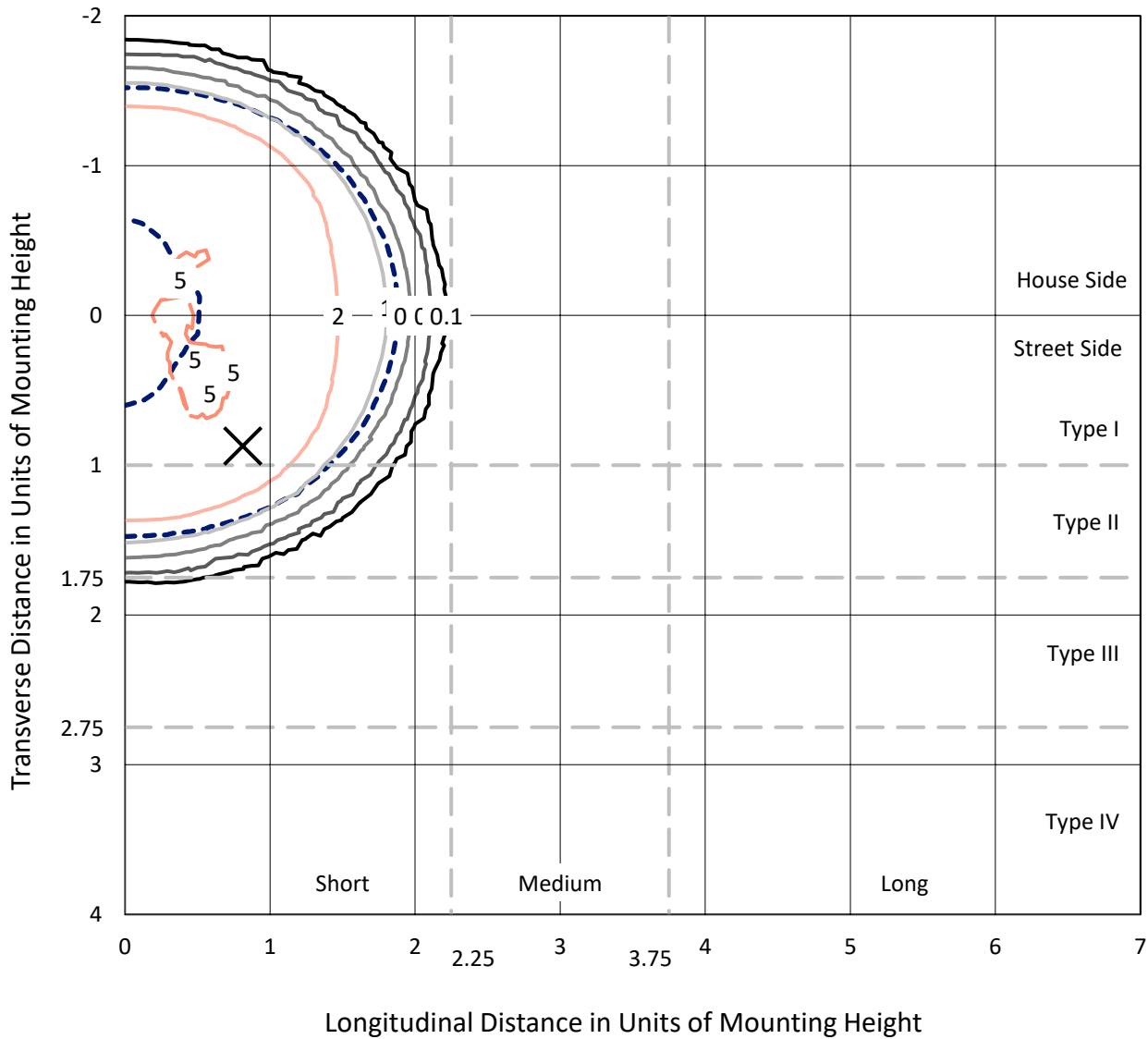
Lumens per Lamp: N/A  
Luminaire Lumens: 19328.2 lumens  
Efficiency: N/A  
Efficacy: 71.7 lumens/watt  
Luminous Opening: Rectangular (W 1.5' x L: 1' x H: 0')  
IES Classification: Type V - Short  
BUG Rating: B4 - U0 - G0  
  
Input Watts (W): 269.6  
Input Voltage (V): 120  
Input Current (Ain): NR  
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



REPORT NUMBER: P640941  
 CATALOG NUMBER: GWS-SA5E-830-U-RW-W-GRSBK

### Iso-Footcandle Lines of Horizontal Illumination

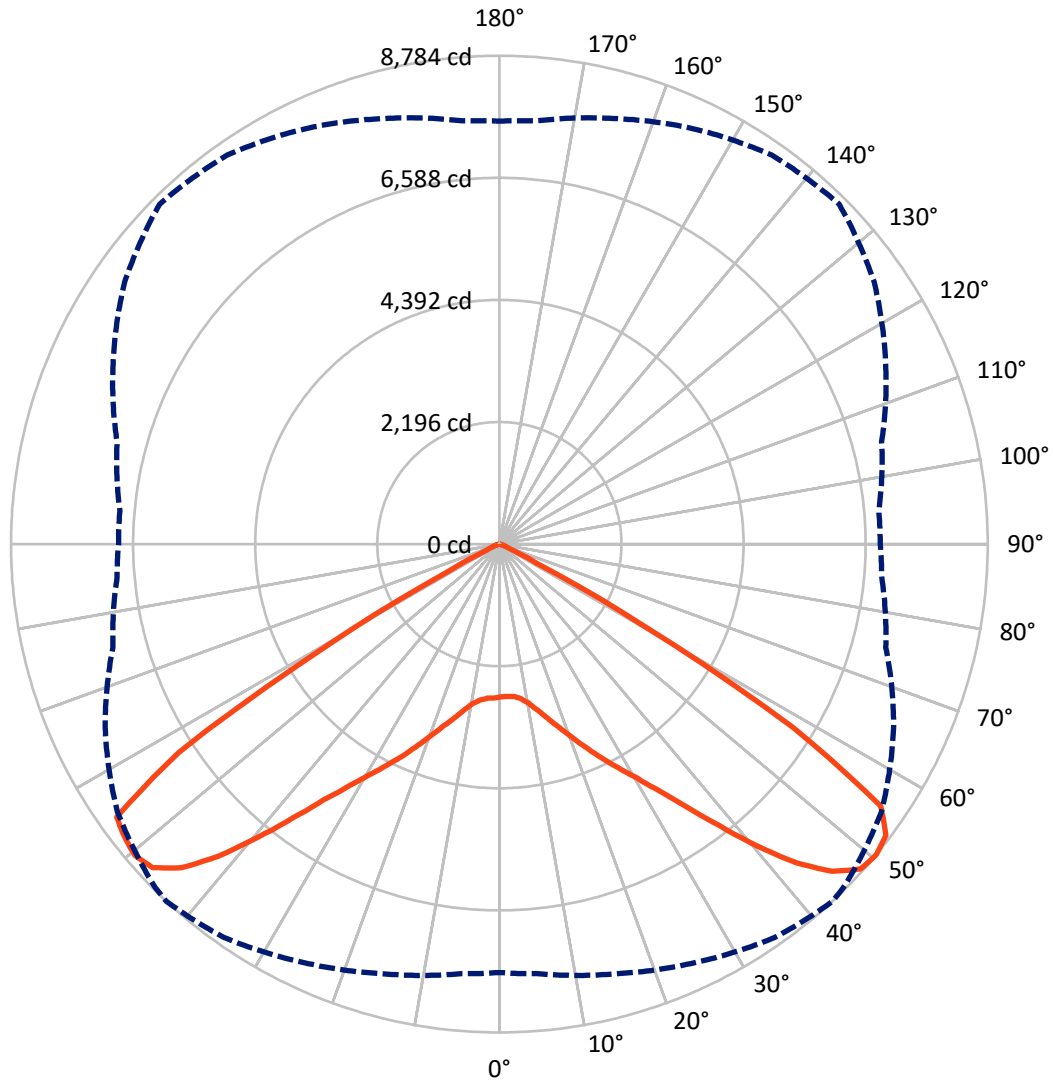
✕ Max cd  
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 5.3 fc  
 Type V - Short - N/A

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### Luminous Intensity Polar Plot



— Vertical Plane Through 43-Deg Lateral    - - - Horizontal Cone Through 50-Deg Vertical

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**FLUX DISTRIBUTION:**

		Downward	Upward	Total
<b>House Side</b>	Lumens	9663.9	0.0	9663.9
	% Fixture	50.0	0.0	50.0
<b>Street Side</b>	Lumens	9664.3	0.0	9664.3
	% Fixture	50.0	0.0	50.0
<b>Total</b>	Lumens	19328.2	0.0	19328.2
	% Fixture	100.0	0.0	100.0

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	270.7	1.4
10°-20°	931.6	4.8
20°-30°	1884.9	9.8
30°-40°	3497.1	18.1
40°-50°	5805.0	30.0
50°-60°	5924.2	30.7
60°-70°	971.5	5.0
70°-80°	42.5	0.2
80°-90°	0.6	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°	19328.2	100.0
0°-180°	19328.2	100.0

**Coefficient of Utilization**



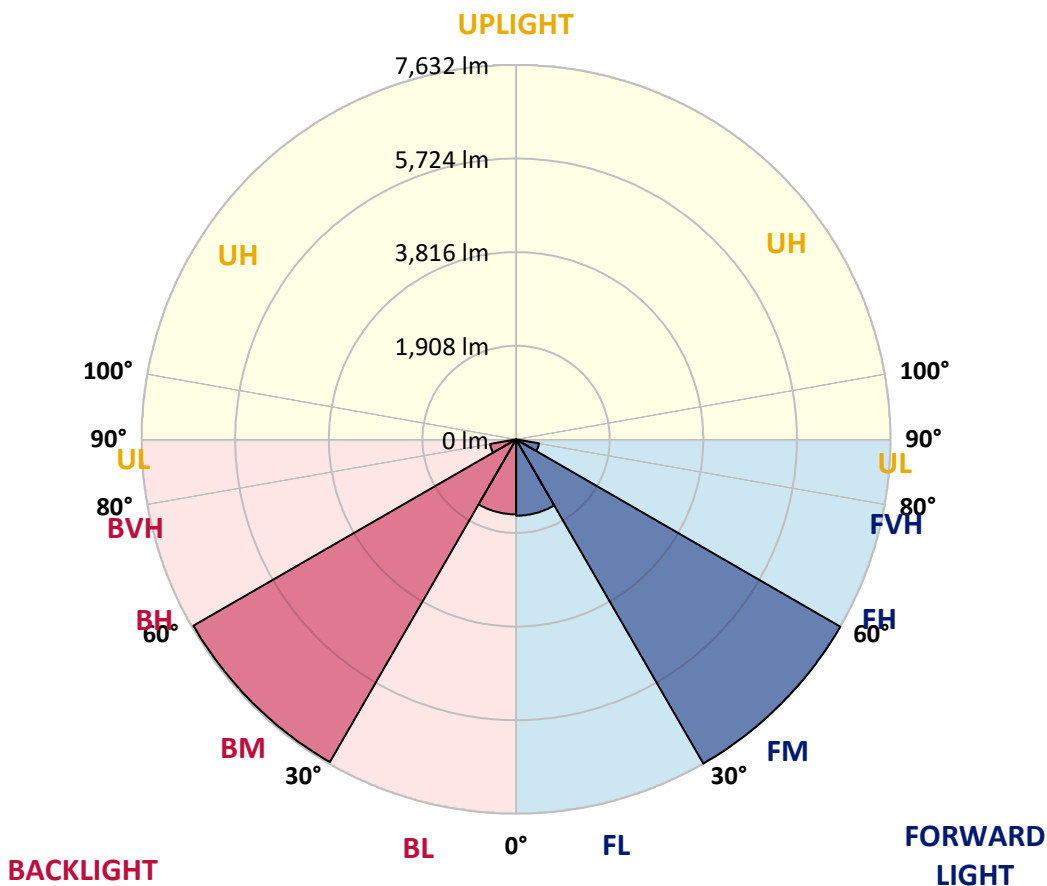
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**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	1557.2	8.1			
FM (30°-60°)	7631.7	39.5			
FH (60°-80°)	475.3	2.5			G0/660
FVH (80°-90°)	0.2	0.0			G0/10
BL (0°-30°)	1530.1	7.9	B3/2500		
BM (30°-60°)	7594.6	39.3	B4/8500		
BH (60°-80°)	538.8	2.8	B2/1000		G0/660
BVH (80°-90°)	0.4	0.0			G0/10
UL (90°-100°)	0.0	0.0		U0/0	
UH (100°-180°)	0.0	0.0		U0/0	

**BUG Rating: B4-U0-G0**  
 Type V Short





REPORT NUMBER: P640941

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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	15°	25°	35°	43°	45°	55°	65°	75°	85°
0°	2749.1	2749.1	2749.1	2749.1	2749.1	2749.1	2749.1	2749.1	2749.1	2749.1	2749.1
2.5°	2697.8	2704.2	2712.8	2721.3	2732.0	2742.7	2749.1	2768.4	2764.1	2781.2	2781.2
5°	2667.9	2674.3	2685.0	2704.2	2727.8	2751.3	2768.4	2806.8	2828.2	2862.4	2875.3
7.5°	2682.9	2691.4	2704.2	2734.2	2770.5	2806.8	2826.1	2888.1	2930.8	2995.0	3031.3
10°	2732.0	2740.6	2762.0	2813.3	2860.3	2911.6	2935.1	3014.2	3082.6	3170.3	3221.6
12.5°	2787.6	2798.3	2841.1	2918.0	2999.2	3067.7	3099.7	3187.4	3257.9	3356.2	3437.5
15°	2845.3	2862.4	2928.7	3042.0	3157.4	3249.4	3283.6	3377.6	3448.2	3552.9	3644.8
17.5°	2980.0	2999.2	3074.1	3195.9	3354.1	3461.0	3490.9	3589.3	3642.7	3713.3	3809.4
20°	3148.9	3185.2	3277.2	3424.7	3597.8	3700.4	3721.8	3818.0	3813.7	3843.7	3927.0
22.5°	3358.4	3384.0	3484.5	3659.8	3854.3	3967.6	4016.8	4057.4	4004.0	3978.3	4031.8
25°	3576.4	3606.4	3715.4	3907.8	4125.8	4256.2	4296.9	4328.9	4243.4	4147.2	4153.6
27.5°	3858.6	3880.0	3986.9	4192.1	4410.2	4557.7	4594.0	4649.6	4536.3	4382.4	4339.6
30°	4194.2	4215.6	4328.9	4544.8	4760.7	4886.9	4942.4	5010.9	4886.9	4694.5	4645.3
32.5°	4587.6	4609.0	4754.3	4976.7	5154.1	5290.9	5344.3	5417.0	5318.7	5102.8	5047.2
35°	5057.9	5070.7	5241.7	5483.3	5671.4	5804.0	5840.3	5925.8	5816.8	5600.9	5570.9
37.5°	5603.0	5618.0	5804.0	6084.0	6276.4	6423.9	6481.6	6505.1	6372.6	6131.0	6107.5
40°	6201.6	6250.7	6432.5	6733.9	6949.8	7135.8	7187.1	7108.0	6922.0	6592.8	6550.0
42.5°	6825.8	6868.6	7071.6	7398.7	7648.8	7839.1	7841.2	7670.2	7353.8	6898.5	6834.3
45°	7345.3	7362.4	7625.3	7954.5	8262.4	8397.0	8409.9	8099.9	7623.2	7075.9	6939.1
47.5°	7702.3	7730.1	7958.8	8275.2	8615.1	8736.9	8711.3	8324.4	7751.4	7191.3	6964.7
50°	7706.5	7753.6	8001.6	8307.2	8636.5	8784.0	8747.6	8388.5	7824.1	7195.6	6902.8
52.5°	7024.6	7101.6	7505.6	7948.1	8452.6	8704.9	8713.4	8471.9	7796.3	7127.2	6847.2
55°	5299.5	5382.8	5891.6	6646.2	7621.0	8324.4	8446.2	8373.5	7764.3	7157.1	6945.5
57.5°	2804.7	2740.6	3022.8	3771.0	4995.9	6240.1	6597.1	7178.5	7407.3	7193.5	7127.2
60°	611.4	652.0	867.9	1169.3	1949.6	2935.1	3283.6	4279.8	5464.1	5989.9	6370.5
62.5°	262.9	258.7	269.4	305.7	446.8	743.9	908.5	1483.6	2340.8	3215.2	3807.3
65°	215.9	218.0	226.6	226.6	211.6	213.8	224.5	339.9	547.3	767.4	1030.4
67.5°	162.5	164.6	179.6	183.8	173.2	153.9	151.8	128.3	134.7	168.9	175.3
70°	102.6	102.6	111.2	115.4	115.4	106.9	104.7	91.9	89.8	102.6	115.4
72.5°	55.6	55.6	59.9	62.0	59.9	57.7	57.7	55.6	53.4	62.0	79.1
75°	23.5	23.5	25.7	25.7	23.5	23.5	23.5	23.5	23.5	27.8	42.8
77.5°	4.3	6.4	8.6	6.4	4.3	4.3	4.3	6.4	6.4	8.6	12.8
80°	2.1	2.1	4.3	2.1	0.0	0.0	0.0	0.0	2.1	2.1	2.1
82.5°	2.1	2.1	2.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.1
85°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
87.5°	0.0	0.0	0.0	0.0	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



REPORT NUMBER: P640941  
 CATALOG NUMBER: GWS-SA5E-830-U-RW-W-GRSBK

**CANDELA DISTRIBUTION (continued):**

	90°	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°
0°	2749.1	2749.1	2749.1	2749.1	2749.1	2749.1	2749.1	2749.1	2749.1	2749.1	2749.1
2.5°	2796.2	2772.6	2781.2	2785.5	2779.1	2774.8	2751.3	2744.9	2734.2	2717.1	2712.8
5°	2890.2	2871.0	2868.8	2856.0	2826.1	2789.7	2744.9	2725.6	2704.2	2682.9	2678.6
7.5°	3048.4	3024.9	3009.9	2967.2	2898.8	2841.1	2766.2	2725.6	2697.8	2670.0	2663.6
10°	3251.5	3223.7	3181.0	3101.9	3009.9	2926.6	2838.9	2785.5	2742.7	2704.2	2702.1
12.5°	3467.4	3437.5	3360.5	3260.1	3148.9	3071.9	2960.8	2885.9	2821.8	2764.1	2757.7
15°	3694.0	3657.7	3552.9	3433.2	3330.6	3251.5	3129.6	3009.9	2911.6	2828.2	2819.7
17.5°	3867.2	3822.3	3698.3	3608.5	3525.1	3443.9	3307.1	3148.9	3018.5	2918.0	2894.5
20°	3976.2	3933.4	3815.9	3766.7	3728.2	3670.5	3508.0	3343.4	3198.1	3074.1	3052.7
22.5°	4080.9	4029.6	3927.0	3927.0	3957.0	3933.4	3758.1	3570.0	3399.0	3255.8	3223.7
25°	4198.5	4157.9	4085.2	4145.1	4219.9	4217.8	4038.2	3803.0	3606.4	3446.0	3414.0
27.5°	4369.5	4328.9	4303.3	4416.6	4510.6	4504.2	4307.5	4053.2	3845.8	3687.6	3657.7
30°	4671.0	4632.5	4604.7	4741.5	4861.2	4816.3	4600.4	4354.6	4145.1	3965.5	3944.1
32.5°	5072.9	5032.2	4995.9	5132.7	5239.6	5181.9	4976.7	4745.8	4504.2	4328.9	4286.2
35°	5600.9	5515.4	5479.0	5641.5	5686.4	5622.3	5425.6	5222.5	4966.0	4765.0	4737.2
37.5°	6146.0	6045.5	6019.9	6161.0	6233.6	6210.1	5979.3	5767.6	5489.7	5267.4	5235.3
40°	6612.0	6520.1	6475.2	6695.4	6860.0	6875.0	6667.6	6408.9	6081.9	5851.0	5793.3
42.5°	6885.7	6806.6	6795.9	7137.9	7407.3	7599.7	7351.7	7084.5	6740.3	6479.5	6432.5
45°	6947.6	6896.3	6986.1	7435.1	7854.0	8204.6	7993.0	7710.8	7338.9	7063.1	7018.2
47.5°	6941.2	6924.1	7084.5	7589.0	8119.1	8551.0	8446.2	8127.7	7768.5	7479.9	7437.2
50°	6849.3	6851.4	7118.7	7665.9	8226.0	8645.0	8540.3	8245.3	7924.6	7640.3	7606.1
52.5°	6813.0	6800.1	7054.5	7642.4	8335.0	8602.3	8367.1	8035.8	7678.8	7328.2	7276.9
55°	6941.2	6909.2	7063.1	7623.2	8347.9	8578.7	7958.8	7240.5	6509.4	6094.7	6060.5
57.5°	7133.6	7099.4	7172.1	7482.1	7678.8	7133.6	5857.4	4698.7	3946.3	3627.7	3488.8
60°	6370.5	6346.9	6291.4	5917.3	5075.0	3828.7	2608.0	1663.2	1195.0	966.3	966.3
62.5°	3952.7	3920.6	3619.2	2689.3	1953.9	1130.9	622.1	389.1	295.0	275.8	273.6
65°	1109.5	1103.1	912.8	645.6	410.4	254.4	224.5	228.7	224.5	218.0	215.9
67.5°	166.7	183.8	183.8	149.6	143.2	160.3	188.1	200.9	190.3	179.6	175.3
70°	106.9	115.4	111.2	96.2	102.6	119.7	134.7	136.8	130.4	119.7	117.6
72.5°	74.8	83.4	68.4	62.0	64.1	70.5	77.0	77.0	74.8	70.5	66.3
75°	44.9	44.9	32.1	29.9	29.9	32.1	32.1	36.3	36.3	34.2	32.1
77.5°	15.0	17.1	10.7	8.6	8.6	8.6	10.7	12.8	12.8	10.7	8.6
80°	2.1	4.3	2.1	2.1	2.1	2.1	2.1	2.1	4.3	4.3	2.1
82.5°	2.1	2.1	2.1	0.0	0.0	0.0	0.0	2.1	2.1	2.1	2.1
85°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.1	2.1
87.5°	0.0	0.0	0.0	0.0	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

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



Point lies inside the ANSI 3000K 4-step quadrangle

REPORT NUMBER: SP1-2408-195-9

**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			

REPORT NUMBER: SP1-2408-195-9

**Scotopic Flux vs. Wavelength**



**Scotopic Lumens: NR**

**S/P: 1.27**

$\lambda$ (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			

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)