

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: P634535

Luminaire Tested: GWS-SA3B-830-U-T2R-W

Issue Date: 1/10/2023

**Test Information**

Test Method: LM-79-2019  
Report Number: P634535  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2209-782-11)  
Test Lab: COOPER LIGHTING SOLUTIONS  
Issue Date: 1/10/2023  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: McGRAW-EDISON  
Catalog Number: GWS-SA3B-830-U-T2R-W  
Description: GALLEON WALL SLIM LUMINAIRE. (3) LIGHTSQUARES WITH 16 LEDS EACH AND TYPE II ROADWAY OPTICS  
Light Source: (48) 3000K CCT, 80 CRI LEDS  
Ballast/Driver: -

**Summary**

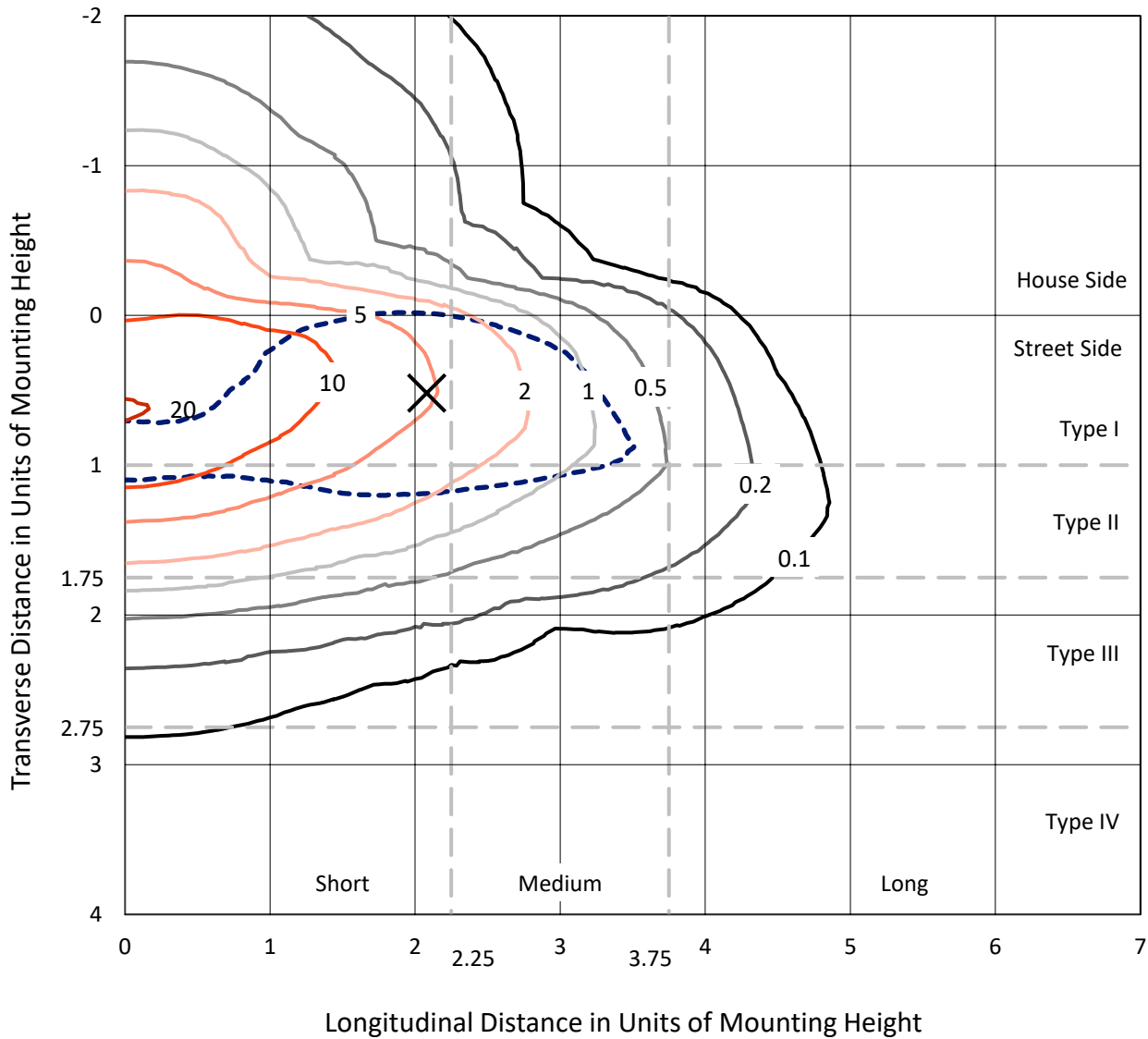
Lumens per Lamp: N/A  
Luminaire Lumens: 8425.4 lumens  
Efficiency: N/A  
Efficacy: 123.4 lumens/watt  
Luminous Opening: Rectangular (W 1.5' x L: 0.5' x H: 0')  
IES Classification: Type II - Short  
BUG Rating: B1 - U0 - G2  
  
Input Watts (W): 68.3  
Input Voltage (V): 120  
Input Current (Ain): 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



REPORT NUMBER: P634535  
 CATALOG NUMBER: GWS-SA3B-830-U-T2R-W

### Iso-Footcandle Lines of Horizontal Illumination

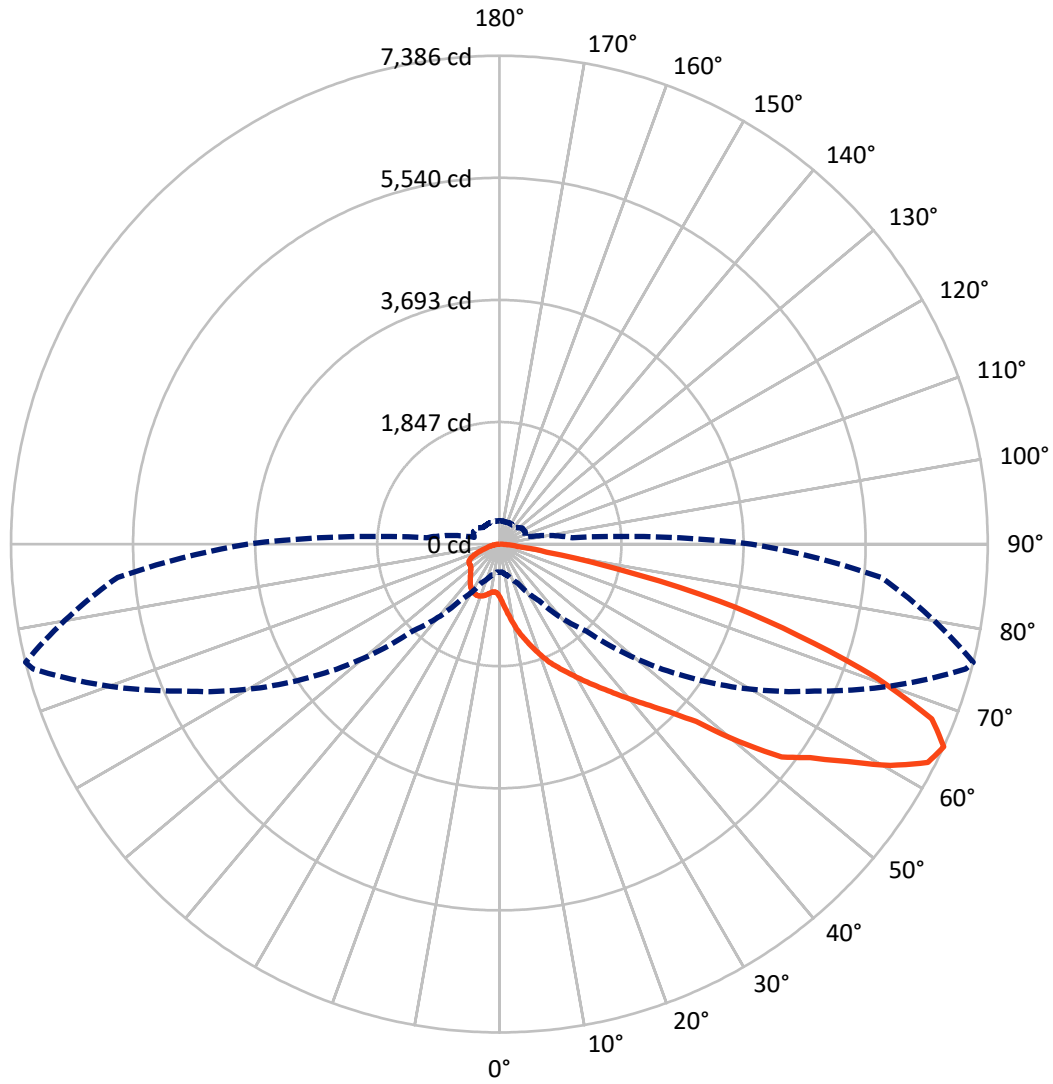
✕ Max cd  
 - - - 1/2 Max cd



Based on 10 foot mounting height. Maximum calculated value = 20.7 fc  
 Type II - Short - N/A

REPORT NUMBER: P634535  
CATALOG NUMBER: GWS-SA3B-830-U-T2R-W

### Luminous Intensity Polar Plot



— Vertical Plane Through 76-Deg Lateral    - - - Horizontal Cone Through 65-Deg Vertical

REPORT NUMBER: P634535

CATALOG NUMBER: GWS-SA3B-830-U-T2R-W

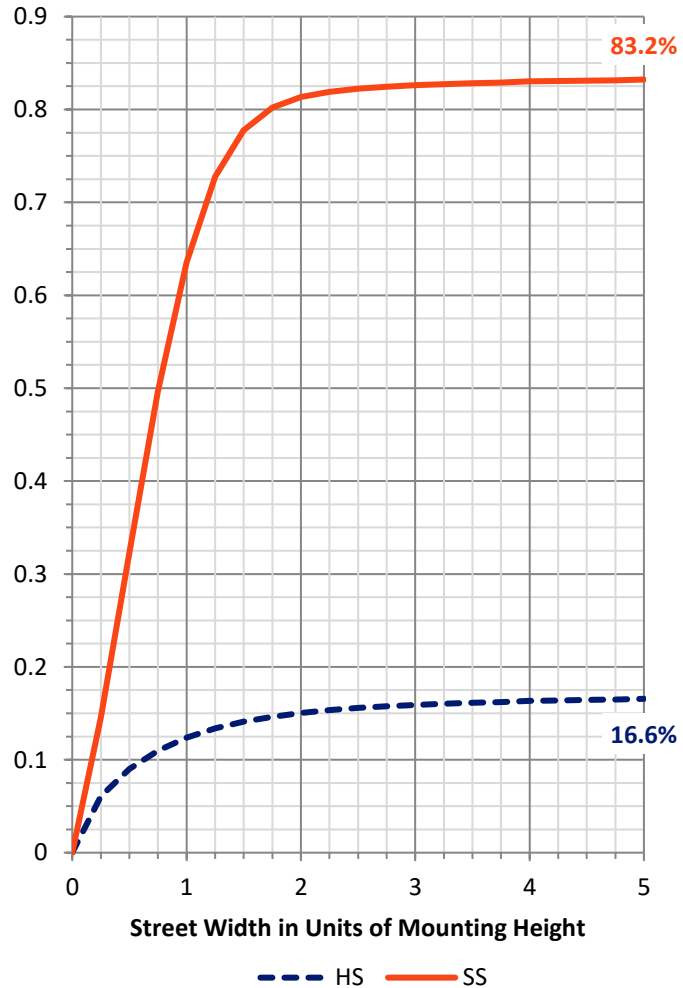
**FLUX DISTRIBUTION:**

		Downward	Upward	Total
<b>House Side</b>	Lumens	1408.3	0.0	1408.3
	% Fixture	16.7	0.0	16.7
<b>Street Side</b>	Lumens	7017.1	0.0	7017.1
	% Fixture	83.3	0.0	83.3
<b>Total</b>	Lumens	8425.4	0.0	8425.4
	% Fixture	100.0	0.0	100.0

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	94.8	1.1
10°-20°	361.0	4.3
20°-30°	703.6	8.4
30°-40°	1176.8	14.0
40°-50°	1684.9	20.0
50°-60°	1994.7	23.7
60°-70°	1658.6	19.7
70°-80°	678.7	8.1
80°-90°	72.3	0.9
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°	8425.4	100.0
0°-180°	8425.4	100.0

**Coefficient of Utilization**



REPORT NUMBER: P634535

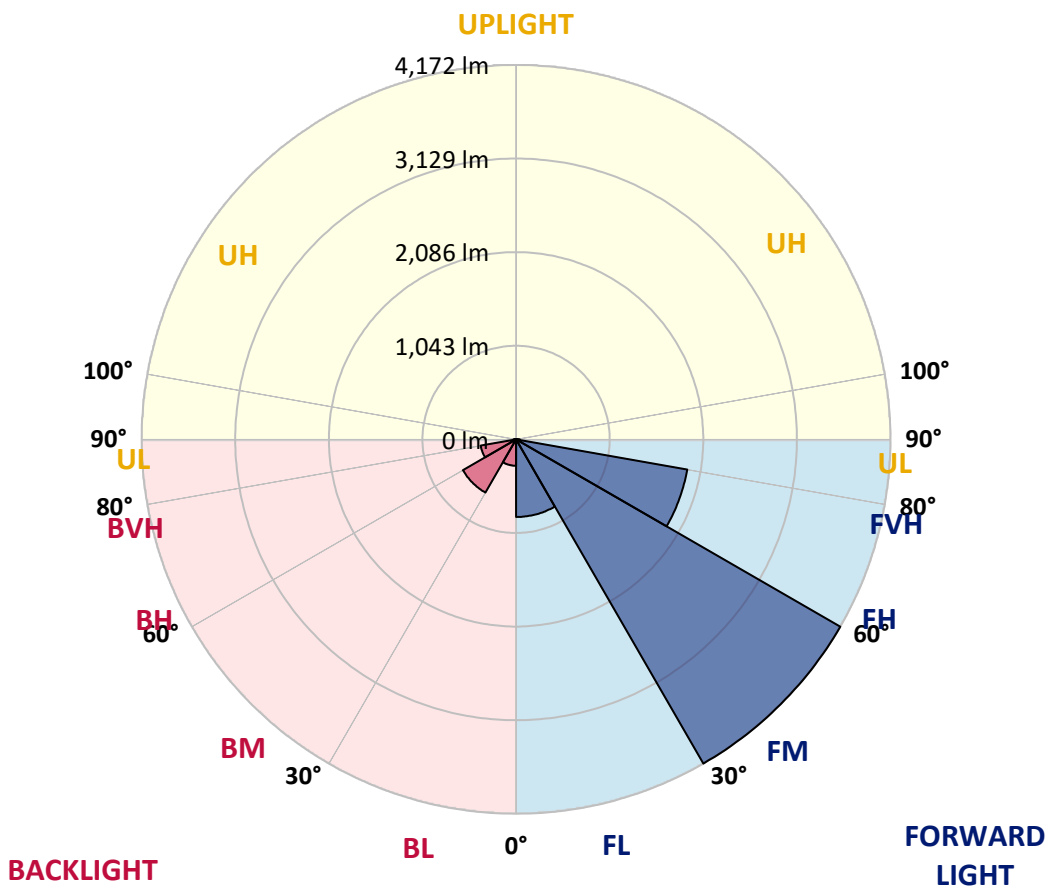
CATALOG NUMBER: GWS-SA3B-830-U-T2R-W

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

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	864.8	10.3			
FM (30°-60°)	4171.9	49.5			
FH (60°-80°)	1937.2	23.0			G2/5000
FVH (80°-90°)	43.1	0.5			G1/100
BL (0°-30°)	294.6	3.5	B1/500		
BM (30°-60°)	684.4	8.1	B1/1000		
BH (60°-80°)	400.1	4.7	B1/500		G1/500
BVH (80°-90°)	29.2	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-G2**

Type II Short





REPORT NUMBER: P634535  
 CATALOG NUMBER: GWS-SA3B-830-U-T2R-W

**CANDELA DISTRIBUTION (FULL):**

	0°	5°	15°	25°	35°	45°	55°	65°	75°	76°	85°
0°	797.9	797.9	797.9	797.9	797.9	797.9	797.9	797.9	797.9	797.9	797.9
2.5°	1118.3	1122.4	1108.8	1104.1	1072.1	1028.9	992.7	938.2	887.9	880.2	835.2
5°	1420.4	1402.6	1387.2	1377.1	1332.7	1283.6	1207.1	1104.7	997.5	984.4	887.3
7.5°	1599.9	1596.9	1577.9	1572.0	1537.7	1488.5	1409.7	1282.4	1126.6	1105.3	957.8
10°	1743.8	1742.0	1732.5	1737.9	1706.5	1658.5	1582.1	1450.6	1268.2	1246.8	1036.6
12.5°	1869.4	1872.3	1870.5	1890.1	1874.1	1836.8	1757.4	1612.9	1409.7	1386.6	1132.5
15°	1961.2	1963.5	1972.4	2015.1	2024.0	2016.3	1935.7	1772.2	1549.5	1516.3	1231.4
17.5°	1987.2	1992.0	2013.3	2082.0	2130.0	2162.0	2102.1	1934.5	1686.9	1650.8	1332.1
20°	2022.2	2027.5	2048.8	2120.5	2191.0	2263.8	2253.2	2099.2	1825.5	1795.9	1434.0
22.5°	2183.9	2179.7	2170.3	2204.6	2255.0	2345.6	2372.2	2257.3	1968.9	1940.4	1546.5
25°	2495.4	2487.7	2427.3	2395.9	2379.3	2434.4	2481.8	2401.3	2108.7	2066.0	1651.4
27.5°	2839.0	2834.8	2757.8	2683.2	2581.3	2557.6	2585.5	2526.8	2244.3	2201.1	1742.6
30°	3164.2	3151.7	3071.2	2977.6	2841.4	2739.5	2698.6	2650.0	2393.0	2348.0	1849.2
32.5°	3455.0	3439.0	3344.2	3240.6	3097.8	2977.6	2855.6	2780.9	2561.2	2509.1	1958.2
35°	3693.7	3677.7	3580.6	3470.4	3313.4	3224.6	3057.6	2923.1	2732.4	2679.7	2086.7
37.5°	3878.5	3863.7	3762.4	3654.0	3517.2	3446.7	3301.6	3083.0	2929.6	2874.5	2223.0
40°	3982.2	3971.5	3890.4	3804.5	3689.6	3628.5	3563.4	3285.0	3150.5	3095.5	2383.5
42.5°	4013.6	4006.4	3949.6	3905.2	3827.6	3781.4	3818.7	3522.5	3386.3	3338.3	2564.2
45°	3934.8	3934.8	3918.2	3940.7	3944.3	3943.7	4074.6	3790.8	3675.9	3623.2	2818.8
47.5°	3733.4	3746.4	3770.7	3881.5	3998.2	4095.9	4373.7	4148.6	4048.5	4005.3	3179.6
50°	3365.0	3400.5	3483.4	3699.6	3947.8	4196.6	4656.8	4677.5	4772.9	4696.5	3710.3
52.5°	2825.4	2820.0	3031.5	3339.5	3718.0	4200.7	4812.6	5144.3	5400.8	5348.1	4104.8
55°	2245.5	2236.6	2433.8	2858.5	3365.6	4042.0	4906.2	5358.1	5749.1	5701.7	4459.6
57.5°	1719.5	1708.2	1883.6	2266.8	2868.0	3705.0	4888.4	5612.8	6228.2	6204.0	4941.7
60°	1183.5	1169.8	1333.9	1669.2	2279.2	3189.6	4691.8	5743.7	6789.2	6797.5	5457.6
62.5°	710.8	703.1	822.1	1082.2	1639.5	2551.1	4231.5	5664.4	7235.8	7273.1	5789.3
65°	428.8	423.5	493.4	645.6	1040.1	1861.7	3521.9	5258.6	7300.3	7386.2	5797.0
67.5°	312.2	312.7	332.9	393.3	606.5	1202.4	2642.9	4531.2	6963.9	7052.7	5431.6
70°	271.3	272.5	283.1	296.8	366.6	688.3	1718.3	3577.0	5969.4	6038.1	4555.5
72.5°	241.1	241.1	248.2	255.3	286.7	419.4	920.5	2500.2	4711.3	4729.7	3476.9
75°	212.1	210.3	213.8	217.4	248.8	293.2	447.8	1742.0	3479.9	3437.2	2247.3
77.5°	168.8	167.0	167.6	171.2	199.6	209.7	226.9	1088.1	1961.2	1851.0	992.7
80°	120.2	119.1	125.6	134.5	147.5	128.5	142.2	526.6	777.7	723.8	385.0
82.5°	71.7	74.0	84.1	91.2	101.9	80.6	91.8	175.9	275.4	268.3	156.4
85°	10.1	10.7	30.2	34.9	43.8	31.4	48.6	79.4	110.2	117.9	55.1
87.5°	0.0	0.0	0.0	0.0	0.0	0.0	4.1	14.2	31.4	32.0	13.6
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: P634535  
 CATALOG NUMBER: GWS-SA3B-830-U-T2R-W

**CANDELA DISTRIBUTION (continued):**

	90°	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°
0°	797.9	797.9	797.9	797.9	797.9	797.9	797.9	797.9	797.9	797.9	797.9
2.5°	812.1	784.2	744.5	711.4	683.5	661.0	642.1	627.9	623.7	617.8	617.8
5°	841.7	791.3	720.3	669.9	640.9	623.7	611.9	605.9	603.0	599.4	597.7
7.5°	882.6	812.1	716.1	665.2	642.7	632.0	624.3	620.8	618.4	614.8	614.8
10°	938.8	842.9	729.1	681.8	664.0	653.3	644.4	638.5	633.2	627.9	626.7
12.5°	999.8	883.1	752.8	704.3	685.3	672.3	659.8	651.0	644.4	637.9	636.2
15°	1067.4	924.6	778.3	726.2	702.5	684.7	669.9	656.3	647.4	637.9	636.7
17.5°	1133.7	966.7	799.6	741.0	710.8	688.9	667.5	649.8	638.5	627.9	624.9
20°	1213.1	1008.7	814.4	745.1	709.0	680.0	654.5	632.0	619.6	607.1	605.4
22.5°	1285.9	1047.8	821.5	739.2	695.4	661.0	631.4	607.1	593.5	581.1	578.7
25°	1356.4	1082.2	818.6	725.0	674.7	635.0	604.2	579.9	566.8	553.8	550.3
27.5°	1424.5	1105.3	806.7	703.1	648.6	605.9	576.3	554.4	543.2	531.9	527.2
30°	1491.5	1126.6	788.4	674.7	615.4	575.7	551.4	536.0	524.8	512.9	509.4
32.5°	1559.0	1142.0	760.5	641.5	581.7	549.1	534.3	523.0	511.2	499.3	495.8
35°	1627.1	1148.5	726.8	603.6	553.2	531.9	526.6	513.5	497.5	483.3	478.6
37.5°	1708.2	1154.4	684.7	566.3	528.3	523.6	522.4	502.9	483.9	464.4	459.0
40°	1806.0	1162.1	641.5	532.5	508.2	520.6	515.9	489.3	451.3	432.4	426.5
42.5°	1925.6	1176.3	596.5	501.7	493.4	509.4	504.1	456.1	430.6	420.0	417.0
45°	2101.5	1228.5	551.4	477.4	482.1	493.4	485.1	436.5	426.5	419.4	415.8
47.5°	2414.9	1308.4	512.4	459.0	473.3	479.2	447.2	431.2	423.5	414.0	409.9
50°	2740.7	1343.4	481.0	447.8	463.2	466.2	426.5	424.1	418.8	408.7	404.6
52.5°	2961.0	1338.6	462.0	443.6	454.9	443.6	417.0	416.4	412.8	401.0	396.3
55°	3209.8	1346.9	453.7	444.8	451.3	405.7	405.1	406.9	405.1	392.1	389.7
57.5°	3545.6	1372.4	449.6	449.0	449.0	387.4	393.9	396.3	392.7	386.8	385.0
60°	3868.4	1374.2	441.9	453.7	447.2	376.1	380.9	383.2	379.1	377.9	377.3
62.5°	3989.9	1288.9	424.7	450.2	440.1	363.7	367.2	368.4	364.3	367.2	366.6
65°	3809.2	1107.6	396.3	433.0	418.2	352.4	350.1	353.0	345.9	353.6	354.2
67.5°	3382.1	880.2	353.0	400.4	387.4	340.0	335.3	335.3	323.4	335.3	334.7
70°	2727.0	621.9	289.6	348.3	353.6	325.2	322.8	309.2	290.2	308.0	306.2
72.5°	2067.2	446.6	228.0	275.4	304.5	304.5	305.0	281.9	260.0	268.3	261.2
75°	1309.6	314.5	182.4	210.9	238.7	267.1	280.8	238.1	218.6	215.0	211.5
77.5°	590.0	206.7	142.2	161.7	169.4	210.9	256.5	204.9	178.3	170.6	168.2
80°	247.0	128.5	101.3	114.3	104.2	177.1	226.3	159.3	130.9	120.2	112.5
82.5°	108.4	76.4	64.6	61.6	65.2	131.5	168.8	106.0	81.7	110.8	111.9
85°	45.6	40.3	33.2	30.2	26.7	50.3	79.4	41.5	50.9	29.0	23.7
87.5°	10.7	11.8	8.9	5.9	3.6	0.6	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

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

REPORT NUMBER: SP1-2408-195-9

**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

REPORT NUMBER: SP1-2408-195-9

**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			

REPORT NUMBER: SP1-2408-195-9

**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			

REPORT NUMBER: SP1-2408-195-9

**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)