

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: P630569

Luminaire Tested: GWS-SA1D-830-U-T2-W-GRSWH

Issue Date: 1/10/2023

**Test Information**

Test Method: LM-79-2019  
Report Number: P630569  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2209-782-21)  
Test Lab: COOPER LIGHTING SOLUTIONS  
Issue Date: 1/10/2023  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: McGRAW-EDISON  
Catalog Number: GWS-SA1D-830-U-T2-W-GRSWH  
Description: GALLEON WALL SLIM LUMINAIRE. (1) LIGHTSQUARES WITH 16 LEDS EACH AND TYPE II OPTICS W/ FACTORY INSALLED GLARE SHIELD, WH  
Light Source: (16) 3000K CCT, 80 CRI LEDS  
Ballast/Driver: -

**Summary**

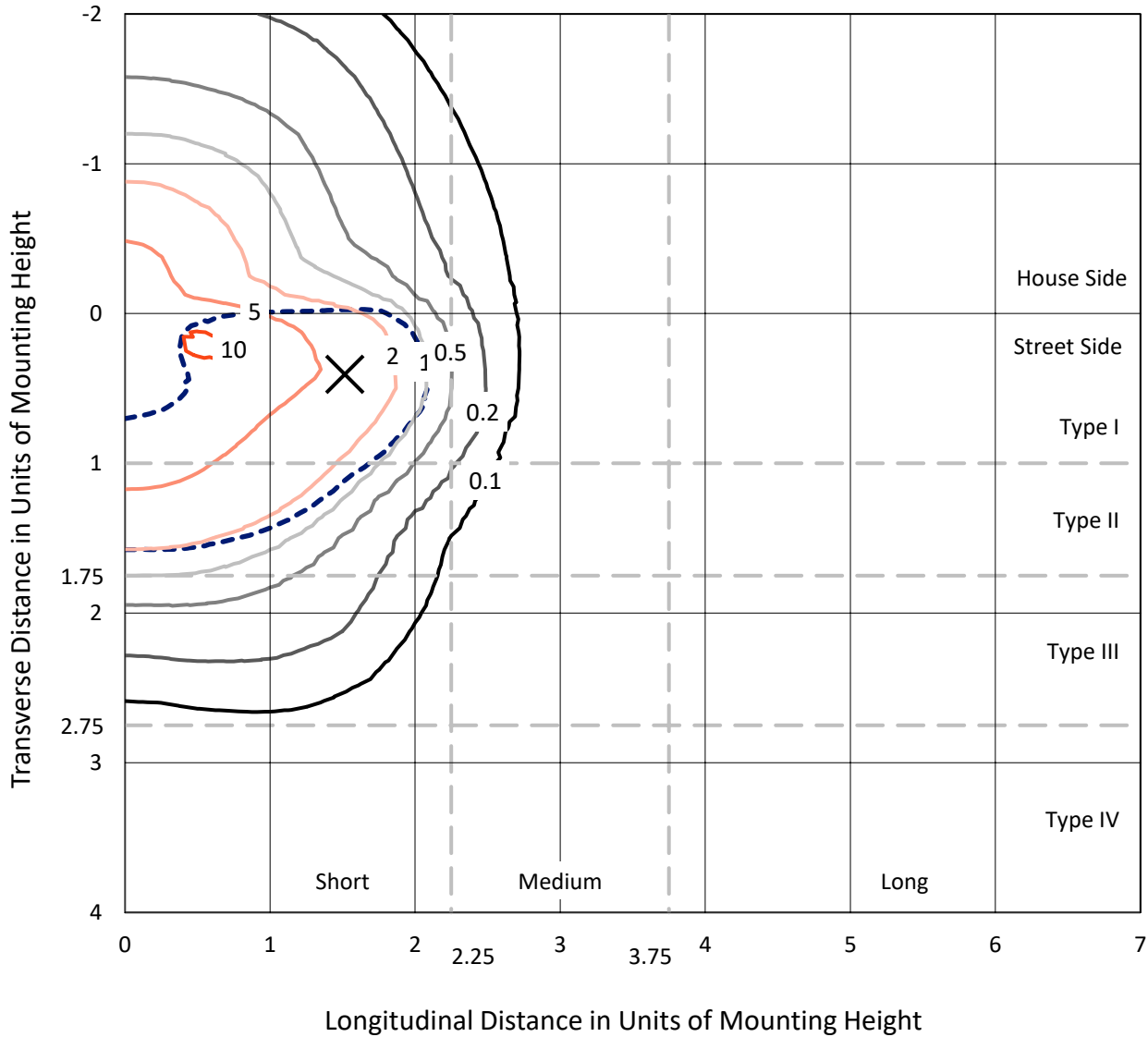
Lumens per Lamp: N/A  
Luminaire Lumens: 4016 lumens  
Efficiency: N/A  
Efficacy: 90.7 lumens/watt  
Luminous Opening: Rectangular (W 0.5' x L: 0.5' x H: 0')  
IES Classification: Type II - Short  
BUG Rating: B1 - U0 - G1  
  
Input Watts (W): 44.3  
Input Voltage (V): 120  
Input Current (Ain): NR  
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: P630569  
 CATALOG NUMBER: GWS-SA1D-830-U-T2-W-GRSWH

### Iso-Footcandle Lines of Horizontal Illumination

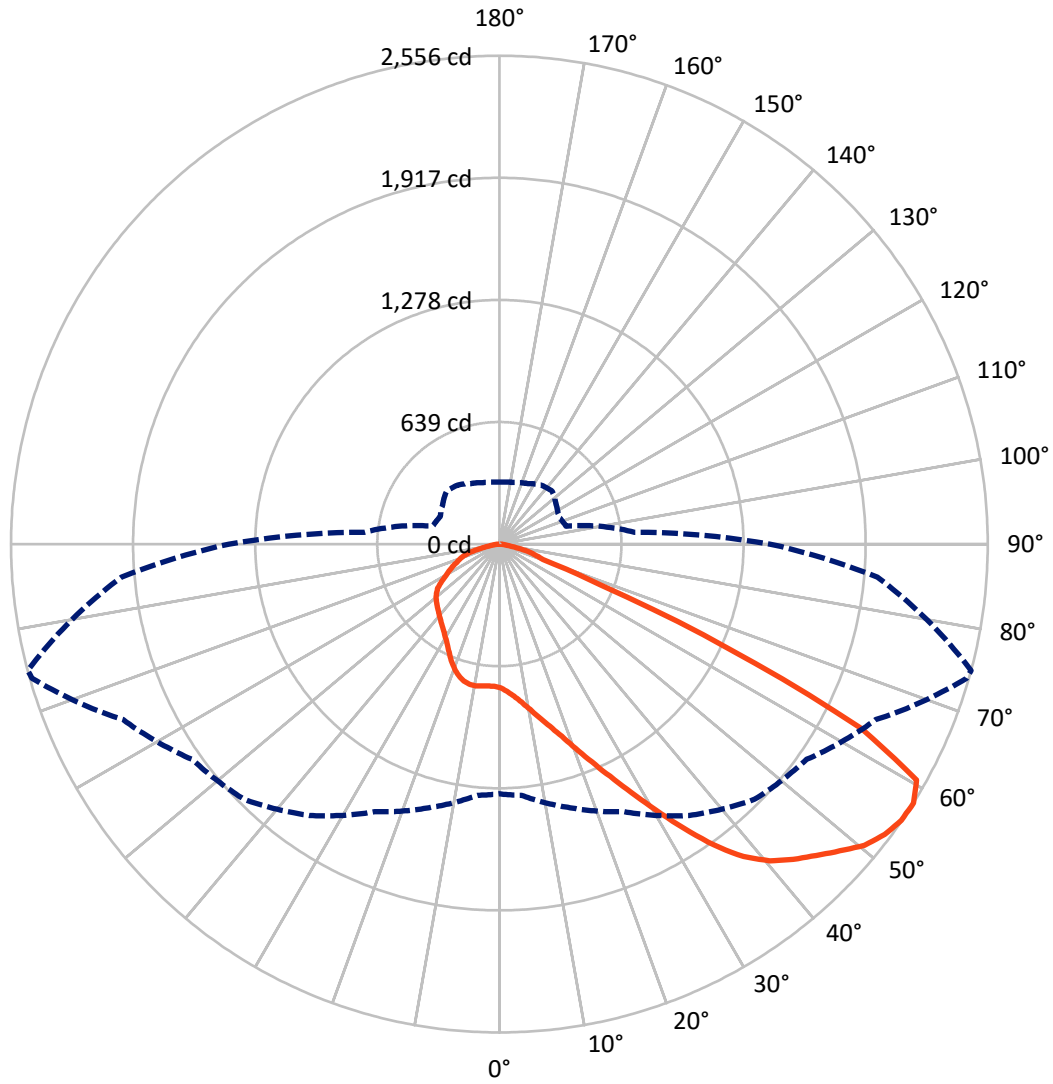
✕ Max cd  
 - - - 1/2 Max cd



Based on 10 foot mounting height. Maximum calculated value = 10.6 fc  
 Type II - Short - N/A

REPORT NUMBER: P630569  
CATALOG NUMBER: GWS-SA1D-830-U-T2-W-GRSWH

### Luminous Intensity Polar Plot



— Vertical Plane Through 75-Deg Lateral    - - - Horizontal Cone Through 57.5-Deg Vertical

REPORT NUMBER: P630569  
 CATALOG NUMBER: GWS-SA1D-830-U-T2-W-GRSWH

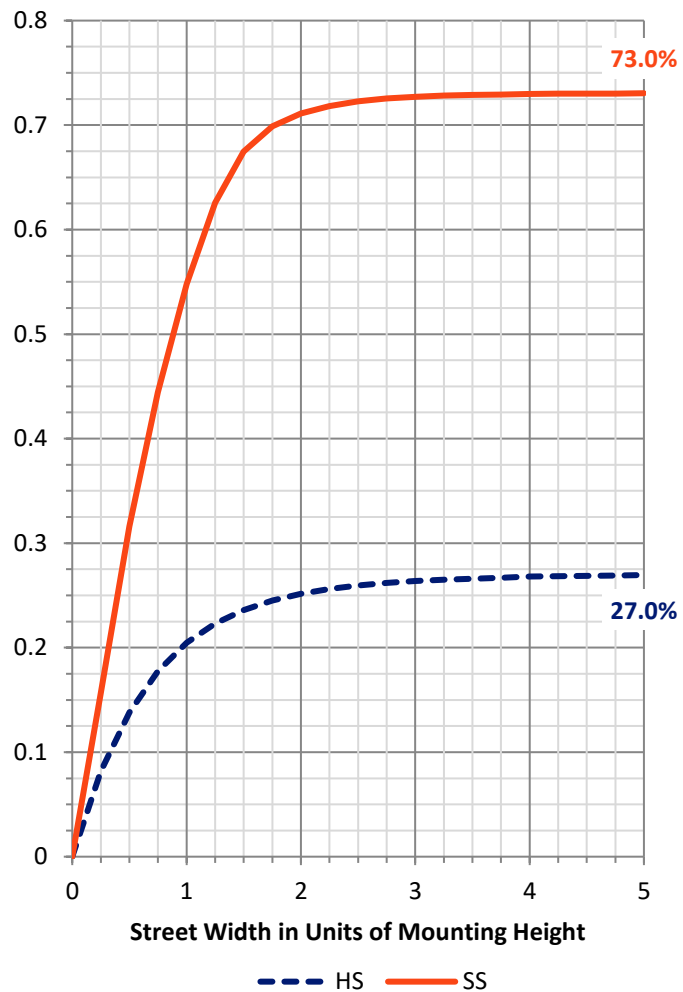
**FLUX DISTRIBUTION:**

		Downward	Upward	Total
<b>House Side</b>	Lumens	1086.4	0.0	1086.4
	% Fixture	27.1	0.0	27.1
<b>Street Side</b>	Lumens	2929.6	0.0	2929.6
	% Fixture	72.9	0.0	72.9
<b>Total</b>	Lumens	4016.0	0.0	4016.0
	% Fixture	100.0	0.0	100.0

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	75.3	1.9
10°-20°	239.6	6.0
20°-30°	425.0	10.6
30°-40°	650.5	16.2
40°-50°	905.8	22.6
50°-60°	1037.9	25.8
60°-70°	533.3	13.3
70°-80°	134.3	3.3
80°-90°	14.4	0.4
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°	4016.0	100.0
0°-180°	4016.0	100.0

**Coefficient of Utilization**

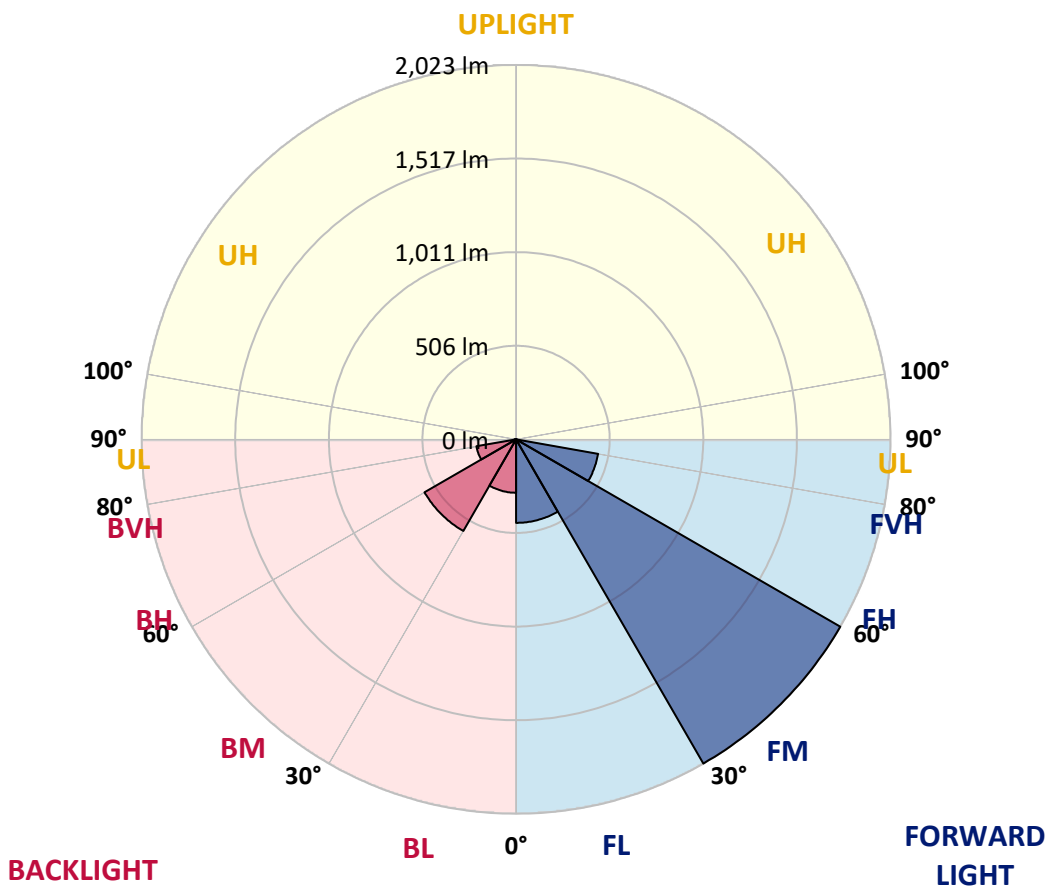


REPORT NUMBER: P630569  
 CATALOG NUMBER: GWS-SA1D-830-U-T2-W-GRSWH

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

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	451.2	11.2			
FM (30°-60°)	2022.9	50.4			
FH (60°-80°)	450.2	11.2			G0/660
FVH (80°-90°)	5.3	0.1			G0/10
BL (0°-30°)	288.6	7.2	B1/500		
BM (30°-60°)	571.4	14.2	B1/1000		
BH (60°-80°)	217.4	5.4	B1/500		G1/500
BVH (80°-90°)	9.0	0.2			G0/10
UL (90°-100°)	0.0	0.0		U0/0	
UH (100°-180°)	0.0	0.0		U0/0	

**BUG Rating: B1-U0-G1**  
 Type II Short





REPORT NUMBER: P630569  
 CATALOG NUMBER: GWS-SA1D-830-U-T2-W-GRSWH

**CANDELA DISTRIBUTION (FULL):**

	0°	5°	15°	25°	35°	45°	55°	65°	74°	75°	85°
0°	752.1	752.1	752.1	752.1	752.1	752.1	752.1	752.1	752.1	752.1	752.1
2.5°	808.0	810.1	808.0	811.5	804.6	801.5	793.9	782.5	773.5	772.1	762.1
5°	870.9	875.4	872.6	871.2	861.9	855.0	843.6	820.8	802.2	799.4	779.7
7.5°	911.3	914.4	914.4	915.4	912.0	904.0	892.0	865.0	838.8	834.6	804.9
10°	924.8	927.2	931.7	940.3	947.2	949.6	941.7	915.8	883.7	879.5	838.1
12.5°	927.9	930.6	937.5	953.4	972.4	989.7	991.1	972.1	936.2	931.7	876.4
15°	933.7	936.5	945.8	965.5	993.5	1026.6	1047.0	1033.9	994.2	989.3	919.9
17.5°	933.0	936.2	950.0	976.2	1013.9	1061.8	1101.2	1106.7	1065.6	1057.4	969.3
20°	931.3	934.1	948.9	981.0	1027.7	1093.6	1164.8	1193.4	1149.2	1141.6	1027.0
22.5°	945.1	948.2	959.6	986.2	1034.9	1118.1	1223.5	1292.5	1248.3	1237.6	1093.3
25°	976.2	980.7	987.6	1005.9	1048.0	1139.9	1283.5	1404.7	1359.5	1346.7	1165.4
27.5°	1024.2	1029.7	1039.4	1048.0	1077.4	1167.5	1343.3	1530.4	1485.2	1471.7	1241.8
30°	1082.9	1090.2	1102.6	1108.5	1128.5	1208.3	1408.2	1659.9	1633.7	1615.0	1327.7
32.5°	1164.1	1174.1	1185.8	1187.5	1199.6	1270.1	1472.4	1788.4	1788.1	1774.9	1425.5
35°	1269.7	1280.4	1282.9	1285.3	1291.1	1355.0	1550.1	1905.5	1950.7	1935.5	1531.8
37.5°	1385.1	1400.6	1404.4	1393.7	1402.0	1457.2	1637.5	1999.4	2092.3	2076.0	1634.7
40°	1508.3	1514.6	1524.9	1508.0	1518.4	1574.3	1723.1	2059.5	2197.9	2180.7	1715.9
42.5°	1596.7	1608.1	1623.7	1617.5	1623.3	1674.4	1783.2	2088.5	2273.2	2256.0	1774.2
45°	1692.7	1696.2	1706.2	1704.8	1708.3	1755.9	1826.4	2101.3	2340.6	2325.0	1824.0
47.5°	1776.3	1781.5	1788.1	1780.5	1772.9	1803.9	1861.6	2112.3	2418.3	2399.6	1876.1
50°	1856.8	1861.3	1869.2	1847.1	1818.8	1826.7	1878.9	2127.5	2491.1	2478.0	1917.2
52.5°	1871.6	1876.5	1913.7	1918.2	1882.0	1854.0	1909.3	2161.0	2533.9	2525.6	1932.0
55°	1684.8	1693.4	1767.7	1853.0	1942.4	1933.4	1957.9	2178.6	2550.9	2552.9	1958.6
57.5°	1307.7	1320.1	1428.6	1545.6	1733.8	1889.6	1964.2	2174.1	2545.0	2556.4	1985.9
60°	857.8	865.0	993.5	1124.7	1319.8	1535.3	1758.0	2093.3	2492.8	2509.1	1979.0
62.5°	518.0	526.3	629.5	729.0	844.0	988.0	1192.4	1682.4	2089.5	2125.8	1585.0
65°	361.5	372.6	463.1	544.9	584.6	554.9	604.0	939.6	1301.8	1317.0	968.6
67.5°	262.1	269.7	343.9	441.3	485.2	391.9	298.7	416.1	567.0	572.5	399.5
70°	171.6	180.3	247.6	336.0	396.1	317.7	223.4	225.1	238.6	241.4	232.1
72.5°	94.3	99.5	153.0	223.1	234.1	189.9	174.4	187.2	196.5	196.5	198.9
75°	48.7	53.2	62.5	73.6	88.7	103.9	125.7	144.7	154.7	155.4	154.4
77.5°	24.9	26.6	33.5	36.3	39.7	46.3	60.1	77.0	86.0	89.4	88.7
80°	11.7	12.4	14.2	16.6	20.4	25.9	32.5	38.7	44.2	44.9	48.7
82.5°	6.2	6.9	7.6	9.0	11.1	13.8	19.0	22.8	26.2	26.9	30.0
85°	2.4	2.8	3.1	3.5	4.8	5.9	7.9	10.7	13.1	13.1	15.5
87.5°	0.0	0.0	0.0	0.0	0.3	0.7	1.4	1.7	2.4	2.4	4.1
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: P630569  
 CATALOG NUMBER: GWS-SA1D-830-U-T2-W-GRSWH

**CANDELA DISTRIBUTION (continued):**

	90°	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°
0°	752.1	752.1	752.1	752.1	752.1	752.1	752.1	752.1	752.1	752.1	752.1
2.5°	759.7	749.7	745.2	737.9	732.1	725.5	720.3	716.5	714.1	712.7	711.4
5°	772.1	756.9	744.8	730.3	720.3	710.7	702.7	697.2	694.4	692.4	691.0
7.5°	791.5	771.1	748.3	725.9	708.2	692.7	682.7	676.8	673.0	671.6	670.6
10°	818.1	789.7	752.1	716.5	690.3	673.4	666.5	663.7	664.0	663.4	663.0
12.5°	848.1	809.4	751.1	700.0	671.0	660.9	661.3	665.8	671.0	672.3	672.7
15°	880.6	828.8	741.1	678.5	655.8	656.8	665.8	676.5	686.1	689.9	690.6
17.5°	915.8	845.0	722.7	655.1	643.3	654.4	671.0	688.6	702.7	708.9	710.7
20°	955.1	858.8	696.8	631.9	631.6	649.9	674.1	697.2	715.2	723.4	724.8
22.5°	996.9	867.4	665.1	610.5	619.5	644.0	671.6	695.8	714.8	723.1	724.8
25°	1039.1	870.2	630.2	590.8	607.1	634.7	659.9	679.2	697.2	704.4	705.8
27.5°	1078.4	862.3	597.1	573.9	595.7	620.9	637.8	648.2	660.6	666.1	667.2
30°	1118.5	846.4	569.1	560.4	582.9	601.9	609.5	610.2	615.0	615.0	615.7
32.5°	1158.9	822.9	544.6	547.3	567.0	579.4	580.5	572.5	566.7	557.0	556.7
35°	1205.5	799.1	524.5	532.5	548.4	556.0	552.9	537.7	523.5	507.6	506.9
37.5°	1248.7	774.5	507.6	517.3	527.3	532.8	525.6	507.3	495.5	479.3	476.9
40°	1284.2	752.4	491.4	501.4	506.2	511.1	499.3	484.5	486.2	477.2	476.9
42.5°	1305.0	731.0	476.2	483.8	486.9	490.4	480.0	468.9	478.3	471.4	471.7
45°	1320.1	712.4	462.4	465.1	472.7	477.9	468.2	455.8	457.9	431.3	425.1
47.5°	1337.4	702.0	449.3	446.5	460.0	468.9	454.1	436.1	423.7	397.5	395.0
50°	1355.7	698.2	435.4	427.8	444.1	452.7	435.4	413.0	396.8	382.6	381.2
52.5°	1361.9	697.9	418.2	405.4	421.6	433.7	419.2	396.4	377.1	363.3	362.6
55°	1386.4	707.9	396.1	374.7	389.9	414.7	404.0	371.2	355.7	349.5	348.8
57.5°	1415.1	709.6	361.2	341.2	362.2	391.6	378.1	349.8	332.9	325.3	324.6
60°	1403.4	667.2	323.9	315.6	338.8	369.8	357.4	332.9	313.2	306.0	305.3
62.5°	1069.4	471.0	296.6	293.5	313.5	338.4	336.0	310.4	291.8	286.6	285.9
65°	643.3	330.8	270.4	270.0	284.2	308.0	311.1	290.4	270.7	263.5	263.5
67.5°	318.0	253.1	240.7	239.0	247.9	264.9	278.0	261.1	244.5	237.6	236.5
70°	224.8	223.1	218.9	214.1	215.8	222.7	228.3	214.1	196.5	189.6	188.2
72.5°	194.4	194.8	192.0	188.2	186.8	182.0	177.1	166.8	156.1	148.8	149.5
75°	150.9	151.6	153.3	151.9	148.1	143.0	137.8	124.7	116.0	109.1	107.7
77.5°	88.1	91.5	97.0	95.7	96.3	89.1	87.0	74.2	66.3	61.5	60.4
80°	49.7	51.8	54.2	55.9	53.9	50.8	46.3	39.4	36.9	33.5	32.8
82.5°	30.0	32.1	33.2	34.5	33.8	29.7	26.2	21.8	19.7	18.0	17.6
85°	15.2	16.6	17.6	18.3	16.2	13.5	12.1	9.7	8.3	7.3	7.3
87.5°	3.8	4.1	4.8	4.1	3.8	1.7	1.4	0.3	0.0	0.0	0.0
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

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**

$\lambda$ (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

**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)