

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: P635495

Luminaire Tested: GWS-SA3D-830-U-AFL-W

Issue Date: 1/10/2023

**Test Information**

Test Method: LM-79-2019  
Report Number: P635495  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2209-782-45)  
Test Lab: COOPER LIGHTING SOLUTIONS  
Issue Date: 1/10/2023  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: McGRAW-EDISON  
Catalog Number: GWS-SA3D-830-U-AFL-W  
Description: GALLEON WALL SLIM LUMINAIRE. (3) LIGHTSQUARES WITH 16 LEDS EACH AND  
AUTOMOTIVE FRONTLINE OPTICS  
Light Source: (48) 3000K CCT, 80 CRI LEDS  
Ballast/Driver: -

**Summary**

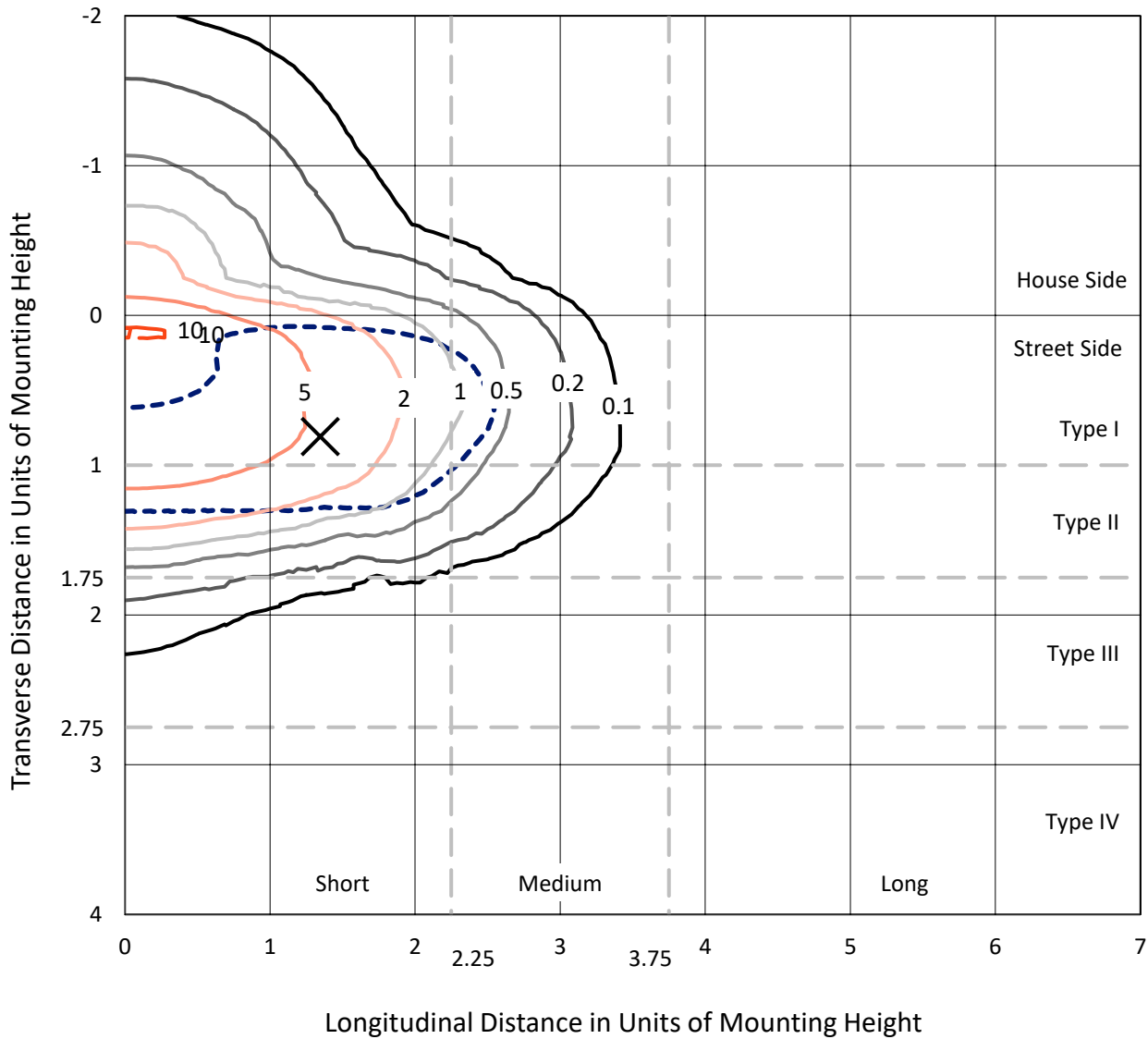
Lumens per Lamp: N/A  
Luminaire Lumens: 14235.8 lumens  
Efficiency: N/A  
Efficacy: 117.8 lumens/watt  
Luminous Opening: Rectangular (W 1.5' x L: 0.5' x H: 0')  
IES Classification: Type II - Short  
BUG Rating: B2 - U0 - G2  
  
Input Watts (W): 120.8  
Input Voltage (V): 120  
Input Current (Ain): 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: P635495  
 CATALOG NUMBER: GWS-SA3D-830-U-AFL-W

### Iso-Footcandle Lines of Horizontal Illumination

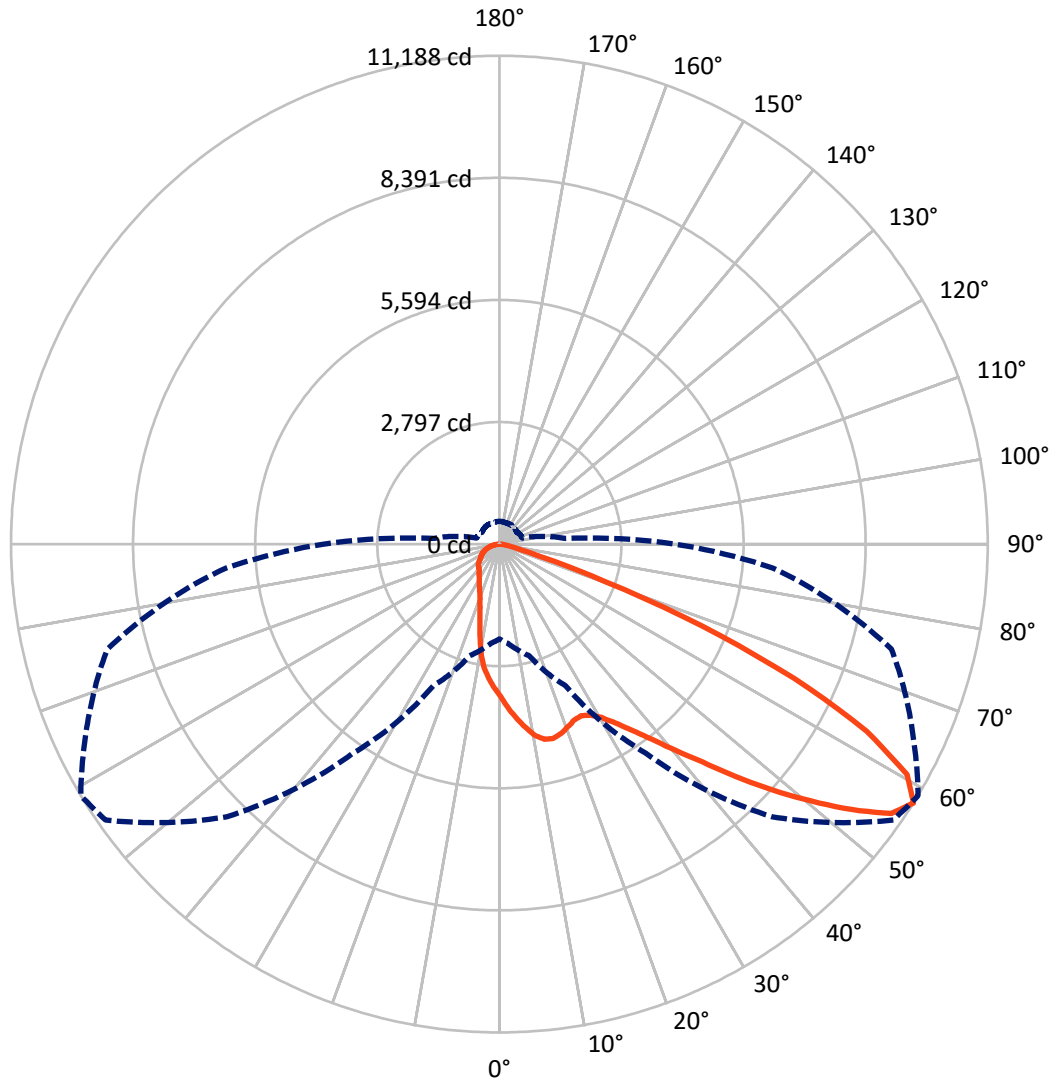
✕ Max cd  
 - - - 1/2 Max cd



Based on 20 foot mounting height. Maximum calculated value = 10.7 fc  
 Type II - Short - N/A

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### Luminous Intensity Polar Plot



— Vertical Plane Through 59-Deg Lateral    - - - Horizontal Cone Through 57.5-Deg Vertical

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**FLUX DISTRIBUTION:**

		Downward	Upward	Total
<b>House Side</b>	Lumens	2209.3	0.0	2209.3
	% Fixture	15.5	0.0	15.5
<b>Street Side</b>	Lumens	12026.5	0.0	12026.5
	% Fixture	84.5	0.0	84.5
<b>Total</b>	Lumens	14235.8	0.0	14235.8
	% Fixture	100.0	0.0	100.0

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	324.5	2.3
10°-20°	822.2	5.8
20°-30°	1332.8	9.4
30°-40°	2144.1	15.1
40°-50°	3329.5	23.4
50°-60°	3586.3	25.2
60°-70°	2081.4	14.6
70°-80°	543.4	3.8
80°-90°	71.6	0.5
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°	14235.8	100.0
0°-180°	14235.8	100.0

**Coefficient of Utilization**



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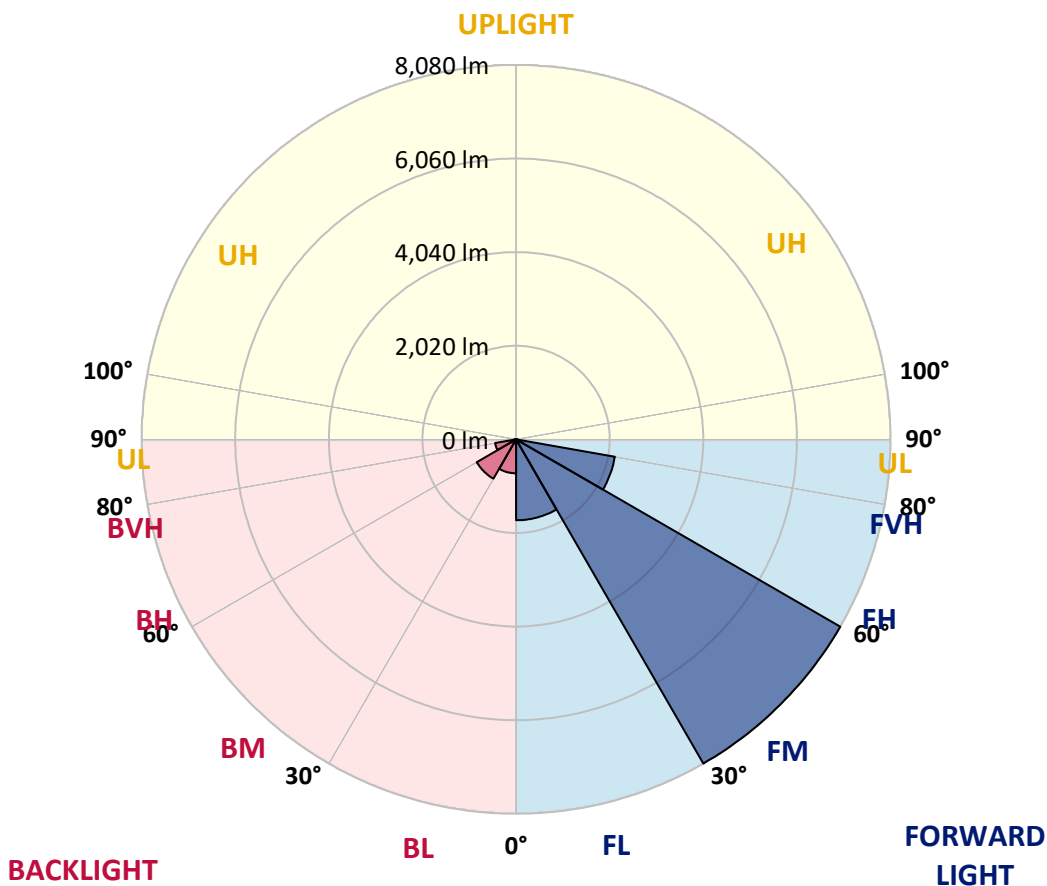
CATALOG NUMBER: GWS-SA3D-830-U-AFL-W

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

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	1746.6	12.3			
FM (30°-60°)	8080.4	56.8			
FH (60°-80°)	2165.2	15.2			G2/5000
FVH (80°-90°)	34.3	0.2			G1/100
BL (0°-30°)	733.0	5.1	B2/1000		
BM (30°-60°)	979.5	6.9	B1/1000		
BH (60°-80°)	459.5	3.2	B1/500		G1/500
BVH (80°-90°)	37.3	0.3			G1/100
UL (90°-100°)	0.0	0.0		U0/0	
UH (100°-180°)	0.0	0.0		U0/0	

**BUG Rating: B2-U0-G2**

Type II Short





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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	15°	25°	35°	45°	55°	59°	65°	75°	85°
0°	3494.6	3494.6	3494.6	3494.6	3494.6	3494.6	3494.6	3494.6	3494.6	3494.6	3494.6
2.5°	3963.6	3930.6	3953.6	3912.5	3895.5	3850.4	3792.3	3753.2	3693.0	3614.9	3546.7
5°	4357.5	4334.4	4339.4	4295.3	4256.3	4181.1	4061.8	3995.7	3893.5	3736.1	3589.8
7.5°	4345.5	4372.5	4387.5	4425.6	4436.7	4429.6	4322.4	4230.2	4118.0	3881.4	3661.0
10°	3895.5	3946.6	3992.7	4123.0	4281.3	4481.8	4506.8	4451.7	4338.4	4066.8	3746.2
12.5°	3405.4	3444.5	3485.6	3641.9	3884.5	4285.3	4556.9	4591.0	4545.9	4250.2	3842.4
15°	3164.9	3182.9	3222.0	3325.2	3518.7	3963.6	4469.7	4619.1	4700.2	4444.7	3950.6
17.5°	3154.9	3162.9	3181.9	3237.0	3371.3	3715.1	4312.4	4562.9	4821.5	4650.1	4076.9
20°	3362.3	3341.3	3329.2	3328.2	3394.4	3631.9	4160.1	4472.7	4878.6	4860.6	4212.2
22.5°	3649.9	3657.0	3630.9	3566.8	3558.7	3691.0	4083.9	4381.5	4895.7	5047.0	4337.4
25°	4057.8	4092.9	4015.7	3893.5	3833.3	3862.4	4131.0	4353.5	4893.6	5202.3	4415.6
27.5°	4533.9	4560.9	4482.8	4322.4	4198.1	4128.0	4271.3	4436.7	4910.7	5336.6	4462.7
30°	5076.0	5085.1	4977.8	4809.5	4628.1	4477.7	4504.8	4608.0	4997.9	5513.0	4517.8
32.5°	5738.5	5776.6	5614.2	5347.6	5094.1	4901.7	4818.5	4884.6	5186.3	5721.4	4603.0
35°	6579.3	6592.3	6385.9	6004.1	5645.3	5378.7	5204.3	5239.4	5472.9	6013.1	4731.3
37.5°	7372.0	7385.1	7165.6	6810.8	6297.7	5932.9	5680.4	5664.3	5839.7	6425.0	4940.8
40°	7875.1	7912.2	7814.0	7591.5	7101.5	6609.4	6266.6	6211.5	6320.8	6929.1	5232.4
42.5°	8145.7	8161.8	8159.8	8188.8	7897.2	7408.1	6928.1	6817.8	6891.0	7473.3	5527.0
45°	8147.7	8187.8	8295.0	8574.7	8587.7	8283.0	7763.9	7591.5	7524.4	8021.5	5834.7
47.5°	7782.9	7826.0	8120.7	8670.9	9076.8	9145.9	8765.1	8419.3	8136.7	8493.5	6087.2
50°	6678.5	6786.8	7348.0	8321.1	9173.0	9837.4	9720.2	9251.1	8680.9	8858.3	6245.6
52.5°	5719.4	5715.4	6061.2	7333.0	8771.1	10142.1	10644.2	10107.0	9219.1	9089.8	6285.7
55°	4188.1	4211.2	4564.9	5608.2	7698.8	9847.4	11152.3	10894.7	9836.4	9213.0	6269.6
57.5°	2171.7	2286.0	2648.8	3578.8	5849.7	8833.2	11017.0	11188.3	10463.8	9300.2	6290.7
60°	1097.4	1075.3	1205.6	1708.7	3389.4	6899.0	10183.2	10729.3	10577.0	9368.4	6303.7
62.5°	732.6	726.6	690.5	791.7	1385.0	4085.9	8680.9	9446.6	9790.3	9208.0	6137.4
65°	634.4	622.4	556.2	552.2	672.5	1694.7	6362.8	7426.2	8091.6	8495.5	5739.5
67.5°	571.2	553.2	486.1	453.0	483.1	744.6	3585.8	4980.8	5975.0	7184.6	4867.6
70°	510.1	501.1	433.9	385.8	382.8	454.0	1320.9	2570.6	3656.0	4901.7	3558.7
72.5°	457.0	441.0	383.8	337.7	314.7	321.7	573.2	990.2	1892.1	3057.7	2128.6
75°	395.9	383.8	333.7	287.6	259.6	235.5	349.8	458.0	862.9	1453.2	1005.2
77.5°	305.7	297.6	263.6	228.5	212.5	175.4	212.5	288.6	398.9	612.3	523.1
80°	177.4	182.4	196.4	178.4	156.3	125.3	138.3	166.4	239.5	331.7	296.6
82.5°	89.2	95.2	127.3	103.2	93.2	73.2	82.2	98.2	125.3	183.4	116.3
85°	7.0	7.0	23.1	26.1	32.1	26.1	33.1	40.1	57.1	73.2	39.1
87.5°	0.0	0.0	0.0	0.0	0.0	0.0	3.0	5.0	9.0	17.0	11.0
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: P635495  
 CATALOG NUMBER: GWS-SA3D-830-U-AFL-W

**CANDELA DISTRIBUTION (continued):**

	90°	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°
0°	3494.6	3494.6	3494.6	3494.6	3494.6	3494.6	3494.6	3494.6	3494.6	3494.6	3494.6
2.5°	3500.6	3449.5	3388.4	3338.3	3261.1	3220.0	3167.9	3103.8	3077.7	3065.7	3058.7
5°	3507.6	3417.4	3287.2	3166.9	3033.6	2928.4	2811.1	2688.9	2618.7	2601.7	2589.6
7.5°	3533.7	3407.4	3200.0	3001.5	2754.0	2524.5	2301.0	2079.5	1966.3	1923.2	1919.2
10°	3569.8	3403.4	3111.8	2782.1	2364.1	2001.4	1739.8	1566.4	1493.2	1469.2	1461.2
12.5°	3614.9	3400.4	2995.5	2477.4	1914.2	1571.4	1422.1	1394.0	1404.1	1402.1	1402.1
15°	3672.0	3404.4	2855.2	2132.6	1548.4	1364.0	1367.0	1400.0	1431.1	1436.1	1436.1
17.5°	3734.1	3400.4	2651.8	1786.9	1328.9	1314.9	1361.0	1407.1	1435.1	1439.1	1439.1
20°	3801.3	3381.4	2395.2	1461.2	1232.7	1283.8	1333.9	1370.0	1387.0	1391.0	1391.0
22.5°	3841.4	3327.2	2116.6	1236.7	1171.5	1234.7	1267.8	1304.8	1306.8	1274.8	1273.8
25°	3835.3	3226.0	1798.9	1092.4	1106.4	1161.5	1203.6	1177.6	1145.5	1127.5	1124.4
27.5°	3797.3	3073.7	1475.2	983.1	1029.2	1091.4	1078.3	1056.3	1048.3	1028.2	1026.2
30°	3749.2	2886.3	1184.6	898.0	949.1	1006.2	986.1	984.1	976.1	954.1	954.1
32.5°	3703.1	2692.9	965.1	834.8	898.0	902.0	930.0	932.0	928.0	889.9	885.9
35°	3690.0	2499.4	816.8	784.7	847.8	845.8	885.9	884.9	815.8	762.7	761.7
37.5°	3729.1	2303.0	728.6	743.6	778.7	804.8	836.8	778.7	755.6	723.6	721.6
40°	3812.3	2121.6	683.5	719.6	734.6	772.7	722.6	726.6	720.6	696.5	693.5
42.5°	3922.5	1967.3	658.4	711.5	709.5	719.6	664.4	680.5	689.5	671.5	668.5
45°	4028.8	1833.0	645.4	681.5	691.5	633.4	622.4	637.4	651.4	644.4	641.4
47.5°	4106.9	1716.7	638.4	640.4	668.5	604.3	586.3	593.3	610.3	613.3	612.3
50°	4131.0	1617.5	630.4	606.3	600.3	575.3	561.2	559.2	579.3	593.3	595.3
52.5°	4084.9	1529.3	609.3	576.3	547.2	551.2	546.2	536.2	556.2	575.3	577.3
55°	4016.7	1479.2	576.3	547.2	513.1	529.2	531.2	522.1	535.2	548.2	548.2
57.5°	4021.8	1508.3	544.2	520.1	483.1	504.1	515.1	511.1	511.1	521.1	522.1
60°	4054.8	1550.4	523.1	486.1	453.0	475.0	500.1	496.1	487.1	500.1	500.1
62.5°	3959.6	1494.3	509.1	453.0	420.9	447.0	477.0	475.0	465.0	486.1	488.1
65°	3679.0	1343.9	493.1	411.9	388.8	418.9	445.0	452.0	443.0	471.0	476.0
67.5°	3083.7	1130.5	462.0	372.8	356.8	384.8	409.9	419.9	412.9	446.0	450.0
70°	2299.0	915.0	412.9	329.7	317.7	342.7	365.8	369.8	370.8	409.9	413.9
72.5°	1466.2	711.5	347.8	281.6	272.6	291.6	308.7	324.7	331.7	368.8	367.8
75°	817.8	529.2	279.6	238.5	222.5	237.5	257.6	276.6	296.6	350.8	356.8
77.5°	471.0	371.8	221.5	191.4	172.4	188.4	205.4	232.5	292.6	339.7	333.7
80°	265.6	241.5	167.4	140.3	128.3	140.3	153.3	204.4	230.5	250.5	253.6
82.5°	124.3	135.3	114.2	86.2	86.2	94.2	106.2	158.3	174.4	142.3	124.3
85°	45.1	61.1	56.1	44.1	39.1	38.1	66.1	90.2	56.1	50.1	43.1
87.5°	12.0	17.0	16.0	11.0	6.0	5.0	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



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**

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			

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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)