

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: P634007

Luminaire Tested: GWS-SA2F-830-U-AFL-W-GRSBK

Issue Date: 1/10/2023

**Test Information**

Test Method: LM-79-2019  
Report Number: P634007  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2209-782-46)  
Test Lab: COOPER LIGHTING SOLUTIONS  
Issue Date: 1/10/2023  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: McGRAW-EDISON  
Catalog Number: GWS-SA2F-830-U-AFL-W-GRSBK  
Description: GALLEON WALL SLIM LUMINAIRE. (2) LIGHTSQUARES WITH 16 LEDS EACH AND AUTOMOTIVE FRONTLINE OPTICS W/ FACTORY INSTALLED GLARE SHIELD, BK  
Light Source: (32) 3000K CCT, 80 CRI LEDS  
Ballast/Driver: -

**Summary**

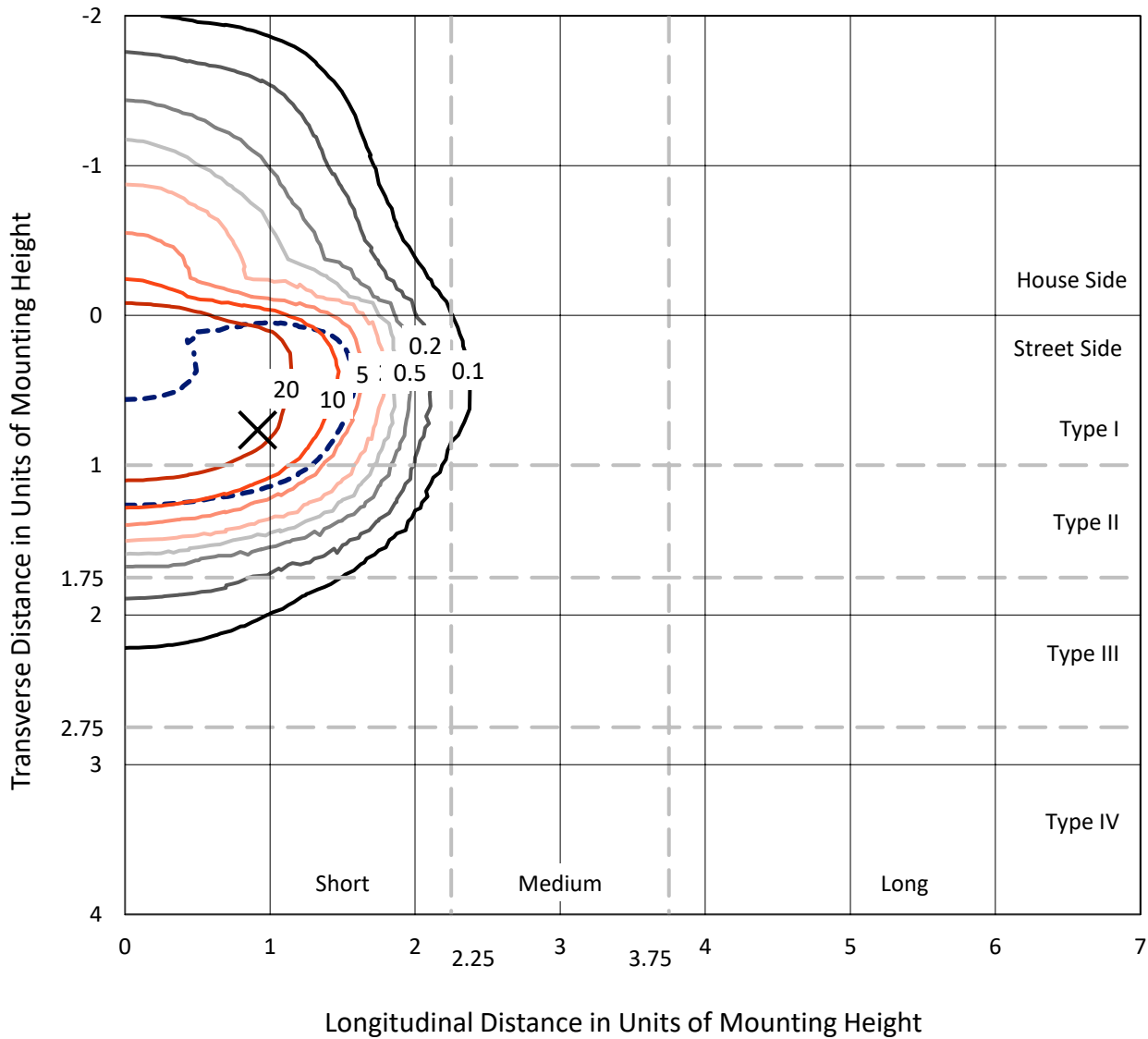
Lumens per Lamp: N/A  
Luminaire Lumens: 9705.8 lumens  
Efficiency: N/A  
Efficacy: 78.0 lumens/watt  
Luminous Opening: Rectangular (W 1' x L: 0.5' x H: 0')  
IES Classification: Type II - Short  
BUG Rating: B2 - U0 - G0  
  
Input Watts (W): 124.5  
Input Voltage (V): 120  
Input Current (Ain): NR  
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: P634007  
 CATALOG NUMBER: GWS-SA2F-830-U-AFL-W-GRSBK

### Iso-Footcandle Lines of Horizontal Illumination

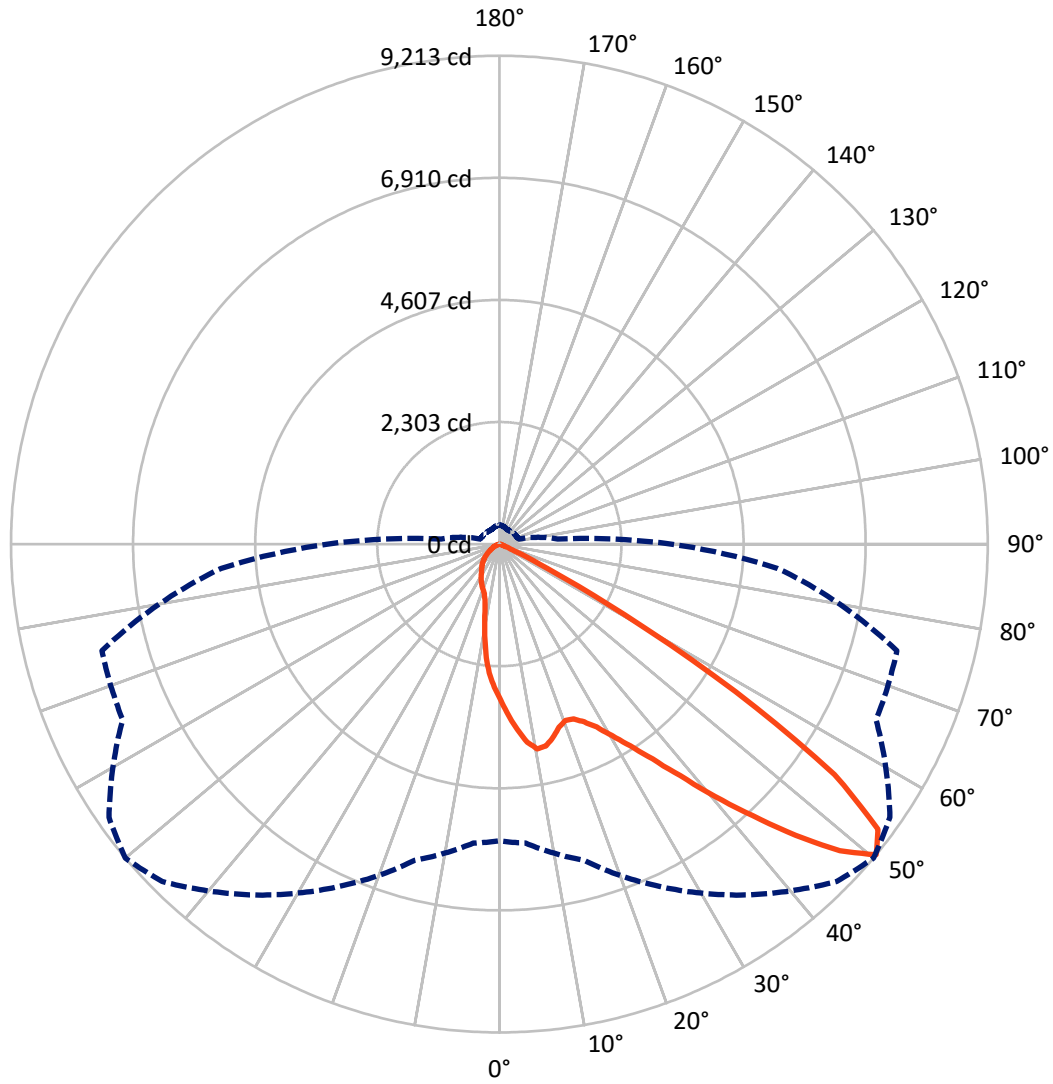
✕ Max cd  
 - - - 1/2 Max cd



Based on 10 foot mounting height. Maximum calculated value = 37.7 fc  
 Type II - Short - N/A

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### Luminous Intensity Polar Plot



— Vertical Plane Through 50-Deg Lateral    - - - Horizontal Cone Through 50-Deg Vertical

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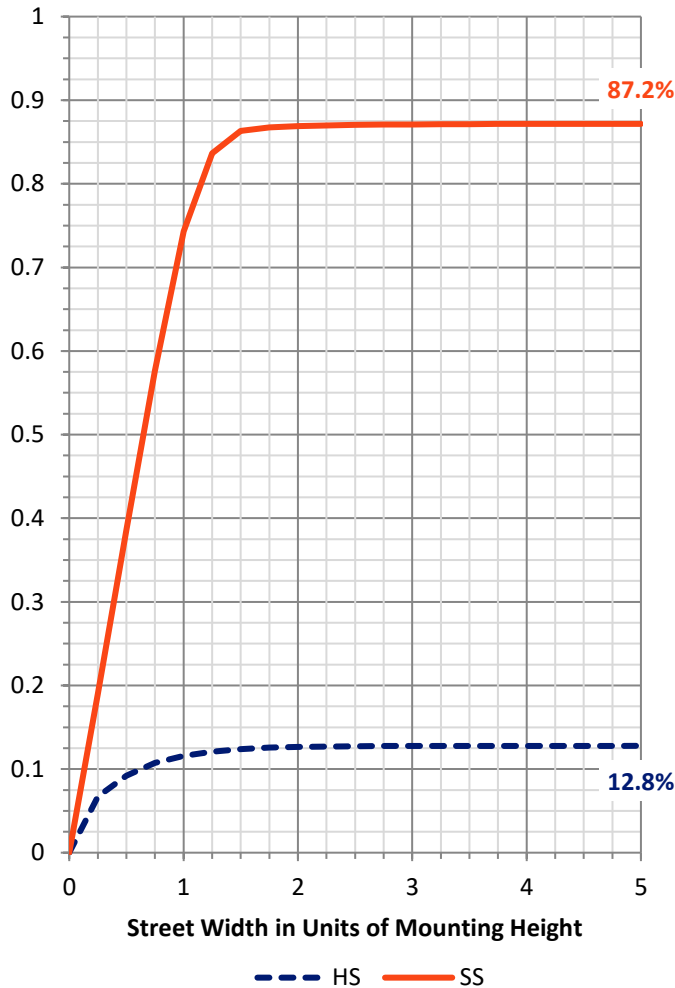
**FLUX DISTRIBUTION:**

		Downward	Upward	Total
<b>House Side</b>	Lumens	1247.0	0.0	1247.0
	% Fixture	12.8	0.0	12.8
<b>Street Side</b>	Lumens	8458.8	0.0	8458.8
	% Fixture	87.2	0.0	87.2
<b>Total</b>	Lumens	9705.8	0.0	9705.8
	% Fixture	100.0	0.0	100.0

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	272.8	2.8
10°-20°	703.8	7.3
20°-30°	1161.5	12.0
30°-40°	1916.7	19.7
40°-50°	3032.7	31.2
50°-60°	2296.1	23.7
60°-70°	287.4	3.0
70°-80°	32.5	0.3
80°-90°	2.5	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°	9705.8	100.0
0°-180°	9705.8	100.0

**Coefficient of Utilization**



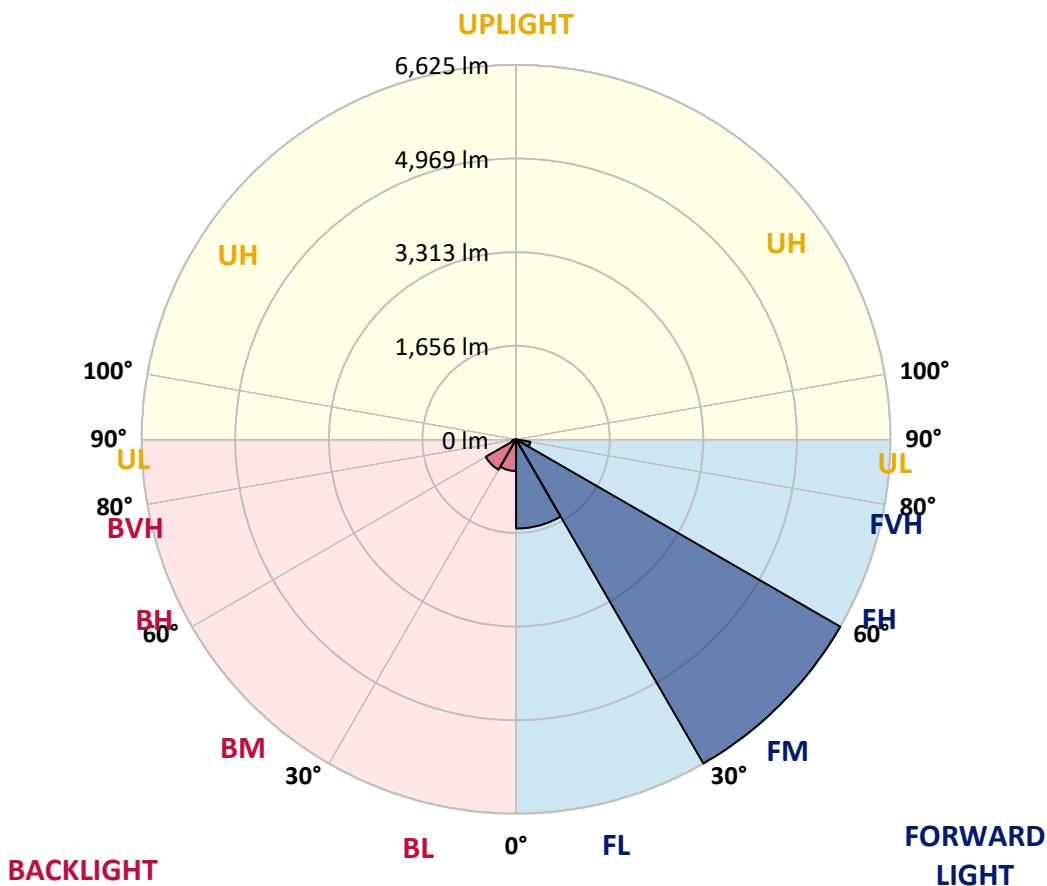
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**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	1578.3	16.3			
FM (30°-60°)	6625.2	68.3			
FH (60°-80°)	254.1	2.6			G0/660
FVH (80°-90°)	1.2	0.0			G0/10
BL (0°-30°)	559.7	5.8	B2/1000		
BM (30°-60°)	620.2	6.4	B1/1000		
BH (60°-80°)	65.8	0.7	B0/110		G0/110
BVH (80°-90°)	1.3	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-G0**  
 Type II Short





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CATALOG NUMBER: GWS-SA2F-830-U-AFL-W-GRSBK

**CANDELA DISTRIBUTION (FULL):**

	0°	5°	15°	25°	35°	45°	50°	55°	65°	75°	85°
0°	2940.5	2940.5	2940.5	2940.5	2940.5	2940.5	2940.5	2940.5	2940.5	2940.5	2940.5
2.5°	3350.6	3377.4	3370.0	3334.9	3297.1	3270.3	3228.7	3215.8	3121.5	3055.9	2986.7
5°	3755.3	3763.6	3754.3	3711.8	3645.3	3581.6	3513.2	3473.5	3315.5	3173.3	3028.2
7.5°	3852.3	3842.1	3859.7	3880.9	3871.7	3844.0	3771.9	3728.5	3540.0	3308.1	3088.3
10°	3549.3	3526.2	3591.8	3701.7	3817.2	3947.4	3928.9	3932.6	3759.0	3478.1	3166.8
12.5°	3147.4	3138.2	3187.1	3314.6	3540.9	3836.6	3907.7	4026.9	3959.4	3662.0	3256.4
15°	2971.0	2975.6	3005.1	3085.5	3248.1	3615.8	3786.7	4001.9	4138.6	3840.3	3355.3
17.5°	2997.7	3014.4	3013.5	3040.2	3139.1	3433.8	3633.3	3923.4	4277.2	4045.3	3468.9
20°	3179.7	3196.4	3171.4	3151.1	3184.4	3387.6	3553.0	3844.0	4370.5	4252.3	3589.0
22.5°	3452.3	3471.7	3412.5	3354.3	3333.1	3463.3	3583.4	3811.6	4441.7	4441.7	3696.1
25°	3782.1	3808.8	3717.4	3613.9	3554.8	3623.2	3713.7	3884.6	4514.6	4611.6	3769.1
27.5°	4150.7	4151.6	4073.1	3956.7	3845.8	3854.1	3908.6	4049.0	4595.0	4794.5	3826.4
30°	4565.4	4568.2	4463.8	4324.3	4184.8	4147.0	4193.2	4299.4	4762.2	5024.6	3905.8
32.5°	5101.3	5114.2	4964.5	4759.4	4578.4	4507.2	4534.0	4645.8	5028.3	5312.8	4025.0
35°	5825.5	5839.4	5618.6	5347.9	5059.7	4952.5	4979.3	5092.0	5413.5	5722.0	4215.3
37.5°	6540.5	6559.0	6335.5	6083.3	5687.9	5510.5	5538.2	5645.4	5991.8	6287.4	4520.2
40°	7034.8	7059.7	6990.4	6820.5	6453.7	6220.9	6254.2	6293.0	6628.3	6963.6	4915.6
42.5°	7295.3	7330.4	7360.0	7446.8	7253.7	7058.8	7002.4	7005.2	7275.9	7652.8	5326.7
45°	7311.0	7345.2	7496.7	7832.0	7978.9	7938.3	7835.7	7766.4	7770.1	8111.9	5583.5
47.5°	6802.9	6866.6	7150.3	7807.1	8359.5	8696.7	8645.0	8480.5	7978.0	8142.4	5555.8
50°	5599.2	5662.0	6177.5	7122.5	8082.4	8999.7	9213.1	8992.3	7842.2	7762.7	5270.3
52.5°	4066.6	4073.1	4407.5	5511.4	6959.0	8440.8	8943.4	8922.1	7635.2	7302.7	4880.5
55°	1931.7	1908.6	2284.6	3110.5	4813.0	6826.9	7674.0	7914.2	7341.5	6970.1	4578.4
57.5°	562.6	573.7	740.9	1213.9	2407.4	4363.1	5255.5	5702.6	6026.0	5730.4	3551.1
60°	252.2	253.1	281.8	369.5	801.9	2029.6	2716.9	3270.3	3602.8	3338.6	1761.7
62.5°	182.9	183.8	194.9	208.8	272.5	687.3	1019.0	1358.0	1382.9	905.3	446.2
65°	152.4	152.4	154.3	154.3	163.5	245.7	309.5	399.1	336.3	249.4	174.6
67.5°	122.9	123.8	125.6	125.6	122.9	122.9	133.0	146.0	156.1	193.1	160.7
70°	96.1	95.2	95.2	96.1	93.3	79.4	85.9	97.9	107.2	150.6	139.5
72.5°	74.8	75.8	74.8	71.1	64.7	47.1	50.8	63.7	68.4	94.2	94.2
75°	56.4	57.3	53.6	40.6	26.8	14.8	19.4	31.4	39.7	46.2	34.2
77.5°	7.4	7.4	5.5	5.5	4.6	5.5	5.5	7.4	11.1	11.1	8.3
80°	0.9	0.9	0.9	1.8	2.8	3.7	3.7	3.7	3.7	4.6	4.6
82.5°	0.9	0.9	0.9	0.9	2.8	2.8	3.7	3.7	3.7	3.7	3.7
85°	0.0	0.0	0.0	0.9	1.8	2.8	2.8	3.7	3.7	3.7	3.7
87.5°	0.0	0.0	0.0	0.9	1.8	2.8	2.8	2.8	3.7	3.7	3.7
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-SA2F-830-U-AFL-W-GRSBK

**CANDELA DISTRIBUTION (continued):**

	90°	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°
0°	2940.5	2940.5	2940.5	2940.5	2940.5	2940.5	2940.5	2940.5	2940.5	2940.5	2940.5
2.5°	2945.1	2891.5	2826.8	2782.5	2719.7	2678.1	2619.0	2579.3	2545.1	2518.3	2533.1
5°	2946.0	2861.0	2728.9	2616.2	2493.3	2380.6	2259.6	2164.5	2078.6	2039.8	2061.0
7.5°	2964.5	2842.5	2640.2	2439.8	2204.2	1971.4	1753.4	1576.0	1488.2	1446.7	1459.6
10°	3000.5	2834.2	2541.4	2208.8	1826.4	1508.6	1297.0	1176.9	1128.0	1102.1	1106.7
12.5°	3033.8	2828.7	2413.0	1904.9	1441.1	1170.5	1060.5	1043.9	1054.1	1055.0	1054.1
15°	3079.0	2818.5	2254.1	1592.6	1152.9	1011.6	1014.3	1038.4	1062.4	1069.8	1067.9
17.5°	3127.1	2802.8	2049.0	1293.3	978.3	965.4	997.7	1030.0	1054.1	1057.8	1058.7
20°	3177.0	2770.5	1815.3	1055.9	897.0	930.3	966.3	990.3	1007.9	1013.4	1015.3
22.5°	3200.1	2702.1	1545.5	885.9	842.5	886.9	913.6	945.1	950.6	930.3	934.0
25°	3188.1	2586.7	1282.2	771.4	788.0	832.3	872.1	856.4	833.3	818.5	823.1
27.5°	3150.2	2433.3	1024.5	687.3	729.8	786.2	790.8	773.2	769.5	757.5	761.2
30°	3109.5	2256.9	824.0	619.9	670.7	729.8	715.9	722.4	723.3	709.5	714.1
32.5°	3084.6	2072.1	655.9	574.6	632.8	643.9	671.6	684.5	685.5	653.1	658.7
35°	3092.9	1890.1	555.2	537.7	597.7	594.9	633.7	641.1	587.5	543.2	547.8
37.5°	3160.3	1722.0	497.9	509.0	536.7	558.0	587.5	538.6	526.6	506.2	509.0
40°	3286.0	1578.8	463.8	491.5	495.2	529.3	484.1	490.5	491.5	478.5	481.3
42.5°	3432.9	1459.6	443.4	481.3	472.1	477.6	432.3	445.3	459.1	453.6	454.5
45°	3506.8	1343.2	425.9	446.2	449.0	396.3	386.2	400.0	417.6	420.3	421.3
47.5°	3441.2	1232.4	407.4	395.4	413.9	361.2	349.2	353.8	374.1	385.2	387.1
50°	3240.7	1104.9	379.7	350.1	340.0	324.3	313.2	314.1	337.2	356.6	360.3
52.5°	2958.9	971.8	334.4	296.5	273.4	285.5	288.2	282.7	303.9	323.3	327.0
55°	2685.5	805.6	265.1	241.1	219.9	245.7	253.1	245.7	252.2	265.1	266.1
57.5°	1891.0	455.4	203.2	199.5	182.0	210.6	222.6	211.6	200.5	208.8	210.6
60°	876.7	238.3	156.1	156.1	151.5	181.1	201.4	185.7	164.4	168.1	170.9
62.5°	274.4	150.6	114.6	108.1	123.8	154.3	170.9	155.2	130.3	130.3	134.0
65°	155.2	129.3	90.5	83.1	100.7	123.8	134.0	117.3	95.2	93.3	93.3
67.5°	144.1	122.9	80.4	67.4	71.1	79.4	83.1	72.1	65.6	64.7	65.6
70°	119.2	102.5	64.7	46.2	43.4	42.5	44.3	41.6	39.7	40.6	43.4
72.5°	73.9	61.9	40.6	27.7	24.0	23.1	23.1	23.1	22.2	22.2	22.2
75°	26.8	23.1	18.5	13.9	12.0	11.1	11.1	12.0	11.1	10.2	9.2
77.5°	8.3	7.4	7.4	7.4	6.5	5.5	4.6	4.6	3.7	2.8	2.8
80°	4.6	4.6	4.6	4.6	3.7	3.7	2.8	1.8	0.9	0.9	0.0
82.5°	4.6	4.6	4.6	3.7	3.7	3.7	2.8	1.8	0.9	0.0	0.0
85°	3.7	3.7	3.7	3.7	3.7	3.7	2.8	1.8	0.9	0.0	0.0
87.5°	3.7	3.7	3.7	3.7	3.7	3.7	2.8	1.8	0.9	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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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)