

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: P639954

Luminaire Tested: GWS-SA5C-830-U-SL2-W-GRSBK

Issue Date: 1/10/2023

**Test Information**

Test Method: LM-79-2019  
Report Number: P639954  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2209-782-28)  
Test Lab: COOPER LIGHTING SOLUTIONS  
Issue Date: 1/10/2023  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: McGRAW-EDISON  
Catalog Number: GWS-SA5C-830-U-SL2-W-GRSBK  
Description: GALLEON WALL SLIM LUMINAIRE. (5) LIGHTSQUARES WITH 16 LEDS EACH AND TYPE II SPILL LIGHT ELIMINATOR OPTICS W/ FACTORY INSTALLED GLARE SHIELD, BK  
Light Source: (80) 3000K CCT, 80 CRI LEDS  
Ballast/Driver: -

**Summary**

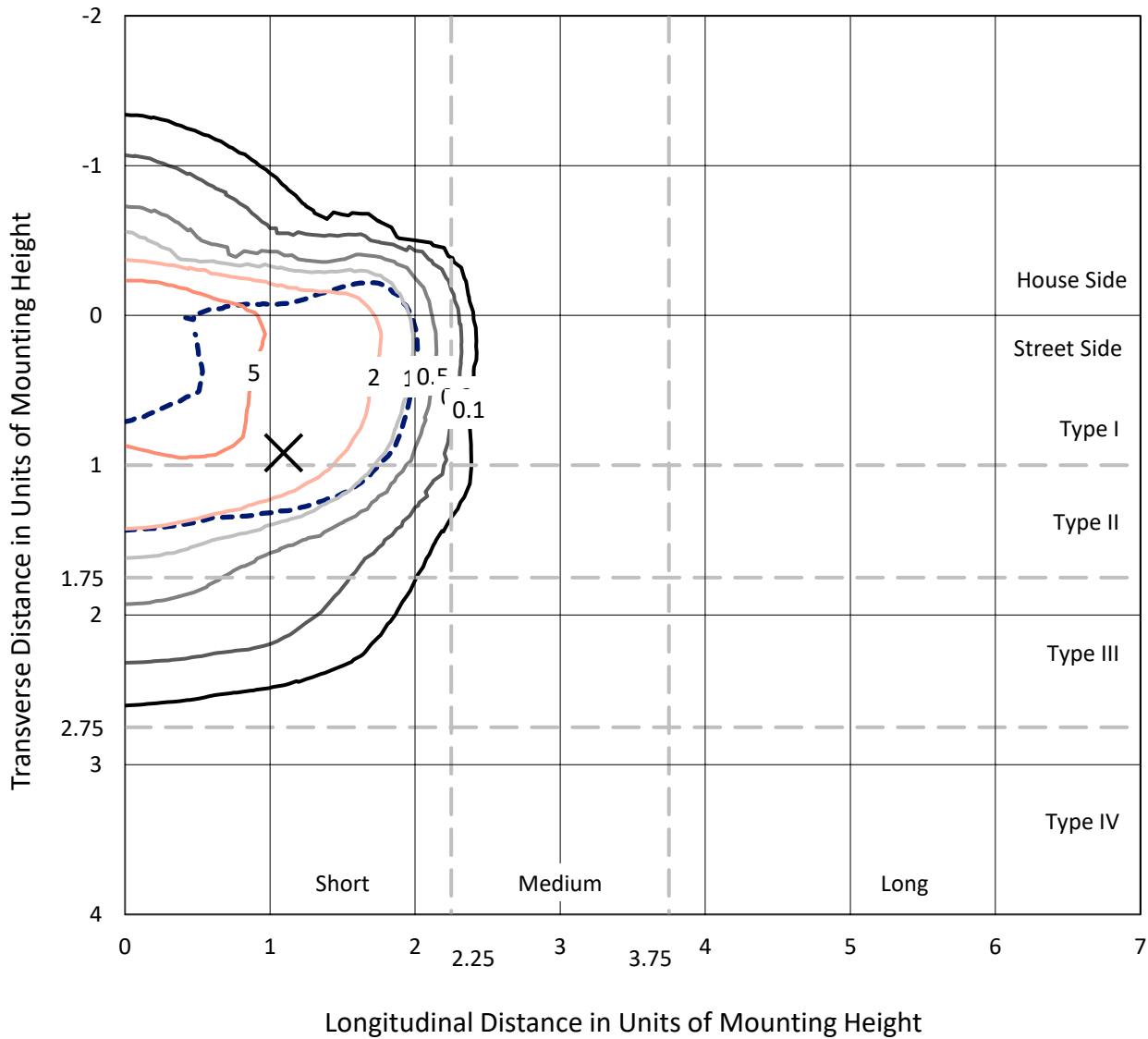
Lumens per Lamp: N/A  
Luminaire Lumens: 11107.5 lumens  
Efficiency: N/A  
Efficacy: 70.5 lumens/watt  
Luminous Opening: Rectangular (W 1.5' x L: 1' x H: 0')  
IES Classification: Type II - Short  
BUG Rating: B2 - U0 - G1  
  
Input Watts (W): 157.5  
Input Voltage (V): 120  
Input Current (Ain): 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: P639954  
 CATALOG NUMBER: GWS-SA5C-830-U-SL2-W-GRSBK

### Iso-Footcandle Lines of Horizontal Illumination

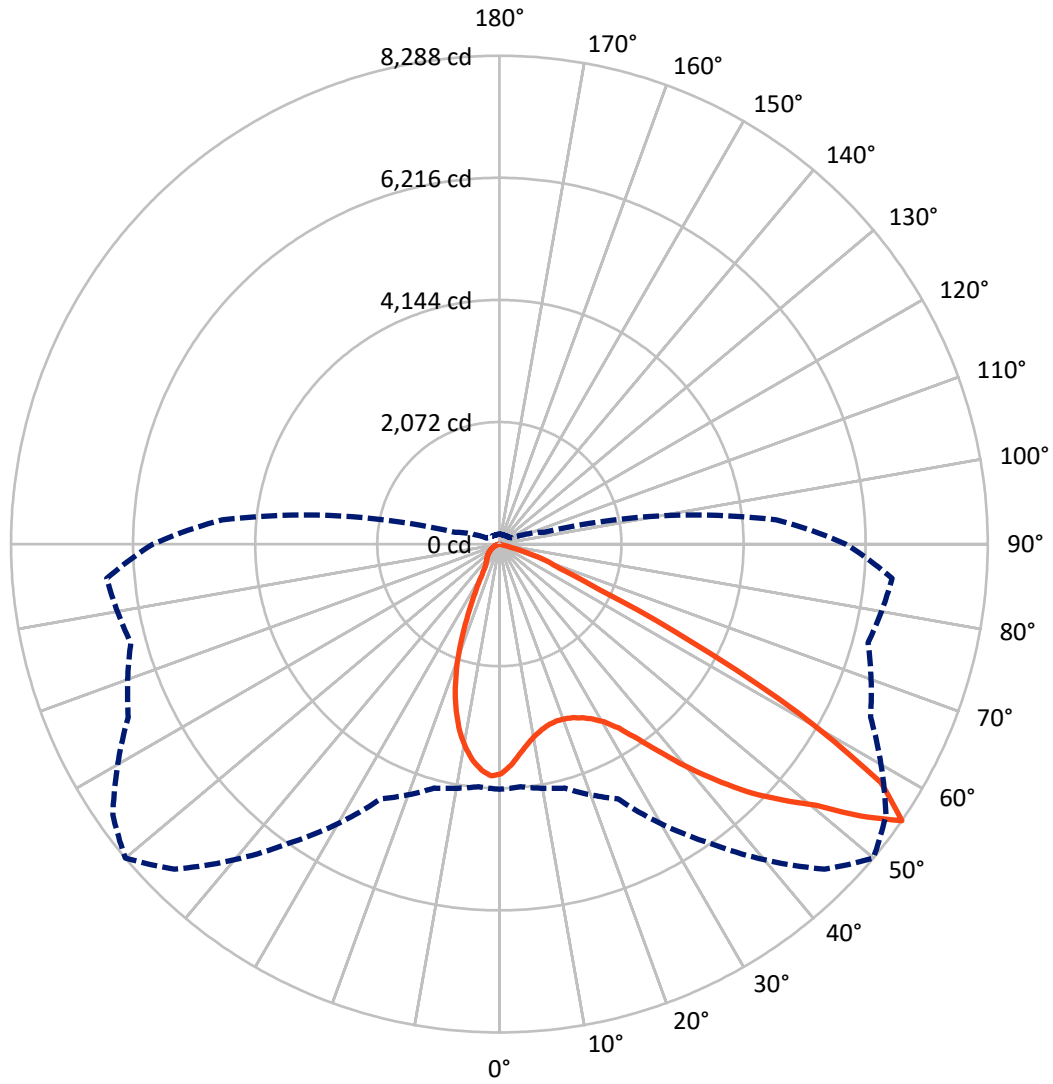
✕ Max cd  
 - - - 1/2 Max cd



Based on 20 foot mounting height. Maximum calculated value = 9.7 fc  
 Type II - Short - N/A

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### Luminous Intensity Polar Plot



— Vertical Plane Through 50-Deg Lateral    - - - Horizontal Cone Through 55-Deg Vertical

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**FLUX DISTRIBUTION:**

		Downward	Upward	Total
<b>House Side</b>	Lumens	2188.7	0.0	2188.7
	% Fixture	19.7	0.0	19.7
<b>Street Side</b>	Lumens	8918.8	0.0	8918.8
	% Fixture	80.3	0.0	80.3
<b>Total</b>	Lumens	11107.5	0.0	11107.5
	% Fixture	100.0	0.0	100.0

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	342.2	3.1
10°-20°	842.2	7.6
20°-30°	1188.0	10.7
30°-40°	1758.0	15.8
40°-50°	2536.2	22.8
50°-60°	2991.6	26.9
60°-70°	1334.5	12.0
70°-80°	114.7	1.0
80°-90°	0.1	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°	11107.5	100.0
0°-180°	11107.5	100.0

**Coefficient of Utilization**



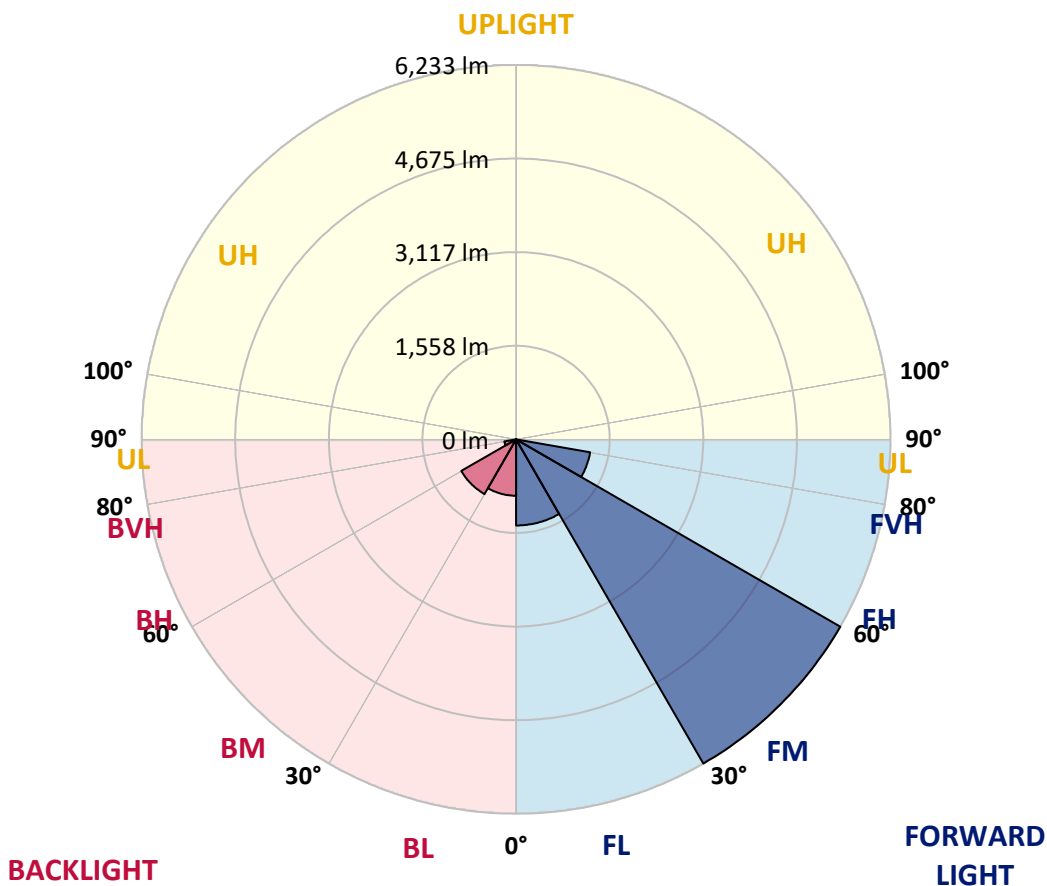
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**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	1434.0	12.9			
FM (30°-60°)	6233.2	56.1			
FH (60°-80°)	1251.6	11.3			G1/1800
FVH (80°-90°)	0.0	0.0			G0/10
BL (0°-30°)	938.4	8.4	B2/1000		
BM (30°-60°)	1052.6	9.5	B2/2500		
BH (60°-80°)	197.6	1.8	B1/500		G1/500
BVH (80°-90°)	0.0	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-G1**  
 Type II Short





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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	15°	25°	35°	45°	50°	55°	65°	75°	85°
0°	3897.1	3897.1	3897.1	3897.1	3897.1	3897.1	3897.1	3897.1	3897.1	3897.1	3897.1
2.5°	3620.5	3623.2	3624.6	3661.2	3674.7	3729.0	3757.5	3772.4	3811.7	3857.8	3895.8
5°	3377.8	3373.7	3380.5	3426.6	3456.4	3536.4	3579.8	3609.7	3696.4	3804.9	3895.8
7.5°	3166.2	3174.4	3182.5	3232.7	3277.4	3364.2	3426.6	3471.3	3592.0	3753.4	3906.6
10°	3017.1	3017.1	3029.3	3086.2	3139.1	3246.3	3308.6	3365.6	3509.3	3707.3	3918.8
12.5°	2907.3	2908.6	2923.5	2988.6	3049.6	3160.8	3225.9	3281.5	3440.2	3661.2	3921.5
15°	2855.7	2851.7	2863.9	2933.0	3000.8	3105.2	3173.0	3227.3	3391.3	3635.4	3935.1
17.5°	2842.2	2839.5	2848.9	2916.7	2985.9	3087.6	3154.0	3208.3	3384.6	3643.6	3975.8
20°	2881.5	2876.1	2872.0	2930.3	2995.4	3095.7	3164.9	3225.9	3417.1	3688.3	4038.2
22.5°	2975.1	2975.1	2965.6	2994.0	3037.4	3128.3	3200.1	3280.2	3502.5	3777.8	4130.4
25°	3147.3	3133.7	3116.1	3128.3	3122.9	3179.8	3265.2	3376.4	3663.9	3925.6	4242.9
27.5°	3343.9	3356.1	3326.3	3327.6	3280.2	3259.8	3358.8	3526.9	3903.9	4134.4	4409.7
30°	3611.0	3601.5	3602.9	3598.8	3489.0	3392.7	3499.8	3723.6	4206.3	4453.1	4626.7
32.5°	3819.8	3833.4	3878.1	3903.9	3760.2	3605.6	3719.5	3990.7	4550.7	4816.5	4892.4
35°	4040.9	4065.3	4156.1	4240.2	4119.5	3941.9	4063.9	4344.6	4874.8	5175.8	5197.5
37.5°	4274.1	4322.9	4431.4	4579.2	4560.2	4402.9	4514.1	4760.9	5129.7	5392.8	5449.7
40°	4541.2	4588.7	4766.3	4979.2	5024.0	4988.7	5025.3	5169.1	5297.9	5402.3	5558.2
42.5°	4834.1	4899.2	5124.3	5409.1	5577.2	5608.4	5523.0	5508.1	5371.1	5293.8	5535.2
45°	5179.9	5255.8	5510.8	5879.6	6146.7	6188.8	6041.0	5849.8	5417.2	5213.8	5466.0
47.5°	5567.7	5639.6	5893.2	6336.6	6733.9	6750.1	6492.5	6184.7	5554.2	5306.0	5518.9
50°	5697.9	5742.6	5962.3	6483.0	7215.2	7340.0	6967.1	6561.7	5829.4	5577.2	5776.5
52.5°	5250.4	5268.0	5459.2	5985.4	7117.6	7919.0	7660.0	7124.4	6318.9	5990.8	6173.8
55°	4160.2	4131.7	4286.3	4769.0	6186.0	7801.0	8287.8	8008.5	6949.5	6476.2	6690.5
57.5°	2910.0	2876.1	2840.8	3167.6	4615.8	6613.2	7637.0	8131.9	7550.2	6957.6	7247.8
60°	2392.0	2359.4	2188.6	2038.1	2790.6	4748.7	5866.0	6797.6	7501.4	6933.2	7230.2
62.5°	2066.5	2047.6	1978.4	1773.6	1642.1	2710.6	3673.4	4565.6	5756.2	5444.3	5460.6
65°	1623.1	1617.7	1665.2	1686.9	1452.3	1499.7	1874.0	2373.0	3112.0	2934.4	2782.5
67.5°	1109.2	1097.0	1186.5	1459.1	1396.7	1183.8	1097.0	1106.5	1346.5	823.1	653.6
70°	705.1	676.6	678.0	904.4	1136.3	934.3	846.1	744.4	669.9	122.0	138.3
72.5°	451.5	433.9	372.9	408.2	526.1	455.6	459.7	396.0	264.4	65.1	75.9
75°	189.8	174.9	134.2	107.1	105.8	66.4	58.3	54.2	36.6	36.6	39.3
77.5°	1.4	0.0	0.0	1.4	2.7	1.4	1.4	2.7	5.4	8.1	9.5
80°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.4
82.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
85°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
87.5°	0.0	0.0	0.0	0.0	0.0	0.0	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



REPORT NUMBER: P639954

CATALOG NUMBER: GWS-SA5C-830-U-SL2-W-GRSBK

**CANDELA DISTRIBUTION (continued):**

	90°	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°
0°	3897.1	3897.1	3897.1	3897.1	3897.1	3897.1	3897.1	3897.1	3897.1	3897.1	3897.1
2.5°	3918.8	3886.3	3922.9	3936.5	3935.1	3936.5	3897.1	3870.0	3868.7	3834.8	3818.5
5°	3933.7	3908.0	3935.1	3917.5	3875.4	3822.5	3752.0	3691.0	3663.9	3624.6	3605.6
7.5°	3962.2	3935.1	3931.0	3860.5	3756.1	3644.9	3520.2	3409.0	3349.3	3277.4	3281.5
10°	3982.6	3951.4	3898.5	3754.7	3581.2	3403.5	3217.8	3052.3	2947.9	2851.7	2835.4
12.5°	3990.7	3944.6	3821.2	3604.2	3360.2	3128.3	2855.7	2619.8	2457.1	2331.0	2313.3
15°	4005.6	3931.0	3722.2	3422.5	3087.6	2759.4	2412.3	2089.6	1874.0	1728.9	1741.1
17.5°	4028.7	3916.1	3611.0	3219.1	2794.7	2331.0	1861.8	1491.6	1293.6	1209.5	1210.9
20°	4061.2	3898.5	3489.0	2995.4	2443.5	1846.9	1301.8	1022.4	966.8	964.1	960.0
22.5°	4104.6	3880.9	3358.8	2750.0	2027.2	1293.6	866.5	779.7	802.7	847.5	855.6
25°	4156.1	3859.2	3213.7	2473.3	1573.0	848.9	649.5	636.0	691.6	751.2	764.8
27.5°	4236.1	3848.3	3048.3	2158.7	1103.8	608.8	531.5	539.7	589.9	640.0	652.2
30°	4371.7	3868.7	2867.9	1806.2	709.2	485.4	461.0	473.2	500.4	526.1	537.0
32.5°	4556.1	3928.3	2693.0	1421.1	505.8	421.7	416.3	423.1	433.9	448.8	452.9
35°	4771.7	4031.4	2512.7	1017.0	417.6	385.1	379.7	379.7	385.1	387.8	389.2
37.5°	4949.4	4139.9	2343.2	676.6	374.3	356.6	348.5	344.4	343.1	345.8	347.1
40°	5026.7	4184.6	2158.7	492.2	343.1	330.9	318.7	306.5	306.5	315.9	317.3
42.5°	4972.4	4134.4	1945.9	406.8	321.4	303.7	284.8	273.9	279.3	288.8	291.5
45°	4857.2	4011.0	1711.3	359.3	299.7	276.6	254.9	248.1	253.6	265.8	268.5
47.5°	4838.2	3929.7	1430.6	328.2	276.6	253.6	230.5	223.7	230.5	240.0	242.7
50°	5026.7	4000.2	1118.7	301.0	254.9	229.2	210.2	203.4	207.5	212.9	215.6
52.5°	5371.1	4261.9	903.1	275.3	229.2	204.8	192.6	184.4	184.4	189.8	191.2
55°	5879.6	4718.9	779.7	245.4	199.3	185.8	174.9	166.8	166.8	169.5	170.9
57.5°	6465.4	5272.1	808.2	206.1	174.9	168.1	158.7	151.9	154.6	154.6	154.6
60°	6384.0	5231.4	865.1	173.6	154.6	151.9	143.7	141.0	147.8	142.4	139.7
62.5°	4702.6	3613.7	452.9	142.4	132.9	130.2	124.8	130.2	139.7	124.8	119.3
65°	2283.5	1749.2	181.7	116.6	112.5	109.8	107.1	115.3	120.7	97.6	92.2
67.5°	537.0	436.6	118.0	99.0	93.6	88.1	90.9	92.2	88.1	66.4	63.7
70°	139.7	137.0	92.2	82.7	74.6	69.2	69.2	67.8	58.3	42.0	39.3
72.5°	75.9	74.6	66.4	62.4	51.5	46.1	47.5	42.0	32.5	24.4	23.1
75°	38.0	40.7	38.0	35.3	28.5	25.8	25.8	23.1	16.3	9.5	9.5
77.5°	8.1	9.5	9.5	8.1	6.8	5.4	5.4	6.8	2.7	0.0	0.0
80°	1.4	1.4	1.4	1.4	1.4	0.0	0.0	0.0	0.0	0.0	0.0
82.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
85°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
87.5°	0.0	0.0	0.0	0.0	0.0	0.0	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



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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

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**



CCT = 3050K  
 CIE x = 0.4383  
 CIE y = 0.4131  
 Duv = 0.0034

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)