

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: P640974

Luminaire Tested: GWS-SA5E-830-U-T3-W

Issue Date: 1/10/2023

**Test Information**

Test Method: LM-79-2019  
Report Number: P640974  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2209-782-23)  
Test Lab: COOPER LIGHTING SOLUTIONS  
Issue Date: 1/10/2023  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: McGRAW-EDISON  
Catalog Number: GWS-SA5E-830-U-T3-W  
Description: GALLEON WALL SLIM LUMINAIRE. (5) LIGHTSQUARES WITH 16 LEDS EACH AND TYPE III OPTICS  
Light Source: (80) 3000K CCT, 80 CRI LEDS  
Ballast/Driver: -

**Summary**

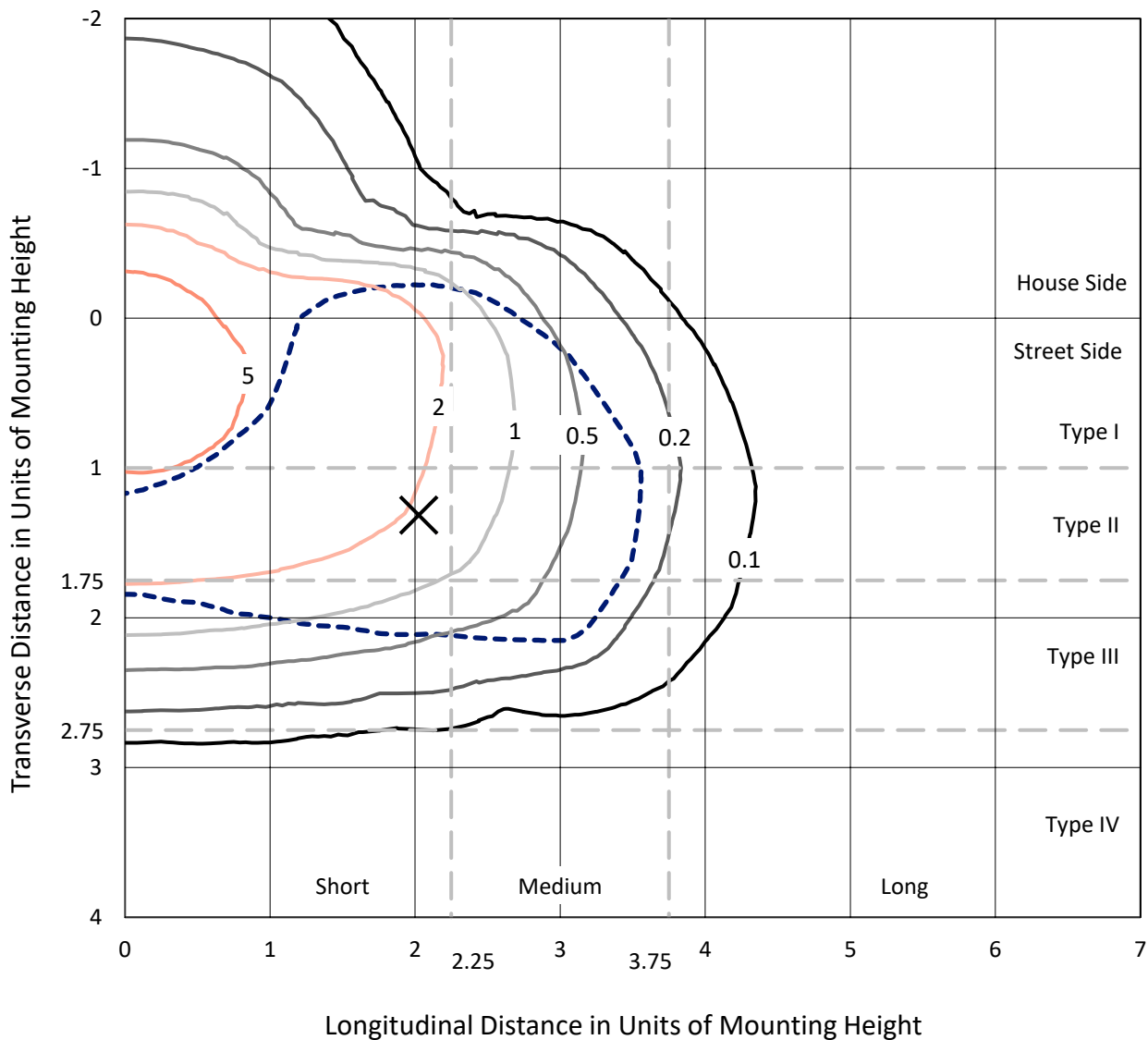
Lumens per Lamp: N/A  
Luminaire Lumens: 29842.1 lumens  
Efficiency: N/A  
Efficacy: 110.7 lumens/watt  
Luminous Opening: Rectangular (W 1.5' x L: 1' x H: 0')  
IES Classification: Type III - Short  
BUG Rating: B3 - U0 - G4  
  
Input Watts (W): 269.6  
Input Voltage (V): 120  
Input Current (Ain): 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



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 CATALOG NUMBER: GWS-SA5E-830-U-T3-W

### Iso-Footcandle Lines of Horizontal Illumination

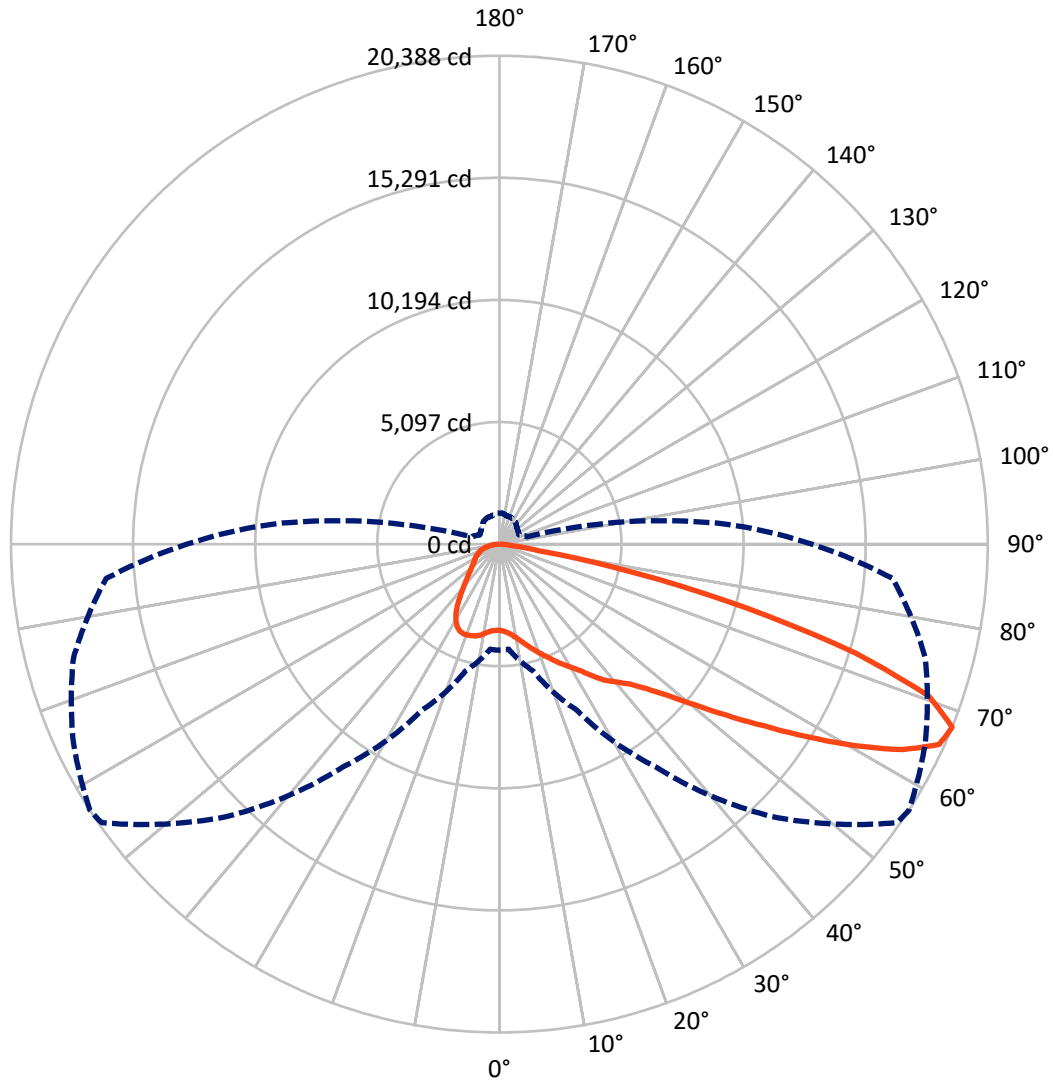
✕ Max cd  
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 6.7 fc  
 Type III - Short - N/A

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### Luminous Intensity Polar Plot



— Vertical Plane Through 57-Deg Lateral    - - - Horizontal Cone Through 67.5-Deg Vertical

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**FLUX DISTRIBUTION:**

		Downward	Upward	Total
<b>House Side</b>	Lumens	6561.1	0.0	6561.1
	% Fixture	22.0	0.0	22.0
<b>Street Side</b>	Lumens	23280.9	0.0	23280.9
	% Fixture	78.0	0.0	78.0
<b>Total</b>	Lumens	29842.1	0.0	29842.1
	% Fixture	100.0	0.0	100.0

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	356.6	1.2
10°-20°	1180.6	4.0
20°-30°	2104.8	7.1
30°-40°	3060.1	10.3
40°-50°	4429.0	14.8
50°-60°	6931.3	23.2
60°-70°	8085.8	27.1
70°-80°	3375.3	11.3
80°-90°	318.5	1.1
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°	29842.1	100.0
0°-180°	29842.1	100.0

**Coefficient of Utilization**



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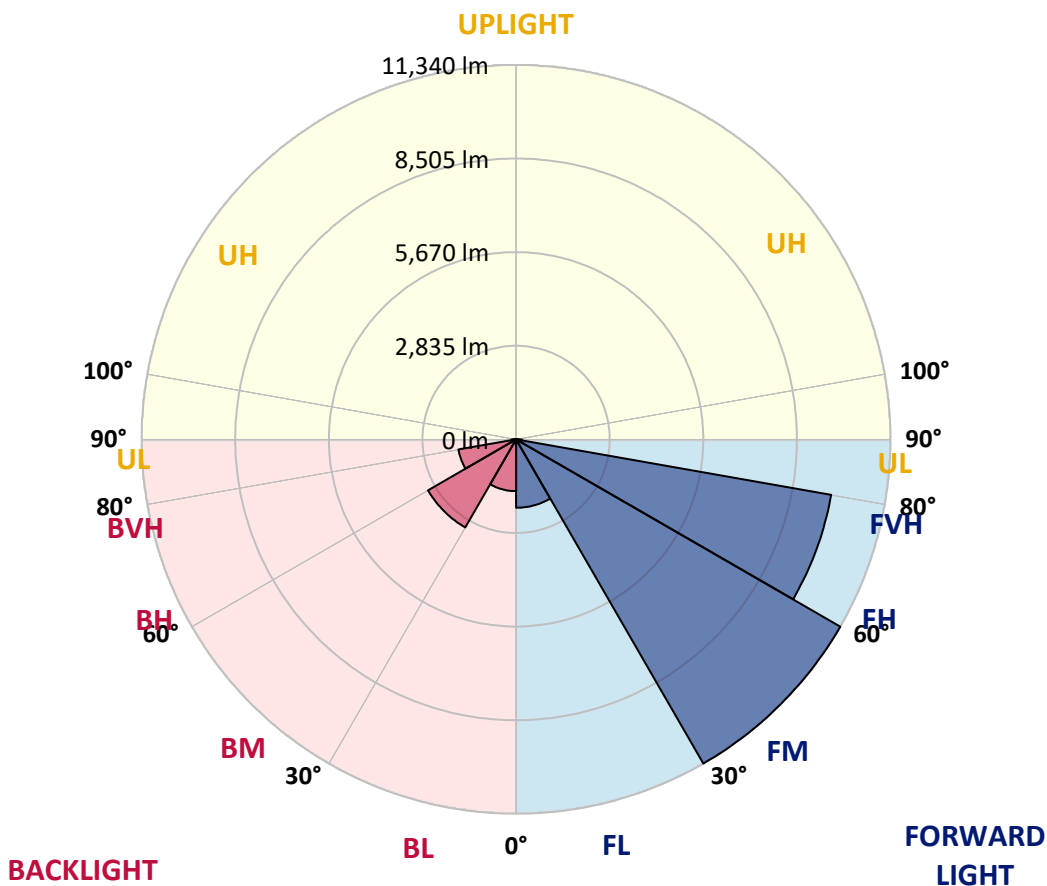
CATALOG NUMBER: GWS-SA5E-830-U-T3-W

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

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	2072.8	6.9			
FM (30°-60°)	11340.4	38.0			
FH (60°-80°)	9690.2	32.5			G4/12000
FVH (80°-90°)	177.5	0.6			G2/225
BL (0°-30°)	1569.2	5.3	B3/2500		
BM (30°-60°)	3080.0	10.3	B3/5000		
BH (60°-80°)	1770.9	5.9	B3/2500		G3/2500
BVH (80°-90°)	141.1	0.5			G2/225
UL (90°-100°)	0.0	0.0		U0/0	
UH (100°-180°)	0.0	0.0		U0/0	

**BUG Rating: B3-U0-G4**

Type III Short





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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	15°	25°	35°	45°	55°	57°	65°	75°	85°
0°	3595.8	3595.8	3595.8	3595.8	3595.8	3595.8	3595.8	3595.8	3595.8	3595.8	3595.8
2.5°	3647.1	3642.8	3640.7	3653.5	3649.2	3647.1	3647.1	3644.9	3640.7	3623.6	3600.0
5°	3747.6	3739.0	3730.5	3741.1	3732.6	3724.0	3721.9	3717.6	3702.7	3677.0	3640.7
7.5°	3852.3	3843.8	3845.9	3852.3	3845.9	3841.6	3835.2	3830.9	3807.4	3766.8	3717.6
10°	3999.8	3999.8	4004.1	4010.5	4012.6	4006.2	3993.4	3987.0	3959.2	3907.9	3839.5
12.5°	4213.6	4209.3	4209.3	4205.0	4211.5	4205.0	4192.2	4181.5	4147.3	4081.0	3982.7
15°	4495.8	4478.7	4463.7	4435.9	4427.4	4403.9	4408.1	4401.7	4369.7	4279.9	4155.9
17.5°	4797.2	4795.1	4771.6	4716.0	4660.4	4621.9	4630.5	4628.3	4611.2	4489.4	4331.2
20°	5062.3	5073.0	5051.6	5008.9	4934.0	4861.3	4857.1	4867.8	4846.4	4724.5	4504.3
22.5°	5359.5	5350.9	5329.5	5273.9	5218.4	5141.4	5115.7	5107.2	5098.6	4959.7	4681.8
25°	5641.6	5667.3	5639.5	5588.2	5502.7	5419.3	5397.9	5406.5	5383.0	5199.1	4872.0
27.5°	5998.7	6009.3	5992.2	5921.7	5849.0	5731.4	5690.8	5690.8	5682.3	5423.6	5021.7
30°	6379.2	6409.1	6379.2	6321.5	6246.6	6077.7	5990.1	5981.5	5955.9	5654.5	5197.0
32.5°	6761.8	6783.2	6761.8	6706.3	6620.7	6473.2	6347.1	6327.9	6293.7	5906.7	5376.6
35°	7101.8	7121.0	7116.7	7129.5	7059.0	6873.0	6796.0	6787.5	6697.7	6235.9	5620.3
37.5°	7473.7	7497.2	7465.2	7490.8	7463.0	7287.7	7264.2	7221.5	7093.2	6545.9	5876.8
40°	7897.0	7918.4	7867.1	7877.8	7845.7	7747.4	7627.6	7569.9	7379.7	6881.6	6280.8
42.5°	8350.2	8399.4	8422.9	8403.7	8328.8	8273.3	8063.8	7991.1	7832.9	7486.6	6945.7
45°	9006.5	9079.2	9113.4	9064.2	9032.2	8953.1	8696.5	8608.9	8525.5	8339.5	7873.5
47.5°	9714.1	9780.4	9889.4	9910.8	9936.5	9876.6	9515.3	9429.8	9444.8	9423.4	9015.1
50°	10278.5	10334.1	10579.9	10842.9	11060.9	11078.0	10616.3	10524.4	10605.6	10674.0	10389.7
52.5°	10689.0	10738.1	11063.1	11606.1	12099.9	12465.5	11967.4	11862.6	11928.9	12082.8	11952.4
55°	11022.5	11090.9	11430.8	12264.5	13262.9	13840.1	13521.5	13389.0	13361.2	13551.5	13626.3
57.5°	11197.8	11219.1	11695.9	12779.7	14115.9	15189.0	15328.0	15178.3	14913.3	15018.0	15407.1
60°	10798.0	10834.3	11486.4	12912.3	14789.3	16527.3	17224.2	17100.2	16535.8	16593.6	17023.3
62.5°	9692.8	9744.1	10528.6	12281.6	14844.8	17420.9	18975.1	18896.0	18139.2	17827.1	17955.3
65°	7775.2	7792.3	8604.6	10721.0	13739.6	17532.1	20195.7	20176.5	19259.4	18528.3	17978.8
67.5°	4433.8	4403.9	5489.9	7646.9	11338.9	16086.9	20274.8	20388.1	19622.8	18412.8	16482.4
70°	1921.9	1926.2	2426.4	3773.2	7339.0	13002.1	18831.8	19026.4	18571.0	16490.9	13113.2
72.5°	889.3	902.1	1118.1	1633.3	3134.0	8065.9	15355.8	15531.1	15139.9	13198.7	9541.0
75°	628.5	639.2	746.1	936.4	1440.9	3142.6	10272.1	10639.8	10830.1	9872.3	6287.3
77.5°	476.7	491.7	545.1	649.9	889.3	1113.8	4914.8	5791.3	6898.7	6141.9	3238.8
80°	303.6	303.6	361.3	434.0	543.0	579.3	1419.5	1682.4	3375.6	2531.1	1272.0
82.5°	205.2	211.6	245.8	275.8	312.1	329.2	609.3	649.9	974.8	861.5	523.8
85°	109.0	113.3	128.3	126.1	149.6	130.4	256.5	254.4	357.0	391.2	198.8
87.5°	0.0	0.0	2.1	2.1	4.3	6.4	27.8	29.9	74.8	119.7	66.3
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-SA5E-830-U-T3-W

**CANDELA DISTRIBUTION (continued):**

	90°	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°
0°	3595.8	3595.8	3595.8	3595.8	3595.8	3595.8	3595.8	3595.8	3595.8	3595.8	3595.8
2.5°	3612.9	3587.2	3600.0	3595.8	3608.6	3608.6	3585.1	3578.7	3580.8	3555.2	3546.6
5°	3644.9	3615.0	3621.4	3612.9	3625.7	3636.4	3625.7	3625.7	3638.5	3619.3	3608.6
7.5°	3717.6	3683.4	3683.4	3672.7	3687.7	3696.2	3687.7	3700.5	3724.0	3704.8	3694.1
10°	3833.1	3792.4	3794.6	3781.8	3788.2	3783.9	3749.7	3739.0	3745.4	3728.3	3719.8
12.5°	3982.7	3927.1	3927.1	3901.5	3886.5	3841.6	3771.1	3745.4	3749.7	3734.7	3728.3
15°	4125.9	4074.6	4063.9	4012.6	3944.2	3860.9	3796.7	3779.6	3783.9	3768.9	3758.2
17.5°	4294.8	4228.6	4190.1	4096.0	3969.9	3884.4	3820.2	3779.6	3745.4	3711.2	3702.7
20°	4450.9	4367.5	4297.0	4151.6	3997.7	3880.1	3760.4	3659.9	3576.5	3531.6	3520.9
22.5°	4611.2	4504.3	4380.3	4190.1	3995.5	3803.1	3582.9	3431.2	3307.2	3240.9	3253.7
25°	4763.0	4628.3	4459.4	4226.4	3927.1	3632.1	3332.8	3106.2	2965.1	2913.8	2898.8
27.5°	4889.1	4722.4	4532.1	4209.3	3786.0	3386.3	2990.8	2738.5	2601.7	2544.0	2529.0
30°	5030.2	4842.1	4636.9	4130.2	3563.7	3042.1	2603.8	2398.6	2300.3	2244.7	2246.8
32.5°	5192.7	4996.0	4784.4	3978.4	3279.4	2670.1	2285.3	2144.2	2065.1	2009.5	2001.0
35°	5410.8	5216.2	4882.7	3749.7	2918.1	2328.1	2067.2	1951.8	1853.5	1780.8	1765.8
37.5°	5680.1	5547.6	4893.4	3444.0	2531.1	2092.9	1911.2	1787.2	1667.5	1571.3	1560.6
40°	6141.9	5990.1	4805.8	3061.3	2201.9	1941.1	1780.8	1637.6	1498.6	1391.7	1376.7
42.5°	6800.3	6488.2	4617.6	2629.5	1953.9	1821.4	1656.8	1475.1	1334.0	1259.2	1248.5
45°	7638.3	7044.0	4335.4	2223.3	1770.1	1703.8	1526.4	1336.1	1261.3	1207.9	1197.2
47.5°	8664.5	7691.8	4010.5	1906.9	1626.9	1596.9	1393.8	1289.1	1222.8	1177.9	1167.2
50°	9891.6	8517.0	3743.3	1658.9	1498.6	1472.9	1351.1	1261.3	1207.9	1171.5	1163.0
52.5°	11291.8	9434.1	3612.9	1481.5	1387.4	1361.8	1336.1	1254.9	1210.0	1182.2	1171.5
55°	12745.5	10400.4	3491.0	1344.7	1293.4	1308.3	1338.3	1276.3	1242.1	1205.7	1195.0
57.5°	14150.1	11306.8	3191.7	1237.8	1225.0	1282.7	1348.9	1297.6	1257.0	1220.7	1207.9
60°	15118.5	11802.8	2685.1	1152.3	1173.6	1250.6	1321.2	1265.6	1214.3	1199.3	1192.9
62.5°	15379.3	11742.9	2084.3	1064.6	1111.7	1180.1	1248.5	1212.1	1158.7	1182.2	1184.3
65°	14770.0	11101.6	1564.9	979.1	1030.4	1088.1	1173.6	1158.7	1139.4	1203.6	1205.7
67.5°	13044.8	9526.0	1192.9	904.3	947.0	1017.6	1150.1	1212.1	1216.4	1297.6	1289.1
70°	9870.2	7116.7	934.2	833.7	882.9	1017.6	1225.0	1252.7	1201.4	1276.3	1259.2
72.5°	6823.8	4696.7	795.3	771.7	803.8	970.6	1222.8	1222.8	1167.2	1167.2	1135.2
75°	4239.2	2762.0	692.6	692.6	692.6	848.7	1188.6	1126.6	1028.3	983.4	957.7
77.5°	2092.9	1342.5	581.5	602.9	579.3	709.7	970.6	921.4	861.5	814.5	797.4
80°	893.6	671.3	470.3	493.8	466.0	534.4	769.6	758.9	701.2	639.2	620.0
82.5°	410.5	346.3	376.3	386.9	339.9	401.9	562.2	562.2	530.2	444.7	412.6
85°	175.3	183.9	260.8	260.8	213.8	226.6	301.4	286.5	256.5	209.5	192.4
87.5°	59.9	89.8	132.5	115.4	44.9	19.2	10.7	4.3	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

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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**

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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**Melanopic Flux vs. Wavelength**



**Melanopic Lumens: NR**

**M/P: 2.32**

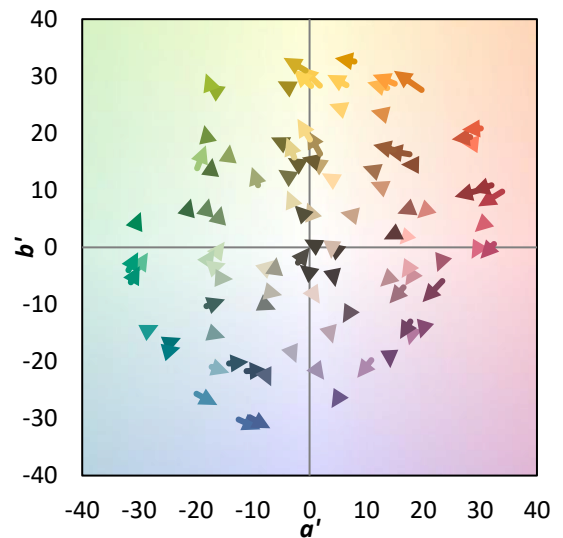
$\lambda$ (nm)	Power W <sup>^</sup> /nm	Lumens ( $\phi$ /nm)	$\lambda$ (nm)	Power W <sup>^</sup> /nm	Lumens ( $\phi$ /nm)	$\lambda$ (nm)	Power W <sup>^</sup> /nm	Lumens ( $\phi$ /nm)	$\lambda$ (nm)	Power W <sup>^</sup> /nm	Lumens ( $\phi$ /nm)	$\lambda$ (nm)	Power W <sup>^</sup> /nm	Lumens ( $\phi$ /nm)
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			

**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)