

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: P641436

Luminaire Tested: GWS-SA5F-830-U-RW-W-GRSBK

Issue Date: 1/10/2023

Test Information

Test Method: LM-79-2019
Report Number: P641436
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2209-782-50)
Test Lab: COOPER LIGHTING SOLUTIONS
Issue Date: 1/10/2023
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: McGRAW-EDISON
Catalog Number: GWS-SA5F-830-U-RW-W-GRSBK
Description: GALLEON WALL SLIM LUMINAIRE. (5) LIGHTSQUARES WITH 16 LEDS EACH AND RECTANGULAR WIDE OPTICS W/ FACTORY INSTALLED GLARE SHIELD, BK
Light Source: (80) 3000K CCT, 80 CRI LEDS
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 21489.5 lumens
Efficiency: N/A
Efficacy: 69.3 lumens/watt
Luminous Opening: Rectangular (W 1.5' x L: 1' x H: 0')
IES Classification: Type V - Short
BUG Rating: B4 - U0 - G0

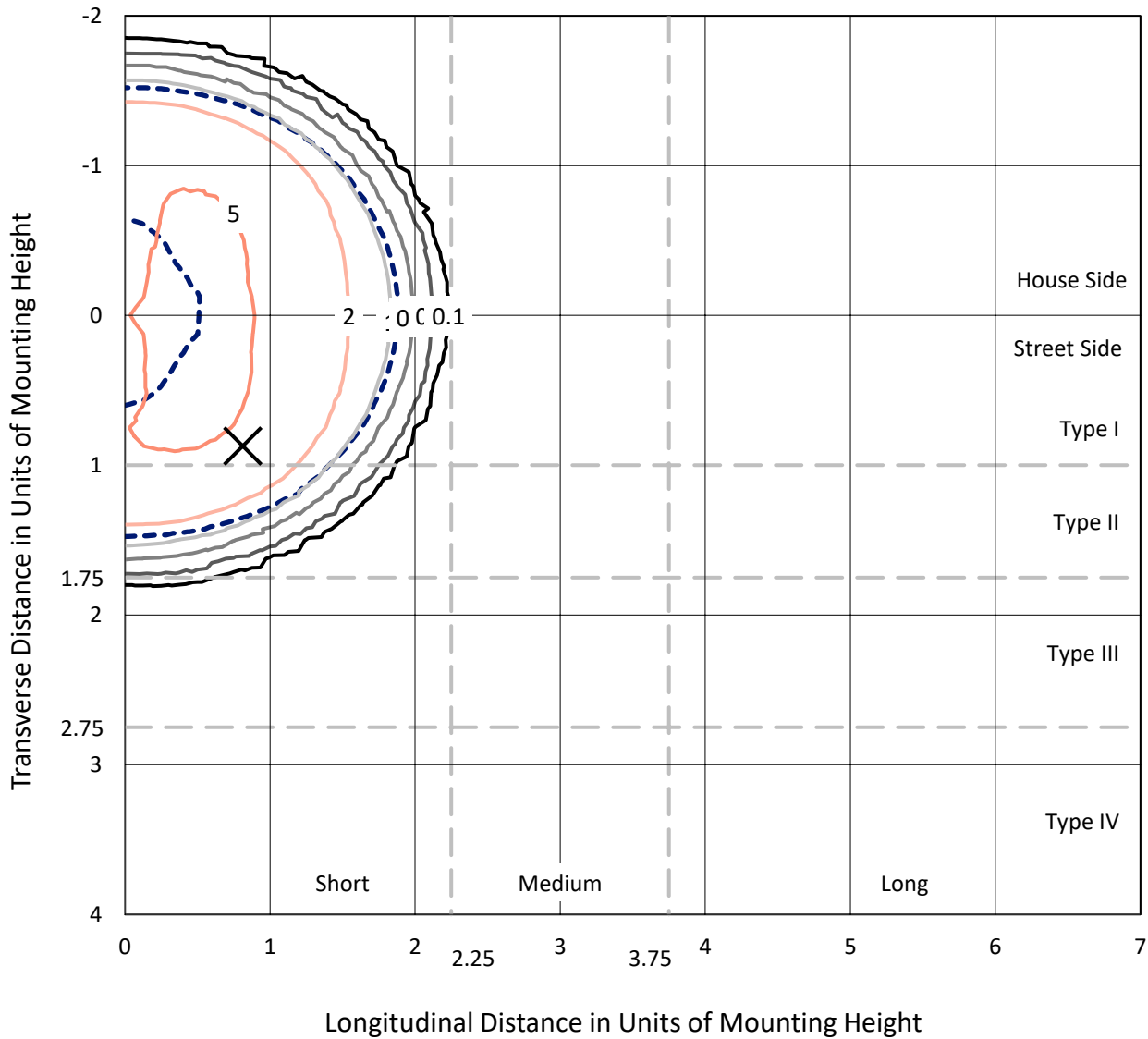
Input Watts (W): 310.3
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 0
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 28.75 FT



REPORT NUMBER: P641436
 CATALOG NUMBER: GWS-SA5F-830-U-RW-W-GRSBK

Iso-Footcandle Lines of Horizontal Illumination

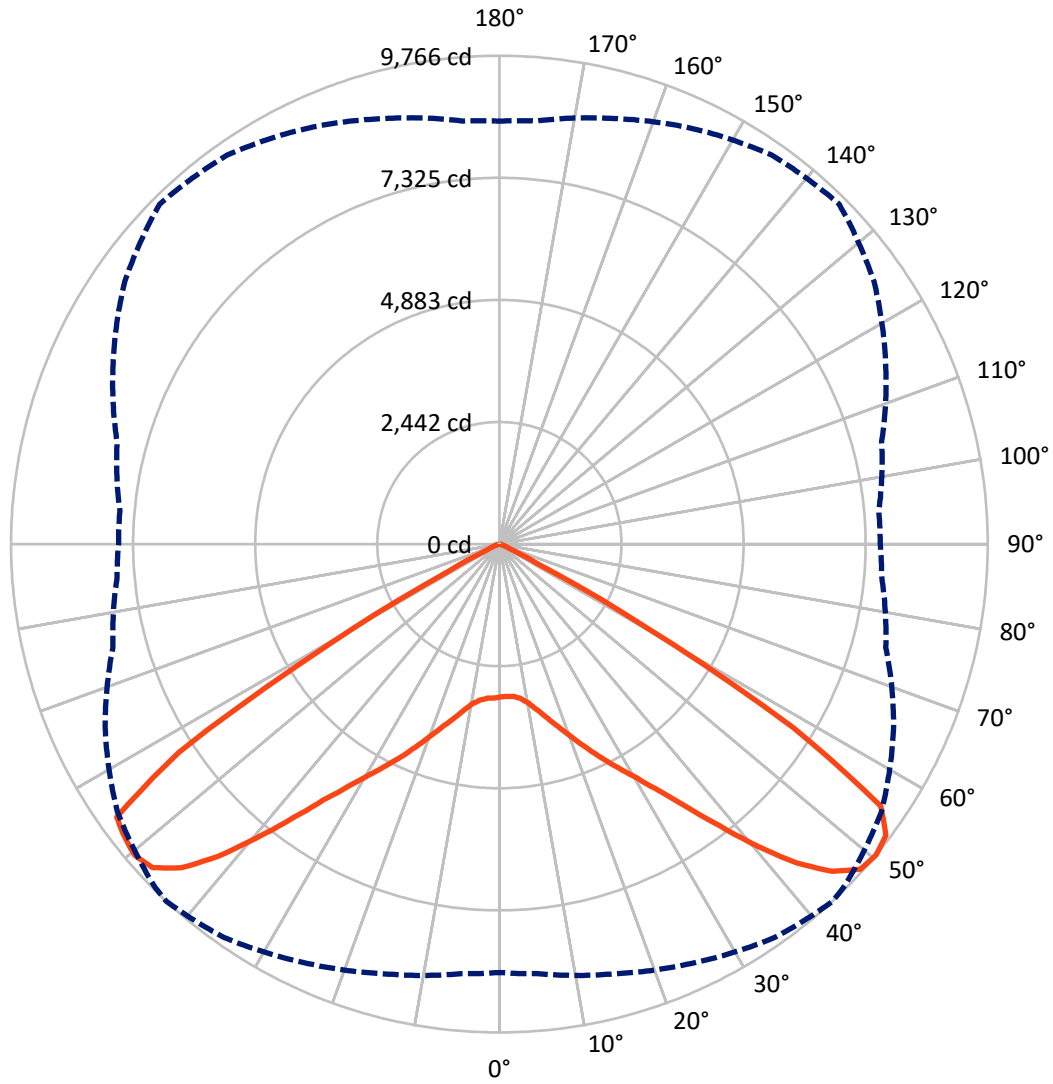
✕ Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 5.9 fc
 Type V - Short - N/A

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Luminous Intensity Polar Plot



— Vertical Plane Through 43-Deg Lateral - - - Horizontal Cone Through 50-Deg Vertical

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FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	10744.5	0.0	10744.5
	% Fixture	50.0	0.0	50.0
Street Side	Lumens	10745.0	0.0	10745.0
	% Fixture	50.0	0.0	50.0
Total	Lumens	21489.5	0.0	21489.5
	% Fixture	100.0	0.0	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	301.0	1.4
10°-20°	1035.8	4.8
20°-30°	2095.6	9.8
30°-40°	3888.1	18.1
40°-50°	6454.1	30.0
50°-60°	6586.7	30.7
60°-70°	1080.1	5.0
70°-80°	47.3	0.2
80°-90°	0.7	0.0
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°	21489.5	100.0
0°-180°	21489.5	100.0

Coefficient of Utilization

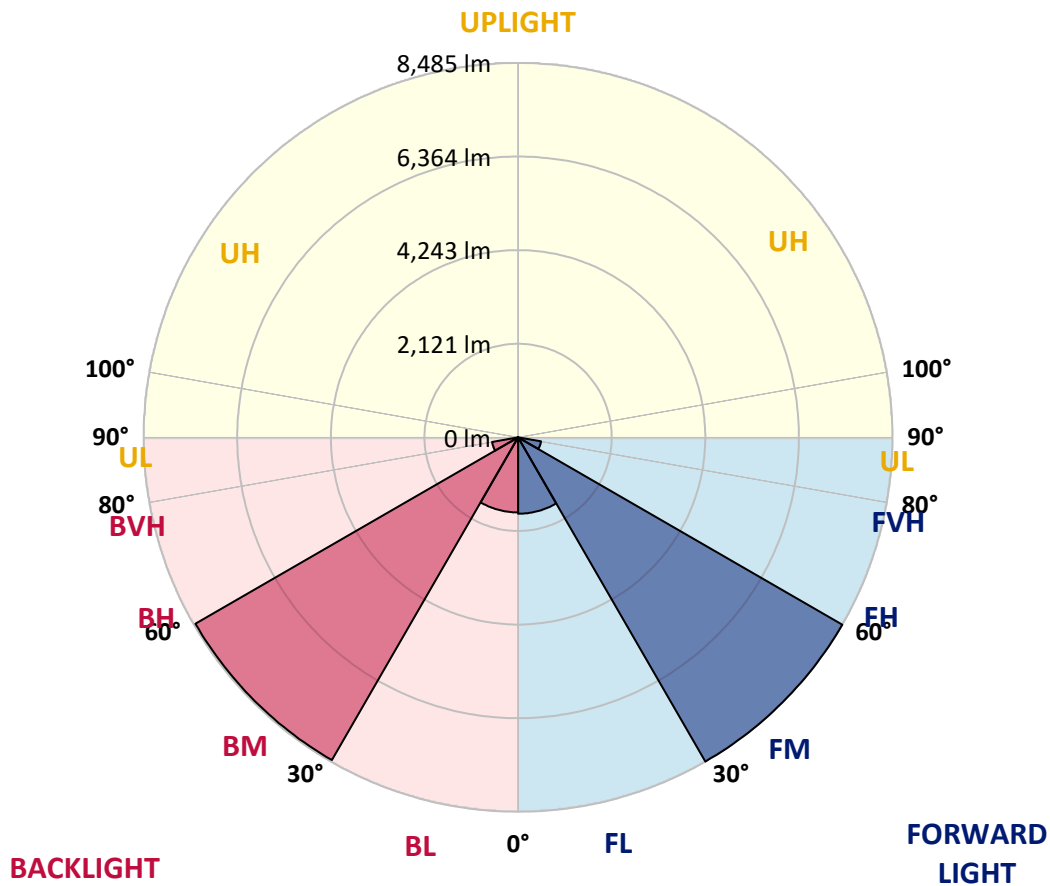


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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	1731.3	8.1			
FM (30°-60°)	8485.1	39.5			
FH (60°-80°)	528.4	2.5			G0/660
FVH (80°-90°)	0.2	0.0			G0/10
BL (0°-30°)	1701.2	7.9	B3/2500		
BM (30°-60°)	8443.9	39.3	B4/8500		
BH (60°-80°)	599.0	2.8	B2/1000		G0/660
BVH (80°-90°)	0.4	0.0			G0/10
UL (90°-100°)	0.0	0.0		U0/0	
UH (100°-180°)	0.0	0.0		U0/0	

BUG Rating: B4-U0-G0
 Type V Short





REPORT NUMBER: P641436

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CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	43°	45°	55°	65°	75°	85°
0°	3056.5	3056.5	3056.5	3056.5	3056.5	3056.5	3056.5	3056.5	3056.5	3056.5	3056.5
2.5°	2999.5	3006.6	3016.1	3025.6	3037.5	3049.4	3056.5	3077.9	3073.2	3092.2	3092.2
5°	2966.2	2973.4	2985.2	3006.6	3032.8	3058.9	3077.9	3120.7	3144.5	3182.5	3196.8
7.5°	2982.9	2992.4	3006.6	3039.9	3080.3	3120.7	3142.1	3211.0	3258.6	3329.9	3370.3
10°	3037.5	3047.0	3070.8	3127.8	3180.1	3237.2	3263.3	3351.3	3427.3	3524.8	3581.8
12.5°	3099.3	3111.2	3158.7	3244.3	3334.6	3410.7	3446.3	3543.8	3622.2	3731.5	3821.9
15°	3163.5	3182.5	3256.2	3382.2	3510.5	3612.7	3650.7	3755.3	3833.7	3950.2	4052.4
17.5°	3313.2	3334.6	3417.8	3553.3	3729.2	3848.0	3881.3	3990.6	4050.0	4128.5	4235.4
20°	3501.0	3541.4	3643.6	3807.6	4000.1	4114.2	4138.0	4244.9	4240.2	4273.5	4366.1
22.5°	3733.9	3762.4	3874.2	4069.1	4285.3	4411.3	4466.0	4511.1	4451.7	4423.2	4482.6
25°	3976.4	4009.6	4130.8	4344.8	4587.2	4732.2	4777.3	4813.0	4717.9	4611.0	4618.1
27.5°	4290.1	4313.9	4432.7	4660.9	4903.3	5067.3	5107.7	5169.5	5043.5	4872.4	4824.9
30°	4663.2	4687.0	4813.0	5053.0	5293.1	5433.3	5495.1	5571.2	5433.3	5219.4	5164.7
32.5°	5100.6	5124.3	5286.0	5533.1	5730.4	5882.5	5942.0	6022.8	5913.4	5673.4	5611.6
35°	5623.5	5637.7	5827.9	6096.4	6305.6	6453.0	6493.4	6588.4	6467.2	6227.2	6193.9
37.5°	6229.5	6246.2	6453.0	6764.3	6978.2	7142.2	7206.4	7232.5	7085.2	6816.6	6790.5
40°	6895.0	6949.7	7151.7	7486.9	7726.9	7933.7	7990.7	7902.8	7696.0	7330.0	7282.5
42.5°	7589.1	7636.6	7862.4	8226.0	8504.1	8715.7	8718.0	8527.9	8176.1	7669.9	7598.6
45°	8166.6	8185.6	8478.0	8844.0	9186.3	9336.0	9350.3	9005.6	8475.6	7867.1	7715.0
47.5°	8563.5	8594.4	8848.8	9200.5	9578.4	9713.9	9685.4	9255.2	8618.2	7995.5	7743.6
50°	8568.3	8620.6	8896.3	9236.2	9602.2	9766.2	9725.8	9326.5	8699.0	8000.2	7674.6
52.5°	7810.1	7895.7	8344.9	8836.9	9397.8	9678.3	9687.8	9419.2	8668.1	7924.2	7612.8
55°	5892.0	5984.7	6550.4	7389.4	8473.2	9255.2	9390.7	9309.9	8632.5	7957.5	7722.2
57.5°	3118.3	3047.0	3360.8	4192.6	5554.5	6937.8	7334.7	7981.2	8235.5	7997.9	7924.2
60°	679.8	724.9	965.0	1300.1	2167.6	3263.3	3650.7	4758.3	6075.1	6659.7	7082.8
62.5°	292.3	287.6	299.5	339.9	496.7	827.1	1010.1	1649.5	2602.6	3574.7	4233.0
65°	240.1	242.4	251.9	251.9	235.3	237.7	249.6	377.9	608.5	853.3	1145.6
67.5°	180.6	183.0	199.6	204.4	192.5	171.1	168.8	142.6	149.7	187.8	194.9
70°	114.1	114.1	123.6	128.3	128.3	118.8	116.5	102.2	99.8	114.1	128.3
72.5°	61.8	61.8	66.5	68.9	66.5	64.2	64.2	61.8	59.4	68.9	87.9
75°	26.1	26.1	28.5	28.5	26.1	26.1	26.1	26.1	26.1	30.9	47.5
77.5°	4.8	7.1	9.5	7.1	4.8	4.8	4.8	7.1	7.1	9.5	14.3
80°	2.4	2.4	4.8	2.4	0.0	0.0	0.0	0.0	2.4	2.4	2.4
82.5°	2.4	2.4	2.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.4
85°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
87.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	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



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CATALOG NUMBER: GWS-SA5F-830-U-RW-W-GRSBK

CANDELA DISTRIBUTION (continued):

	90°	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°
0°	3056.5	3056.5	3056.5	3056.5	3056.5	3056.5	3056.5	3056.5	3056.5	3056.5	3056.5
2.5°	3108.8	3082.7	3092.2	3096.9	3089.8	3085.1	3058.9	3051.8	3039.9	3020.9	3016.1
5°	3213.4	3192.0	3189.6	3175.4	3142.1	3101.7	3051.8	3030.4	3006.6	2982.9	2978.1
7.5°	3389.3	3363.1	3346.5	3299.0	3222.9	3158.7	3075.6	3030.4	2999.5	2968.6	2961.5
10°	3615.1	3584.2	3536.7	3448.7	3346.5	3253.8	3156.4	3096.9	3049.4	3006.6	3004.3
12.5°	3855.1	3821.9	3736.3	3624.6	3501.0	3415.4	3291.8	3208.7	3137.4	3073.2	3066.0
15°	4107.1	4066.7	3950.2	3817.1	3703.0	3615.1	3479.6	3346.5	3237.2	3144.5	3135.0
17.5°	4299.6	4249.7	4111.8	4012.0	3919.3	3829.0	3676.9	3501.0	3356.0	3244.3	3218.2
20°	4420.8	4373.3	4242.6	4187.9	4145.1	4080.9	3900.3	3717.3	3555.7	3417.8	3394.0
22.5°	4537.3	4480.2	4366.1	4366.1	4399.4	4373.3	4178.4	3969.2	3779.1	3619.8	3584.2
25°	4668.0	4622.8	4542.0	4608.6	4691.8	4689.4	4489.7	4228.3	4009.6	3831.4	3795.7
27.5°	4858.1	4813.0	4784.5	4910.4	5015.0	5007.9	4789.2	4506.4	4275.8	4099.9	4066.7
30°	5193.3	5150.5	5119.6	5271.7	5404.8	5354.9	5114.8	4841.5	4608.6	4408.9	4385.2
32.5°	5640.1	5594.9	5554.5	5706.7	5825.5	5761.3	5533.1	5276.5	5007.9	4813.0	4765.4
35°	6227.2	6132.1	6091.7	6272.3	6322.2	6250.9	6032.3	5806.5	5521.3	5297.8	5266.9
37.5°	6833.2	6721.5	6693.0	6849.9	6930.7	6904.6	6647.9	6412.6	6103.6	5856.4	5820.7
40°	7351.4	7249.2	7199.3	7444.1	7627.1	7643.7	7413.2	7125.6	6761.9	6505.3	6441.1
42.5°	7655.6	7567.7	7555.8	7936.1	8235.5	8449.5	8173.8	7876.7	7494.0	7204.0	7151.7
45°	7724.5	7667.5	7767.3	8266.4	8732.3	9122.1	8886.8	8573.1	8159.5	7852.9	7803.0
47.5°	7717.4	7698.4	7876.7	8437.6	9027.0	9507.1	9390.7	9036.5	8637.2	8316.4	8268.8
50°	7615.2	7617.6	7914.7	8523.1	9145.9	9611.7	9495.2	9167.2	8810.7	8494.6	8456.6
52.5°	7574.8	7560.5	7843.4	8497.0	9267.1	9564.2	9302.7	8934.3	8537.4	8147.6	8090.6
55°	7717.4	7681.8	7852.9	8475.6	9281.3	9538.0	8848.8	8050.2	7237.3	6776.2	6738.2
57.5°	7931.3	7893.3	7974.1	8318.7	8537.4	7931.3	6512.4	5224.2	4387.5	4033.4	3878.9
60°	7082.8	7056.7	6994.9	6578.9	5642.5	4256.8	2899.7	1849.1	1328.6	1074.3	1074.3
62.5°	4394.7	4359.0	4023.9	2990.0	2172.4	1257.3	691.6	432.6	328.0	306.6	304.2
65°	1233.5	1226.4	1014.9	717.8	456.3	282.8	249.6	254.3	249.6	242.4	240.1
67.5°	185.4	204.4	204.4	166.4	159.2	178.3	209.2	223.4	211.5	199.6	194.9
70°	118.8	128.3	123.6	107.0	114.1	133.1	149.7	152.1	145.0	133.1	130.7
72.5°	83.2	92.7	76.1	68.9	71.3	78.4	85.6	85.6	83.2	78.4	73.7
75°	49.9	49.9	35.7	33.3	33.3	35.7	35.7	40.4	40.4	38.0	35.7
77.5°	16.6	19.0	11.9	9.5	9.5	9.5	11.9	14.3	14.3	11.9	9.5
80°	2.4	4.8	2.4	2.4	2.4	2.4	2.4	2.4	4.8	4.8	2.4
82.5°	2.4	2.4	2.4	0.0	0.0	0.0	0.0	2.4	2.4	2.4	2.4
85°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.4	2.4
87.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	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

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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

λ (nm)	Power W [^] /nm	Lumens (ϕ /nm)	λ (nm)	Power W [^] /nm	Lumens (ϕ /nm)	λ (nm)	Power W [^] /nm	Lumens (ϕ /nm)	λ (nm)	Power W [^] /nm	Lumens (ϕ /nm)	λ (nm)	Power W [^] /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			

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Scotopic Flux vs. Wavelength



Scotopic Lumens: NR

S/P: 1.27

λ (nm)	Power W [^] /nm	Lumens (ϕ /nm)	λ (nm)	Power W [^] /nm	Lumens (ϕ /nm)	λ (nm)	Power W [^] /nm	Lumens (ϕ /nm)	λ (nm)	Power W [^] /nm	Lumens (ϕ /nm)	λ (nm)	Power W [^] /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			

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Melanopic Flux vs. Wavelength



Melanopic Lumens: NR

M/P: 2.32

λ (nm)	Power W [^] /nm	Lumens (φ/nm)	λ (nm)	Power W [^] /nm	Lumens (φ/nm)	λ (nm)	Power W [^] /nm	Lumens (φ/nm)	λ (nm)	Power W [^] /nm	Lumens (φ/nm)	λ (nm)	Power W [^] /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)