

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: P639957

Luminaire Tested: GWS-SA5C-830-U-SL2-W

Issue Date: 1/10/2023

**Test Information**

Test Method: LM-79-2019  
Report Number: P639957  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2209-782-27)  
Test Lab: COOPER LIGHTING SOLUTIONS  
Issue Date: 1/10/2023  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: McGRAW-EDISON  
Catalog Number: GWS-SA5C-830-U-SL2-W  
Description: GALLEON WALL SLIM LUMINAIRE. (5) LIGHTSQUARES WITH 16 LEDS EACH AND TYPE II SPILL LIGHT ELIMINATOR OPTICS  
Light Source: (80) 3000K CCT, 80 CRI LEDS  
Ballast/Driver: -

**Summary**

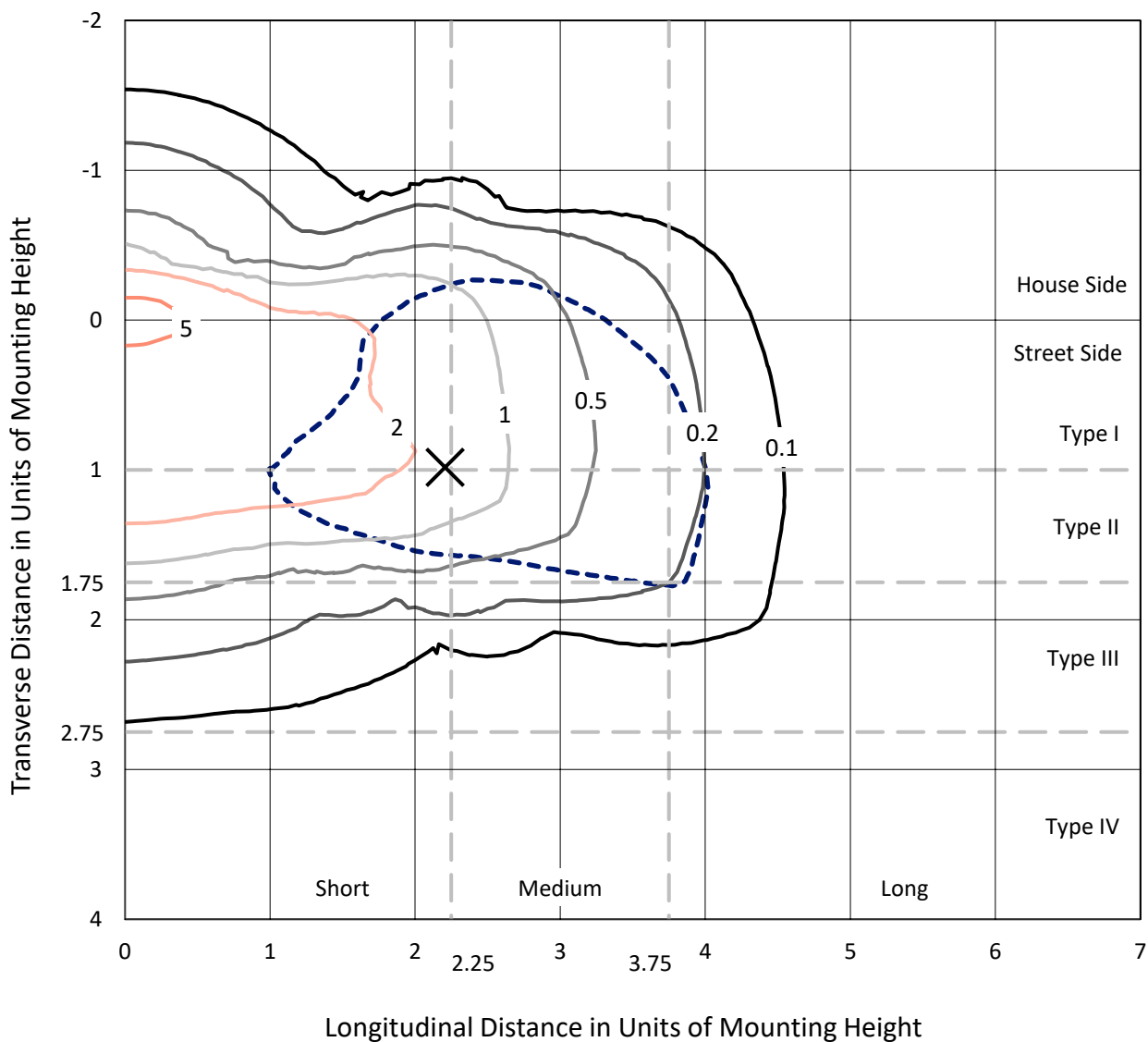
Lumens per Lamp: N/A  
Luminaire Lumens: 18588.9 lumens  
Efficiency: N/A  
Efficacy: 118.0 lumens/watt  
Luminous Opening: Rectangular (W 1.5' x L: 1' x H: 0')  
IES Classification: Type II - Short  
BUG Rating: B3 - U0 - G3  
  
Input Watts (W): 157.5  
Input Voltage (V): 120  
Input Current (Ain): 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: P639957  
 CATALOG NUMBER: GWS-SA5C-830-U-SL2-W

### Iso-Footcandle Lines of Horizontal Illumination

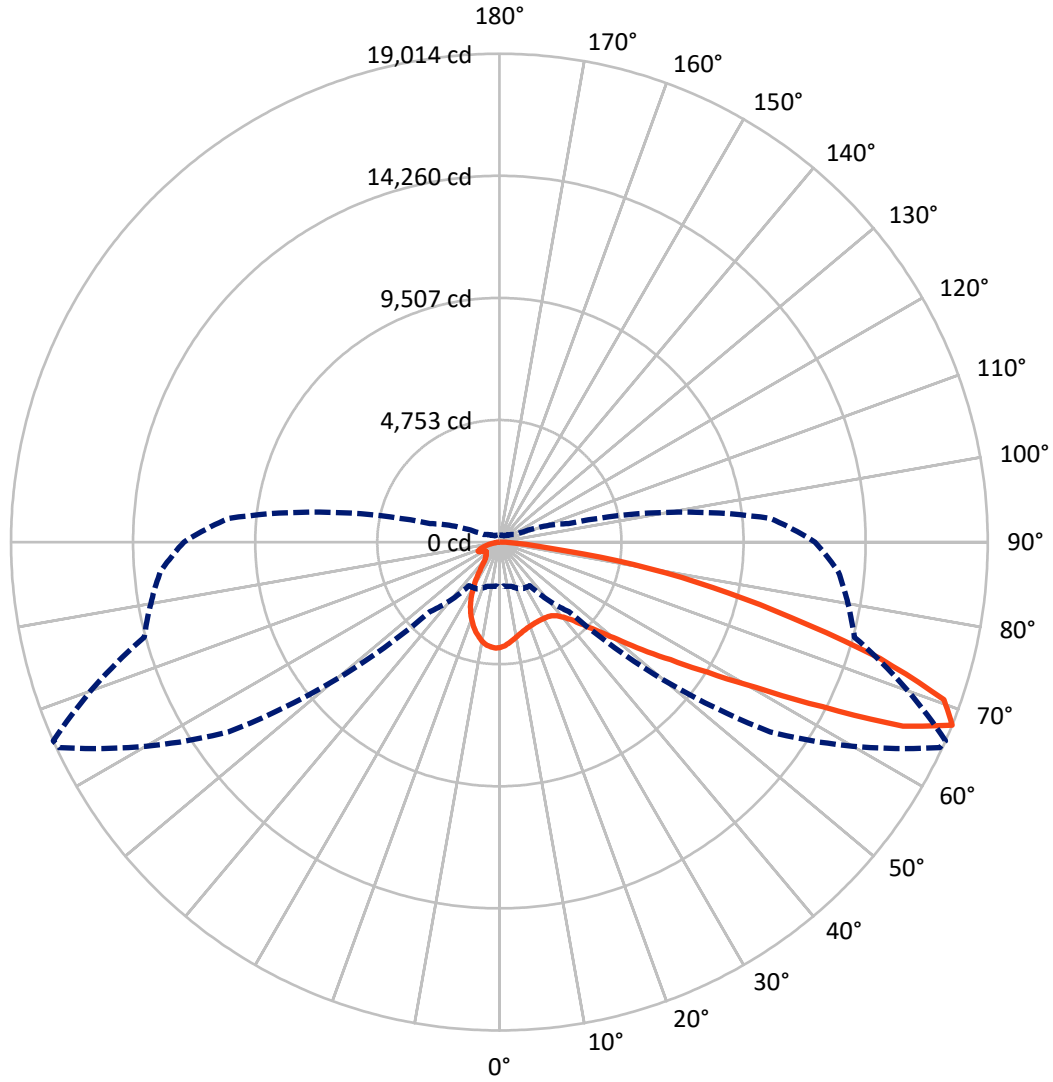
✕ Max cd  
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 6.6 fc  
 Type II - Short - N/A

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### Luminous Intensity Polar Plot



— Vertical Plane Through 66-Deg Lateral    - - - Horizontal Cone Through 67.5-Deg Vertical

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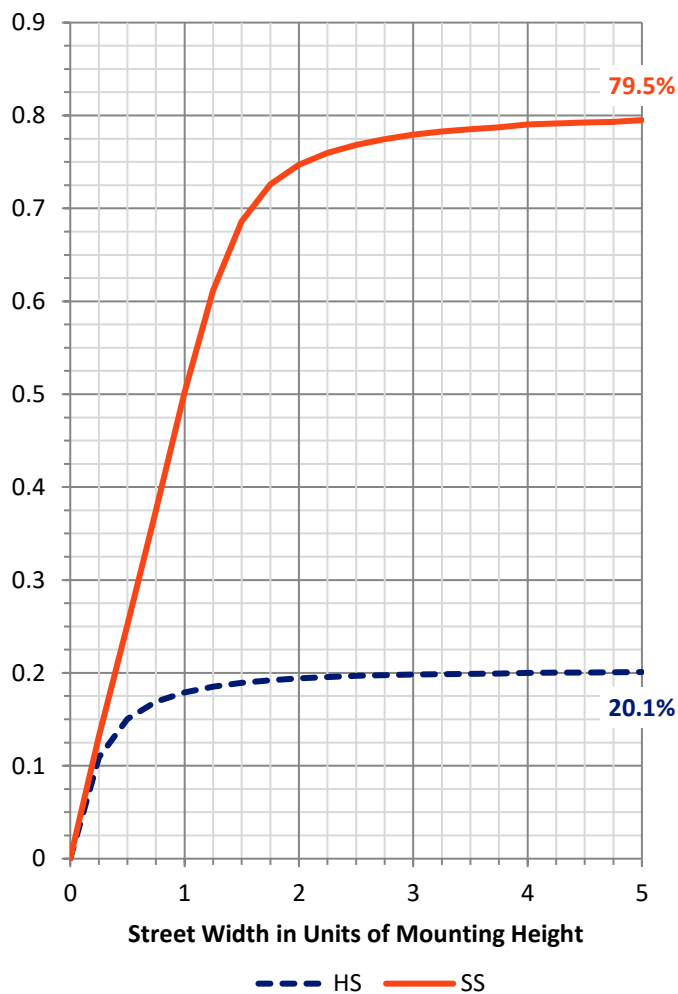
**FLUX DISTRIBUTION:**

		Downward	Upward	Total
<b>House Side</b>	Lumens	3772.1	0.0	3772.1
	% Fixture	20.3	0.0	20.3
<b>Street Side</b>	Lumens	14816.8	0.0	14816.8
	% Fixture	79.7	0.0	79.7
<b>Total</b>	Lumens	18588.9	0.0	18588.9
	% Fixture	100.0	0.0	100.0

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	360.5	1.9
10°-20°	886.0	4.8
20°-30°	1217.8	6.6
30°-40°	1664.9	9.0
40°-50°	2522.8	13.6
50°-60°	3921.7	21.1
60°-70°	4774.6	25.7
70°-80°	2908.5	15.6
80°-90°	332.2	1.8
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°	18588.9	100.0
0°-180°	18588.9	100.0

**Coefficient of Utilization**



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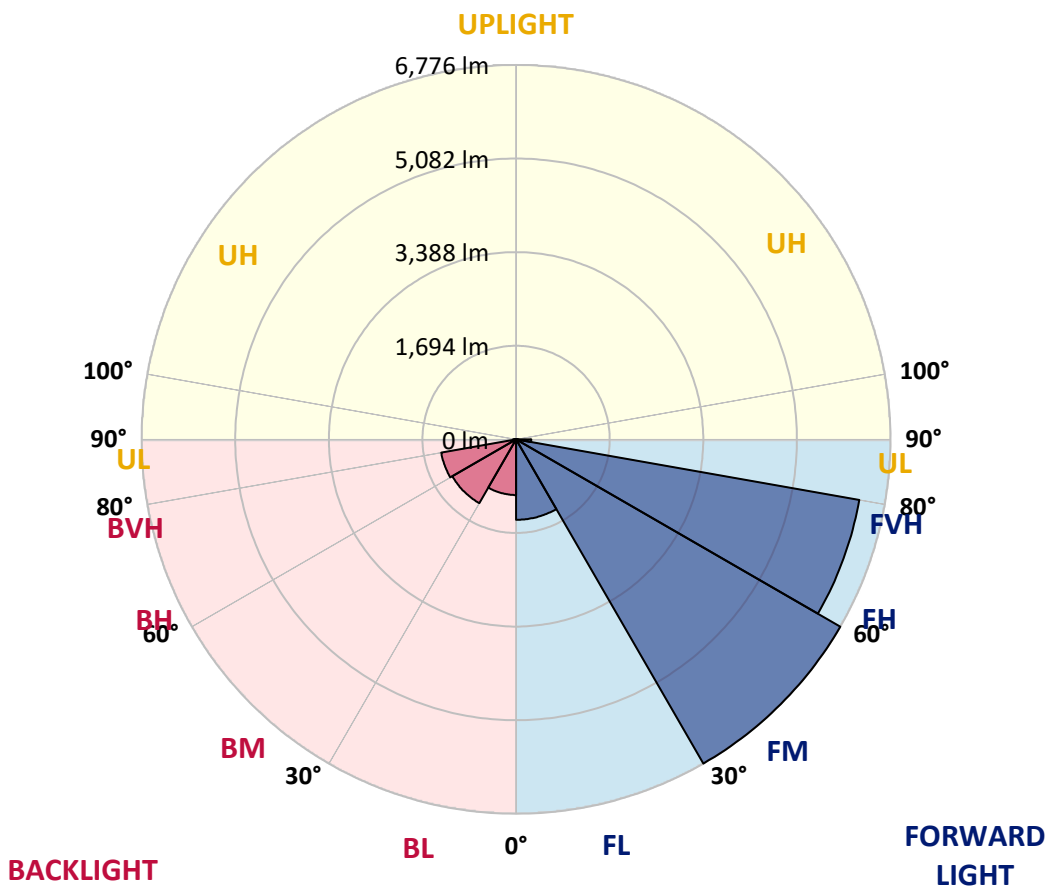
CATALOG NUMBER: GWS-SA5C-830-U-SL2-W

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

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	1456.5	7.8			
FM (30°-60°)	6776.4	36.5			
FH (60°-80°)	6307.7	33.9			G3/7500
FVH (80°-90°)	276.2	1.5			G3/500
BL (0°-30°)	1007.7	5.4	B3/2500		
BM (30°-60°)	1333.0	7.2	B2/2500		
BH (60°-80°)	1375.4	7.4	B3/2500		G3/2500
BVH (80°-90°)	56.0	0.3			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 II Short





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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	15°	25°	35°	45°	55°	65°	66°	75°	85°
0°	4107.6	4107.6	4107.6	4107.6	4107.6	4107.6	4107.6	4107.6	4107.6	4107.6	4107.6
2.5°	3847.2	3860.8	3852.7	3904.2	3906.9	3972.0	4008.6	4039.8	4042.5	4083.2	4110.3
5°	3584.2	3592.3	3592.3	3641.1	3673.7	3760.5	3844.5	3934.0	3940.8	4038.5	4113.0
7.5°	3371.3	3379.4	3374.0	3439.1	3481.1	3577.4	3684.5	3821.5	3835.0	3992.4	4122.5
10°	3204.5	3201.7	3215.3	3275.0	3329.2	3444.5	3563.8	3719.8	3740.1	3939.5	4133.4
12.5°	3090.5	3093.3	3101.4	3163.8	3222.1	3336.0	3459.4	3628.9	3650.6	3878.4	4128.0
15°	3036.3	3030.9	3037.7	3094.6	3150.2	3250.6	3378.0	3553.0	3574.7	3824.2	4129.3
17.5°	3024.1	3020.0	3018.7	3059.4	3101.4	3195.0	3317.0	3494.7	3517.7	3788.9	4137.5
20°	3062.1	3056.6	3041.7	3059.4	3077.0	3155.6	3273.6	3452.6	3478.4	3765.9	4153.7
22.5°	3166.5	3157.0	3133.9	3112.2	3089.2	3136.7	3246.5	3421.4	3447.2	3751.0	4170.0
25°	3325.2	3317.0	3292.6	3243.8	3159.7	3151.6	3241.1	3407.9	3433.6	3740.1	4176.8
27.5°	3543.5	3531.3	3506.9	3436.4	3299.4	3207.2	3261.4	3406.5	3430.9	3727.9	4170.0
30°	3802.5	3794.4	3780.8	3695.4	3512.3	3325.2	3307.5	3417.4	3436.4	3721.1	4156.4
32.5°	4065.6	4057.4	4068.3	4027.6	3802.5	3520.4	3407.9	3447.2	3460.8	3719.8	4144.2
35°	4297.5	4307.0	4385.6	4392.4	4171.4	3784.9	3566.5	3516.4	3519.1	3746.9	4149.7
37.5°	4540.2	4576.8	4679.9	4768.0	4583.6	4134.7	3802.5	3646.5	3643.8	3816.1	4183.6
40°	4861.6	4877.9	5009.4	5174.9	5059.6	4614.8	4137.5	3859.5	3840.5	3957.1	4274.4
42.5°	5174.9	5214.2	5424.4	5614.2	5576.3	5155.9	4559.2	4178.1	4144.2	4206.6	4461.6
45°	5573.6	5611.5	5847.5	6091.6	6160.8	5767.5	5098.9	4631.1	4597.2	4582.3	4804.7
47.5°	5972.3	6011.6	6223.1	6575.7	6818.5	6532.3	5801.4	5229.1	5173.5	5115.2	5322.7
50°	6240.8	6286.9	6488.9	6912.0	7481.6	7487.0	6634.0	6012.9	5942.4	5850.2	6052.3
52.5°	6231.3	6261.1	6453.7	6941.9	7958.9	8584.1	7748.7	7011.0	6954.1	6753.4	6929.7
55°	5741.7	5786.5	5980.4	6590.6	8010.5	9624.2	9386.9	8188.1	8086.4	7727.0	7921.0
57.5°	4758.5	4796.5	4991.8	5744.4	7553.5	10157.2	11467.2	9688.0	9548.3	8787.5	9011.3
60°	3592.3	3546.2	3638.4	4297.5	6460.4	10170.7	13303.3	11722.1	11488.9	9921.2	10108.4
62.5°	2695.9	2649.8	2670.2	2855.9	4380.2	9348.9	14350.2	14504.8	14119.7	11201.4	11164.8
65°	2130.4	2104.7	2163.0	2290.4	2553.5	7119.5	14358.4	17514.0	17271.3	12684.9	12248.3
67.5°	1735.8	1719.5	1779.2	2015.2	2070.8	3825.6	12874.8	18918.9	19013.8	14309.5	13253.1
70°	1398.1	1373.7	1467.3	1777.8	1925.7	2314.9	9222.8	18202.9	18356.1	15277.8	12969.7
72.5°	965.5	966.9	1014.4	1440.2	1859.2	1998.9	5216.9	15157.1	15489.3	14400.4	11402.1
75°	650.9	656.4	669.9	950.6	1712.8	1939.2	2780.0	11475.3	11709.9	11902.5	9424.9
77.5°	393.3	396.0	427.2	575.0	1181.2	1810.4	1883.6	8318.3	8502.7	7846.4	5842.1
80°	227.8	237.3	265.8	385.1	797.4	1360.2	1457.8	5100.3	5309.1	3487.9	1856.5
82.5°	100.4	107.1	145.1	223.8	465.1	1156.8	1137.8	2015.2	1985.3	972.3	644.1
85°	17.6	21.7	31.2	70.5	170.9	610.2	882.8	889.6	836.7	368.9	267.2
87.5°	0.0	0.0	0.0	0.0	0.0	4.1	132.9	238.7	237.3	104.4	92.2
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-SA5C-830-U-SL2-W

**CANDELA DISTRIBUTION (continued):**

	90°	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°
0°	4107.6	4107.6	4107.6	4107.6	4107.6	4107.6	4107.6	4107.6	4107.6	4107.6	4107.6
2.5°	4128.0	4091.3	4123.9	4128.0	4121.2	4115.8	4075.1	4039.8	4035.7	3997.8	3997.8
5°	4142.9	4109.0	4125.2	4094.1	4045.2	3995.1	3908.3	3848.6	3821.5	3772.7	3772.7
7.5°	4163.2	4128.0	4109.0	4031.7	3917.8	3807.9	3668.2	3551.6	3504.2	3435.0	3432.3
10°	4182.2	4137.5	4072.4	3921.8	3740.1	3565.2	3361.8	3196.3	3083.8	3001.0	3001.0
12.5°	4180.8	4122.5	3993.7	3771.3	3520.4	3266.8	2995.6	2746.1	2596.9	2468.1	2460.0
15°	4178.1	4098.1	3893.4	3596.4	3264.1	2912.9	2544.0	2218.6	1997.5	1871.4	1860.6
17.5°	4175.4	4066.9	3780.8	3397.0	2952.2	2473.5	1986.7	1634.1	1449.7	1372.4	1375.1
20°	4175.4	4031.7	3660.1	3167.8	2592.9	1947.4	1457.8	1201.5	1155.4	1159.5	1163.5
22.5°	4163.2	3988.3	3525.9	2918.3	2192.8	1432.0	1075.4	988.6	1013.0	1051.0	1056.4
25°	4134.7	3916.4	3369.9	2641.7	1716.8	1042.8	877.4	861.1	905.9	953.3	966.9
27.5°	4090.0	3833.7	3195.0	2317.6	1263.9	838.1	771.6	770.3	805.5	840.8	853.0
30°	4042.5	3741.5	3010.5	1956.8	915.4	729.6	703.8	703.8	721.4	743.1	740.4
32.5°	3986.9	3647.9	2812.5	1581.2	745.9	668.6	660.4	656.4	659.1	667.2	667.2
35°	3939.5	3565.2	2609.1	1183.9	668.6	634.7	626.5	617.0	613.0	607.5	610.2
37.5°	3921.8	3500.1	2398.9	892.3	630.6	610.2	596.7	583.1	573.6	570.9	569.6
40°	3950.3	3473.0	2188.7	735.0	603.5	584.5	569.6	551.9	543.8	543.8	543.8
42.5°	4061.5	3493.3	1974.5	664.5	584.5	562.8	541.1	524.8	522.1	524.8	526.2
45°	4264.9	3572.0	1752.1	629.2	568.2	541.1	515.3	503.1	503.1	505.8	505.8
47.5°	4628.4	3778.1	1532.4	607.5	551.9	523.5	496.3	484.1	482.8	485.5	485.5
50°	5257.6	4149.7	1334.4	592.6	539.7	509.9	482.8	466.5	462.4	461.1	461.1
52.5°	6050.9	4793.8	1208.3	581.8	524.8	495.0	467.9	446.2	438.0	434.0	434.0
55°	7009.7	5652.2	1208.3	573.6	505.8	477.3	446.2	424.5	412.3	406.8	406.8
57.5°	8095.9	6651.7	1417.1	566.8	490.9	457.0	423.1	401.4	387.8	379.7	379.7
60°	9201.1	7708.1	1933.8	557.4	477.3	431.2	397.3	377.0	359.4	349.9	348.5
62.5°	10347.0	8871.6	2614.6	562.8	467.9	406.8	370.2	347.2	332.2	322.8	321.4
65°	11396.6	9979.5	3209.9	604.8	469.2	385.1	339.0	318.7	306.5	294.3	292.9
67.5°	12287.6	10591.1	2792.2	690.3	497.7	359.4	307.8	287.5	276.6	268.5	267.2
70°	11663.8	9658.1	1583.9	743.1	537.0	332.2	272.6	259.0	248.2	242.7	241.4
72.5°	9974.1	8177.3	1059.1	656.4	489.6	297.0	240.0	229.2	221.0	214.3	212.9
75°	8079.6	6484.9	809.6	538.4	381.1	241.4	206.1	198.0	189.9	183.1	181.7
77.5°	4780.2	3746.9	596.7	425.8	268.5	188.5	170.9	164.1	156.0	150.5	149.2
80°	1525.6	1301.9	378.4	292.9	177.6	145.1	131.5	126.1	118.0	111.2	109.8
82.5°	581.8	503.1	200.7	149.2	118.0	99.0	88.1	82.7	77.3	70.5	69.2
85°	257.7	241.4	111.2	80.0	63.7	48.8	43.4	40.7	33.9	28.5	27.1
87.5°	90.9	90.9	47.5	23.1	13.6	6.8	4.1	1.4	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)