

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: P634543

Luminaire Tested: GWS-SA3B-830-U-T3R-W

Issue Date: 1/10/2023

**Test Information**

Test Method: LM-79-2019  
Report Number: P634543  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2209-782-15)  
Test Lab: COOPER LIGHTING SOLUTIONS  
Issue Date: 1/10/2023  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: McGRAW-EDISON  
Catalog Number: GWS-SA3B-830-U-T3R-W  
Description: GALLEON WALL SLIM LUMINAIRE. (3) LIGHTSQUARES WITH 16 LEDS EACH AND TYPE III ROADWAY OPTICS  
Light Source: (48) 3000K CCT, 80 CRI LEDS  
Ballast/Driver: -

**Summary**

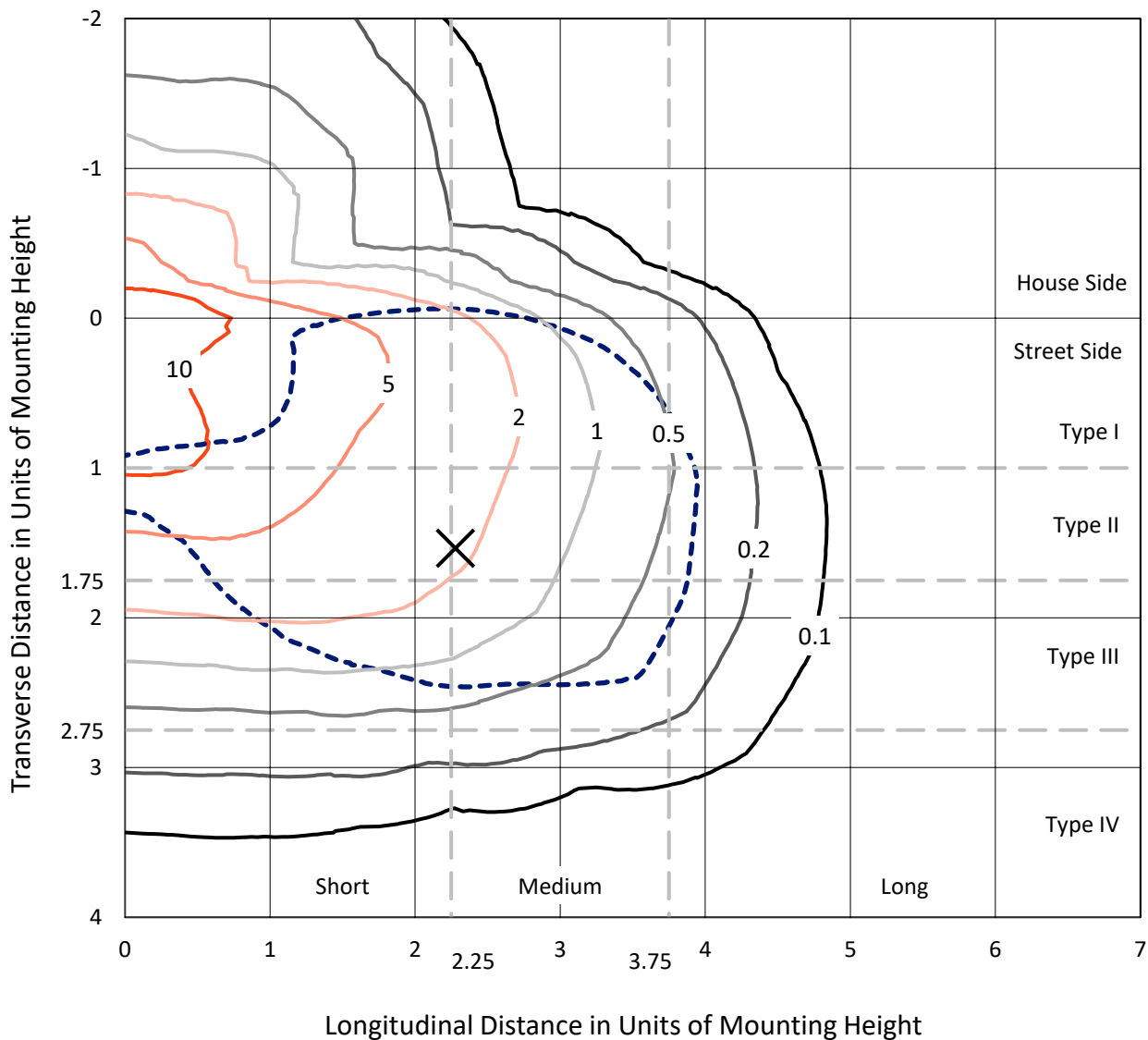
Lumens per Lamp: N/A  
Luminaire Lumens: 8399.9 lumens  
Efficiency: N/A  
Efficacy: 123.0 lumens/watt  
Luminous Opening: Rectangular (W 1.5' x L: 0.5' x H: 0')  
IES Classification: Type III - Medium  
BUG Rating: B1 - U0 - G2  
  
Input Watts (W): 68.3  
Input Voltage (V): 120  
Input Current (Ain): 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: P634543  
 CATALOG NUMBER: GWS-SA3B-830-U-T3R-W

### Iso-Footcandle Lines of Horizontal Illumination

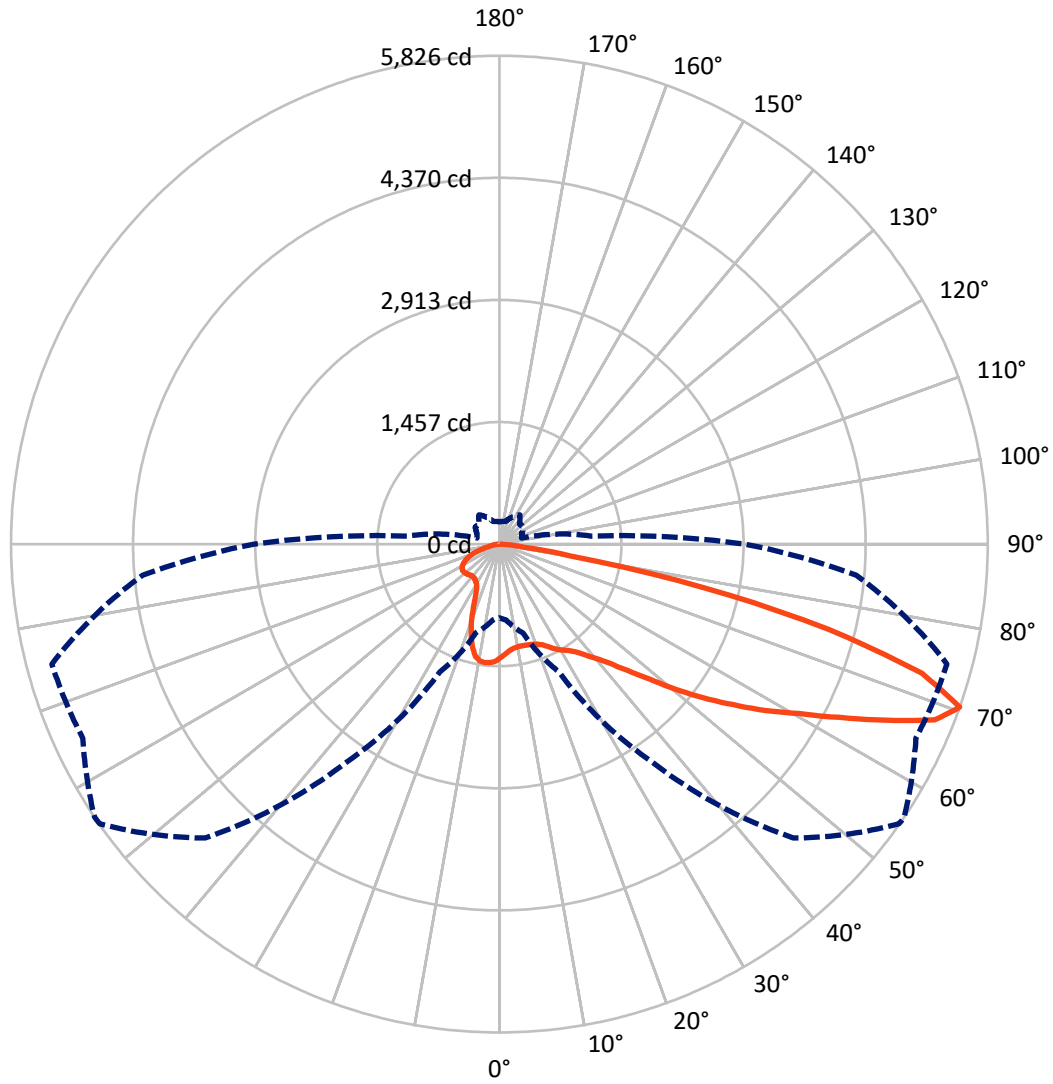
✕ Max cd  
 - - - 1/2 Max cd



Based on 10 foot mounting height. Maximum calculated value = 14 fc  
 Type III - Medium - N/A

REPORT NUMBER: P634543  
CATALOG NUMBER: GWS-SA3B-830-U-T3R-W

### Luminous Intensity Polar Plot



— Vertical Plane Through 56-Deg Lateral    - - - Horizontal Cone Through 70-Deg Vertical

REPORT NUMBER: P634543

CATALOG NUMBER: GWS-SA3B-830-U-T3R-W

**FLUX DISTRIBUTION:**

		Downward	Upward	Total
<b>House Side</b>	Lumens	1614.9	0.0	1614.9
	% Fixture	19.2	0.0	19.2
<b>Street Side</b>	Lumens	6785.0	0.0	6785.0
	% Fixture	80.8	0.0	80.8
<b>Total</b>	Lumens	8399.9	0.0	8399.9
	% Fixture	100.0	0.0	100.0

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	125.5	1.5
10°-20°	340.0	4.0
20°-30°	562.1	6.7
30°-40°	840.4	10.0
40°-50°	1250.6	14.9
50°-60°	1777.9	21.2
60°-70°	2202.0	26.2
70°-80°	1215.9	14.5
80°-90°	85.6	1.0
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°	8399.9	100.0
0°-180°	8399.9	100.0

**Coefficient of Utilization**



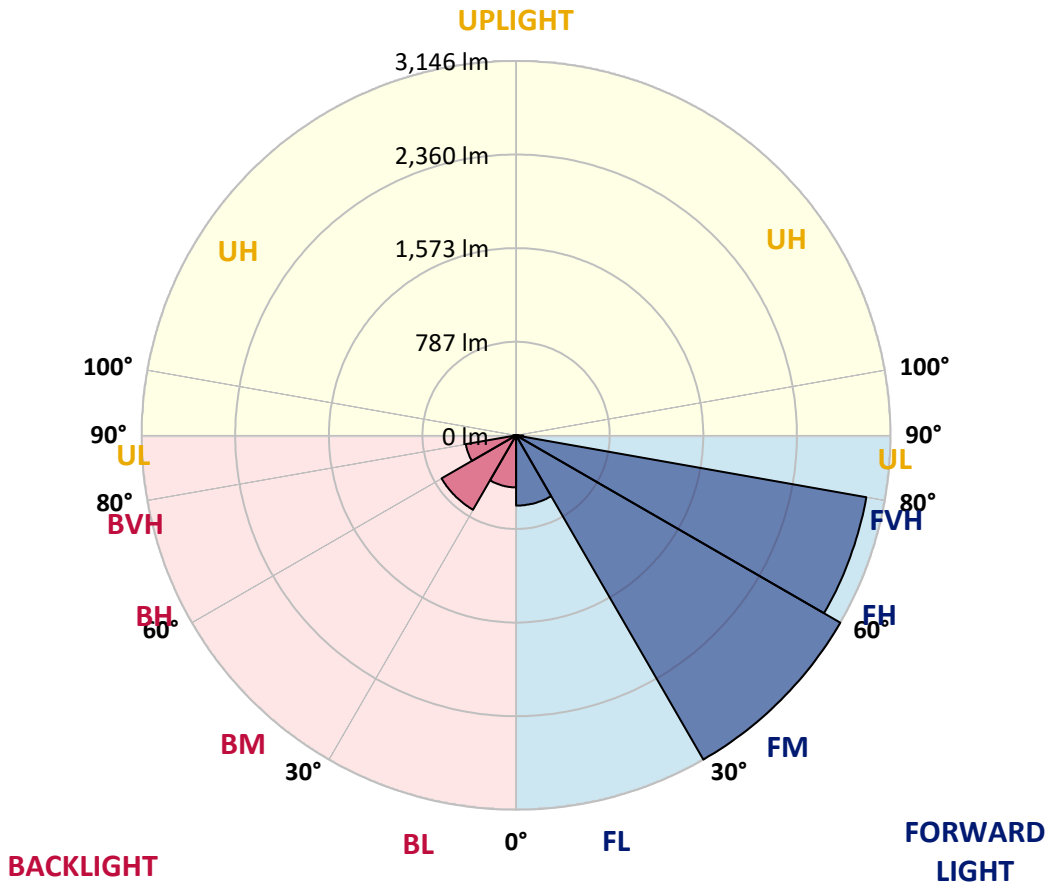
REPORT NUMBER: P634543

CATALOG NUMBER: GWS-SA3B-830-U-T3R-W

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

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	590.3	7.0			
FM (30°-60°)	3146.5	37.5			
FH (60°-80°)	2988.7	35.6			G2/5000
FVH (80°-90°)	59.5	0.7			G1/100
BL (0°-30°)	437.2	5.2	B1/500		
BM (30°-60°)	722.4	8.6	B1/1000		
BH (60°-80°)	429.2	5.1	B1/500		G1/500
BVH (80°-90°)	26.1	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 III Medium





REPORT NUMBER: P634543  
 CATALOG NUMBER: GWS-SA3B-830-U-T3R-W

**CANDELA DISTRIBUTION (FULL):**

	0°	5°	15°	25°	35°	45°	55°	56°	65°	75°	85°
0°	1355.9	1355.9	1355.9	1355.9	1355.9	1355.9	1355.9	1355.9	1355.9	1355.9	1355.9
2.5°	1268.8	1261.7	1270.0	1274.1	1284.8	1300.2	1313.8	1314.4	1321.5	1338.7	1355.3
5°	1211.3	1207.8	1210.2	1222.6	1233.9	1253.4	1274.1	1275.9	1296.0	1329.8	1363.0
7.5°	1166.9	1162.2	1171.1	1187.1	1201.3	1223.2	1250.4	1252.8	1281.2	1332.2	1383.1
10°	1102.9	1099.4	1116.0	1137.3	1168.1	1204.2	1240.4	1243.3	1280.6	1347.6	1418.7
12.5°	1075.1	1075.1	1082.2	1102.4	1136.1	1184.1	1238.6	1243.3	1290.1	1371.3	1464.3
15°	1118.3	1121.3	1115.4	1114.2	1127.8	1173.4	1241.0	1248.1	1307.9	1395.6	1509.3
17.5°	1205.4	1208.4	1193.0	1168.7	1155.1	1183.5	1249.8	1257.5	1326.8	1422.2	1557.9
20°	1327.4	1331.0	1297.2	1259.9	1213.1	1212.5	1267.0	1274.1	1351.1	1451.2	1609.4
22.5°	1470.2	1472.6	1429.9	1370.7	1299.0	1266.4	1296.6	1303.7	1382.5	1491.5	1665.1
25°	1635.5	1642.6	1591.0	1505.1	1408.0	1340.5	1345.8	1354.1	1438.8	1545.4	1730.8
27.5°	1812.0	1820.9	1761.6	1666.9	1533.0	1422.2	1409.2	1416.3	1498.6	1578.6	1765.8
30°	1992.6	1999.2	1939.9	1831.5	1667.4	1514.6	1462.5	1466.6	1524.7	1594.6	1801.3
32.5°	2193.4	2188.1	2131.3	2006.3	1822.6	1625.4	1512.3	1511.1	1553.7	1626.6	1852.3
35°	2381.8	2389.5	2329.1	2191.1	1993.2	1762.2	1586.9	1582.1	1615.3	1678.7	1923.9
37.5°	2609.9	2607.5	2535.2	2386.0	2164.4	1893.1	1691.7	1683.4	1695.3	1759.9	2024.0
40°	2772.8	2789.3	2742.5	2603.3	2364.6	2054.2	1814.3	1796.0	1798.9	1860.0	2157.9
42.5°	2906.0	2921.4	2926.2	2837.3	2593.9	2253.3	1967.2	1948.8	1950.6	2037.1	2322.6
45°	3008.5	3029.2	3096.2	3070.1	2852.1	2483.1	2173.9	2154.9	2156.1	2252.1	2521.6
47.5°	3050.6	3073.1	3208.7	3270.9	3126.4	2757.9	2431.0	2403.1	2407.3	2513.3	2749.1
50°	3036.9	3067.2	3250.8	3425.5	3356.2	3037.5	2738.4	2718.9	2702.9	2856.9	2996.1
52.5°	2919.7	2952.8	3246.6	3523.8	3544.0	3301.7	3055.9	3044.6	3041.1	3221.8	3272.1
55°	2574.3	2630.0	3103.9	3549.9	3690.9	3550.5	3400.0	3381.1	3399.5	3612.7	3551.1
57.5°	2383.0	2424.5	2824.3	3520.9	3811.1	3787.4	3743.6	3745.4	3766.1	4037.4	3889.3
60°	2274.0	2322.6	2669.1	3441.5	3926.6	4075.3	4103.2	4103.2	4140.5	4495.3	4232.9
62.5°	2129.5	2178.6	2524.0	3288.7	4033.3	4414.1	4555.1	4553.3	4568.1	4986.3	4568.7
65°	1836.3	1881.9	2232.5	3047.6	4085.4	4787.3	5068.7	5063.3	5033.7	5423.5	4790.9
67.5°	1333.4	1376.6	1710.1	2589.1	3897.6	5088.2	5597.6	5600.0	5422.9	5698.9	4802.7
70°	879.0	908.7	1099.4	1681.7	3169.6	4958.5	5819.2	5826.3	5482.7	5527.2	4274.3
72.5°	548.5	569.2	686.5	1002.8	1873.0	3924.9	5250.5	5270.1	4932.4	4857.2	3512.0
75°	364.3	378.5	456.7	584.6	866.6	2124.1	3991.2	4054.0	3953.3	3807.6	2447.0
77.5°	219.2	231.0	290.8	371.4	383.8	829.9	2329.7	2492.0	2506.2	1987.9	1024.8
80°	100.1	113.7	160.5	212.1	204.4	289.1	821.6	859.5	1014.1	631.4	323.4
82.5°	59.2	65.2	106.6	105.4	87.1	140.4	295.6	303.3	257.7	231.0	138.0
85°	23.7	27.8	45.0	39.7	32.0	45.6	111.4	116.7	112.0	100.7	50.9
87.5°	0.0	0.0	0.0	0.0	0.6	1.2	10.1	10.7	15.4	27.8	15.4
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: P634543  
 CATALOG NUMBER: GWS-SA3B-830-U-T3R-W

**CANDELA DISTRIBUTION (continued):**

	90°	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°
0°	1355.9	1355.9	1355.9	1355.9	1355.9	1355.9	1355.9	1355.9	1355.9	1355.9	1355.9
2.5°	1365.9	1362.4	1380.2	1393.8	1399.7	1405.6	1400.3	1398.5	1398.5	1386.7	1380.8
5°	1380.8	1382.5	1406.8	1418.1	1418.1	1413.3	1399.1	1389.0	1385.5	1370.1	1365.9
7.5°	1408.6	1416.3	1438.8	1438.2	1421.6	1395.6	1360.0	1332.8	1307.9	1297.2	1290.7
10°	1454.2	1464.3	1479.7	1454.8	1408.6	1339.9	1264.7	1205.4	1169.9	1141.4	1141.4
12.5°	1506.3	1515.8	1512.8	1455.4	1360.0	1231.5	1123.1	1055.0	1005.2	979.1	979.1
15°	1558.5	1566.2	1534.2	1428.1	1258.7	1087.5	969.1	887.3	844.1	819.8	819.8
17.5°	1611.2	1610.6	1543.1	1365.4	1126.6	928.2	812.1	748.7	733.9	729.8	729.2
20°	1662.1	1648.5	1531.8	1260.5	973.2	767.7	694.2	698.4	720.3	729.8	731.0
22.5°	1719.6	1685.8	1498.6	1126.6	799.1	656.3	661.1	695.4	727.4	741.6	743.4
25°	1778.2	1717.8	1442.9	969.7	653.4	615.4	652.2	690.7	726.8	745.2	746.9
27.5°	1801.9	1717.8	1348.2	787.8	575.8	598.3	638.5	675.9	713.8	735.1	739.2
30°	1821.5	1703.0	1215.5	623.7	543.8	581.7	616.6	651.0	688.3	714.4	719.1
32.5°	1848.7	1690.0	1055.0	524.2	529.0	565.7	590.0	619.0	652.8	669.9	668.2
35°	1880.7	1669.8	861.3	476.8	516.5	552.1	569.2	586.4	571.0	570.4	572.2
37.5°	1926.3	1652.0	692.4	455.5	508.2	542.6	556.8	520.1	498.8	489.9	486.3
40°	1992.0	1644.9	546.1	443.1	507.0	542.0	531.9	475.1	446.0	415.2	414.6
42.5°	2075.0	1639.6	451.4	437.1	511.2	555.6	497.6	445.4	385.6	372.0	370.8
45°	2181.6	1631.3	404.0	436.0	521.3	566.3	494.0	404.6	363.7	357.8	357.8
47.5°	2310.1	1618.3	382.7	436.0	532.5	561.5	483.4	395.7	353.6	360.1	364.3
50°	2457.6	1601.7	371.4	434.8	543.8	561.5	460.8	393.9	351.3	385.0	398.6
52.5°	2615.2	1582.7	363.7	430.0	551.5	562.1	462.0	399.8	353.6	390.9	402.2
55°	2789.3	1579.8	353.0	420.0	553.8	546.7	465.0	412.9	357.2	354.2	354.8
57.5°	3009.1	1615.3	345.3	405.2	544.4	515.3	470.9	422.3	353.0	353.6	357.8
60°	3238.9	1682.3	351.9	390.9	524.8	485.7	475.1	417.6	332.9	323.4	324.6
62.5°	3434.4	1733.2	357.2	384.4	496.4	459.7	470.9	406.9	321.6	319.3	324.6
65°	3516.1	1691.1	344.2	370.8	454.9	427.7	462.0	393.3	312.2	303.3	303.9
67.5°	3425.5	1493.9	318.7	340.6	408.1	386.8	447.8	375.5	299.1	288.5	286.1
70°	2926.2	1097.6	274.8	292.6	351.3	338.8	425.9	352.4	278.4	270.7	265.4
72.5°	2358.1	777.2	228.1	232.8	275.4	285.5	388.0	323.4	254.7	232.8	225.1
75°	1641.4	488.1	190.1	185.4	199.0	218.0	302.7	268.3	219.8	196.7	189.5
77.5°	706.1	250.6	148.7	146.3	132.7	151.0	232.2	223.9	184.2	157.6	153.4
80°	236.3	145.1	107.2	103.1	88.3	106.0	163.5	178.9	144.5	116.7	109.6
82.5°	118.5	84.1	68.1	61.6	59.2	66.9	96.6	111.4	100.1	80.6	68.1
85°	58.0	48.0	37.3	36.7	30.8	29.0	40.3	47.4	45.0	33.2	31.4
87.5°	21.3	19.0	11.8	9.5	5.9	4.1	2.4	2.4	1.8	1.8	1.8
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

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

REPORT NUMBER: SP1-2408-195-9

**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

REPORT NUMBER: SP1-2408-195-9

**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			

REPORT NUMBER: SP1-2408-195-9

**Scotopic Flux vs. Wavelength**



**Scotopic Lumens: NR**

**S/P: 1.27**

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			

REPORT NUMBER: SP1-2408-195-9

**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)