

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: P640975

Luminaire Tested: GWS-SA5E-830-U-T3R-W-GRSBK

Issue Date: 1/10/2023

**Test Information**

Test Method: LM-79-2019  
Report Number: P640975  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2209-782-16)  
Test Lab: COOPER LIGHTING SOLUTIONS  
Issue Date: 1/10/2023  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: McGRAW-EDISON  
Catalog Number: GWS-SA5E-830-U-T3R-W-GRSBK  
Description: GALLEON WALL SLIM LUMINAIRE. (5) LIGHTSQUARES WITH 16 LEDS EACH AND TYPE III ROADWAY OPTICS W/ FACTORY INSTALLED GLARE SHIELD, BK  
Light Source: (80) 3000K CCT, 80 CRI LEDS  
Ballast/Driver: -

**Summary**

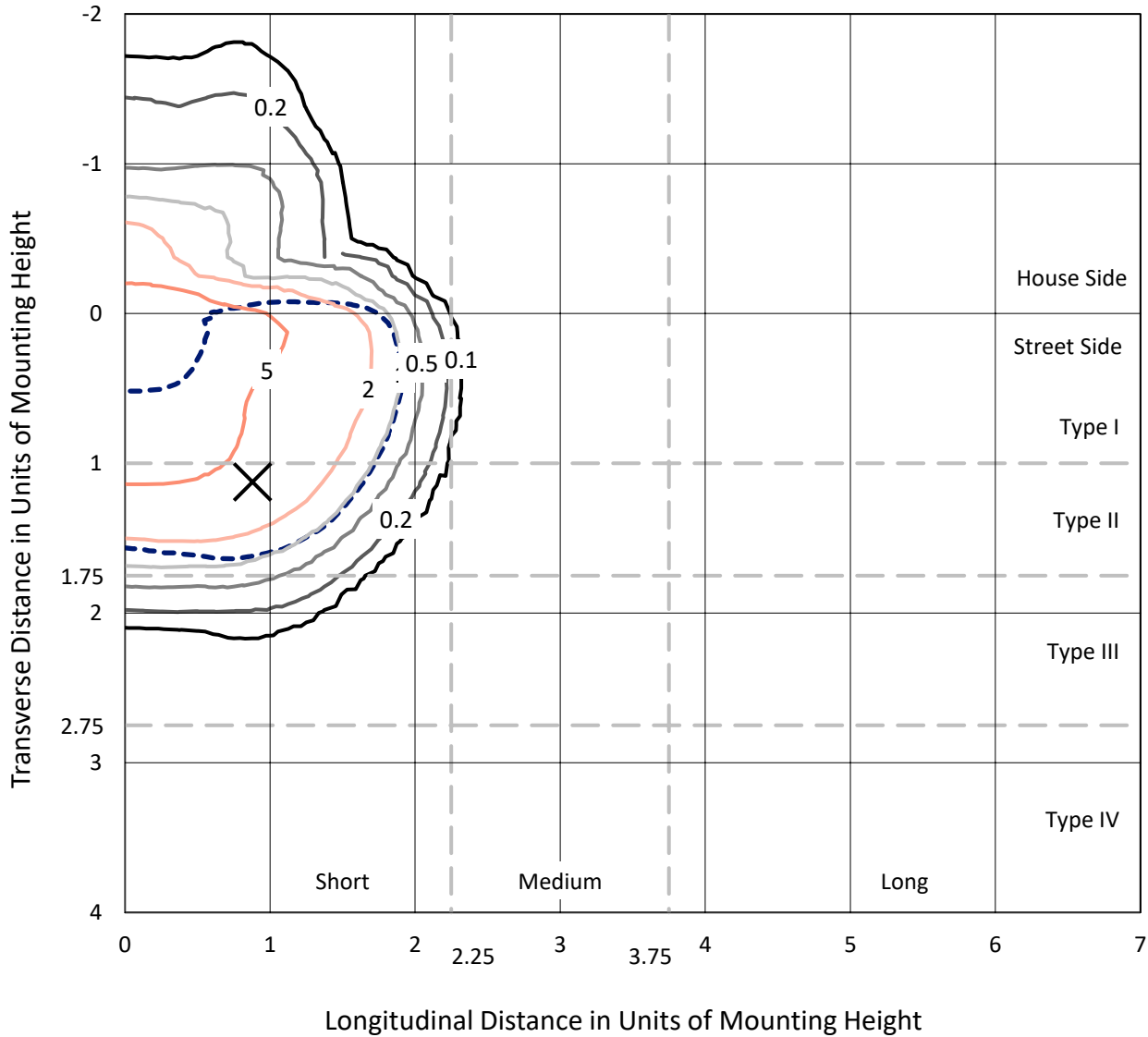
Lumens per Lamp: N/A  
Luminaire Lumens: 18704 lumens  
Efficiency: N/A  
Efficacy: 69.4 lumens/watt  
Luminous Opening: Rectangular (W 1.5' x L: 1' x H: 0')  
IES Classification: Type II - Short  
BUG Rating: B3 - U0 - G1  
  
Input Watts (W): 269.6  
Input Voltage (V): 120  
Input Current (Ain): NR  
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: P640975  
 CATALOG NUMBER: GWS-SA5E-830-U-T3R-W-GRSBK

### Iso-Footcandle Lines of Horizontal Illumination

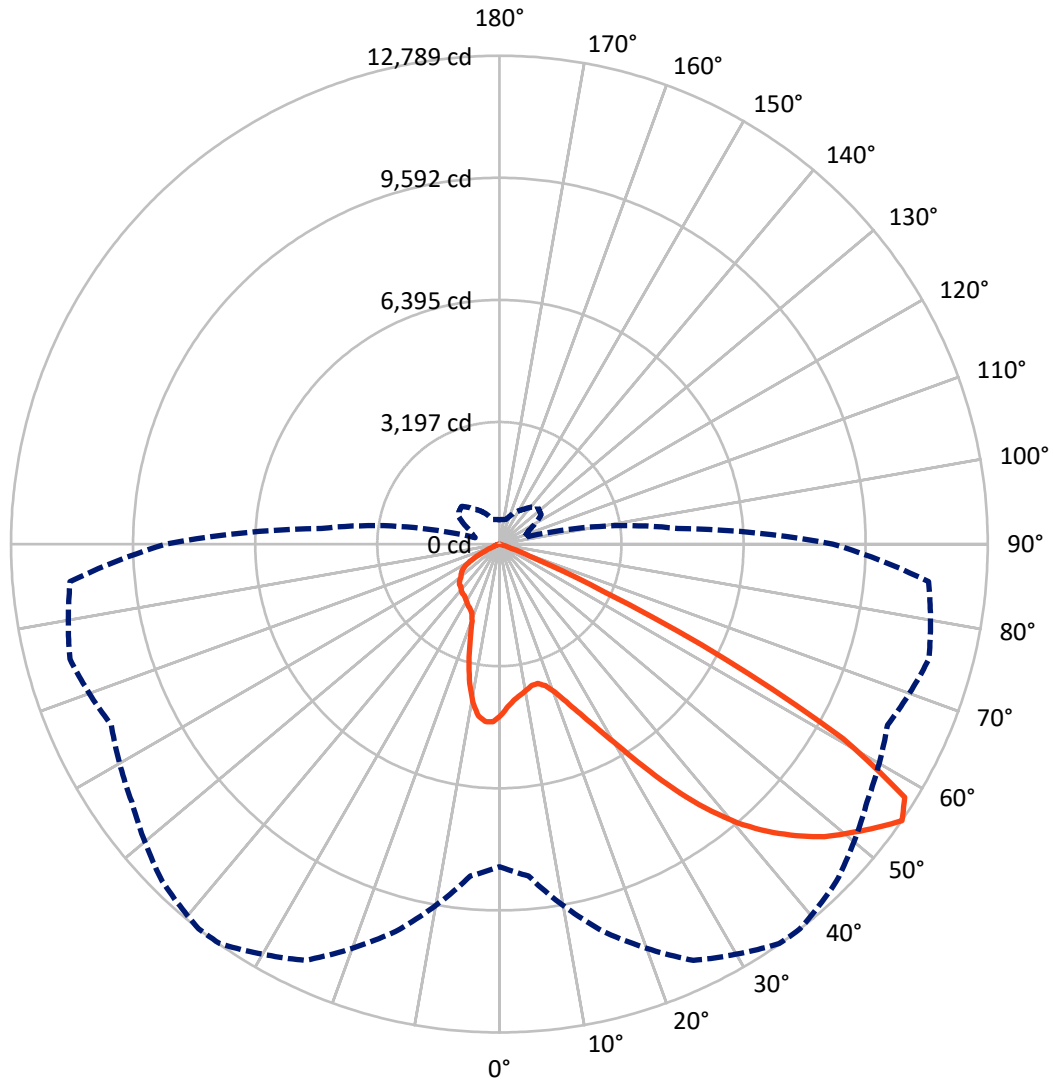
✕ Max cd  
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 7.5 fc  
 Type II - Short - N/A

REPORT NUMBER: P640975  
CATALOG NUMBER: GWS-SA5E-830-U-T3R-W-GRSBK

### Luminous Intensity Polar Plot



— Vertical Plane Through 38-Deg Lateral    - - - Horizontal Cone Through 55-Deg Vertical

REPORT NUMBER: P640975  
 CATALOG NUMBER: GWS-SA5E-830-U-T3R-W-GRSBK

**FLUX DISTRIBUTION:**

		Downward	Upward	Total
<b>House Side</b>	Lumens	3644.1	0.0	3644.1
	% Fixture	19.5	0.0	19.5
<b>Street Side</b>	Lumens	15059.9	0.0	15059.9
	% Fixture	80.5	0.0	80.5
<b>Total</b>	Lumens	18704.0	0.0	18704.0
	% Fixture	100.0	0.0	100.0

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	414.7	2.2
10°-20°	1116.5	6.0
20°-30°	1916.0	10.2
30°-40°	3177.8	17.0
40°-50°	4671.5	25.0
50°-60°	5458.8	29.2
60°-70°	1850.4	9.9
70°-80°	94.6	0.5
80°-90°	3.7	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°	18704.0	100.0
0°-180°	18704.0	100.0

**Coefficient of Utilization**



REPORT NUMBER: P640975

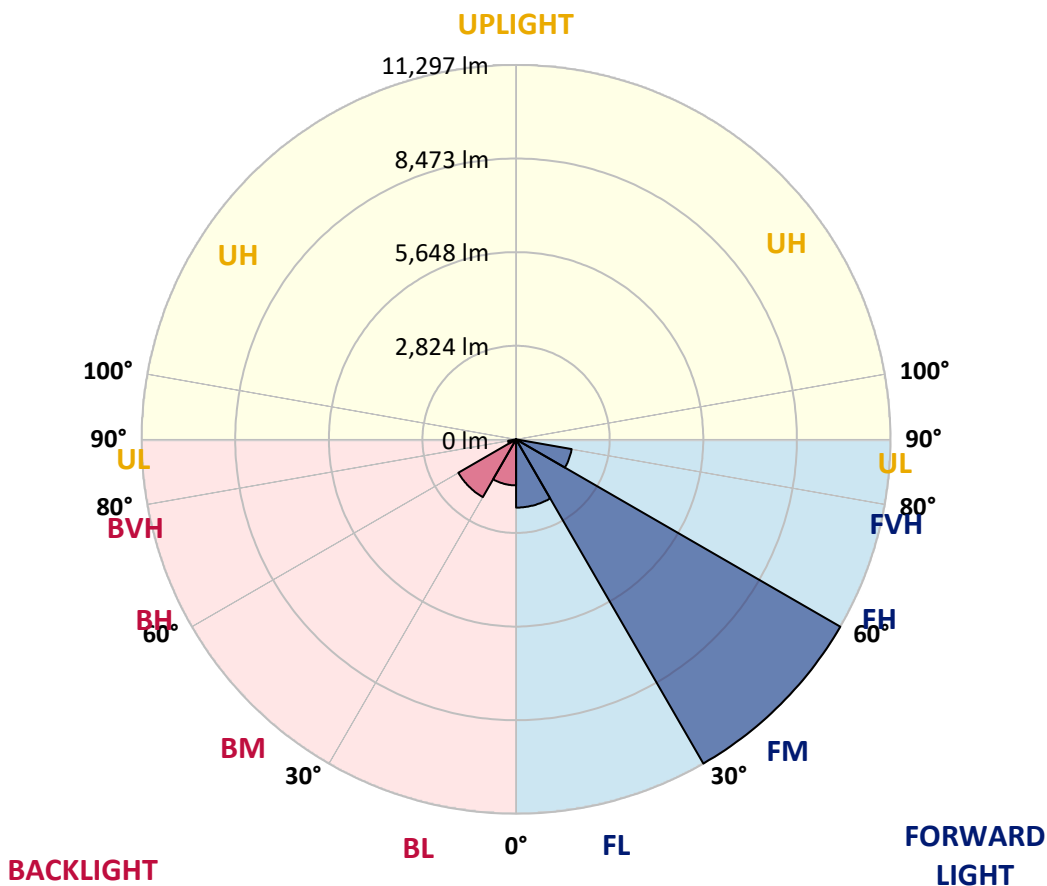
CATALOG NUMBER: GWS-SA5E-830-U-T3R-W-GRSBK

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

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	2058.9	11.0			
FM (30°-60°)	11296.7	60.4			
FH (60°-80°)	1702.4	9.1			G1/1800
FVH (80°-90°)	2.0	0.0			G0/10
BL (0°-30°)	1388.4	7.4	B3/2500		
BM (30°-60°)	2011.4	10.8	B2/2500		
BH (60°-80°)	242.6	1.3	B1/500		G1/500
BVH (80°-90°)	1.7	0.0			G0/10
UL (90°-100°)	0.0	0.0		U0/0	
UH (100°-180°)	0.0	0.0		U0/0	

**BUG Rating: B3-U0-G1**

Type II Short





REPORT NUMBER: P640975

CATALOG NUMBER: GWS-SA5E-830-U-T3R-W-GRSBK

**CANDELA DISTRIBUTION (FULL):**

	0°	5°	15°	25°	35°	38°	45°	55°	65°	75°	85°
0°	4485.4	4485.4	4485.4	4485.4	4485.4	4485.4	4485.4	4485.4	4485.4	4485.4	4485.4
2.5°	4177.5	4168.9	4186.1	4220.3	4252.3	4263.0	4295.1	4340.0	4367.8	4434.1	4487.5
5°	3989.4	3985.1	4002.2	4032.1	4074.9	4089.8	4139.0	4213.8	4288.7	4404.1	4517.4
7.5°	3818.3	3816.2	3841.8	3908.1	3970.1	3989.4	4049.2	4141.2	4241.6	4419.1	4585.8
10°	3593.8	3596.0	3645.2	3739.2	3852.5	3891.0	3987.2	4119.8	4250.2	4478.9	4709.8
12.5°	3521.2	3525.4	3551.1	3623.8	3747.8	3797.0	3931.6	4132.6	4299.4	4564.5	4870.2
15°	3698.6	3698.6	3677.2	3685.8	3741.4	3786.3	3927.4	4175.4	4382.7	4667.1	5028.4
17.5°	4042.8	4030.0	3976.5	3903.8	3884.6	3899.6	4012.9	4267.3	4500.3	4786.8	5208.0
20°	4508.9	4513.2	4408.4	4256.6	4134.7	4132.6	4201.0	4429.8	4669.2	4930.1	5402.5
22.5°	5073.3	5056.2	4917.2	4709.8	4498.2	4481.1	4508.9	4677.8	4912.9	5156.7	5642.0
25°	5727.5	5718.9	5522.3	5244.3	4964.3	4923.6	4923.6	5090.4	5261.4	5479.5	5928.5
27.5°	6411.6	6411.6	6221.4	5900.7	5528.7	5456.0	5445.3	5642.0	5755.3	5798.0	6170.0
30°	7115.0	7106.5	6918.3	6589.1	6191.4	6116.6	6086.7	6232.0	6313.3	6185.0	6471.5
32.5°	7829.1	7844.0	7653.8	7348.0	6993.1	6944.0	6852.0	6852.0	6918.3	6738.7	6946.1
35°	8596.6	8592.3	8442.7	8235.3	7931.7	7876.1	7724.3	7487.0	7587.5	7508.4	7602.5
37.5°	9274.3	9306.4	9233.7	9079.8	8833.9	8778.3	8528.2	8098.5	8175.4	8299.4	8382.8
40°	9962.7	9988.4	10061.1	10011.9	9701.9	9599.3	9154.6	8449.1	8534.6	8960.0	9199.5
42.5°	10638.3	10651.1	10798.6	10879.9	10465.1	10285.5	9629.2	8662.9	8752.7	9477.4	9896.4
45°	11068.0	11095.8	11339.5	11587.5	11138.6	10892.7	10041.8	8936.5	8975.0	9836.6	10411.7
47.5°	11050.9	11115.1	11572.6	12023.7	11718.0	11452.9	10537.8	9374.8	9310.7	10174.4	10751.6
50°	10706.7	10783.7	11440.0	12156.2	12134.9	11889.0	11089.4	10009.8	9808.8	10473.7	10794.4
52.5°	9992.7	10215.0	11207.0	12173.3	12470.5	12346.5	11771.4	10864.9	10482.2	10903.4	10862.8
55°	8449.1	8722.7	10499.3	12028.0	12774.1	12789.1	12487.6	11756.4	11213.4	11643.1	11284.0
57.5°	6413.8	6631.8	8081.3	10706.7	12271.7	12517.5	12765.5	12226.8	11664.5	12147.7	11382.3
60°	3865.4	4117.6	5060.5	7856.9	9911.4	10330.4	11303.2	11198.4	10520.7	10728.1	9334.2
62.5°	1567.1	1699.6	2336.7	4329.3	6238.5	6629.7	7561.8	7720.0	7553.3	7341.6	5661.2
65°	573.0	626.4	936.4	1789.4	2869.1	3012.3	3504.1	3784.1	4015.0	3418.5	2105.9
67.5°	354.9	389.1	609.3	919.3	1043.3	970.6	987.7	1178.0	1124.5	694.8	376.3
70°	263.0	290.8	476.8	637.1	421.2	325.0	220.2	235.2	211.7	186.0	183.9
72.5°	181.7	207.4	357.0	376.3	162.5	115.4	81.2	113.3	128.3	126.1	130.4
75°	119.7	139.0	224.5	147.5	40.6	32.1	27.8	59.9	77.0	77.0	79.1
77.5°	70.6	81.2	79.1	29.9	8.6	8.6	6.4	10.7	17.1	19.2	23.5
80°	8.6	6.4	4.3	4.3	4.3	4.3	4.3	4.3	6.4	6.4	6.4
82.5°	2.1	2.1	2.1	4.3	4.3	4.3	4.3	4.3	4.3	6.4	6.4
85°	0.0	0.0	2.1	2.1	4.3	4.3	4.3	4.3	4.3	6.4	6.4
87.5°	0.0	0.0	2.1	2.1	4.3	4.3	4.3	4.3	4.3	6.4	6.4
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: P640975

CATALOG NUMBER: GWS-SA5E-830-U-T3R-W-GRSBK

**CANDELA DISTRIBUTION (continued):**

	90°	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°
0°	4485.4	4485.4	4485.4	4485.4	4485.4	4485.4	4485.4	4485.4	4485.4	4485.4	4485.4
2.5°	4528.1	4513.2	4575.2	4620.1	4656.4	4673.5	4650.0	4647.8	4647.8	4600.8	4588.0
5°	4581.6	4588.0	4675.6	4714.1	4720.5	4699.2	4645.7	4609.4	4588.0	4538.8	4511.0
7.5°	4684.2	4705.6	4788.9	4782.5	4724.8	4626.5	4485.4	4376.3	4305.8	4228.8	4181.8
10°	4831.7	4872.3	4923.6	4833.8	4650.0	4399.8	4109.1	3901.7	3777.7	3690.1	3636.6
12.5°	5011.3	5051.9	5034.8	4823.2	4440.5	3993.6	3619.5	3320.2	3177.0	3097.9	3042.3
15°	5193.0	5218.7	5107.5	4694.9	4070.6	3469.8	3053.0	2755.8	2580.5	2516.3	2469.3
17.5°	5379.0	5372.6	5120.3	4442.6	3576.7	2879.8	2469.3	2266.2	2217.0	2206.3	2202.1
20°	5573.6	5515.8	5069.0	4081.3	2982.4	2296.1	2063.1	2075.9	2165.7	2208.5	2217.0
22.5°	5795.9	5650.5	4940.7	3591.7	2375.2	1913.4	1937.0	2063.1	2185.0	2242.7	2251.2
25°	6033.2	5774.5	4726.9	2963.2	1872.8	1759.5	1898.5	2043.9	2174.3	2244.8	2253.4
27.5°	6189.3	5804.5	4376.3	2330.3	1607.7	1699.6	1847.2	1986.1	2120.8	2197.8	2208.5
30°	6358.2	5791.6	3899.6	1795.9	1517.9	1648.3	1776.6	1902.8	2026.8	2112.3	2120.8
32.5°	6606.2	5783.1	3318.1	1458.1	1481.6	1607.7	1701.8	1806.5	1892.1	1941.2	1934.8
35°	6931.1	5772.4	2640.3	1314.8	1460.2	1575.6	1650.5	1699.6	1605.6	1575.6	1582.1
37.5°	7348.0	5798.0	2069.5	1255.0	1453.8	1567.1	1631.2	1490.1	1344.8	1289.2	1280.6
40°	7809.8	5864.3	1577.8	1231.4	1475.2	1588.5	1558.5	1325.5	1145.9	1036.9	1013.4
42.5°	8273.8	5937.0	1248.5	1222.9	1511.5	1648.3	1438.8	1205.8	936.4	874.4	865.9
45°	8618.0	5924.2	1079.7	1207.9	1543.6	1682.5	1406.8	1034.8	835.9	808.1	810.3
47.5°	8791.1	5783.1	987.7	1173.7	1556.4	1648.3	1327.7	964.2	767.5	797.4	823.1
50°	8699.2	5417.5	902.2	1107.4	1528.6	1603.4	1201.5	910.8	733.3	857.3	915.0
52.5°	8588.0	4968.5	808.1	1004.8	1462.3	1541.4	1152.3	895.8	711.9	827.4	870.1
55°	8735.6	4684.2	654.2	846.6	1331.9	1396.1	1113.9	893.7	662.8	643.5	637.1
57.5°	8528.2	4117.6	468.2	609.3	1021.9	1105.3	1086.1	878.7	587.9	585.8	594.3
60°	6591.2	2512.1	320.7	387.0	626.4	705.5	985.6	840.2	506.7	466.1	468.2
62.5°	3745.6	1069.0	220.2	239.4	320.7	380.6	752.5	763.2	468.2	444.7	468.2
65°	1304.1	382.7	171.0	160.3	177.4	203.1	431.9	590.1	425.4	384.8	389.1
67.5°	269.4	190.3	151.8	132.6	132.6	132.6	220.2	367.7	350.6	305.7	310.0
70°	171.0	162.5	132.6	113.3	109.0	100.5	126.1	203.1	241.6	222.3	224.5
72.5°	126.1	124.0	104.8	91.9	81.2	72.7	79.1	100.5	124.0	128.3	130.4
75°	77.0	79.1	68.4	57.7	51.3	44.9	47.0	47.0	47.0	42.8	47.0
77.5°	23.5	25.7	21.4	17.1	15.0	15.0	15.0	12.8	10.7	6.4	6.4
80°	6.4	6.4	6.4	6.4	6.4	4.3	4.3	2.1	2.1	0.0	0.0
82.5°	6.4	6.4	6.4	6.4	4.3	4.3	2.1	2.1	0.0	0.0	0.0
85°	6.4	6.4	6.4	6.4	4.3	4.3	2.1	2.1	0.0	0.0	0.0
87.5°	6.4	6.4	6.4	6.4	4.3	4.3	2.1	2.1	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

REPORT NUMBER: SP1-2408-195-9

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

REPORT NUMBER: SP1-2408-195-9

**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			

REPORT NUMBER: SP1-2408-195-9

**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			

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)