

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: P640939

Luminaire Tested: GWS-SA5E-830-U-AFL-W-HSS

Issue Date: 1/10/2023

**Test Information**

Test Method: LM-79-2019  
Report Number: P640939  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2209-782-48)  
Test Lab: COOPER LIGHTING SOLUTIONS  
Issue Date: 1/10/2023  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: McGRAW-EDISON  
Catalog Number: GWS-SA5E-830-U-AFL-W-HSS  
Description: GALLEON WALL SLIM LUMINAIRE. (5) LIGHTSQUARES WITH 16 LEDS EACH AND  
AUTOMOTIVE FRONTLINE OPTICS WITH HOUSE SIDE SHIELD  
Light Source: (80) 3000K CCT, 80 CRI LEDS  
Ballast/Driver: -

**Summary**

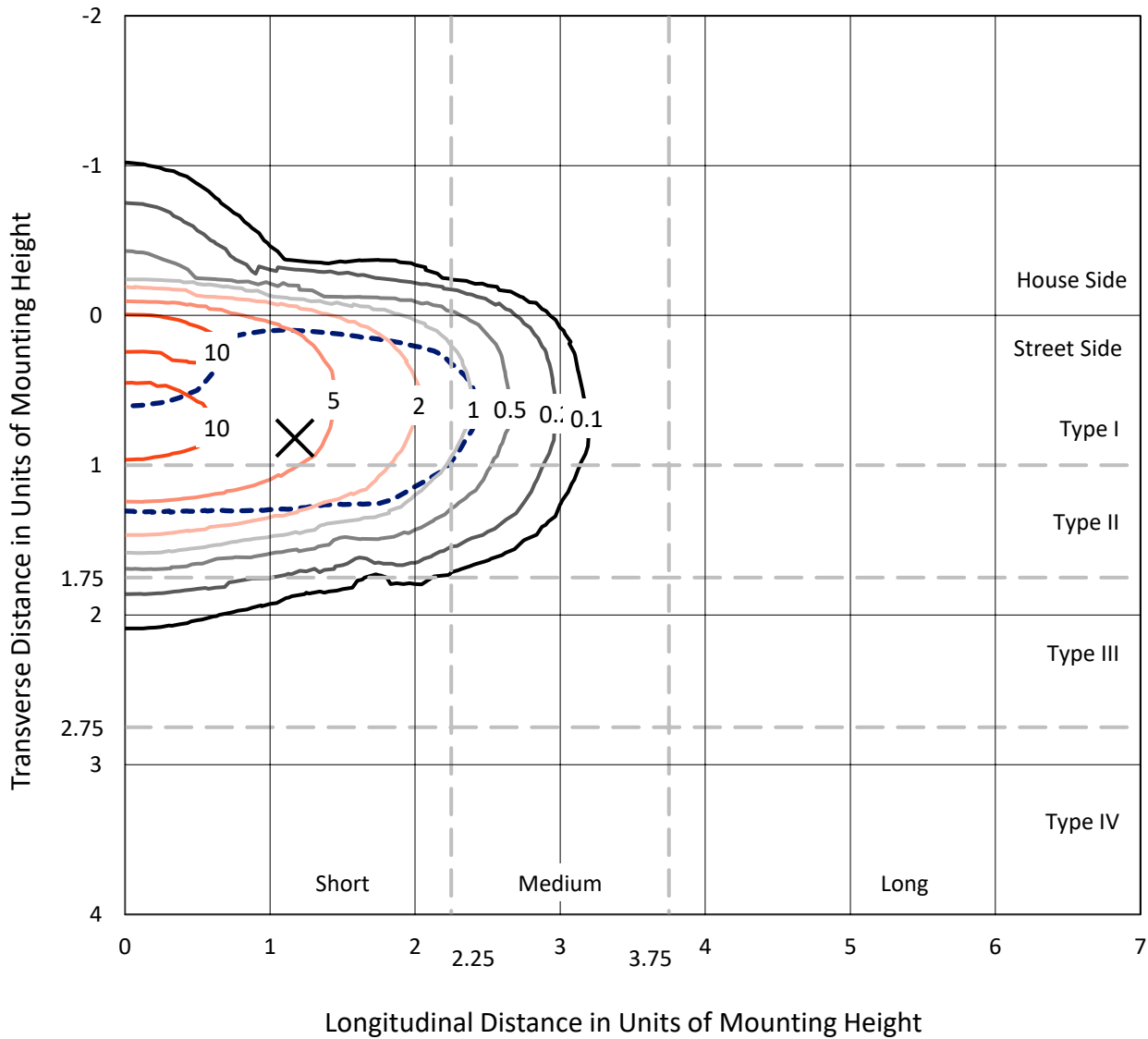
Lumens per Lamp: N/A  
Luminaire Lumens: 25008.5 lumens  
Efficiency: N/A  
Efficacy: 92.8 lumens/watt  
Luminous Opening: Rectangular (W 1.5' x L: 1' x H: 0')  
IES Classification: Type II - Short  
BUG Rating: B2 - U0 - G2  
  
Input Watts (W): 269.6  
Input Voltage (V): 120  
Input Current (Ain): 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: P640939  
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### Iso-Footcandle Lines of Horizontal Illumination

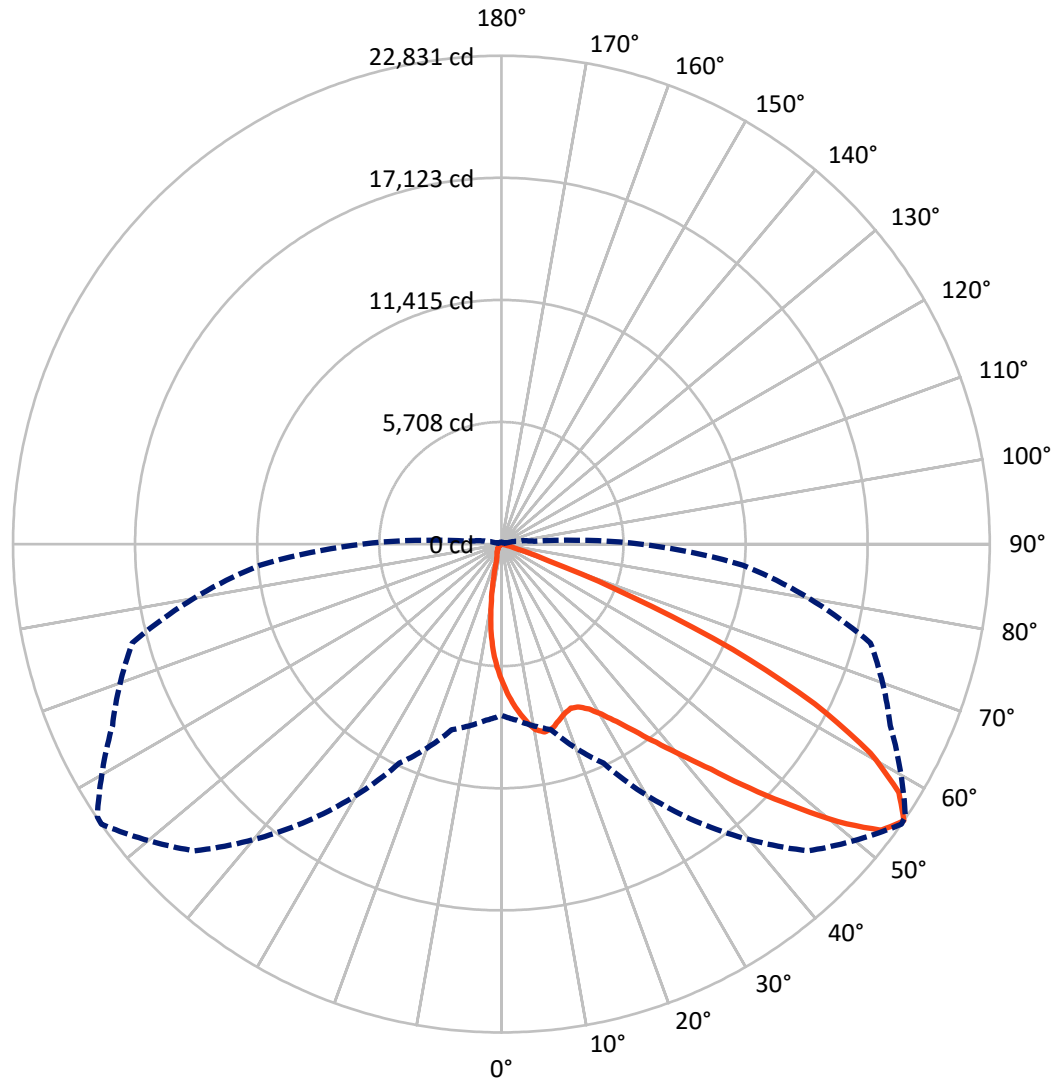
✕ Max cd  
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 13.5 fc  
 Type II - Short - N/A

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### Luminous Intensity Polar Plot



— Vertical Plane Through 55-Deg Lateral    - - - Horizontal Cone Through 55-Deg Vertical

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**FLUX DISTRIBUTION:**

		Downward	Upward	Total
<b>House Side</b>	Lumens	1543.1	0.0	1543.1
	% Fixture	6.2	0.0	6.2
<b>Street Side</b>	Lumens	23465.4	0.0	23465.4
	% Fixture	93.8	0.0	93.8
<b>Total</b>	Lumens	25008.5	0.0	25008.5
	% Fixture	100.0	0.0	100.0

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	571.0	2.3
10°-20°	1376.6	5.5
20°-30°	2292.5	9.2
30°-40°	3906.5	15.6
40°-50°	6376.8	25.5
50°-60°	6676.2	26.7
60°-70°	3367.4	13.5
70°-80°	425.3	1.7
80°-90°	16.2	0.1
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°	25008.5	100.0
0°-180°	25008.5	100.0

**Coefficient of Utilization**

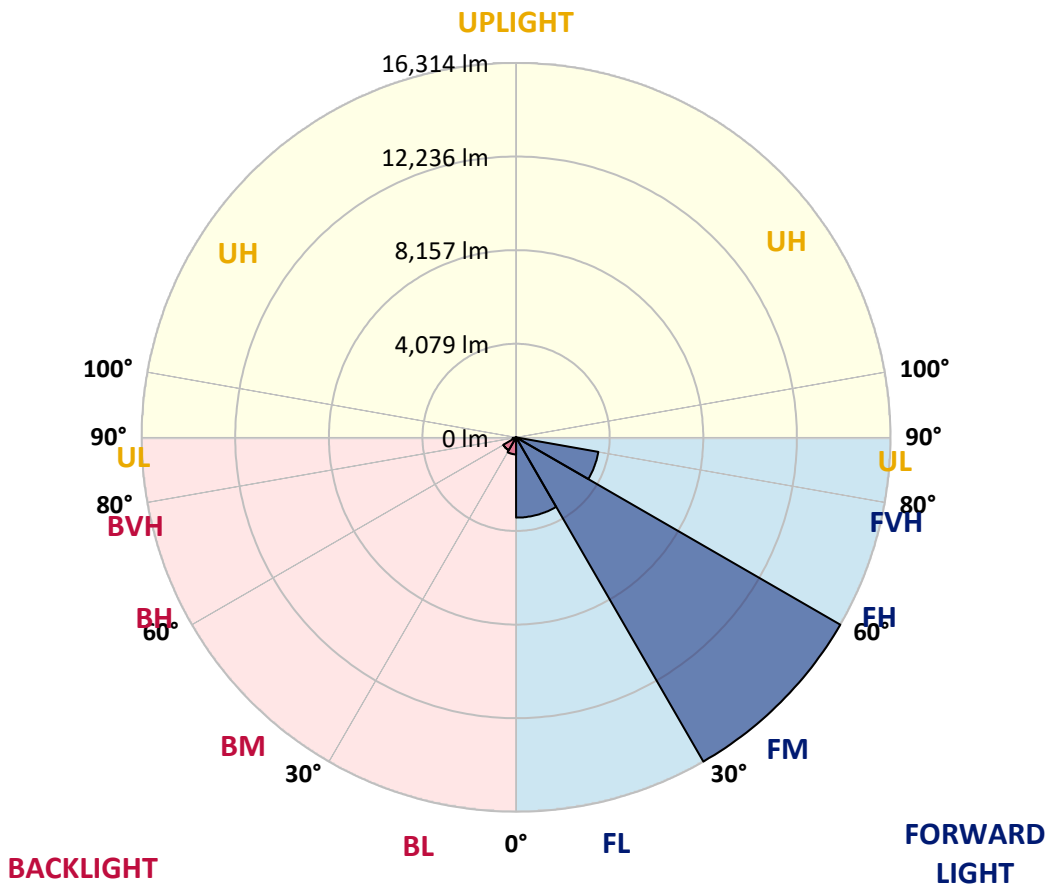


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**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	3498.3	14.0			
FM (30°-60°)	16314.4	65.2			
FH (60°-80°)	3637.9	14.5			G2/5000
FVH (80°-90°)	14.7	0.1			G1/100
BL (0°-30°)	741.7	3.0	B2/1000		
BM (30°-60°)	645.2	2.6	B1/1000		
BH (60°-80°)	154.8	0.6	B1/500		G1/500
BVH (80°-90°)	1.5	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-G2**  
 Type II Short





REPORT NUMBER: P640939

CATALOG NUMBER: GWS-SA5E-830-U-AFL-W-HSS

**CANDELA DISTRIBUTION (FULL):**

	0°	5°	15°	25°	35°	45°	55°	56°	65°	75°	85°
0°	6460.7	6460.7	6460.7	6460.7	6460.7	6460.7	6460.7	6460.7	6460.7	6460.7	6460.7
2.5°	7531.8	7495.5	7551.1	7486.9	7377.9	7286.0	7166.2	7123.5	6931.1	6749.3	6574.0
5°	8446.8	8457.5	8440.4	8350.6	8196.7	8025.7	7784.1	7730.6	7395.0	7048.7	6674.5
7.5°	8673.5	8667.0	8703.4	8737.6	8711.9	8626.4	8363.5	8310.0	7893.1	7373.6	6828.5
10°	7974.4	7978.6	8053.5	8284.4	8570.8	8868.0	8827.4	8797.5	8389.1	7741.3	6999.5
12.5°	6986.7	7025.1	7104.2	7433.5	7918.8	8594.4	9013.4	9043.3	8844.5	8145.4	7200.4
15°	6559.1	6567.6	6631.8	6830.6	7191.9	8025.7	8934.3	9017.7	9225.0	8551.6	7418.5
17.5°	6548.4	6559.1	6586.9	6674.5	6909.7	7578.9	8679.9	8825.2	9511.5	8987.7	7679.3
20°	6950.3	6943.9	6924.7	6877.6	6980.2	7431.3	8444.7	8605.0	9667.6	9413.2	7942.3
22.5°	7679.3	7670.8	7585.3	7390.7	7307.3	7566.0	8329.3	8474.6	9761.6	9791.6	8158.2
25°	8519.5	8579.4	8419.0	8124.0	7918.8	7910.2	8431.9	8534.5	9842.9	10127.2	8305.7
27.5°	9441.0	9460.2	9323.4	8992.0	8694.8	8461.8	8729.0	8806.0	9932.7	10426.5	8389.1
30°	10452.2	10445.8	10289.7	9904.9	9543.6	9207.9	9229.3	9259.2	10142.2	10768.6	8481.0
32.5°	11715.7	11743.5	11465.6	10941.8	10507.8	10043.9	9883.5	9887.8	10520.6	11209.0	8620.0
35°	13432.4	13364.0	12996.3	12250.2	11510.4	11010.2	10736.5	10713.0	11104.2	11801.2	8861.6
37.5°	15067.9	15074.3	14689.5	13868.6	12934.3	12145.4	11758.4	11694.3	11925.2	12622.2	9263.5
40°	16203.1	16224.5	16064.2	15634.5	14644.6	13528.6	12959.9	12893.7	12989.9	13661.2	9789.4
42.5°	16803.9	16863.7	16908.6	17009.1	16258.7	15256.0	14381.6	14375.2	14274.8	14845.6	10398.7
45°	16827.4	16917.2	17190.8	17877.1	17962.6	17227.2	16275.8	16132.6	15745.6	16113.3	10943.9
47.5°	15897.4	16104.8	16686.3	18046.0	18943.9	19187.6	18244.8	18157.2	17071.1	17116.0	11352.2
50°	13729.6	13945.5	15016.6	17180.2	19191.9	20744.0	20406.2	20224.5	18178.6	17778.8	11548.9
52.5°	11506.2	11702.9	12429.7	15119.2	18163.6	21233.6	22227.7	22011.8	19172.7	18009.7	11467.7
55°	8006.4	8269.4	8979.2	11300.9	15794.8	20280.1	22830.6	22785.7	20059.9	17864.3	11341.6
57.5°	3925.2	4186.0	4893.7	6967.4	11700.7	17706.1	21909.2	22146.5	20590.1	17708.2	11238.9
60°	1639.8	1746.7	1990.4	3057.2	6546.2	13381.1	19829.0	20158.3	20265.1	17496.6	11228.2
62.5°	951.4	968.5	994.1	1267.8	2546.2	7670.8	16449.0	16917.2	18557.0	17216.5	11059.4
65°	718.3	724.7	714.1	778.2	1051.8	2909.7	11884.6	12521.7	15489.1	16121.9	10392.3
67.5°	590.1	590.1	562.3	575.1	660.6	1090.3	6561.2	7450.6	11461.3	13250.7	8581.5
70°	470.3	481.0	468.2	451.1	472.5	602.9	2334.6	2894.7	6674.5	7824.7	5004.8
72.5°	357.0	357.0	378.4	365.6	350.6	378.4	814.5	915.0	2678.8	3262.4	1806.5
75°	275.8	284.3	299.3	286.5	265.1	224.5	391.2	414.8	808.1	759.0	404.1
77.5°	141.1	143.2	190.3	209.5	196.7	136.8	171.0	188.1	263.0	235.2	149.7
80°	85.5	89.8	106.9	164.6	130.4	72.7	70.6	74.8	124.0	106.9	62.0
82.5°	36.3	38.5	59.9	59.9	53.4	27.8	27.8	27.8	59.9	55.6	25.7
85°	0.0	0.0	10.7	8.6	8.6	10.7	10.7	10.7	15.0	21.4	12.8
87.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.1	6.4	6.4
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: P640939

CATALOG NUMBER: GWS-SA5E-830-U-AFL-W-HSS

**CANDELA DISTRIBUTION (continued):**

	90°	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°
0°	6460.7	6460.7	6460.7	6460.7	6460.7	6460.7	6460.7	6460.7	6460.7	6460.7	6460.7
2.5°	6460.7	6323.9	6140.0	5973.3	5748.8	5622.7	5447.4	5304.1	5182.3	5143.8	5126.7
5°	6462.9	6227.7	5834.3	5441.0	4957.8	4577.2	4186.0	3876.0	3621.6	3540.4	3519.0
7.5°	6505.6	6159.3	5522.2	4808.1	4000.0	3333.0	2736.5	2202.0	1954.0	1870.7	1853.6
10°	6563.4	6101.6	5160.9	4049.2	2888.3	2031.0	1438.8	1096.7	934.3	844.5	857.3
12.5°	6638.2	6054.5	4761.1	3228.2	1911.3	1116.0	791.0	662.7	628.5	611.4	602.9
15°	6738.7	5998.9	4265.1	2413.7	1171.6	718.3	609.3	575.1	562.3	553.7	551.6
17.5°	6841.3	5934.8	3760.6	1697.5	778.2	596.5	547.3	530.2	521.6	515.2	513.1
20°	6950.3	5825.8	3168.4	1169.4	613.6	536.6	504.5	485.3	474.6	463.9	461.8
22.5°	6997.3	5650.5	2601.8	818.8	545.2	493.9	453.2	429.7	416.9	408.3	408.3
25°	6952.4	5366.1	2016.0	622.1	496.0	446.8	406.2	380.5	369.9	361.3	361.3
27.5°	6832.7	5000.5	1470.9	515.2	442.5	397.6	359.2	335.7	327.1	322.8	322.8
30°	6700.2	4538.8	1036.9	442.5	382.7	346.3	314.3	299.3	297.2	292.9	292.9
32.5°	6586.9	4106.9	714.1	389.1	337.8	301.4	280.1	273.7	275.8	271.5	273.7
35°	6524.9	3683.6	530.2	346.3	301.4	267.2	256.5	256.5	256.5	254.4	254.4
37.5°	6550.5	3266.7	431.9	316.4	269.4	243.7	233.0	237.3	241.6	241.6	241.6
40°	6678.8	2896.9	382.7	288.6	241.6	222.3	213.8	220.2	226.6	230.9	230.9
42.5°	6841.3	2597.5	346.3	265.1	222.3	201.0	196.7	203.1	209.5	213.8	213.8
45°	6943.9	2296.1	310.0	235.2	203.1	177.4	177.4	186.0	183.9	186.0	186.0
47.5°	6990.9	2056.7	273.7	203.1	173.2	153.9	156.1	160.3	156.1	160.3	160.3
50°	6875.5	1815.1	241.6	168.9	143.2	134.7	139.0	136.8	136.8	145.4	145.4
52.5°	6663.8	1635.5	213.8	143.2	121.9	119.7	124.0	115.4	117.6	117.6	115.4
55°	6507.8	1532.9	190.3	124.0	104.8	106.9	104.8	89.8	81.2	72.7	70.6
57.5°	6430.8	1492.3	173.2	111.2	94.1	94.1	85.5	62.0	47.0	36.3	32.1
60°	6413.7	1443.1	156.1	96.2	83.4	79.1	62.0	36.3	23.5	17.1	15.0
62.5°	6251.2	1323.4	141.1	77.0	72.7	64.1	38.5	21.4	12.8	8.6	6.4
65°	5718.9	1088.2	126.1	59.9	55.6	47.0	23.5	12.8	6.4	2.1	0.0
67.5°	4549.4	771.8	111.2	44.9	38.5	29.9	15.0	8.6	2.1	0.0	0.0
70°	2623.2	416.9	91.9	32.1	25.7	19.2	10.7	4.3	0.0	0.0	0.0
72.5°	876.5	194.5	70.6	21.4	19.2	15.0	6.4	2.1	0.0	0.0	0.0
75°	192.4	115.4	47.0	15.0	12.8	10.7	4.3	0.0	0.0	0.0	0.0
77.5°	72.7	81.2	23.5	10.7	8.6	6.4	2.1	0.0	0.0	0.0	0.0
80°	27.8	53.4	10.7	6.4	6.4	2.1	0.0	0.0	0.0	0.0	0.0
82.5°	15.0	21.4	6.4	4.3	4.3	0.0	0.0	0.0	0.0	0.0	0.0
85°	8.6	10.7	4.3	2.1	2.1	0.0	0.0	0.0	0.0	0.0	0.0
87.5°	4.3	2.1	2.1	2.1	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**

$\lambda$ (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			

**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)