

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: P634035

Luminaire Tested: GWS-SA2F-830-U-T2-W-HSS

Issue Date: 1/10/2023

**Test Information**

Test Method: LM-79-2019  
Report Number: P634035  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2209-782-22)  
Test Lab: COOPER LIGHTING SOLUTIONS  
Issue Date: 1/10/2023  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: McGRAW-EDISON  
Catalog Number: GWS-SA2F-830-U-T2-W-HSS  
Description: GALLEON WALL SLIM LUMINAIRE. (2) LIGHTSQUARES WITH 16 LEDS EACH AND TYPE II OPTICS WITH HOUSE SIDE SHIELD  
Light Source: (32) 3000K CCT, 80 CRI LEDS  
Ballast/Driver: -

**Summary**

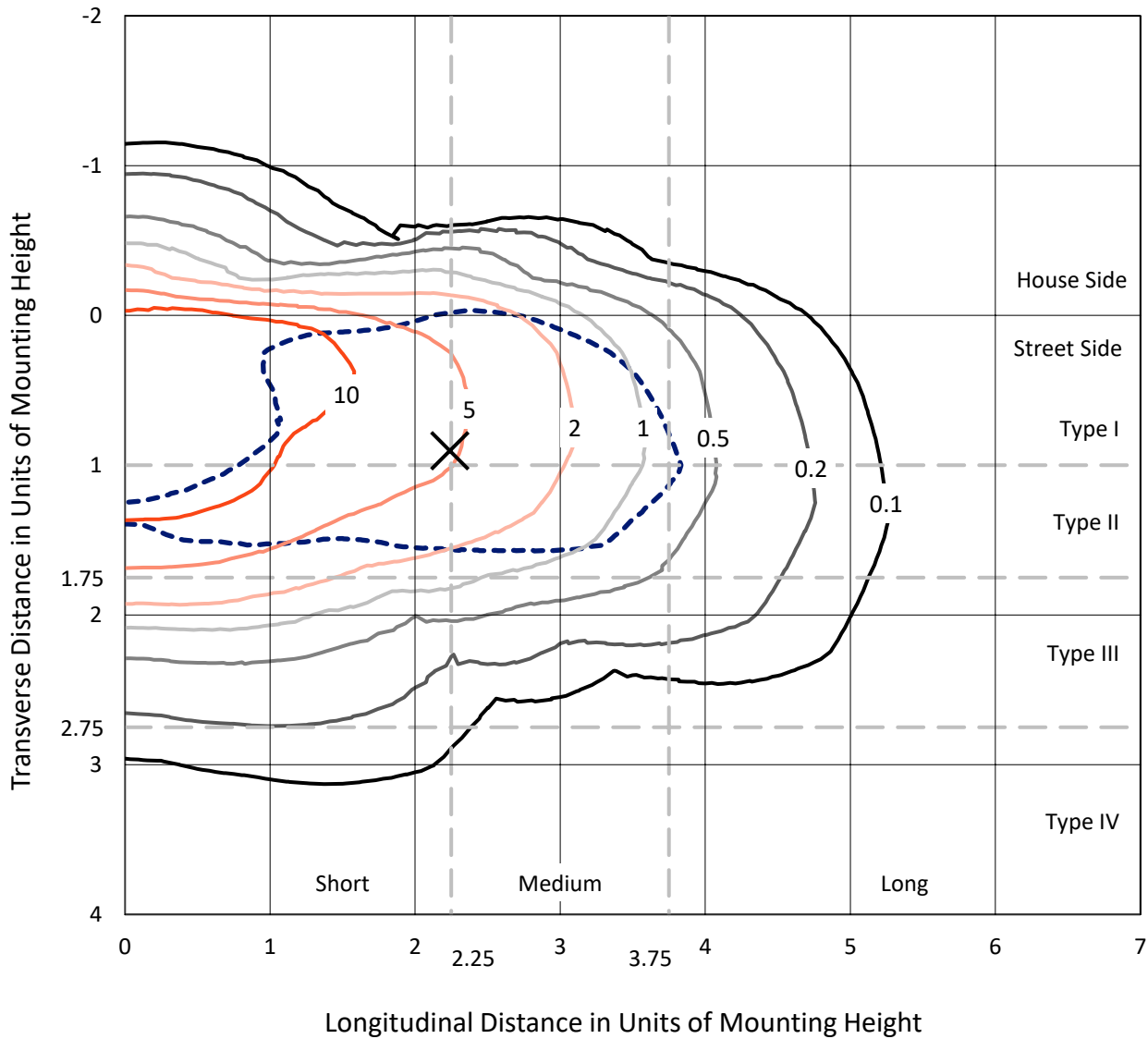
Lumens per Lamp: N/A  
Luminaire Lumens: 9653.2 lumens  
Efficiency: N/A  
Efficacy: 77.5 lumens/watt  
Luminous Opening: Rectangular (W 1' x L: 0.5' x H: 0')  
IES Classification: Type II - Short  
BUG Rating: B1 - U0 - G2  
  
Input Watts (W): 124.5  
Input Voltage (V): 120  
Input Current (Ain): NR  
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: P634035  
 CATALOG NUMBER: GWS-SA2F-830-U-T2-W-HSS

### Iso-Footcandle Lines of Horizontal Illumination

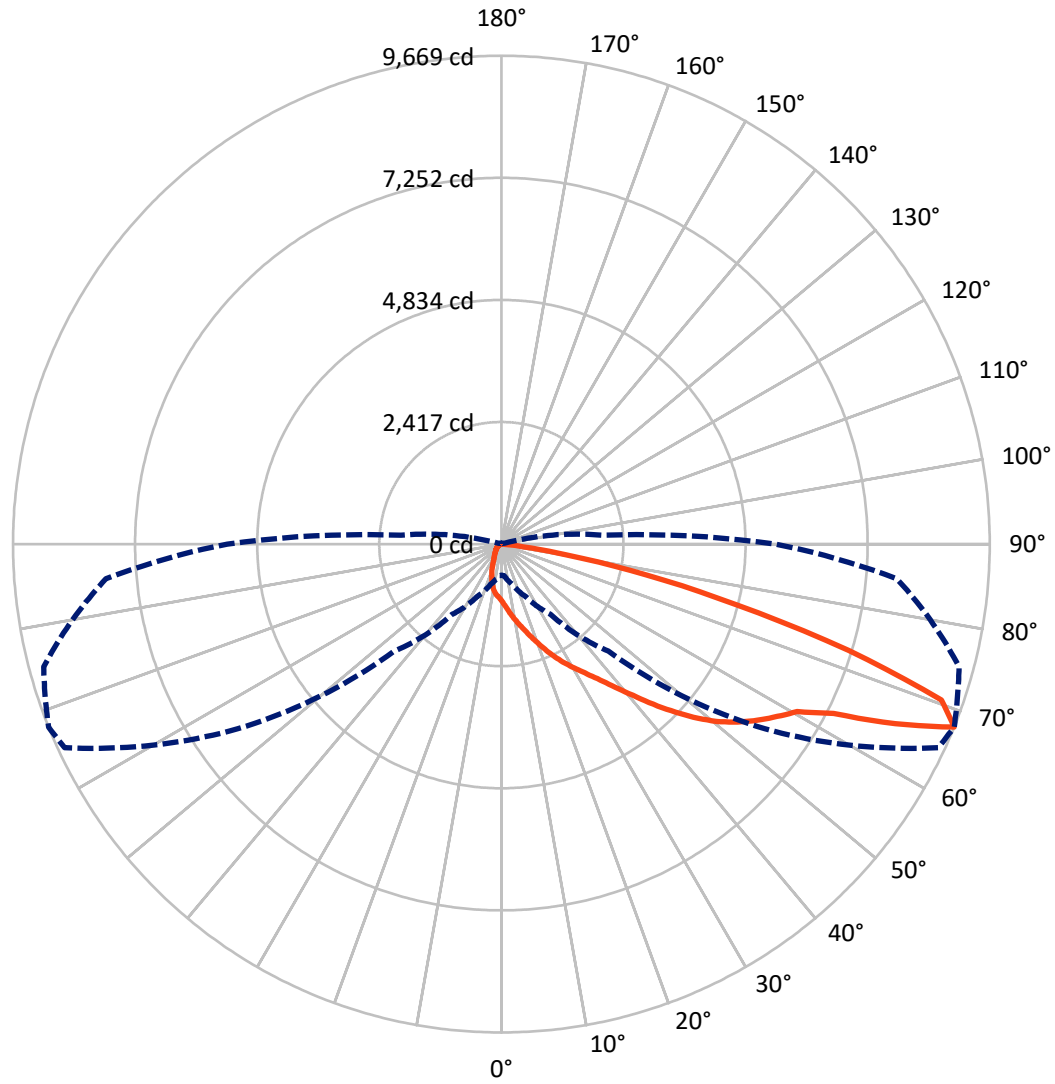
✕ Max cd  
 - - - 1/2 Max cd



Based on 10 foot mounting height. Maximum calculated value = 18.1 fc  
 Type II - Short - N/A

REPORT NUMBER: P634035  
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### Luminous Intensity Polar Plot



— Vertical Plane Through 68-Deg Lateral    - - - Horizontal Cone Through 67.5-Deg Vertical

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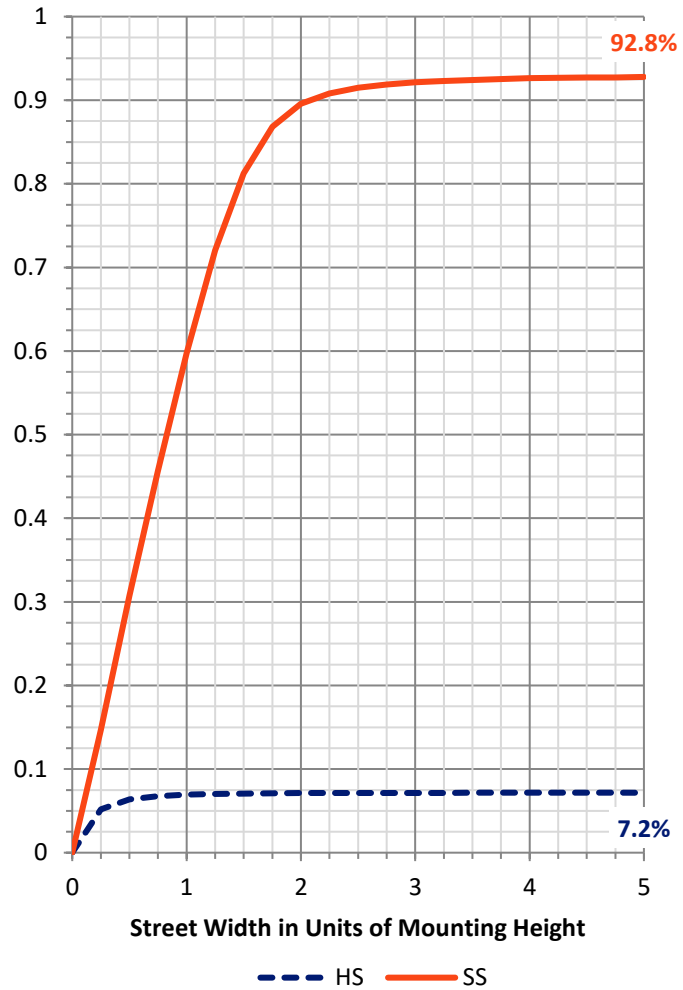
**FLUX DISTRIBUTION:**

		Downward	Upward	Total
<b>House Side</b>	Lumens	697.1	0.0	697.1
	% Fixture	7.2	0.0	7.2
<b>Street Side</b>	Lumens	8956.1	0.0	8956.1
	% Fixture	92.8	0.0	92.8
<b>Total</b>	Lumens	9653.2	0.0	9653.2
	% Fixture	100.0	0.0	100.0

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	109.6	1.1
10°-20°	314.6	3.3
20°-30°	540.7	5.6
30°-40°	940.1	9.7
40°-50°	1640.3	17.0
50°-60°	2474.0	25.6
60°-70°	2480.8	25.7
70°-80°	1094.5	11.3
80°-90°	58.5	0.6
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°	9653.2	100.0
0°-180°	9653.2	100.0

**Coefficient of Utilization**



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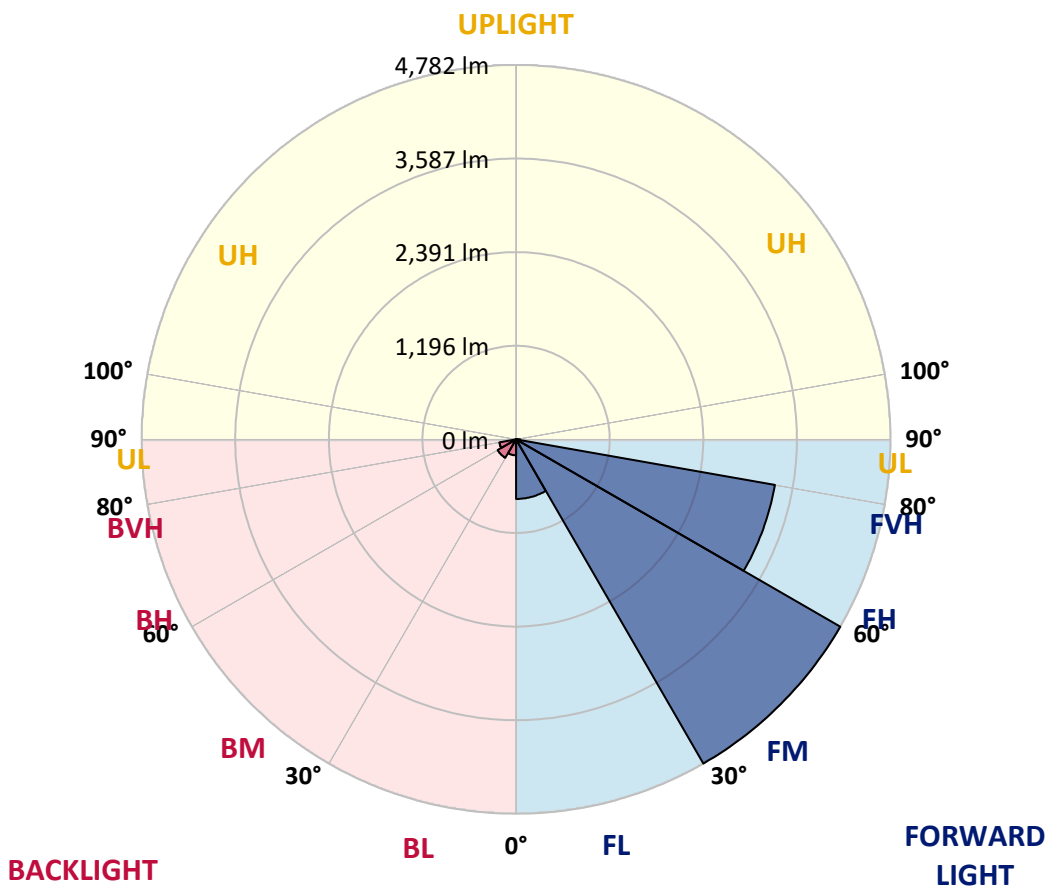
CATALOG NUMBER: GWS-SA2F-830-U-T2-W-HSS

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

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	761.0	7.9			
FM (30°-60°)	4782.2	49.5			
FH (60°-80°)	3357.8	34.8			G2/5000
FVH (80°-90°)	55.2	0.6			G1/100
BL (0°-30°)	203.9	2.1	B1/500		
BM (30°-60°)	272.3	2.8	B1/1000		
BH (60°-80°)	217.5	2.3	B1/500		G1/500
BVH (80°-90°)	3.3	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





REPORT NUMBER: P634035

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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	15°	25°	35°	45°	55°	65°	68°	75°	85°
0°	1123.4	1123.4	1123.4	1123.4	1123.4	1123.4	1123.4	1123.4	1123.4	1123.4	1123.4
2.5°	1308.2	1316.5	1308.2	1310.0	1286.0	1274.9	1250.9	1217.6	1209.3	1188.1	1155.7
5°	1468.0	1475.4	1467.1	1465.2	1437.5	1417.2	1377.4	1320.2	1303.5	1262.0	1198.2
7.5°	1554.8	1559.4	1562.2	1566.8	1556.7	1540.0	1504.0	1432.9	1415.3	1347.9	1258.3
10°	1564.1	1567.8	1581.6	1609.3	1629.7	1639.8	1619.5	1553.9	1526.2	1460.6	1332.2
12.5°	1538.2	1543.7	1565.9	1612.1	1668.5	1720.2	1733.1	1675.8	1650.9	1566.8	1419.0
15°	1504.0	1508.6	1539.1	1601.9	1686.9	1782.1	1835.7	1810.7	1783.0	1695.2	1515.1
17.5°	1451.3	1457.8	1500.3	1585.3	1695.2	1831.0	1946.5	1954.8	1935.4	1840.3	1621.3
20°	1421.8	1426.4	1464.3	1552.0	1689.7	1867.1	2050.0	2128.5	2107.3	2007.5	1743.3
22.5°	1446.7	1450.4	1475.4	1543.7	1671.2	1887.4	2146.1	2302.2	2290.2	2186.7	1871.7
25°	1577.9	1589.9	1575.1	1587.2	1679.5	1898.5	2223.7	2475.9	2478.7	2374.3	2004.7
27.5°	1844.0	1828.3	1793.2	1733.1	1744.2	1928.0	2290.2	2639.4	2663.4	2557.2	2123.0
30°	2114.7	2105.4	2084.2	1990.9	1913.3	1993.6	2346.5	2806.6	2844.5	2737.3	2228.3
32.5°	2418.6	2427.8	2390.0	2278.2	2146.1	2126.7	2404.8	2965.5	3036.7	2941.5	2352.1
35°	2781.7	2784.4	2709.6	2585.8	2436.2	2346.5	2509.1	3141.0	3272.2	3202.0	2517.5
37.5°	3135.5	3152.1	3111.5	2916.6	2783.5	2620.0	2681.9	3366.5	3551.2	3523.5	2725.3
40°	3448.7	3474.6	3461.6	3273.2	3098.6	2960.9	2949.8	3630.7	3888.4	3919.8	2999.7
42.5°	3698.1	3714.8	3724.9	3591.0	3436.7	3359.1	3280.5	3937.4	4286.6	4415.0	3336.0
45°	3961.4	3967.0	3988.2	3897.7	3762.8	3769.3	3671.3	4309.7	4706.0	4963.8	3722.1
47.5°	4296.8	4315.2	4305.1	4209.9	4088.0	4161.0	4075.0	4693.1	5119.9	5549.5	4117.5
50°	4705.1	4724.5	4715.3	4604.4	4468.6	4499.1	4445.5	5065.4	5519.0	6102.0	4446.4
52.5°	4915.7	4931.4	5046.0	5095.9	5024.8	4830.7	4761.5	5474.7	5856.2	6556.5	4748.5
55°	4814.1	4825.2	5074.6	5285.3	5545.8	5351.8	5079.3	5790.6	6153.7	6911.2	4973.0
57.5°	4392.8	4452.9	4791.9	5148.5	5696.4	5866.4	5594.8	6134.3	6440.1	7157.9	5193.8
60°	3529.1	3526.3	4012.2	4652.4	5402.6	6007.7	6322.7	6599.0	6727.4	7347.3	5489.4
62.5°	1950.2	1967.8	2614.5	3457.9	4585.9	5641.9	6868.7	7401.8	7382.4	7678.0	5952.3
65°	971.0	1006.1	1357.1	1980.7	3051.4	4662.6	6963.0	8626.8	8571.4	8456.8	6908.5
67.5°	616.2	630.1	824.1	1151.1	1696.2	2996.9	6376.3	9540.5	9668.9	9380.7	7857.2
70°	399.1	422.2	572.8	787.1	1023.6	1544.7	4670.9	8948.3	9243.0	9279.0	7266.0
72.5°	217.1	233.7	365.8	561.7	739.1	772.3	2623.7	6715.4	7189.3	7871.1	5684.4
75°	123.8	135.8	200.5	381.5	542.3	470.2	1163.1	4495.4	4797.5	5625.2	4073.2
77.5°	74.8	85.0	112.7	185.7	340.0	314.1	439.7	2736.4	2928.6	3356.3	2137.8
80°	34.2	40.6	71.1	102.5	185.7	148.7	168.1	1275.8	1317.4	1377.4	707.7
82.5°	15.7	18.5	32.3	61.0	105.3	85.9	64.7	294.7	414.8	392.6	180.1
85°	1.8	1.8	12.0	24.9	29.6	22.2	26.8	66.5	84.1	118.3	51.7
87.5°	0.0	0.0	0.9	0.9	1.8	2.8	5.5	8.3	12.0	19.4	12.9
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-SA2F-830-U-T2-W-HSS

**CANDELA DISTRIBUTION (continued):**

	90°	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°
0°	1123.4	1123.4	1123.4	1123.4	1123.4	1123.4	1123.4	1123.4	1123.4	1123.4	1123.4
2.5°	1140.9	1115.1	1092.0	1057.8	1034.7	1008.8	991.3	970.0	961.7	955.2	946.0
5°	1166.8	1125.2	1068.9	1006.1	954.3	905.4	860.1	830.5	804.7	801.0	788.0
7.5°	1209.3	1147.4	1052.3	949.7	861.9	780.6	716.9	665.2	639.3	631.0	616.2
10°	1265.7	1180.7	1027.3	870.3	743.7	646.7	574.6	516.4	475.8	461.0	449.9
12.5°	1328.5	1211.2	987.6	772.3	628.2	517.3	425.9	364.0	338.1	328.9	320.6
15°	1400.5	1239.8	924.8	674.4	515.5	380.6	316.0	289.2	278.1	275.3	272.5
17.5°	1469.8	1258.3	849.9	572.8	396.3	295.6	265.1	255.0	252.2	249.4	247.6
20°	1548.4	1271.2	762.2	476.7	307.6	250.4	235.6	228.2	222.6	217.1	216.2
22.5°	1628.7	1271.2	667.0	382.5	257.8	224.5	207.9	194.0	183.8	178.3	176.5
25°	1705.4	1253.6	572.8	305.8	227.3	199.5	178.3	162.6	148.7	142.3	140.4
27.5°	1759.9	1208.4	490.6	258.7	206.0	177.4	151.5	134.0	122.9	116.4	115.5
30°	1794.1	1140.9	414.8	231.0	187.5	154.3	128.4	113.6	105.3	100.7	98.9
32.5°	1820.0	1057.8	347.4	211.6	170.0	134.0	111.8	99.8	92.4	88.7	87.8
35°	1871.7	979.3	297.5	194.0	151.5	117.3	97.9	88.7	83.1	78.5	77.6
37.5°	1943.8	913.7	257.8	178.3	134.0	104.4	88.7	80.4	75.8	71.1	70.2
40°	2050.0	872.1	228.2	162.6	118.3	94.2	81.3	73.9	67.4	62.8	61.9
42.5°	2213.5	852.7	208.8	146.9	104.4	85.0	74.8	65.6	59.1	54.5	53.6
45°	2408.4	862.9	192.2	131.2	95.2	78.5	66.5	57.3	50.8	46.2	45.3
47.5°	2617.2	898.9	178.3	116.4	85.9	72.1	59.1	49.0	43.4	38.8	37.9
50°	2835.3	958.0	166.3	102.5	78.5	64.7	50.8	42.5	37.0	33.3	32.3
52.5°	3024.6	1038.4	154.3	92.4	72.1	57.3	44.3	37.0	31.4	27.7	26.8
55°	3205.7	1114.1	145.0	83.1	64.7	49.9	38.8	31.4	26.8	23.1	22.2
57.5°	3402.5	1194.5	134.0	74.8	58.2	44.3	34.2	26.8	23.1	19.4	18.5
60°	3688.9	1313.7	117.3	68.4	50.8	38.8	29.6	24.0	20.3	15.7	14.8
62.5°	4101.8	1530.8	98.9	59.1	43.4	33.3	24.9	20.3	16.6	12.9	11.1
65°	4874.2	1900.3	81.3	49.0	35.1	27.7	21.2	16.6	12.9	9.2	8.3
67.5°	5430.3	1996.4	65.6	39.7	28.6	21.2	17.6	12.9	9.2	6.5	5.5
70°	4747.6	1433.8	50.8	32.3	24.0	16.6	13.9	10.2	6.5	4.6	3.7
72.5°	3577.1	936.8	37.9	24.9	18.5	13.9	10.2	8.3	5.5	3.7	2.8
75°	2521.2	541.4	27.7	18.5	12.9	10.2	8.3	6.5	4.6	2.8	2.8
77.5°	1292.4	223.6	19.4	12.9	9.2	6.5	5.5	3.7	3.7	2.8	1.8
80°	392.6	73.9	11.1	8.3	6.5	4.6	2.8	2.8	2.8	1.8	0.9
82.5°	89.6	24.0	6.5	6.5	4.6	3.7	2.8	0.9	0.9	0.0	0.0
85°	23.1	7.4	5.5	4.6	4.6	3.7	1.8	0.9	0.0	0.0	0.0
87.5°	8.3	4.6	4.6	4.6	3.7	2.8	1.8	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**

$\lambda$ (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)