

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: P639958

Luminaire Tested: GWS-SA5C-830-U-SL3-W-GRSBK

Issue Date: 1/10/2023

**Test Information**

Test Method: LM-79-2019  
Report Number: P639958  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2209-782-32)  
Test Lab: COOPER LIGHTING SOLUTIONS  
Issue Date: 1/10/2023  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: McGRAW-EDISON  
Catalog Number: GWS-SA5C-830-U-SL3-W-GRSBK  
Description: GALLEON WALL SLIM LUMINAIRE. (5) LIGHTSQUARES WITH 16 LEDS EACH AND TYPE III SPILL LIGHT ELIMINATOR OPTICS W/ FACTORY INSTALLED GLARE SHIELD, BK  
Light Source: (80) 3000K CCT, 80 CRI LEDS  
Ballast/Driver: -

**Summary**

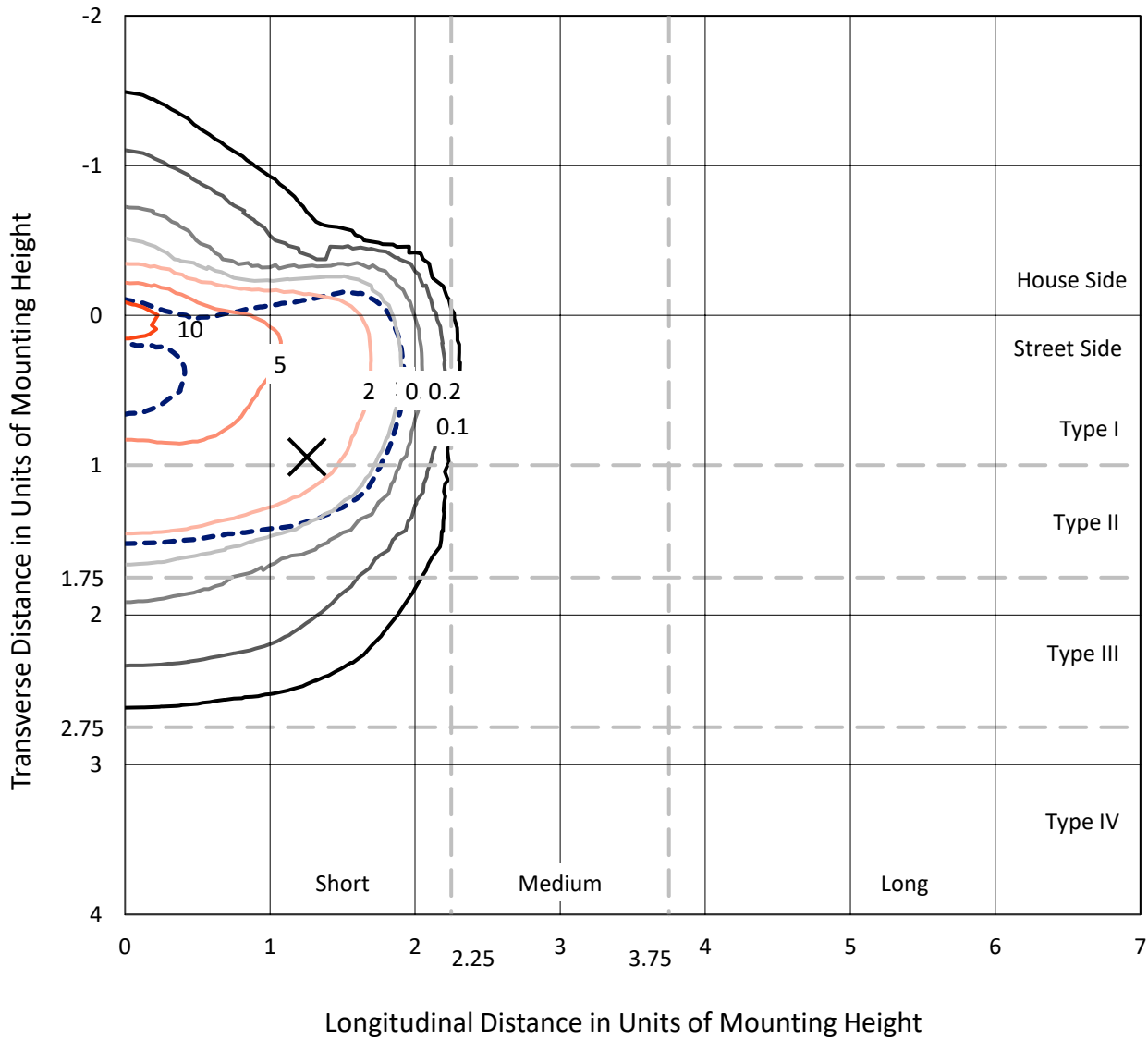
Lumens per Lamp: N/A  
Luminaire Lumens: 11064.1 lumens  
Efficiency: N/A  
Efficacy: 70.2 lumens/watt  
Luminous Opening: Rectangular (W 1.5' x L: 1' x H: 0')  
IES Classification: Type II - Short  
BUG Rating: B2 - U0 - G1  
  
Input Watts (W): 157.5  
Input Voltage (V): 120  
Input Current (Ain): 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: P639958  
 CATALOG NUMBER: GWS-SA5C-830-U-SL3-W-GRSBK

### Iso-Footcandle Lines of Horizontal Illumination

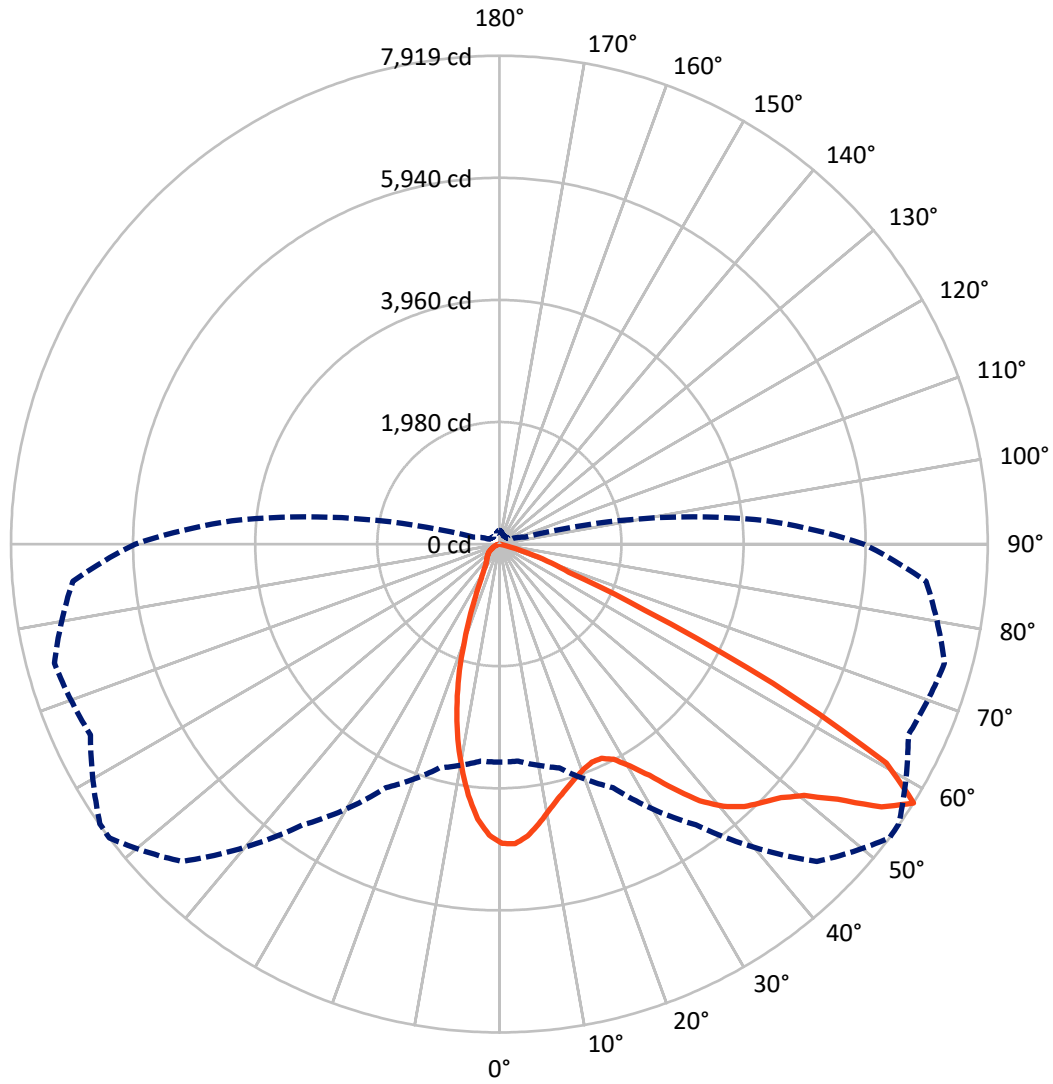
✕ Max cd  
 - - - 1/2 Max cd



Based on 20 foot mounting height. Maximum calculated value = 12.1 fc  
 Type II - Short - N/A

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### Luminous Intensity Polar Plot



— Vertical Plane Through 53-Deg Lateral    - - - Horizontal Cone Through 57.5-Deg Vertical

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**FLUX DISTRIBUTION:**

		Downward	Upward	Total
<b>House Side</b>	Lumens	1827.6	0.0	1827.6
	% Fixture	16.5	0.0	16.5
<b>Street Side</b>	Lumens	9236.5	0.0	9236.5
	% Fixture	83.5	0.0	83.5
<b>Total</b>	Lumens	11064.1	0.0	11064.1
	% Fixture	100.0	0.0	100.0

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	415.2	3.8
10°-20°	911.6	8.2
20°-30°	1187.6	10.7
30°-40°	1722.6	15.6
40°-50°	2485.6	22.5
50°-60°	3006.1	27.2
60°-70°	1225.2	11.1
70°-80°	110.1	1.0
80°-90°	0.0	0.0
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°	11064.1	100.0
0°-180°	11064.1	100.0

**Coefficient of Utilization**



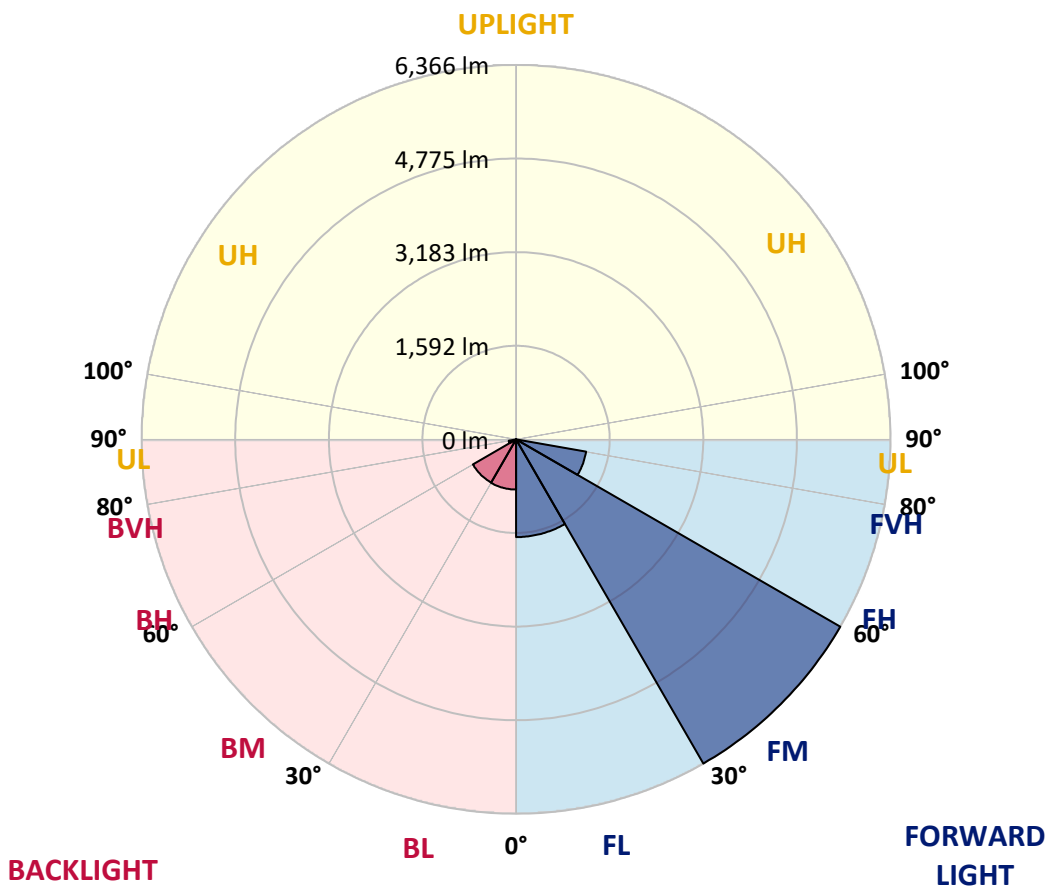
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**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	1661.5	15.0			
FM (30°-60°)	6366.1	57.5			
FH (60°-80°)	1208.9	10.9			G1/1800
FVH (80°-90°)	0.0	0.0			G0/10
BL (0°-30°)	853.0	7.7	B2/1000		
BM (30°-60°)	848.3	7.7	B1/1000		
BH (60°-80°)	126.3	1.1	B1/500		G1/500
BVH (80°-90°)	0.0	0.0			G0/10
UL (90°-100°)	0.0	0.0		U0/0	
UH (100°-180°)	0.0	0.0		U0/0	

**BUG Rating: B2-U0-G1**  
 Type II Short





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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	15°	25°	35°	45°	53°	55°	65°	75°	85°
0°	4853.3	4853.3	4853.3	4853.3	4853.3	4853.3	4853.3	4853.3	4853.3	4853.3	4853.3
2.5°	4785.5	4796.4	4815.4	4839.8	4856.1	4864.2	4864.2	4887.2	4872.3	4860.1	4846.6
5°	4580.8	4591.6	4617.4	4656.7	4696.0	4724.5	4757.1	4781.5	4791.0	4791.0	4767.9
7.5°	4291.9	4306.9	4323.1	4377.4	4462.8	4526.5	4582.1	4617.4	4668.9	4685.2	4652.6
10°	3981.4	3996.3	4032.9	4107.5	4205.1	4300.1	4395.0	4439.7	4527.9	4574.0	4537.4
12.5°	3718.3	3725.1	3773.9	3863.4	3988.2	4118.4	4233.6	4279.7	4404.5	4473.6	4430.3
15°	3501.4	3505.4	3554.2	3653.2	3797.0	3957.0	4102.1	4149.5	4302.8	4407.2	4342.1
17.5°	3337.3	3338.6	3380.7	3487.8	3638.3	3816.0	3988.2	4046.5	4244.5	4370.6	4273.0
20°	3254.5	3250.5	3280.3	3373.9	3516.3	3693.9	3897.3	3969.2	4211.9	4365.2	4220.1
22.5°	3255.9	3246.4	3258.6	3325.1	3445.8	3612.5	3840.4	3921.7	4214.6	4388.2	4175.3
25°	3333.2	3319.6	3322.4	3357.6	3443.0	3594.9	3848.5	3935.3	4268.9	4465.5	4159.0
27.5°	3463.4	3448.5	3448.5	3466.1	3512.2	3650.5	3950.2	4049.2	4414.0	4616.0	4192.9
30°	3631.5	3616.6	3611.2	3628.8	3666.8	3794.3	4176.7	4279.7	4662.1	4862.8	4301.4
32.5°	3824.1	3806.5	3816.0	3840.4	3877.0	4053.3	4468.2	4605.2	4972.7	5195.1	4496.7
35°	4027.5	4012.6	4056.0	4108.9	4165.8	4412.6	4871.0	4990.3	5353.7	5608.7	4795.0
37.5°	4221.4	4214.6	4305.5	4416.7	4534.7	4843.9	5280.5	5372.7	5680.5	6058.9	5159.8
40°	4415.3	4414.0	4569.9	4765.2	4953.7	5273.7	5591.0	5667.0	5879.9	6408.7	5509.7
42.5°	4632.3	4632.3	4847.9	5108.3	5359.2	5637.1	5818.9	5852.8	5969.4	6610.8	5772.8
45°	4839.8	4852.0	5101.5	5403.9	5700.9	5920.6	5976.2	5978.9	6006.0	6730.1	5991.1
47.5°	5003.9	5014.7	5313.0	5661.6	5981.6	6136.2	6144.3	6132.1	6102.3	6844.0	6159.2
50°	5136.8	5153.0	5464.9	5833.8	6174.1	6343.7	6406.0	6393.8	6317.9	6966.1	6277.2
52.5°	5201.9	5224.9	5517.8	5919.2	6388.4	6698.9	6872.5	6901.0	6640.6	7033.9	6389.8
55°	4681.1	4715.0	4984.9	5534.1	6507.7	7248.2	7520.7	7515.3	6990.5	7235.9	6663.7
57.5°	3535.3	3532.5	3756.3	4357.0	5558.5	7279.3	7919.4	7908.6	7317.3	7470.5	6944.4
60°	2407.0	2390.7	2450.4	2740.6	3886.5	5930.1	7207.5	7353.9	7085.4	6901.0	5896.2
62.5°	1981.2	1966.3	1947.3	1867.3	2232.1	3693.9	4979.5	5201.9	5166.6	4796.4	3698.0
65°	1621.8	1634.1	1686.9	1653.0	1552.7	1894.4	2584.7	2716.2	2482.9	2089.7	1292.3
67.5°	1196.0	1201.5	1270.6	1449.6	1395.4	1261.1	1216.4	1238.1	725.5	333.6	215.6
70°	706.5	710.6	774.3	1014.3	1132.3	968.2	821.8	809.6	287.5	89.5	97.6
72.5°	400.0	391.9	404.1	482.8	617.0	513.9	423.1	385.1	86.8	50.2	50.2
75°	189.8	184.4	158.7	149.2	135.6	86.8	54.2	46.1	21.7	20.3	20.3
77.5°	1.4	4.1	2.7	4.1	4.1	2.7	1.4	1.4	4.1	4.1	5.4
80°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
82.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
85°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
87.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	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



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CATALOG NUMBER: GWS-SA5C-830-U-SL3-W-GRSBK

**CANDELA DISTRIBUTION (continued):**

	90°	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°
0°	4853.3	4853.3	4853.3	4853.3	4853.3	4853.3	4853.3	4853.3	4853.3	4853.3	4853.3
2.5°	4822.2	4781.5	4772.0	4769.3	4731.3	4690.6	4648.6	4632.3	4607.9	4593.0	4605.2
5°	4731.3	4673.0	4621.5	4574.0	4489.9	4397.7	4317.7	4266.2	4217.4	4184.8	4192.9
7.5°	4602.5	4526.5	4408.6	4287.9	4133.3	3995.0	3840.4	3745.4	3657.3	3608.5	3631.5
10°	4465.5	4365.2	4176.7	3971.9	3729.2	3512.2	3291.2	3110.8	3006.4	2907.4	2918.2
12.5°	4331.3	4198.4	3916.3	3605.8	3299.3	2979.3	2645.7	2396.2	2225.3	2101.9	2082.9
15°	4206.5	4035.6	3662.7	3253.2	2835.5	2409.7	1983.9	1627.3	1429.3	1307.2	1299.1
17.5°	4095.3	3883.8	3399.6	2884.3	2360.9	1815.8	1326.2	1059.1	945.2	892.3	886.9
20°	3988.2	3730.5	3131.1	2510.1	1842.9	1274.7	915.3	791.9	755.3	733.6	736.3
22.5°	3885.1	3563.7	2849.1	2095.1	1381.8	895.0	709.2	661.8	657.7	660.4	661.8
25°	3798.3	3410.5	2558.9	1695.1	985.9	682.1	592.6	579.0	591.2	608.9	611.6
27.5°	3753.6	3285.7	2275.5	1292.3	713.3	554.6	513.9	519.4	541.1	560.1	562.8
30°	3765.8	3192.2	1982.6	937.0	549.2	467.8	454.3	465.1	486.8	504.5	507.2
32.5°	3852.6	3144.7	1682.9	682.1	451.6	408.2	402.8	410.9	429.9	443.4	444.8
35°	4024.8	3155.6	1398.1	522.1	387.8	363.4	362.1	367.5	377.0	386.5	387.8
37.5°	4278.4	3243.7	1117.4	433.9	351.2	333.6	328.2	328.2	334.9	339.0	341.7
40°	4550.9	3376.6	895.0	383.8	325.5	306.5	295.6	291.6	297.0	302.4	303.8
42.5°	4776.0	3509.5	726.8	348.5	305.1	279.3	265.8	263.1	269.9	279.3	282.1
45°	4948.3	3612.5	606.2	320.0	282.1	253.6	238.7	238.7	250.9	267.1	269.9
47.5°	5105.6	3695.3	516.7	294.3	260.4	230.5	215.6	218.3	238.7	260.4	264.4
50°	5212.7	3761.7	450.2	271.2	242.7	211.5	198.0	203.4	227.8	253.6	257.7
52.5°	5328.0	3843.1	406.8	250.9	226.5	196.6	184.4	188.5	215.6	244.1	249.5
55°	5646.6	4115.6	405.5	223.8	198.0	176.3	170.9	172.2	199.3	231.9	238.7
57.5°	5907.0	4355.7	432.6	188.5	165.4	154.6	151.9	153.2	177.6	214.3	222.4
60°	4887.2	3384.7	358.0	155.9	138.3	135.6	131.5	134.3	157.3	189.8	196.6
62.5°	2892.5	1935.1	170.9	119.3	118.0	115.3	111.2	116.6	138.3	166.8	170.9
65°	988.6	573.6	108.5	97.6	100.3	96.3	92.2	97.6	116.6	132.9	134.3
67.5°	189.8	151.9	86.8	81.4	82.7	74.6	73.2	78.7	89.5	92.2	90.9
70°	99.0	88.1	66.4	66.4	63.7	52.9	52.9	58.3	58.3	54.2	52.9
72.5°	51.5	48.8	43.4	48.8	40.7	32.5	32.5	35.3	32.5	27.1	27.1
75°	20.3	20.3	19.0	24.4	17.6	14.9	13.6	16.3	12.2	9.5	9.5
77.5°	5.4	5.4	5.4	6.8	4.1	4.1	2.7	2.7	1.4	0.0	0.0
80°	0.0	1.4	0.0	1.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0
82.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
85°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
87.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	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



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**

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			

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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)