

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: P635029

Luminaire Tested: GWS-SA3C-830-U-T2R-W-HSS

Issue Date: 1/10/2023

**Test Information**

Test Method: LM-79-2019  
Report Number: P635029  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2209-782-14)  
Test Lab: COOPER LIGHTING SOLUTIONS  
Issue Date: 1/10/2023  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: McGRAW-EDISON  
Catalog Number: GWS-SA3C-830-U-T2R-W-HSS  
Description: GALLEON WALL SLIM LUMINAIRE. (3) LIGHTSQUARES WITH 16 LEDS EACH AND TYPE II ROADWAY OPTICS WITH HOUSE SIDE SHIELD  
Light Source: (48) 3000K CCT, 80 CRI LEDS  
Ballast/Driver: -

**Summary**

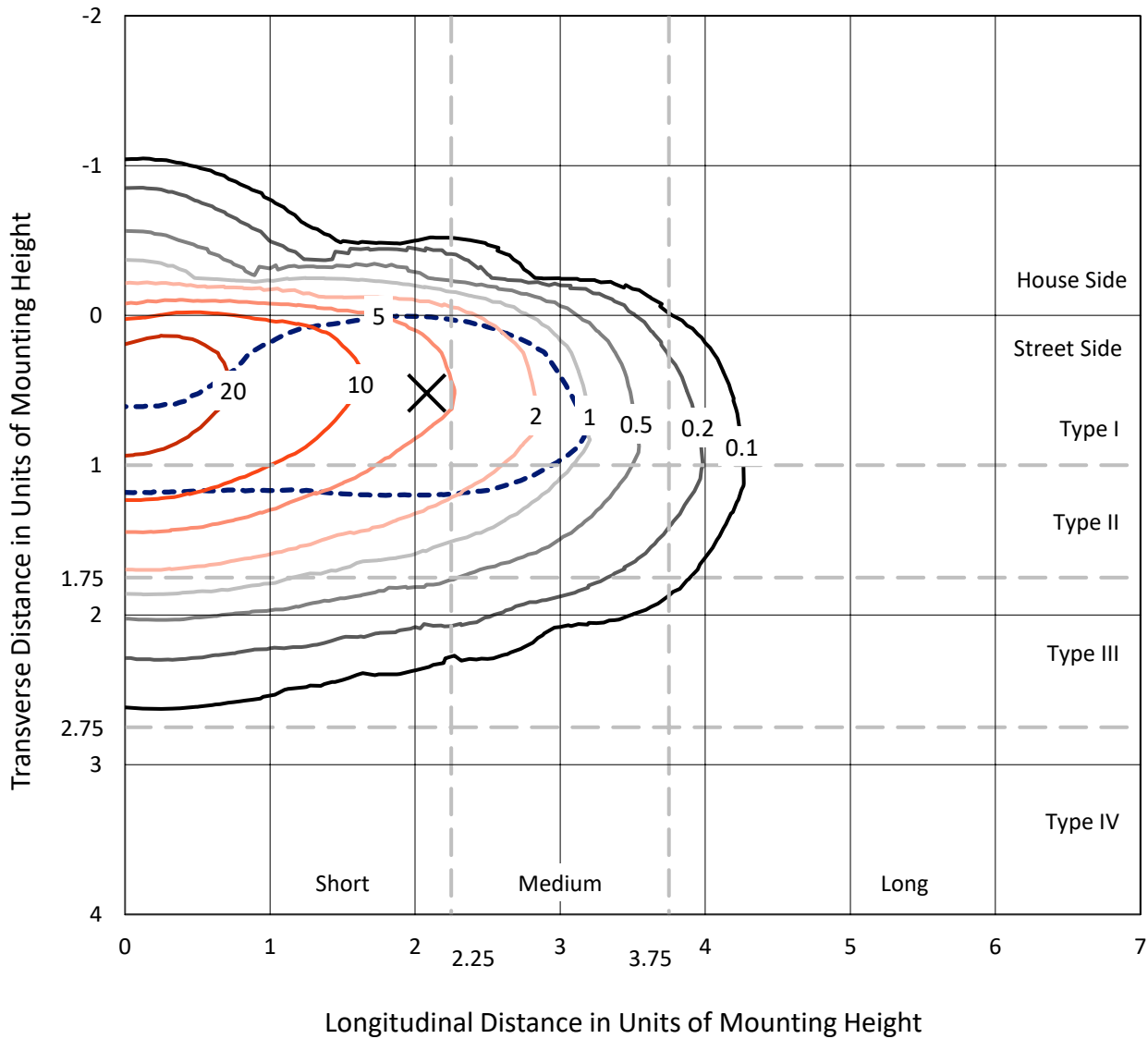
Lumens per Lamp: N/A  
Luminaire Lumens: 8936.9 lumens  
Efficiency: N/A  
Efficacy: 96.1 lumens/watt  
Luminous Opening: Rectangular (W 1.5' x L: 0.5' x H: 0')  
IES Classification: Type II - Short  
BUG Rating: B1 - U0 - G2  
  
Input Watts (W): 93  
Input Voltage (V): 120  
Input Current (Ain): NR  
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: P635029  
 CATALOG NUMBER: GWS-SA3C-830-U-T2R-W-HSS

### Iso-Footcandle Lines of Horizontal Illumination

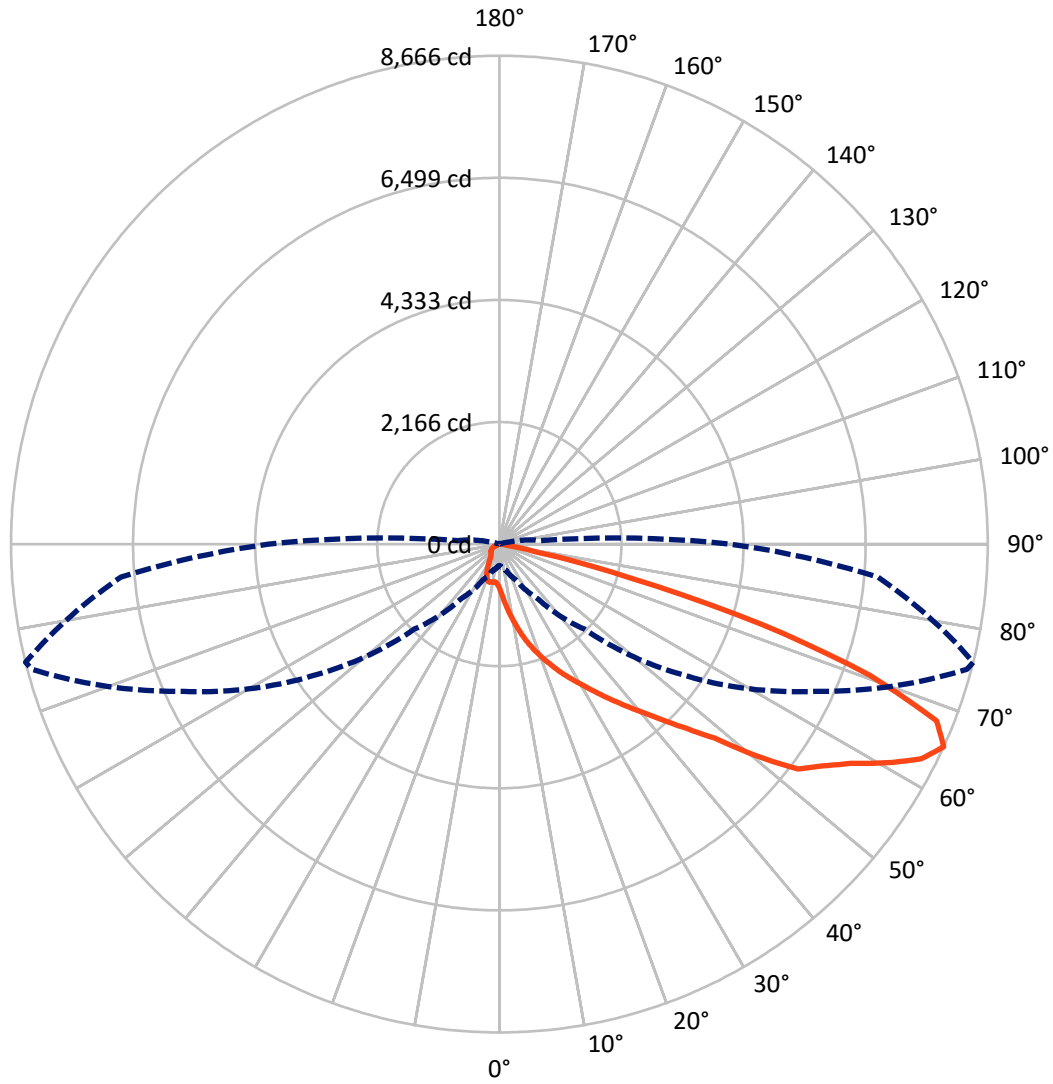
✕ Max cd  
 - - - 1/2 Max cd



Based on 10 foot mounting height. Maximum calculated value = 26.8 fc  
 Type II - Short - N/A

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### Luminous Intensity Polar Plot



— Vertical Plane Through 76-Deg Lateral    - - - Horizontal Cone Through 65-Deg Vertical

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**FLUX DISTRIBUTION:**

		Downward	Upward	Total
<b>House Side</b>	Lumens	494.2	0.0	494.2
	% Fixture	5.5	0.0	5.5
<b>Street Side</b>	Lumens	8442.7	0.0	8442.7
	% Fixture	94.5	0.0	94.5
<b>Total</b>	Lumens	8936.9	0.0	8936.9
	% Fixture	100.0	0.0	100.0

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	96.3	1.1
10°-20°	365.2	4.1
20°-30°	745.2	8.3
30°-40°	1325.3	14.8
40°-50°	1959.1	21.9
50°-60°	2243.0	25.1
60°-70°	1711.3	19.1
70°-80°	479.4	5.4
80°-90°	12.1	0.1
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°	8936.9	100.0
0°-180°	8936.9	100.0

**Coefficient of Utilization**



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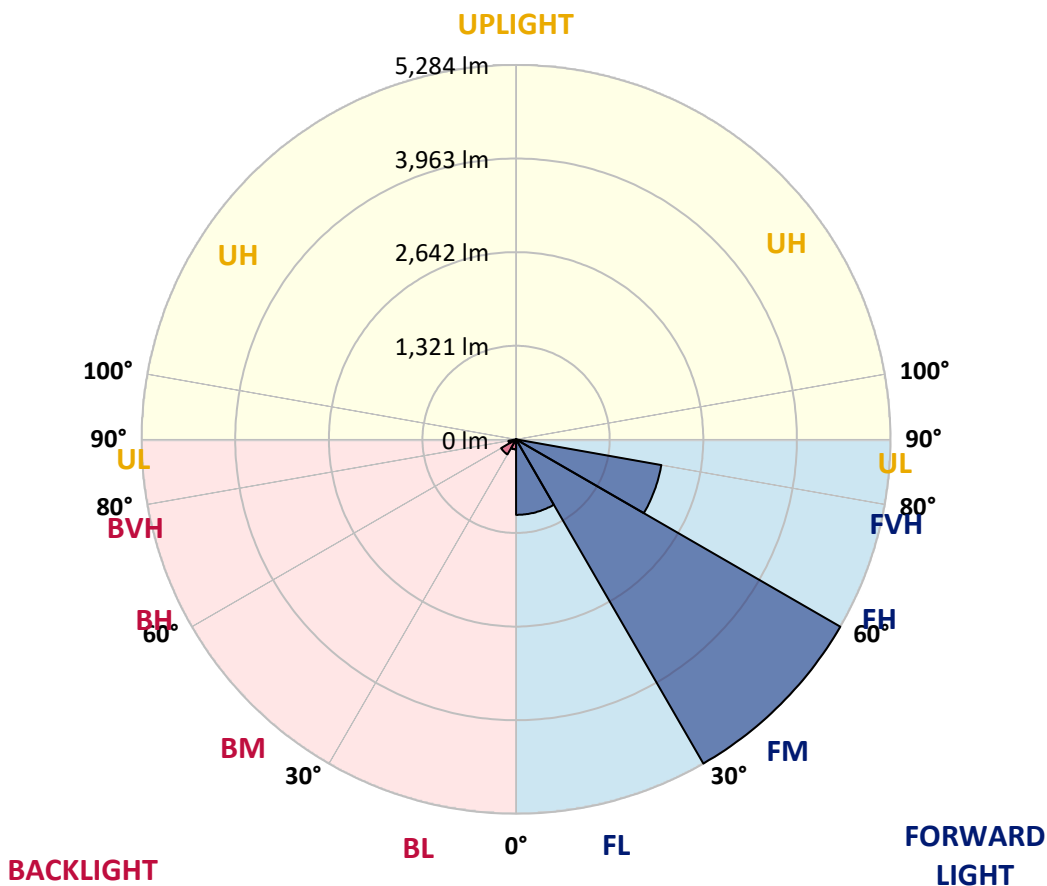
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**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	1065.7	11.9			
FM (30°-60°)	5283.6	59.1			
FH (60°-80°)	2082.1	23.3			G2/5000
FVH (80°-90°)	11.4	0.1			G1/100
BL (0°-30°)	141.0	1.6	B1/500		
BM (30°-60°)	243.8	2.7	B1/1000		
BH (60°-80°)	108.6	1.2	B0/110		G0/110
BVH (80°-90°)	0.7	0.0			G0/10
UL (90°-100°)	0.0	0.0		U0/0	
UH (100°-180°)	0.0	0.0		U0/0	

**BUG Rating: B1-U0-G2**

Type II Short





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CATALOG NUMBER: GWS-SA3C-830-U-T2R-W-HSS

**CANDELA DISTRIBUTION (FULL):**

	0°	5°	15°	25°	35°	45°	55°	65°	75°	76°	85°
0°	791.2	791.2	791.2	791.2	791.2	791.2	791.2	791.2	791.2	791.2	791.2
2.5°	1219.4	1237.7	1223.4	1199.6	1153.5	1109.0	1051.8	973.2	910.4	902.5	843.7
5°	1646.8	1645.2	1614.3	1583.3	1534.8	1458.6	1343.4	1197.2	1056.6	1044.7	912.8
7.5°	1901.0	1903.4	1886.0	1862.1	1814.5	1735.8	1615.8	1439.5	1233.7	1209.9	1007.3
10°	2114.7	2113.9	2101.2	2090.1	2047.2	1994.8	1866.1	1672.3	1424.4	1387.1	1113.0
12.5°	2275.2	2280.8	2287.1	2298.3	2280.0	2228.3	2106.8	1895.5	1617.4	1576.1	1233.7
15°	2402.3	2403.9	2427.7	2470.6	2485.7	2458.7	2348.3	2111.6	1808.1	1772.3	1372.8
17.5°	2440.5	2443.6	2484.1	2562.8	2642.2	2657.3	2573.9	2329.2	1995.6	1957.4	1507.8
20°	2520.7	2527.8	2558.0	2627.1	2727.2	2808.3	2775.7	2549.3	2183.1	2133.0	1646.0
22.5°	2773.3	2777.3	2767.0	2775.7	2827.3	2921.1	2940.9	2762.2	2375.3	2322.1	1795.4
25°	3207.9	3209.5	3137.2	3068.8	3029.9	3047.4	3091.1	2958.4	2566.0	2513.5	1934.4
27.5°	3659.1	3664.7	3578.1	3462.1	3323.1	3243.6	3230.9	3138.0	2758.2	2700.2	2071.8
30°	4084.1	4084.1	3992.8	3851.3	3665.5	3510.5	3419.2	3319.1	2964.0	2900.4	2212.5
32.5°	4466.2	4463.0	4346.3	4192.9	4009.4	3839.4	3647.2	3508.2	3192.8	3122.1	2374.5
35°	4781.6	4773.7	4641.0	4494.0	4297.8	4171.5	3957.0	3711.5	3440.6	3369.9	2541.3
37.5°	5019.9	5011.2	4889.7	4733.9	4552.0	4470.2	4290.7	3955.4	3702.0	3637.6	2726.4
40°	5149.4	5131.9	5047.7	4931.8	4779.2	4707.7	4633.1	4258.1	4009.4	3929.2	2944.9
42.5°	5187.6	5166.9	5111.3	5057.3	4965.1	4908.7	4989.0	4599.7	4347.1	4277.9	3194.4
45°	5074.8	5062.8	5058.1	5097.0	5113.7	5129.6	5327.4	4977.8	4719.6	4667.2	3508.2
47.5°	4803.1	4799.9	4842.0	5004.0	5180.4	5348.0	5695.2	5444.2	5202.7	5146.2	3946.7
50°	4301.0	4333.6	4451.1	4735.5	5088.3	5472.0	6039.2	6090.8	5984.4	5901.7	4518.7
52.5°	3516.1	3578.9	3842.6	4274.8	4781.6	5437.0	6198.1	6608.8	6717.6	6631.8	4928.6
55°	2759.0	2817.8	3053.0	3601.1	4277.2	5170.9	6205.2	6787.5	7025.0	6945.6	5205.8
57.5°	2055.2	2109.2	2322.9	2847.2	3590.8	4647.4	6035.2	6886.8	7389.7	7338.8	5643.6
60°	1343.4	1396.6	1589.6	2048.0	2785.2	3884.7	5616.5	6866.2	7886.2	7881.4	6181.4
62.5°	745.2	787.3	927.1	1284.6	1943.9	3008.5	4958.8	6658.8	8366.8	8397.0	6624.7
65°	381.3	408.3	493.3	706.2	1176.5	2133.0	4093.6	6183.8	8589.3	8665.5	6741.4
67.5°	249.4	258.2	278.8	367.0	630.0	1341.8	3080.8	5421.9	8276.3	8365.2	6349.8
70°	202.6	209.7	221.6	244.7	324.9	712.6	2023.4	4330.4	6915.4	6975.8	5056.5
72.5°	148.6	158.1	181.1	196.2	234.4	390.9	1052.6	2842.4	4749.0	4855.5	3177.7
75°	109.6	115.2	134.3	154.9	191.5	247.1	402.8	1494.3	2452.4	2390.4	1334.6
77.5°	65.9	69.9	85.8	99.3	136.6	154.1	140.6	552.1	746.0	701.5	322.5
80°	32.6	36.5	56.4	74.7	87.4	62.0	58.8	154.1	166.0	166.0	81.0
82.5°	11.1	14.3	30.2	49.3	42.9	23.8	27.8	39.7	44.5	46.9	23.8
85°	0.0	0.0	7.1	14.3	6.4	3.2	7.1	8.7	11.1	11.9	7.9
87.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.8	2.4	3.2	3.2
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-SA3C-830-U-T2R-W-HSS

**CANDELA DISTRIBUTION (continued):**

	90°	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°
0°	791.2	791.2	791.2	791.2	791.2	791.2	791.2	791.2	791.2	791.2	791.2
2.5°	811.9	774.6	718.2	667.3	628.4	591.8	564.0	541.8	537.8	525.1	526.7
5°	848.4	780.9	676.8	596.6	540.2	502.1	470.3	446.5	436.1	425.8	417.9
7.5°	904.8	807.1	661.0	563.2	497.3	438.5	389.3	349.5	330.5	318.6	310.6
10°	974.0	843.7	661.8	543.4	445.7	355.9	288.4	244.7	224.0	217.7	216.9
12.5°	1056.6	889.7	668.1	510.8	371.0	264.5	213.7	193.8	187.5	181.9	181.9
15°	1144.0	941.4	668.1	451.2	282.8	206.5	185.1	172.4	164.4	161.3	159.7
17.5°	1236.1	989.8	652.2	369.4	216.9	181.9	164.4	152.5	146.2	141.4	139.8
20°	1334.6	1035.9	612.5	282.8	185.9	162.9	146.2	134.3	127.9	123.1	123.1
22.5°	1434.7	1078.8	548.1	217.7	164.4	144.6	128.7	117.6	111.2	106.5	106.5
25°	1527.7	1107.4	465.5	179.5	148.6	128.7	114.4	103.3	96.1	92.9	91.4
27.5°	1614.3	1125.7	374.2	158.1	133.5	115.2	100.1	89.8	84.2	81.8	80.2
30°	1704.0	1130.5	286.0	143.8	120.8	101.7	87.4	79.4	74.7	71.5	71.5
32.5°	1791.4	1124.9	218.5	131.9	109.6	89.8	77.9	70.7	66.7	64.3	63.6
35°	1880.4	1099.5	177.2	121.5	98.5	78.6	69.1	63.6	61.2	58.0	58.0
37.5°	1977.3	1065.3	154.1	111.2	87.4	70.7	62.0	58.0	54.8	52.4	51.6
40°	2098.1	1025.6	141.4	102.5	77.1	63.6	55.6	51.6	49.3	46.9	46.1
42.5°	2241.1	986.7	135.1	92.9	69.1	56.4	50.0	45.3	42.9	39.7	38.9
45°	2443.6	977.9	127.9	82.6	62.0	50.8	43.7	38.9	35.7	33.4	32.6
47.5°	2769.3	1002.6	116.0	71.5	54.8	44.5	37.3	33.4	29.4	27.0	25.4
50°	3092.7	996.2	104.1	62.0	48.5	38.1	31.8	27.8	23.8	21.4	20.7
52.5°	3269.0	966.0	92.9	54.8	42.1	32.6	27.0	22.2	19.9	17.5	16.7
55°	3428.7	954.1	81.8	47.7	35.7	28.6	22.2	18.3	16.7	14.3	13.5
57.5°	3741.7	981.9	72.3	41.3	31.0	24.6	19.1	15.1	13.5	11.1	10.3
60°	4069.0	985.1	62.0	35.7	27.0	20.7	15.1	11.9	10.3	7.9	7.1
62.5°	4239.8	904.8	50.8	30.2	22.2	17.5	12.7	9.5	7.9	4.8	4.8
65°	4096.8	731.7	42.9	24.6	17.5	13.5	9.5	7.1	4.8	2.4	0.8
67.5°	3625.7	520.3	35.7	19.9	12.7	9.5	7.1	4.8	0.8	0.0	0.0
70°	2654.9	297.1	27.8	14.3	9.5	6.4	4.8	2.4	0.0	0.0	0.0
72.5°	1631.7	158.9	20.7	9.5	7.1	4.8	4.0	1.6	0.0	0.0	0.0
75°	618.9	76.3	12.7	6.4	5.6	4.0	2.4	0.8	0.0	0.0	0.0
77.5°	167.6	37.3	7.1	4.8	4.0	2.4	1.6	0.0	0.0	0.0	0.0
80°	43.7	17.5	4.8	3.2	2.4	1.6	0.0	0.0	0.0	0.0	0.0
82.5°	15.1	7.9	2.4	2.4	1.6	0.8	0.0	0.0	0.0	0.0	0.0
85°	6.4	3.2	1.6	1.6	0.8	0.0	0.0	0.0	0.0	0.0	0.0
87.5°	2.4	0.8	0.8	0.8	0.8	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  
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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**

$\lambda$ (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**

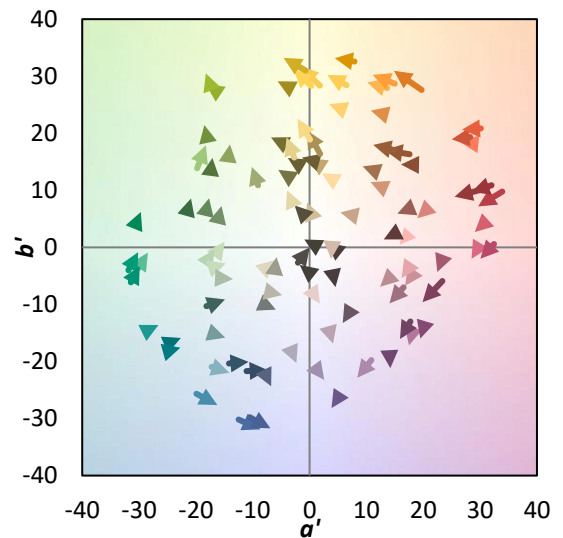
λ (nm)	Power W <sup>^</sup> /nm	Lumens (φ/nm)	λ (nm)	Power W <sup>^</sup> /nm	Lumens (φ/nm)	λ (nm)	Power W <sup>^</sup> /nm	Lumens (φ/nm)	λ (nm)	Power W <sup>^</sup> /nm	Lumens (φ/nm)	λ (nm)	Power W <sup>^</sup> /nm	Lumens (φ/nm)
360	0	NR	490	168	NR	620	940	NR	750	35	NR	880	1	NR
365	0	NR	495	233	NR	625	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)