

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: P636024

Luminaire Tested: GWS-SA3E-830-U-T3-W

Issue Date: 1/10/2023

**Test Information**

Test Method: LM-79-2019  
Report Number: P636024  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2209-782-23)  
Test Lab: COOPER LIGHTING SOLUTIONS  
Issue Date: 1/10/2023  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: McGRAW-EDISON  
Catalog Number: GWS-SA3E-830-U-T3-W  
Description: GALLEON WALL SLIM LUMINAIRE. (3) LIGHTSQUARES WITH 16 LEDS EACH AND TYPE III OPTICS  
Light Source: (48) 3000K CCT, 80 CRI LEDS  
Ballast/Driver: -

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 17481.7 lumens  
Efficiency: N/A  
Efficacy: 109.8 lumens/watt  
Luminous Opening: Rectangular (W 1.5' x L: 0.5' x H: 0')  
IES Classification: Type III - Short  
BUG Rating: B3 - U0 - G3  
  
Input Watts (W): 159.2  
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

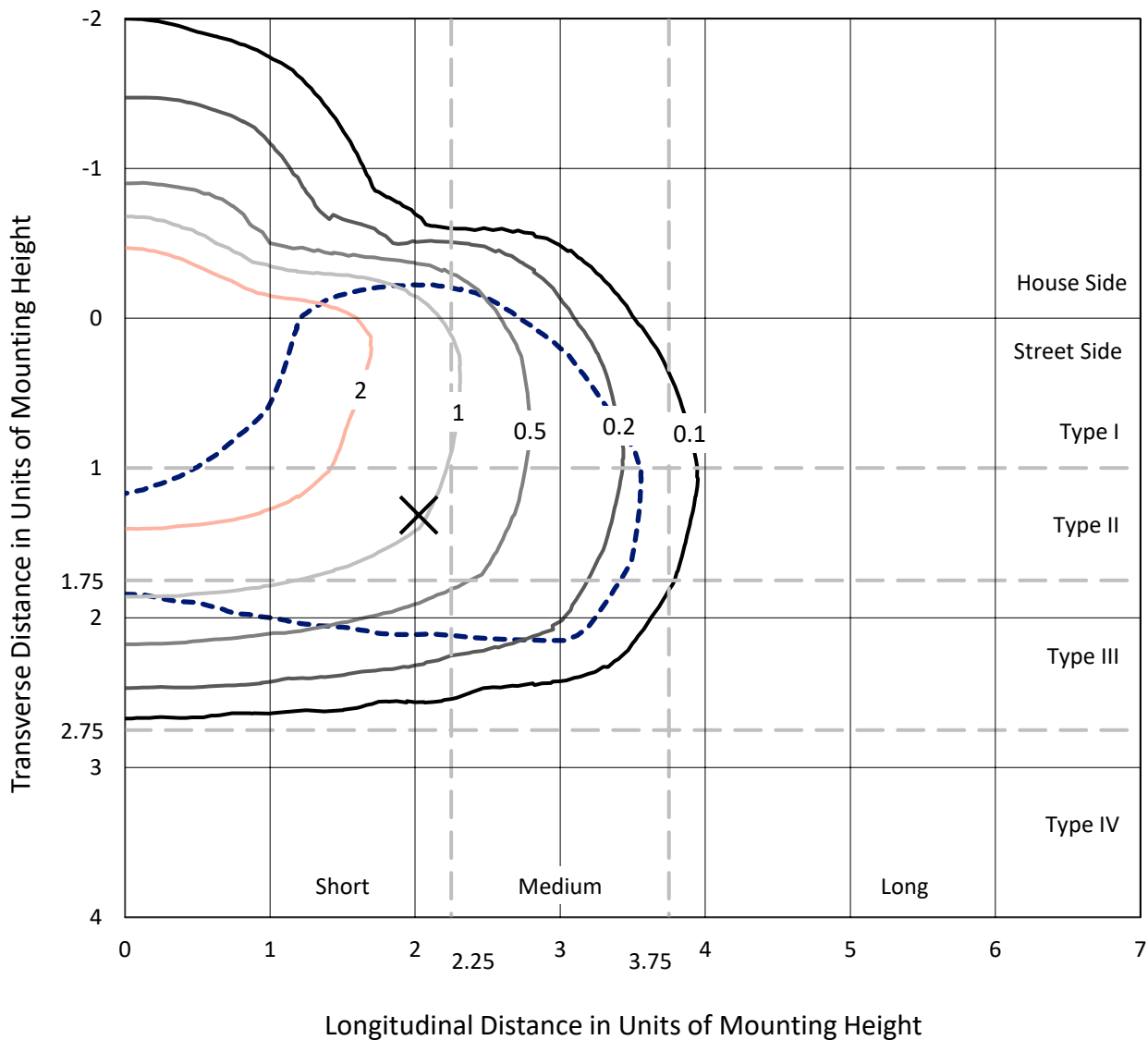


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### Iso-Footcandle Lines of Horizontal Illumination

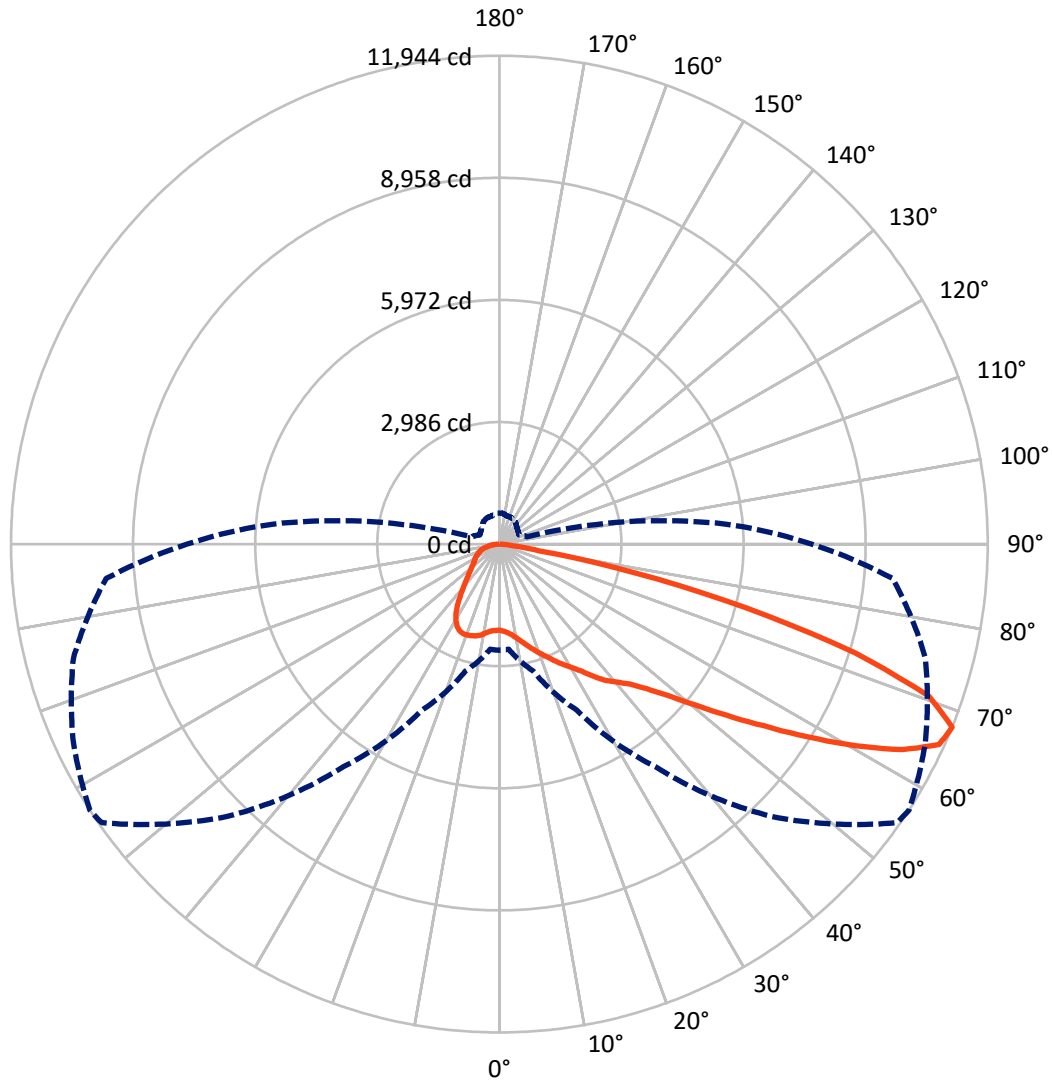
✕ Max cd  
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 3.9 fc  
 Type III - Short - N/A

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### Luminous Intensity Polar Plot



— Vertical Plane Through 57-Deg Lateral    - - - Horizontal Cone Through 67.5-Deg Vertical

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**FLUX DISTRIBUTION:**

		Downward	Upward	Total
<b>House Side</b>	Lumens	3843.6	0.0	3843.6
	% Fixture	22.0	0.0	22.0
<b>Street Side</b>	Lumens	13638.1	0.0	13638.1
	% Fixture	78.0	0.0	78.0
<b>Total</b>	Lumens	17481.7	0.0	17481.7
	% Fixture	100.0	0.0	100.0

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	208.9	1.2
10°-20°	691.6	4.0
20°-30°	1233.0	7.1
30°-40°	1792.6	10.3
40°-50°	2594.6	14.8
50°-60°	4060.4	23.2
60°-70°	4736.7	27.1
70°-80°	1977.3	11.3
80°-90°	186.6	1.1
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°	17481.7	100.0
0°-180°	17481.7	100.0

**Coefficient of Utilization**



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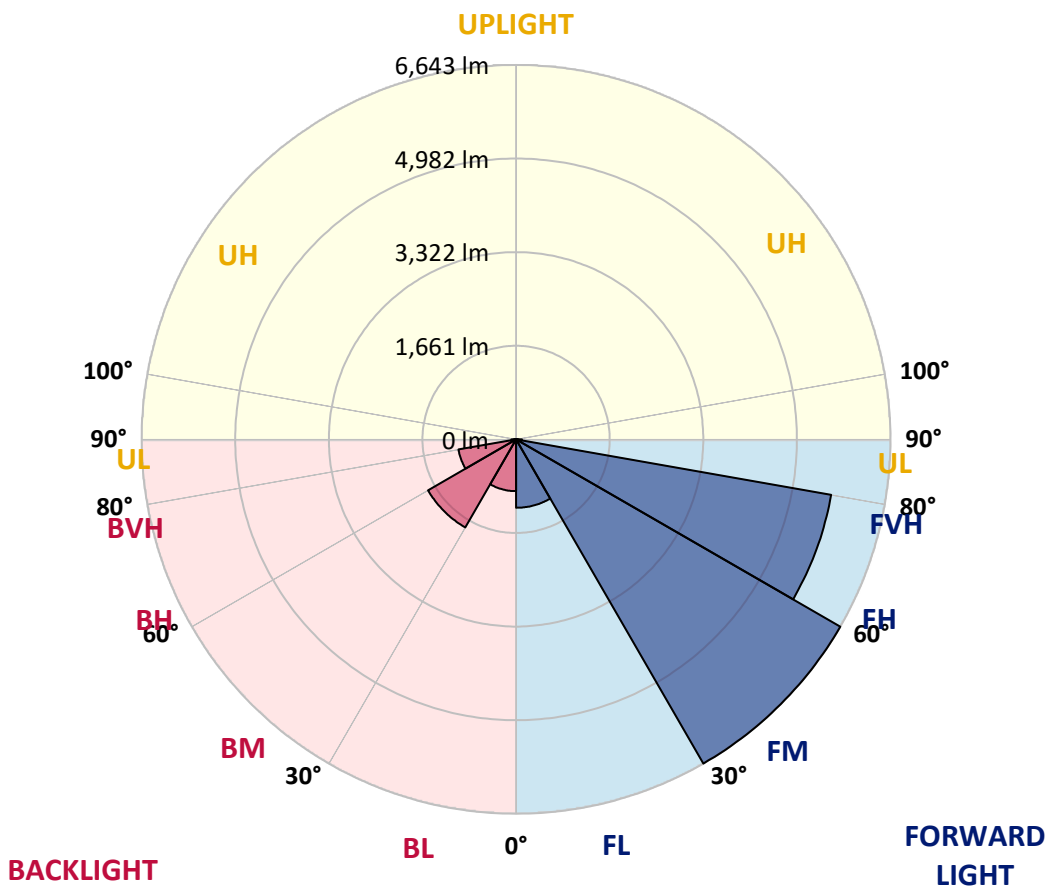
CATALOG NUMBER: GWS-SA3E-830-U-T3-W

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

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	1214.3	6.9			
FM (30°-60°)	6643.3	38.0			
FH (60°-80°)	5676.6	32.5			G3/7500
FVH (80°-90°)	104.0	0.6			G2/225
BL (0°-30°)	919.3	5.3	B2/1000		
BM (30°-60°)	1804.3	10.3	B2/2500		
BH (60°-80°)	1037.4	5.9	B3/2500		G3/2500
BVH (80°-90°)	82.6	0.5			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 III Short





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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	15°	25°	35°	45°	55°	57°	65°	75°	85°
0°	2106.4	2106.4	2106.4	2106.4	2106.4	2106.4	2106.4	2106.4	2106.4	2106.4	2106.4
2.5°	2136.5	2134.0	2132.7	2140.2	2137.7	2136.5	2136.5	2135.2	2132.7	2122.7	2108.9
5°	2195.3	2190.3	2185.3	2191.6	2186.6	2181.6	2180.3	2177.8	2169.0	2154.0	2132.7
7.5°	2256.7	2251.7	2252.9	2256.7	2252.9	2250.4	2246.7	2244.2	2230.4	2206.6	2177.8
10°	2343.1	2343.1	2345.6	2349.4	2350.6	2346.9	2339.4	2335.6	2319.3	2289.3	2249.2
12.5°	2468.4	2465.8	2465.8	2463.3	2467.1	2463.3	2455.8	2449.6	2429.5	2390.7	2333.1
15°	2633.7	2623.6	2614.9	2598.6	2593.6	2579.8	2582.3	2578.6	2559.8	2507.2	2434.5
17.5°	2810.2	2809.0	2795.2	2762.6	2730.1	2707.5	2712.6	2711.3	2701.3	2629.9	2537.2
20°	2965.5	2971.8	2959.3	2934.2	2890.4	2847.8	2845.3	2851.6	2839.0	2767.7	2638.7
22.5°	3139.6	3134.6	3122.1	3089.5	3056.9	3011.9	2996.8	2991.8	2986.8	2905.4	2742.6
25°	3304.9	3319.9	3303.7	3273.6	3223.5	3174.7	3162.1	3167.2	3153.4	3045.7	2854.1
27.5°	3514.0	3520.3	3510.3	3469.0	3426.4	3357.5	3333.7	3333.7	3328.7	3177.2	2941.7
30°	3737.0	3754.5	3737.0	3703.2	3659.3	3560.4	3509.0	3504.0	3489.0	3312.4	3044.4
32.5°	3961.1	3973.7	3961.1	3928.6	3878.5	3792.1	3718.2	3706.9	3686.9	3460.2	3149.6
35°	4160.3	4171.5	4169.0	4176.5	4135.2	4026.3	3981.2	3976.2	3923.6	3653.1	3292.4
37.5°	4378.2	4391.9	4373.2	4388.2	4371.9	4269.2	4255.4	4230.4	4155.2	3834.6	3442.7
40°	4626.1	4638.6	4608.6	4614.9	4596.1	4538.5	4468.3	4434.5	4323.1	4031.3	3679.4
42.5°	4891.6	4920.4	4934.2	4922.9	4879.1	4846.5	4723.8	4681.2	4588.6	4385.7	4068.8
45°	5276.1	5318.7	5338.7	5309.9	5291.1	5244.8	5094.5	5043.1	4994.3	4885.4	4612.3
47.5°	5690.6	5729.4	5793.3	5805.8	5820.8	5785.8	5574.1	5524.0	5532.8	5520.3	5281.1
50°	6021.2	6053.8	6197.8	6351.8	6479.6	6489.6	6219.1	6165.2	6212.8	6252.9	6086.3
52.5°	6261.7	6290.5	6480.8	6798.9	7088.2	7302.4	7010.6	6949.2	6988.0	7078.2	7001.8
55°	6457.0	6497.1	6696.2	7184.6	7769.5	8107.6	7921.0	7843.4	7827.1	7938.5	7982.4
57.5°	6559.7	6572.2	6851.5	7486.5	8269.2	8897.8	8979.2	8891.6	8736.3	8797.6	9025.6
60°	6325.5	6346.8	6728.8	7564.1	8663.6	9681.8	10090.1	10017.4	9686.8	9720.6	9972.3
62.5°	5678.1	5708.1	6167.7	7194.7	8696.2	10205.3	11115.7	11069.4	10626.1	10443.2	10518.4
65°	4554.7	4564.8	5040.6	6280.5	8048.8	10270.4	11830.8	11819.5	11282.3	10854.0	10532.1
67.5°	2597.3	2579.8	3216.0	4479.6	6642.4	9423.8	11877.1	11943.5	11495.2	10786.4	9655.5
70°	1125.8	1128.4	1421.4	2210.4	4299.3	7616.7	11031.8	11145.8	10879.0	9660.5	7681.8
72.5°	521.0	528.5	655.0	956.8	1835.9	4725.1	8995.5	9098.2	8869.0	7731.9	5589.2
75°	368.2	374.4	437.1	548.5	844.1	1840.9	6017.5	6232.9	6344.3	5783.3	3683.1
77.5°	279.3	288.0	319.3	380.7	521.0	652.5	2879.1	3392.6	4041.3	3598.0	1897.3
80°	177.8	177.8	211.6	254.2	318.1	339.4	831.5	985.6	1977.4	1482.8	745.1
82.5°	120.2	124.0	144.0	161.6	182.8	192.9	356.9	380.7	571.1	504.7	306.8
85°	63.9	66.4	75.1	73.9	87.7	76.4	150.3	149.0	209.1	229.2	116.5
87.5°	0.0	0.0	1.3	1.3	2.5	3.8	16.3	17.5	43.8	70.1	38.8
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-SA3E-830-U-T3-W

**CANDELA DISTRIBUTION (continued):**

	90°	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°
0°	2106.4	2106.4	2106.4	2106.4	2106.4	2106.4	2106.4	2106.4	2106.4	2106.4	2106.4
2.5°	2116.4	2101.4	2108.9	2106.4	2113.9	2113.9	2100.2	2096.4	2097.7	2082.6	2077.6
5°	2135.2	2117.7	2121.5	2116.4	2124.0	2130.2	2124.0	2124.0	2131.5	2120.2	2113.9
7.5°	2177.8	2157.8	2157.8	2151.5	2160.3	2165.3	2160.3	2167.8	2181.6	2170.3	2164.0
10°	2245.4	2221.6	2222.9	2215.4	2219.1	2216.6	2196.6	2190.3	2194.1	2184.1	2179.1
12.5°	2333.1	2300.5	2300.5	2285.5	2276.7	2250.4	2209.1	2194.1	2196.6	2187.8	2184.1
15°	2417.0	2386.9	2380.7	2350.6	2310.6	2261.7	2224.1	2214.1	2216.6	2207.9	2201.6
17.5°	2515.9	2477.1	2454.6	2399.5	2325.6	2275.5	2237.9	2214.1	2194.1	2174.1	2169.0
20°	2607.4	2558.5	2517.2	2432.0	2341.9	2273.0	2202.9	2144.0	2095.2	2068.9	2062.6
22.5°	2701.3	2638.7	2566.0	2454.6	2340.6	2227.9	2098.9	2010.0	1937.4	1898.5	1906.1
25°	2790.2	2711.3	2612.4	2475.9	2300.5	2127.7	1952.4	1819.6	1737.0	1706.9	1698.2
27.5°	2864.1	2766.4	2654.9	2465.8	2217.9	1983.7	1752.0	1604.2	1524.1	1490.3	1481.5
30°	2946.7	2836.5	2716.3	2419.5	2087.6	1782.1	1525.3	1405.1	1347.5	1315.0	1316.2
32.5°	3041.9	2926.7	2802.7	2330.6	1921.1	1564.2	1338.7	1256.1	1209.8	1177.2	1172.2
35°	3169.7	3055.7	2860.3	2196.6	1709.4	1363.8	1211.0	1143.4	1085.8	1043.2	1034.4
37.5°	3327.5	3249.8	2866.6	2017.5	1482.8	1226.0	1119.6	1047.0	976.8	920.5	914.2
40°	3598.0	3509.0	2815.2	1793.3	1289.9	1137.1	1043.2	959.3	877.9	815.3	806.5
42.5°	3983.7	3800.8	2705.0	1540.4	1144.6	1067.0	970.6	864.1	781.5	737.6	731.4
45°	4474.6	4126.4	2539.7	1302.4	1036.9	998.1	894.2	782.7	738.9	707.6	701.3
47.5°	5075.7	4505.9	2349.4	1117.1	953.0	935.5	816.5	755.2	716.3	690.0	683.8
50°	5794.5	4989.3	2192.8	971.8	877.9	862.9	791.5	738.9	707.6	686.3	681.3
52.5°	6614.8	5526.6	2116.4	867.9	812.8	797.7	782.7	735.1	708.8	692.5	686.3
55°	7466.4	6092.6	2045.1	787.7	757.7	766.4	784.0	747.6	727.6	706.3	700.1
57.5°	8289.2	6623.6	1869.7	725.1	717.6	751.4	790.2	760.2	736.4	715.1	707.6
60°	8856.5	6914.1	1572.9	675.0	687.5	732.6	773.9	741.4	711.3	702.6	698.8
62.5°	9009.3	6879.1	1221.0	623.7	651.2	691.3	731.4	710.1	678.8	692.5	693.8
65°	8652.4	6503.4	916.7	573.6	603.6	637.4	687.5	678.8	667.5	705.1	706.3
67.5°	7641.7	5580.4	698.8	529.7	554.8	596.1	673.8	710.1	712.6	760.2	755.2
70°	5782.0	4169.0	547.3	488.4	517.2	596.1	717.6	733.9	703.8	747.6	737.6
72.5°	3997.5	2751.4	465.9	452.1	470.9	568.6	716.3	716.3	683.8	683.8	665.0
75°	2483.4	1618.0	405.8	405.8	405.8	497.2	696.3	660.0	602.4	576.1	561.0
77.5°	1226.0	786.5	340.6	353.2	339.4	415.8	568.6	539.8	504.7	477.1	467.1
80°	523.5	393.2	275.5	289.3	273.0	313.1	450.8	444.6	410.8	374.4	363.2
82.5°	240.4	202.9	220.4	226.7	199.1	235.4	329.4	329.4	310.6	260.5	241.7
85°	102.7	107.7	152.8	152.8	125.2	132.7	176.6	167.8	150.3	122.7	112.7
87.5°	35.1	52.6	77.6	67.6	26.3	11.3	6.3	2.5	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



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**

$\lambda$ (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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**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)