

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: P634518

Luminaire Tested: GWS-SA3B-830-U-SL4-W

Issue Date: 1/10/2023

**Test Information**

Test Method: LM-79-2019  
Report Number: P634518  
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-SA3B-830-U-SL4-W  
Description: GALLEON WALL SLIM LUMINAIRE. (3) LIGHTSQUARES WITH 16 LEDS EACH AND TYPE IV SPILL LIGHT ELIMINATOR OPTICS  
Light Source: (48) 3000K CCT, 80 CRI LEDS  
Ballast/Driver: -

**Summary**

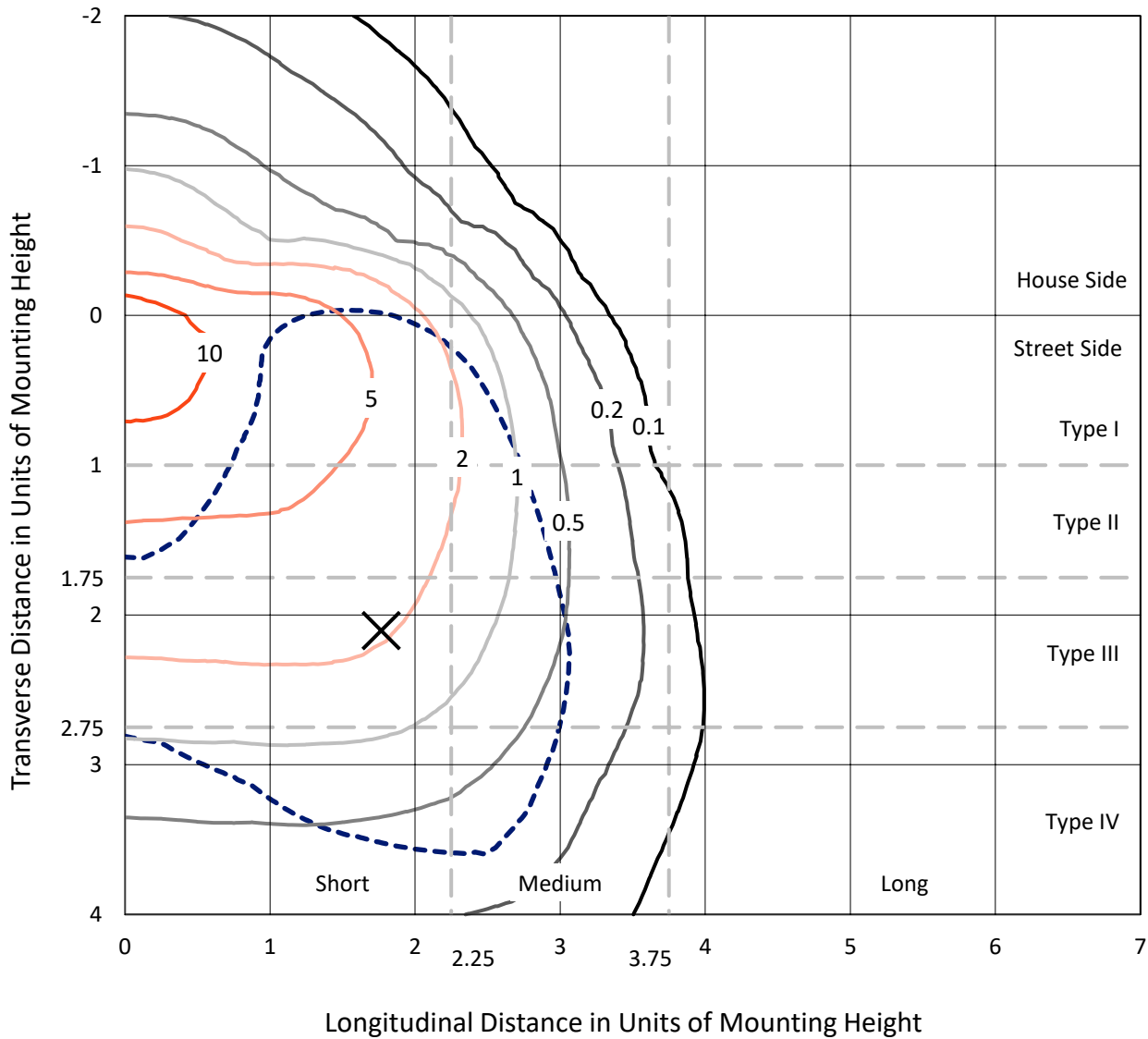
Lumens per Lamp: N/A  
Luminaire Lumens: 7935.5 lumens  
Efficiency: N/A  
Efficacy: 116.2 lumens/watt  
Luminous Opening: Rectangular (W 1.5' x L: 0.5' x H: 0')  
IES Classification: Type IV - Short  
BUG Rating: B1 - U0 - G2  
  
Input Watts (W): 68.3  
Input Voltage (V): 120  
Input Current (Ain): 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: P634518  
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### Iso-Footcandle Lines of Horizontal Illumination

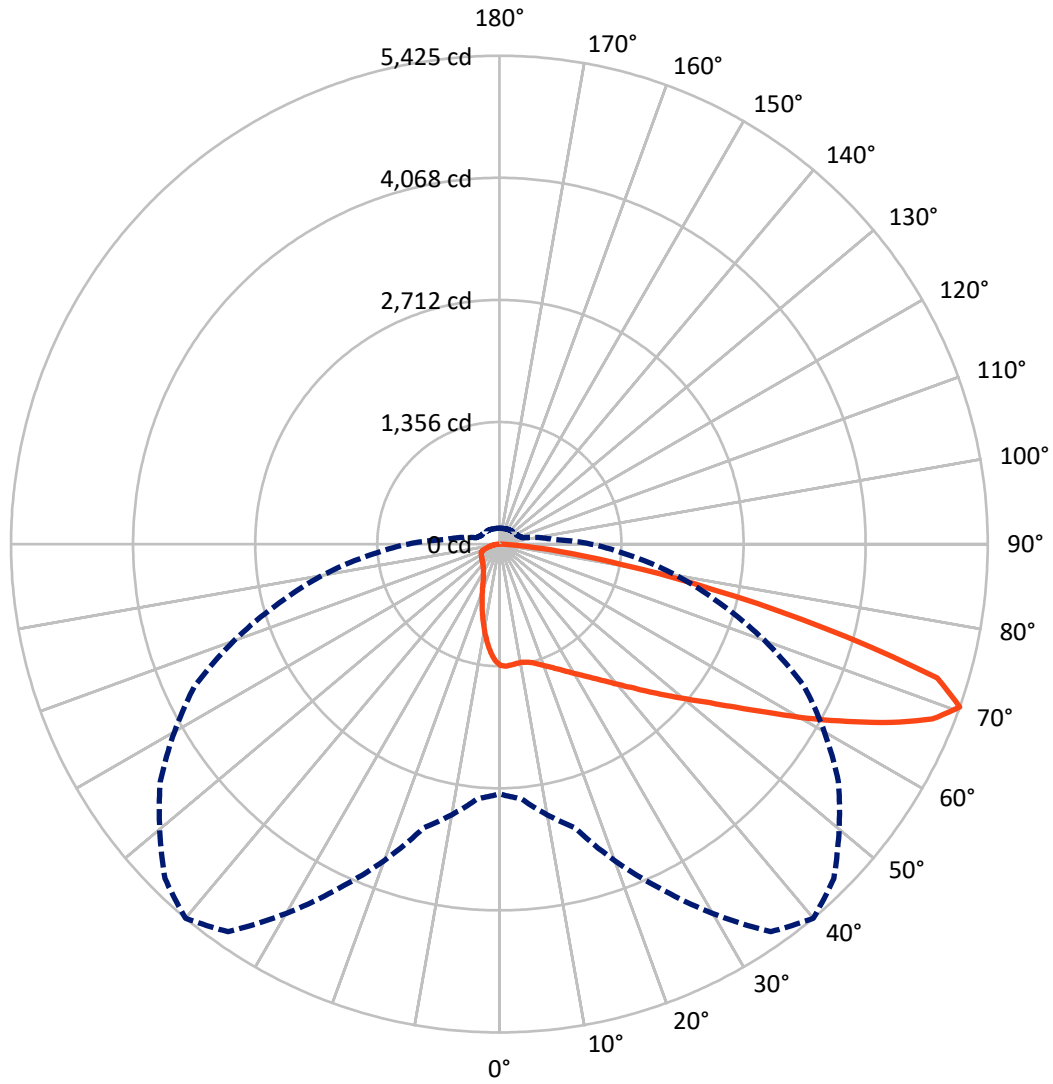
✕ Max cd  
 - - - 1/2 Max cd



Based on 10 foot mounting height. Maximum calculated value = 13.5 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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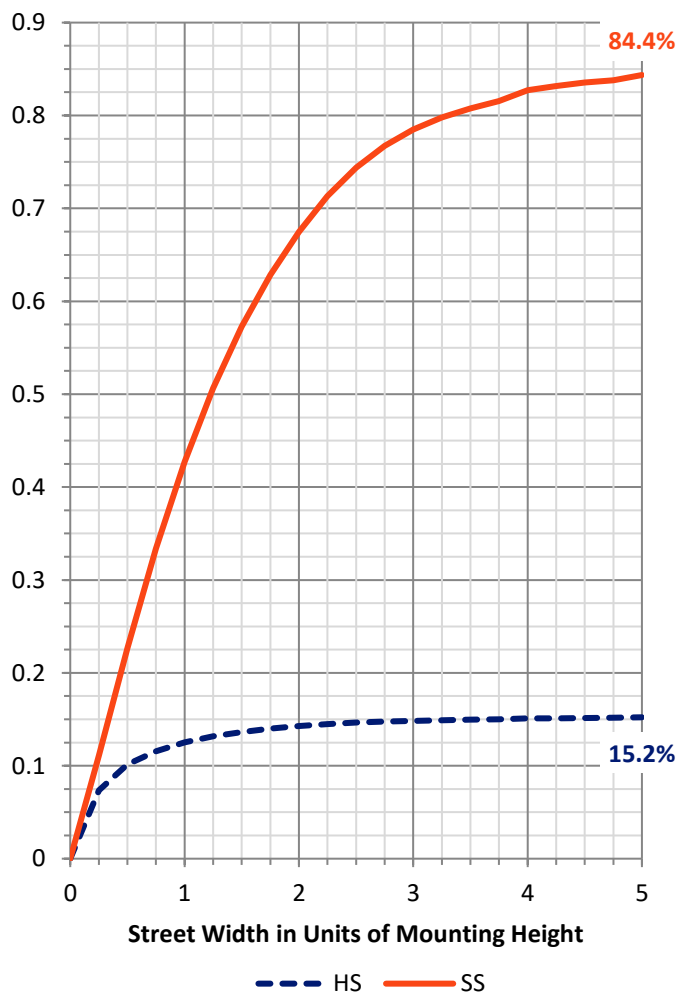
**FLUX DISTRIBUTION:**

		Downward	Upward	Total
<b>House Side</b>	Lumens	1222.3	0.0	1222.3
	% Fixture	15.4	0.0	15.4
<b>Street Side</b>	Lumens	6713.2	0.0	6713.2
	% Fixture	84.6	0.0	84.6
<b>Total</b>	Lumens	7935.5	0.0	7935.5
	% Fixture	100.0	0.0	100.0

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	119.0	1.5
10°-20°	310.3	3.9
20°-30°	487.2	6.1
30°-40°	732.6	9.2
40°-50°	1130.7	14.2
50°-60°	1679.2	21.2
60°-70°	2116.6	26.7
70°-80°	1224.0	15.4
80°-90°	135.8	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°	7935.5	100.0
0°-180°	7935.5	100.0

**Coefficient of Utilization**



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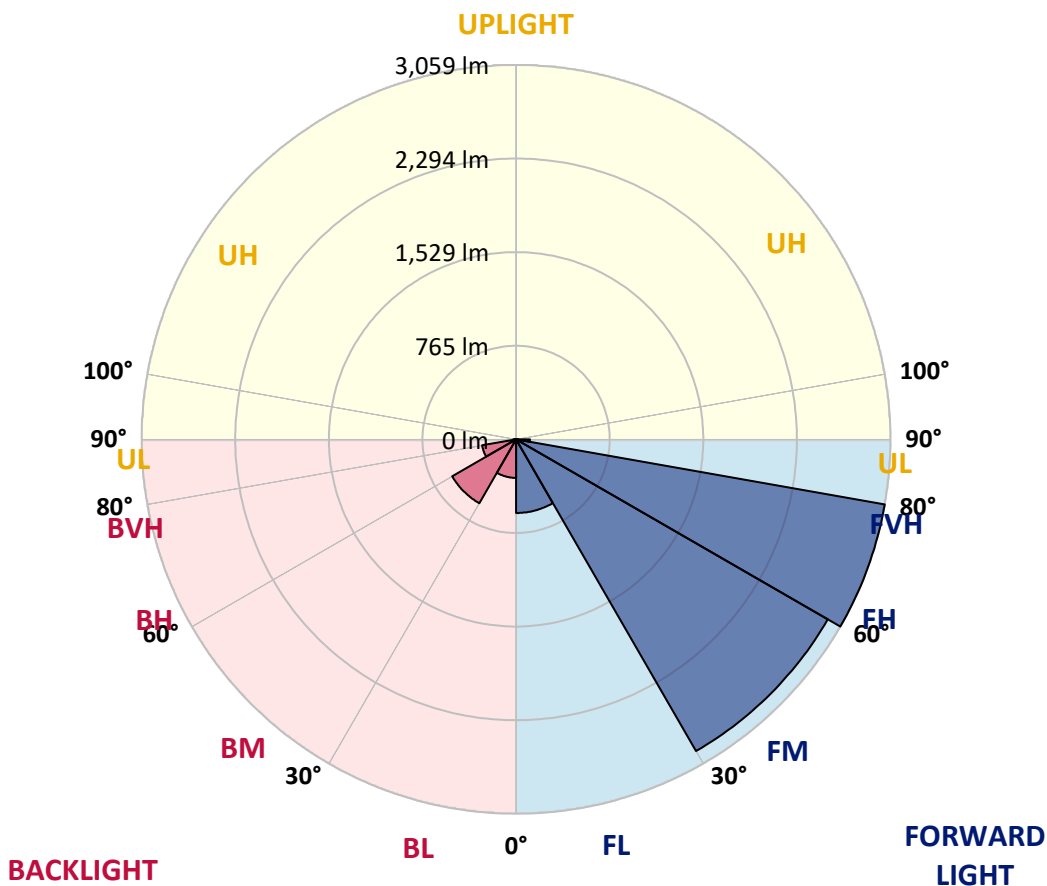
CATALOG NUMBER: GWS-SA3B-830-U-SL4-W

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

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	601.6	7.6			
FM (30°-60°)	2940.0	37.0			
FH (60°-80°)	3058.5	38.5			G2/5000
FVH (80°-90°)	113.1	1.4			G2/225
BL (0°-30°)	315.0	4.0	B1/500		
BM (30°-60°)	602.5	7.6	B1/1000		
BH (60°-80°)	282.1	3.6	B1/500		G1/500
BVH (80°-90°)	22.7	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





REPORT NUMBER: P634518  
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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	15°	25°	35°	40°	45°	55°	65°	75°	85°
0°	1347.5	1347.5	1347.5	1347.5	1347.5	1347.5	1347.5	1347.5	1347.5	1347.5	1347.5
2.5°	1355.8	1358.2	1360.0	1362.3	1361.2	1357.6	1360.6	1360.6	1354.1	1346.9	1340.4
5°	1357.6	1360.6	1360.0	1359.4	1354.6	1348.7	1348.7	1345.2	1333.9	1322.7	1312.0
7.5°	1354.1	1353.5	1352.9	1351.1	1345.8	1339.2	1338.1	1331.0	1316.1	1300.7	1285.3
10°	1338.1	1337.5	1339.2	1343.4	1342.2	1336.3	1336.3	1329.8	1312.6	1293.6	1273.5
12.5°	1325.0	1325.0	1332.1	1343.4	1347.5	1345.2	1345.8	1341.0	1321.5	1299.0	1275.3
15°	1326.8	1327.4	1342.8	1361.2	1368.9	1367.1	1367.7	1362.3	1340.4	1317.9	1285.9
17.5°	1338.7	1341.6	1368.3	1393.7	1403.8	1401.4	1397.3	1388.4	1363.5	1338.1	1299.0
20°	1363.5	1368.3	1402.6	1434.6	1446.5	1441.1	1434.0	1416.2	1389.0	1361.2	1313.2
22.5°	1412.7	1415.7	1453.6	1485.0	1494.4	1487.9	1473.7	1448.2	1416.8	1387.8	1330.4
25°	1482.0	1485.6	1521.7	1550.7	1548.3	1540.6	1521.1	1489.7	1452.4	1421.6	1355.2
27.5°	1564.3	1570.3	1605.8	1628.9	1613.5	1602.2	1580.3	1542.4	1500.4	1472.5	1393.1
30°	1654.4	1656.7	1686.9	1710.0	1686.3	1670.9	1644.3	1603.4	1565.5	1544.8	1450.0
32.5°	1741.4	1743.8	1769.9	1782.9	1758.0	1746.8	1723.7	1680.4	1653.8	1642.5	1534.7
35°	1833.2	1832.7	1854.0	1865.2	1839.8	1835.0	1811.3	1778.2	1773.4	1788.2	1658.5
37.5°	1925.1	1919.7	1931.0	1945.8	1931.6	1936.3	1920.9	1909.7	1928.0	1966.5	1823.2
40°	1998.5	1998.5	2010.4	2028.7	2033.5	2054.2	2045.3	2060.1	2119.3	2211.1	2026.9
42.5°	2063.7	2064.3	2089.1	2117.6	2151.9	2183.9	2191.0	2229.5	2352.1	2496.1	2282.8
45°	2131.8	2132.4	2166.1	2207.6	2280.5	2341.5	2355.7	2442.2	2617.5	2792.8	2560.6
47.5°	2210.6	2204.0	2250.8	2320.1	2423.8	2511.5	2548.2	2670.8	2892.3	3107.9	2822.4
50°	2299.4	2285.8	2337.9	2457.6	2585.5	2705.7	2767.3	2907.7	3187.3	3398.8	3068.8
52.5°	2399.5	2391.8	2446.3	2592.0	2787.5	2926.1	3009.6	3193.8	3474.0	3688.4	3264.3
55°	2523.9	2505.5	2584.3	2769.7	3024.4	3200.9	3299.8	3476.9	3787.3	3951.4	3413.6
57.5°	2660.1	2640.0	2745.4	2991.8	3332.4	3526.1	3649.9	3795.6	4082.3	4152.8	3501.2
60°	2807.0	2800.5	2925.5	3252.5	3699.7	3924.7	4014.2	4146.3	4338.8	4269.5	3479.3
62.5°	2941.5	2939.1	3121.0	3535.0	4088.8	4336.4	4407.5	4442.4	4523.6	4261.8	3305.2
65°	3083.1	3103.2	3349.0	3862.5	4534.8	4777.7	4807.3	4718.5	4585.8	4059.8	2948.6
67.5°	3100.8	3139.9	3492.3	4169.4	4957.8	5187.0	5163.3	4823.3	4402.2	3497.7	2311.3
70°	2773.3	2841.4	3263.7	4216.2	5255.7	5424.5	5253.3	4597.6	3735.8	2534.0	1453.6
72.5°	2317.2	2375.8	2749.0	3595.4	4871.3	5086.3	4854.7	3891.6	2640.0	1453.6	740.4
75°	1803.6	1871.7	2215.9	2858.0	3646.9	3732.8	3616.7	2714.0	1451.2	599.4	336.4
77.5°	1100.5	1149.7	1417.4	1936.3	2551.7	2423.2	2053.6	1521.7	636.7	287.3	207.9
80°	486.9	517.1	698.4	1040.1	1474.3	1393.7	1098.8	649.8	348.3	182.4	145.1
82.5°	261.2	280.8	344.1	411.7	647.4	677.0	549.1	374.3	187.2	104.2	82.9
85°	114.9	126.2	156.4	149.3	212.6	209.1	210.9	257.1	89.4	48.0	53.9
87.5°	0.0	0.0	0.0	0.0	0.6	0.6	6.5	34.4	8.9	14.2	12.4
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-SA3B-830-U-SL4-W

**CANDELA DISTRIBUTION (continued):**

	90°	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°
0°	1347.5	1347.5	1347.5	1347.5	1347.5	1347.5	1347.5	1347.5	1347.5	1347.5	1347.5
2.5°	1333.3	1322.7	1319.7	1316.1	1309.6	1298.4	1290.1	1280.6	1276.5	1271.7	1272.3
5°	1300.2	1287.1	1274.7	1258.7	1238.6	1216.0	1200.6	1182.9	1173.4	1164.5	1166.9
7.5°	1271.7	1251.6	1226.1	1192.3	1156.2	1115.9	1083.4	1057.9	1040.7	1028.9	1034.8
10°	1254.0	1230.3	1185.8	1130.7	1069.7	1008.1	961.3	917.5	890.3	868.9	867.8
12.5°	1250.4	1219.6	1155.0	1075.1	986.8	904.5	835.8	776.5	740.4	713.8	723.8
15°	1254.0	1214.9	1128.4	1023.5	912.2	800.8	715.5	647.4	604.2	579.9	578.1
17.5°	1258.1	1210.1	1098.2	967.9	834.0	706.6	607.7	535.5	491.0	466.8	467.3
20°	1261.7	1203.0	1062.6	906.8	754.6	619.0	516.5	447.8	408.1	390.3	393.3
22.5°	1267.6	1195.9	1024.7	841.7	673.5	534.3	444.2	388.6	364.9	353.0	353.6
25°	1278.8	1191.8	985.6	770.6	593.5	466.8	394.5	357.2	342.4	335.3	334.7
27.5°	1301.9	1195.3	944.8	701.9	521.2	415.2	362.5	338.2	328.1	323.4	322.8
30°	1340.4	1209.5	909.2	632.0	459.1	374.9	340.6	325.8	319.9	315.7	315.1
32.5°	1399.1	1236.2	870.7	566.9	408.7	345.3	323.4	315.7	311.6	309.2	309.2
35°	1487.9	1284.8	832.8	510.0	369.6	322.2	309.8	306.8	303.3	302.1	303.3
37.5°	1615.9	1362.3	798.5	460.2	341.8	304.5	295.0	296.2	293.2	295.0	296.8
40°	1778.2	1466.0	769.4	419.4	321.0	291.4	281.9	286.1	284.3	286.1	289.1
42.5°	1983.7	1594.5	747.5	387.4	306.2	280.8	271.9	276.0	274.8	277.2	280.2
45°	2212.9	1763.9	737.4	364.9	295.6	273.1	263.6	266.5	265.4	267.1	270.1
47.5°	2432.7	1917.9	746.3	351.8	286.7	266.5	256.5	257.7	257.1	256.5	258.3
50°	2622.2	2040.6	771.8	347.7	280.8	260.0	250.6	251.1	249.4	245.8	247.0
52.5°	2776.8	2138.9	787.2	347.7	277.8	252.9	244.0	244.6	241.1	236.3	236.9
55°	2878.7	2178.6	774.8	347.1	276.6	247.0	237.5	238.1	234.6	228.6	229.2
57.5°	2907.7	2140.1	722.6	340.6	275.4	242.3	231.0	232.2	229.8	223.3	223.3
60°	2826.6	1999.1	627.3	325.8	272.5	239.3	226.3	228.0	226.9	220.3	220.3
62.5°	2613.9	1748.5	513.5	303.3	264.2	235.7	222.1	225.7	228.6	225.1	224.5
65°	2215.9	1400.8	417.6	278.4	253.5	229.8	216.2	225.1	231.6	236.3	236.3
67.5°	1662.7	1002.8	340.6	252.3	237.5	218.0	208.5	216.8	221.5	224.5	226.3
70°	1013.5	590.0	268.3	222.1	214.4	200.2	193.1	184.8	178.3	177.1	177.7
72.5°	495.8	337.6	218.0	189.0	183.0	170.0	154.0	150.5	147.5	145.7	145.1
75°	273.1	235.2	180.1	157.0	146.3	130.3	126.8	120.8	119.6	117.3	117.9
77.5°	193.1	185.4	148.7	127.3	111.4	103.1	104.8	100.7	100.7	98.9	98.3
80°	145.1	145.7	114.3	93.0	82.3	79.4	81.1	81.1	80.0	79.4	78.8
82.5°	91.8	103.7	77.0	59.8	58.6	59.2	58.6	58.0	59.2	57.5	56.9
85°	63.4	74.6	46.8	35.5	35.5	34.9	36.1	35.5	36.7	34.9	34.9
87.5°	14.2	33.2	17.2	10.7	11.3	10.7	11.3	11.8	13.0	13.6	13.6
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)