

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: P641475

Luminaire Tested: GWS-SA5F-830-U-T4FT-W

Issue Date: 1/10/2023

**Test Information**

Test Method: LM-79-2019  
Report Number: P641475  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2209-782-54)  
Test Lab: COOPER LIGHTING SOLUTIONS  
Issue Date: 1/10/2023  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: McGRAW-EDISON  
Catalog Number: GWS-SA5F-830-U-T4FT-W  
Description: GALLEON WALL SLIM LUMINAIRE. (5) LIGHTSQUARES WITH 16 LEDS EACH AND TYPE IV FORWARD THROW OPTICS  
Light Source: (80) 3000K CCT, 80 CRI LEDS  
Ballast/Driver: -

**Summary**

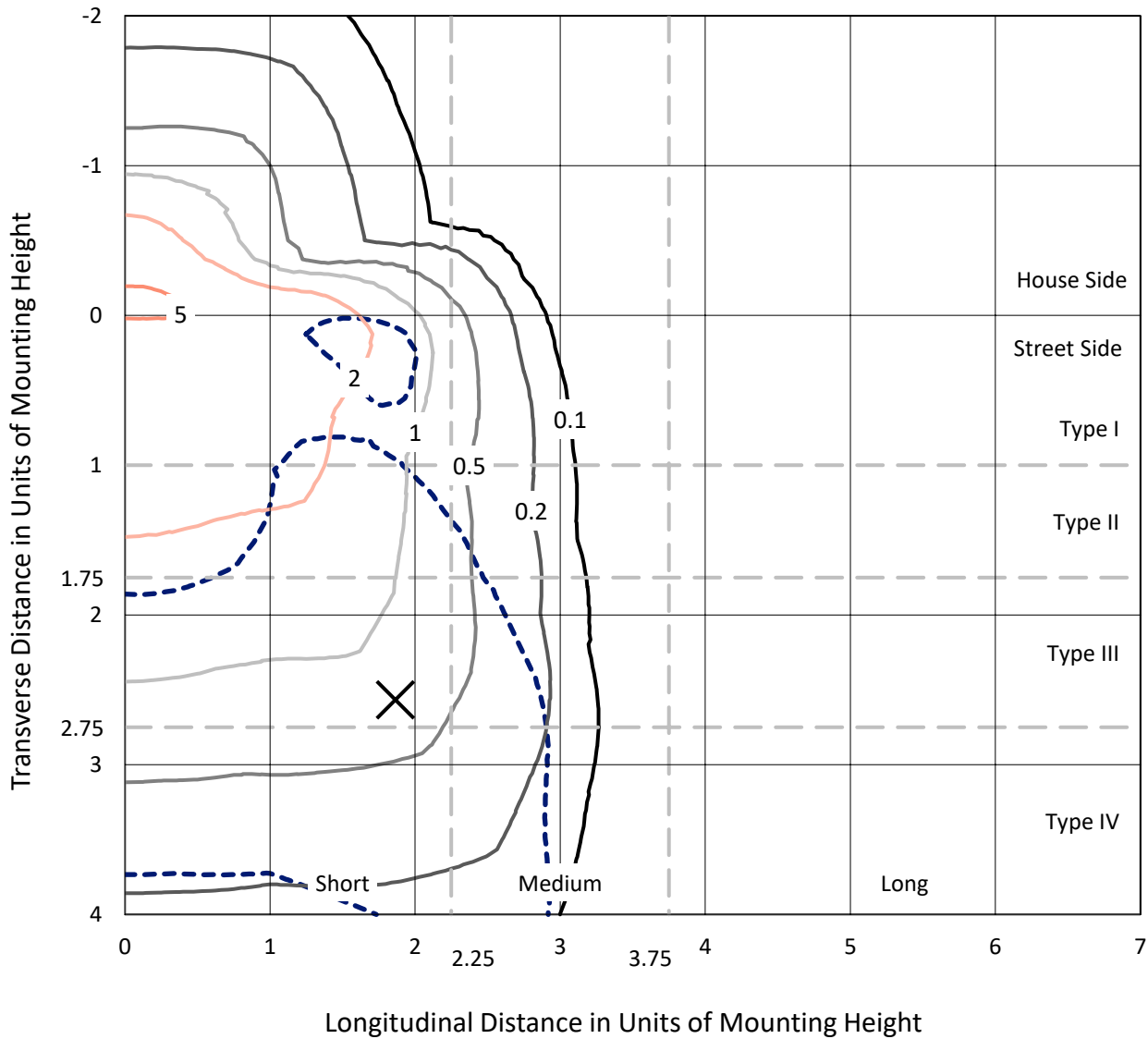
Lumens per Lamp: N/A  
Luminaire Lumens: 32026.3 lumens  
Efficiency: N/A  
Efficacy: 103.2 lumens/watt  
Luminous Opening: Rectangular (W 1.5' x L: 1' x H: 0')  
IES Classification: Type IV - Short  
BUG Rating: B3 - U0 - G5  
  
Input Watts (W): 310.3  
Input Voltage (V): 120  
Input Current (Ain): 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



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 CATALOG NUMBER: GWS-SA5F-830-U-T4FT-W

### Iso-Footcandle Lines of Horizontal Illumination

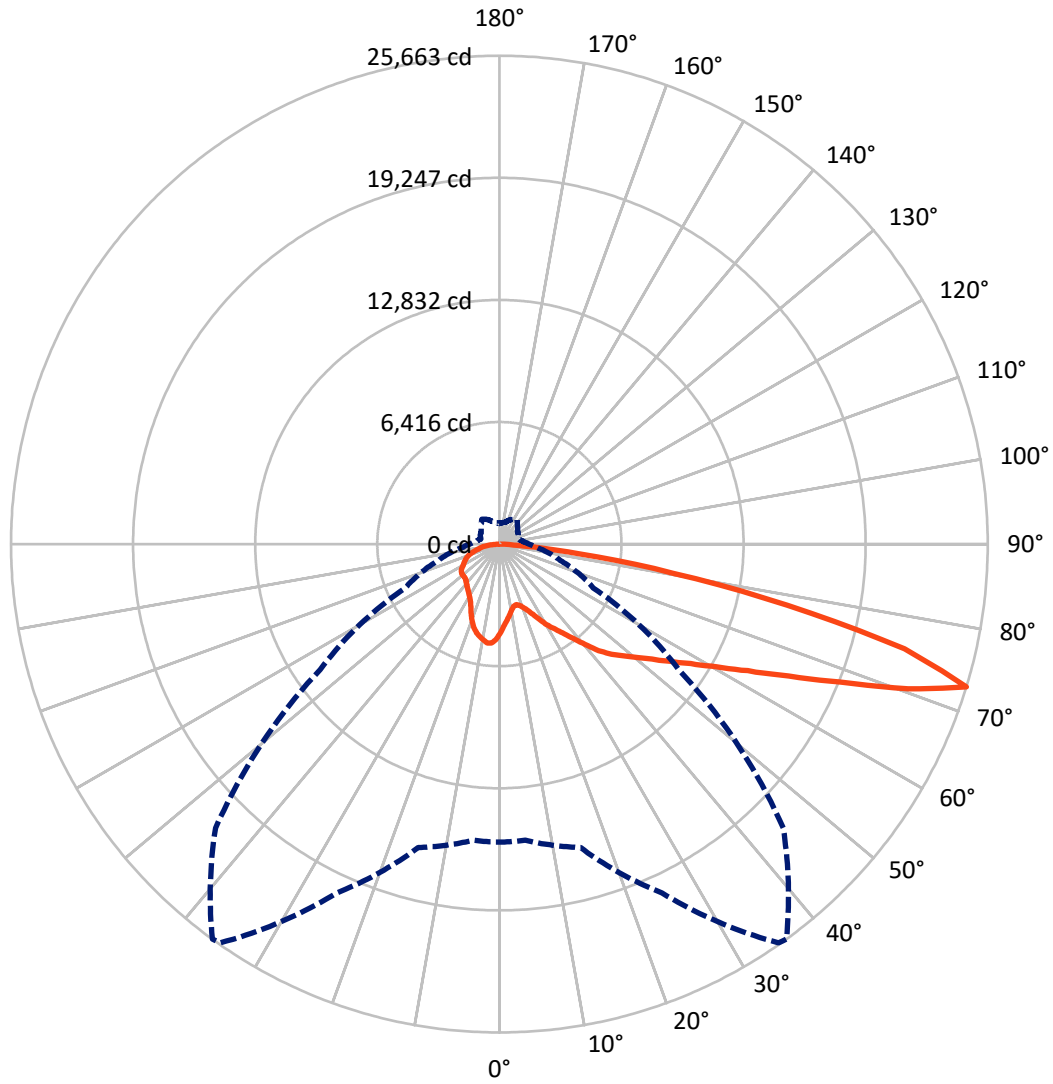
✕ Max cd  
 - - - 1/2 Max cd



Based on 30 foot mounting height. Maximum calculated value = 5.5 fc  
 Type IV - Short - N/A

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### Luminous Intensity Polar Plot



— Vertical Plane Through 36-Deg Lateral    - - - Horizontal Cone Through 72.5-Deg Vertical

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**FLUX DISTRIBUTION:**

		Downward	Upward	Total
<b>House Side</b>	Lumens	7383.4	0.0	7383.4
	% Fixture	23.1	0.0	23.1
<b>Street Side</b>	Lumens	24642.9	0.0	24642.9
	% Fixture	76.9	0.0	76.9
<b>Total</b>	Lumens	32026.3	0.0	32026.3
	% Fixture	100.0	0.0	100.0

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	438.1	1.4
10°-20°	1236.1	3.9
20°-30°	2047.2	6.4
30°-40°	3065.8	9.6
40°-50°	4472.8	14.0
50°-60°	6366.1	19.9
60°-70°	8043.1	25.1
70°-80°	5731.4	17.9
80°-90°	625.7	2.0
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°	32026.3	100.0
0°-180°	32026.3	100.0

**Coefficient of Utilization**



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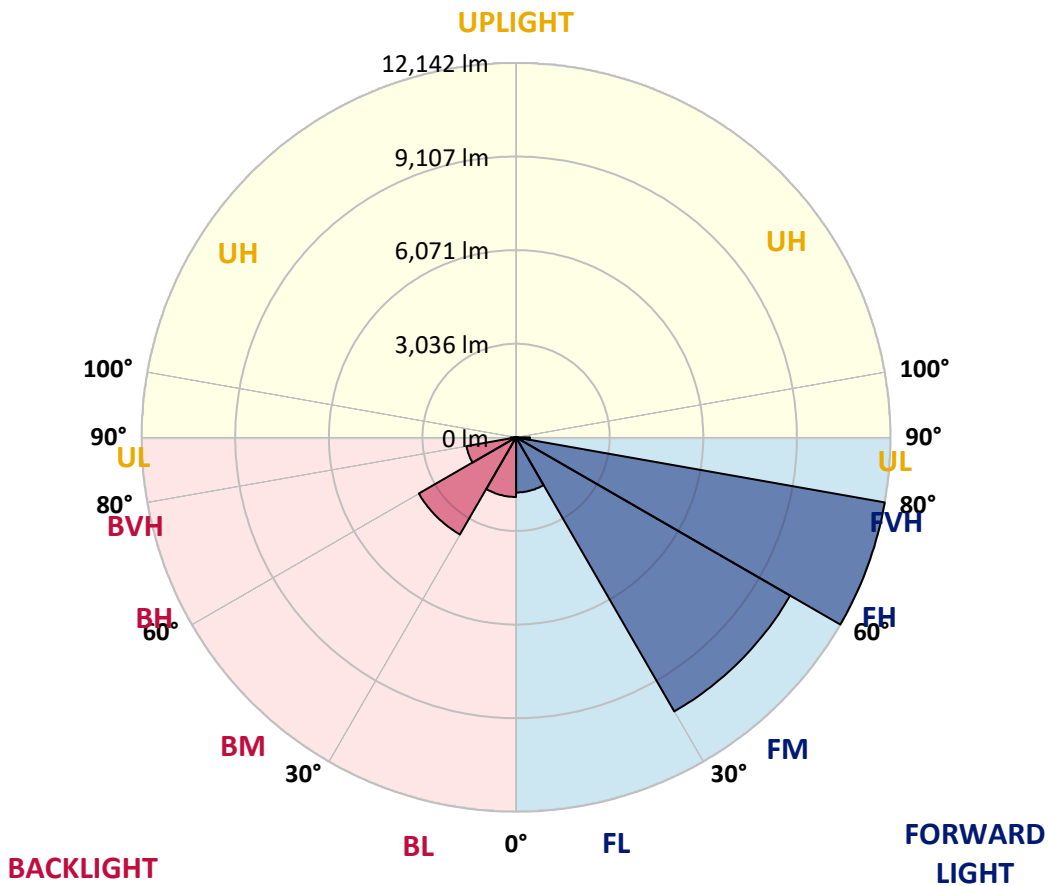
CATALOG NUMBER: GWS-SA5F-830-U-T4FT-W

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

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	1787.9	5.6			
FM (30°-60°)	10263.6	32.0			
FH (60°-80°)	12142.2	37.9			G5
FVH (80°-90°)	449.1	1.4			G3/500
BL (0°-30°)	1933.5	6.0	B3/2500		
BM (30°-60°)	3641.1	11.4	B3/5000		
BH (60°-80°)	1632.3	5.1	B3/2500		G3/2500
BVH (80°-90°)	176.6	0.6			G2/225
UL (90°-100°)	0.0	0.0		U0/0	
UH (100°-180°)	0.0	0.0		U0/0	

**BUG Rating: B3-U0-G5**

Type IV Short





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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	15°	25°	35°	36°	45°	55°	65°	75°	85°
0°	4687.2	4687.2	4687.2	4687.2	4687.2	4687.2	4687.2	4687.2	4687.2	4687.2	4687.2
2.5°	4276.0	4268.9	4254.6	4297.4	4340.2	4335.4	4394.8	4451.9	4513.7	4577.9	4663.4
5°	3933.7	3929.0	3917.1	3981.3	4045.4	4043.1	4140.5	4233.2	4359.2	4497.0	4668.2
7.5°	3591.5	3579.6	3596.2	3677.0	3767.3	3776.9	3910.0	4062.1	4245.1	4451.9	4694.3
10°	3289.6	3287.2	3294.3	3384.7	3520.1	3529.7	3700.8	3912.3	4154.8	4430.5	4753.7
12.5°	3211.2	3206.4	3187.4	3232.5	3334.8	3349.0	3536.8	3795.9	4093.0	4442.4	4834.6
15°	3339.5	3327.6	3261.1	3239.7	3289.6	3301.5	3460.7	3726.9	4057.3	4463.8	4936.8
17.5°	3560.6	3553.4	3427.5	3339.5	3372.8	3382.3	3501.1	3715.1	4047.8	4506.6	5062.7
20°	3883.8	3852.9	3655.6	3522.5	3522.5	3536.8	3608.1	3767.3	4059.7	4558.8	5205.4
22.5°	4311.6	4249.8	3971.8	3791.1	3743.6	3762.6	3793.5	3898.1	4109.6	4646.8	5383.6
25°	4791.8	4734.7	4404.3	4150.0	4083.5	4090.6	4064.5	4083.5	4218.9	4768.0	5604.7
27.5°	5302.8	5264.8	4913.0	4589.7	4485.2	4485.2	4392.5	4347.3	4371.1	4905.9	5851.9
30°	5759.2	5706.9	5409.8	5055.6	4917.7	4917.7	4741.9	4644.4	4587.4	5074.6	6182.2
32.5°	5999.2	5968.3	5771.0	5500.1	5331.3	5305.2	5153.1	5039.0	4905.9	5324.2	6629.1
35°	6313.0	6305.8	6187.0	5975.5	5761.5	5723.5	5618.9	5528.6	5298.0	5635.6	7223.3
37.5°	6707.5	6695.6	6676.6	6550.7	6294.0	6286.8	6194.1	6084.8	5785.3	6084.8	7943.5
40°	7149.6	7128.2	7104.5	7102.1	6947.6	6921.5	6914.3	6790.7	6372.4	6626.7	8694.6
42.5°	7758.1	7684.4	7461.0	7560.8	7674.9	7651.2	7741.5	7556.1	7104.5	7270.9	9405.3
45°	8506.8	8326.2	7884.1	7912.6	8200.2	8247.7	8561.5	8516.3	7910.2	8014.8	10154.0
47.5°	8956.1	8799.2	8388.0	8364.2	8723.1	8782.5	9464.7	9550.3	8777.8	8910.9	11078.6
50°	9324.5	9215.1	8877.6	8910.9	9291.2	9350.6	10360.8	10543.8	9595.4	9828.4	12152.9
52.5°	9768.9	9612.1	9350.6	9507.5	9973.4	10044.7	11356.7	11554.0	10332.3	10836.2	13265.3
55°	10018.5	9954.3	9959.1	10199.2	10783.9	10881.3	12400.1	12366.9	11007.3	11699.0	14102.0
57.5°	10593.7	10570.0	10788.6	10878.9	11729.9	11855.8	13443.6	13158.4	11620.5	12366.9	14503.7
60°	11608.6	11549.2	11739.4	11877.2	12899.3	13077.6	14608.3	13933.2	12036.5	12863.6	14368.2
62.5°	13034.8	12961.1	12968.2	13186.9	14465.6	14653.4	15903.7	14579.7	12164.8	12939.7	13510.1
65°	14807.9	14701.0	14579.7	14876.8	16545.4	16702.3	17313.1	15050.4	11858.2	12207.6	11718.0
67.5°	16678.5	16590.6	16448.0	17070.7	19238.4	19333.5	18893.8	15009.9	10886.1	10249.1	8219.2
70°	16787.9	16809.2	17484.3	19737.5	22753.8	22777.6	20388.8	14197.1	8815.8	6643.4	4095.4
72.5°	15661.2	15625.6	16505.0	20224.8	25582.3	25663.1	21094.7	11501.7	5447.8	3313.4	1920.5
75°	12721.0	12782.8	13707.4	17695.8	21926.6	21998.0	17196.7	6781.2	2588.4	1621.0	1228.8
77.5°	5476.3	5821.0	7644.0	12466.7	15704.0	15482.9	8863.4	2747.7	1381.0	1155.2	941.2
80°	1580.6	1716.1	2723.9	5927.9	9410.0	9243.7	3508.3	1029.2	962.6	867.6	675.0
82.5°	511.0	565.7	998.3	2360.2	4216.6	4211.8	1331.0	608.5	629.9	589.5	435.0
85°	142.6	164.0	306.6	715.4	1304.9	1278.8	385.1	287.6	335.1	339.9	216.3
87.5°	0.0	0.0	2.4	4.8	4.8	4.8	9.5	42.8	97.5	123.6	87.9
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: P641475  
 CATALOG NUMBER: GWS-SA5F-830-U-T4FT-W

**CANDELA DISTRIBUTION (continued):**

	90°	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°
0°	4687.2	4687.2	4687.2	4687.2	4687.2	4687.2	4687.2	4687.2	4687.2	4687.2	4687.2
2.5°	4715.7	4708.6	4806.0	4882.1	4953.4	5000.9	5015.2	5024.7	5043.7	5053.2	5043.7
5°	4749.0	4784.6	4946.3	5065.1	5160.2	5217.2	5219.6	5214.9	5229.1	5217.2	5210.1
7.5°	4820.3	4889.2	5093.6	5219.6	5281.4	5283.8	5226.7	5160.2	5126.9	5098.4	5088.9
10°	4915.4	5017.6	5241.0	5324.2	5305.2	5217.2	5091.3	4986.7	4927.3	4884.5	4875.0
12.5°	5046.1	5160.2	5371.7	5369.4	5250.5	5093.6	4946.3	4820.3	4734.7	4684.8	4668.2
15°	5169.7	5314.7	5466.8	5355.1	5167.3	4977.2	4787.0	4618.3	4504.2	4425.7	4411.5
17.5°	5321.8	5476.3	5535.7	5309.9	5062.7	4817.9	4563.6	4342.5	4188.0	4095.4	4088.2
20°	5497.7	5635.6	5569.0	5231.5	4927.3	4606.4	4261.7	4014.5	3848.2	3757.8	3765.0
22.5°	5702.1	5801.9	5578.5	5124.5	4739.5	4306.9	3921.8	3684.2	3572.4	3524.9	3527.3
25°	5920.8	5985.0	5561.9	4979.5	4451.9	3940.9	3572.4	3463.1	3453.6	3441.7	3446.5
27.5°	6179.9	6165.6	5512.0	4775.1	4064.5	3515.4	3327.6	3356.1	3394.2	3389.4	3394.2
30°	6526.9	6391.4	5447.8	4492.3	3603.3	3158.9	3182.6	3263.4	3313.4	3318.1	3332.4
32.5°	6923.8	6641.0	5345.6	4107.2	3163.6	2959.2	3047.2	3144.6	3204.0	3215.9	3234.9
35°	7396.8	6926.2	5164.9	3627.1	2847.5	2840.4	2921.2	2987.7	3051.9	3056.7	3056.7
37.5°	7941.1	7211.4	4877.3	3097.1	2652.6	2738.2	2814.2	2828.5	2845.1	2830.9	2838.0
40°	8440.3	7487.1	4468.5	2614.6	2493.3	2647.8	2712.0	2664.5	2612.2	2576.5	2583.7
42.5°	8858.6	7674.9	3926.6	2277.0	2331.7	2567.0	2616.9	2519.5	2417.3	2350.7	2360.2
45°	9329.2	7848.4	3289.6	2048.9	2193.9	2510.0	2543.3	2417.3	2286.6	2186.7	2172.5
47.5°	9978.1	8202.6	2723.9	1889.6	2096.4	2479.1	2533.7	2362.6	2191.5	2041.7	2025.1
50°	10779.1	8704.1	2250.9	1785.0	2051.2	2462.4	2531.4	2303.2	2098.8	1922.9	1911.0
52.5°	11653.8	9193.7	1901.5	1704.2	2006.1	2412.5	2519.5	2236.6	2001.3	1811.2	1796.9
55°	12236.1	9386.3	1666.2	1628.2	1932.4	2334.1	2471.9	2172.5	1854.0	1680.4	1659.1
57.5°	12407.3	9139.1	1502.2	1559.2	1837.3	2224.8	2381.6	2037.0	1763.6	1625.8	1609.1
60°	12112.5	8516.3	1400.0	1502.2	1732.7	2084.5	2224.8	1958.5	1692.3	1568.7	1556.9
62.5°	11280.6	7556.1	1321.5	1442.8	1625.8	1937.2	2124.9	1863.5	1613.9	1516.4	1499.8
65°	9607.3	6196.5	1257.4	1381.0	1523.6	1796.9	2015.6	1768.4	1528.3	1454.6	1435.6
67.5°	6719.4	4352.1	1188.4	1307.3	1421.4	1661.4	1901.5	1680.4	1440.4	1385.7	1366.7
70°	3284.8	2307.9	1105.2	1221.7	1312.0	1523.6	1787.4	1573.5	1323.9	1293.0	1266.9
72.5°	1564.0	1290.6	1007.8	1105.2	1162.3	1340.6	1597.3	1419.0	1186.1	1119.5	1074.3
75°	1048.2	917.5	879.4	967.4	981.6	1124.3	1369.1	1224.1	1045.8	969.8	931.7
77.5°	793.9	701.2	739.2	817.6	789.1	924.6	1126.6	1091.0	943.6	874.7	855.7
80°	558.6	511.0	587.1	634.6	613.2	786.7	1014.9	934.1	777.2	701.2	686.9
82.5°	351.8	342.3	432.6	439.7	446.9	622.7	834.3	734.5	603.7	496.8	461.1
85°	175.9	194.9	259.1	259.1	256.7	320.9	475.4	413.6	325.6	259.1	251.9
87.5°	59.4	83.2	111.7	90.3	68.9	54.7	61.8	76.1	80.8	78.4	78.4
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

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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)