

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: P631548

Luminaire Tested: GWS-SA1F-830-U-SL4-W

Issue Date: 1/10/2023

**Test Information**

Test Method: LM-79-2019  
Report Number: P631548  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2209-782-35)  
Test Lab: COOPER LIGHTING SOLUTIONS  
Issue Date: 1/10/2023  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: McGRAW-EDISON  
Catalog Number: GWS-SA1F-830-U-SL4-W  
Description: GALLEON WALL SLIM LUMINAIRE. (1) LIGHTSQUARES WITH 16 LEDS EACH AND TYPE IV SPILL LIGHT ELIMINATOR OPTICS  
Light Source: (16) 3000K CCT, 80 CRI LEDS  
Ballast/Driver: -

**Summary**

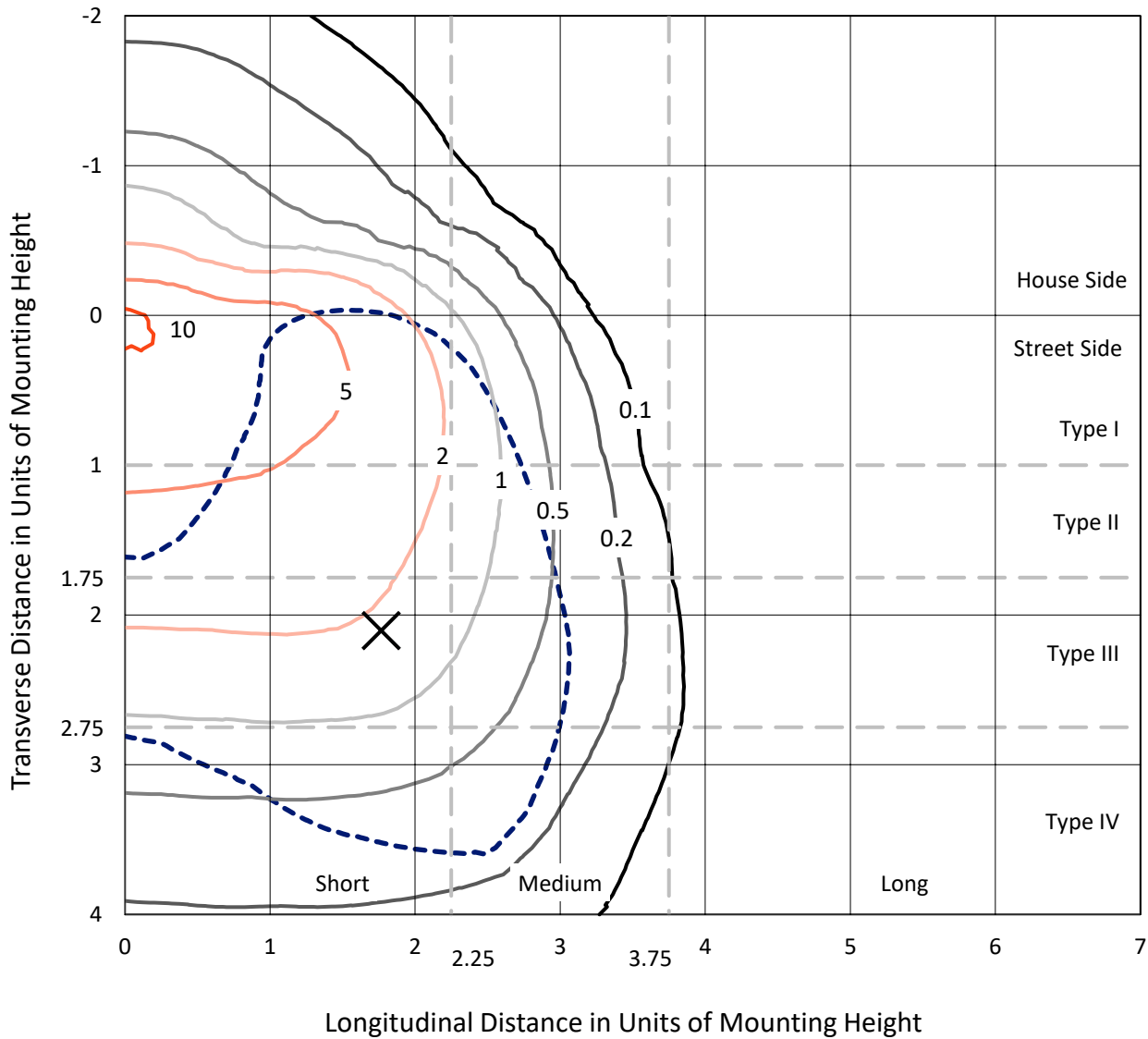
Lumens per Lamp: N/A  
Luminaire Lumens: 6427.6 lumens  
Efficiency: N/A  
Efficacy: 95.6 lumens/watt  
Luminous Opening: Rectangular (W 0.5' x L: 0.5' x H: 0')  
IES Classification: Type IV - Short  
BUG Rating: B1 - U0 - G2  
  
Input Watts (W): 67.2  
Input Voltage (V): 120  
Input Current (Ain): 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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### Iso-Footcandle Lines of Horizontal Illumination

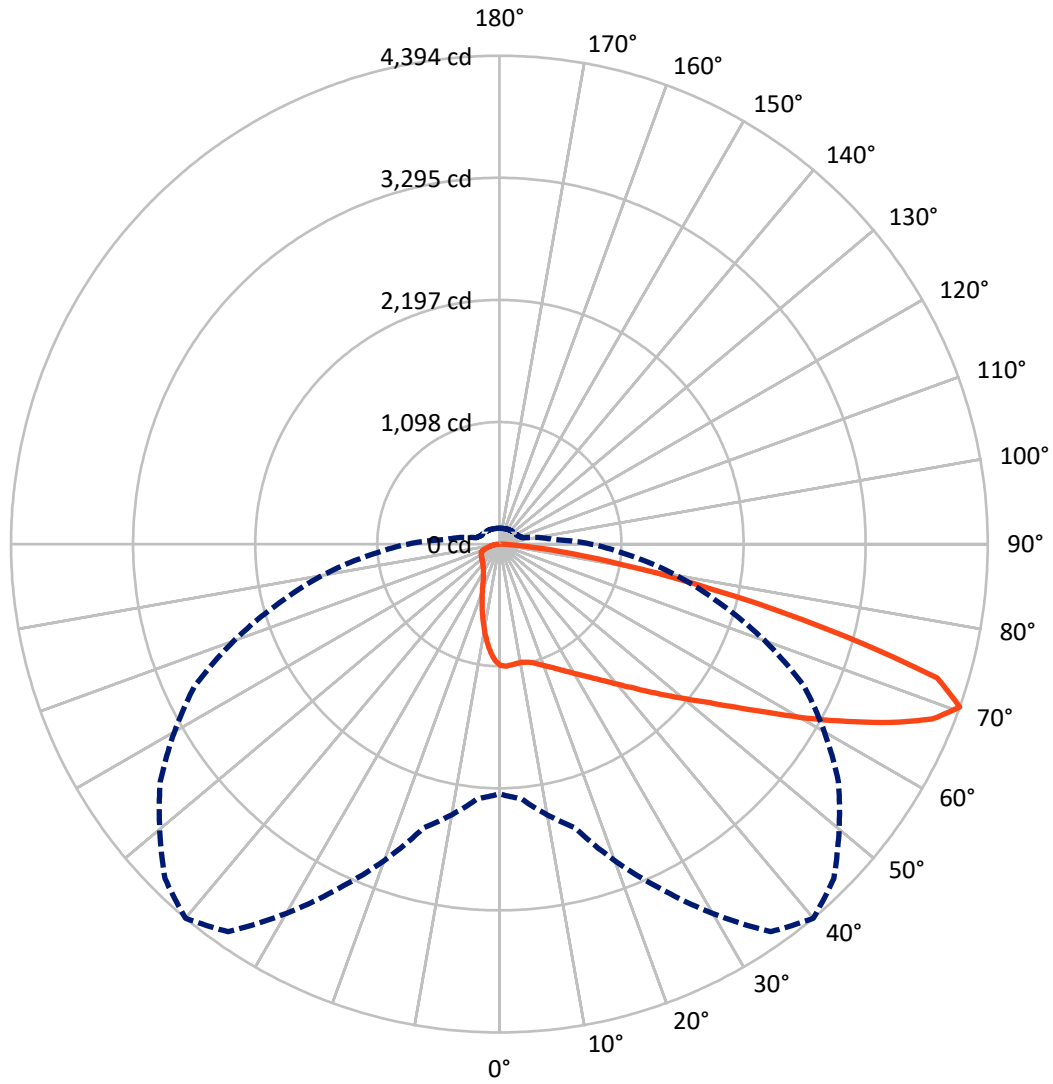
✕ Max cd  
 - - - 1/2 Max cd



Based on 10 foot mounting height. Maximum calculated value = 10.9 fc  
 Type IV - Short - N/A

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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	990.0	0.0	990.0
	% Fixture	15.4	0.0	15.4
<b>Street Side</b>	Lumens	5437.6	0.0	5437.6
	% Fixture	84.6	0.0	84.6
<b>Total</b>	Lumens	6427.6	0.0	6427.6
	% Fixture	100.0	0.0	100.0

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	96.4	1.5
10°-20°	251.3	3.9
20°-30°	394.6	6.1
30°-40°	593.3	9.2
40°-50°	915.9	14.2
50°-60°	1360.1	21.2
60°-70°	1714.4	26.7
70°-80°	991.4	15.4
80°-90°	110.0	1.7
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°	6427.6	100.0
0°-180°	6427.6	100.0

**Coefficient of Utilization**



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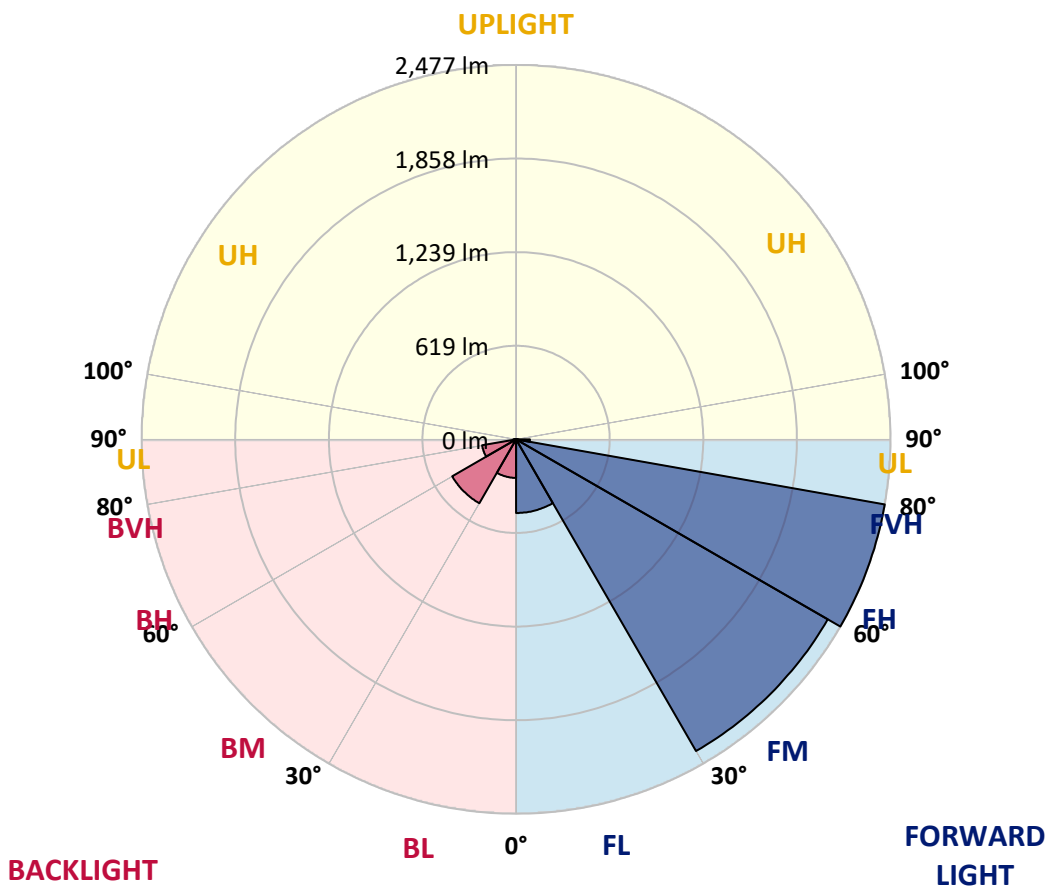
CATALOG NUMBER: GWS-SA1F-830-U-SL4-W

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

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	487.3	7.6			
FM (30°-60°)	2381.3	37.0			
FH (60°-80°)	2477.3	38.5			G2/5000
FVH (80°-90°)	91.6	1.4			G1/100
BL (0°-30°)	255.1	4.0	B1/500		
BM (30°-60°)	488.0	7.6	B1/1000		
BH (60°-80°)	228.5	3.6	B1/500		G1/500
BVH (80°-90°)	18.4	0.3			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





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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	15°	25°	35°	40°	45°	55°	65°	75°	85°
0°	1091.5	1091.5	1091.5	1091.5	1091.5	1091.5	1091.5	1091.5	1091.5	1091.5	1091.5
2.5°	1098.2	1100.1	1101.6	1103.5	1102.5	1099.6	1102.0	1102.0	1096.8	1091.0	1085.7
5°	1099.6	1102.0	1101.6	1101.1	1097.2	1092.4	1092.4	1089.6	1080.4	1071.3	1062.7
7.5°	1096.8	1096.3	1095.8	1094.4	1090.0	1084.8	1083.8	1078.0	1066.1	1053.6	1041.1
10°	1083.8	1083.3	1084.8	1088.1	1087.2	1082.4	1082.4	1077.1	1063.2	1047.8	1031.5
12.5°	1073.2	1073.2	1079.0	1088.1	1091.5	1089.6	1090.0	1086.2	1070.4	1052.1	1032.9
15°	1074.7	1075.2	1087.6	1102.5	1108.8	1107.3	1107.8	1103.5	1085.7	1067.5	1041.6
17.5°	1084.3	1086.7	1108.3	1128.9	1137.1	1135.1	1131.8	1124.6	1104.4	1083.8	1052.1
20°	1104.4	1108.3	1136.1	1162.0	1171.6	1167.3	1161.5	1147.1	1125.1	1102.5	1063.7
22.5°	1144.3	1146.7	1177.4	1202.8	1210.5	1205.2	1193.7	1173.0	1147.6	1124.1	1077.6
25°	1200.4	1203.3	1232.5	1256.0	1254.1	1247.9	1232.1	1206.6	1176.4	1151.5	1097.7
27.5°	1267.1	1271.9	1300.7	1319.4	1306.9	1297.8	1280.0	1249.3	1215.3	1192.7	1128.4
30°	1340.0	1341.9	1366.4	1385.1	1365.9	1353.4	1331.8	1298.7	1268.0	1251.2	1174.5
32.5°	1410.5	1412.4	1433.6	1444.1	1424.0	1414.8	1396.1	1361.1	1339.5	1330.4	1243.1
35°	1484.9	1484.4	1501.7	1510.8	1490.2	1486.3	1467.1	1440.3	1436.4	1448.4	1343.4
37.5°	1559.3	1554.9	1564.1	1576.0	1564.5	1568.4	1555.9	1546.8	1561.7	1592.8	1476.7
40°	1618.7	1618.7	1628.3	1643.2	1647.1	1663.8	1656.7	1668.6	1716.6	1791.0	1641.8
42.5°	1671.5	1672.0	1692.2	1715.2	1743.0	1768.9	1774.7	1805.9	1905.2	2021.8	1849.0
45°	1726.7	1727.2	1754.5	1788.1	1847.1	1896.5	1908.1	1978.1	2120.1	2262.1	2074.1
47.5°	1790.5	1785.2	1823.1	1879.3	1963.2	2034.2	2064.0	2163.3	2342.7	2517.4	2286.1
50°	1862.5	1851.4	1893.7	1990.6	2094.2	2191.6	2241.5	2355.2	2581.7	2752.9	2485.7
52.5°	1943.6	1937.3	1981.5	2099.5	2257.8	2370.1	2437.7	2586.9	2813.9	2987.5	2644.0
55°	2044.3	2029.4	2093.2	2243.4	2449.7	2592.7	2672.8	2816.3	3067.7	3200.6	2764.9
57.5°	2154.7	2138.3	2223.7	2423.3	2699.2	2856.1	2956.4	3074.4	3306.6	3363.7	2835.9
60°	2273.6	2268.4	2369.6	2634.4	2996.7	3179.0	3251.4	3358.4	3514.3	3458.2	2818.2
62.5°	2382.5	2380.6	2527.9	2863.3	3311.9	3512.4	3570.0	3598.3	3664.0	3452.0	2677.1
65°	2497.2	2513.5	2712.6	3128.6	3673.1	3869.8	3893.8	3821.9	3714.4	3288.4	2388.3
67.5°	2511.6	2543.3	2828.7	3377.1	4015.7	4201.4	4182.2	3906.8	3565.7	2833.1	1872.1
70°	2246.3	2301.5	2643.5	3415.0	4257.0	4393.7	4255.1	3724.0	3025.9	2052.5	1177.4
72.5°	1876.9	1924.4	2226.6	2912.2	3945.6	4119.8	3932.2	3152.1	2138.3	1177.4	599.7
75°	1460.9	1516.1	1794.8	2314.9	2954.0	3023.5	2929.5	2198.3	1175.4	485.5	272.5
77.5°	891.4	931.2	1148.1	1568.4	2066.9	1962.7	1663.4	1232.5	515.8	232.7	168.4
80°	394.4	418.8	565.7	842.5	1194.2	1128.9	890.0	526.3	282.1	147.8	117.5
82.5°	211.6	227.4	278.7	333.4	524.4	548.4	444.7	303.2	151.6	84.4	67.2
85°	93.1	102.2	126.7	120.9	172.2	169.4	170.8	208.2	72.4	38.9	43.7
87.5°	0.0	0.0	0.0	0.0	0.5	0.5	5.3	27.8	7.2	11.5	10.1
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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**CANDELA DISTRIBUTION (continued):**

	90°	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°
0°	1091.5	1091.5	1091.5	1091.5	1091.5	1091.5	1091.5	1091.5	1091.5	1091.5	1091.5
2.5°	1080.0	1071.3	1068.9	1066.1	1060.8	1051.7	1044.9	1037.3	1033.9	1030.1	1030.5
5°	1053.1	1042.5	1032.5	1019.5	1003.2	985.0	972.5	958.1	950.4	943.2	945.1
7.5°	1030.1	1013.8	993.1	965.8	936.5	903.9	877.5	856.9	843.0	833.4	838.2
10°	1015.7	996.5	960.5	915.9	866.5	816.6	778.7	743.2	721.1	703.8	702.9
12.5°	1012.8	987.8	935.6	870.8	799.3	732.6	677.0	629.0	599.7	578.1	586.3
15°	1015.7	984.0	914.0	829.0	738.8	648.7	579.6	524.4	489.4	469.7	468.3
17.5°	1019.0	980.2	889.5	783.9	675.5	572.4	492.2	433.7	397.7	378.1	378.5
20°	1021.9	974.4	860.7	734.5	611.2	501.4	418.4	362.7	330.6	316.2	318.6
22.5°	1026.7	968.7	830.0	681.8	545.5	432.8	359.8	314.7	295.5	285.9	286.4
25°	1035.8	965.3	798.3	624.2	480.7	378.1	319.5	289.3	277.3	271.6	271.1
27.5°	1054.5	968.2	765.2	568.5	422.2	336.3	293.6	273.9	265.8	262.0	261.5
30°	1085.7	979.7	736.4	511.9	371.8	303.7	275.9	263.9	259.1	255.7	255.2
32.5°	1133.2	1001.3	705.3	459.1	331.0	279.7	262.0	255.7	252.4	250.4	250.4
35°	1205.2	1040.6	674.6	413.1	299.4	261.0	250.9	248.5	245.6	244.7	245.6
37.5°	1308.8	1103.5	646.7	372.8	276.8	246.6	238.9	239.9	237.5	238.9	240.4
40°	1440.3	1187.4	623.2	339.7	260.0	236.0	228.4	231.7	230.3	231.7	234.1
42.5°	1606.8	1291.5	605.5	313.8	248.0	227.4	220.2	223.6	222.6	224.5	226.9
45°	1792.4	1428.8	597.3	295.5	239.4	221.2	213.5	215.9	214.9	216.4	218.8
47.5°	1970.4	1553.5	604.5	285.0	232.2	215.9	207.7	208.7	208.2	207.7	209.2
50°	2123.9	1652.8	625.1	281.6	227.4	210.6	202.9	203.4	202.0	199.1	200.1
52.5°	2249.2	1732.5	637.6	281.6	225.0	204.9	197.7	198.1	195.3	191.4	191.9
55°	2331.7	1764.6	627.5	281.1	224.1	200.1	192.4	192.9	190.0	185.2	185.7
57.5°	2355.2	1733.4	585.3	275.9	223.1	196.2	187.1	188.1	186.2	180.9	180.9
60°	2289.5	1619.2	508.1	263.9	220.7	193.8	183.3	184.7	183.8	178.5	178.5
62.5°	2117.2	1416.3	416.0	245.6	214.0	190.9	179.9	182.8	185.2	182.3	181.8
65°	1794.8	1134.7	338.2	225.5	205.3	186.2	175.1	182.3	187.6	191.4	191.4
67.5°	1346.7	812.3	275.9	204.4	192.4	176.6	168.9	175.6	179.4	181.8	183.3
70°	820.9	477.9	217.3	179.9	173.7	162.2	156.4	149.7	144.4	143.5	143.9
72.5°	401.6	273.5	176.6	153.0	148.2	137.7	124.7	121.9	119.5	118.0	117.5
75°	221.2	190.5	145.9	127.1	118.5	105.5	102.7	97.9	96.9	95.0	95.5
77.5°	156.4	150.2	120.4	103.2	90.2	83.5	84.9	81.6	81.6	80.1	79.6
80°	117.5	118.0	92.6	75.3	66.7	64.3	65.7	65.7	64.8	64.3	63.8
82.5°	74.4	84.0	62.4	48.5	47.5	48.0	47.5	47.0	48.0	46.5	46.1
85°	51.3	60.5	37.9	28.8	28.8	28.3	29.3	28.8	29.7	28.3	28.3
87.5°	11.5	26.9	13.9	8.6	9.1	8.6	9.1	9.6	10.6	11.0	11.0
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**



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

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)