

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: P640467

Luminaire Tested: GWS-SA5D-830-U-T1-W

Issue Date: 1/10/2023

**Test Information**

Test Method: LM-79-2019  
Report Number: P640467  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2209-782-10)  
Test Lab: COOPER LIGHTING SOLUTIONS  
Issue Date: 1/10/2023  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: McGRAW-EDISON  
Catalog Number: GWS-SA5D-830-U-T1-W  
Description: GALLEON WALL SLIM LUMINAIRE. (5) LIGHTSQUARES WITH 16 LEDS EACH AND TYPE I OPTICS  
Light Source: (80) 3000K CCT, 80 CRI LEDS  
Ballast/Driver: -

**Summary**

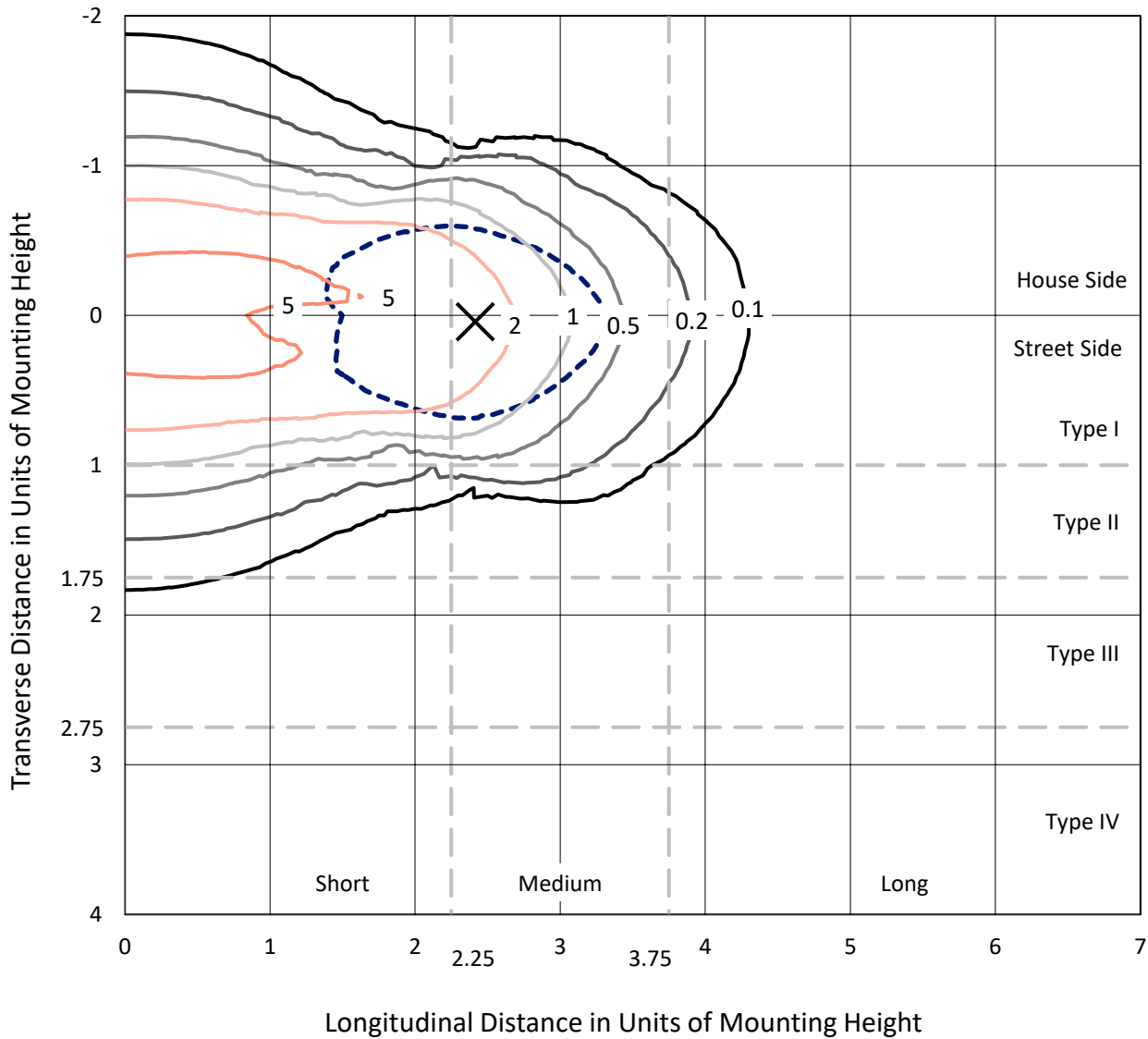
Lumens per Lamp: N/A  
Luminaire Lumens: 23820.5 lumens  
Efficiency: N/A  
Efficacy: 116.4 lumens/watt  
Luminous Opening: Rectangular (W 1.5' x L: 1' x H: 0')  
IES Classification: Type I - Medium  
BUG Rating: B4 - U0 - G4  
  
Input Watts (W): 204.6  
Input Voltage (V): 120  
Input Current (Ain): 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: P640467  
 CATALOG NUMBER: GWS-SA5D-830-U-T1-W

### Iso-Footcandle Lines of Horizontal Illumination

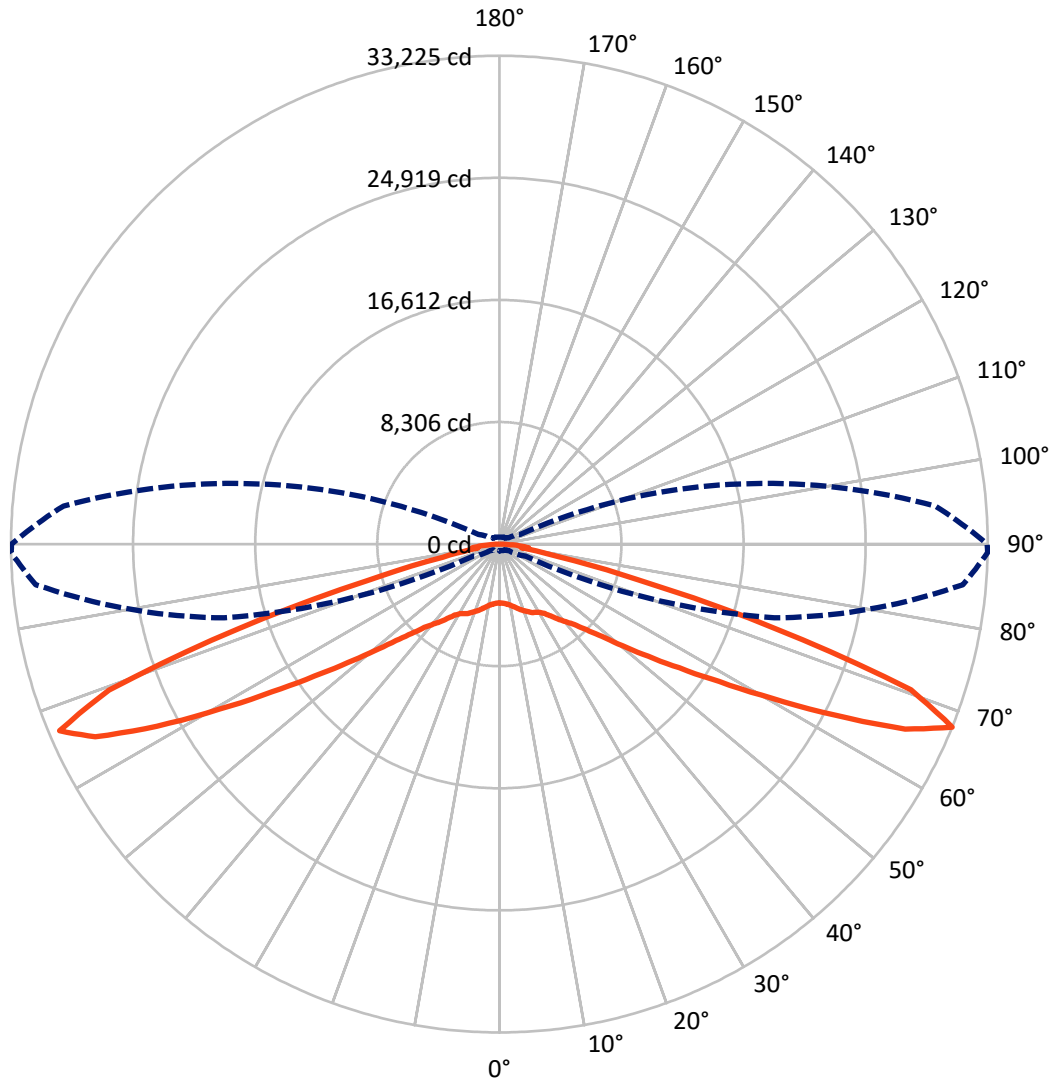
✕ Max cd  
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 7 fc  
 Type I - Medium - N/A

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### Luminous Intensity Polar Plot



— Vertical Plane Through 89-Deg Lateral    - - - Horizontal Cone Through 67.5-Deg Vertical

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**FLUX DISTRIBUTION:**

		Downward	Upward	Total
<b>House Side</b>	Lumens	11805.9	0.0	11805.9
	% Fixture	49.6	0.0	49.6
<b>Street Side</b>	Lumens	12014.6	0.0	12014.6
	% Fixture	50.4	0.0	50.4
<b>Total</b>	Lumens	23820.5	0.0	23820.5
	% Fixture	100.0	0.0	100.0

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	401.0	1.7
10°-20°	1305.8	5.5
20°-30°	2207.5	9.3
30°-40°	3029.5	12.7
40°-50°	3863.2	16.2
50°-60°	4847.0	20.3
60°-70°	5845.9	24.5
70°-80°	2114.9	8.9
80°-90°	205.7	0.9
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°	23820.5	100.0
0°-180°	23820.5	100.0

**Coefficient of Utilization**



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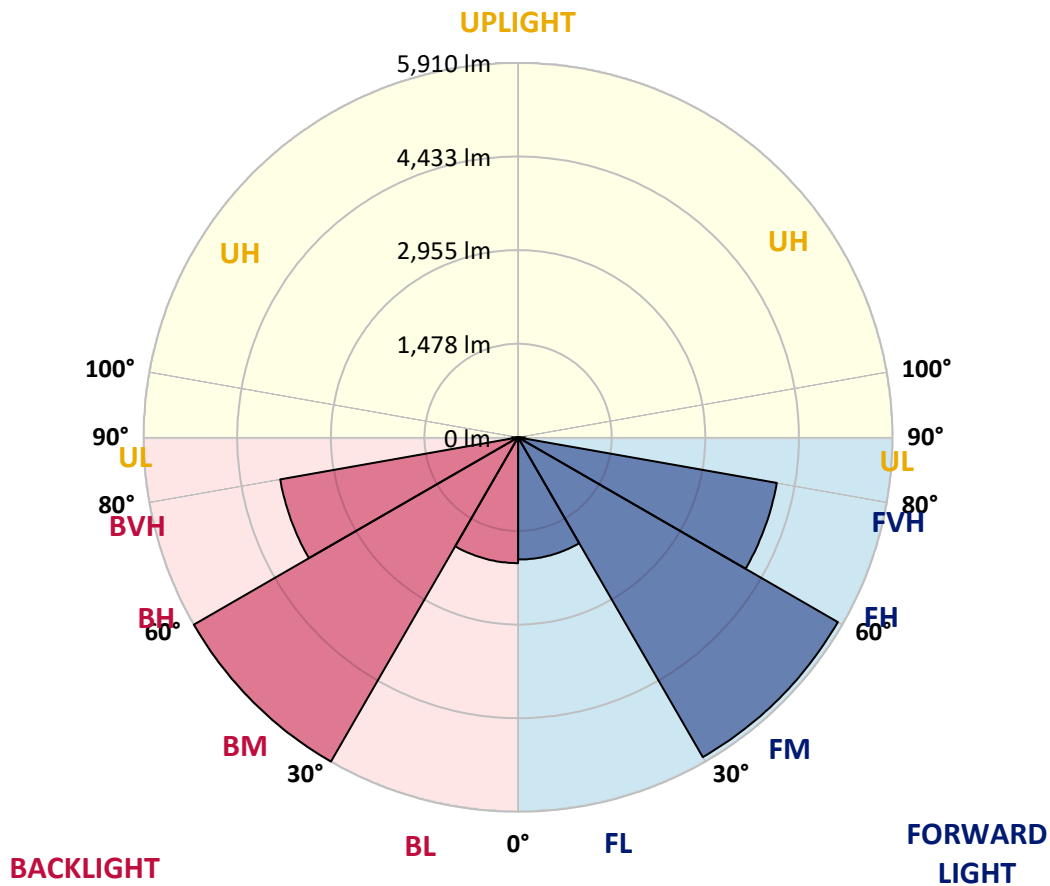
CATALOG NUMBER: GWS-SA5D-830-U-T1-W

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

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	1929.3	8.1			
FM (30°-60°)	5829.3	24.5			
FH (60°-80°)	4147.5	17.4			G2/5000
FVH (80°-90°)	108.5	0.5			G2/225
BL (0°-30°)	1985.1	8.3	B3/2500		
BM (30°-60°)	5910.4	24.8	B4/8500		
BH (60°-80°)	3813.3	16.0	B4/5000		G4/5000
BVH (80°-90°)	97.1	0.4			G1/100
UL (90°-100°)	0.0	0.0		U0/0	
UH (100°-180°)	0.0	0.0		U0/0	

**BUG Rating: B4-U0-G4**

Type I Medium





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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	15°	25°	35°	45°	55°	65°	75°	85°	89°
0°	3998.1	3998.1	3998.1	3998.1	3998.1	3998.1	3998.1	3998.1	3998.1	3998.1	3998.1
2.5°	4010.1	4006.6	3998.1	4023.7	4018.6	4020.3	4030.6	4023.7	4011.8	3991.2	4020.3
5°	4123.0	4121.3	4102.4	4117.8	4100.7	4088.8	4087.0	4069.9	4056.2	4034.0	4064.8
7.5°	4232.5	4230.7	4215.3	4242.7	4229.0	4215.3	4200.0	4165.7	4133.2	4100.7	4134.9
10°	4316.3	4314.6	4311.2	4350.5	4353.9	4359.1	4352.2	4294.0	4237.6	4198.2	4232.5
12.5°	4364.2	4369.3	4377.9	4449.7	4485.6	4519.9	4528.4	4480.5	4386.4	4330.0	4371.0
15°	4331.7	4341.9	4384.7	4514.7	4614.0	4690.9	4723.4	4684.1	4562.6	4468.5	4514.7
17.5°	4176.0	4184.6	4268.4	4466.8	4685.8	4863.7	4916.8	4892.8	4757.7	4643.0	4687.5
20°	3960.4	3979.3	4069.9	4347.1	4673.8	4983.5	5125.5	5116.9	4969.8	4793.6	4846.6
22.5°	3765.4	3787.7	3883.5	4189.7	4593.4	5014.3	5335.9	5358.1	5163.1	4944.1	4986.9
25°	3546.4	3567.0	3690.1	4003.2	4454.9	4990.3	5515.5	5616.5	5382.1	5116.9	5156.3
27.5°	3322.3	3337.7	3459.2	3792.8	4273.5	4945.8	5657.5	5900.5	5597.7	5236.7	5264.1
30°	3125.6	3146.1	3257.3	3582.4	4075.1	4856.9	5773.9	6203.3	5845.7	5371.8	5394.1
32.5°	2935.7	2952.8	3074.3	3375.4	3864.6	4720.0	5878.2	6559.1	6213.5	5623.3	5623.3
35°	2696.2	2727.0	2863.8	3176.9	3666.2	4538.7	5953.5	6973.1	6716.5	5994.6	5996.3
37.5°	2475.5	2492.6	2636.3	2952.8	3457.5	4333.4	5960.3	7402.5	7352.9	6466.7	6470.1
40°	2224.0	2246.2	2400.2	2713.3	3218.0	4117.8	5895.3	7802.8	8020.1	6952.6	6933.8
42.5°	1969.1	2001.6	2148.7	2455.0	2959.6	3854.4	5722.5	8184.3	8866.9	7515.4	7469.2
45°	1722.7	1743.3	1890.4	2179.5	2663.7	3539.6	5445.4	8550.4	9872.9	8370.8	8304.1
47.5°	1445.6	1454.2	1606.4	1883.6	2357.4	3188.9	5048.5	8877.2	10978.0	9503.4	9388.7
50°	1199.3	1211.2	1331.0	1568.8	1982.8	2773.2	4554.1	9068.8	12386.0	11048.2	10849.7
52.5°	970.0	982.0	1077.8	1267.7	1638.9	2299.3	3941.6	9024.3	13814.5	12966.0	12676.8
55°	783.5	792.1	857.1	1005.9	1289.9	1828.8	3218.0	8625.7	15400.4	15470.5	14847.8
57.5°	662.1	665.5	710.0	800.6	1007.6	1409.7	2484.0	7684.8	17063.3	18666.3	17643.2
60°	591.9	593.6	614.2	670.6	795.5	1076.1	1820.3	6186.2	18786.0	22664.3	21261.5
62.5°	547.4	547.4	564.6	597.1	660.4	828.0	1337.8	4442.9	20022.9	27014.8	25620.6
65°	504.7	504.7	516.7	544.0	578.2	675.8	1004.2	2865.5	20630.2	30651.9	30342.3
67.5°	449.9	451.6	460.2	489.3	520.1	564.6	761.3	1938.3	19369.4	31657.9	33224.9
70°	398.6	400.3	412.3	431.1	456.8	487.6	595.3	1336.1	14098.5	26366.5	29707.6
72.5°	342.2	349.0	357.6	378.1	393.5	415.7	485.9	865.7	8203.2	16960.6	19638.0
75°	280.6	289.1	299.4	319.9	330.2	338.7	400.3	617.6	3946.8	8594.9	9787.3
77.5°	217.3	225.8	237.8	256.6	263.5	273.7	306.2	446.5	1890.4	3809.9	4107.6
80°	145.4	148.8	159.1	181.3	193.3	200.2	225.8	304.5	821.2	1529.4	1515.7
82.5°	89.0	90.7	94.1	107.8	112.9	119.8	147.1	186.5	391.8	1738.1	1993.1
85°	32.5	30.8	29.1	37.6	44.5	51.3	68.4	94.1	171.1	1194.1	1336.1
87.5°	0.0	0.0	0.0	1.7	3.4	3.4	6.8	13.7	41.1	446.5	306.2
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-SA5D-830-U-T1-W

**CANDELA DISTRIBUTION (continued):**

	90°	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°
0°	3998.1	3998.1	3998.1	3998.1	3998.1	3998.1	3998.1	3998.1	3998.1	3998.1	3998.1
2.5°	4011.8	3992.9	4016.9	4034.0	4071.6	4085.3	4088.8	4076.8	4076.8	4056.2	4059.7
5°	4058.0	4046.0	4085.3	4114.4	4169.2	4189.7	4203.4	4194.8	4200.0	4186.3	4189.7
7.5°	4128.1	4117.8	4186.3	4242.7	4299.2	4323.1	4335.1	4328.3	4330.0	4312.9	4318.0
10°	4225.6	4229.0	4311.2	4384.7	4460.0	4483.9	4489.1	4468.5	4451.4	4420.6	4422.4
12.5°	4359.1	4376.2	4492.5	4574.6	4651.6	4685.8	4648.2	4572.9	4502.8	4449.7	4442.9
15°	4504.5	4535.3	4702.9	4807.3	4891.1	4874.0	4762.8	4593.4	4454.9	4376.2	4360.8
17.5°	4679.0	4725.2	4935.6	5060.5	5132.3	5022.8	4790.2	4537.0	4343.7	4237.6	4217.1
20°	4843.2	4916.8	5181.9	5344.5	5353.0	5106.7	4778.2	4422.4	4179.4	4049.4	4022.0
22.5°	4993.7	5087.8	5440.3	5647.3	5536.1	5144.3	4704.6	4259.8	3981.0	3828.7	3804.8
25°	5158.0	5291.4	5741.4	5934.7	5719.1	5128.9	4550.7	4058.0	3741.5	3585.8	3568.7
27.5°	5270.9	5438.6	6044.2	6228.9	5869.7	5041.7	4352.2	3837.3	3522.5	3375.4	3351.4
30°	5400.9	5614.8	6377.8	6548.8	5962.0	4913.3	4140.1	3632.0	3318.9	3159.8	3142.7
32.5°	5637.0	5905.6	6791.8	6887.6	5991.1	4754.2	3936.5	3433.5	3106.8	2947.7	2923.7
35°	6016.8	6331.6	7373.4	7265.7	5968.9	4579.7	3743.2	3200.9	2889.5	2740.7	2716.7
37.5°	6495.8	6887.6	8021.8	7606.1	5907.3	4388.1	3513.9	3005.8	2694.5	2543.9	2530.2
40°	6942.3	7424.8	8748.9	7900.4	5782.4	4152.0	3293.2	2802.2	2484.0	2324.9	2294.1
42.5°	7501.7	8143.3	9590.6	8155.3	5577.1	3869.8	3045.2	2550.8	2220.6	2076.9	2039.2
45°	8352.0	9149.2	10569.2	8399.9	5270.9	3522.5	2733.8	2244.5	1931.5	1784.3	1755.3
47.5°	9412.7	10406.6	11629.8	8545.3	4805.6	3156.4	2381.4	1921.2	1608.1	1442.2	1428.5
50°	10902.8	12235.5	12767.5	8519.7	4285.5	2721.8	1984.5	1536.3	1274.5	1154.8	1136.0
52.5°	12717.9	14531.3	13997.6	8211.7	3732.9	2227.4	1546.5	1206.1	1011.1	925.5	910.1
55°	14994.9	17280.5	15292.6	7551.4	3034.9	1705.6	1214.6	951.2	817.8	766.4	759.6
57.5°	17814.3	20840.6	16539.8	6439.4	2282.2	1301.9	935.8	785.2	721.9	691.2	689.4
60°	21535.2	24619.7	17622.7	5004.0	1633.8	995.7	773.3	701.4	651.8	631.3	629.6
62.5°	25959.3	28051.6	18296.7	3407.9	1228.3	793.8	680.9	636.4	607.3	595.3	593.6
65°	30506.5	30220.8	17975.1	2232.6	932.4	674.0	610.7	586.8	561.1	549.2	549.2
67.5°	33192.4	29762.3	15506.5	1550.0	739.1	591.9	550.9	528.6	485.9	475.6	475.6
70°	29399.7	24116.8	10163.7	1134.2	598.8	518.4	479.0	448.2	431.1	420.9	419.1
72.5°	19444.7	15692.9	5404.3	787.0	499.5	441.4	405.5	393.5	372.9	362.7	361.0
75°	9677.8	8242.5	2769.7	568.0	415.7	354.1	338.7	333.6	316.5	302.8	299.4
77.5°	4034.0	3669.6	1291.6	412.3	316.5	285.7	272.0	272.0	253.2	237.8	231.0
80°	1520.9	1354.9	610.7	282.3	234.4	212.1	203.6	196.7	181.3	162.5	152.3
82.5°	2034.1	1329.3	299.4	176.2	154.0	136.9	124.9	119.8	111.2	102.6	95.8
85°	1317.3	944.3	135.2	90.7	77.0	58.2	51.3	47.9	42.8	37.6	34.2
87.5°	268.6	316.5	41.1	17.1	10.3	5.1	5.1	1.7	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

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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)