

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: P635517

Luminaire Tested: GWS-SA3D-830-U-T1-W

Issue Date: 1/10/2023

**Test Information**

Test Method: LM-79-2019  
Report Number: P635517  
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-SA3D-830-U-T1-W  
Description: GALLEON WALL SLIM LUMINAIRE. (3) LIGHTSQUARES WITH 16 LEDS EACH AND TYPE I OPTICS  
Light Source: (48) 3000K CCT, 80 CRI LEDS  
Ballast/Driver: -

**Summary**

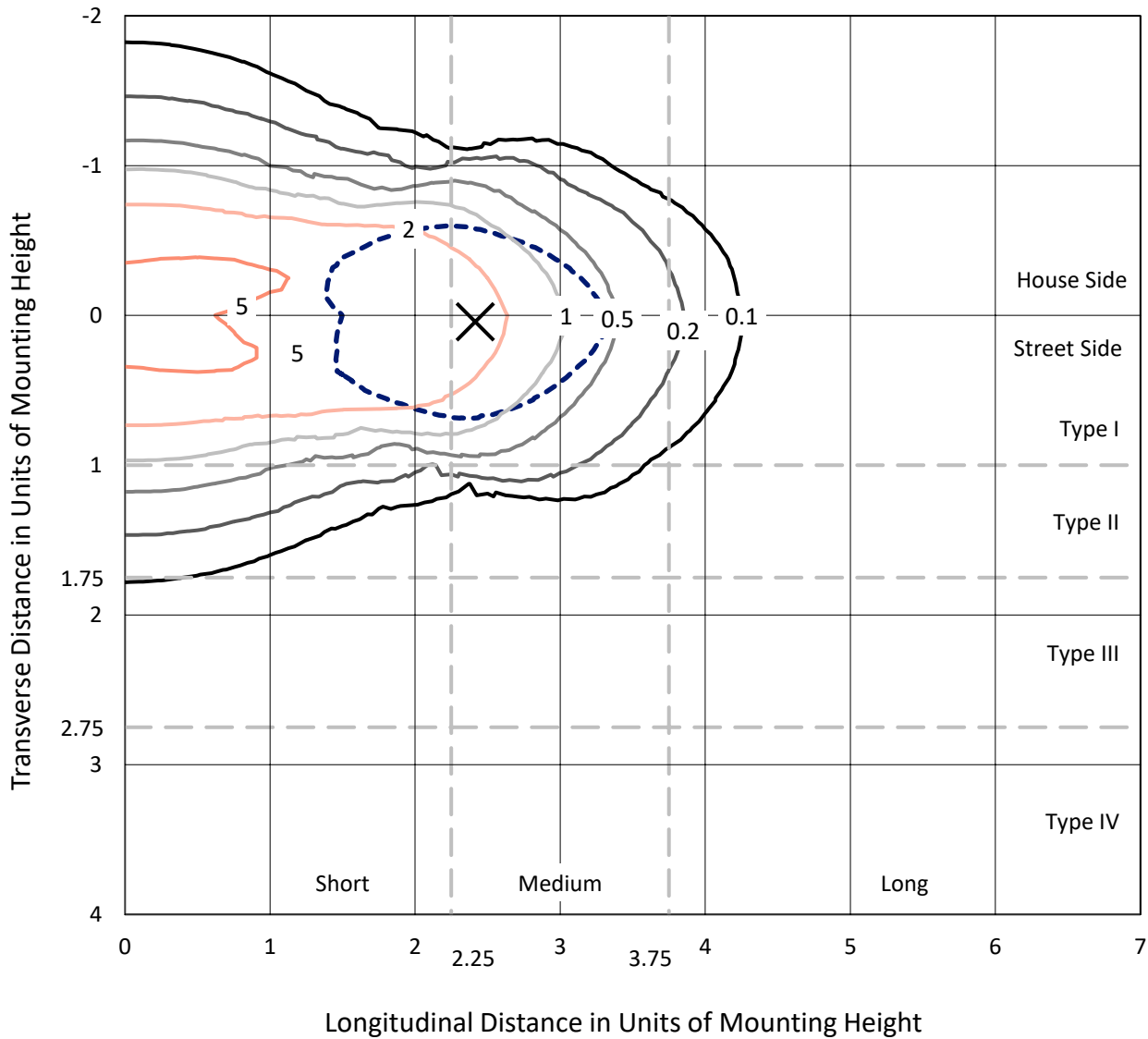
Lumens per Lamp: N/A  
Luminaire Lumens: 13954.2 lumens  
Efficiency: N/A  
Efficacy: 115.5 lumens/watt  
Luminous Opening: Rectangular (W 1.5' x L: 0.5' x H: 0')  
IES Classification: Type I - Medium  
BUG Rating: B3 - U0 - G3  
  
Input Watts (W): 120.8  
Input Voltage (V): 120  
Input Current (Ain): 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: P635517  
 CATALOG NUMBER: GWS-SA3D-830-U-T1-W

### Iso-Footcandle Lines of Horizontal Illumination

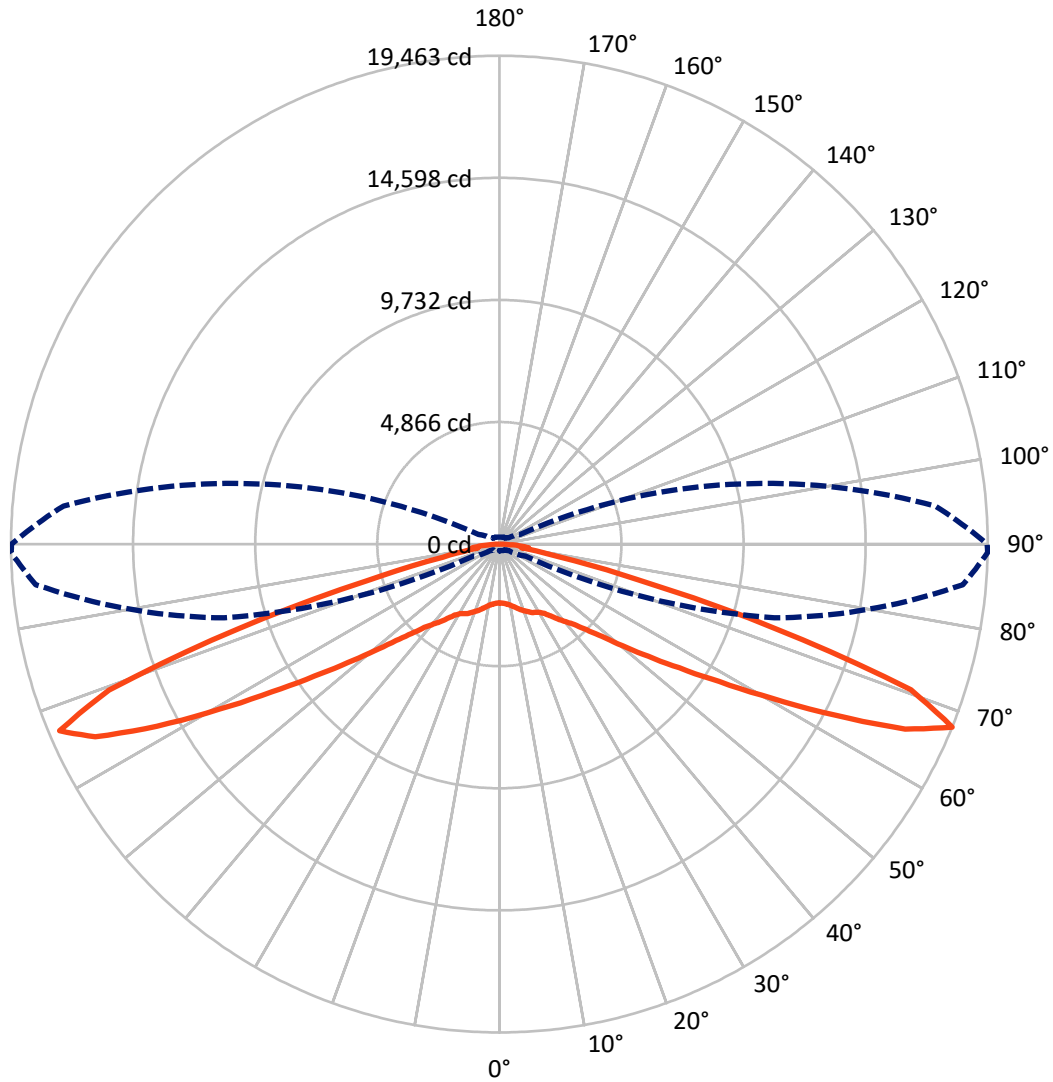
✕ Max cd  
 - - - 1/2 Max cd



Based on 20 foot mounting height. Maximum calculated value = 6.4 fc  
 Type I - Medium - N/A

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### Luminous Intensity Polar Plot



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

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**FLUX DISTRIBUTION:**

		Downward	Upward	Total
<b>House Side</b>	Lumens	6916.0	0.0	6916.0
	% Fixture	49.6	0.0	49.6
<b>Street Side</b>	Lumens	7038.2	0.0	7038.2
	% Fixture	50.4	0.0	50.4
<b>Total</b>	Lumens	13954.2	0.0	13954.2
	% Fixture	100.0	0.0	100.0

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	234.9	1.7
10°-20°	765.0	5.5
20°-30°	1293.1	9.3
30°-40°	1774.7	12.7
40°-50°	2263.1	16.2
50°-60°	2839.4	20.3
60°-70°	3424.6	24.5
70°-80°	1238.9	8.9
80°-90°	120.5	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°	13954.2	100.0
0°-180°	13954.2	100.0

**Coefficient of Utilization**



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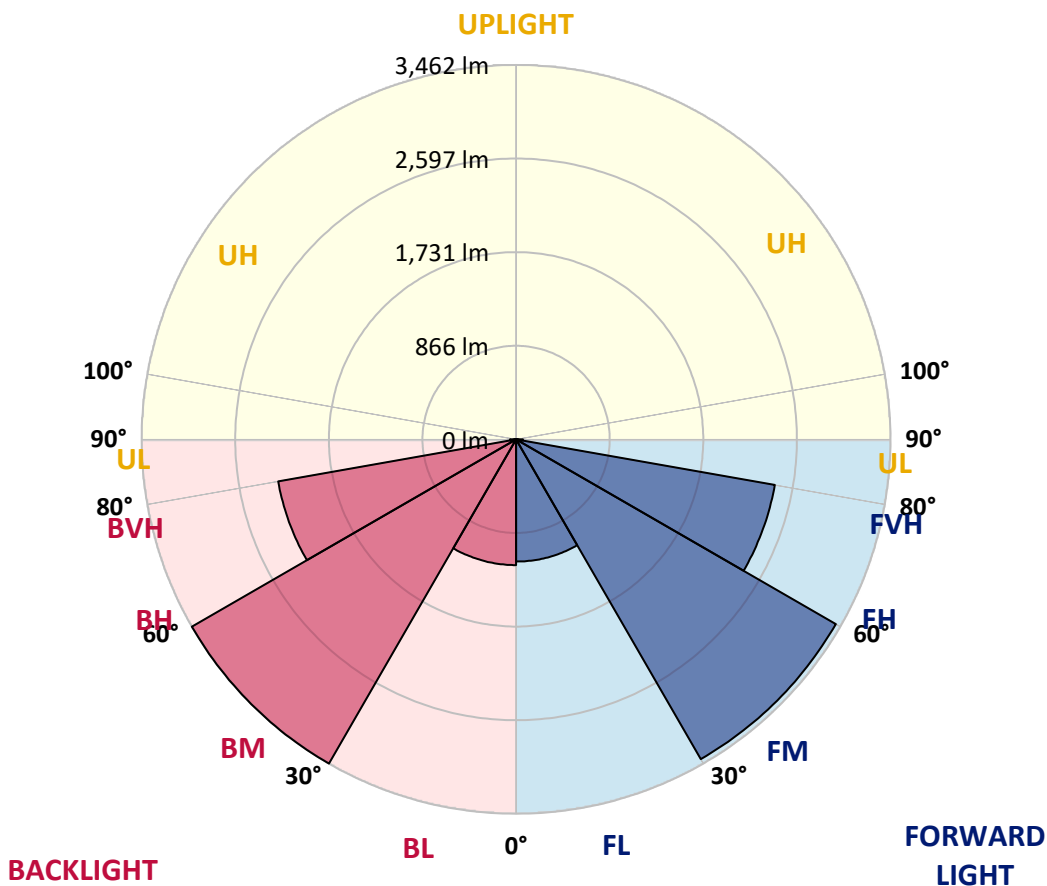
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**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	1130.2	8.1			
FM (30°-60°)	3414.9	24.5			
FH (60°-80°)	2429.6	17.4			G2/5000
FVH (80°-90°)	63.6	0.5			G1/100
BL (0°-30°)	1162.9	8.3	B3/2500		
BM (30°-60°)	3462.3	24.8	B3/5000		
BH (60°-80°)	2233.8	16.0	B3/2500		G3/2500
BVH (80°-90°)	56.9	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





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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	15°	25°	35°	45°	55°	65°	75°	85°	89°
0°	2342.1	2342.1	2342.1	2342.1	2342.1	2342.1	2342.1	2342.1	2342.1	2342.1	2342.1
2.5°	2349.1	2347.1	2342.1	2357.1	2354.1	2355.1	2361.1	2357.1	2350.1	2338.1	2355.1
5°	2415.3	2414.3	2403.2	2412.3	2402.2	2395.2	2394.2	2384.2	2376.2	2363.1	2381.2
7.5°	2479.4	2478.4	2469.4	2485.4	2477.4	2469.4	2460.4	2440.3	2421.3	2402.2	2422.3
10°	2528.5	2527.5	2525.5	2548.5	2550.6	2553.6	2549.6	2515.5	2482.4	2459.4	2479.4
12.5°	2556.6	2559.6	2564.6	2606.7	2627.7	2647.8	2652.8	2624.7	2569.6	2536.5	2560.6
15°	2537.5	2543.5	2568.6	2644.8	2702.9	2748.0	2767.0	2744.0	2672.8	2617.7	2644.8
17.5°	2446.3	2451.3	2500.4	2616.7	2745.0	2849.2	2880.3	2866.2	2787.1	2719.9	2746.0
20°	2320.1	2331.1	2384.2	2546.5	2738.0	2919.4	3002.5	2997.5	2911.3	2808.1	2839.2
22.5°	2205.8	2218.8	2275.0	2454.3	2690.9	2937.4	3125.8	3138.8	3024.6	2896.3	2921.4
25°	2077.5	2089.6	2161.7	2345.1	2609.7	2923.4	3231.0	3290.2	3152.9	2997.5	3020.6
27.5°	1946.2	1955.3	2026.4	2221.8	2503.5	2897.3	3314.2	3456.5	3279.1	3067.7	3083.7
30°	1831.0	1843.0	1908.2	2098.6	2387.2	2845.2	3382.4	3633.9	3424.5	3146.9	3159.9
32.5°	1719.7	1729.8	1800.9	1977.3	2263.9	2765.0	3443.5	3842.4	3639.9	3294.2	3294.2
35°	1579.4	1597.5	1677.7	1861.1	2147.7	2658.8	3487.6	4084.9	3934.6	3511.6	3512.6
37.5°	1450.2	1460.2	1544.4	1729.8	2025.4	2538.5	3491.6	4336.4	4307.4	3788.2	3790.3
40°	1302.8	1315.9	1406.1	1589.5	1885.1	2412.3	3453.5	4571.0	4698.2	4072.9	4061.8
42.5°	1153.5	1172.6	1258.7	1438.1	1733.8	2257.9	3352.3	4794.4	5194.3	4402.6	4375.5
45°	1009.2	1021.2	1107.4	1276.8	1560.4	2073.5	3189.9	5008.9	5783.6	4903.7	4864.6
47.5°	846.8	851.9	941.0	1103.4	1381.0	1868.1	2957.4	5200.3	6431.0	5567.1	5500.0
50°	702.5	709.5	779.7	919.0	1161.5	1624.5	2667.8	5312.6	7255.8	6472.1	6355.8
52.5°	568.2	575.3	631.4	742.6	960.1	1346.9	2309.0	5286.5	8092.6	7595.5	7426.2
55°	459.0	464.0	502.1	589.3	755.6	1071.3	1885.1	5053.0	9021.6	9062.7	8697.9
57.5°	387.8	389.8	415.9	469.0	590.3	825.8	1455.2	4501.8	9995.8	10934.8	10335.5
60°	346.8	347.8	359.8	392.9	466.0	630.4	1066.3	3623.9	11005.0	13276.9	12455.1
62.5°	320.7	320.7	330.7	349.8	386.8	485.1	783.7	2602.7	11729.5	15825.5	15008.7
65°	295.6	295.6	302.7	318.7	338.7	395.9	588.3	1678.7	12085.3	17956.1	17774.7
67.5°	263.6	264.6	269.6	286.6	304.7	330.7	446.0	1135.5	11346.7	18545.4	19463.4
70°	233.5	234.5	241.5	252.5	267.6	285.6	348.8	782.7	8259.0	15445.6	17402.9
72.5°	200.4	204.4	209.5	221.5	230.5	243.5	284.6	507.1	4805.5	9935.6	11504.1
75°	164.4	169.4	175.4	187.4	193.4	198.4	234.5	361.8	2312.0	5035.0	5733.5
77.5°	127.3	132.3	139.3	150.3	154.3	160.3	179.4	261.6	1107.4	2231.9	2406.2
80°	85.2	87.2	93.2	106.2	113.2	117.3	132.3	178.4	481.0	896.0	887.9
82.5°	52.1	53.1	55.1	63.1	66.1	70.2	86.2	109.2	229.5	1018.2	1167.5
85°	19.0	18.0	17.0	22.0	26.1	30.1	40.1	55.1	100.2	699.5	782.7
87.5°	0.0	0.0	0.0	1.0	2.0	2.0	4.0	8.0	24.1	261.6	179.4
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-SA3D-830-U-T1-W

**CANDELA DISTRIBUTION (continued):**

	90°	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°
0°	2342.1	2342.1	2342.1	2342.1	2342.1	2342.1	2342.1	2342.1	2342.1	2342.1	2342.1
2.5°	2350.1	2339.1	2353.1	2363.1	2385.2	2393.2	2395.2	2388.2	2388.2	2376.2	2378.2
5°	2377.2	2370.2	2393.2	2410.2	2442.3	2454.3	2462.4	2457.4	2460.4	2452.3	2454.3
7.5°	2418.3	2412.3	2452.3	2485.4	2518.5	2532.5	2539.5	2535.5	2536.5	2526.5	2529.5
10°	2475.4	2477.4	2525.5	2568.6	2612.7	2626.7	2629.7	2617.7	2607.7	2589.6	2590.6
12.5°	2553.6	2563.6	2631.7	2679.8	2724.9	2745.0	2722.9	2678.8	2637.7	2606.7	2602.7
15°	2638.7	2656.8	2755.0	2816.1	2865.2	2855.2	2790.1	2690.9	2609.7	2563.6	2554.6
17.5°	2741.0	2768.0	2891.3	2964.5	3006.5	2942.4	2806.1	2657.8	2544.5	2482.4	2470.4
20°	2837.2	2880.3	3035.6	3130.8	3135.8	2991.5	2799.1	2590.6	2448.3	2372.2	2356.1
22.5°	2925.4	2980.5	3186.9	3308.2	3243.1	3013.6	2756.0	2495.4	2332.1	2242.9	2228.9
25°	3021.6	3099.7	3363.3	3476.6	3350.3	3004.5	2665.8	2377.2	2191.8	2100.6	2090.6
27.5°	3087.7	3185.9	3540.7	3648.9	3438.5	2953.4	2549.6	2247.9	2063.5	1977.3	1963.3
30°	3163.9	3289.2	3736.1	3836.4	3492.6	2878.3	2425.3	2127.6	1944.2	1851.0	1841.0
32.5°	3302.2	3459.5	3978.7	4034.8	3509.6	2785.1	2306.0	2011.4	1820.0	1726.8	1712.7
35°	3524.7	3709.1	4319.4	4256.3	3496.6	2682.8	2192.8	1875.1	1692.7	1605.5	1591.5
37.5°	3805.3	4034.8	4699.2	4455.7	3460.5	2570.6	2058.5	1760.8	1578.4	1490.2	1482.2
40°	4066.9	4349.5	5125.2	4628.1	3387.4	2432.3	1929.2	1641.6	1455.2	1362.0	1343.9
42.5°	4394.6	4770.4	5618.2	4777.4	3267.1	2266.9	1783.9	1494.3	1300.8	1216.6	1194.6
45°	4892.7	5359.7	6191.5	4920.7	3087.7	2063.5	1601.5	1314.9	1131.5	1045.3	1028.2
47.5°	5514.0	6096.3	6812.8	5005.9	2815.1	1849.0	1395.0	1125.5	942.1	844.8	836.8
50°	6386.9	7167.6	7479.3	4990.9	2510.5	1594.5	1162.5	900.0	746.6	676.5	665.4
52.5°	7450.2	8512.5	8199.9	4810.5	2186.8	1304.8	906.0	706.5	592.3	542.2	533.2
55°	8784.1	10123.0	8958.5	4423.6	1777.9	999.2	711.5	557.2	479.0	449.0	445.0
57.5°	10435.7	12208.6	9689.1	3772.2	1336.9	762.7	548.2	460.0	422.9	404.9	403.9
60°	12615.5	14422.4	10323.5	2931.4	957.1	583.3	453.0	410.9	381.8	369.8	368.8
62.5°	15207.1	16432.8	10718.3	1996.3	719.6	465.0	398.9	372.8	355.8	348.8	347.8
65°	17870.9	17703.6	10529.9	1307.8	546.2	394.9	357.8	343.7	328.7	321.7	321.7
67.5°	19444.3	17435.0	9083.8	908.0	432.9	346.8	322.7	309.7	284.6	278.6	278.6
70°	17222.5	14127.8	5954.0	664.4	350.8	303.7	280.6	262.6	252.5	246.5	245.5
72.5°	11390.8	9193.0	3165.9	461.0	292.6	258.6	237.5	230.5	218.5	212.5	211.5
75°	5669.3	4828.5	1622.5	332.7	243.5	207.5	198.4	195.4	185.4	177.4	175.4
77.5°	2363.1	2149.7	756.6	241.5	185.4	167.4	159.3	159.3	148.3	139.3	135.3
80°	890.9	793.7	357.8	165.4	137.3	124.3	119.3	115.3	106.2	95.2	89.2
82.5°	1191.6	778.7	175.4	103.2	90.2	80.2	73.2	70.2	65.1	60.1	56.1
85°	771.7	553.2	79.2	53.1	45.1	34.1	30.1	28.1	25.1	22.0	20.0
87.5°	157.3	185.4	24.1	10.0	6.0	3.0	3.0	1.0	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

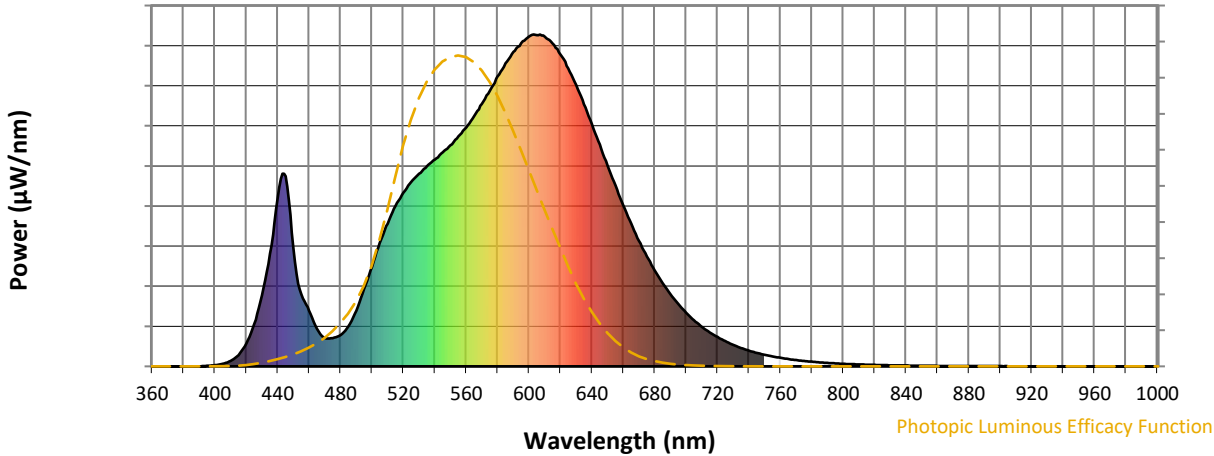


CCT = 3050K  
 CIE x = 0.4383  
 CIE y = 0.4131  
 Duv = 0.0034

Point lies inside the ANSI 3000K 4-step quadrangle

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**Photopic Flux vs. Wavelength**

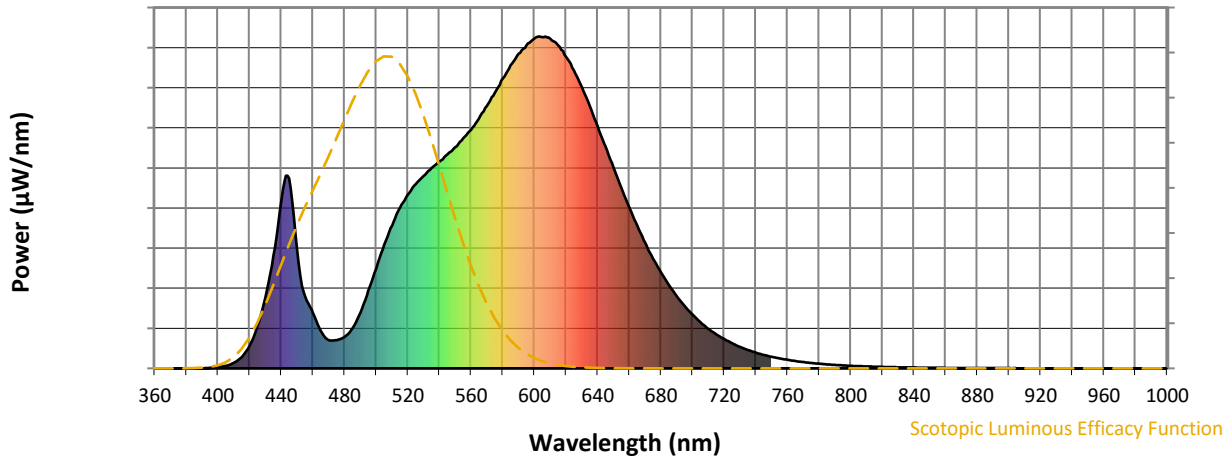


**Photopic Lumens: NR**

$\lambda$ (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**

$\lambda$ (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)