

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: P635997

Luminaire Tested: GWS-SA3E-830-U-SL2-W

Issue Date: 1/10/2023

**Test Information**

Test Method: LM-79-2019  
Report Number: P635997  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2209-782-27)  
Test Lab: COOPER LIGHTING SOLUTIONS  
Issue Date: 1/10/2023  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: McGRAW-EDISON  
Catalog Number: GWS-SA3E-830-U-SL2-W  
Description: GALLEON WALL SLIM LUMINAIRE. (3) LIGHTSQUARES WITH 16 LEDS EACH AND TYPE II SPILL LIGHT ELIMINATOR OPTICS  
Light Source: (48) 3000K CCT, 80 CRI LEDS  
Ballast/Driver: -

**Summary**

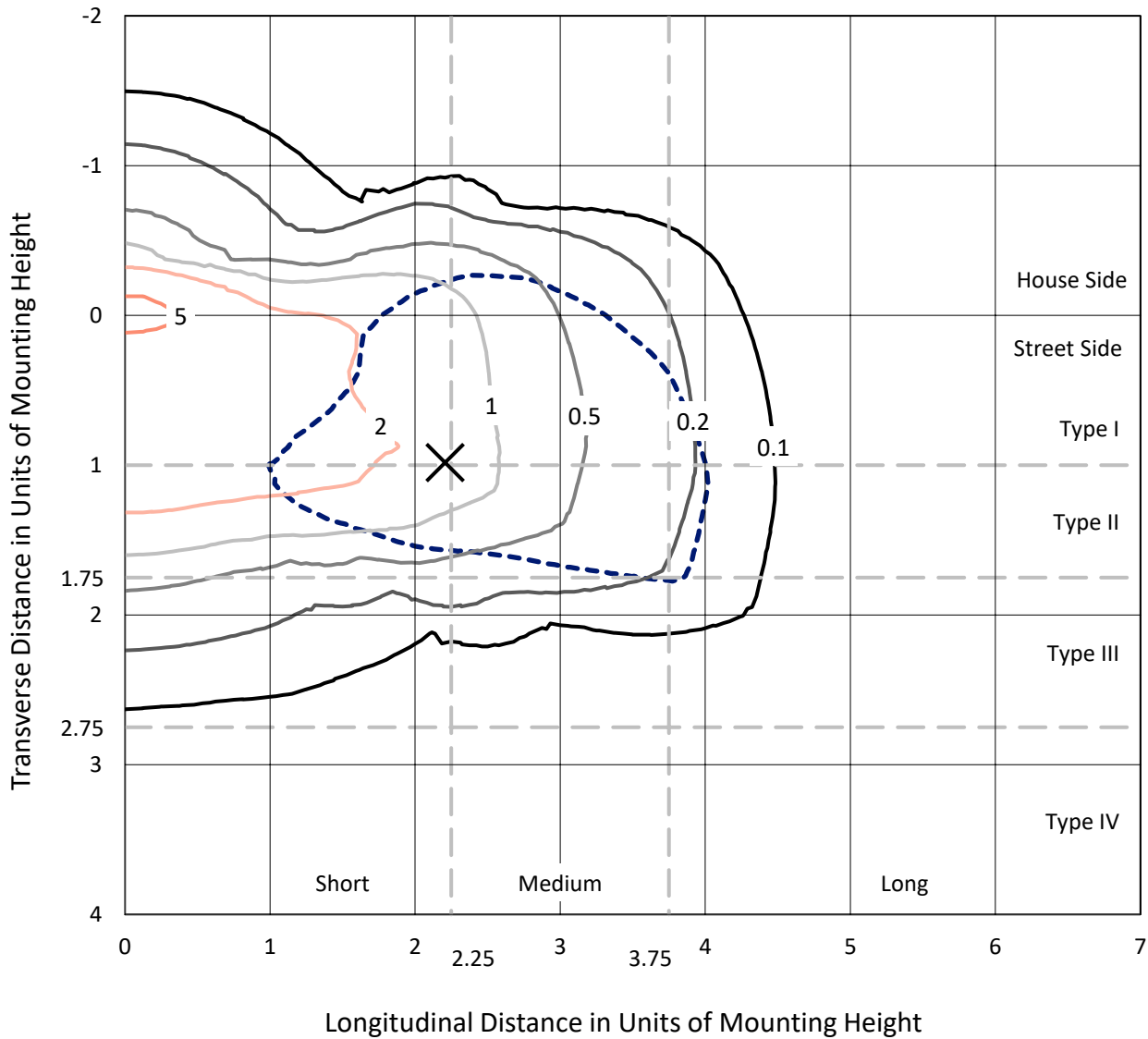
Lumens per Lamp: N/A  
Luminaire Lumens: 17167.4 lumens  
Efficiency: N/A  
Efficacy: 107.8 lumens/watt  
Luminous Opening: Rectangular (W 1.5' x L: 0.5' x H: 0')  
IES Classification: Type II - Short  
BUG Rating: B3 - U0 - G3  
  
Input Watts (W): 159.2  
Input Voltage (V): 120  
Input Current (Ain): 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: P635997  
 CATALOG NUMBER: GWS-SA3E-830-U-SL2-W

### Iso-Footcandle Lines of Horizontal Illumination

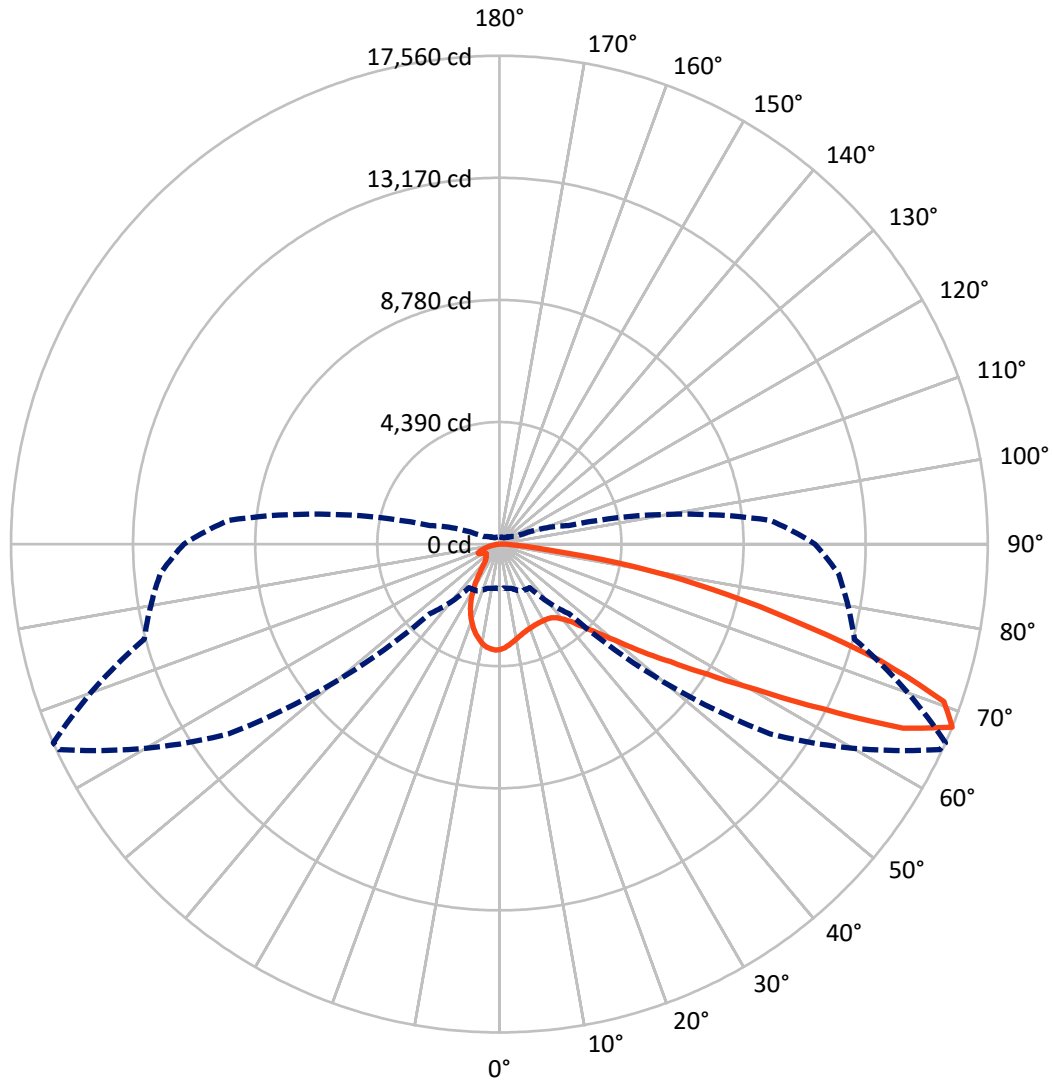
✕ Max cd  
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 6.1 fc  
 Type II - Short - N/A

REPORT NUMBER: P635997  
CATALOG NUMBER: GWS-SA3E-830-U-SL2-W

### Luminous Intensity Polar Plot



— Vertical Plane Through 66-Deg Lateral    - - - Horizontal Cone Through 67.5-Deg Vertical

REPORT NUMBER: P635997

CATALOG NUMBER: GWS-SA3E-830-U-SL2-W

**FLUX DISTRIBUTION:**

		Downward	Upward	Total
<b>House Side</b>	Lumens	3483.7	0.0	3483.7
	% Fixture	20.3	0.0	20.3
<b>Street Side</b>	Lumens	13683.7	0.0	13683.7
	% Fixture	79.7	0.0	79.7
<b>Total</b>	Lumens	17167.4	0.0	17167.4
	% Fixture	100.0	0.0	100.0

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	332.9	1.9
10°-20°	818.2	4.8
20°-30°	1124.7	6.6
30°-40°	1537.6	9.0
40°-50°	2329.8	13.6
50°-60°	3621.8	21.1
60°-70°	4409.5	25.7
70°-80°	2686.0	15.6
80°-90°	306.8	1.8
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°	17167.4	100.0
0°-180°	17167.4	100.0

**Coefficient of Utilization**



REPORT NUMBER: P635997

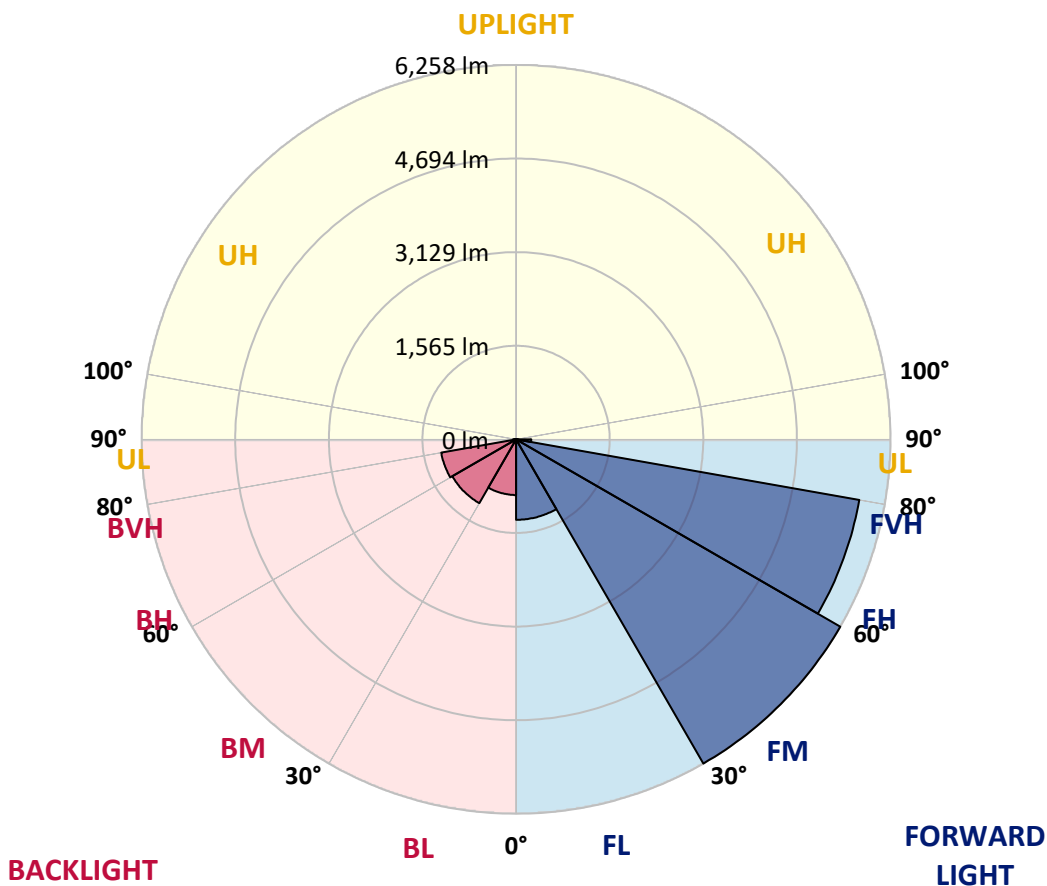
CATALOG NUMBER: GWS-SA3E-830-U-SL2-W

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

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	1345.1	7.8			
FM (30°-60°)	6258.2	36.5			
FH (60°-80°)	5825.3	33.9			G3/7500
FVH (80°-90°)	255.1	1.5			G3/500
BL (0°-30°)	930.6	5.4	B2/1000		
BM (30°-60°)	1231.1	7.2	B2/2500		
BH (60°-80°)	1270.2	7.4	B3/2500		G3/2500
BVH (80°-90°)	51.7	0.3			G1/100
UL (90°-100°)	0.0	0.0		U0/0	
UH (100°-180°)	0.0	0.0		U0/0	

**BUG Rating: B3-U0-G3**

Type II Short





REPORT NUMBER: P635997

CATALOG NUMBER: GWS-SA3E-830-U-SL2-W

**CANDELA DISTRIBUTION (FULL):**

	0°	5°	15°	25°	35°	45°	55°	65°	66°	75°	85°
0°	3793.5	3793.5	3793.5	3793.5	3793.5	3793.5	3793.5	3793.5	3793.5	3793.5	3793.5
2.5°	3553.0	3565.6	3558.1	3605.6	3608.2	3668.3	3702.1	3730.9	3733.4	3771.0	3796.0
5°	3310.1	3317.6	3317.6	3362.7	3392.7	3472.9	3550.5	3633.2	3639.5	3729.6	3798.5
7.5°	3113.5	3121.0	3116.0	3176.1	3214.9	3303.8	3402.8	3529.3	3541.8	3687.1	3807.3
10°	2959.4	2956.9	2969.4	3024.5	3074.6	3181.1	3291.3	3435.3	3454.1	3638.2	3817.3
12.5°	2854.2	2856.7	2864.2	2921.8	2975.7	3080.9	3194.9	3351.4	3371.5	3581.9	3812.3
15°	2804.1	2799.1	2805.4	2858.0	2909.3	3002.0	3119.7	3281.3	3301.3	3531.8	3813.5
17.5°	2792.8	2789.1	2787.8	2825.4	2864.2	2950.6	3063.4	3227.4	3248.7	3499.2	3821.1
20°	2827.9	2822.9	2809.1	2825.4	2841.7	2914.3	3023.3	3188.6	3212.4	3477.9	3836.1
22.5°	2924.3	2915.6	2894.3	2874.2	2853.0	2896.8	2998.2	3159.8	3183.6	3464.1	3851.1
25°	3070.9	3063.4	3040.8	2995.7	2918.1	2910.6	2993.2	3147.3	3171.1	3454.1	3857.4
27.5°	3272.5	3261.2	3238.7	3173.6	3047.1	2961.9	3012.0	3146.0	3168.6	3442.8	3851.1
30°	3511.7	3504.2	3491.7	3412.8	3243.7	3070.9	3054.6	3156.0	3173.6	3436.6	3838.6
32.5°	3754.7	3747.2	3757.2	3719.6	3511.7	3251.2	3147.3	3183.6	3196.1	3435.3	3827.3
35°	3968.8	3977.6	4050.2	4056.5	3852.4	3495.4	3293.8	3247.5	3250.0	3460.4	3832.3
37.5°	4193.0	4226.8	4322.0	4403.4	4233.1	3818.6	3511.7	3367.7	3365.2	3524.2	3863.6
40°	4489.8	4504.9	4626.4	4779.1	4672.7	4261.9	3821.1	3564.3	3546.8	3654.5	3947.6
42.5°	4779.1	4815.5	5009.6	5184.9	5149.9	4761.6	4210.6	3858.6	3827.3	3884.9	4120.4
45°	5147.3	5182.4	5400.3	5625.8	5689.6	5326.4	4709.0	4276.9	4245.6	4231.8	4437.2
47.5°	5515.6	5551.9	5747.2	6072.9	6297.0	6032.8	5357.8	4829.2	4777.9	4724.0	4915.7
50°	5763.5	5806.1	5992.7	6383.5	6909.5	6914.5	6126.7	5553.1	5488.0	5402.8	5589.4
52.5°	5754.8	5782.3	5960.2	6411.0	7350.3	7927.7	7156.2	6474.9	6422.3	6236.9	6399.7
55°	5302.6	5344.0	5523.1	6086.6	7397.9	8888.3	8669.1	7562.0	7468.0	7136.2	7315.2
57.5°	4394.7	4429.7	4610.1	5305.2	6975.8	9380.4	10590.3	8947.1	8818.1	8115.5	8322.2
60°	3317.6	3275.0	3360.2	3968.8	5966.4	9393.0	12286.0	10825.7	10610.3	9162.5	9335.4
62.5°	2489.8	2447.2	2466.0	2637.5	4045.2	8634.0	13252.9	13395.6	13039.9	10344.8	10311.0
65°	1967.5	1943.7	1997.6	2115.3	2358.3	6575.1	13260.4	16174.7	15950.5	11714.9	11311.6
67.5°	1603.1	1588.0	1643.1	1861.1	1912.4	3533.0	11890.2	17472.2	17559.8	13215.3	12239.7
70°	1291.2	1268.7	1355.1	1641.9	1778.4	2137.8	8517.5	16810.9	16952.4	14109.5	11977.9
72.5°	891.7	893.0	936.8	1330.0	1717.0	1846.0	4818.0	13998.0	14304.9	13299.2	10530.1
75°	601.2	606.2	618.7	877.9	1581.8	1790.9	2567.4	10597.8	10814.4	10992.3	8704.2
77.5°	363.2	365.7	394.5	531.0	1090.8	1671.9	1739.6	7682.2	7852.5	7246.4	5395.3
80°	210.4	219.2	245.5	355.7	736.4	1256.2	1346.3	4710.3	4903.1	3221.2	1714.5
82.5°	92.7	98.9	134.0	206.6	429.6	1068.3	1050.8	1861.1	1833.5	898.0	594.9
85°	16.3	20.0	28.8	65.1	157.8	563.6	815.3	821.6	772.7	340.7	246.7
87.5°	0.0	0.0	0.0	0.0	0.0	3.8	122.7	220.4	219.2	96.4	85.2
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: P635997  
 CATALOG NUMBER: GWS-SA3E-830-U-SL2-W

**CANDELA DISTRIBUTION (continued):**

	90°	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°
0°	3793.5	3793.5	3793.5	3793.5	3793.5	3793.5	3793.5	3793.5	3793.5	3793.5	3793.5
2.5°	3812.3	3778.5	3808.5	3812.3	3806.0	3801.0	3763.5	3730.9	3727.1	3692.1	3692.1
5°	3826.1	3794.8	3809.8	3781.0	3735.9	3689.6	3609.4	3554.3	3529.3	3484.2	3484.2
7.5°	3844.9	3812.3	3794.8	3723.4	3618.2	3516.7	3387.7	3280.0	3236.2	3172.3	3169.8
10°	3862.4	3821.1	3760.9	3621.9	3454.1	3292.5	3104.7	2951.9	2847.9	2771.6	2771.6
12.5°	3861.1	3807.3	3688.3	3482.9	3251.2	3017.0	2766.5	2536.1	2398.3	2279.4	2271.8
15°	3858.6	3784.7	3595.6	3321.4	3014.5	2690.1	2349.5	2048.9	1844.8	1728.3	1718.3
17.5°	3856.1	3755.9	3491.7	3137.3	2726.5	2284.4	1834.8	1509.1	1338.8	1267.4	1269.9
20°	3856.1	3723.4	3380.2	2925.6	2394.6	1798.4	1346.3	1109.6	1067.0	1070.8	1074.6
22.5°	3844.9	3683.3	3256.2	2695.2	2025.1	1322.5	993.2	913.0	935.5	970.6	975.6
25°	3818.6	3616.9	3112.2	2439.7	1585.5	963.1	810.3	795.3	836.6	880.4	893.0
27.5°	3777.2	3540.5	2950.6	2140.3	1167.2	774.0	712.6	711.4	743.9	776.5	787.8
30°	3733.4	3455.4	2780.3	1807.2	845.4	673.8	650.0	650.0	666.3	686.3	683.8
32.5°	3682.0	3368.9	2597.5	1460.3	688.8	617.4	609.9	606.2	608.7	616.2	616.2
35°	3638.2	3292.5	2409.6	1093.3	617.4	586.1	578.6	569.8	566.1	561.1	563.6
37.5°	3621.9	3232.4	2215.5	824.1	582.4	563.6	551.1	538.5	529.8	527.3	526.0
40°	3648.2	3207.4	2021.4	678.8	557.3	539.8	526.0	509.7	502.2	502.2	502.2
42.5°	3750.9	3226.2	1823.5	613.7	539.8	519.7	499.7	484.7	482.2	484.7	485.9
45°	3938.8	3298.8	1618.1	581.1	524.8	499.7	475.9	464.6	464.6	467.1	467.1
47.5°	4274.4	3489.2	1415.2	561.1	509.7	483.4	458.4	447.1	445.9	448.4	448.4
50°	4855.5	3832.3	1232.4	547.3	498.5	470.9	445.9	430.8	427.1	425.8	425.8
52.5°	5588.2	4427.2	1115.9	537.3	484.7	457.1	432.1	412.0	404.5	400.8	400.8
55°	6473.6	5220.0	1115.9	529.8	467.1	440.8	412.0	392.0	380.7	375.7	375.7
57.5°	7476.8	6143.0	1308.8	523.5	453.4	422.1	390.7	370.7	358.2	350.7	350.7
60°	8497.5	7118.6	1785.9	514.7	440.8	398.3	367.0	348.2	331.9	323.1	321.9
62.5°	9555.8	8193.2	2414.6	519.7	432.1	375.7	341.9	320.6	306.8	298.1	296.8
65°	10525.1	9216.4	2964.4	558.6	433.3	355.7	313.1	294.3	283.0	271.8	270.5
67.5°	11348.0	9781.2	2578.7	637.5	459.6	331.9	284.3	265.5	255.5	248.0	246.7
70°	10771.9	8919.6	1462.8	686.3	495.9	306.8	251.7	239.2	229.2	224.2	222.9
72.5°	9211.4	7551.9	978.1	606.2	452.1	274.3	221.7	211.7	204.1	197.9	196.6
75°	7461.8	5989.0	747.7	497.2	351.9	222.9	190.4	182.8	175.3	169.1	167.8
77.5°	4414.7	3460.4	551.1	393.3	248.0	174.1	157.8	151.5	144.0	139.0	137.8
80°	1408.9	1202.3	349.4	270.5	164.1	134.0	121.5	116.5	109.0	102.7	101.4
82.5°	537.3	464.6	185.4	137.8	109.0	91.4	81.4	76.4	71.4	65.1	63.9
85°	238.0	222.9	102.7	73.9	58.9	45.1	40.1	37.6	31.3	26.3	25.0
87.5°	83.9	83.9	43.8	21.3	12.5	6.3	3.8	1.3	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



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**

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			

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)