

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: P639982

Luminaire Tested: GWS-SA5C-830-U-T3-W-GRSWH

Issue Date: 1/10/2023

**Test Information**

Test Method: LM-79-2019  
Report Number: P639982  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2209-782-25)  
Test Lab: COOPER LIGHTING SOLUTIONS  
Issue Date: 1/10/2023  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: McGRAW-EDISON  
Catalog Number: GWS-SA5C-830-U-T3-W-GRSWH  
Description: GALLEON WALL SLIM LUMINAIRE. (5) LIGHTSQUARES WITH 16 LEDS EACH AND TYPE III OPTICS W/ FACTORY INSTALLED GLARE SHIELD, WH  
Light Source: (80) 3000K CCT, 80 CRI LEDS  
Ballast/Driver: -

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 16145.3 lumens  
Efficiency: N/A  
Efficacy: 102.5 lumens/watt  
Luminous Opening: Rectangular (W 1.5' x L: 1' x H: 0')  
IES Classification: Type II - Short  
BUG Rating: B3 - U0 - G2

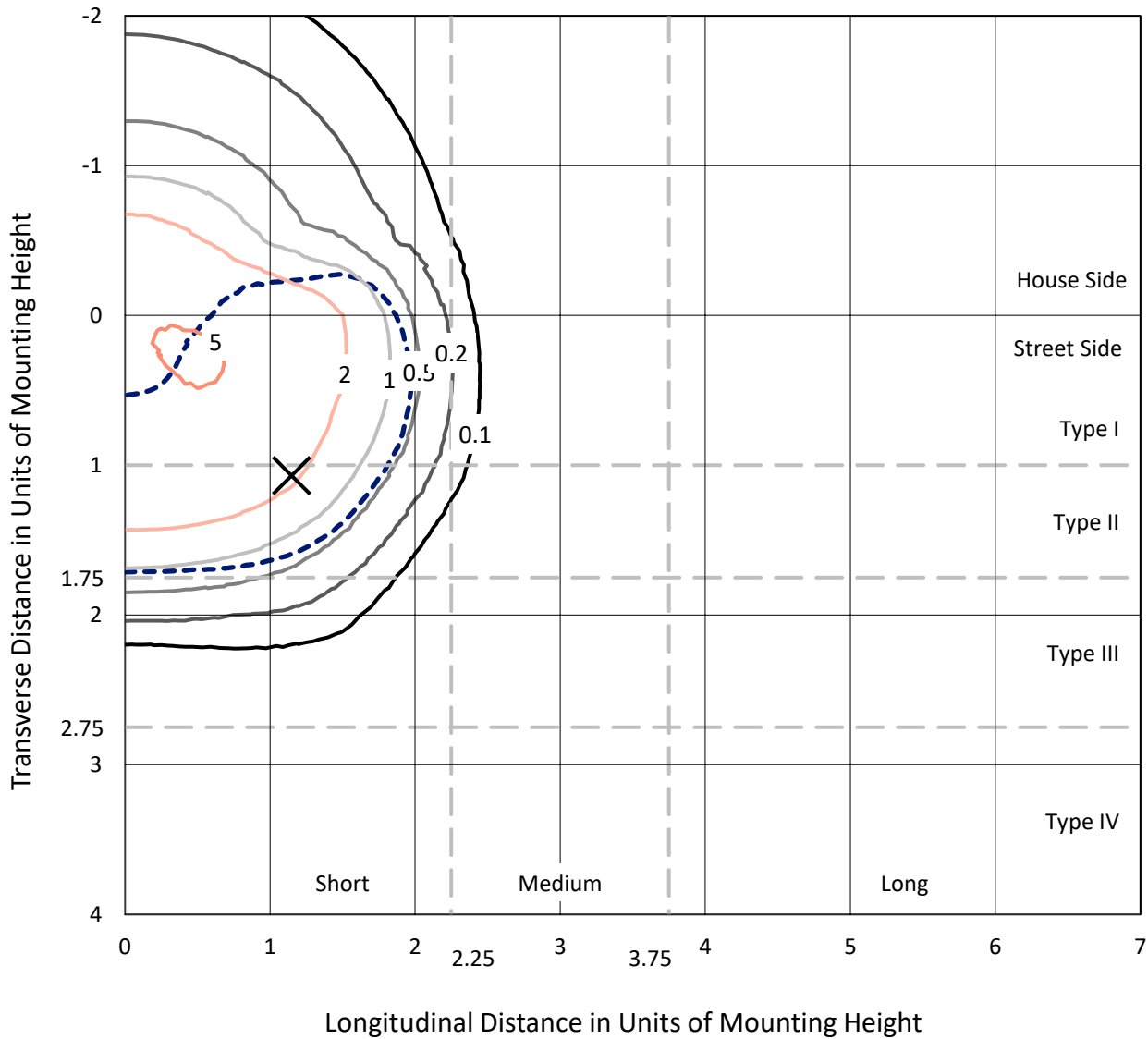
Input Watts (W): 157.5  
Input Voltage (V): 120  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 0  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 28.75 FT



REPORT NUMBER: P639982  
 CATALOG NUMBER: GWS-SA5C-830-U-T3-W-GRSWH

### Iso-Footcandle Lines of Horizontal Illumination

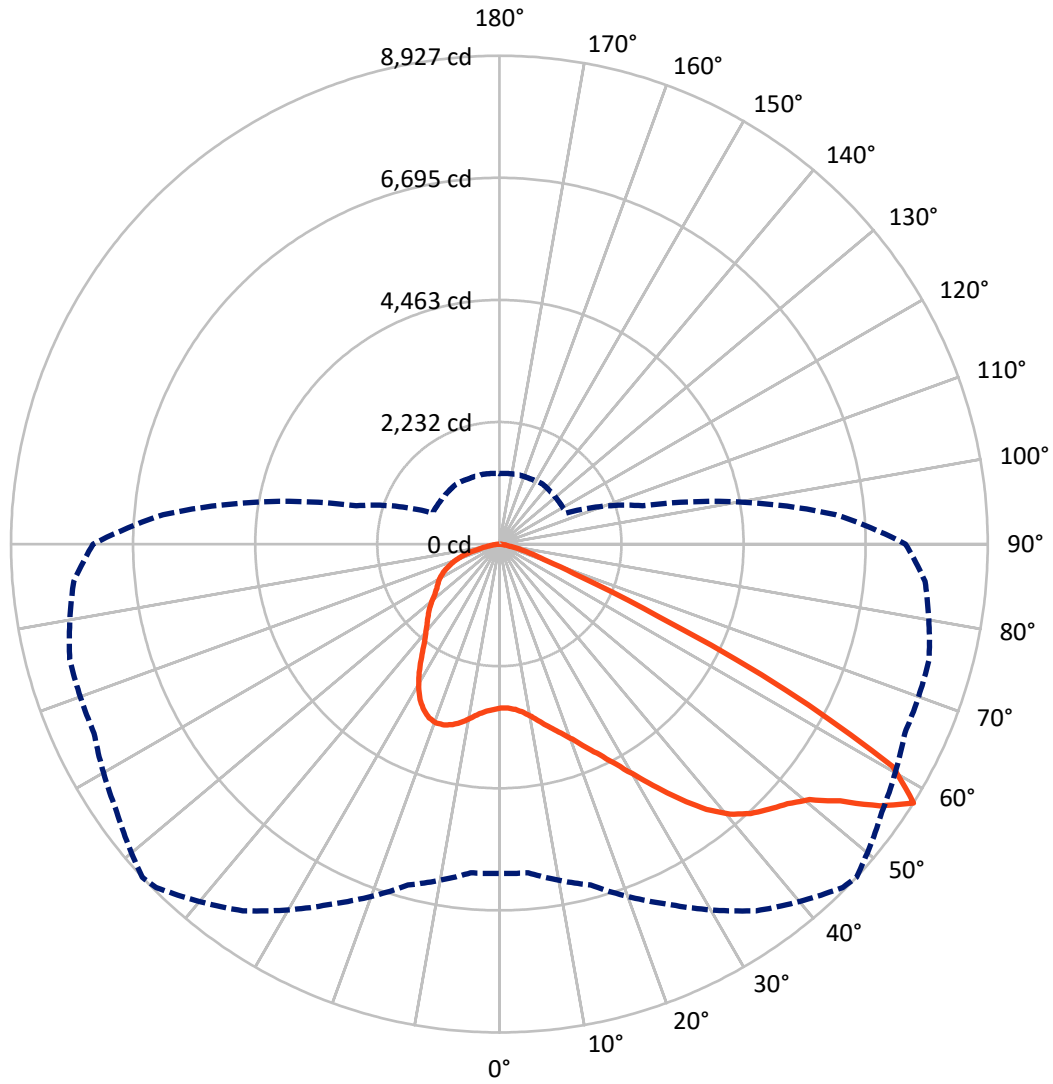
✕ Max cd  
 - - - 1/2 Max cd



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

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### Luminous Intensity Polar Plot



— Vertical Plane Through 47-Deg Lateral    - - - Horizontal Cone Through 57.5-Deg Vertical

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**FLUX DISTRIBUTION:**

		Downward	Upward	Total
<b>House Side</b>	Lumens	5110.0	0.0	5110.0
	% Fixture	31.6	0.0	31.6
<b>Street Side</b>	Lumens	11035.4	0.0	11035.4
	% Fixture	68.4	0.0	68.4
<b>Total</b>	Lumens	16145.3	0.0	16145.3
	% Fixture	100.0	0.0	100.0

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	295.3	1.8
10°-20°	971.3	6.0
20°-30°	1749.0	10.8
30°-40°	2641.6	16.4
40°-50°	3557.3	22.0
50°-60°	4274.5	26.5
60°-70°	2081.8	12.9
70°-80°	512.9	3.2
80°-90°	61.6	0.4
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°	16145.3	100.0
0°-180°	16145.3	100.0

**Coefficient of Utilization**



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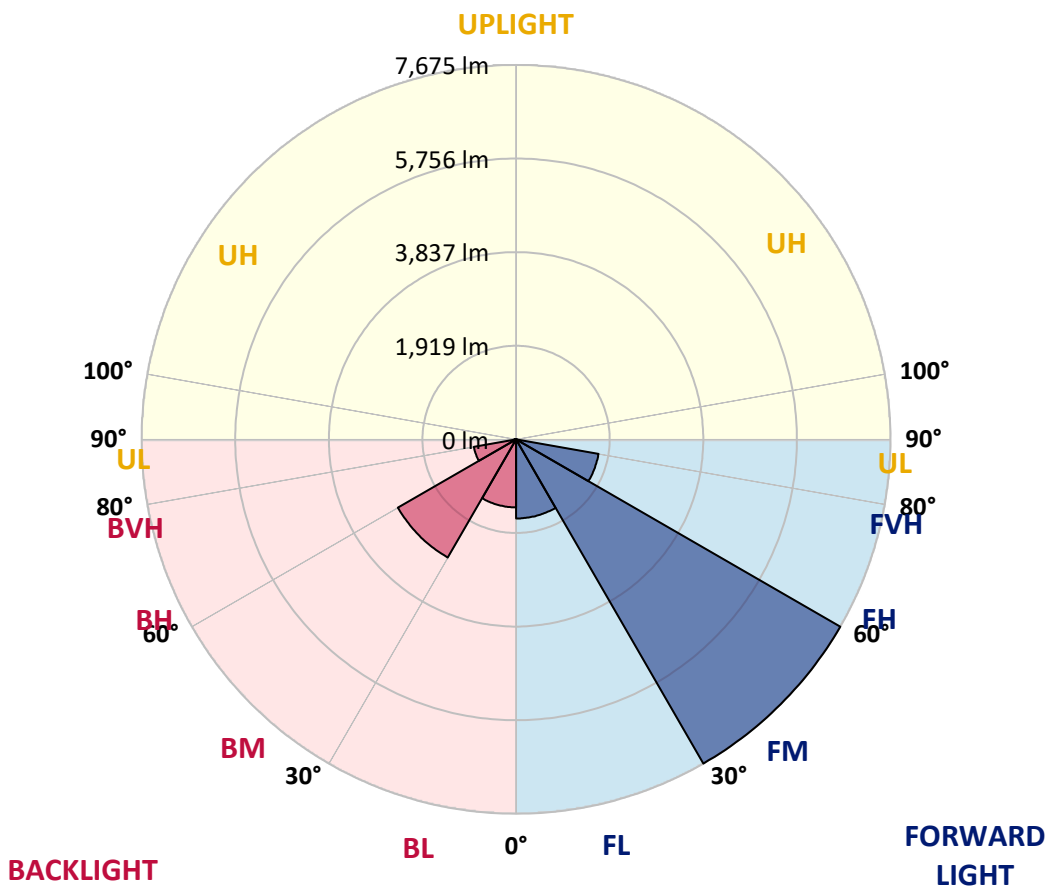
CATALOG NUMBER: GWS-SA5C-830-U-T3-W-GRSWH

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

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	1621.7	10.0			
FM (30°-60°)	7674.7	47.5			
FH (60°-80°)	1715.8	10.6			G1/1800
FVH (80°-90°)	23.2	0.1			G1/100
BL (0°-30°)	1393.9	8.6	B3/2500		
BM (30°-60°)	2798.7	17.3	B3/5000		
BH (60°-80°)	878.9	5.4	B2/1000		G2/1000
BVH (80°-90°)	38.5	0.2			G1/100
UL (90°-100°)	0.0	0.0		U0/0	
UH (100°-180°)	0.0	0.0		U0/0	

**BUG Rating: B3-U0-G2**

Type II Short





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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	15°	25°	35°	45°	47°	55°	65°	75°	85°
0°	2994.2	2994.2	2994.2	2994.2	2994.2	2994.2	2994.2	2994.2	2994.2	2994.2	2994.2
2.5°	2988.7	2987.4	2987.4	2995.5	2995.5	2998.2	3002.3	3006.4	3007.7	3000.9	2986.0
5°	3021.3	3021.3	3021.3	3028.1	3028.1	3030.8	3036.2	3037.6	3036.2	3025.4	3010.4
7.5°	3072.8	3072.8	3074.2	3082.3	3089.1	3093.2	3102.7	3101.3	3097.2	3079.6	3060.6
10°	3156.9	3161.0	3165.0	3174.5	3188.1	3197.6	3204.4	3204.4	3198.9	3171.8	3147.4
12.5°	3276.2	3281.7	3285.7	3293.9	3304.7	3321.0	3335.9	3335.9	3329.1	3295.2	3258.6
15°	3415.9	3421.3	3420.0	3422.7	3443.0	3466.1	3478.3	3486.4	3489.1	3441.7	3384.7
17.5°	3575.9	3581.3	3575.9	3567.8	3570.5	3607.1	3628.8	3658.6	3676.3	3612.5	3521.7
20°	3721.0	3715.6	3715.6	3721.0	3729.2	3773.9	3806.4	3855.3	3877.0	3799.7	3658.6
22.5°	3874.2	3886.5	3881.0	3881.0	3913.6	3988.2	4027.5	4091.2	4114.3	4013.9	3824.1
25°	4072.2	4083.1	4080.4	4083.1	4121.1	4226.8	4266.1	4384.1	4407.2	4263.4	4007.1
27.5°	4289.2	4306.8	4315.0	4312.3	4373.3	4511.6	4560.4	4724.5	4766.5	4542.8	4202.4
30°	4571.3	4590.2	4597.0	4594.3	4666.2	4854.7	4910.3	5097.4	5157.1	4873.7	4450.6
32.5°	4898.1	4917.1	4937.4	4945.5	5037.7	5230.3	5310.3	5504.2	5589.7	5256.1	4750.3
35°	5222.2	5238.4	5277.8	5341.5	5467.6	5664.2	5734.8	5926.0	6008.7	5653.4	5112.3
37.5°	5580.2	5591.0	5624.9	5713.1	5894.8	6081.9	6152.4	6335.5	6345.0	6037.2	5521.9
40°	5972.1	5972.1	5965.3	6052.1	6241.9	6430.4	6491.4	6597.2	6541.6	6332.8	5920.5
42.5°	6304.3	6298.9	6304.3	6385.7	6526.7	6679.9	6732.8	6712.5	6642.0	6559.2	6281.2
45°	6604.0	6608.1	6656.9	6719.3	6792.5	6883.3	6914.5	6799.3	6735.5	6740.9	6570.1
47.5°	6807.4	6811.5	6925.4	7029.8	7074.5	7103.0	7089.5	6929.4	6896.9	6957.9	6792.5
50°	6834.5	6856.2	7052.8	7267.1	7378.3	7382.4	7344.4	7149.1	7139.6	7208.8	6911.8
52.5°	6839.9	6861.6	7107.1	7493.6	7782.4	7843.4	7800.0	7596.6	7497.6	7428.5	7058.3
55°	6819.6	6844.0	7115.2	7645.4	8198.7	8442.8	8446.9	8159.4	7843.4	7797.3	7475.9
57.5°	6020.9	6030.4	6450.8	7259.0	8182.4	8874.0	8926.9	8536.4	8175.7	8132.3	7810.9
60°	4194.3	4232.2	4689.2	5756.5	6873.8	8092.9	8263.8	8149.9	7908.5	7592.6	6701.6
62.5°	2100.5	2133.1	2591.4	3600.3	4740.8	5703.6	5886.6	6007.3	6064.3	5725.3	4563.1
65°	904.5	928.9	1213.7	1880.8	2683.6	3148.8	3212.5	3357.6	3712.9	3312.8	2458.5
67.5°	604.8	621.1	766.2	1147.2	1581.2	1611.0	1601.5	1632.7	1710.0	1411.7	1110.6
70°	463.8	477.3	575.0	840.8	1136.4	972.3	920.8	835.3	907.2	924.8	900.4
72.5°	336.3	347.2	420.4	573.6	711.9	621.1	612.9	656.3	754.0	781.1	766.2
75°	217.0	222.4	267.1	314.6	367.5	398.7	415.0	493.6	592.6	612.9	595.3
77.5°	145.1	149.2	174.9	202.1	208.8	210.2	215.6	250.9	318.7	356.6	352.6
80°	75.9	75.9	85.4	85.4	97.6	116.6	122.0	145.1	176.3	195.3	196.6
82.5°	29.8	31.2	36.6	40.7	48.8	59.7	63.7	75.9	92.2	105.8	118.0
85°	12.2	13.6	14.9	17.6	21.7	27.1	28.5	32.5	43.4	54.2	61.0
87.5°	0.0	0.0	1.4	1.4	2.7	4.1	4.1	5.4	6.8	12.2	16.3
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: P639982

CATALOG NUMBER: GWS-SA5C-830-U-T3-W-GRSWH

**CANDELA DISTRIBUTION (continued):**

	90°	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°
0°	2994.2	2994.2	2994.2	2994.2	2994.2	2994.2	2994.2	2994.2	2994.2	2994.2	2994.2
2.5°	3003.7	2986.0	3003.7	3009.1	3024.0	3029.4	3019.9	3018.6	3018.6	3005.0	3000.9
5°	3024.0	3007.7	3025.4	3033.5	3055.2	3068.8	3071.5	3082.3	3089.1	3083.7	3082.3
7.5°	3074.2	3053.8	3072.8	3085.0	3113.5	3135.2	3144.7	3169.1	3186.7	3184.0	3182.7
10°	3162.3	3135.2	3156.9	3177.2	3208.4	3234.2	3235.5	3249.1	3266.7	3261.3	3258.6
12.5°	3264.0	3238.3	3262.7	3283.0	3319.6	3330.5	3312.8	3307.4	3310.1	3303.3	3297.9
15°	3388.8	3352.2	3373.9	3396.9	3417.3	3405.1	3367.1	3352.2	3350.8	3341.3	3335.9
17.5°	3513.5	3467.4	3483.7	3495.9	3486.4	3448.4	3401.0	3375.2	3363.0	3344.0	3338.6
20°	3636.9	3578.6	3575.9	3566.4	3523.0	3453.9	3390.1	3338.6	3307.4	3281.7	3272.2
22.5°	3778.0	3696.6	3655.9	3612.5	3517.6	3405.1	3308.8	3235.5	3185.4	3152.8	3142.0
25°	3929.8	3814.6	3730.5	3643.7	3463.4	3300.6	3166.4	3066.0	3006.4	2971.1	2958.9
27.5°	4080.4	3921.7	3795.6	3647.8	3354.9	3150.1	2969.8	2834.2	2774.5	2746.0	2736.5
30°	4283.8	4064.1	3872.9	3594.9	3212.5	2941.3	2716.2	2579.2	2539.9	2519.5	2511.4
32.5°	4518.4	4244.5	3976.0	3483.7	3030.8	2697.2	2459.9	2365.0	2337.8	2298.5	2297.2
35°	4827.6	4502.1	4073.6	3319.6	2801.6	2435.5	2263.3	2195.5	2146.6	2084.3	2078.8
37.5°	5188.3	4823.5	4126.5	3110.8	2534.5	2219.9	2116.8	2040.9	1962.2	1879.5	1868.6
40°	5561.2	5199.1	4130.5	2864.0	2272.7	2077.5	1990.7	1891.7	1794.1	1701.8	1689.6
42.5°	5953.1	5549.0	4058.7	2579.2	2058.5	1954.1	1865.9	1741.2	1631.3	1569.0	1562.2
45°	6302.9	5831.0	3895.9	2279.5	1899.8	1851.0	1738.5	1604.2	1545.9	1501.2	1491.7
47.5°	6578.2	6018.2	3676.3	2011.0	1771.0	1745.2	1598.8	1529.6	1484.9	1444.2	1434.7
50°	6713.8	6060.2	3390.1	1792.7	1651.7	1620.5	1520.1	1467.3	1437.4	1404.9	1396.7
52.5°	6882.0	6107.7	3143.3	1609.6	1535.1	1493.0	1455.0	1413.0	1391.3	1371.0	1364.2
55°	7268.5	6286.7	3013.2	1463.2	1423.9	1404.9	1399.4	1364.2	1357.4	1343.9	1331.6
57.5°	7425.8	6171.4	2705.3	1343.9	1335.7	1338.4	1352.0	1319.4	1312.7	1296.4	1288.3
60°	5972.1	4664.8	1832.0	1240.8	1262.5	1280.1	1293.7	1261.1	1251.6	1248.9	1238.1
62.5°	3826.8	2869.4	1278.8	1144.5	1177.1	1198.8	1206.9	1175.7	1168.9	1190.6	1192.0
65°	1992.0	1563.5	1037.4	1041.5	1068.6	1101.1	1117.4	1106.5	1103.8	1126.9	1128.2
67.5°	1017.0	956.0	904.5	919.4	941.1	983.1	1021.1	1068.6	1084.8	1087.6	1088.9
70°	866.5	839.4	813.6	823.1	846.2	869.2	905.8	928.9	901.8	895.0	892.3
72.5°	737.7	717.4	705.1	716.0	728.2	724.1	713.3	724.1	728.2	729.6	730.9
75°	573.6	558.7	549.2	550.6	550.6	535.6	515.3	503.1	489.5	478.7	478.7
77.5°	351.2	353.9	363.4	362.1	360.7	355.3	334.9	324.1	291.6	282.1	282.1
80°	200.7	204.8	214.3	217.0	217.0	210.2	189.8	177.6	162.7	155.9	154.6
82.5°	122.0	127.5	132.9	135.6	137.0	128.8	111.2	101.7	93.6	86.8	86.8
85°	63.7	66.4	71.9	73.2	69.2	61.0	51.5	47.5	39.3	38.0	38.0
87.5°	17.6	19.0	21.7	17.6	16.3	12.2	6.8	5.4	2.7	1.4	1.4
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

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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)