

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: P634505

Luminaire Tested: GWS-SA3B-830-U-AFL-W

Issue Date: 1/10/2023

**Test Information**

Test Method: LM-79-2019  
Report Number: P634505  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2209-782-45)  
Test Lab: COOPER LIGHTING SOLUTIONS  
Issue Date: 1/10/2023  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: McGRAW-EDISON  
Catalog Number: GWS-SA3B-830-U-AFL-W  
Description: GALLEON WALL SLIM LUMINAIRE. (3) LIGHTSQUARES WITH 16 LEDS EACH AND AUTOMOTIVE FRONTLINE OPTICS  
Light Source: (48) 3000K CCT, 80 CRI LEDS  
Ballast/Driver: -

**Summary**

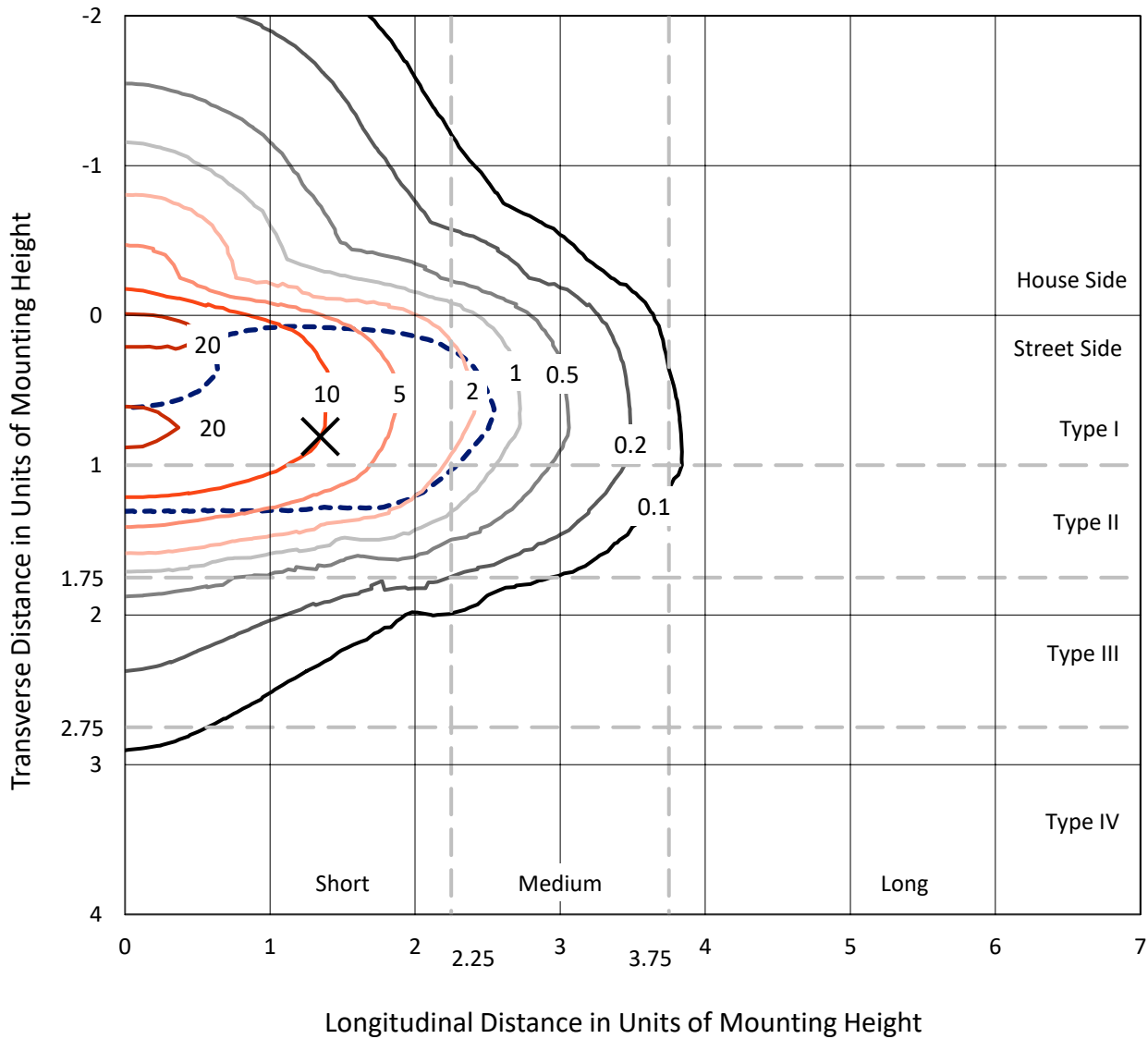
Lumens per Lamp: N/A  
Luminaire Lumens: 8414.1 lumens  
Efficiency: N/A  
Efficacy: 123.2 lumens/watt  
Luminous Opening: Rectangular (W 1.5' x L: 0.5' x H: 0')  
IES Classification: Type II - Short  
BUG Rating: B1 - U0 - G1  
  
Input Watts (W): 68.3  
Input Voltage (V): 120  
Input Current (Ain): 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



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### Iso-Footcandle Lines of Horizontal Illumination

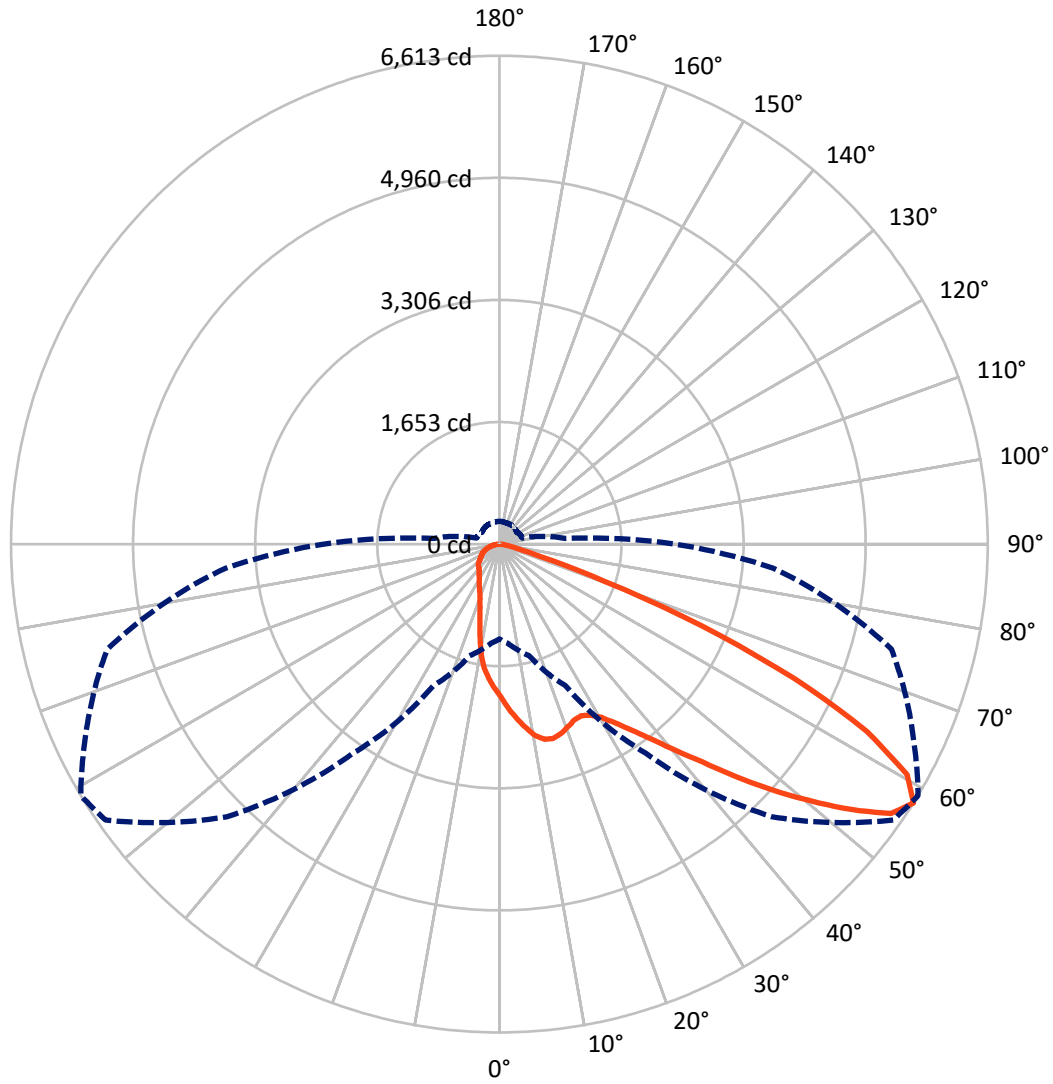
✕ Max cd  
 - - - 1/2 Max cd



Based on 10 foot mounting height. Maximum calculated value = 25.3 fc  
 Type II - Short - N/A

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### Luminous Intensity Polar Plot



— Vertical Plane Through 59-Deg Lateral    - - - Horizontal Cone Through 57.5-Deg Vertical

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**FLUX DISTRIBUTION:**

		Downward	Upward	Total
<b>House Side</b>	Lumens	1305.8	0.0	1305.8
	% Fixture	15.5	0.0	15.5
<b>Street Side</b>	Lumens	7108.3	0.0	7108.3
	% Fixture	84.5	0.0	84.5
<b>Total</b>	Lumens	8414.1	0.0	8414.1
	% Fixture	100.0	0.0	100.0

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	191.8	2.3
10°-20°	486.0	5.8
20°-30°	787.8	9.4
30°-40°	1267.3	15.1
40°-50°	1967.9	23.4
50°-60°	2119.7	25.2
60°-70°	1230.2	14.6
70°-80°	321.2	3.8
80°-90°	42.3	0.5
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°	8414.1	100.0
0°-180°	8414.1	100.0

**Coefficient of Utilization**



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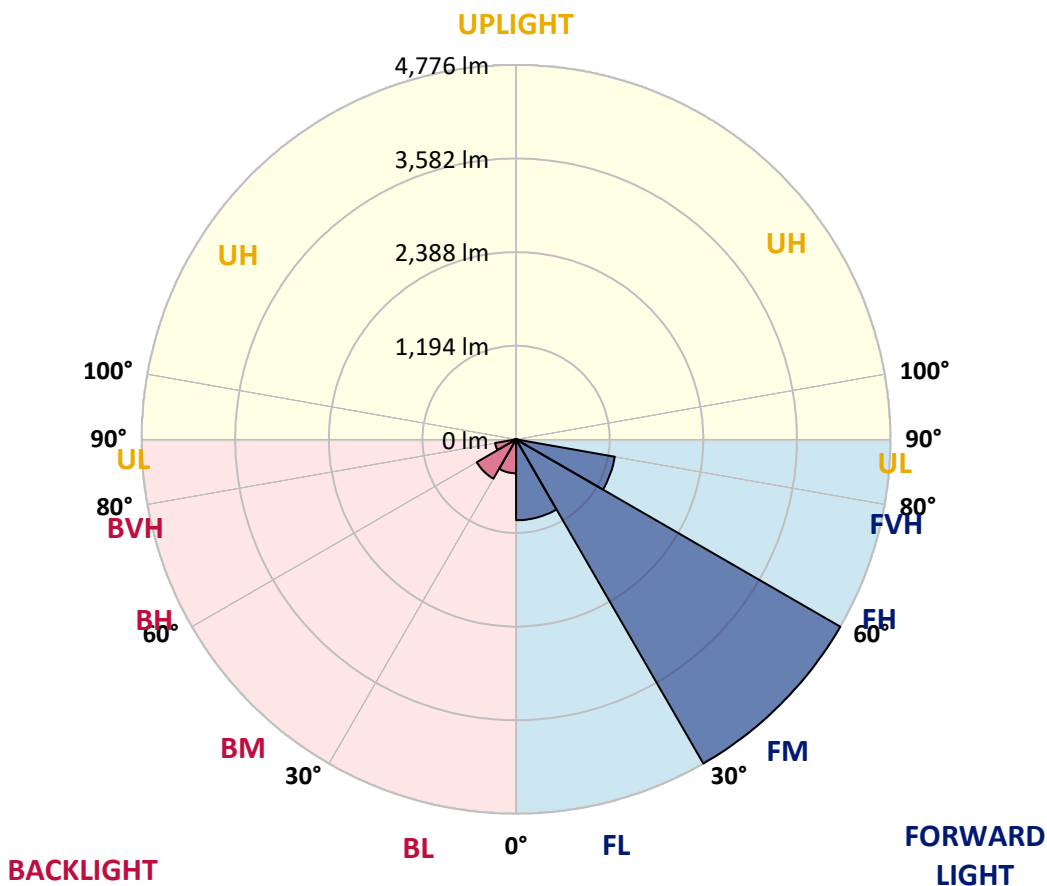
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**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	1032.3	12.3			
FM (30°-60°)	4775.9	56.8			
FH (60°-80°)	1279.7	15.2			G1/1800
FVH (80°-90°)	20.3	0.2			G1/100
BL (0°-30°)	433.2	5.1	B1/500		
BM (30°-60°)	578.9	6.9	B1/1000		
BH (60°-80°)	271.6	3.2	B1/500		G1/500
BVH (80°-90°)	22.1	0.3			G1/100
UL (90°-100°)	0.0	0.0		U0/0	
UH (100°-180°)	0.0	0.0		U0/0	

**BUG Rating: B1-U0-G1**

Type II Short





REPORT NUMBER: P634505  
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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	15°	25°	35°	45°	55°	59°	65°	75°	85°
0°	2065.5	2065.5	2065.5	2065.5	2065.5	2065.5	2065.5	2065.5	2065.5	2065.5	2065.5
2.5°	2342.7	2323.2	2336.8	2312.5	2302.4	2275.8	2241.4	2218.3	2182.8	2136.6	2096.3
5°	2575.5	2561.9	2564.8	2538.8	2515.7	2471.2	2400.8	2361.7	2301.2	2208.2	2121.8
7.5°	2568.4	2584.4	2593.3	2615.8	2622.3	2618.1	2554.8	2500.3	2433.9	2294.1	2163.8
10°	2302.4	2332.6	2359.9	2436.9	2530.5	2648.9	2663.8	2631.2	2564.2	2403.7	2214.2
12.5°	2012.8	2035.9	2060.2	2152.6	2295.9	2532.9	2693.4	2713.5	2686.9	2512.1	2271.0
15°	1870.6	1881.3	1904.4	1965.4	2079.7	2342.7	2641.8	2730.1	2778.1	2627.0	2335.0
17.5°	1864.7	1869.4	1880.7	1913.3	1992.6	2195.8	2548.8	2696.9	2849.8	2748.5	2409.6
20°	1987.3	1974.9	1967.8	1967.2	2006.3	2146.6	2458.8	2643.6	2883.5	2872.9	2489.6
22.5°	2157.3	2161.5	2146.1	2108.1	2103.4	2181.6	2413.8	2589.7	2893.6	2983.0	2563.7
25°	2398.4	2419.1	2373.5	2301.2	2265.7	2282.9	2441.6	2573.1	2892.4	3074.8	2609.9
27.5°	2679.8	2695.7	2649.5	2554.8	2481.3	2439.9	2524.6	2622.3	2902.5	3154.2	2637.7
30°	3000.2	3005.5	2942.2	2842.6	2735.4	2646.6	2662.6	2723.6	2954.0	3258.5	2670.3
32.5°	3391.7	3414.3	3318.3	3160.7	3010.9	2897.1	2848.0	2887.1	3065.4	3381.7	2720.6
35°	3888.7	3896.4	3774.4	3548.7	3336.7	3179.1	3076.0	3096.8	3234.8	3554.0	2796.4
37.5°	4357.3	4365.0	4235.2	4025.5	3722.3	3506.7	3357.4	3347.9	3451.6	3797.5	2920.2
40°	4654.6	4676.5	4618.5	4487.0	4197.3	3906.5	3703.9	3671.3	3735.9	4095.4	3092.6
42.5°	4814.5	4824.0	4822.8	4840.0	4667.6	4378.6	4094.9	4029.7	4072.9	4417.1	3266.8
45°	4815.7	4839.4	4902.8	5068.1	5075.8	4895.7	4588.9	4487.0	4447.3	4741.1	3448.6
47.5°	4600.1	4625.6	4799.7	5124.9	5364.8	5405.7	5180.6	4976.3	4809.2	5020.1	3597.9
50°	3947.4	4011.3	4343.0	4918.2	5421.7	5814.4	5745.1	5467.9	5130.9	5235.7	3691.5
52.5°	3380.5	3378.1	3582.5	4334.2	5184.2	5994.5	6291.3	5973.8	5448.9	5372.5	3715.2
55°	2475.4	2489.0	2698.1	3314.7	4550.4	5820.3	6591.6	6439.3	5813.8	5445.4	3705.7
57.5°	1283.6	1351.1	1565.6	2115.2	3457.5	5220.9	6511.6	6612.9	6184.6	5496.9	3718.1
60°	648.6	635.6	712.6	1009.9	2003.3	4077.7	6018.8	6341.6	6251.6	5537.2	3725.8
62.5°	433.0	429.4	408.1	467.9	818.6	2415.0	5130.9	5583.4	5786.6	5442.4	3627.5
65°	375.0	367.8	328.7	326.4	397.5	1001.6	3760.8	4389.2	4782.6	5021.3	3392.3
67.5°	337.6	327.0	287.3	267.7	285.5	440.1	2119.4	2943.9	3531.5	4246.5	2877.0
70°	301.5	296.2	256.5	228.1	226.3	268.3	780.7	1519.4	2160.9	2897.1	2103.4
72.5°	270.1	260.6	226.9	199.6	186.0	190.1	338.8	585.2	1118.3	1807.2	1258.1
75°	234.0	226.9	197.2	170.0	153.4	139.2	206.7	270.7	510.0	858.9	594.1
77.5°	180.7	175.9	155.8	135.1	125.6	103.7	125.6	170.6	235.8	361.9	309.2
80°	104.8	107.8	116.1	105.4	92.4	74.0	81.7	98.3	141.6	196.1	175.3
82.5°	52.7	56.3	75.2	61.0	55.1	43.2	48.6	58.0	74.0	108.4	68.7
85°	4.1	4.1	13.6	15.4	19.0	15.4	19.5	23.7	33.8	43.2	23.1
87.5°	0.0	0.0	0.0	0.0	0.0	0.0	1.8	3.0	5.3	10.1	6.5
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-SA3B-830-U-AFL-W

**CANDELA DISTRIBUTION (continued):**

	90°	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°
0°	2065.5	2065.5	2065.5	2065.5	2065.5	2065.5	2065.5	2065.5	2065.5	2065.5	2065.5
2.5°	2069.0	2038.8	2002.7	1973.1	1927.5	1903.2	1872.4	1834.5	1819.1	1812.0	1807.8
5°	2073.2	2019.9	1942.9	1871.8	1793.0	1730.8	1661.5	1589.3	1547.8	1537.7	1530.6
7.5°	2088.6	2014.0	1891.3	1774.1	1627.8	1492.1	1360.0	1229.1	1162.2	1136.7	1134.3
10°	2109.9	2011.6	1839.2	1644.3	1397.3	1182.9	1028.3	925.8	882.6	868.4	863.6
12.5°	2136.6	2009.8	1770.5	1464.3	1131.4	928.8	840.5	823.9	829.9	828.7	828.7
15°	2170.3	2012.2	1687.6	1260.5	915.2	806.2	808.0	827.5	845.9	848.8	848.8
17.5°	2207.1	2009.8	1567.3	1056.1	785.4	777.2	804.4	831.6	848.2	850.6	850.6
20°	2246.7	1998.6	1415.7	863.6	728.6	758.8	788.4	809.7	819.8	822.2	822.2
22.5°	2270.4	1966.6	1251.0	730.9	692.4	729.8	749.3	771.2	772.4	753.5	752.9
25°	2266.9	1906.7	1063.3	645.7	653.9	686.5	711.4	696.0	677.0	666.4	664.6
27.5°	2244.4	1816.7	871.9	581.1	608.3	645.1	637.4	624.3	619.6	607.7	606.6
30°	2215.9	1705.9	700.1	530.7	560.9	594.7	582.9	581.7	576.9	563.9	563.9
32.5°	2188.7	1591.6	570.4	493.4	530.7	533.1	549.7	550.9	548.5	526.0	523.6
35°	2181.0	1477.3	482.8	463.8	501.1	499.9	523.6	523.0	482.2	450.8	450.2
37.5°	2204.1	1361.2	430.6	439.5	460.2	475.6	494.6	460.2	446.6	427.7	426.5
40°	2253.3	1254.0	404.0	425.3	434.2	456.7	427.1	429.4	425.9	411.7	409.9
42.5°	2318.4	1162.8	389.2	420.6	419.4	425.3	392.7	402.2	407.5	396.9	395.1
45°	2381.2	1083.4	381.5	402.8	408.7	374.4	367.8	376.7	385.0	380.9	379.1
47.5°	2427.4	1014.7	377.3	378.5	395.1	357.2	346.5	350.7	360.7	362.5	361.9
50°	2441.6	956.0	372.6	358.4	354.8	340.0	331.7	330.5	342.4	350.7	351.9
52.5°	2414.4	903.9	360.1	340.6	323.4	325.8	322.8	316.9	328.7	340.0	341.2
55°	2374.1	874.3	340.6	323.4	303.3	312.8	313.9	308.6	316.3	324.0	324.0
57.5°	2377.1	891.5	321.6	307.4	285.5	297.9	304.5	302.1	302.1	308.0	308.6
60°	2396.6	916.4	309.2	287.3	267.7	280.8	295.6	293.2	287.9	295.6	295.6
62.5°	2340.3	883.2	300.9	267.7	248.8	264.2	282.0	280.8	274.8	287.3	288.5
65°	2174.5	794.3	291.4	243.5	229.8	247.6	263.0	267.1	261.8	278.4	281.4
67.5°	1822.6	668.2	273.1	220.4	210.9	227.5	242.3	248.2	244.0	263.6	266.0
70°	1358.8	540.8	244.0	194.9	187.8	202.6	216.2	218.6	219.2	242.3	244.6
72.5°	866.6	420.6	205.5	166.4	161.1	172.4	182.4	191.9	196.1	218.0	217.4
75°	483.4	312.8	165.3	141.0	131.5	140.4	152.2	163.5	175.3	207.3	210.9
77.5°	278.4	219.8	130.9	113.1	101.9	111.4	121.4	137.4	173.0	200.8	197.2
80°	157.0	142.8	98.9	82.9	75.8	82.9	90.6	120.8	136.2	148.1	149.9
82.5°	73.5	80.0	67.5	50.9	50.9	55.7	62.8	93.6	103.1	84.1	73.5
85°	26.7	36.1	33.2	26.1	23.1	22.5	39.1	53.3	33.2	29.6	25.5
87.5°	7.1	10.1	9.5	6.5	3.6	3.0	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  
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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)