

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: P639459

Luminaire Tested: GWS-SA5B-830-U-SL2-W-GRSBK

Issue Date: 1/10/2023

**Test Information**

Test Method: LM-79-2019  
Report Number: P639459  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2209-782-28)  
Test Lab: COOPER LIGHTING SOLUTIONS  
Issue Date: 1/10/2023  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: McGRAW-EDISON  
Catalog Number: GWS-SA5B-830-U-SL2-W-GRSBK  
Description: GALLEON WALL SLIM LUMINAIRE. (5) LIGHTSQUARES WITH 16 LEDS EACH AND TYPE II SPILL LIGHT ELIMINATOR OPTICS W/ FACTORY INSTALLED GLARE SHIELD, BK  
Light Source: (80) 3000K CCT, 80 CRI LEDS  
Ballast/Driver: -

**Summary**

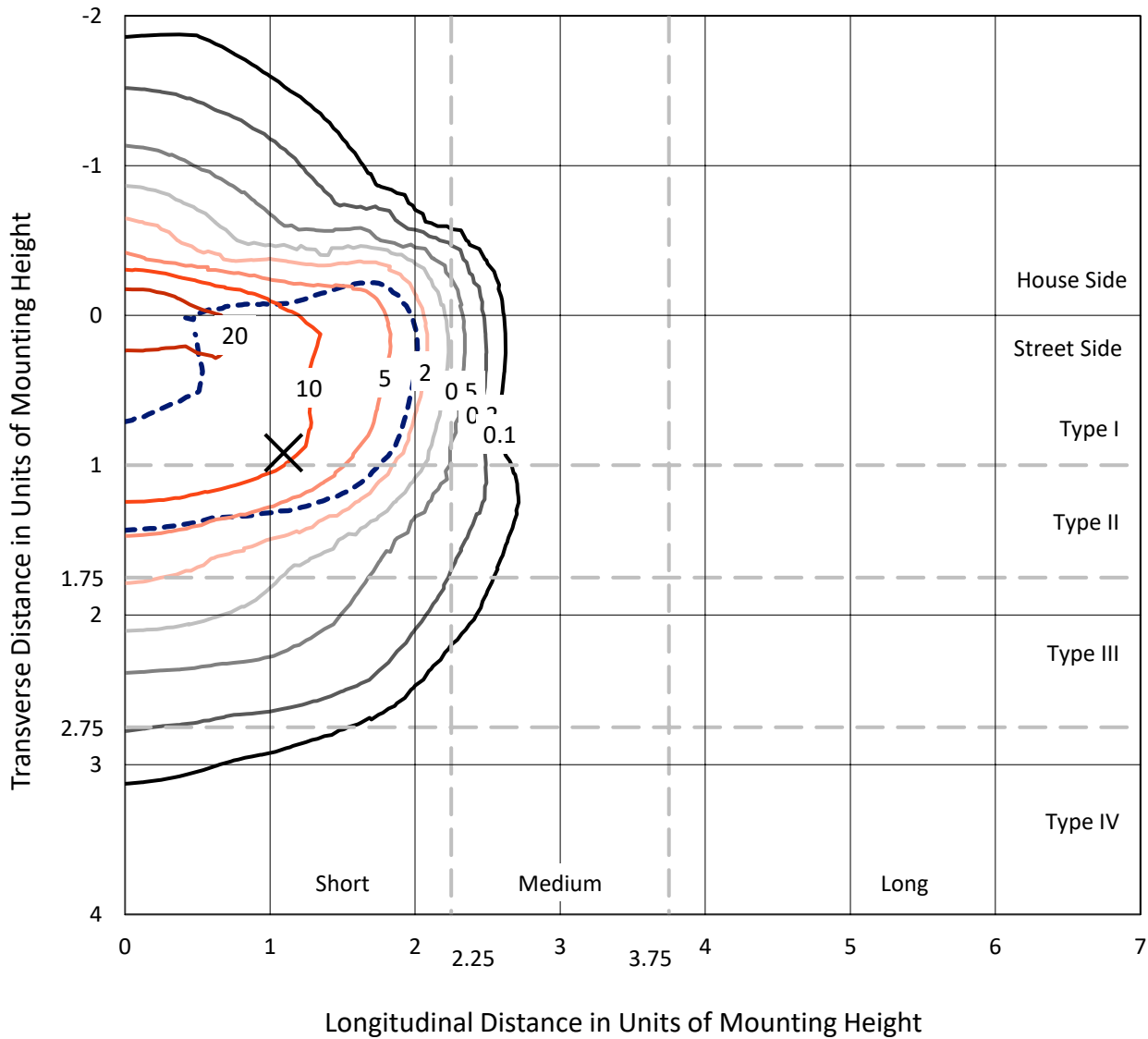
Lumens per Lamp: N/A  
Luminaire Lumens: 8282.3 lumens  
Efficiency: N/A  
Efficacy: 71.6 lumens/watt  
Luminous Opening: Rectangular (W 1.5' x L: 1' x H: 0')  
IES Classification: Type II - Short  
BUG Rating: B2 - U0 - G1  
  
Input Watts (W): 115.7  
Input Voltage (V): 120  
Input Current (Ain): NR  
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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### Iso-Footcandle Lines of Horizontal Illumination

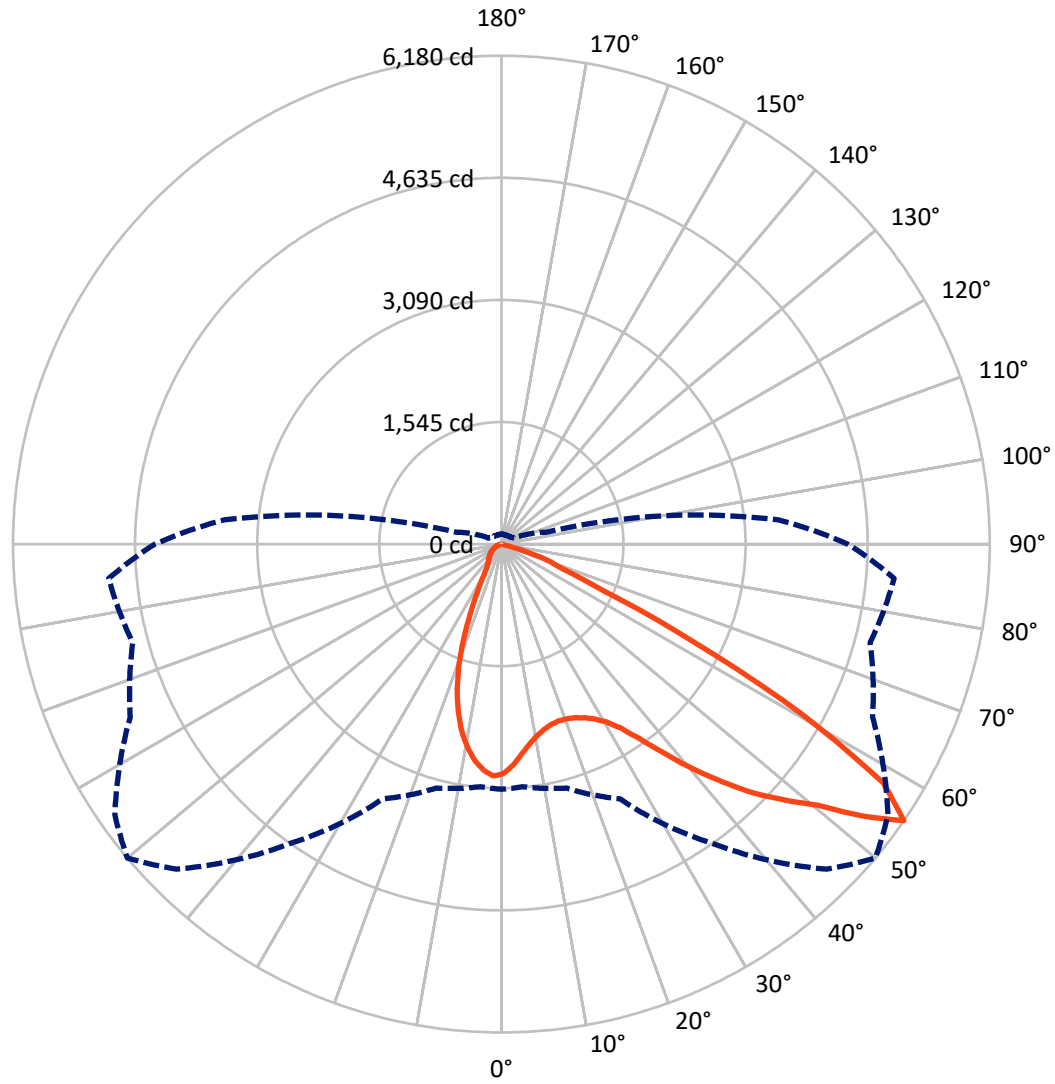
✕ Max cd  
 - - - 1/2 Max cd



Based on 10 foot mounting height. Maximum calculated value = 29.1 fc  
 Type II - Short - N/A

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### Luminous Intensity Polar Plot



— Vertical Plane Through 50-Deg Lateral    - - - Horizontal Cone Through 55-Deg Vertical

REPORT NUMBER: P639459

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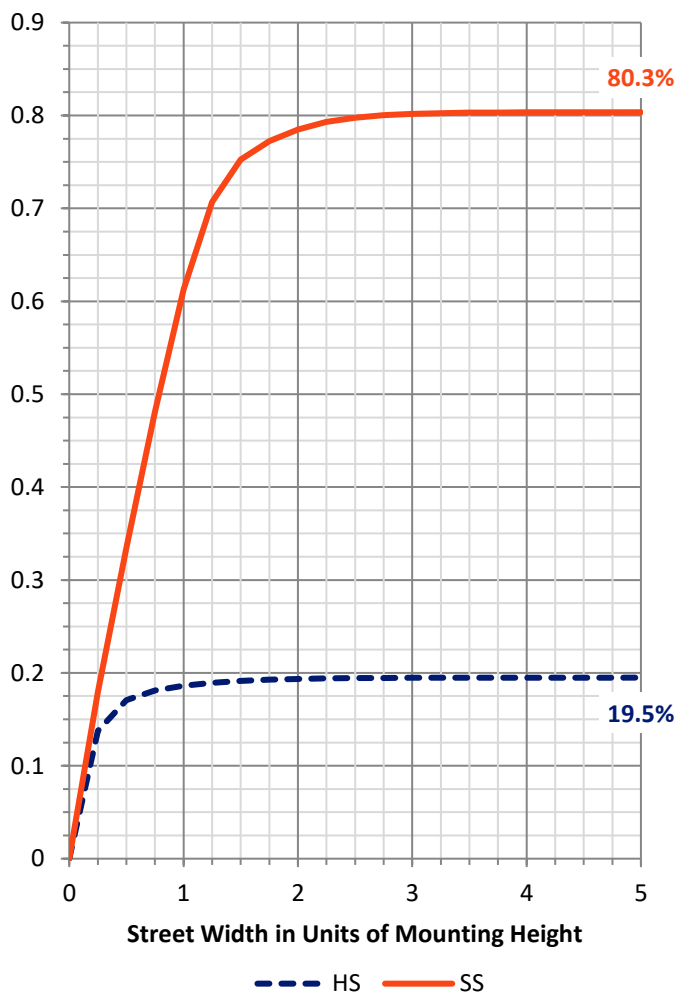
**FLUX DISTRIBUTION:**

		Downward	Upward	Total
<b>House Side</b>	Lumens	1632.0	0.0	1632.0
	% Fixture	19.7	0.0	19.7
<b>Street Side</b>	Lumens	6650.3	0.0	6650.3
	% Fixture	80.3	0.0	80.3
<b>Total</b>	Lumens	8282.3	0.0	8282.3
	% Fixture	100.0	0.0	100.0

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	255.2	3.1
10°-20°	628.0	7.6
20°-30°	885.8	10.7
30°-40°	1310.8	15.8
40°-50°	1891.1	22.8
50°-60°	2230.7	26.9
60°-70°	995.1	12.0
70°-80°	85.5	1.0
80°-90°	0.0	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°	8282.3	100.0
0°-180°	8282.3	100.0

**Coefficient of Utilization**



REPORT NUMBER: P639459

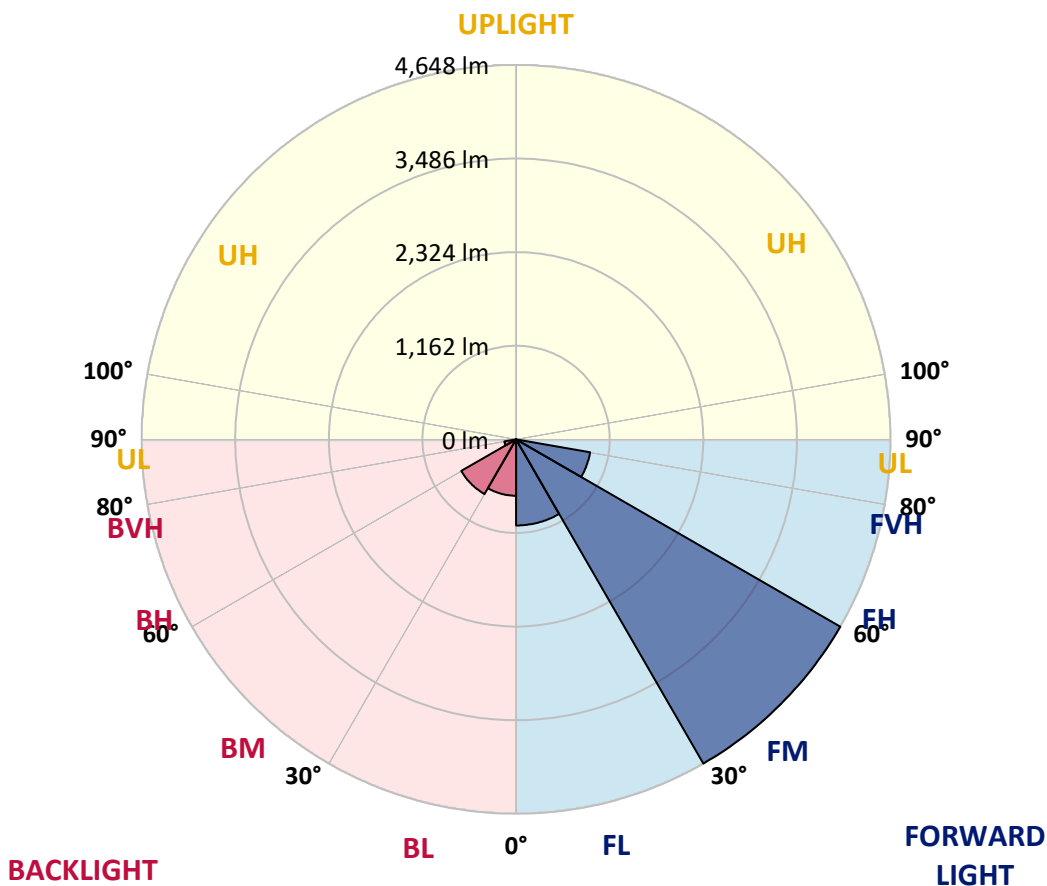
CATALOG NUMBER: GWS-SA5B-830-U-SL2-W-GRSBK

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

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	1069.3	12.9			
FM (30°-60°)	4647.8	56.1			
FH (60°-80°)	933.3	11.3			G1/1800
FVH (80°-90°)	0.0	0.0			G0/10
BL (0°-30°)	699.7	8.4	B2/1000		
BM (30°-60°)	784.9	9.5	B1/1000		
BH (60°-80°)	147.4	1.8	B1/500		G1/500
BVH (80°-90°)	0.0	0.0			G0/10
UL (90°-100°)	0.0	0.0		U0/0	
UH (100°-180°)	0.0	0.0		U0/0	

**BUG Rating: B2-U0-G1**

Type II Short





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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	15°	25°	35°	45°	50°	55°	65°	75°	85°
0°	2905.9	2905.9	2905.9	2905.9	2905.9	2905.9	2905.9	2905.9	2905.9	2905.9	2905.9
2.5°	2699.6	2701.6	2702.7	2730.0	2740.1	2780.5	2801.7	2812.9	2842.2	2876.6	2904.9
5°	2518.6	2515.6	2520.7	2555.0	2577.3	2636.9	2669.3	2691.5	2756.2	2837.1	2904.9
7.5°	2360.9	2367.0	2373.0	2410.5	2443.8	2508.5	2555.0	2588.4	2678.4	2798.7	2913.0
10°	2249.7	2249.7	2258.8	2301.3	2340.7	2420.6	2467.1	2509.5	2616.7	2764.3	2922.1
12.5°	2167.8	2168.8	2179.9	2228.5	2274.0	2356.9	2405.4	2446.9	2565.2	2730.0	2924.1
15°	2129.4	2126.3	2135.4	2187.0	2237.6	2315.4	2366.0	2406.4	2528.8	2710.7	2934.2
17.5°	2119.3	2117.2	2124.3	2174.9	2226.4	2302.3	2351.8	2392.3	2523.7	2716.8	2964.5
20°	2148.6	2144.5	2141.5	2185.0	2233.5	2308.3	2359.9	2405.4	2548.0	2750.2	3011.0
22.5°	2218.3	2218.3	2211.3	2232.5	2264.9	2332.6	2386.2	2445.8	2611.7	2816.9	3079.8
25°	2346.8	2336.6	2323.5	2332.6	2328.6	2371.0	2434.7	2517.6	2732.0	2927.1	3163.7
27.5°	2493.4	2502.5	2480.2	2481.2	2445.8	2430.7	2504.5	2629.9	2910.9	3082.8	3288.1
30°	2692.5	2685.5	2686.5	2683.5	2601.6	2529.8	2609.6	2776.5	3136.4	3320.4	3449.9
32.5°	2848.3	2858.4	2891.7	2910.9	2803.8	2688.5	2773.4	2975.7	3393.2	3591.4	3648.0
35°	3013.1	3031.3	3099.0	3161.7	3071.7	2939.3	3030.3	3239.6	3634.9	3859.4	3875.5
37.5°	3187.0	3223.4	3304.3	3414.5	3400.3	3283.0	3365.9	3550.0	3825.0	4021.1	4063.6
40°	3386.2	3421.6	3554.0	3712.7	3746.1	3719.8	3747.1	3854.3	3950.4	4028.2	4144.5
42.5°	3604.6	3653.1	3820.9	4033.3	4158.6	4181.9	4118.2	4107.1	4005.0	3947.3	4127.3
45°	3862.4	3919.0	4109.1	4384.1	4583.3	4614.6	4504.4	4361.9	4039.3	3887.7	4075.7
47.5°	4151.6	4205.2	4394.2	4724.9	5021.1	5033.2	4841.1	4611.6	4141.5	3956.4	4115.2
50°	4248.6	4282.0	4445.8	4834.1	5380.0	5473.1	5195.0	4892.7	4346.7	4158.6	4307.3
52.5°	3915.0	3928.1	4070.7	4463.0	5307.2	5904.8	5711.7	5312.3	4711.7	4467.0	4603.5
55°	3102.0	3080.8	3196.1	3556.0	4612.6	5816.8	6179.8	5971.5	5181.9	4829.0	4988.8
57.5°	2169.8	2144.5	2118.2	2361.9	3441.8	4931.1	5694.5	6063.5	5629.8	5187.9	5404.3
60°	1783.6	1759.3	1631.9	1519.7	2080.8	3540.9	4374.0	5068.6	5593.4	5169.7	5391.2
62.5°	1540.9	1526.8	1475.2	1322.5	1224.4	2021.2	2739.1	3404.4	4292.1	4059.6	4071.7
65°	1210.3	1206.2	1241.6	1257.8	1082.9	1118.3	1397.3	1769.4	2320.5	2188.0	2074.8
67.5°	827.1	818.0	884.7	1087.9	1041.4	882.7	818.0	825.1	1004.0	613.7	487.3
70°	525.8	504.5	505.5	674.4	847.3	696.6	630.9	555.1	499.5	91.0	103.1
72.5°	336.7	323.6	278.1	304.3	392.3	339.7	342.8	295.2	197.2	48.5	56.6
75°	141.6	130.4	100.1	79.9	78.9	49.5	43.5	40.4	27.3	27.3	29.3
77.5°	1.0	0.0	0.0	1.0	2.0	1.0	1.0	2.0	4.0	6.1	7.1
80°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0
82.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
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: P639459

CATALOG NUMBER: GWS-SA5B-830-U-SL2-W-GRSBK

**CANDELA DISTRIBUTION (continued):**

	90°	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°
0°	2905.9	2905.9	2905.9	2905.9	2905.9	2905.9	2905.9	2905.9	2905.9	2905.9	2905.9
2.5°	2922.1	2897.8	2925.1	2935.2	2934.2	2935.2	2905.9	2885.7	2884.7	2859.4	2847.2
5°	2933.2	2914.0	2934.2	2921.1	2889.7	2850.3	2797.7	2752.2	2732.0	2702.7	2688.5
7.5°	2954.4	2934.2	2931.2	2878.6	2800.7	2717.8	2624.8	2541.9	2497.4	2443.8	2446.9
10°	2969.6	2946.3	2906.9	2799.7	2670.3	2537.9	2399.3	2276.0	2198.1	2126.3	2114.2
12.5°	2975.7	2941.3	2849.3	2687.5	2505.5	2332.6	2129.4	1953.4	1832.1	1738.1	1724.9
15°	2986.8	2931.2	2775.5	2552.0	2302.3	2057.6	1798.7	1558.1	1397.3	1289.1	1298.2
17.5°	3004.0	2920.0	2692.5	2400.3	2083.9	1738.1	1388.2	1112.2	964.6	901.9	902.9
20°	3028.2	2906.9	2601.6	2233.5	1822.0	1377.1	970.7	762.4	720.9	718.9	715.9
22.5°	3060.6	2893.8	2504.5	2050.5	1511.6	964.6	646.1	581.4	598.6	631.9	638.0
25°	3099.0	2877.6	2396.3	1844.2	1172.9	632.9	484.3	474.2	515.7	560.1	570.3
27.5°	3158.7	2869.5	2272.9	1609.7	823.0	454.0	396.3	402.4	439.8	477.2	486.3
30°	3259.8	2884.7	2138.5	1346.8	528.8	362.0	343.8	352.9	373.1	392.3	400.4
32.5°	3397.3	2929.1	2008.0	1059.6	377.1	314.5	310.4	315.5	323.6	334.7	337.7
35°	3558.0	3006.0	1873.6	758.3	311.4	287.2	283.1	283.1	287.2	289.2	290.2
37.5°	3690.5	3086.9	1747.2	504.5	279.1	265.9	259.9	256.8	255.8	257.8	258.8
40°	3748.1	3120.2	1609.7	367.0	255.8	246.7	237.6	228.5	228.5	235.6	236.6
42.5°	3707.7	3082.8	1450.9	303.3	239.6	226.5	212.3	204.2	208.3	215.4	217.4
45°	3621.7	2990.8	1276.0	267.9	223.5	206.3	190.1	185.0	189.1	198.2	200.2
47.5°	3607.6	2930.2	1066.7	244.7	206.3	189.1	171.9	166.8	171.9	179.0	181.0
50°	3748.1	2982.7	834.2	224.5	190.1	170.9	156.7	151.7	154.7	158.7	160.8
52.5°	4005.0	3177.9	673.4	205.3	170.9	152.7	143.6	137.5	137.5	141.6	142.6
55°	4384.1	3518.6	581.4	183.0	148.6	138.5	130.4	124.4	124.4	126.4	127.4
57.5°	4820.9	3931.1	602.6	153.7	130.4	125.4	118.3	113.2	115.3	115.3	115.3
60°	4760.2	3900.8	645.1	129.4	115.3	113.2	107.2	105.2	110.2	106.2	104.1
62.5°	3506.5	2694.6	337.7	106.2	99.1	97.1	93.0	97.1	104.1	93.0	89.0
65°	1702.7	1304.3	135.5	87.0	83.9	81.9	79.9	85.9	90.0	72.8	68.8
67.5°	400.4	325.6	88.0	73.8	69.8	65.7	67.7	68.8	65.7	49.5	47.5
70°	104.1	102.1	68.8	61.7	55.6	51.6	51.6	50.6	43.5	31.3	29.3
72.5°	56.6	55.6	49.5	46.5	38.4	34.4	35.4	31.3	24.3	18.2	17.2
75°	28.3	30.3	28.3	26.3	21.2	19.2	19.2	17.2	12.1	7.1	7.1
77.5°	6.1	7.1	7.1	6.1	5.1	4.0	4.0	5.1	2.0	0.0	0.0
80°	1.0	1.0	1.0	1.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0
82.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
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



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



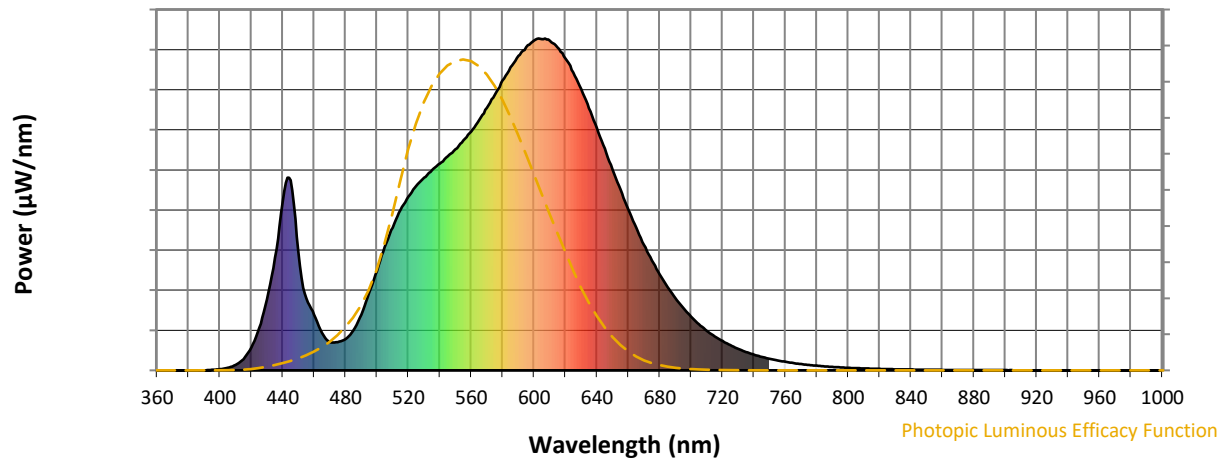
CIE 1931 Chromaticity Diagram with 2017 ANSI 7-Step and 4-Step Quadrangles



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**

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**

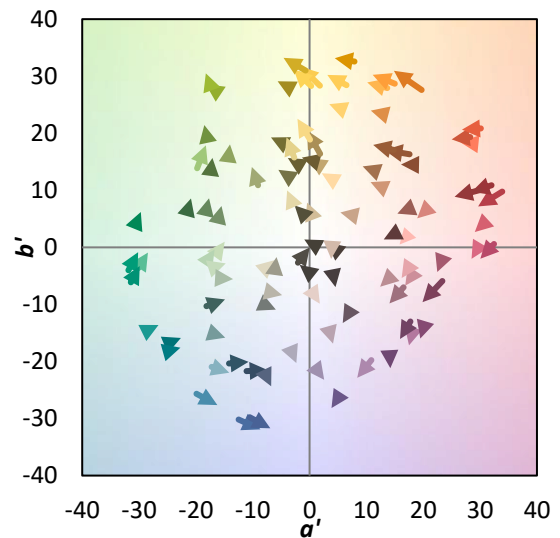
$\lambda$ (nm)	Power W <sup>^</sup> /nm	Lumens ( $\phi$ /nm)	$\lambda$ (nm)	Power W <sup>^</sup> /nm	Lumens ( $\phi$ /nm)	$\lambda$ (nm)	Power W <sup>^</sup> /nm	Lumens ( $\phi$ /nm)	$\lambda$ (nm)	Power W <sup>^</sup> /nm	Lumens ( $\phi$ /nm)	$\lambda$ (nm)	Power W <sup>^</sup> /nm	Lumens ( $\phi$ /nm)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

**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)