

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: P630585

Luminaire Tested: GWS-SA1D-830-U-T4FT-W

Issue Date: 1/10/2023

**Test Information**

Test Method: LM-79-2019  
Report Number: P630585  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2209-782-54)  
Test Lab: COOPER LIGHTING SOLUTIONS  
Issue Date: 1/10/2023  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: McGRAW-EDISON  
Catalog Number: GWS-SA1D-830-U-T4FT-W  
Description: GALLEON WALL SLIM LUMINAIRE. (1) LIGHTSQUARES WITH 16 LEDS EACH AND TYPE IV FORWARD THROW OPTICS  
Light Source: (16) 3000K CCT, 80 CRI LEDS  
Ballast/Driver: -

**Summary**

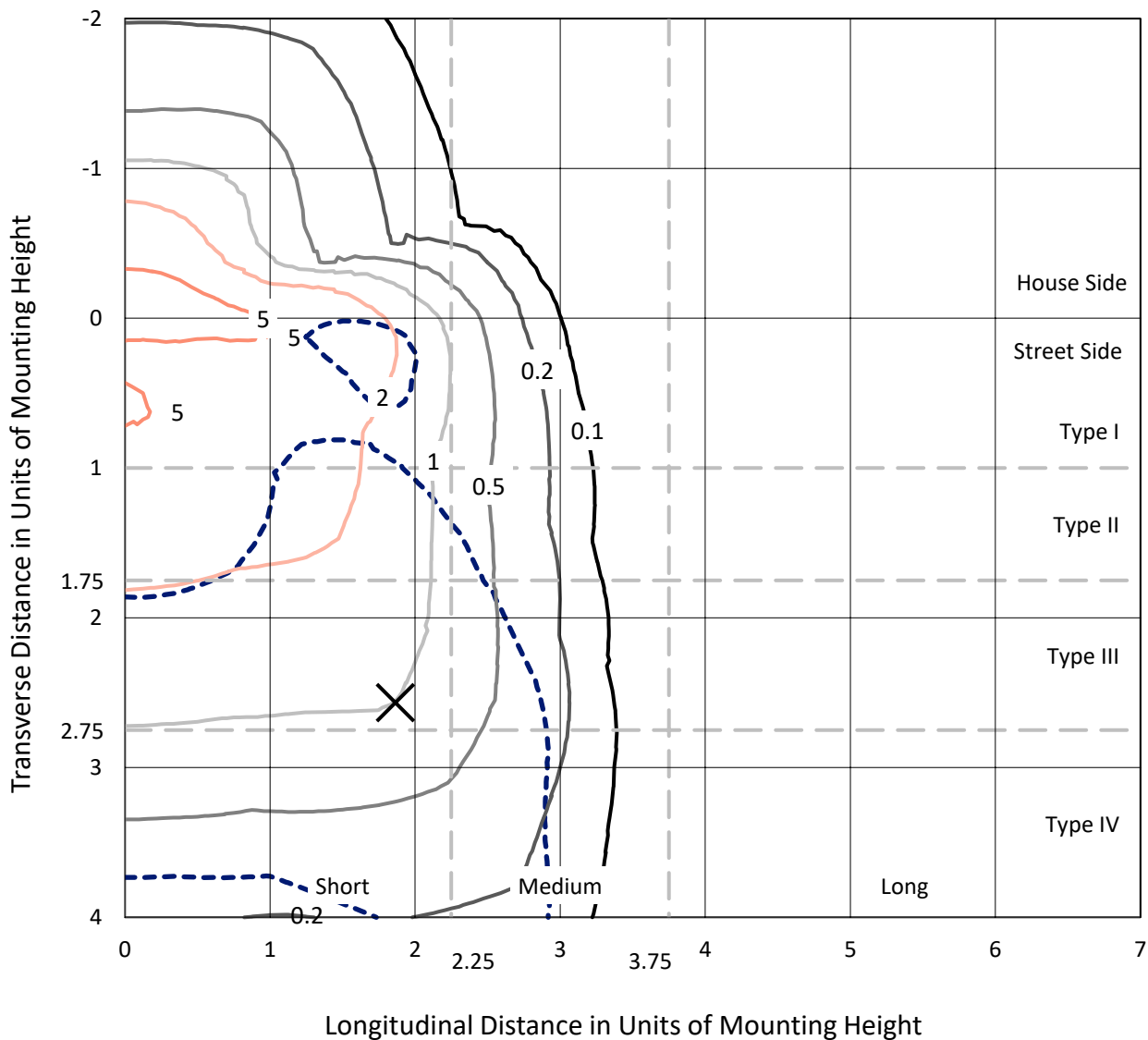
Lumens per Lamp: N/A  
Luminaire Lumens: 4652.8 lumens  
Efficiency: N/A  
Efficacy: 105.0 lumens/watt  
Luminous Opening: Rectangular (W 0.5' x L: 0.5' x H: 0')  
IES Classification: Type IV - Short  
BUG Rating: B1 - U0 - G1  
  
Input Watts (W): 44.3  
Input Voltage (V): 120  
Input Current (Ain): 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: P630585  
 CATALOG NUMBER: GWS-SA1D-830-U-T4FT-W

### Iso-Footcandle Lines of Horizontal Illumination

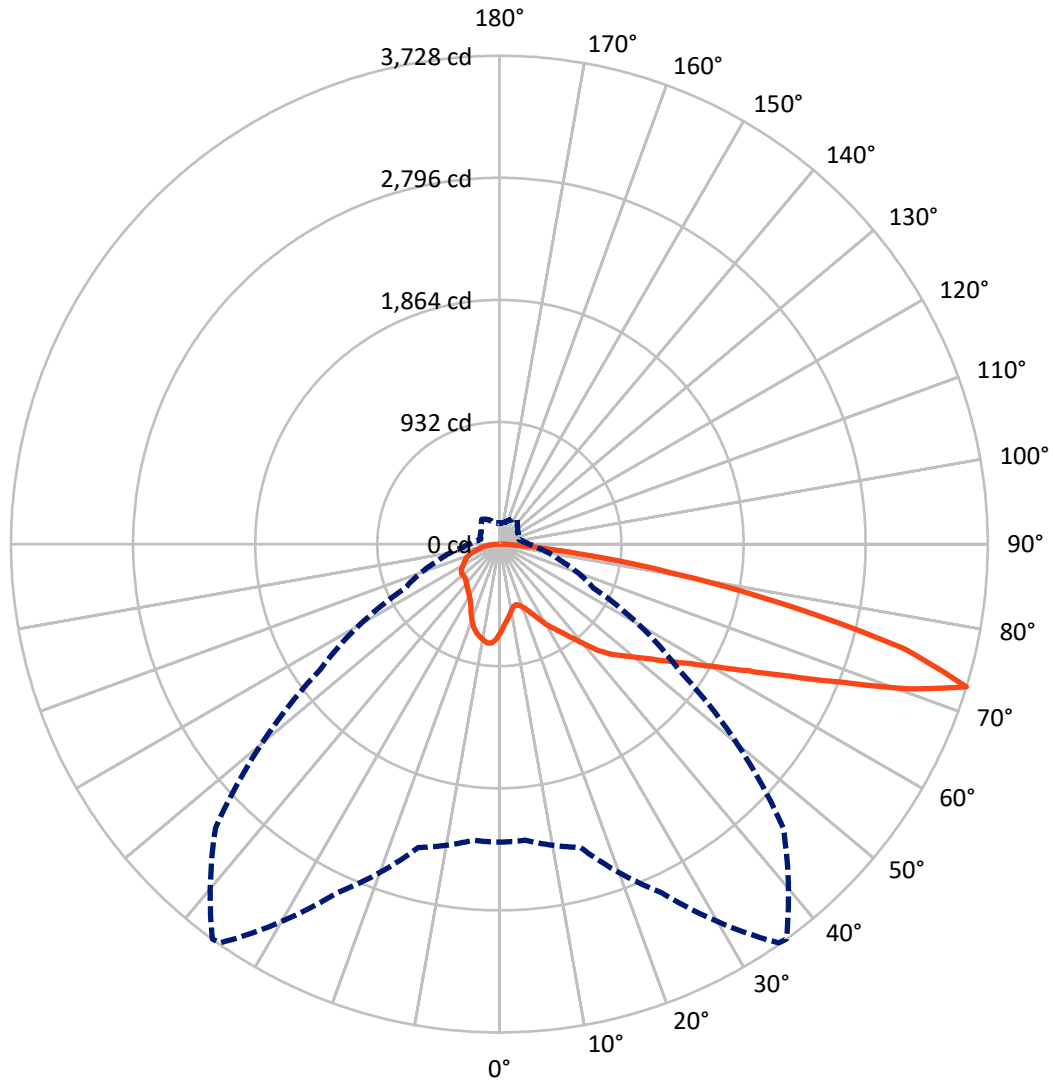
✕ Max cd  
 - - - 1/2 Max cd



Based on 10 foot mounting height. Maximum calculated value = 7.2 fc  
 Type IV - Short - N/A

REPORT NUMBER: P630585  
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### Luminous Intensity Polar Plot



— Vertical Plane Through 36-Deg Lateral    - - - Horizontal Cone Through 72.5-Deg Vertical

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**FLUX DISTRIBUTION:**

		Downward	Upward	Total
<b>House Side</b>	Lumens	1072.7	0.0	1072.7
	% Fixture	23.1	0.0	23.1
<b>Street Side</b>	Lumens	3580.1	0.0	3580.1
	% Fixture	76.9	0.0	76.9
<b>Total</b>	Lumens	4652.8	0.0	4652.8
	% Fixture	100.0	0.0	100.0

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	63.7	1.4
10°-20°	179.6	3.9
20°-30°	297.4	6.4
30°-40°	445.4	9.6
40°-50°	649.8	14.0
50°-60°	924.9	19.9
60°-70°	1168.5	25.1
70°-80°	832.7	17.9
80°-90°	90.9	2.0
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°	4652.8	100.0
0°-180°	4652.8	100.0

**Coefficient of Utilization**



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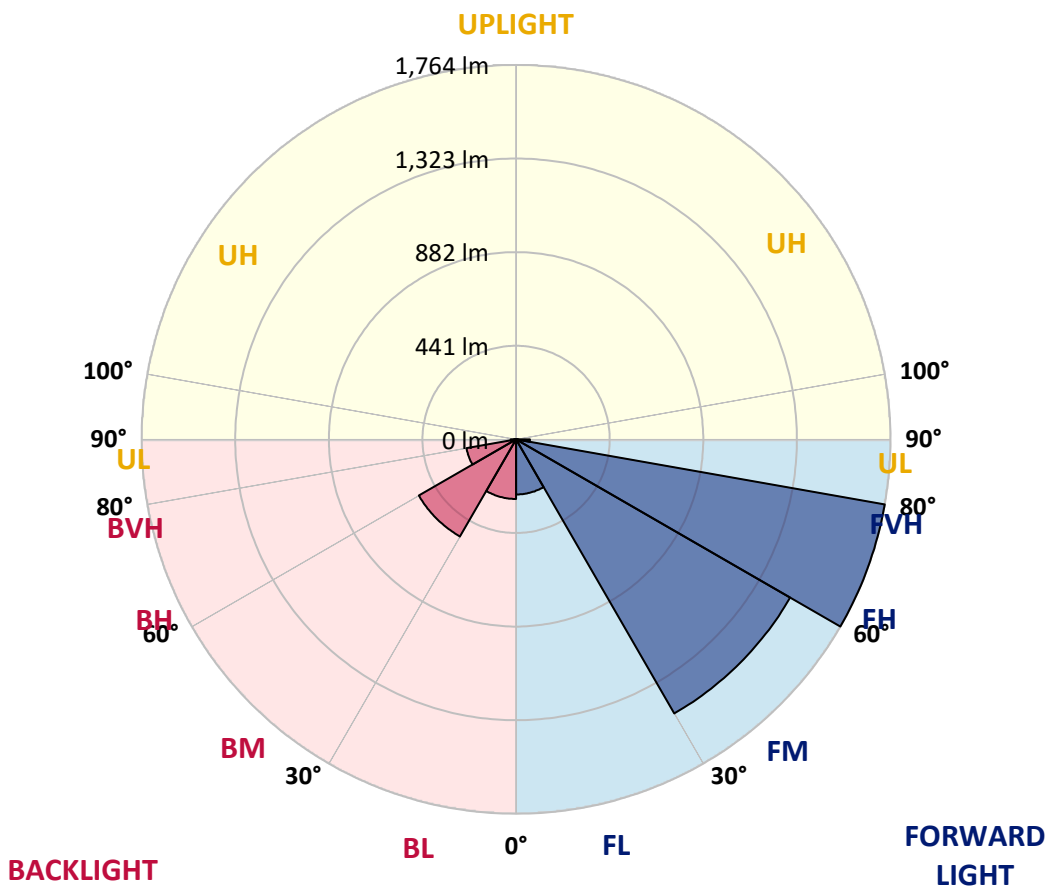
CATALOG NUMBER: GWS-SA1D-830-U-T4FT-W

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

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	259.8	5.6			
FM (30°-60°)	1491.1	32.0			
FH (60°-80°)	1764.0	37.9			G1/1800
FVH (80°-90°)	65.2	1.4			G1/100
BL (0°-30°)	280.9	6.0	B1/500		
BM (30°-60°)	529.0	11.4	B1/1000		
BH (60°-80°)	237.1	5.1	B1/500		G1/500
BVH (80°-90°)	25.7	0.6			G1/100
UL (90°-100°)	0.0	0.0		U0/0	
UH (100°-180°)	0.0	0.0		U0/0	

**BUG Rating: B1-U0-G1**

Type IV Short





REPORT NUMBER: P630585  
 CATALOG NUMBER: GWS-SA1D-830-U-T4FT-W

**CANDELA DISTRIBUTION (FULL):**

	0°	5°	15°	25°	35°	36°	45°	55°	65°	75°	85°
0°	681.0	681.0	681.0	681.0	681.0	681.0	681.0	681.0	681.0	681.0	681.0
2.5°	621.2	620.2	618.1	624.3	630.5	629.9	638.5	646.8	655.8	665.1	677.5
5°	571.5	570.8	569.1	578.4	587.7	587.4	601.5	615.0	633.3	653.3	678.2
7.5°	521.8	520.0	522.5	534.2	547.3	548.7	568.0	590.1	616.7	646.8	682.0
10°	477.9	477.6	478.6	491.7	511.4	512.8	537.7	568.4	603.6	643.7	690.6
12.5°	466.5	465.8	463.1	469.6	484.5	486.5	513.8	551.5	594.6	645.4	702.4
15°	485.2	483.4	473.8	470.7	477.9	479.6	502.8	541.5	589.5	648.5	717.2
17.5°	517.3	516.2	497.9	485.2	490.0	491.4	508.6	539.7	588.1	654.7	735.5
20°	564.2	559.8	531.1	511.8	511.8	513.8	524.2	547.3	589.8	662.3	756.2
22.5°	626.4	617.4	577.0	550.8	543.9	546.6	551.1	566.3	597.0	675.1	782.1
25°	696.2	687.9	639.9	602.9	593.2	594.3	590.5	593.2	612.9	692.7	814.2
27.5°	770.4	764.9	713.8	666.8	651.6	651.6	638.1	631.6	635.0	712.7	850.2
30°	836.7	829.1	785.9	734.5	714.5	714.5	688.9	674.7	666.5	737.2	898.2
32.5°	871.6	867.1	838.4	799.1	774.5	770.7	748.6	732.1	712.7	773.5	963.1
35°	917.2	916.1	898.9	868.1	837.0	831.5	816.3	803.2	769.7	818.7	1049.4
37.5°	974.5	972.7	970.0	951.7	914.4	913.4	899.9	884.0	840.5	884.0	1154.0
40°	1038.7	1035.6	1032.1	1031.8	1009.4	1005.6	1004.5	986.6	925.8	962.7	1263.2
42.5°	1127.1	1116.4	1083.9	1098.4	1115.0	1111.6	1124.7	1097.8	1032.1	1056.3	1366.4
45°	1235.9	1209.6	1145.4	1149.5	1191.3	1198.2	1243.8	1237.3	1149.2	1164.4	1475.2
47.5°	1301.1	1278.4	1218.6	1215.2	1267.3	1275.9	1375.0	1387.5	1275.2	1294.6	1609.5
50°	1354.7	1338.8	1289.7	1294.6	1349.8	1358.5	1505.2	1531.8	1394.0	1427.9	1765.6
52.5°	1419.2	1396.4	1358.5	1381.3	1448.9	1459.3	1649.9	1678.6	1501.1	1574.3	1927.2
55°	1455.5	1446.2	1446.9	1481.7	1566.7	1580.8	1801.5	1796.7	1599.1	1699.6	2048.7
57.5°	1539.1	1535.6	1567.4	1580.5	1704.1	1722.4	1953.1	1911.7	1688.2	1796.7	2107.1
60°	1686.5	1677.9	1705.5	1725.5	1874.0	1899.9	2122.3	2024.2	1748.7	1868.8	2087.4
62.5°	1893.7	1883.0	1884.0	1915.8	2101.6	2128.9	2310.5	2118.2	1767.3	1879.9	1962.8
65°	2151.3	2135.8	2118.2	2161.3	2403.7	2426.5	2515.3	2186.5	1722.8	1773.5	1702.4
67.5°	2423.1	2410.3	2389.6	2480.0	2795.0	2808.8	2744.9	2180.7	1581.5	1489.0	1194.1
70°	2438.9	2442.1	2540.1	2867.5	3305.7	3309.1	2962.1	2062.6	1280.8	965.2	595.0
72.5°	2275.3	2270.1	2397.9	2938.3	3716.6	3728.3	3064.7	1671.0	791.5	481.4	279.0
75°	1848.1	1857.1	1991.4	2570.9	3185.5	3195.9	2498.3	985.2	376.0	235.5	178.5
77.5°	795.6	845.7	1110.5	1811.2	2281.5	2249.4	1287.7	399.2	200.6	167.8	136.7
80°	229.6	249.3	395.7	861.2	1367.1	1342.9	509.7	149.5	139.9	126.0	98.1
82.5°	74.2	82.2	145.0	342.9	612.6	611.9	193.4	88.4	91.5	85.6	63.2
85°	20.7	23.8	44.5	103.9	189.6	185.8	55.9	41.8	48.7	49.4	31.4
87.5°	0.0	0.0	0.3	0.7	0.7	0.7	1.4	6.2	14.2	18.0	12.8
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: P630585  
 CATALOG NUMBER: GWS-SA1D-830-U-T4FT-W

**CANDELA DISTRIBUTION (continued):**

	90°	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°
0°	681.0	681.0	681.0	681.0	681.0	681.0	681.0	681.0	681.0	681.0	681.0
2.5°	685.1	684.1	698.2	709.3	719.6	726.5	728.6	730.0	732.8	734.1	732.8
5°	689.9	695.1	718.6	735.9	749.7	758.0	758.3	757.6	759.7	758.0	756.9
7.5°	700.3	710.3	740.0	758.3	767.3	767.6	759.3	749.7	744.8	740.7	739.3
10°	714.1	729.0	761.4	773.5	770.7	758.0	739.7	724.5	715.8	709.6	708.2
12.5°	733.1	749.7	780.4	780.1	762.8	740.0	718.6	700.3	687.9	680.6	678.2
15°	751.1	772.1	794.2	778.0	750.7	723.1	695.5	670.9	654.4	643.0	640.9
17.5°	773.2	795.6	804.2	771.4	735.5	700.0	663.0	630.9	608.4	595.0	593.9
20°	798.7	818.7	809.1	760.0	715.8	669.2	619.1	583.2	559.1	545.9	547.0
22.5°	828.4	842.9	810.5	744.5	688.6	625.7	569.8	535.2	519.0	512.1	512.4
25°	860.2	869.5	808.0	723.4	646.8	572.5	519.0	503.1	501.7	500.0	500.7
27.5°	897.8	895.7	800.8	693.7	590.5	510.7	483.4	487.6	493.1	492.4	493.1
30°	948.2	928.5	791.5	652.6	523.5	458.9	462.4	474.1	481.4	482.1	484.1
32.5°	1005.9	964.8	776.6	596.7	459.6	429.9	442.7	456.8	465.5	467.2	470.0
35°	1074.6	1006.2	750.4	526.9	413.7	412.6	424.4	434.1	443.4	444.1	444.1
37.5°	1153.7	1047.7	708.6	449.9	385.4	397.8	408.9	410.9	413.3	411.3	412.3
40°	1226.2	1087.7	649.2	379.8	362.2	384.7	394.0	387.1	379.5	374.3	375.4
42.5°	1287.0	1115.0	570.5	330.8	338.8	372.9	380.2	366.0	351.2	341.5	342.9
45°	1355.4	1140.2	477.9	297.7	318.7	364.7	369.5	351.2	332.2	317.7	315.6
47.5°	1449.6	1191.7	395.7	274.5	304.6	360.2	368.1	343.2	318.4	296.6	294.2
50°	1566.0	1264.5	327.0	259.3	298.0	357.7	367.8	334.6	304.9	279.4	277.6
52.5°	1693.1	1335.7	276.3	247.6	291.4	350.5	366.0	324.9	290.8	263.1	261.1
55°	1777.7	1363.6	242.1	236.5	280.7	339.1	359.1	315.6	269.3	244.1	241.0
57.5°	1802.5	1327.7	218.2	226.5	266.9	323.2	346.0	295.9	256.2	236.2	233.8
60°	1759.7	1237.3	203.4	218.2	251.7	302.8	323.2	284.5	245.9	227.9	226.2
62.5°	1638.9	1097.8	192.0	209.6	236.2	281.4	308.7	270.7	234.5	220.3	217.9
65°	1395.8	900.2	182.7	200.6	221.3	261.1	292.8	256.9	222.0	211.3	208.6
67.5°	976.2	632.3	172.7	189.9	206.5	241.4	276.3	244.1	209.3	201.3	198.6
70°	477.2	335.3	160.6	177.5	190.6	221.3	259.7	228.6	192.3	187.9	184.1
72.5°	227.2	187.5	146.4	160.6	168.9	194.8	232.1	206.2	172.3	162.6	156.1
75°	152.3	133.3	127.8	140.5	142.6	163.3	198.9	177.8	151.9	140.9	135.4
77.5°	115.3	101.9	107.4	118.8	114.6	134.3	163.7	158.5	137.1	127.1	124.3
80°	81.1	74.2	85.3	92.2	89.1	114.3	147.4	135.7	112.9	101.9	99.8
82.5°	51.1	49.7	62.8	63.9	64.9	90.5	121.2	106.7	87.7	72.2	67.0
85°	25.6	28.3	37.6	37.6	37.3	46.6	69.1	60.1	47.3	37.6	36.6
87.5°	8.6	12.1	16.2	13.1	10.0	7.9	9.0	11.1	11.7	11.4	11.4
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  
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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

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

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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)