

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: P631568

Luminaire Tested: GWS-SA1F-830-U-T3-W-HSS

Issue Date: 1/10/2023

**Test Information**

Test Method: LM-79-2019  
Report Number: P631568  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2209-782-26)  
Test Lab: COOPER LIGHTING SOLUTIONS  
Issue Date: 1/10/2023  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: McGRAW-EDISON  
Catalog Number: GWS-SA1F-830-U-T3-W-HSS  
Description: GALLEON WALL SLIM LUMINAIRE. (1) LIGHTSQUARES WITH 16 LEDS EACH AND TYPE III OPTICS WITH HOUSE SIDE SHIELD  
Light Source: (16) 3000K CCT, 80 CRI LEDS  
Ballast/Driver: -

**Summary**

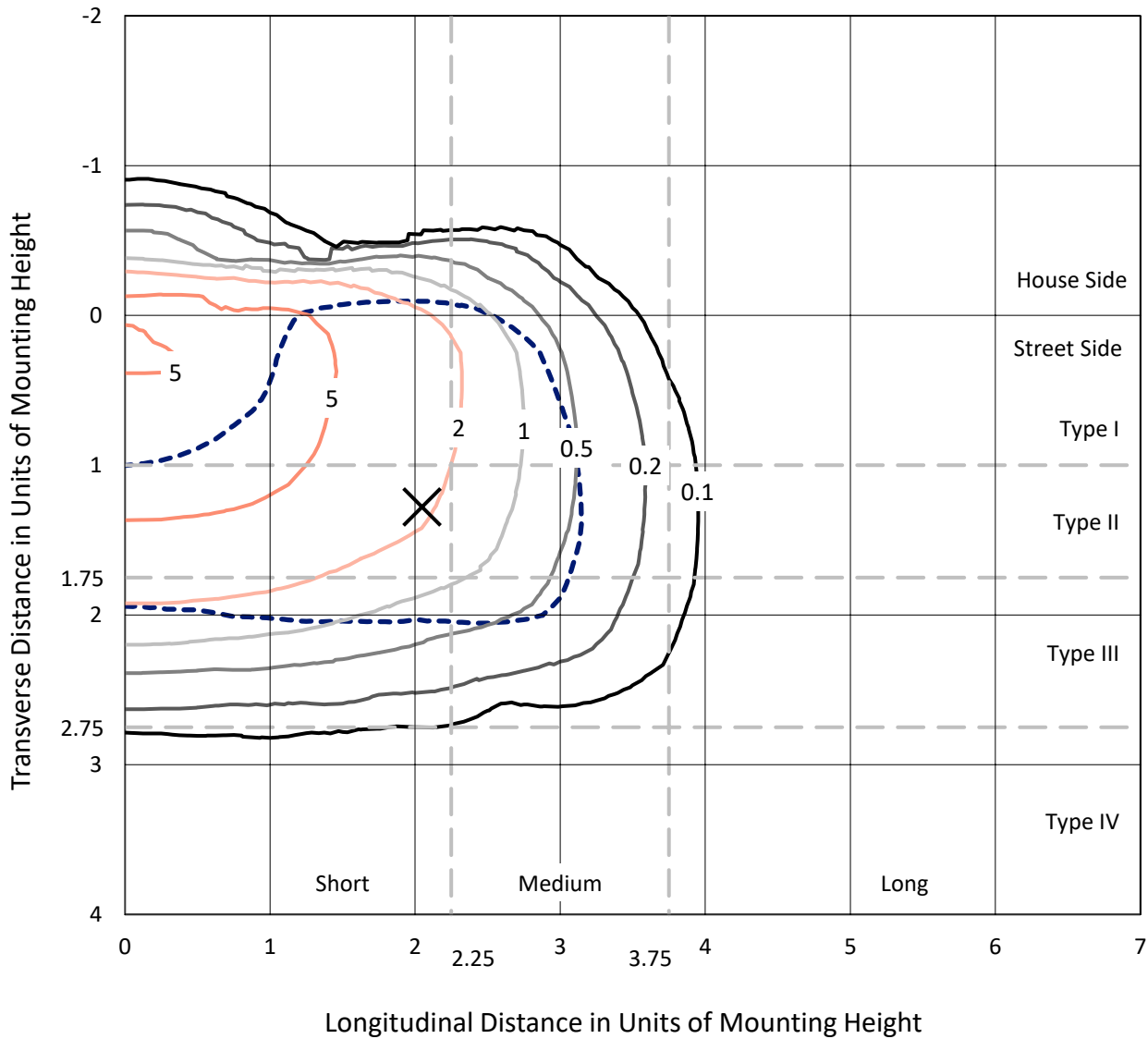
Lumens per Lamp: N/A  
Luminaire Lumens: 4913.4 lumens  
Efficiency: N/A  
Efficacy: 73.1 lumens/watt  
Luminous Opening: Rectangular (W 0.5' x L: 0.5' x H: 0')  
IES Classification: Type III - Short  
BUG Rating: B1 - U0 - G1  
  
Input Watts (W): 67.2  
Input Voltage (V): 120  
Input Current (Ain): 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: P631568  
 CATALOG NUMBER: GWS-SA1F-830-U-T3-W-HSS

### Iso-Footcandle Lines of Horizontal Illumination

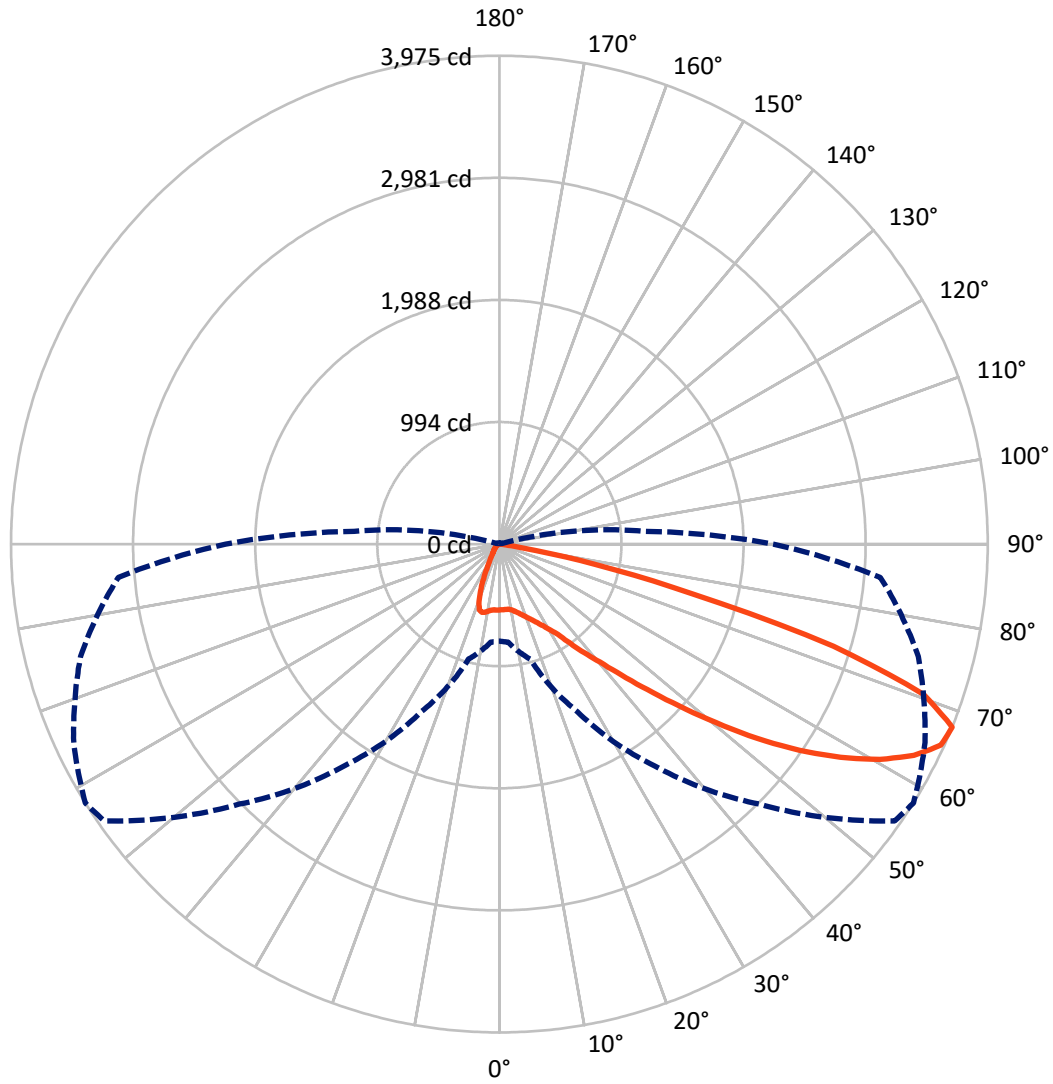
✕ Max cd  
 - - - 1/2 Max cd



Based on 10 foot mounting height. Maximum calculated value = 7.5 fc  
 Type III - Short - N/A

REPORT NUMBER: P631568  
CATALOG NUMBER: GWS-SA1F-830-U-T3-W-HSS

### Luminous Intensity Polar Plot



— Vertical Plane Through 58-Deg Lateral    - - - Horizontal Cone Through 67.5-Deg Vertical

REPORT NUMBER: P631568

CATALOG NUMBER: GWS-SA1F-830-U-T3-W-HSS

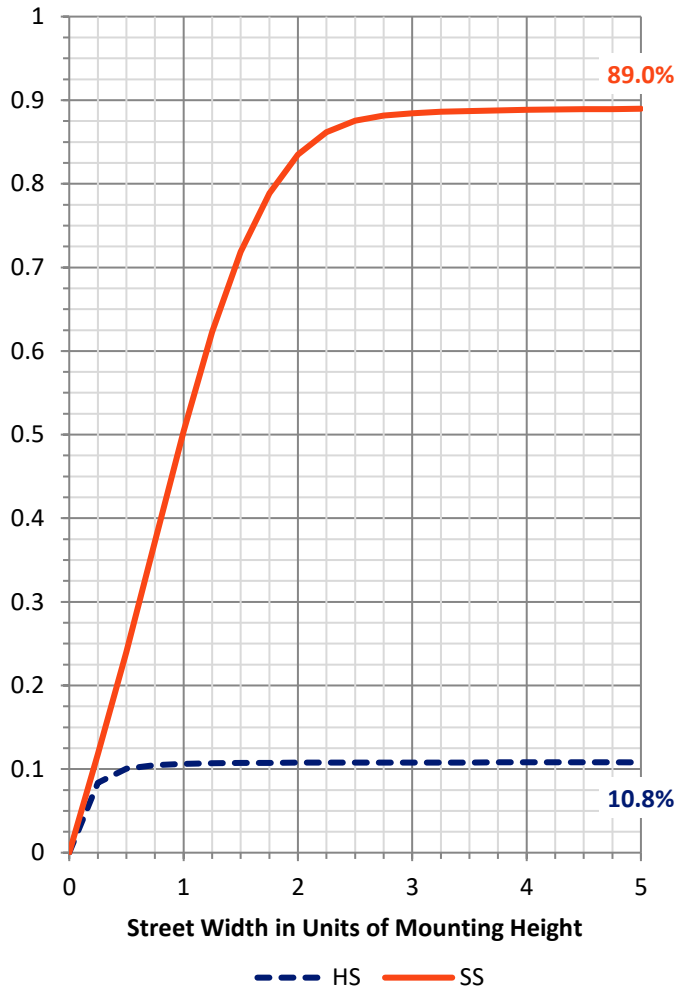
**FLUX DISTRIBUTION:**

		Downward	Upward	Total
<b>House Side</b>	Lumens	536.1	0.0	536.1
	% Fixture	10.9	0.0	10.9
<b>Street Side</b>	Lumens	4377.4	0.0	4377.4
	% Fixture	89.1	0.0	89.1
<b>Total</b>	Lumens	4913.4	0.0	4913.4
	% Fixture	100.0	0.0	100.0

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	50.3	1.0
10°-20°	141.2	2.9
20°-30°	246.5	5.0
30°-40°	440.2	9.0
40°-50°	804.6	16.4
50°-60°	1338.2	27.2
60°-70°	1453.5	29.6
70°-80°	426.8	8.7
80°-90°	12.2	0.2
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°	4913.4	100.0
0°-180°	4913.4	100.0

**Coefficient of Utilization**



REPORT NUMBER: P631568

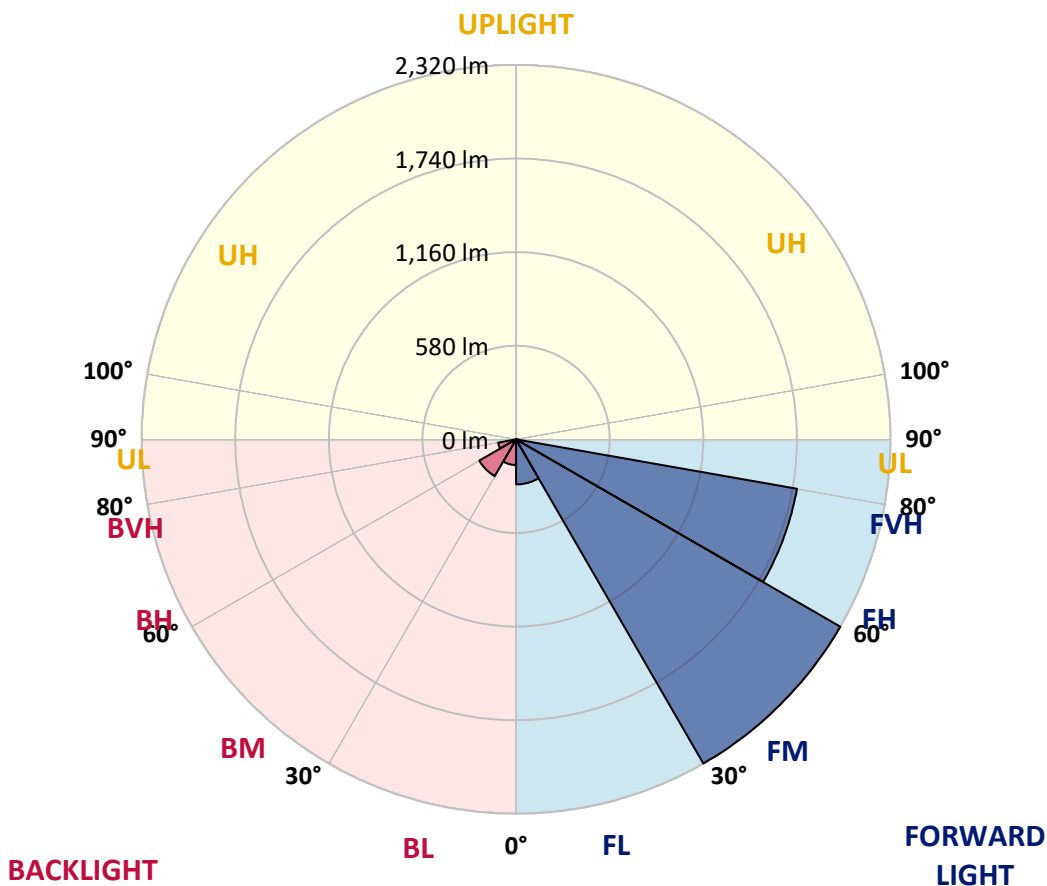
CATALOG NUMBER: GWS-SA1F-830-U-T3-W-HSS

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

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	279.0	5.7			
FM (30°-60°)	2319.7	47.2			
FH (60°-80°)	1767.1	36.0			G1/1800
FVH (80°-90°)	11.6	0.2			G1/100
BL (0°-30°)	159.0	3.2	B1/500		
BM (30°-60°)	263.3	5.4	B1/1000		
BH (60°-80°)	113.2	2.3	B1/500		G1/500
BVH (80°-90°)	0.6	0.0			G0/10
UL (90°-100°)	0.0	0.0		U0/0	
UH (100°-180°)	0.0	0.0		U0/0	

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

Type III Short





REPORT NUMBER: P631568

CATALOG NUMBER: GWS-SA1F-830-U-T3-W-HSS

**CANDELA DISTRIBUTION (FULL):**

	0°	5°	15°	25°	35°	45°	55°	58°	65°	75°	85°
0°	535.4	535.4	535.4	535.4	535.4	535.4	535.4	535.4	535.4	535.4	535.4
2.5°	525.3	524.4	524.4	528.2	528.7	530.6	534.9	535.4	537.8	536.9	533.5
5°	498.0	498.5	501.4	508.1	513.8	521.0	531.6	534.0	539.3	542.1	540.2
7.5°	472.6	473.0	477.4	487.9	499.0	513.3	530.6	535.4	546.0	553.6	554.1
10°	463.0	462.5	466.8	478.8	493.2	513.3	538.3	544.5	560.4	573.8	576.2
12.5°	465.8	465.4	469.7	480.7	496.6	522.0	551.7	560.4	580.5	601.1	605.5
15°	477.4	476.9	479.8	488.9	506.1	532.5	569.0	582.0	607.4	632.3	639.0
17.5°	511.9	509.5	506.6	507.6	517.7	545.0	591.1	606.9	638.6	668.3	674.1
20°	573.3	567.1	559.4	549.3	544.5	563.2	616.5	634.7	673.1	707.2	708.1
22.5°	665.9	663.5	645.8	616.5	595.9	596.3	646.2	667.3	714.4	751.8	746.5
25°	795.0	793.5	766.2	718.2	664.5	646.2	684.1	705.7	763.3	803.1	786.3
27.5°	955.2	945.1	913.0	848.2	768.1	711.0	732.1	751.3	815.1	852.5	820.9
30°	1094.8	1095.3	1065.1	997.4	907.2	808.4	790.6	807.4	862.6	902.0	863.6
32.5°	1229.1	1233.5	1200.4	1139.4	1040.6	935.5	874.6	877.5	923.5	966.2	919.7
35°	1353.9	1357.2	1334.2	1282.4	1190.3	1068.4	991.7	990.2	1015.2	1058.8	997.9
37.5°	1493.5	1496.9	1474.3	1427.8	1341.4	1220.5	1124.6	1122.6	1132.7	1168.2	1098.7
40°	1642.2	1648.5	1623.5	1584.2	1501.7	1399.5	1279.0	1261.8	1251.7	1293.4	1229.1
42.5°	1792.9	1802.5	1793.8	1754.5	1684.0	1599.5	1479.6	1452.7	1431.1	1483.4	1415.3
45°	1980.0	1991.5	1987.7	1957.4	1902.7	1834.1	1720.9	1689.7	1679.6	1728.1	1647.0
47.5°	2159.9	2172.4	2186.3	2179.6	2140.7	2109.0	1983.3	1965.6	1962.7	2014.5	1888.8
50°	2293.7	2305.3	2358.5	2396.9	2423.3	2416.6	2307.7	2281.3	2276.9	2310.1	2144.1
52.5°	2389.7	2400.7	2474.1	2594.1	2691.0	2743.8	2633.9	2628.1	2604.6	2593.1	2383.0
55°	2464.1	2479.4	2556.6	2738.0	2933.3	3050.3	2981.7	2961.1	2900.6	2834.4	2604.6
57.5°	2478.9	2485.2	2594.1	2838.7	3121.3	3310.8	3310.8	3274.9	3158.3	3066.6	2860.8
60°	2345.6	2364.7	2512.0	2830.6	3201.9	3481.1	3583.8	3558.9	3401.5	3288.8	3107.4
62.5°	2049.5	2071.1	2250.6	2635.3	3121.3	3516.2	3790.6	3786.8	3609.2	3472.5	3311.8
65°	1571.7	1587.5	1743.9	2204.5	2780.7	3381.4	3938.4	3948.9	3773.3	3593.9	3382.3
67.5°	789.7	800.7	969.6	1506.0	2204.0	2993.2	3928.3	3975.3	3823.2	3529.6	3113.2
70°	275.9	286.9	366.5	646.2	1341.4	2285.6	3588.6	3665.4	3530.1	3012.9	2296.6
72.5°	94.5	99.8	152.1	239.9	522.0	1354.8	2728.9	2844.5	2602.2	2022.7	1319.8
75°	53.7	57.1	81.6	130.0	218.8	445.7	1548.2	1619.2	1517.0	1102.5	543.1
77.5°	36.5	39.3	50.9	73.9	120.9	143.4	631.4	795.0	693.3	359.8	138.7
80°	21.6	23.5	31.2	43.7	61.9	55.7	135.3	179.9	231.7	107.5	41.7
82.5°	10.1	11.5	20.1	28.8	31.2	23.5	39.8	48.5	65.2	52.8	17.3
85°	0.0	0.0	6.7	12.0	11.5	6.7	11.0	12.0	17.8	26.4	6.7
87.5°	0.0	0.0	0.0	0.0	0.0	0.5	1.0	1.4	2.9	5.3	2.9
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: P631568

CATALOG NUMBER: GWS-SA1F-830-U-T3-W-HSS

**CANDELA DISTRIBUTION (continued):**

	90°	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°
0°	535.4	535.4	535.4	535.4	535.4	535.4	535.4	535.4	535.4	535.4	535.4
2.5°	537.3	534.0	537.8	535.9	537.8	537.3	533.5	531.1	531.1	526.8	525.3
5°	544.0	540.7	541.7	537.3	536.4	534.0	529.2	527.3	527.3	522.9	521.5
7.5°	558.9	553.6	552.7	544.0	540.2	533.5	524.9	521.5	521.0	516.7	515.3
10°	582.4	576.2	571.9	560.8	549.8	536.4	518.1	502.8	494.2	482.6	481.7
12.5°	611.2	603.5	596.8	580.0	561.8	531.6	477.8	421.7	387.2	359.8	361.7
15°	643.4	636.2	625.6	600.2	562.8	484.1	371.8	285.5	243.2	220.7	219.7
17.5°	678.4	667.8	650.6	616.0	532.5	369.9	241.8	170.8	148.7	141.0	139.1
20°	711.0	698.1	676.5	619.4	445.2	250.4	151.1	132.4	128.6	126.2	126.2
22.5°	745.5	729.2	697.1	593.5	331.0	160.2	128.6	124.3	121.4	118.0	117.5
25°	780.6	759.5	715.8	525.8	216.9	126.2	120.4	115.6	110.3	105.1	103.6
27.5°	810.3	783.0	730.2	425.1	139.1	113.7	109.9	101.7	94.5	88.8	87.8
30°	845.8	810.8	736.4	310.9	109.4	100.3	94.5	85.9	77.2	71.5	69.6
32.5°	893.3	854.9	726.8	202.5	96.9	88.3	79.2	69.1	60.4	54.2	53.3
35°	967.2	921.6	682.7	129.1	87.8	76.3	65.2	54.7	47.5	42.7	41.7
37.5°	1057.4	1015.2	610.3	96.9	78.7	66.2	53.3	43.2	37.9	34.5	33.6
40°	1191.2	1132.2	520.5	84.9	69.6	56.1	43.7	35.5	31.7	28.8	27.8
42.5°	1364.9	1270.4	417.4	77.2	60.9	47.0	35.5	29.3	25.9	24.0	23.5
45°	1567.9	1405.2	308.5	69.6	52.8	38.9	29.3	24.0	21.6	20.1	19.7
47.5°	1775.6	1523.2	213.0	61.4	45.1	32.1	24.5	20.6	18.7	16.8	16.3
50°	1997.2	1623.0	145.4	53.3	38.4	26.4	21.1	18.7	16.3	14.9	14.4
52.5°	2159.9	1660.0	101.2	46.1	32.6	22.5	18.7	16.8	14.9	13.0	12.5
55°	2310.1	1659.0	76.8	38.9	27.8	19.7	16.8	14.9	13.0	11.5	11.0
57.5°	2459.7	1646.1	60.4	33.1	24.0	17.8	14.9	13.0	12.0	10.1	9.6
60°	2556.6	1597.1	47.0	27.8	20.6	15.4	13.0	11.5	10.1	8.6	8.2
62.5°	2608.0	1529.0	36.0	22.1	16.8	13.4	11.5	10.1	8.6	7.2	6.7
65°	2538.4	1408.1	28.3	17.3	13.0	11.5	9.6	8.2	6.7	5.3	4.8
67.5°	2229.9	1187.4	22.1	13.9	10.1	8.6	8.2	6.7	4.8	3.8	3.4
70°	1576.0	813.2	17.3	10.6	7.7	6.7	6.2	5.3	3.8	2.9	2.4
72.5°	865.0	410.2	12.5	7.7	5.8	5.3	4.8	4.3	3.4	2.4	2.4
75°	333.0	112.7	9.1	5.3	3.8	3.8	3.4	3.4	2.9	1.9	1.9
77.5°	86.8	33.6	5.8	3.4	2.4	2.4	2.4	1.9	1.9	1.4	1.4
80°	27.8	11.0	3.4	2.4	1.9	1.4	1.4	1.0	1.4	1.0	1.0
82.5°	9.1	3.8	1.9	1.9	1.4	1.0	1.0	0.5	0.5	0.0	0.0
85°	3.4	1.9	1.4	1.0	1.0	1.0	0.5	0.0	0.0	0.0	0.0
87.5°	1.9	1.0	1.0	1.0	1.0	0.5	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)