

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: P634032

Luminaire Tested: GWS-SA2F-830-U-T1-W

Issue Date: 1/10/2023

**Test Information**

Test Method: LM-79-2019  
Report Number: P634032  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2209-782-10)  
Test Lab: COOPER LIGHTING SOLUTIONS  
Issue Date: 1/10/2023  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: McGRAW-EDISON  
Catalog Number: GWS-SA2F-830-U-T1-W  
Description: GALLEON WALL SLIM LUMINAIRE. (2) LIGHTSQUARES WITH 16 LEDS EACH AND TYPE I OPTICS  
Light Source: (32) 3000K CCT, 80 CRI LEDS  
Ballast/Driver: -

**Summary**

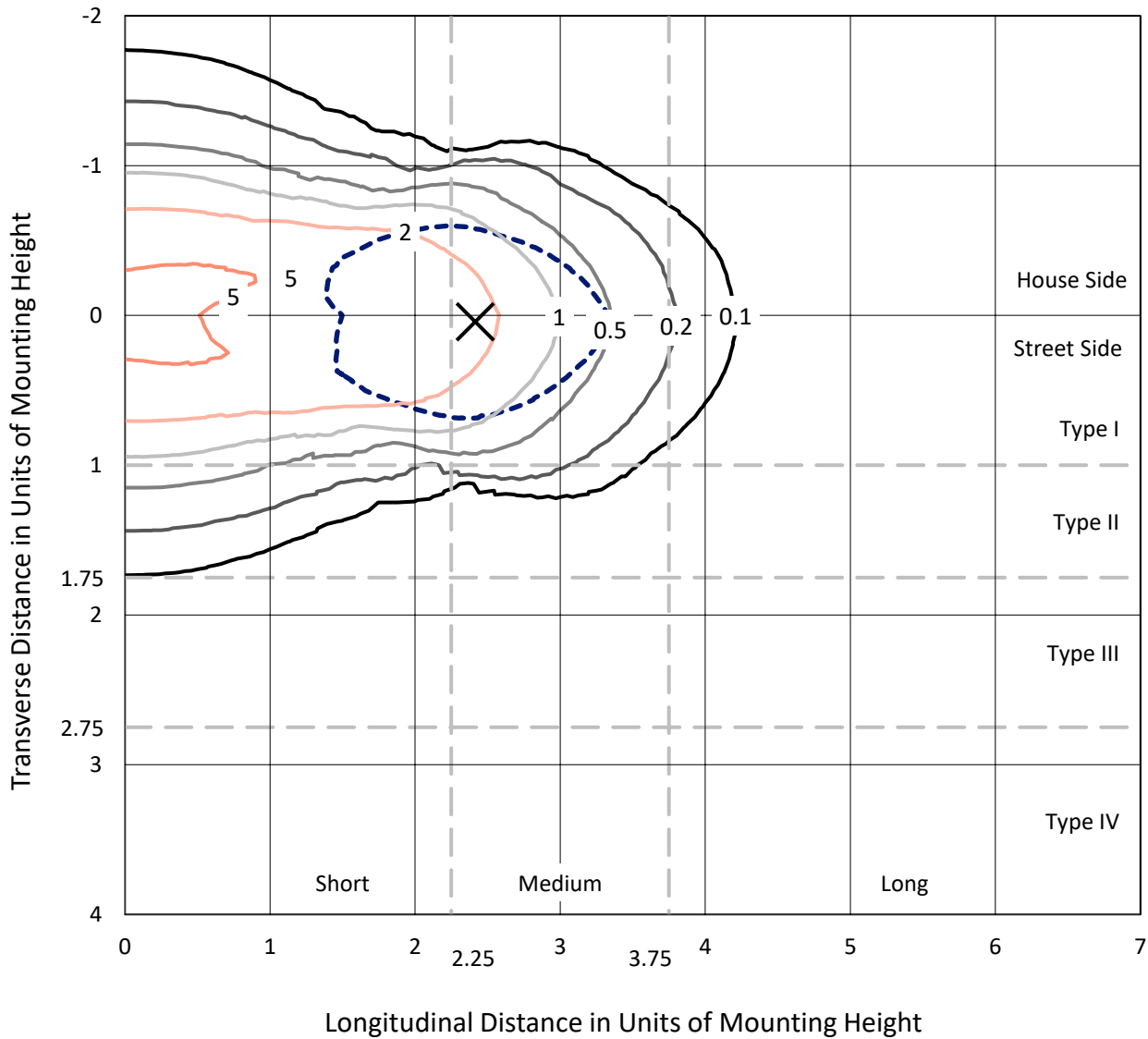
Lumens per Lamp: N/A  
Luminaire Lumens: 12863.5 lumens  
Efficiency: N/A  
Efficacy: 103.3 lumens/watt  
Luminous Opening: Rectangular (W 1' x L: 0.5' x H: 0')  
IES Classification: Type I - Medium  
BUG Rating: B3 - U0 - G3  
  
Input Watts (W): 124.5  
Input Voltage (V): 120  
Input Current (Ain): 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: P634032  
 CATALOG NUMBER: GWS-SA2F-830-U-T1-W

### Iso-Footcandle Lines of Horizontal Illumination

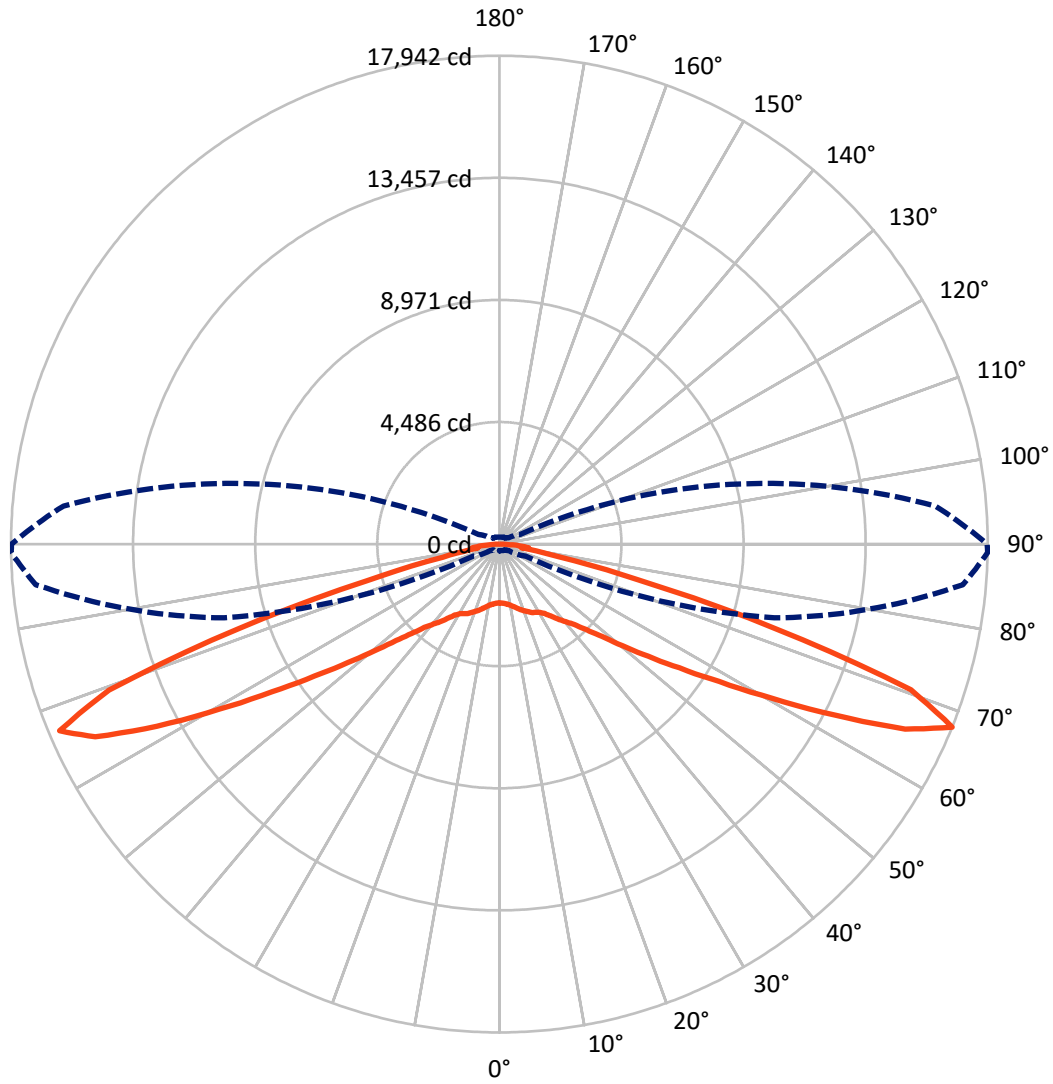
✕ Max cd  
 - - - 1/2 Max cd



Based on 20 foot mounting height. Maximum calculated value = 5.9 fc  
 Type I - Medium - N/A

REPORT NUMBER: P634032  
CATALOG NUMBER: GWS-SA2F-830-U-T1-W

### Luminous Intensity Polar Plot



— Vertical Plane Through 89-Deg Lateral    - - - Horizontal Cone Through 67.5-Deg Vertical

REPORT NUMBER: P634032

CATALOG NUMBER: GWS-SA2F-830-U-T1-W

**FLUX DISTRIBUTION:**

		Downward	Upward	Total
<b>House Side</b>	Lumens	6375.4	0.0	6375.4
	% Fixture	49.6	0.0	49.6
<b>Street Side</b>	Lumens	6488.1	0.0	6488.1
	% Fixture	50.4	0.0	50.4
<b>Total</b>	Lumens	12863.5	0.0	12863.5
	% Fixture	100.0	0.0	100.0

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	216.6	1.7
10°-20°	705.2	5.5
20°-30°	1192.1	9.3
30°-40°	1636.0	12.7
40°-50°	2086.2	16.2
50°-60°	2617.5	20.3
60°-70°	3156.9	24.5
70°-80°	1142.1	8.9
80°-90°	111.1	0.9
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°	12863.5	100.0
0°-180°	12863.5	100.0

**Coefficient of Utilization**



REPORT NUMBER: P634032

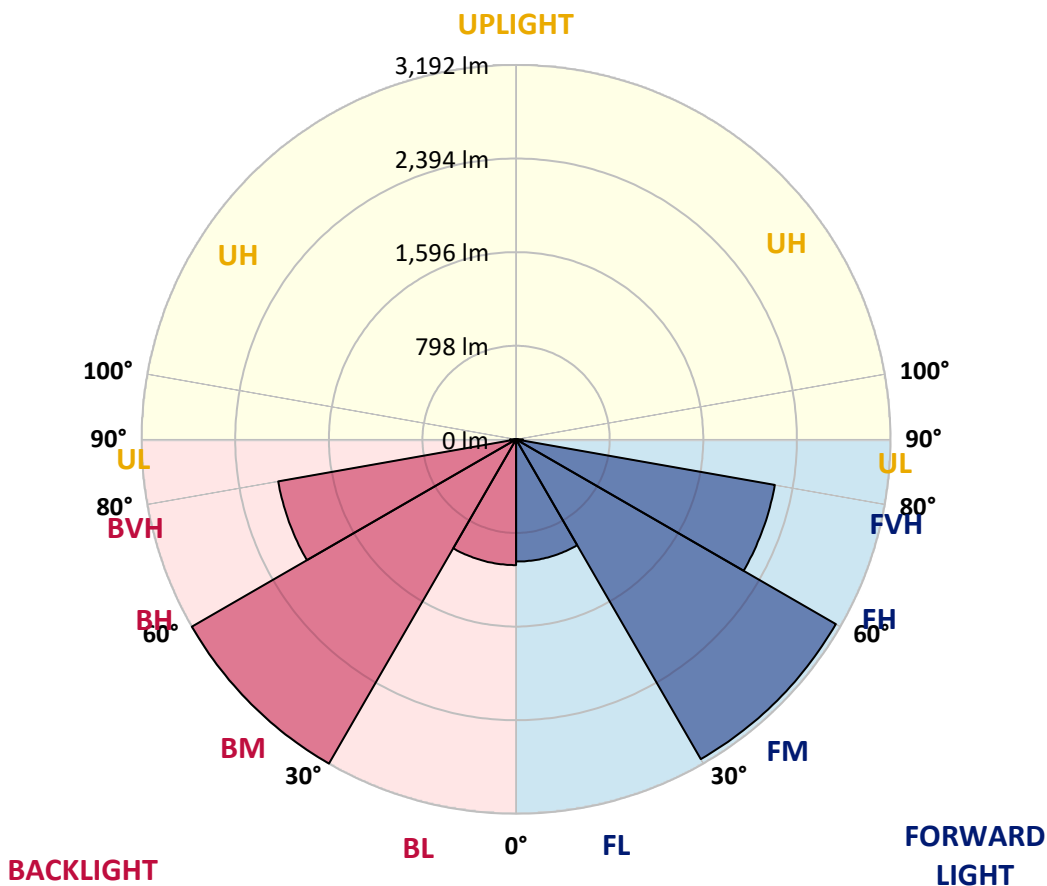
CATALOG NUMBER: GWS-SA2F-830-U-T1-W

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

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	1041.8	8.1			
FM (30°-60°)	3148.0	24.5			
FH (60°-80°)	2239.7	17.4			G2/5000
FVH (80°-90°)	58.6	0.5			G1/100
BL (0°-30°)	1072.0	8.3	B3/2500		
BM (30°-60°)	3191.7	24.8	B3/5000		
BH (60°-80°)	2059.2	16.0	B3/2500		G3/2500
BVH (80°-90°)	52.5	0.4			G1/100
UL (90°-100°)	0.0	0.0		U0/0	
UH (100°-180°)	0.0	0.0		U0/0	

**BUG Rating: B3-U0-G3**

Type I Medium





REPORT NUMBER: P634032  
 CATALOG NUMBER: GWS-SA2F-830-U-T1-W

**CANDELA DISTRIBUTION (FULL):**

	0°	5°	15°	25°	35°	45°	55°	65°	75°	85°	89°
0°	2159.0	2159.0	2159.0	2159.0	2159.0	2159.0	2159.0	2159.0	2159.0	2159.0	2159.0
2.5°	2165.5	2163.7	2159.0	2172.9	2170.1	2171.0	2176.6	2172.9	2166.4	2155.3	2171.0
5°	2226.5	2225.6	2215.4	2223.7	2214.5	2208.0	2207.1	2197.8	2190.4	2178.4	2195.1
7.5°	2285.6	2284.7	2276.4	2291.1	2283.8	2276.4	2268.0	2249.6	2232.0	2214.5	2232.9
10°	2330.9	2329.9	2328.1	2349.3	2351.2	2354.0	2350.3	2318.9	2288.4	2267.1	2285.6
12.5°	2356.7	2359.5	2364.1	2402.9	2422.3	2440.8	2445.4	2419.6	2368.7	2338.3	2360.4
15°	2339.2	2344.7	2367.8	2438.0	2491.6	2533.2	2550.7	2529.5	2463.9	2413.1	2438.0
17.5°	2255.1	2259.7	2305.0	2412.2	2530.4	2626.5	2655.1	2642.2	2569.2	2507.3	2531.3
20°	2138.7	2148.9	2197.8	2347.5	2524.0	2691.2	2767.9	2763.2	2683.8	2588.6	2617.3
22.5°	2033.4	2045.4	2097.1	2262.5	2480.5	2707.8	2881.5	2893.5	2788.2	2669.9	2693.0
25°	1915.1	1926.2	1992.7	2161.8	2405.7	2694.9	2978.5	3033.0	2906.4	2763.2	2784.5
27.5°	1794.1	1802.4	1868.0	2048.2	2307.8	2670.8	3055.2	3186.4	3022.8	2827.9	2842.7
30°	1687.9	1699.0	1759.0	1934.5	2200.6	2622.8	3118.0	3349.9	3156.8	2900.9	2912.9
32.5°	1585.3	1594.6	1660.2	1822.8	2087.0	2548.9	3174.3	3542.0	3355.4	3036.7	3036.7
35°	1456.0	1472.6	1546.5	1715.6	1979.8	2451.0	3215.0	3765.6	3627.0	3237.2	3238.1
37.5°	1336.8	1346.0	1423.7	1594.6	1867.1	2340.1	3218.7	3997.5	3970.7	3492.1	3494.0
40°	1201.0	1213.0	1296.2	1465.2	1737.8	2223.7	3183.6	4213.7	4331.0	3754.5	3744.4
42.5°	1063.4	1080.9	1160.4	1325.7	1598.3	2081.4	3090.3	4419.7	4788.3	4058.5	4033.5
45°	930.3	941.4	1020.9	1177.0	1438.4	1911.4	2940.6	4617.4	5331.5	4520.4	4484.4
47.5°	780.7	785.3	867.5	1017.2	1273.1	1722.1	2726.3	4793.9	5928.3	5132.0	5070.1
50°	647.6	654.1	718.8	847.2	1070.7	1497.6	2459.3	4897.3	6688.7	5966.2	5859.0
52.5°	523.8	530.3	582.0	684.6	885.0	1241.7	2128.5	4873.3	7460.1	7001.9	6845.7
55°	423.1	427.7	462.8	543.2	696.6	987.6	1737.8	4658.0	8316.5	8354.4	8018.1
57.5°	357.5	359.4	383.4	432.4	544.1	761.3	1341.4	4149.9	9214.5	10080.1	9527.7
60°	319.7	320.6	331.7	362.1	429.6	581.1	983.0	3340.6	10144.8	12239.2	11481.6
62.5°	295.6	295.6	304.9	322.4	356.6	447.1	722.4	2399.2	10812.7	14588.5	13835.6
65°	272.5	272.5	279.0	293.8	312.3	364.9	542.3	1547.4	11140.7	16552.6	16385.4
67.5°	243.0	243.9	248.5	264.2	280.9	304.9	411.1	1046.7	10459.8	17095.8	17942.1
70°	215.3	216.2	222.6	232.8	246.7	263.3	321.5	721.5	7613.4	14238.4	16042.6
72.5°	184.8	188.5	193.1	204.2	212.5	224.5	262.4	467.5	4429.9	9159.0	10604.9
75°	151.5	156.1	161.7	172.8	178.3	182.9	216.2	333.5	2131.3	4641.4	5285.3
77.5°	117.3	121.9	128.4	138.6	142.3	147.8	165.4	241.1	1020.9	2057.4	2218.2
80°	78.5	80.4	85.9	97.9	104.4	108.1	121.9	164.4	443.4	825.9	818.5
82.5°	48.0	49.0	50.8	58.2	61.0	64.7	79.5	100.7	211.6	938.6	1076.3
85°	17.6	16.6	15.7	20.3	24.0	27.7	37.0	50.8	92.4	644.8	721.5
87.5°	0.0	0.0	0.0	0.9	1.8	1.8	3.7	7.4	22.2	241.1	165.4
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: P634032  
 CATALOG NUMBER: GWS-SA2F-830-U-T1-W

**CANDELA DISTRIBUTION (continued):**

	90°	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°
0°	2159.0	2159.0	2159.0	2159.0	2159.0	2159.0	2159.0	2159.0	2159.0	2159.0	2159.0
2.5°	2166.4	2156.3	2169.2	2178.4	2198.8	2206.2	2208.0	2201.5	2201.5	2190.4	2192.3
5°	2191.4	2184.9	2206.2	2221.9	2251.4	2262.5	2269.9	2265.3	2268.0	2260.7	2262.5
7.5°	2229.2	2223.7	2260.7	2291.1	2321.6	2334.6	2341.0	2337.3	2338.3	2329.0	2331.8
10°	2281.9	2283.8	2328.1	2367.8	2408.5	2421.4	2424.2	2413.1	2403.9	2387.2	2388.1
12.5°	2354.0	2363.2	2426.0	2470.4	2511.9	2530.4	2510.1	2469.4	2431.6	2402.9	2399.2
15°	2432.5	2449.1	2539.7	2596.0	2641.3	2632.0	2572.0	2480.5	2405.7	2363.2	2354.9
17.5°	2526.7	2551.7	2665.3	2732.7	2771.5	2712.4	2586.8	2450.0	2345.7	2288.4	2277.3
20°	2615.4	2655.1	2798.3	2886.1	2890.7	2757.7	2580.3	2388.1	2257.0	2186.8	2172.0
22.5°	2696.7	2747.5	2937.8	3049.6	2989.6	2778.0	2540.6	2300.4	2149.8	2067.6	2054.6
25°	2785.4	2857.5	3100.4	3204.8	3088.4	2769.7	2457.4	2191.4	2020.5	1936.4	1927.1
27.5°	2846.4	2936.9	3264.0	3363.7	3169.7	2722.6	2350.3	2072.2	1902.2	1822.8	1809.8
30°	2916.6	3032.1	3444.1	3536.5	3219.6	2653.3	2235.7	1961.3	1792.3	1706.3	1697.1
32.5°	3044.1	3189.1	3667.7	3719.4	3235.3	2567.4	2125.8	1854.2	1677.7	1591.8	1578.9
35°	3249.2	3419.2	3981.8	3923.6	3223.3	2473.1	2021.4	1728.5	1560.4	1480.0	1467.1
37.5°	3507.9	3719.4	4331.9	4107.4	3190.1	2369.7	1897.6	1623.2	1455.1	1373.8	1366.4
40°	3749.0	4009.5	4724.6	4266.3	3122.6	2242.2	1778.4	1513.3	1341.4	1255.5	1238.9
42.5°	4051.1	4397.5	5179.1	4404.0	3011.7	2089.7	1644.5	1377.5	1199.2	1121.6	1101.2
45°	4510.2	4940.7	5707.5	4536.1	2846.4	1902.2	1476.3	1212.1	1043.0	963.6	947.9
47.5°	5083.0	5619.8	6280.3	4614.6	2595.1	1704.5	1286.0	1037.5	868.4	778.8	771.4
50°	5887.7	6607.4	6894.7	4600.8	2314.2	1469.8	1071.7	829.6	688.3	623.6	613.4
52.5°	6867.9	7847.2	7558.9	4434.5	2015.8	1202.9	835.2	651.3	546.0	499.8	491.5
55°	8097.5	9331.8	8258.3	4077.9	1638.9	921.1	655.9	513.7	441.6	413.9	410.2
57.5°	9620.0	11254.3	8931.8	3477.4	1232.4	703.0	505.3	424.0	389.9	373.2	372.3
60°	11629.4	13295.1	9516.6	2702.3	882.3	537.7	417.6	378.8	352.0	340.9	340.0
62.5°	14018.5	15148.4	9880.6	1840.3	663.3	428.7	367.7	343.7	328.0	321.5	320.6
65°	16474.1	16319.8	9706.9	1205.6	503.5	364.0	329.8	316.9	303.0	296.6	296.6
67.5°	17924.5	16072.2	8373.8	837.0	399.1	319.7	297.5	285.5	262.4	256.8	256.8
70°	15876.3	13023.5	5488.6	612.5	323.3	279.9	258.7	242.0	232.8	227.3	226.3
72.5°	10500.5	8474.5	2918.4	425.0	269.8	238.4	219.0	212.5	201.4	195.9	194.9
75°	5226.2	4451.1	1495.7	306.7	224.5	191.2	182.9	180.2	170.9	163.5	161.7
77.5°	2178.4	1981.7	697.5	222.6	170.9	154.3	146.9	146.9	136.7	128.4	124.7
80°	821.3	731.7	329.8	152.4	126.6	114.6	109.9	106.2	97.9	87.8	82.2
82.5°	1098.5	717.8	161.7	95.2	83.1	73.9	67.4	64.7	60.1	55.4	51.7
85°	711.4	510.0	73.0	49.0	41.6	31.4	27.7	25.9	23.1	20.3	18.5
87.5°	145.0	170.9	22.2	9.2	5.5	2.8	2.8	0.9	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)