

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: P632565

Luminaire Tested: GWS-SA2C-830-U-T4FT-W

Issue Date: 1/10/2023

**Test Information**

Test Method: LM-79-2019  
Report Number: P632565  
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-SA2C-830-U-T4FT-W  
Description: GALLEON WALL SLIM LUMINAIRE. (2) LIGHTSQUARES WITH 16 LEDS EACH AND TYPE IV FORWARD THROW OPTICS  
Light Source: (32) 3000K CCT, 80 CRI LEDS  
Ballast/Driver: -

**Summary**

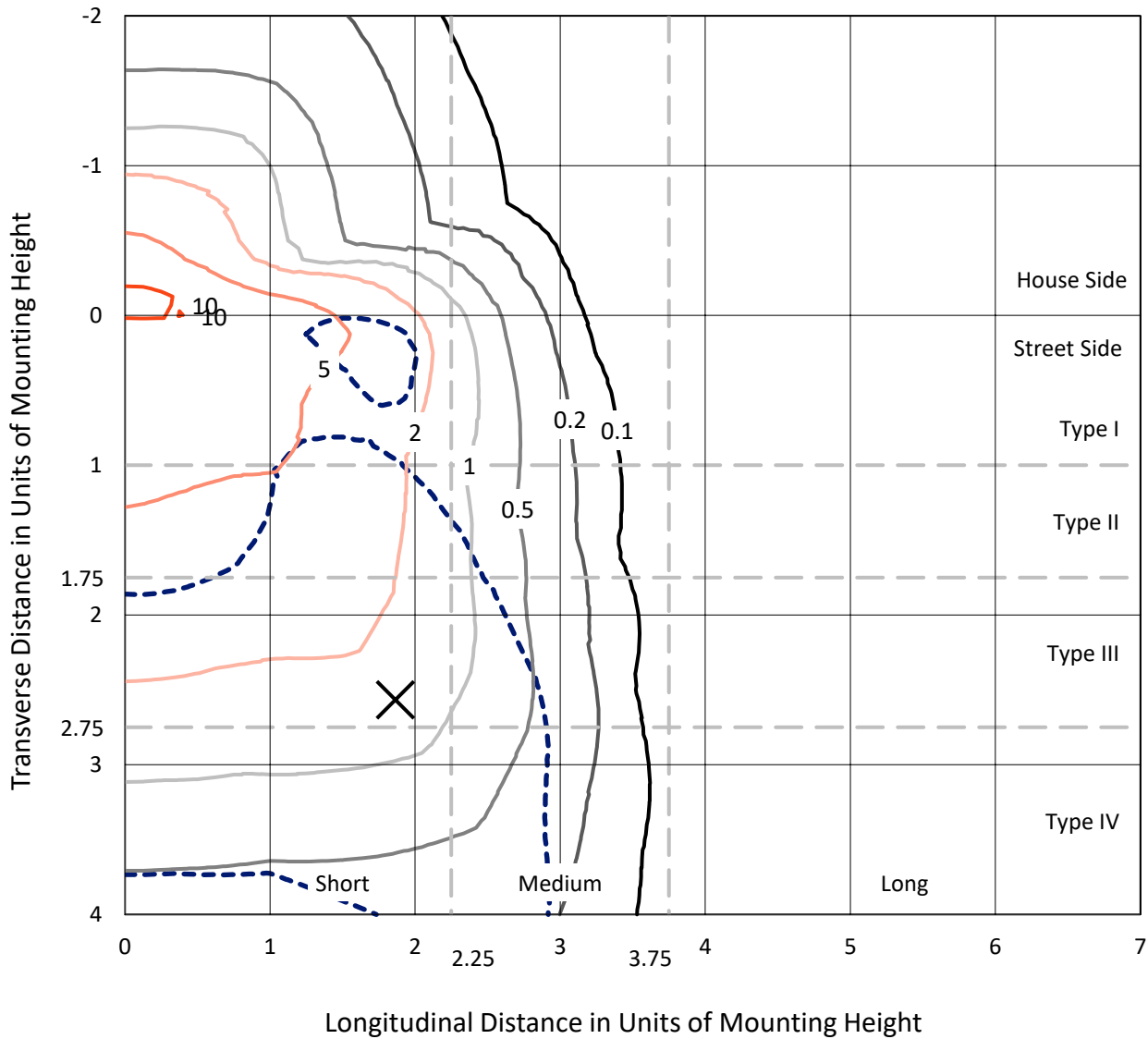
Lumens per Lamp: N/A  
Luminaire Lumens: 7101.7 lumens  
Efficiency: N/A  
Efficacy: 112.4 lumens/watt  
Luminous Opening: Rectangular (W 1' x L: 0.5' x H: 0')  
IES Classification: Type IV - Short  
BUG Rating: B1 - U0 - G2  
  
Input Watts (W): 63.2  
Input Voltage (V): 120  
Input Current (Ain): NR  
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



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 CATALOG NUMBER: GWS-SA2C-830-U-T4FT-W

### Iso-Footcandle Lines of Horizontal Illumination

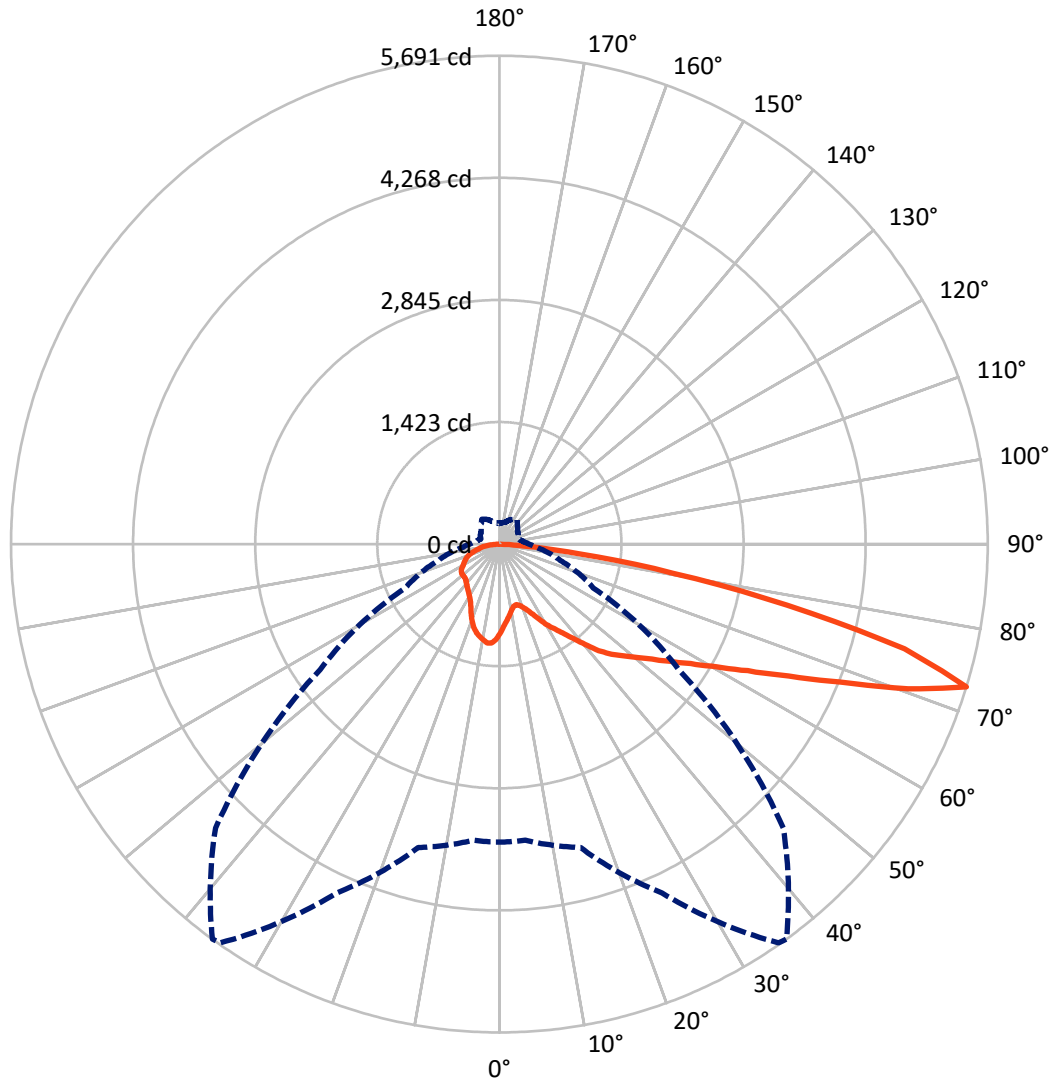
✕ Max cd  
 - - - 1/2 Max cd



Based on 10 foot mounting height. Maximum calculated value = 11.1 fc  
 Type IV - Short - N/A

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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	1637.2	0.0	1637.2
	% Fixture	23.1	0.0	23.1
<b>Street Side</b>	Lumens	5464.5	0.0	5464.5
	% Fixture	76.9	0.0	76.9
<b>Total</b>	Lumens	7101.7	0.0	7101.7
	% Fixture	100.0	0.0	100.0

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	97.2	1.4
10°-20°	274.1	3.9
20°-30°	454.0	6.4
30°-40°	679.8	9.6
40°-50°	991.8	14.0
50°-60°	1411.7	19.9
60°-70°	1783.5	25.1
70°-80°	1270.9	17.9
80°-90°	138.7	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°	7101.7	100.0
0°-180°	7101.7	100.0

**Coefficient of Utilization**



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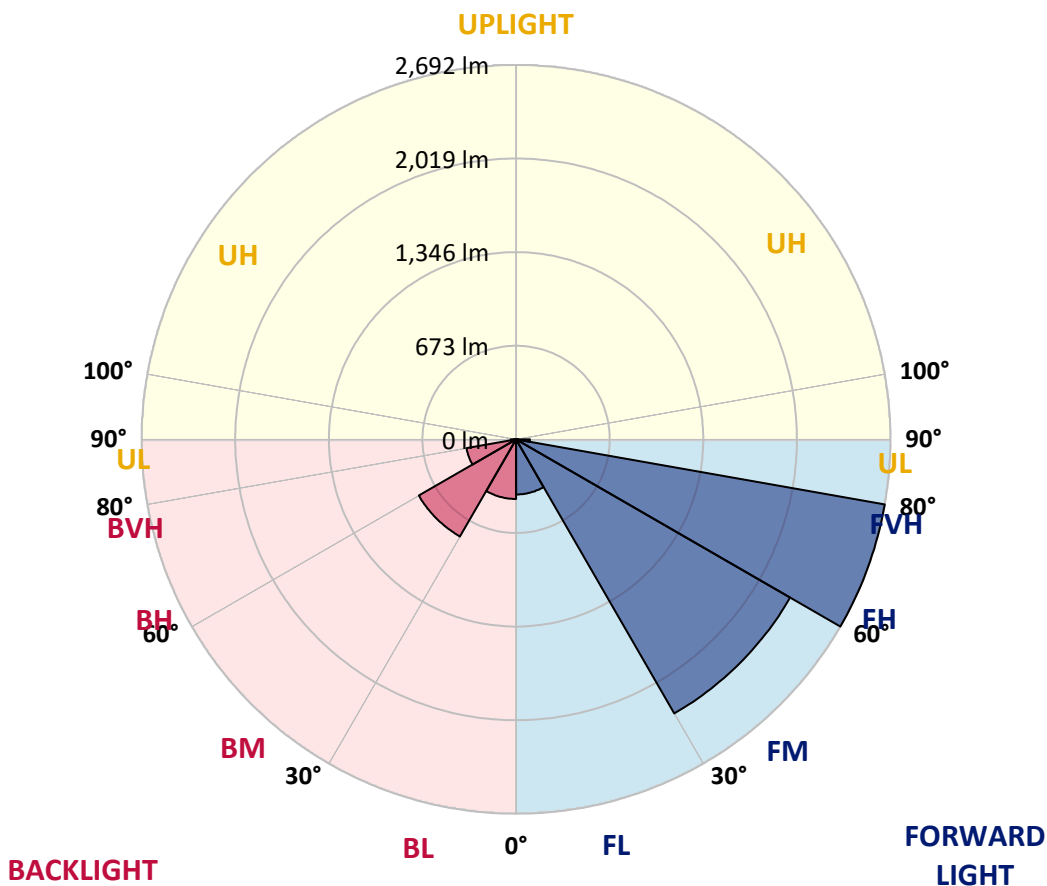
CATALOG NUMBER: GWS-SA2C-830-U-T4FT-W

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

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	396.5	5.6			
FM (30°-60°)	2275.9	32.0			
FH (60°-80°)	2692.5	37.9			G2/5000
FVH (80°-90°)	99.6	1.4			G1/100
BL (0°-30°)	428.7	6.0	B1/500		
BM (30°-60°)	807.4	11.4	B1/1000		
BH (60°-80°)	361.9	5.1	B1/500		G1/500
BVH (80°-90°)	39.2	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-G2**

Type IV Short





REPORT NUMBER: P632565  
 CATALOG NUMBER: GWS-SA2C-830-U-T4FT-W

**CANDELA DISTRIBUTION (FULL):**

	0°	5°	15°	25°	35°	36°	45°	55°	65°	75°	85°
0°	1039.4	1039.4	1039.4	1039.4	1039.4	1039.4	1039.4	1039.4	1039.4	1039.4	1039.4
2.5°	948.2	946.6	943.4	952.9	962.4	961.4	974.5	987.2	1000.9	1015.1	1034.1
5°	872.3	871.2	868.6	882.8	897.1	896.5	918.1	938.7	966.6	997.2	1035.1
7.5°	796.4	793.8	797.4	815.4	835.4	837.5	867.0	900.7	941.3	987.2	1040.9
10°	729.5	728.9	730.5	750.5	780.6	782.7	820.6	867.5	921.3	982.4	1054.1
12.5°	712.1	711.0	706.8	716.8	739.5	742.6	784.3	841.7	907.6	985.1	1072.0
15°	740.5	737.9	723.1	718.4	729.5	732.1	767.4	826.4	899.7	989.8	1094.7
17.5°	789.5	788.0	760.0	740.5	747.9	750.0	776.4	823.8	897.6	999.3	1122.6
20°	861.2	854.4	810.6	781.1	781.1	784.3	800.1	835.4	900.2	1010.9	1154.3
22.5°	956.1	942.4	880.7	840.7	830.1	834.3	841.2	864.4	911.3	1030.4	1193.8
25°	1062.6	1049.9	976.6	920.2	905.5	907.1	901.3	905.5	935.5	1057.3	1242.8
27.5°	1175.9	1167.4	1089.4	1017.8	994.6	994.6	974.0	964.0	969.3	1087.9	1297.6
30°	1277.1	1265.5	1199.6	1121.1	1090.5	1090.5	1051.5	1029.9	1017.2	1125.3	1370.9
32.5°	1330.3	1323.5	1279.7	1219.6	1182.2	1176.4	1142.7	1117.4	1087.9	1180.6	1470.0
35°	1399.9	1398.3	1371.9	1325.0	1277.6	1269.2	1246.0	1225.9	1174.8	1249.7	1601.7
37.5°	1487.4	1484.7	1480.5	1452.6	1395.7	1394.1	1373.5	1349.3	1282.9	1349.3	1761.4
40°	1585.4	1580.7	1575.4	1574.9	1540.6	1534.8	1533.2	1505.8	1413.1	1469.4	1928.0
42.5°	1720.3	1704.0	1654.4	1676.6	1701.9	1696.6	1716.6	1675.5	1575.4	1612.3	2085.6
45°	1886.4	1846.3	1748.3	1754.6	1818.4	1828.9	1898.5	1888.5	1754.1	1777.3	2251.6
47.5°	1986.0	1951.2	1860.0	1854.7	1934.3	1947.5	2098.8	2117.7	1946.4	1976.0	2456.6
50°	2067.7	2043.4	1968.6	1976.0	2060.3	2073.5	2297.5	2338.0	2127.7	2179.4	2694.9
52.5°	2166.2	2131.4	2073.5	2108.2	2211.6	2227.4	2518.3	2562.0	2291.1	2402.9	2941.5
55°	2221.6	2207.3	2208.4	2261.6	2391.3	2412.9	2749.7	2742.3	2440.8	2594.2	3127.1
57.5°	2349.1	2343.8	2392.3	2412.4	2601.0	2629.0	2981.1	2917.8	2576.8	2742.3	3216.1
60°	2574.2	2561.0	2603.2	2633.7	2860.4	2899.9	3239.3	3089.6	2669.0	2852.5	3186.1
62.5°	2890.4	2874.1	2875.6	2924.1	3207.7	3249.3	3526.6	3233.0	2697.5	2869.3	2995.8
65°	3283.6	3259.9	3233.0	3298.9	3668.9	3703.7	3839.1	3337.4	2629.5	2707.0	2598.4
67.5°	3698.4	3678.9	3647.3	3785.4	4266.0	4287.1	4189.6	3328.4	2413.9	2272.7	1822.6
70°	3722.6	3727.4	3877.1	4376.7	5045.6	5050.8	4521.1	3148.1	1954.9	1473.1	908.1
72.5°	3472.8	3464.9	3659.9	4484.8	5672.8	5690.7	4677.7	2550.5	1208.0	734.7	425.9
75°	2820.8	2834.5	3039.6	3924.0	4862.1	4878.0	3813.3	1503.7	574.0	359.5	272.5
77.5°	1214.4	1290.8	1695.0	2764.4	3482.3	3433.3	1965.4	609.3	306.2	256.2	208.7
80°	350.5	380.5	604.0	1314.5	2086.6	2049.7	777.9	228.2	213.5	192.4	149.7
82.5°	113.3	125.4	221.4	523.4	935.0	934.0	295.2	134.9	139.7	130.7	96.5
85°	31.6	36.4	68.0	158.6	289.4	283.6	85.4	63.8	74.3	75.4	48.0
87.5°	0.0	0.0	0.5	1.1	1.1	1.1	2.1	9.5	21.6	27.4	19.5
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: P632565  
 CATALOG NUMBER: GWS-SA2C-830-U-T4FT-W

**CANDELA DISTRIBUTION (continued):**

	90°	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°
0°	1039.4	1039.4	1039.4	1039.4	1039.4	1039.4	1039.4	1039.4	1039.4	1039.4	1039.4
2.5°	1045.7	1044.1	1065.7	1082.6	1098.4	1108.9	1112.1	1114.2	1118.4	1120.5	1118.4
5°	1053.1	1061.0	1096.8	1123.2	1144.3	1156.9	1157.4	1156.4	1159.5	1156.9	1155.3
7.5°	1068.9	1084.2	1129.5	1157.4	1171.1	1171.7	1159.0	1144.3	1136.9	1130.5	1128.4
10°	1090.0	1112.6	1162.2	1180.6	1176.4	1156.9	1129.0	1105.8	1092.6	1083.1	1081.0
12.5°	1119.0	1144.3	1191.2	1190.6	1164.3	1129.5	1096.8	1068.9	1049.9	1038.8	1035.1
15°	1146.4	1178.5	1212.2	1187.5	1145.8	1103.7	1061.5	1024.1	998.8	981.4	978.2
17.5°	1180.1	1214.4	1227.5	1177.5	1122.6	1068.4	1012.0	962.9	928.7	908.1	906.5
20°	1219.1	1249.7	1234.9	1160.1	1092.6	1021.4	945.0	890.2	853.3	833.3	834.9
22.5°	1264.4	1286.6	1237.0	1136.3	1051.0	955.0	869.7	816.9	792.2	781.6	782.2
25°	1312.9	1327.1	1233.3	1104.2	987.2	873.9	792.2	767.9	765.8	763.2	764.2
27.5°	1370.4	1367.2	1222.3	1058.9	901.3	779.5	737.9	744.2	752.6	751.6	752.6
30°	1447.3	1417.3	1208.0	996.1	799.0	700.5	705.7	723.7	734.7	735.8	738.9
32.5°	1535.3	1472.6	1185.4	910.8	701.5	656.2	675.7	697.3	710.5	713.1	717.3
35°	1640.2	1535.9	1145.3	804.3	631.4	629.8	647.8	662.5	676.7	677.8	677.8
37.5°	1760.9	1599.1	1081.5	686.8	588.2	607.2	624.0	627.2	630.9	627.7	629.3
40°	1871.6	1660.2	990.9	579.8	552.9	587.1	601.4	590.8	579.2	571.3	572.9
42.5°	1964.4	1701.9	870.7	504.9	517.0	569.2	580.3	558.7	536.0	521.3	523.4
45°	2068.7	1740.4	729.5	454.3	486.5	556.6	564.0	536.0	507.0	484.9	481.7
47.5°	2212.6	1818.9	604.0	419.0	464.9	549.7	561.8	523.9	486.0	452.7	449.1
50°	2390.2	1930.1	499.1	395.8	454.9	546.0	561.3	510.7	465.4	426.4	423.8
52.5°	2584.2	2038.7	421.6	377.9	444.8	535.0	558.7	496.0	443.8	401.6	398.5
55°	2713.3	2081.4	369.5	361.0	428.5	517.6	548.1	481.7	411.1	372.6	367.9
57.5°	2751.3	2026.6	333.1	345.8	407.4	493.3	528.1	451.7	391.1	360.5	356.8
60°	2685.9	1888.5	310.4	333.1	384.2	462.2	493.3	434.3	375.3	347.9	345.2
62.5°	2501.4	1675.5	293.0	319.9	360.5	429.6	471.2	413.2	357.9	336.3	332.6
65°	2130.4	1374.0	278.8	306.2	337.8	398.5	446.9	392.1	338.9	322.6	318.3
67.5°	1490.0	965.0	263.5	289.9	315.2	368.4	421.6	372.6	319.4	307.3	303.1
70°	728.4	511.8	245.1	270.9	290.9	337.8	396.4	348.9	293.6	286.7	280.9
72.5°	346.8	286.2	223.5	245.1	257.7	297.3	354.2	314.7	263.0	248.2	238.2
75°	232.4	203.4	195.0	214.5	217.7	249.3	303.6	271.4	231.9	215.0	206.6
77.5°	176.0	155.5	163.9	181.3	175.0	205.0	249.8	241.9	209.2	194.0	189.7
80°	123.9	113.3	130.2	140.7	136.0	174.5	225.1	207.1	172.3	155.5	152.3
82.5°	78.0	75.9	95.9	97.5	99.1	138.1	185.0	162.9	133.9	110.2	102.2
85°	39.0	43.2	57.4	57.4	56.9	71.2	105.4	91.7	72.2	57.4	55.9
87.5°	13.2	18.4	24.8	20.0	15.3	12.1	13.7	16.9	17.9	17.4	17.4
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

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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)