

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: P636002

Luminaire Tested: GWS-SA3E-830-U-SL4-W-HSS

Issue Date: 1/10/2023

**Test Information**

Test Method: LM-79-2019  
Report Number: P636002  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2209-782-36)  
Test Lab: COOPER LIGHTING SOLUTIONS  
Issue Date: 1/10/2023  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: McGRAW-EDISON  
Catalog Number: GWS-SA3E-830-U-SL4-W-HSS  
Description: GALLEON WALL SLIM LUMINAIRE. (3) LIGHTSQUARES WITH 16 LEDS EACH AND TYPE IV SPILL LIGHT ELIMINATOR OPTICS WITH HOUSE SIDE SHIELD  
Light Source: (48) 3000K CCT, 80 CRI LEDS  
Ballast/Driver: -

**Summary**

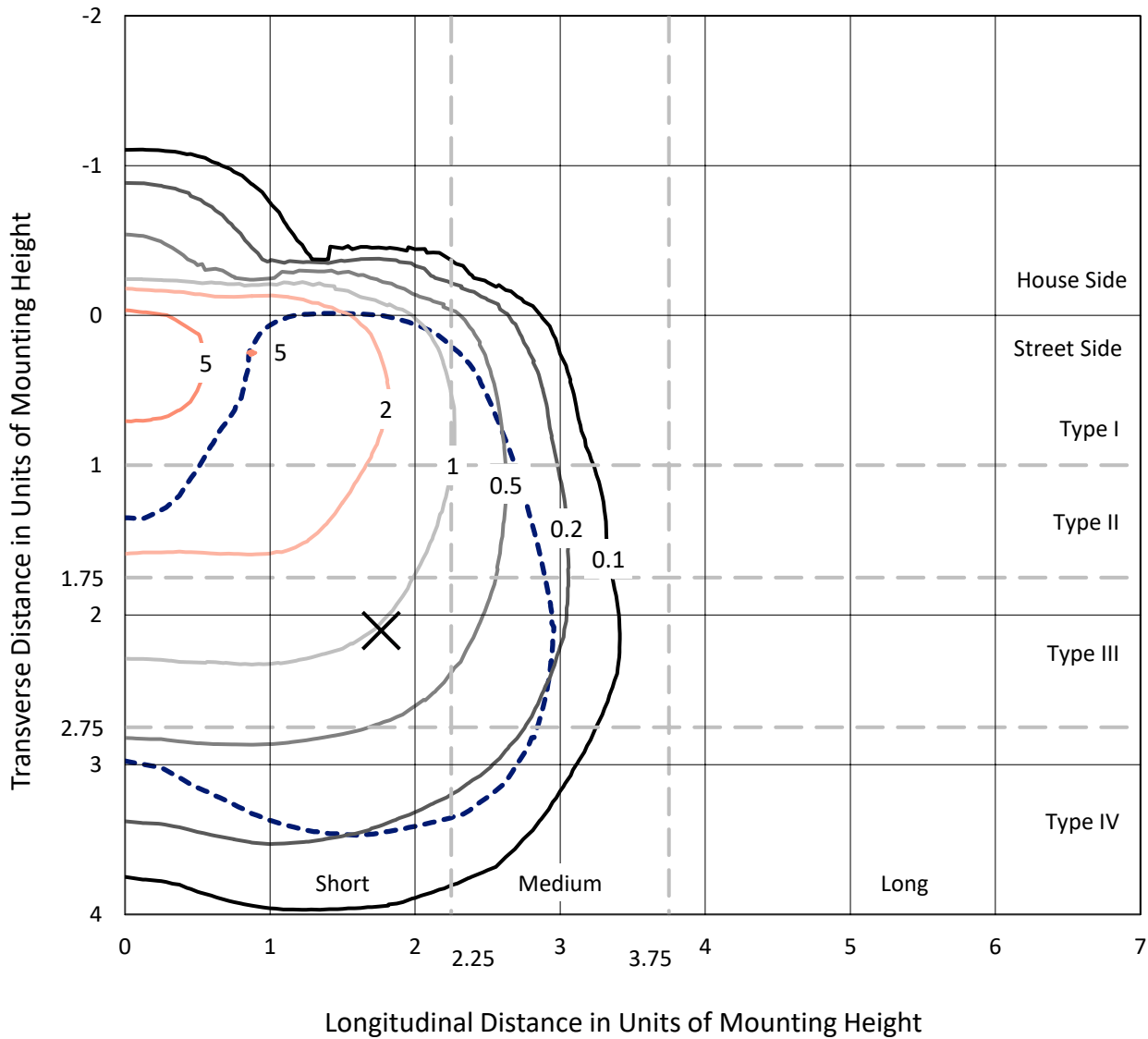
Lumens per Lamp: N/A  
Luminaire Lumens: 13764.7 lumens  
Efficiency: N/A  
Efficacy: 86.5 lumens/watt  
Luminous Opening: Rectangular (W 1.5' x L: 0.5' x H: 0')  
IES Classification: Type IV - Short  
BUG Rating: B1 - U0 - G3  
  
Input Watts (W): 159.2  
Input Voltage (V): 120  
Input Current (Ain): 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: P636002  
 CATALOG NUMBER: GWS-SA3E-830-U-SL4-W-HSS

### Iso-Footcandle Lines of Horizontal Illumination

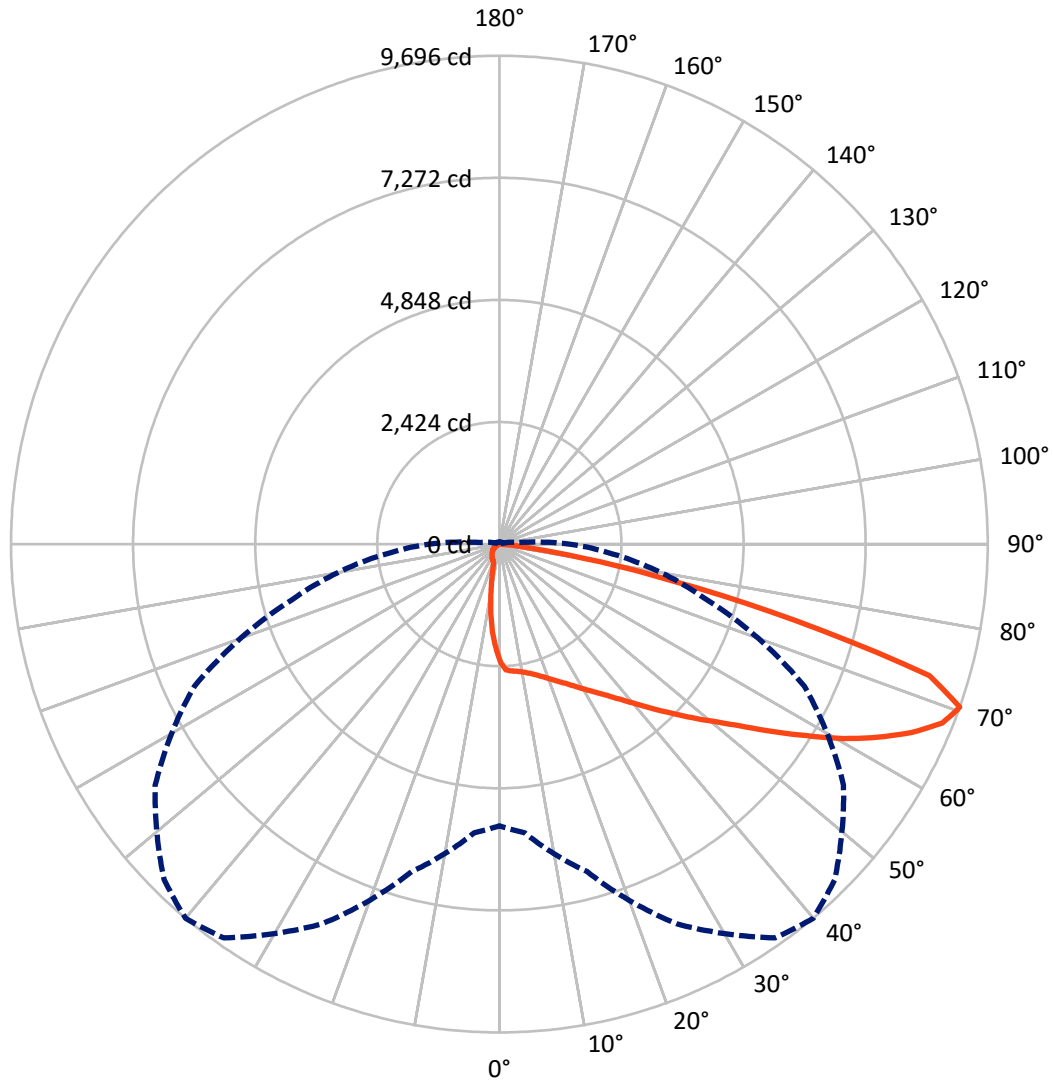
✕ Max cd  
 - - - 1/2 Max cd



Based on 20 foot mounting height. Maximum calculated value = 6.3 fc  
 Type IV - Short - N/A

REPORT NUMBER: P636002  
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### Luminous Intensity Polar Plot



— Vertical Plane Through 40-Deg Lateral    - - - Horizontal Cone Through 70-Deg Vertical

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**FLUX DISTRIBUTION:**

		Downward	Upward	Total
<b>House Side</b>	Lumens	1125.6	0.0	1125.6
	% Fixture	8.2	0.0	8.2
<b>Street Side</b>	Lumens	12639.1	0.0	12639.1
	% Fixture	91.8	0.0	91.8
<b>Total</b>	Lumens	13764.7	0.0	13764.7
	% Fixture	100.0	0.0	100.0

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	197.4	1.4
10°-20°	500.7	3.6
20°-30°	838.0	6.1
30°-40°	1316.2	9.6
40°-50°	2081.8	15.1
50°-60°	3036.9	22.1
60°-70°	3764.7	27.4
70°-80°	1904.7	13.8
80°-90°	124.3	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°	13764.7	100.0
0°-180°	13764.7	100.0

**Coefficient of Utilization**



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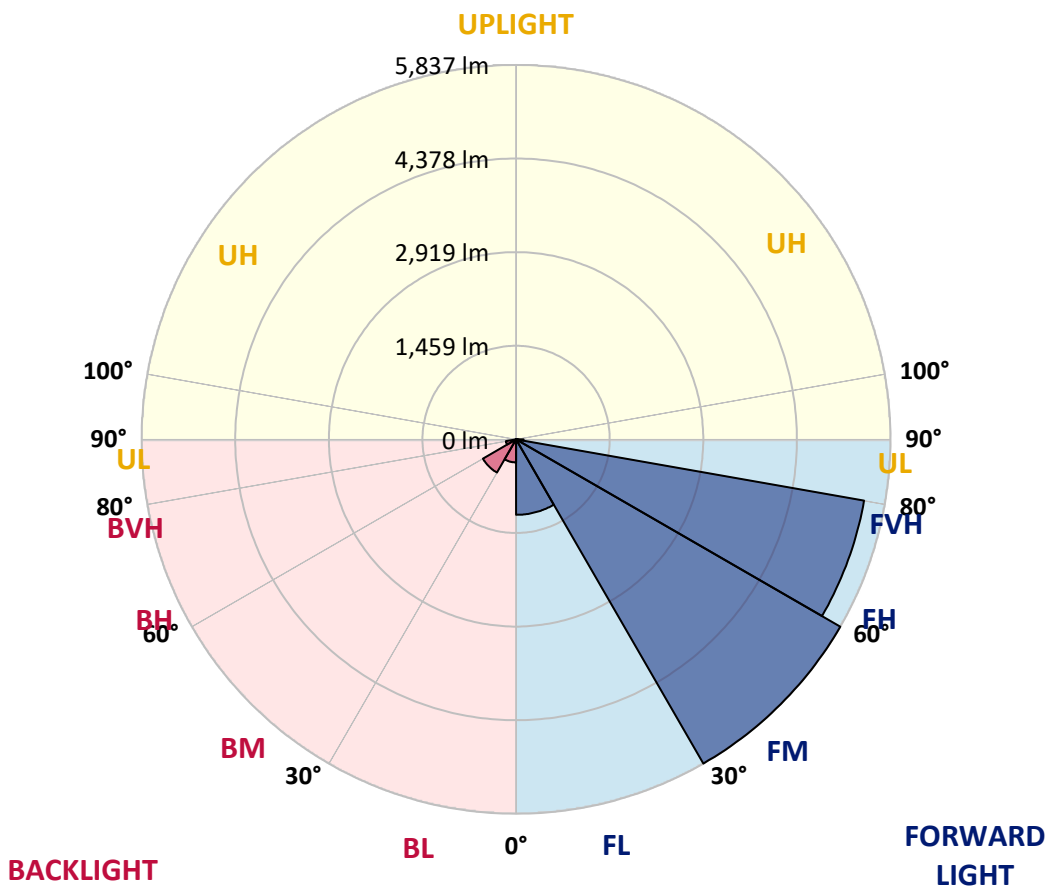
CATALOG NUMBER: GWS-SA3E-830-U-SL4-W-HSS

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

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	1176.6	8.5			
FM (30°-60°)	5837.5	42.4			
FH (60°-80°)	5508.9	40.0			G3/7500
FVH (80°-90°)	116.1	0.8			G2/225
BL (0°-30°)	359.5	2.6	B1/500		
BM (30°-60°)	597.5	4.3	B1/1000		
BH (60°-80°)	160.5	1.2	B1/500		G1/500
BVH (80°-90°)	8.2	0.1			G0/10
UL (90°-100°)	0.0	0.0		U0/0	
UH (100°-180°)	0.0	0.0		U0/0	

**BUG Rating: B1-U0-G3**

Type IV Short





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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	15°	25°	35°	40°	45°	55°	65°	75°	85°
0°	2335.7	2335.7	2335.7	2335.7	2335.7	2335.7	2335.7	2335.7	2335.7	2335.7	2335.7
2.5°	2511.0	2519.8	2518.6	2522.3	2513.5	2499.8	2497.3	2478.5	2444.7	2402.1	2354.5
5°	2562.4	2572.4	2564.9	2561.1	2544.9	2529.8	2526.1	2506.0	2467.2	2409.6	2326.9
7.5°	2606.2	2608.7	2603.7	2594.9	2571.2	2551.1	2537.3	2509.8	2463.4	2405.8	2310.7
10°	2613.7	2612.5	2615.0	2616.2	2601.2	2583.7	2572.4	2534.8	2476.0	2414.6	2311.9
12.5°	2605.0	2605.0	2621.2	2640.0	2640.0	2631.3	2620.0	2586.2	2517.3	2444.7	2337.0
15°	2616.2	2620.0	2651.3	2686.4	2697.6	2688.9	2683.9	2648.8	2577.4	2497.3	2382.0
17.5°	2656.3	2660.1	2710.2	2762.8	2776.5	2766.5	2756.5	2721.4	2645.0	2557.4	2433.4
20°	2715.2	2725.2	2789.1	2856.7	2869.2	2856.7	2836.7	2787.8	2711.4	2622.5	2482.2
22.5°	2822.9	2829.1	2898.0	2969.4	2975.7	2955.6	2925.6	2858.0	2777.8	2691.4	2537.3
25°	2965.7	2974.4	3043.3	3112.2	3095.9	3065.8	3024.5	2948.1	2856.7	2772.8	2607.5
27.5°	3136.0	3146.0	3213.6	3273.7	3231.2	3196.1	3149.8	3054.6	2961.9	2885.5	2697.6
30°	3320.1	3328.8	3389.0	3442.8	3386.5	3345.1	3290.0	3192.3	3098.4	3040.8	2825.4
32.5°	3497.9	3496.7	3554.3	3598.1	3540.5	3507.9	3457.8	3358.9	3283.8	3258.7	3015.8
35°	3663.2	3663.2	3710.8	3754.7	3713.3	3695.8	3649.5	3570.6	3528.0	3558.0	3270.0
37.5°	3829.8	3821.0	3866.1	3915.0	3911.2	3912.5	3886.2	3848.6	3851.1	3957.5	3619.4
40°	3967.6	3963.8	4016.4	4080.3	4130.4	4170.5	4154.2	4167.9	4246.8	4446.0	4066.5
42.5°	4077.8	4086.5	4154.2	4255.6	4382.1	4463.5	4474.8	4531.1	4734.0	5042.1	4571.2
45°	4204.3	4205.5	4299.4	4454.7	4656.4	4785.4	4830.5	4975.7	5263.8	5660.8	5124.8
47.5°	4359.6	4344.5	4449.7	4667.7	4959.5	5149.8	5230.0	5411.6	5857.4	6264.4	5575.6
50°	4531.1	4503.6	4622.6	4919.4	5298.9	5536.8	5699.6	5965.1	6446.0	6760.4	5911.3
52.5°	4730.3	4704.0	4839.2	5208.7	5705.9	5995.2	6204.3	6472.3	6950.8	7138.6	6111.7
55°	4983.3	4957.0	5099.7	5555.6	6186.8	6562.5	6781.7	7007.1	7420.4	7417.9	6256.9
57.5°	5263.8	5227.5	5425.3	5993.9	6786.7	7177.4	7400.4	7510.6	7777.3	7634.6	6354.6
60°	5585.7	5553.1	5827.4	6516.2	7479.3	7841.2	7981.5	7936.4	8070.4	7762.3	6320.8
62.5°	5876.2	5861.2	6201.8	7069.7	8139.3	8444.9	8483.7	8287.1	8285.8	7764.8	6092.9
65°	6178.0	6206.8	6712.8	7707.2	8803.0	9008.4	8942.1	8635.2	8372.2	7458.0	5419.1
67.5°	6290.7	6374.7	7049.7	8283.3	9326.5	9486.8	9370.4	8809.3	8012.8	6426.0	4126.6
70°	5594.4	5752.2	6731.6	8315.9	9543.2	9696.0	9416.7	8340.9	6680.2	4256.9	2260.6
72.5°	4254.4	4438.5	5609.4	6809.2	8582.6	8930.8	8453.6	6795.5	4305.7	1864.8	758.9
75°	2380.8	2579.9	4178.0	5127.3	5762.2	6080.3	5905.0	4359.6	1907.4	487.2	226.7
77.5°	805.3	871.7	1943.7	3172.3	3803.5	3518.0	2978.2	2165.4	701.3	185.4	120.2
80°	477.2	502.2	723.9	1579.3	2001.3	1659.4	1310.0	800.3	356.9	98.9	83.9
82.5°	142.8	169.1	399.5	586.1	784.0	488.4	413.3	457.1	185.4	53.9	70.1
85°	0.0	0.0	85.2	181.6	205.4	80.2	80.2	259.2	33.8	22.5	51.3
87.5°	0.0	0.0	0.0	0.0	0.0	0.0	1.3	6.3	3.8	5.0	11.3
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-SA3E-830-U-SL4-W-HSS

**CANDELA DISTRIBUTION (continued):**

	90°	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°
0°	2335.7	2335.7	2335.7	2335.7	2335.7	2335.7	2335.7	2335.7	2335.7	2335.7	2335.7
2.5°	2320.7	2276.8	2225.5	2176.7	2130.3	2070.2	2041.4	2006.3	1976.3	1960.0	1968.8
5°	2274.3	2205.5	2100.3	1993.8	1886.1	1784.7	1693.2	1631.9	1576.8	1548.0	1554.2
7.5°	2234.3	2141.6	1977.5	1803.4	1630.6	1456.5	1315.0	1204.8	1119.6	1084.6	1078.3
10°	2216.7	2100.3	1868.6	1618.1	1352.6	1118.4	918.0	796.5	710.1	667.5	675.0
12.5°	2225.5	2079.0	1775.9	1436.5	1092.1	819.1	627.4	513.5	452.1	427.1	420.8
15°	2250.5	2074.0	1693.2	1251.1	842.9	572.3	433.3	387.0	374.5	372.0	372.0
17.5°	2279.3	2075.2	1608.1	1063.3	640.0	424.6	370.7	361.9	358.2	355.7	356.9
20°	2308.2	2075.2	1510.4	872.9	480.9	366.9	353.2	346.9	343.2	341.9	341.9
22.5°	2343.2	2075.2	1401.4	696.3	385.7	348.2	336.9	333.1	329.4	328.1	326.9
25°	2385.8	2076.5	1281.2	544.8	350.7	331.9	323.1	319.4	315.6	313.1	313.1
27.5°	2447.2	2086.5	1148.4	424.6	330.6	316.9	309.3	305.6	301.8	298.1	298.1
30°	2536.1	2111.5	999.4	350.7	311.8	300.6	293.1	290.6	286.8	283.0	281.8
32.5°	2668.8	2155.4	845.4	314.3	294.3	283.0	274.3	271.8	268.0	264.3	263.0
35°	2854.2	2235.5	695.1	291.8	271.8	260.5	255.5	254.2	249.2	245.5	245.5
37.5°	3126.0	2365.8	551.1	269.3	253.0	244.2	238.0	235.4	230.4	226.7	225.4
40°	3457.8	2534.8	428.3	251.7	235.4	226.7	220.4	216.7	210.4	205.4	202.9
42.5°	3881.2	2741.5	338.1	232.9	219.2	210.4	205.4	197.9	189.1	181.6	180.3
45°	4322.0	2954.4	279.3	215.4	204.1	196.6	190.4	180.3	167.8	159.1	156.5
47.5°	4660.1	3087.1	244.2	196.6	187.9	181.6	174.1	161.6	146.5	136.5	134.0
50°	4901.8	3107.2	217.9	179.1	174.1	167.8	156.5	141.5	125.2	115.2	112.7
52.5°	5020.8	3017.0	196.6	162.8	159.1	152.8	139.0	122.7	105.2	95.2	92.7
55°	5074.7	2846.7	176.6	149.0	144.0	136.5	121.5	103.9	86.4	77.6	75.1
57.5°	5053.4	2594.9	159.1	135.3	129.0	120.2	103.9	85.2	71.4	62.6	61.4
60°	4895.6	2241.8	141.5	121.5	114.0	103.9	87.7	70.1	57.6	51.3	50.1
62.5°	4554.9	1803.4	124.0	105.2	100.2	90.2	75.1	57.6	47.6	43.8	42.6
65°	3857.4	1274.9	106.5	88.9	86.4	76.4	62.6	47.6	41.3	38.8	37.6
67.5°	2772.8	775.2	90.2	76.4	73.9	65.1	52.6	41.3	37.6	36.3	36.3
70°	1393.9	366.9	71.4	62.6	62.6	53.9	45.1	37.6	36.3	35.1	35.1
72.5°	473.4	156.5	53.9	48.8	51.3	46.3	38.8	35.1	35.1	35.1	35.1
75°	161.6	82.7	37.6	35.1	37.6	37.6	33.8	33.8	35.1	35.1	35.1
77.5°	105.2	55.1	26.3	23.8	28.8	28.8	28.8	31.3	33.8	33.8	33.8
80°	86.4	30.1	17.5	16.3	21.3	21.3	23.8	28.8	31.3	31.3	31.3
82.5°	73.9	18.8	10.0	11.3	15.0	16.3	20.0	23.8	27.6	28.8	28.8
85°	50.1	10.0	7.5	8.8	10.0	12.5	16.3	20.0	22.5	25.0	25.0
87.5°	13.8	3.8	5.0	6.3	6.3	8.8	12.5	15.0	17.5	18.8	18.8
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

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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**



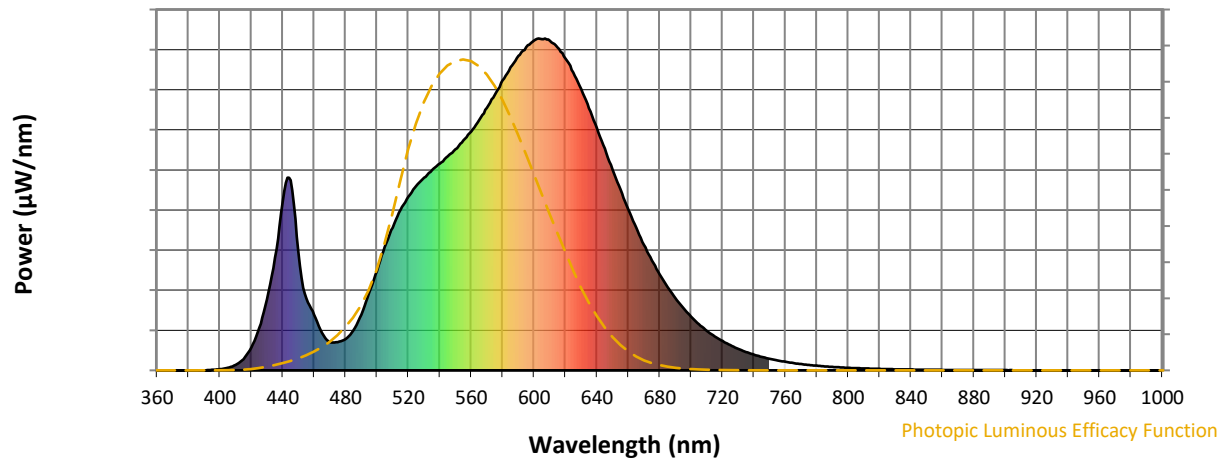
**CIE 1931 Chromaticity Diagram with 2017 ANSI 7-Step and 4-Step Quadrangles**



Point lies inside the ANSI 3000K 4-step quadrangle

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**Photopic Flux vs. Wavelength**



**Photopic Lumens: NR**

$\lambda$ (nm)	Power $W^{\wedge}/nm$	Lumens ( $\phi/nm$ )	$\lambda$ (nm)	Power $W^{\wedge}/nm$	Lumens ( $\phi/nm$ )	$\lambda$ (nm)	Power $W^{\wedge}/nm$	Lumens ( $\phi/nm$ )	$\lambda$ (nm)	Power $W^{\wedge}/nm$	Lumens ( $\phi/nm$ )	$\lambda$ (nm)	Power $W^{\wedge}/nm$	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**

$\lambda$ (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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**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)