

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: P633045

Luminaire Tested: GWS-SA2D-830-U-T2-W-HSS

Issue Date: 1/10/2023

**Test Information**

Test Method: LM-79-2019  
Report Number: P633045  
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-SA2D-830-U-T2-W-HSS  
Description: GALLEON WALL SLIM LUMINAIRE. (2) LIGHTSQUARES WITH 16 LEDS EACH AND TYPE II OPTICS WITH HOUSE SIDE SHIELD  
Light Source: (32) 3000K CCT, 80 CRI LEDS  
Ballast/Driver: -

**Summary**

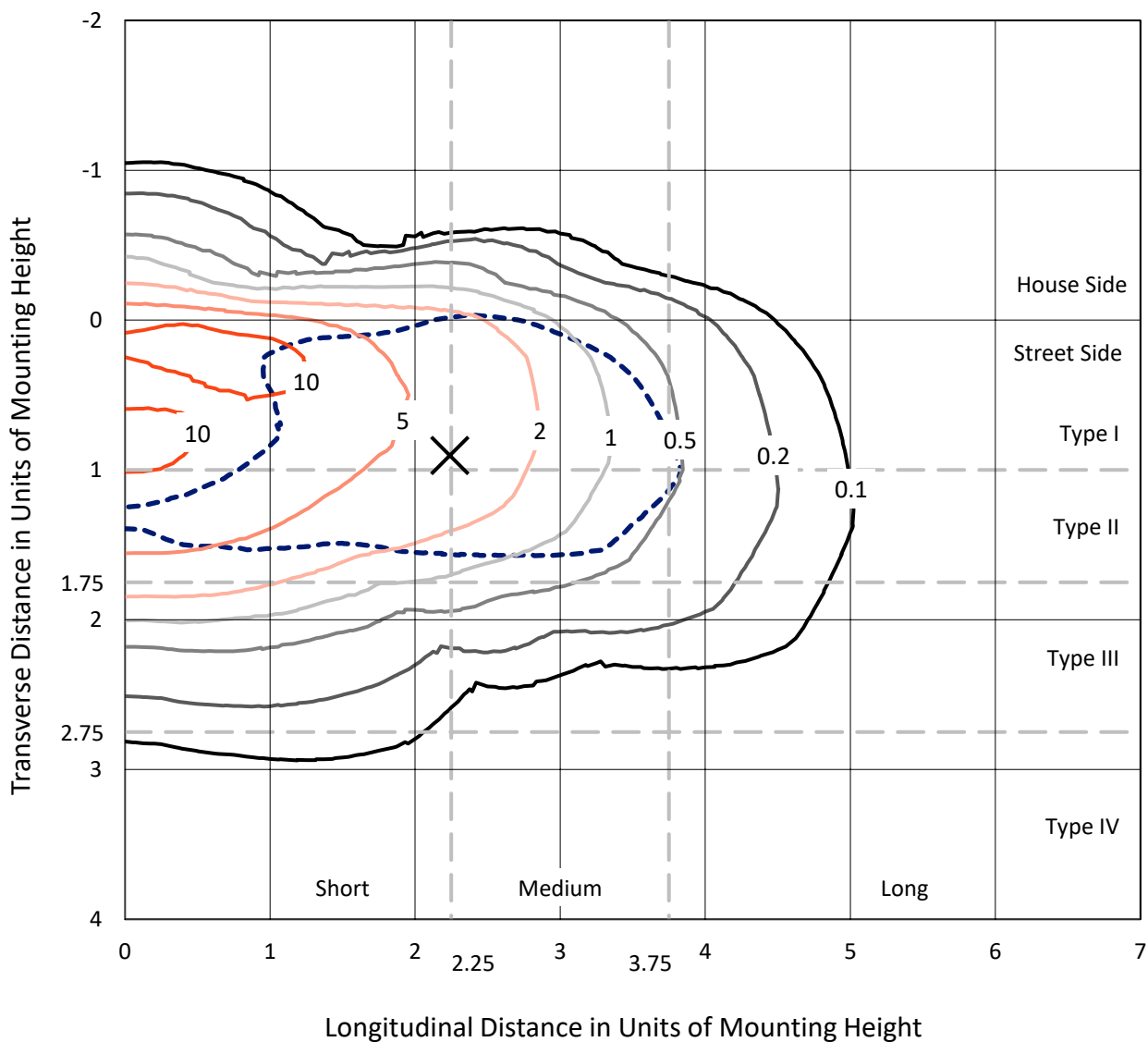
Lumens per Lamp: N/A  
Luminaire Lumens: 6947.8 lumens  
Efficiency: N/A  
Efficacy: 84.6 lumens/watt  
Luminous Opening: Rectangular (W 1' x L: 0.5' x H: 0')  
IES Classification: Type II - Short  
BUG Rating: B1 - U0 - G2  
  
Input Watts (W): 82.1  
Input Voltage (V): 120  
Input Current (Ain): NR  
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: P633045  
 CATALOG NUMBER: GWS-SA2D-830-U-T2-W-HSS

### Iso-Footcandle Lines of Horizontal Illumination

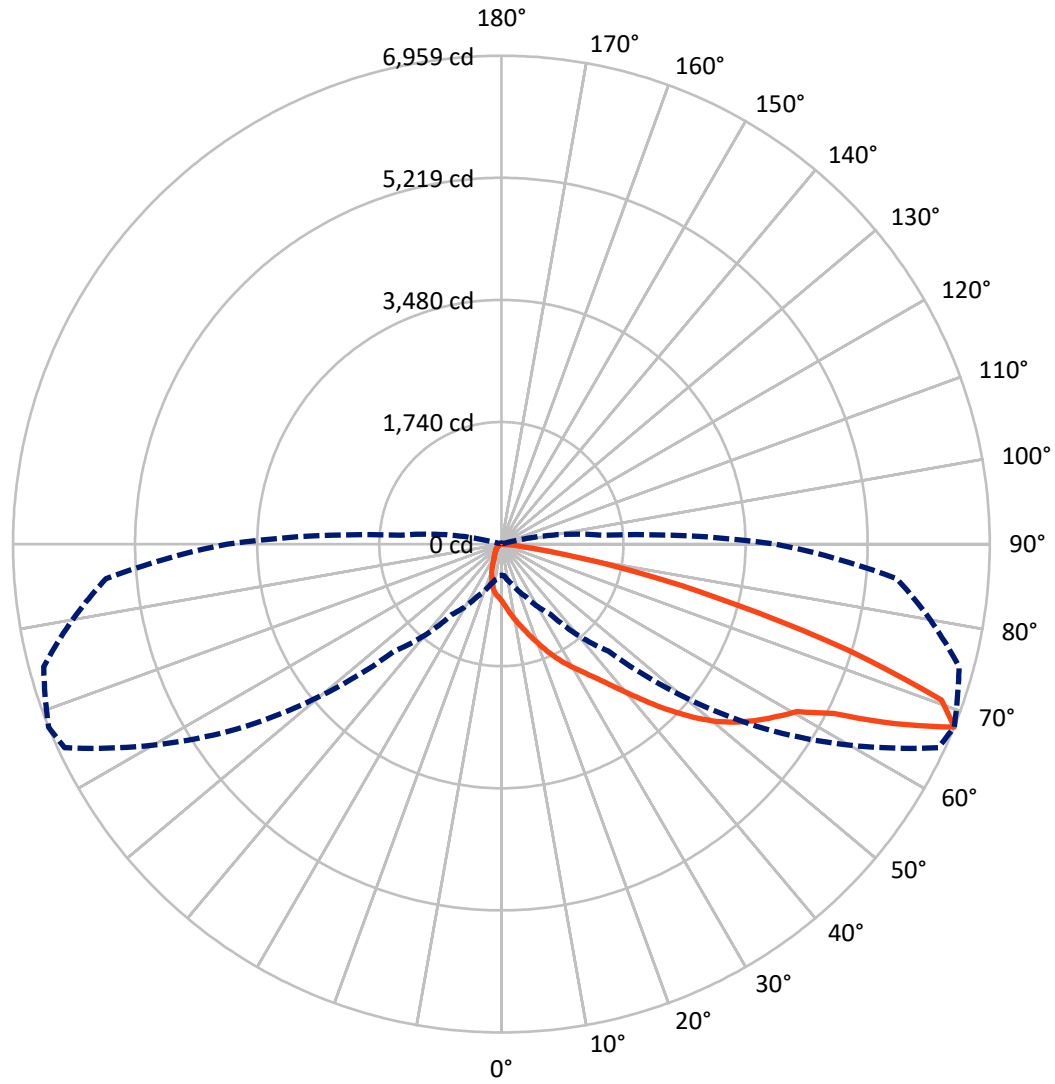
✕ Max cd  
 - - - 1/2 Max cd



Based on 10 foot mounting height. Maximum calculated value = 13 fc  
 Type II - Short - N/A

REPORT NUMBER: P633045  
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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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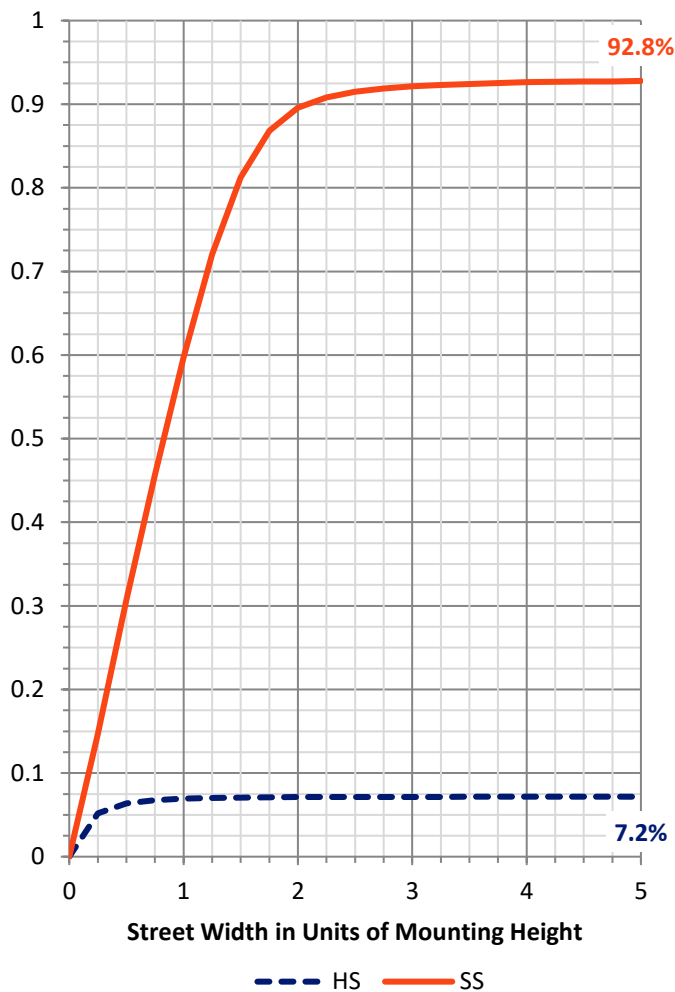
**FLUX DISTRIBUTION:**

		Downward	Upward	Total
<b>House Side</b>	Lumens	501.7	0.0	501.7
	% Fixture	7.2	0.0	7.2
<b>Street Side</b>	Lumens	6446.1	0.0	6446.1
	% Fixture	92.8	0.0	92.8
<b>Total</b>	Lumens	6947.8	0.0	6947.8
	% Fixture	100.0	0.0	100.0

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	78.9	1.1
10°-20°	226.5	3.3
20°-30°	389.2	5.6
30°-40°	676.6	9.7
40°-50°	1180.6	17.0
50°-60°	1780.7	25.6
60°-70°	1785.6	25.7
70°-80°	787.8	11.3
80°-90°	42.1	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°	6947.8	100.0
0°-180°	6947.8	100.0

**Coefficient of Utilization**

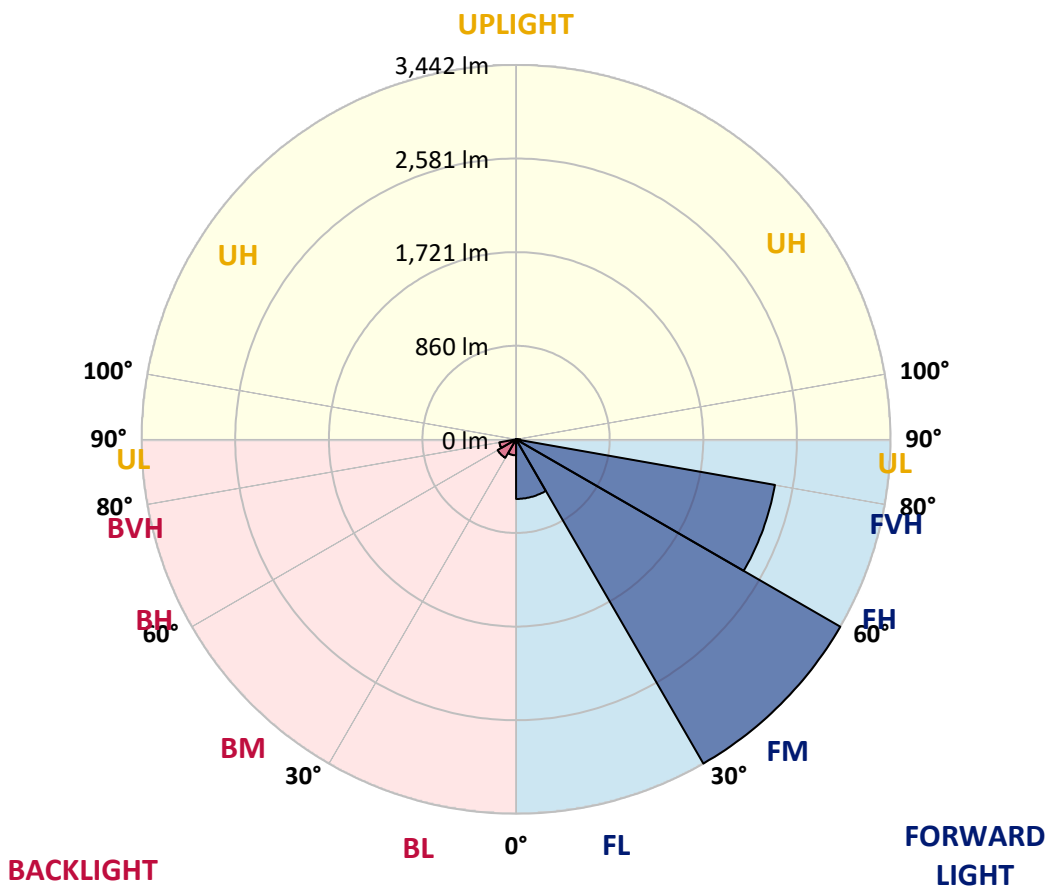


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**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	547.7	7.9			
FM (30°-60°)	3441.9	49.5			
FH (60°-80°)	2416.8	34.8			G2/5000
FVH (80°-90°)	39.7	0.6			G1/100
BL (0°-30°)	146.8	2.1	B1/500		
BM (30°-60°)	196.0	2.8	B0/220		
BH (60°-80°)	156.6	2.3	B1/500		G1/500
BVH (80°-90°)	2.4	0.0			G0/10
UL (90°-100°)	0.0	0.0		U0/0	
UH (100°-180°)	0.0	0.0		U0/0	

**BUG Rating: B1-U0-G2**  
 Type II Short





REPORT NUMBER: P633045

CATALOG NUMBER: GWS-SA2D-830-U-T2-W-HSS

**CANDELA DISTRIBUTION (FULL):**

	0°	5°	15°	25°	35°	45°	55°	65°	68°	75°	85°
0°	808.5	808.5	808.5	808.5	808.5	808.5	808.5	808.5	808.5	808.5	808.5
2.5°	941.5	947.5	941.5	942.9	925.6	917.6	900.3	876.4	870.4	855.1	831.8
5°	1056.6	1061.9	1055.9	1054.6	1034.6	1020.0	991.4	950.2	938.2	908.3	862.4
7.5°	1119.1	1122.4	1124.4	1127.7	1120.4	1108.4	1082.5	1031.3	1018.7	970.1	905.6
10°	1125.7	1128.4	1138.3	1158.3	1172.9	1180.2	1165.6	1118.4	1098.5	1051.2	958.8
12.5°	1107.1	1111.1	1127.0	1160.3	1200.9	1238.1	1247.4	1206.2	1188.2	1127.7	1021.3
15°	1082.5	1085.8	1107.8	1153.0	1214.2	1282.6	1321.2	1303.3	1283.3	1220.1	1090.5
17.5°	1044.6	1049.2	1079.8	1141.0	1220.1	1317.9	1401.0	1407.0	1393.0	1324.5	1166.9
20°	1023.3	1026.6	1053.9	1117.1	1216.1	1343.8	1475.5	1532.0	1516.7	1444.9	1254.7
22.5°	1041.3	1043.9	1061.9	1111.1	1202.8	1358.4	1544.6	1657.0	1648.3	1573.9	1347.1
25°	1135.7	1144.3	1133.7	1142.3	1208.8	1366.4	1600.5	1782.0	1784.0	1708.9	1442.9
27.5°	1327.2	1315.9	1290.6	1247.4	1255.4	1387.7	1648.3	1899.7	1917.0	1840.5	1528.0
30°	1522.0	1515.4	1500.1	1432.9	1377.1	1434.9	1688.9	2020.0	2047.3	1970.2	1603.8
32.5°	1740.8	1747.4	1720.2	1639.7	1544.6	1530.7	1730.8	2134.4	2185.6	2117.1	1692.9
35°	2002.1	2004.1	1950.2	1861.1	1753.4	1688.9	1805.9	2260.7	2355.2	2304.6	1811.9
37.5°	2256.8	2268.7	2239.5	2099.2	2003.4	1885.7	1930.3	2423.0	2556.0	2536.0	1961.5
40°	2482.2	2500.8	2491.5	2355.8	2230.2	2131.1	2123.1	2613.2	2798.7	2821.3	2159.0
42.5°	2661.7	2673.7	2681.0	2584.6	2473.5	2417.7	2361.1	2833.9	3085.2	3177.7	2401.0
45°	2851.2	2855.2	2870.5	2805.3	2708.2	2712.9	2642.4	3101.9	3387.1	3572.6	2679.0
47.5°	3092.6	3105.9	3098.5	3030.1	2942.3	2994.8	2933.0	3377.8	3685.0	3994.2	2963.6
50°	3386.5	3400.4	3393.8	3314.0	3216.2	3238.2	3199.6	3645.8	3972.3	4391.8	3200.3
52.5°	3538.1	3549.4	3631.8	3667.7	3616.5	3476.9	3427.0	3940.3	4215.0	4719.0	3417.7
55°	3464.9	3472.9	3652.4	3804.0	3991.5	3851.9	3655.8	4167.7	4429.1	4974.3	3579.3
57.5°	3161.7	3204.9	3449.0	3705.6	4099.9	4222.3	4026.8	4415.1	4635.2	5151.8	3738.2
60°	2540.0	2538.0	2887.8	3348.6	3888.5	4324.0	4550.7	4749.6	4842.0	5288.1	3951.0
62.5°	1403.7	1416.3	1881.7	2488.8	3300.7	4060.7	4943.7	5327.4	5313.4	5526.2	4284.1
65°	698.8	724.1	976.8	1425.6	2196.2	3355.9	5011.5	6209.1	6169.2	6086.7	4972.3
67.5°	443.5	453.5	593.1	828.5	1220.8	2157.0	4589.3	6866.7	6959.1	6751.6	5655.2
70°	287.2	303.9	412.3	566.5	736.7	1111.8	3361.9	6440.5	6652.6	6678.5	5229.6
72.5°	156.3	168.2	263.3	404.3	531.9	555.9	1888.4	4833.3	5174.4	5665.2	4091.3
75°	89.1	97.7	144.3	274.6	390.3	338.4	837.1	3235.5	3452.9	4048.7	2931.6
77.5°	53.9	61.2	81.1	133.6	244.7	226.1	316.5	1969.5	2107.8	2415.7	1538.6
80°	24.6	29.3	51.2	73.8	133.6	107.1	121.0	918.3	948.2	991.4	509.3
82.5°	11.3	13.3	23.3	43.9	75.8	61.8	46.5	212.1	298.6	282.6	129.7
85°	1.3	1.3	8.6	18.0	21.3	16.0	19.3	47.9	60.5	85.1	37.2
87.5°	0.0	0.0	0.7	0.7	1.3	2.0	4.0	6.0	8.6	14.0	9.3
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: P633045

CATALOG NUMBER: GWS-SA2D-830-U-T2-W-HSS

**CANDELA DISTRIBUTION (continued):**

	90°	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°
0°	808.5	808.5	808.5	808.5	808.5	808.5	808.5	808.5	808.5	808.5	808.5
2.5°	821.2	802.6	785.9	761.3	744.7	726.1	713.5	698.2	692.2	687.5	680.9
5°	839.8	809.9	769.3	724.1	686.9	651.6	619.0	597.8	579.1	576.5	567.2
7.5°	870.4	825.8	757.3	683.5	620.4	561.9	516.0	478.7	460.1	454.1	443.5
10°	910.9	849.8	739.4	626.4	535.3	465.4	413.6	371.7	342.4	331.8	323.8
12.5°	956.2	871.7	710.8	555.9	452.1	372.4	306.5	262.0	243.4	236.7	230.7
15°	1008.0	892.3	665.6	485.4	371.0	273.9	227.4	208.1	200.1	198.1	196.2
17.5°	1057.9	905.6	611.7	412.3	285.3	212.8	190.8	183.5	181.5	179.5	178.2
20°	1114.4	914.9	548.6	343.1	221.4	180.2	169.6	164.2	160.2	156.3	155.6
22.5°	1172.3	914.9	480.1	275.3	185.5	161.6	149.6	139.6	132.3	128.3	127.0
25°	1227.4	902.3	412.3	220.1	163.6	143.6	128.3	117.0	107.1	102.4	101.1
27.5°	1266.7	869.7	353.1	186.2	148.3	127.7	109.0	96.4	88.4	83.8	83.1
30°	1291.3	821.2	298.6	166.2	135.0	111.0	92.4	81.8	75.8	72.5	71.1
32.5°	1309.9	761.3	250.0	152.3	122.3	96.4	80.5	71.8	66.5	63.8	63.2
35°	1347.1	704.8	214.1	139.6	109.0	84.4	70.5	63.8	59.8	56.5	55.9
37.5°	1399.0	657.6	185.5	128.3	96.4	75.1	63.8	57.8	54.5	51.2	50.5
40°	1475.5	627.7	164.2	117.0	85.1	67.8	58.5	53.2	48.5	45.2	44.5
42.5°	1593.2	613.7	150.3	105.7	75.1	61.2	53.9	47.2	42.6	39.2	38.6
45°	1733.5	621.0	138.3	94.4	68.5	56.5	47.9	41.2	36.6	33.2	32.6
47.5°	1883.7	647.0	128.3	83.8	61.8	51.9	42.6	35.2	31.3	27.9	27.3
50°	2040.7	689.5	119.7	73.8	56.5	46.5	36.6	30.6	26.6	23.9	23.3
52.5°	2177.0	747.4	111.0	66.5	51.9	41.2	31.9	26.6	22.6	19.9	19.3
55°	2307.3	801.9	104.4	59.8	46.5	35.9	27.9	22.6	19.3	16.6	16.0
57.5°	2448.9	859.7	96.4	53.9	41.9	31.9	24.6	19.3	16.6	14.0	13.3
60°	2655.0	945.5	84.4	49.2	36.6	27.9	21.3	17.3	14.6	11.3	10.6
62.5°	2952.3	1101.8	71.1	42.6	31.3	23.9	18.0	14.6	12.0	9.3	8.0
65°	3508.1	1367.7	58.5	35.2	25.3	19.9	15.3	12.0	9.3	6.6	6.0
67.5°	3908.4	1436.9	47.2	28.6	20.6	15.3	12.6	9.3	6.6	4.7	4.0
70°	3417.0	1032.0	36.6	23.3	17.3	12.0	10.0	7.3	4.7	3.3	2.7
72.5°	2574.6	674.2	27.3	18.0	13.3	10.0	7.3	6.0	4.0	2.7	2.0
75°	1814.6	389.6	19.9	13.3	9.3	7.3	6.0	4.7	3.3	2.0	2.0
77.5°	930.2	160.9	14.0	9.3	6.6	4.7	4.0	2.7	2.7	2.0	1.3
80°	282.6	53.2	8.0	6.0	4.7	3.3	2.0	2.0	2.0	1.3	0.7
82.5°	64.5	17.3	4.7	4.7	3.3	2.7	2.0	0.7	0.7	0.0	0.0
85°	16.6	5.3	4.0	3.3	3.3	2.7	1.3	0.7	0.0	0.0	0.0
87.5°	6.0	3.3	3.3	3.3	2.7	2.0	1.3	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



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

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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**

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**



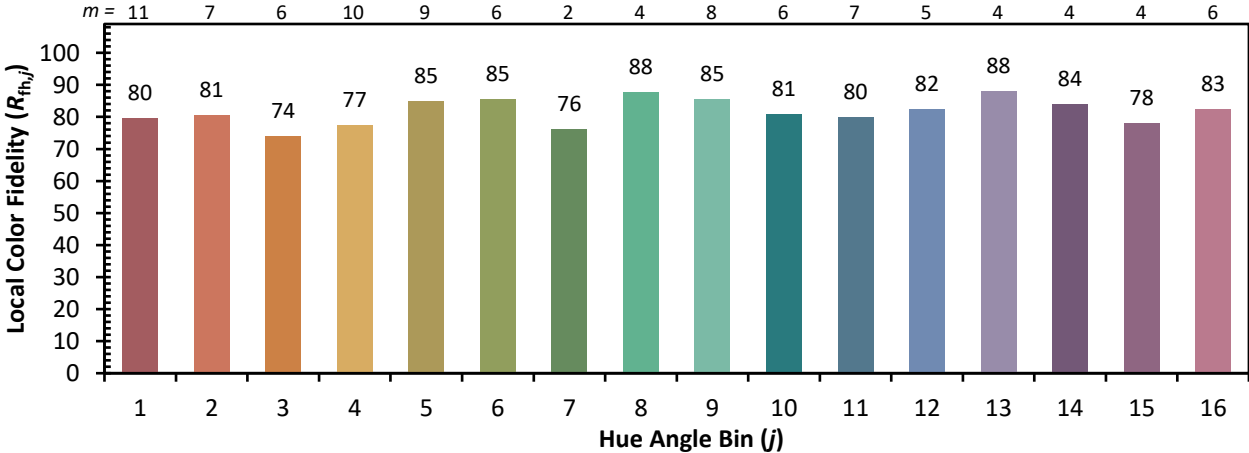


**Individual Sample Fidelity Index ( $R_{f,i}$ )**

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)