

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: P630570

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

Issue Date: 1/10/2023

**Test Information**

Test Method: LM-79-2019  
Report Number: P630570  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2209-782-22)  
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-HSS  
Description: GALLEON WALL SLIM LUMINAIRE. (1) LIGHTSQUARES WITH 16 LEDS EACH AND TYPE II OPTICS WITH HOUSE SIDE SHIELD  
Light Source: (16) 3000K CCT, 80 CRI LEDS  
Ballast/Driver: -

**Summary**

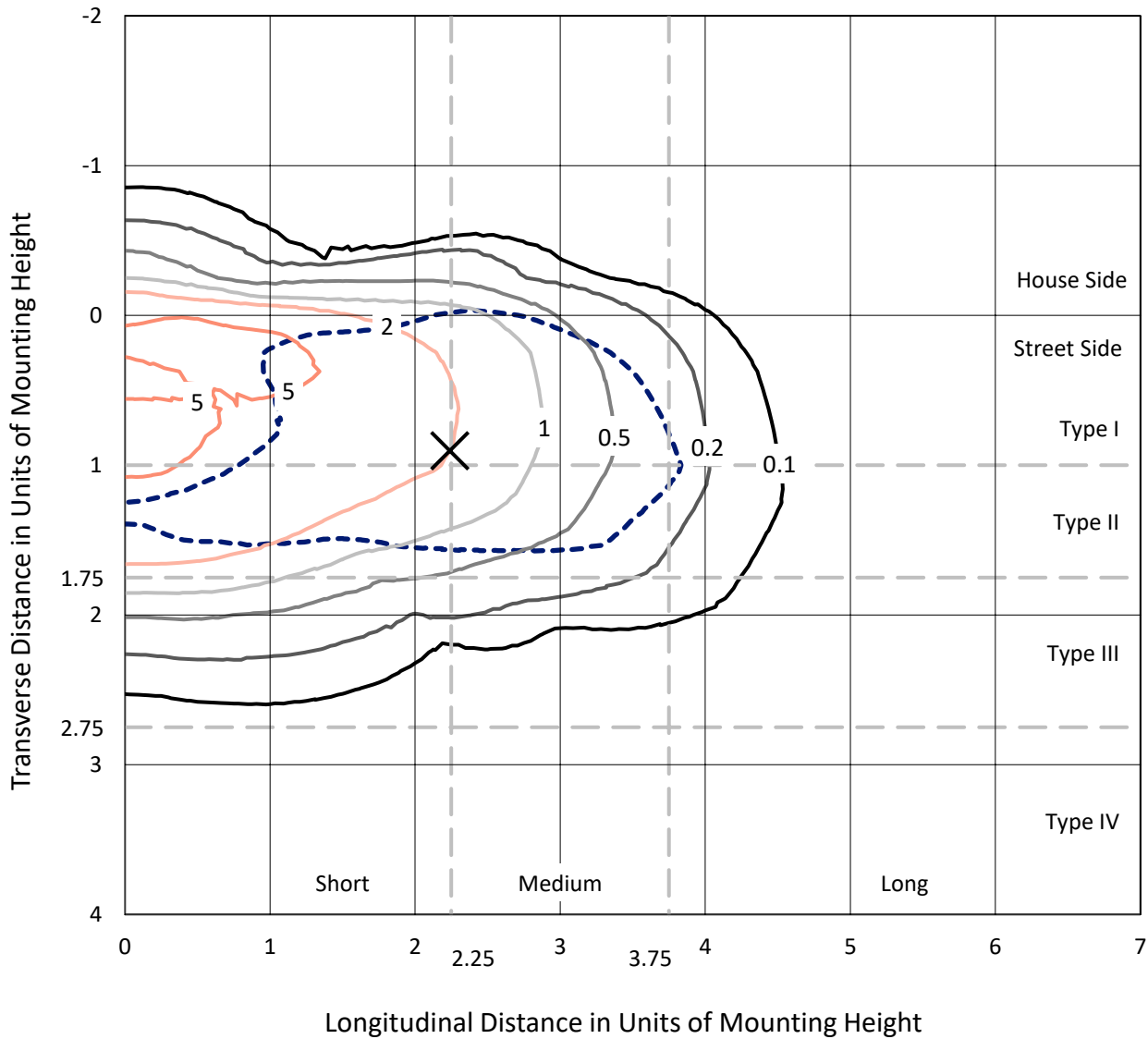
Lumens per Lamp: N/A  
Luminaire Lumens: 3608.2 lumens  
Efficiency: N/A  
Efficacy: 81.4 lumens/watt  
Luminous Opening: Rectangular (W 0.5' x L: 0.5' x H: 0')  
IES Classification: Type II - Short  
BUG Rating: B0 - U0 - G1  
  
Input Watts (W): 44.3  
Input Voltage (V): 120  
Input Current (Ain): 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: P630570  
 CATALOG NUMBER: GWS-SA1D-830-U-T2-W-HSS

### Iso-Footcandle Lines of Horizontal Illumination

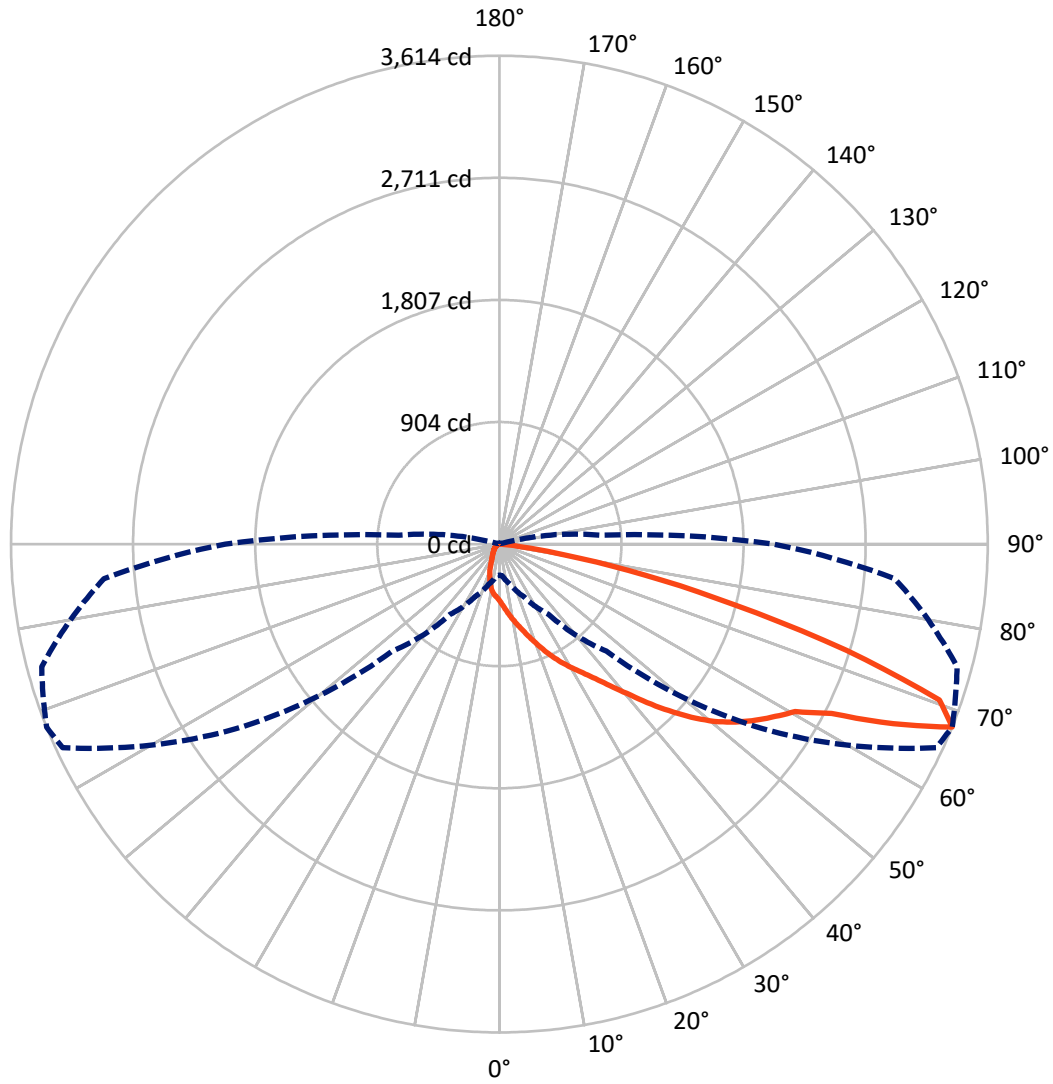
✕ Max cd  
 - - - 1/2 Max cd



Based on 10 foot mounting height. Maximum calculated value = 6.8 fc  
 Type II - Short - N/A

REPORT NUMBER: P630570  
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### Luminous Intensity Polar Plot



— Vertical Plane Through 68-Deg Lateral    - - - Horizontal Cone Through 67.5-Deg Vertical

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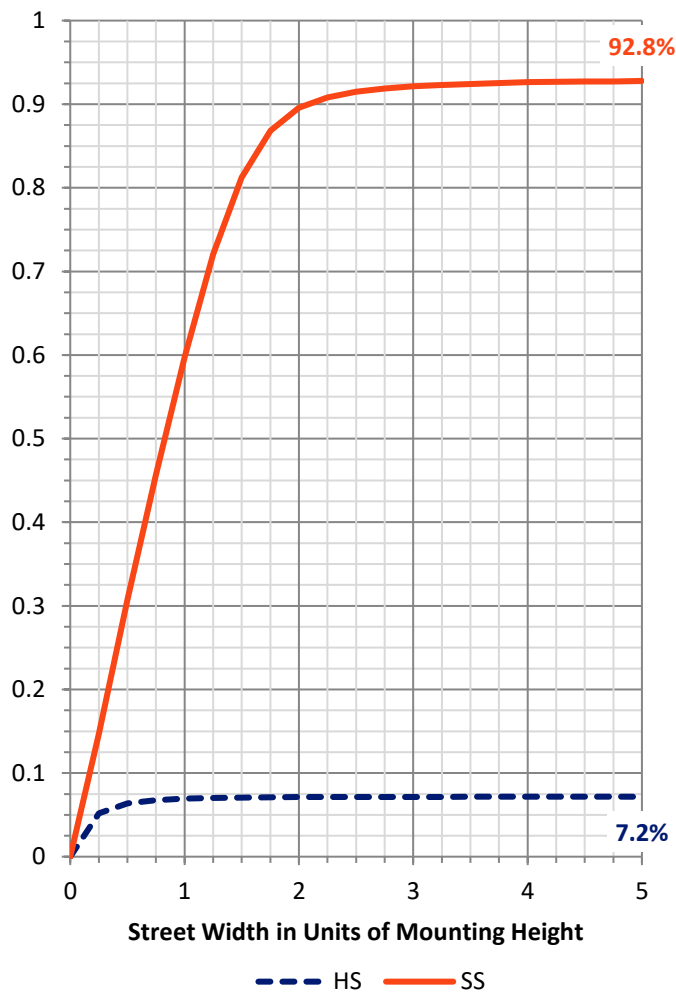
**FLUX DISTRIBUTION:**

		Downward	Upward	Total
<b>House Side</b>	Lumens	260.5	0.0	260.5
	% Fixture	7.2	0.0	7.2
<b>Street Side</b>	Lumens	3347.7	0.0	3347.7
	% Fixture	92.8	0.0	92.8
<b>Total</b>	Lumens	3608.2	0.0	3608.2
	% Fixture	100.0	0.0	100.0

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	41.0	1.1
10°-20°	117.6	3.3
20°-30°	202.1	5.6
30°-40°	351.4	9.7
40°-50°	613.1	17.0
50°-60°	924.8	25.6
60°-70°	927.3	25.7
70°-80°	409.1	11.3
80°-90°	21.9	0.6
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°	3608.2	100.0
0°-180°	3608.2	100.0

**Coefficient of Utilization**



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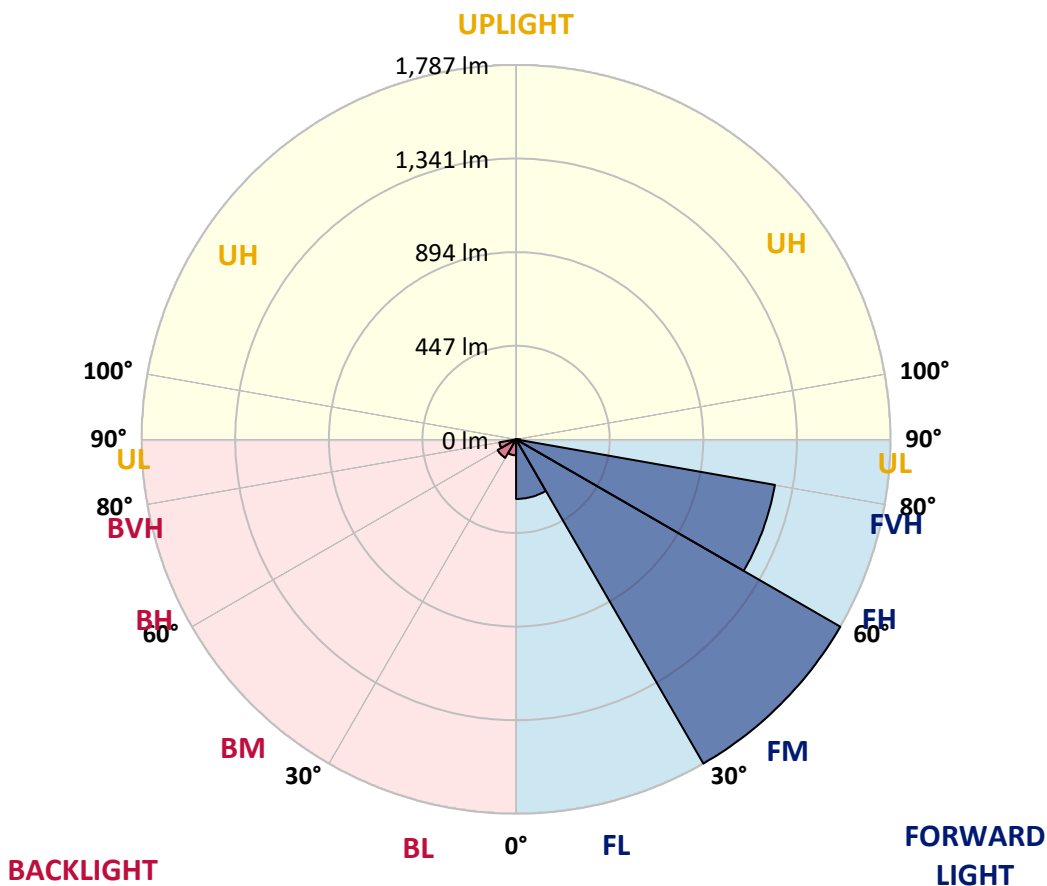
CATALOG NUMBER: GWS-SA1D-830-U-T2-W-HSS

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

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	284.4	7.9			
FM (30°-60°)	1787.5	49.5			
FH (60°-80°)	1255.1	34.8			G1/1800
FVH (80°-90°)	20.6	0.6			G1/100
BL (0°-30°)	76.2	2.1	B0/110		
BM (30°-60°)	101.8	2.8	B0/220		
BH (60°-80°)	81.3	2.3	B0/110		G0/110
BVH (80°-90°)	1.2	0.0			G0/10
UL (90°-100°)	0.0	0.0		U0/0	
UH (100°-180°)	0.0	0.0		U0/0	

**BUG Rating: B0-U0-G1**

Type II Short





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CATALOG NUMBER: GWS-SA1D-830-U-T2-W-HSS

**CANDELA DISTRIBUTION (FULL):**

	0°	5°	15°	25°	35°	45°	55°	65°	68°	75°	85°
0°	419.9	419.9	419.9	419.9	419.9	419.9	419.9	419.9	419.9	419.9	419.9
2.5°	489.0	492.1	489.0	489.7	480.7	476.5	467.6	455.1	452.0	444.1	432.0
5°	548.7	551.5	548.4	547.7	537.3	529.7	514.9	493.5	487.2	471.7	447.9
7.5°	581.2	582.9	583.9	585.7	581.9	575.6	562.2	535.6	529.0	503.8	470.3
10°	584.6	586.0	591.2	601.5	609.1	612.9	605.3	580.8	570.5	545.9	497.9
12.5°	574.9	577.0	585.3	602.6	623.6	643.0	647.8	626.4	617.1	585.7	530.4
15°	562.2	563.9	575.3	598.8	630.5	666.1	686.1	676.8	666.5	633.7	566.3
17.5°	542.5	544.9	560.8	592.6	633.7	684.4	727.6	730.7	723.4	687.9	606.0
20°	531.4	533.2	547.3	580.1	631.6	697.9	766.3	795.6	787.7	750.4	651.6
22.5°	540.8	542.1	551.5	577.0	624.7	705.5	802.2	860.5	856.0	817.4	699.6
25°	589.8	594.3	588.8	593.3	627.8	709.6	831.2	925.4	926.5	887.5	749.3
27.5°	689.2	683.4	670.3	647.8	652.0	720.7	856.0	986.6	995.5	955.8	793.5
30°	790.4	787.0	779.0	744.2	715.1	745.2	877.1	1049.1	1063.2	1023.2	832.9
32.5°	904.0	907.5	893.3	851.5	802.2	794.9	898.9	1108.5	1135.0	1099.5	879.2
35°	1039.7	1040.8	1012.8	966.5	910.6	877.1	937.9	1174.1	1223.1	1196.9	941.0
37.5°	1172.0	1178.2	1163.0	1090.2	1040.4	979.3	1002.4	1258.3	1327.4	1317.0	1018.7
40°	1289.1	1298.7	1293.9	1223.5	1158.2	1106.7	1102.6	1357.1	1453.4	1465.2	1121.2
42.5°	1382.3	1388.5	1392.3	1342.2	1284.6	1255.6	1226.2	1471.7	1602.3	1650.3	1246.9
45°	1480.7	1482.8	1490.7	1456.9	1406.5	1408.9	1372.3	1610.9	1759.0	1855.4	1391.3
47.5°	1606.1	1613.0	1609.2	1573.6	1528.0	1555.3	1523.2	1754.2	1913.7	2074.3	1539.1
50°	1758.7	1765.9	1762.5	1721.0	1670.3	1681.7	1661.7	1893.4	2062.9	2280.8	1662.0
52.5°	1837.4	1843.3	1886.1	1904.8	1878.2	1805.7	1779.8	2046.3	2189.0	2450.7	1774.9
55°	1799.4	1803.6	1896.8	1975.5	2072.9	2000.4	1898.5	2164.4	2300.1	2583.3	1858.8
57.5°	1642.0	1664.4	1791.1	1924.4	2129.2	2192.7	2091.2	2292.9	2407.2	2675.5	1941.4
60°	1319.1	1318.1	1499.7	1739.0	2019.4	2245.6	2363.3	2466.6	2514.6	2746.3	2051.9
62.5°	729.0	735.5	977.2	1292.5	1714.1	2108.8	2567.4	2766.7	2759.4	2869.9	2224.9
65°	362.9	376.0	507.3	740.4	1140.6	1742.8	2602.6	3224.5	3203.8	3161.0	2582.3
67.5°	230.3	235.5	308.0	430.3	634.0	1120.2	2383.4	3566.1	3614.1	3506.3	2936.9
70°	149.2	157.8	214.1	294.2	382.6	577.4	1745.9	3344.7	3454.9	3468.3	2715.9
72.5°	81.1	87.4	136.7	210.0	276.3	288.7	980.7	2510.1	2687.2	2942.1	2124.7
75°	46.3	50.8	74.9	142.6	202.7	175.8	434.8	1680.3	1793.2	2102.6	1522.5
77.5°	28.0	31.8	42.1	69.4	127.1	117.4	164.4	1022.8	1094.6	1254.5	799.1
80°	12.8	15.2	26.6	38.3	69.4	55.6	62.8	476.9	492.4	514.9	264.5
82.5°	5.9	6.9	12.1	22.8	39.4	32.1	24.2	110.2	155.0	146.8	67.3
85°	0.7	0.7	4.5	9.3	11.1	8.3	10.0	24.9	31.4	44.2	19.3
87.5°	0.0	0.0	0.3	0.3	0.7	1.0	2.1	3.1	4.5	7.3	4.8
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: P630570  
 CATALOG NUMBER: GWS-SA1D-830-U-T2-W-HSS

**CANDELA DISTRIBUTION (continued):**

	90°	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°
0°	419.9	419.9	419.9	419.9	419.9	419.9	419.9	419.9	419.9	419.9	419.9
2.5°	426.5	416.8	408.2	395.4	386.8	377.1	370.5	362.6	359.5	357.1	353.6
5°	436.1	420.6	399.5	376.0	356.7	338.4	321.5	310.4	300.8	299.4	294.6
7.5°	452.0	428.9	393.3	355.0	322.2	291.8	268.0	248.6	239.0	235.8	230.3
10°	473.1	441.3	384.0	325.3	278.0	241.7	214.8	193.0	177.8	172.3	168.2
12.5°	496.6	452.7	369.1	288.7	234.8	193.4	159.2	136.1	126.4	122.9	119.8
15°	523.5	463.4	345.7	252.1	192.7	142.3	118.1	108.1	103.9	102.9	101.9
17.5°	549.4	470.3	317.7	214.1	148.1	110.5	99.1	95.3	94.3	93.2	92.5
20°	578.7	475.2	284.9	178.2	115.0	93.6	88.1	85.3	83.2	81.1	80.8
22.5°	608.8	475.2	249.3	143.0	96.3	83.9	77.7	72.5	68.7	66.6	66.0
25°	637.5	468.6	214.1	114.3	84.9	74.6	66.6	60.8	55.6	53.2	52.5
27.5°	657.8	451.7	183.4	96.7	77.0	66.3	56.6	50.1	45.9	43.5	43.2
30°	670.6	426.5	155.0	86.3	70.1	57.7	48.0	42.5	39.4	37.6	36.9
32.5°	680.3	395.4	129.8	79.1	63.5	50.1	41.8	37.3	34.5	33.2	32.8
35°	699.6	366.0	111.2	72.5	56.6	43.9	36.6	33.2	31.1	29.4	29.0
37.5°	726.5	341.5	96.3	66.6	50.1	39.0	33.2	30.0	28.3	26.6	26.2
40°	766.3	326.0	85.3	60.8	44.2	35.2	30.4	27.6	25.2	23.5	23.1
42.5°	827.4	318.7	78.0	54.9	39.0	31.8	28.0	24.5	22.1	20.4	20.0
45°	900.2	322.5	71.8	49.0	35.6	29.4	24.9	21.4	19.0	17.3	16.9
47.5°	978.3	336.0	66.6	43.5	32.1	26.9	22.1	18.3	16.2	14.5	14.2
50°	1059.8	358.1	62.2	38.3	29.4	24.2	19.0	15.9	13.8	12.4	12.1
52.5°	1130.6	388.1	57.7	34.5	26.9	21.4	16.6	13.8	11.7	10.4	10.0
55°	1198.2	416.4	54.2	31.1	24.2	18.6	14.5	11.7	10.0	8.6	8.3
57.5°	1271.8	446.5	50.1	28.0	21.8	16.6	12.8	10.0	8.6	7.3	6.9
60°	1378.8	491.0	43.9	25.6	19.0	14.5	11.1	9.0	7.6	5.9	5.5
62.5°	1533.2	572.2	36.9	22.1	16.2	12.4	9.3	7.6	6.2	4.8	4.1
65°	1821.9	710.3	30.4	18.3	13.1	10.4	7.9	6.2	4.8	3.5	3.1
67.5°	2029.8	746.2	24.5	14.8	10.7	7.9	6.6	4.8	3.5	2.4	2.1
70°	1774.6	535.9	19.0	12.1	9.0	6.2	5.2	3.8	2.4	1.7	1.4
72.5°	1337.1	350.1	14.2	9.3	6.9	5.2	3.8	3.1	2.1	1.4	1.0
75°	942.4	202.4	10.4	6.9	4.8	3.8	3.1	2.4	1.7	1.0	1.0
77.5°	483.1	83.6	7.3	4.8	3.5	2.4	2.1	1.4	1.4	1.0	0.7
80°	146.8	27.6	4.1	3.1	2.4	1.7	1.0	1.0	1.0	0.7	0.3
82.5°	33.5	9.0	2.4	2.4	1.7	1.4	1.0	0.3	0.3	0.0	0.0
85°	8.6	2.8	2.1	1.7	1.7	1.4	0.7	0.3	0.0	0.0	0.0
87.5°	3.1	1.7	1.7	1.7	1.4	1.0	0.7	0.0	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



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)