

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: P634538

Luminaire Tested: GWS-SA3B-830-U-T3-W-HSS

Issue Date: 1/10/2023

**Test Information**

Test Method: LM-79-2019  
Report Number: P634538  
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-SA3B-830-U-T3-W-HSS  
Description: GALLEON WALL SLIM LUMINAIRE. (3) LIGHTSQUARES WITH 16 LEDS EACH AND TYPE III OPTICS WITH HOUSE SIDE SHIELD  
Light Source: (48) 3000K CCT, 80 CRI LEDS  
Ballast/Driver: -

**Summary**

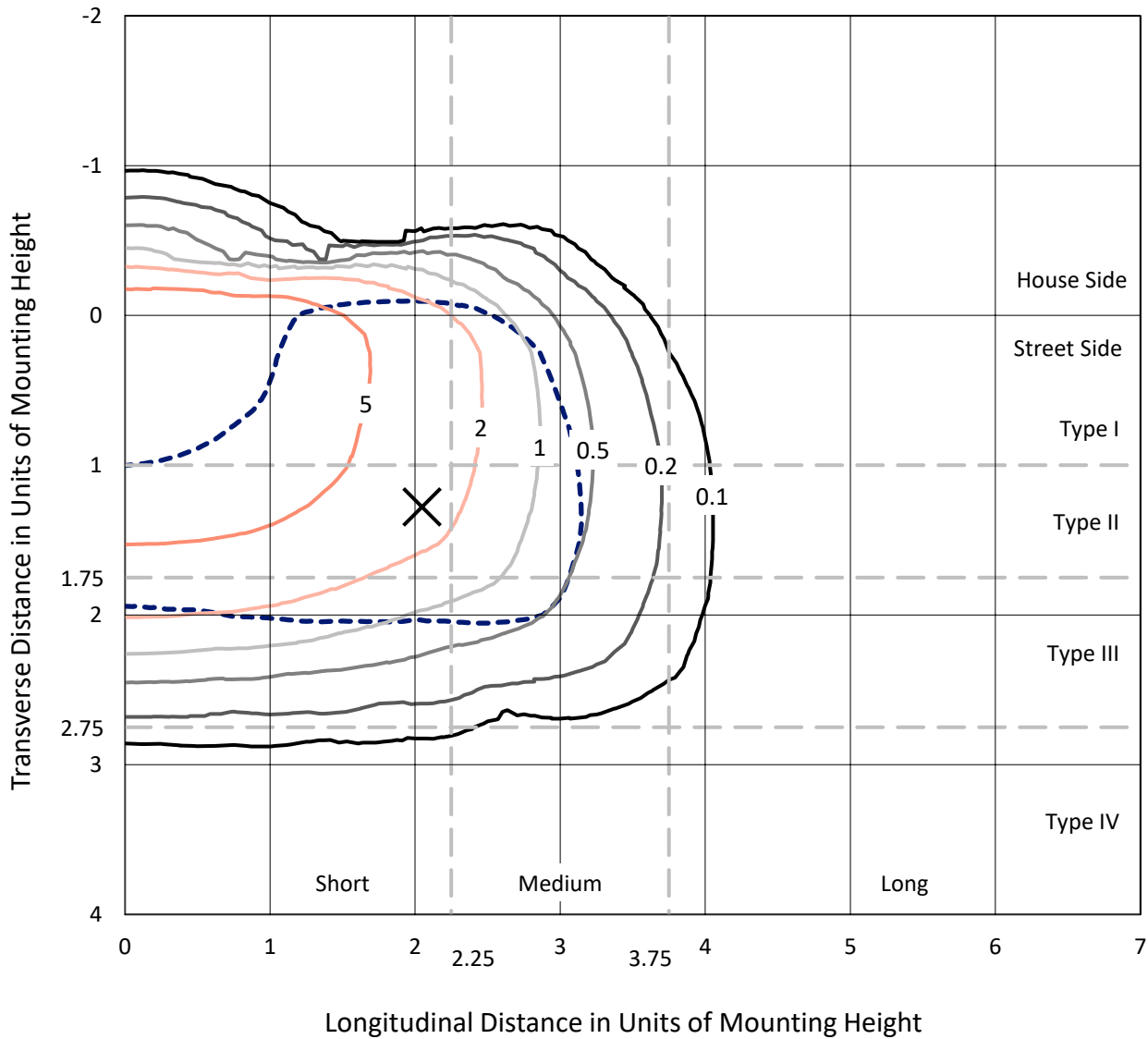
Lumens per Lamp: N/A  
Luminaire Lumens: 6066.1 lumens  
Efficiency: N/A  
Efficacy: 88.8 lumens/watt  
Luminous Opening: Rectangular (W 1.5' x L: 0.5' x H: 0')  
IES Classification: Type III - Short  
BUG Rating: B1 - U0 - G2  
  
Input Watts (W): 68.3  
Input Voltage (V): 120  
Input Current (Ain): 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: P634538  
 CATALOG NUMBER: GWS-SA3B-830-U-T3-W-HSS

### Iso-Footcandle Lines of Horizontal Illumination

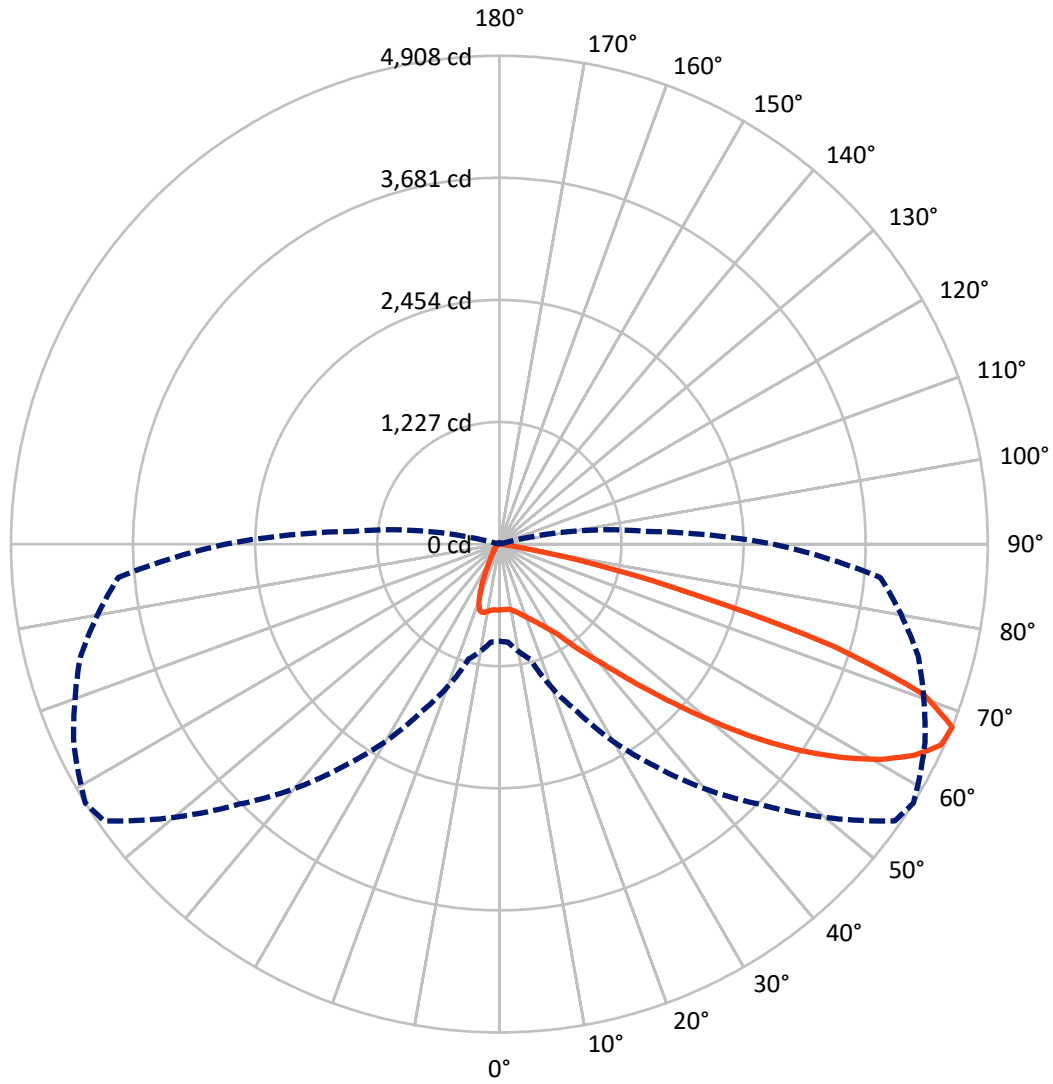
✕ Max cd  
 - - - 1/2 Max cd



Based on 10 foot mounting height. Maximum calculated value = 9.2 fc  
 Type III - Short - N/A

REPORT NUMBER: P634538  
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### Luminous Intensity Polar Plot



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

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CATALOG NUMBER: GWS-SA3B-830-U-T3-W-HSS

**FLUX DISTRIBUTION:**

		Downward	Upward	Total
<b>House Side</b>	Lumens	661.8	0.0	661.8
	% Fixture	10.9	0.0	10.9
<b>Street Side</b>	Lumens	5404.3	0.0	5404.3
	% Fixture	89.1	0.0	89.1
<b>Total</b>	Lumens	6066.1	0.0	6066.1
	% Fixture	100.0	0.0	100.0

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	62.1	1.0
10°-20°	174.3	2.9
20°-30°	304.3	5.0
30°-40°	543.5	9.0
40°-50°	993.4	16.4
50°-60°	1652.1	27.2
60°-70°	1794.5	29.6
70°-80°	526.9	8.7
80°-90°	15.0	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°	6066.1	100.0
0°-180°	6066.1	100.0

**Coefficient of Utilization**



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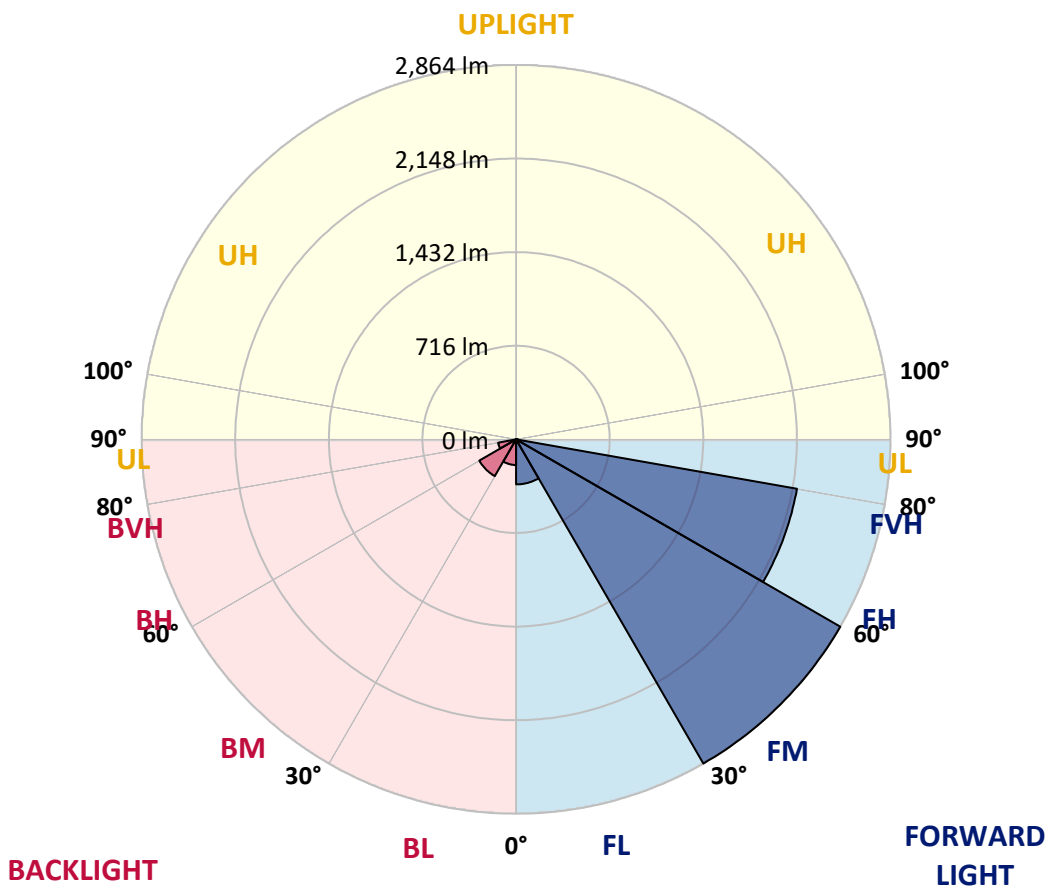
CATALOG NUMBER: GWS-SA3B-830-U-T3-W-HSS

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

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	344.5	5.7			
FM (30°-60°)	2863.9	47.2			
FH (60°-80°)	2181.6	36.0			G2/5000
FVH (80°-90°)	14.3	0.2			G1/100
BL (0°-30°)	196.3	3.2	B1/500		
BM (30°-60°)	325.1	5.4	B1/1000		
BH (60°-80°)	139.7	2.3	B1/500		G1/500
BVH (80°-90°)	0.7	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-G2**

Type III Short





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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	15°	25°	35°	45°	55°	58°	65°	75°	85°
0°	661.0	661.0	661.0	661.0	661.0	661.0	661.0	661.0	661.0	661.0	661.0
2.5°	648.6	647.4	647.4	652.1	652.7	655.1	660.4	661.0	664.0	662.8	658.7
5°	614.8	615.4	619.0	627.3	634.4	643.3	656.3	659.2	665.8	669.3	666.9
7.5°	583.4	584.0	589.4	602.4	616.0	633.8	655.1	661.0	674.1	683.5	684.1
10°	571.6	571.0	576.3	591.1	608.9	633.8	664.6	672.3	691.8	708.4	711.4
12.5°	575.1	574.5	579.9	593.5	613.0	644.4	681.2	691.8	716.7	742.2	747.5
15°	589.4	588.8	592.3	603.6	624.9	657.5	702.5	718.5	749.9	780.7	789.0
17.5°	632.0	629.0	625.5	626.7	639.1	672.9	729.7	749.3	788.4	825.1	832.2
20°	707.8	700.1	690.6	678.2	672.3	695.4	761.1	783.6	831.0	873.1	874.3
22.5°	822.1	819.2	797.3	761.1	735.7	736.2	797.8	823.9	882.0	928.2	921.6
25°	981.5	979.7	945.9	886.7	820.4	797.8	844.6	871.3	942.4	991.5	970.8
27.5°	1179.3	1166.9	1127.2	1047.2	948.3	877.8	903.9	927.6	1006.3	1052.5	1013.5
30°	1351.7	1352.3	1314.9	1231.4	1120.1	998.1	976.1	996.9	1065.0	1113.6	1066.2
32.5°	1517.5	1522.8	1482.0	1406.7	1284.7	1155.0	1079.8	1083.3	1140.2	1192.9	1135.5
35°	1671.5	1675.7	1647.2	1583.3	1469.5	1319.1	1224.3	1222.5	1253.3	1307.2	1232.0
37.5°	1843.9	1848.0	1820.2	1762.7	1656.1	1506.8	1388.4	1386.0	1398.5	1442.3	1356.4
40°	2027.5	2035.2	2004.4	1955.8	1853.9	1727.8	1579.1	1557.8	1545.4	1596.9	1517.5
42.5°	2213.5	2225.3	2214.7	2166.1	2079.0	1974.8	1826.7	1793.5	1766.9	1831.4	1747.3
45°	2444.5	2458.7	2454.0	2416.6	2349.1	2264.4	2124.6	2086.1	2073.7	2133.5	2033.4
47.5°	2666.6	2682.0	2699.2	2690.9	2642.9	2603.8	2448.6	2426.7	2423.2	2487.1	2331.9
50°	2831.9	2846.1	2911.8	2959.2	2991.8	2983.5	2849.0	2816.5	2811.1	2852.0	2647.1
52.5°	2950.3	2963.9	3054.6	3202.6	3322.3	3387.5	3251.8	3244.7	3215.7	3201.5	2942.0
55°	3042.1	3061.1	3156.4	3380.3	3621.4	3765.9	3681.2	3655.8	3581.1	3499.4	3215.7
57.5°	3060.5	3068.2	3202.6	3504.7	3853.6	4087.6	4087.6	4043.1	3899.2	3786.1	3532.0
60°	2895.8	2919.5	3101.4	3494.7	3953.1	4297.8	4424.6	4393.8	4199.5	4060.3	3836.4
62.5°	2530.4	2557.0	2778.6	3253.6	3853.6	4341.1	4679.9	4675.1	4456.0	4287.2	4088.8
65°	1940.4	1960.0	2153.1	2721.7	3433.1	4174.6	4862.3	4875.3	4658.6	4437.0	4175.8
67.5°	975.0	988.6	1197.1	1859.3	2721.1	3695.5	4849.9	4907.9	4720.2	4357.7	3843.5
70°	340.6	354.2	452.5	797.8	1656.1	2821.8	4430.5	4525.3	4358.3	3719.7	2835.4
72.5°	116.7	123.2	187.8	296.2	644.4	1672.7	3369.1	3511.8	3212.7	2497.2	1629.5
75°	66.3	70.5	100.7	160.5	270.1	550.3	1911.4	1999.1	1872.9	1361.1	670.5
77.5°	45.0	48.6	62.8	91.2	149.3	177.1	779.5	981.5	855.9	444.2	171.2
80°	26.7	29.0	38.5	53.9	76.4	68.7	167.0	222.1	286.1	132.7	51.5
82.5°	12.4	14.2	24.9	35.5	38.5	29.0	49.2	59.8	80.6	65.2	21.3
85°	0.0	0.0	8.3	14.8	14.2	8.3	13.6	14.8	21.9	32.6	8.3
87.5°	0.0	0.0	0.0	0.0	0.0	0.6	1.2	1.8	3.6	6.5	3.6
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: P634538  
 CATALOG NUMBER: GWS-SA3B-830-U-T3-W-HSS

**CANDELA DISTRIBUTION (continued):**

	90°	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°
0°	661.0	661.0	661.0	661.0	661.0	661.0	661.0	661.0	661.0	661.0	661.0
2.5°	663.4	659.2	664.0	661.6	664.0	663.4	658.7	655.7	655.7	650.4	648.6
5°	671.7	667.5	668.7	663.4	662.2	659.2	653.3	651.0	651.0	645.6	643.8
7.5°	690.0	683.5	682.3	671.7	666.9	658.7	648.0	643.8	643.3	637.9	636.1
10°	719.1	711.4	706.0	692.4	678.8	662.2	639.7	620.7	610.1	595.9	594.7
12.5°	754.6	745.1	736.8	716.1	693.6	656.3	589.9	520.6	478.0	444.2	446.6
15°	794.3	785.4	772.4	741.0	694.8	597.6	459.0	352.4	300.3	272.5	271.3
17.5°	837.5	824.5	803.2	760.5	657.5	456.7	298.5	210.9	183.6	174.1	171.8
20°	877.8	861.8	835.2	764.7	549.7	309.2	186.6	163.5	158.7	155.8	155.8
22.5°	920.5	900.3	860.6	732.7	408.7	197.8	158.7	153.4	149.9	145.7	145.1
25°	963.7	937.6	883.7	649.2	267.7	155.8	148.7	142.7	136.2	129.7	127.9
27.5°	1000.4	966.7	901.5	524.8	171.8	140.4	135.6	125.6	116.7	109.6	108.4
30°	1044.3	1001.0	909.2	383.8	135.0	123.8	116.7	106.0	95.4	88.3	85.9
32.5°	1102.9	1055.5	897.4	250.0	119.6	109.0	97.7	85.3	74.6	66.9	65.7
35°	1194.1	1137.8	842.9	159.3	108.4	94.2	80.6	67.5	58.6	52.7	51.5
37.5°	1305.5	1253.3	753.4	119.6	97.1	81.7	65.7	53.3	46.8	42.6	41.5
40°	1470.7	1397.9	642.7	104.8	85.9	69.3	53.9	43.8	39.1	35.5	34.4
42.5°	1685.1	1568.5	515.3	95.4	75.2	58.0	43.8	36.1	32.0	29.6	29.0
45°	1935.7	1734.9	380.9	85.9	65.2	48.0	36.1	29.6	26.7	24.9	24.3
47.5°	2192.2	1880.6	263.0	75.8	55.7	39.7	30.2	25.5	23.1	20.7	20.1
50°	2465.8	2003.8	179.5	65.7	47.4	32.6	26.1	23.1	20.1	18.4	17.8
52.5°	2666.6	2049.4	125.0	56.9	40.3	27.8	23.1	20.7	18.4	16.0	15.4
55°	2852.0	2048.2	94.8	48.0	34.4	24.3	20.7	18.4	16.0	14.2	13.6
57.5°	3036.8	2032.2	74.6	40.9	29.6	21.9	18.4	16.0	14.8	12.4	11.8
60°	3156.4	1971.8	58.0	34.4	25.5	19.0	16.0	14.2	12.4	10.7	10.1
62.5°	3219.8	1887.7	44.4	27.2	20.7	16.6	14.2	12.4	10.7	8.9	8.3
65°	3133.9	1738.4	34.9	21.3	16.0	14.2	11.8	10.1	8.3	6.5	5.9
67.5°	2753.1	1466.0	27.2	17.2	12.4	10.7	10.1	8.3	5.9	4.7	4.1
70°	1945.8	1004.0	21.3	13.0	9.5	8.3	7.7	6.5	4.7	3.6	3.0
72.5°	1067.9	506.4	15.4	9.5	7.1	6.5	5.9	5.3	4.1	3.0	3.0
75°	411.1	139.2	11.3	6.5	4.7	4.7	4.1	4.1	3.6	2.4	2.4
77.5°	107.2	41.5	7.1	4.1	3.0	3.0	3.0	2.4	2.4	1.8	1.8
80°	34.4	13.6	4.1	3.0	2.4	1.8	1.8	1.2	1.8	1.2	1.2
82.5°	11.3	4.7	2.4	2.4	1.8	1.2	1.2	0.6	0.6	0.0	0.0
85°	4.1	2.4	1.8	1.2	1.2	1.2	0.6	0.0	0.0	0.0	0.0
87.5°	2.4	1.2	1.2	1.2	1.2	0.6	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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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**

$\lambda$ (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)