

Signify Classified - Internal  
Cooper Lighting Solutions Photometric Lab  
1121 Highway 74 South  
Peachtree City, GA 30269



Scaled data based on original data using  
LM-79-08 Approved Method: Electrical and Photometric Measurements of Solid-  
State Lighting Products

Test Report Prepared for  
Cooper Lighting Solutions  
(formerly Eaton)

Brand: McGRAW-EDISON

Report Number: P438279

Luminaire Tested: **ISW-SA1B-830-U-SL4**

Issue Date: 12/10/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P438279  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2011-074-18)  
Test Lab: INNOVATION CENTER  
Issue Date: 12/10/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: McGRAW-EDISON  
Catalog Number: ISW-SA1B-830-U-SL4  
Description: IMPACT ELITE LED WEDGE LUMINAIRE  
(1) 80 CRI, 3000K, 450mA LIGHTSQUARE WITH 16 LEDS AND TYPE IV SPILL LIGHT  
ELIMINATOR OPTICS  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

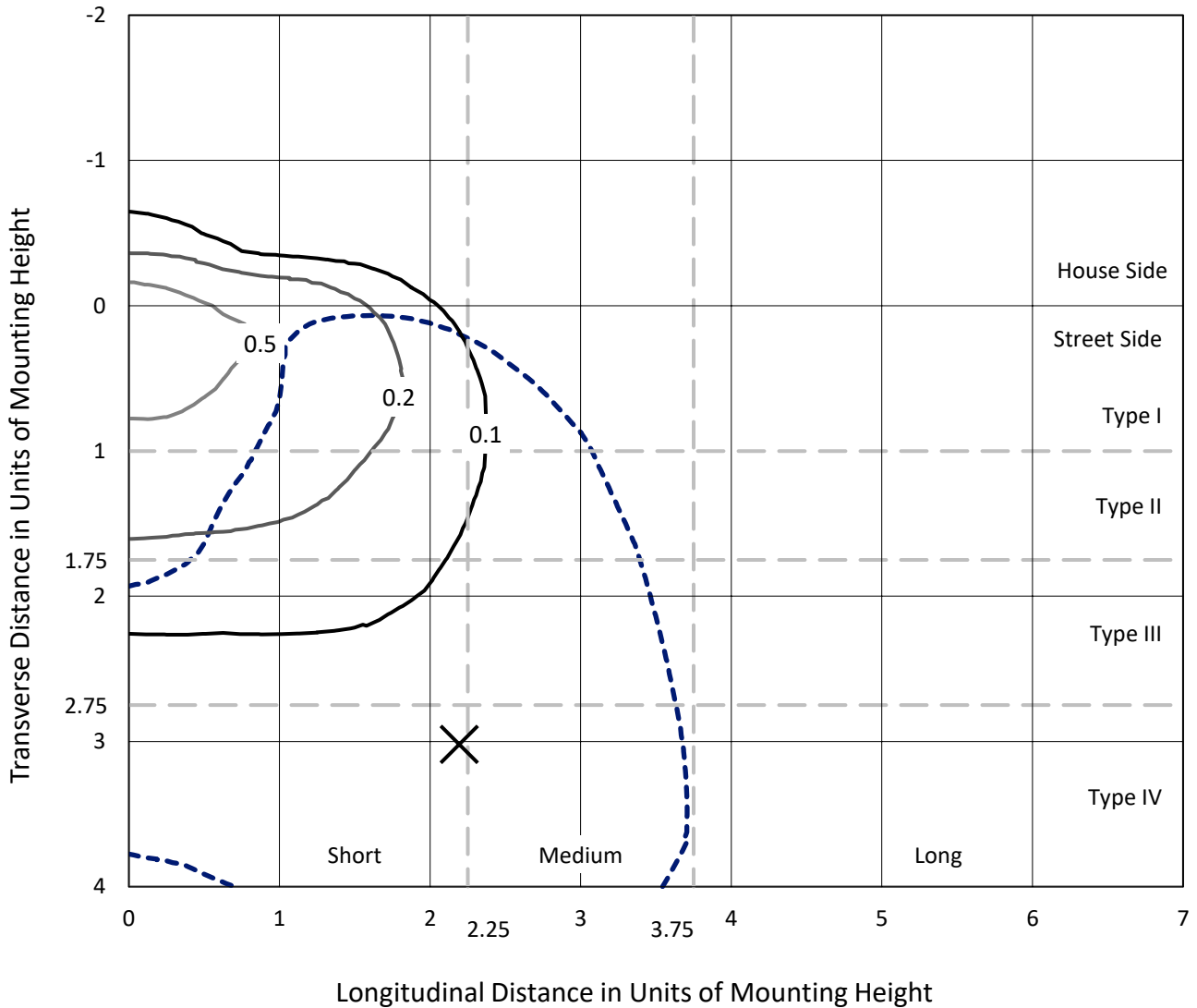
Lumens per Lamp: N/A  
Luminaire Lumens: 2656 lumens  
Efficiency: N/A  
Efficacy: 104.6 lumens/watt  
Luminous Opening: Rectangular (W 0.5' x L: 0.5' x H: 0')  
IES Classification: Type IV - Short  
BUG Rating: B1 - U0 - G1  
  
Input Watts (W): 25.4  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 28.75 FT



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### Iso-Footcandle Lines of Horizontal Illumination

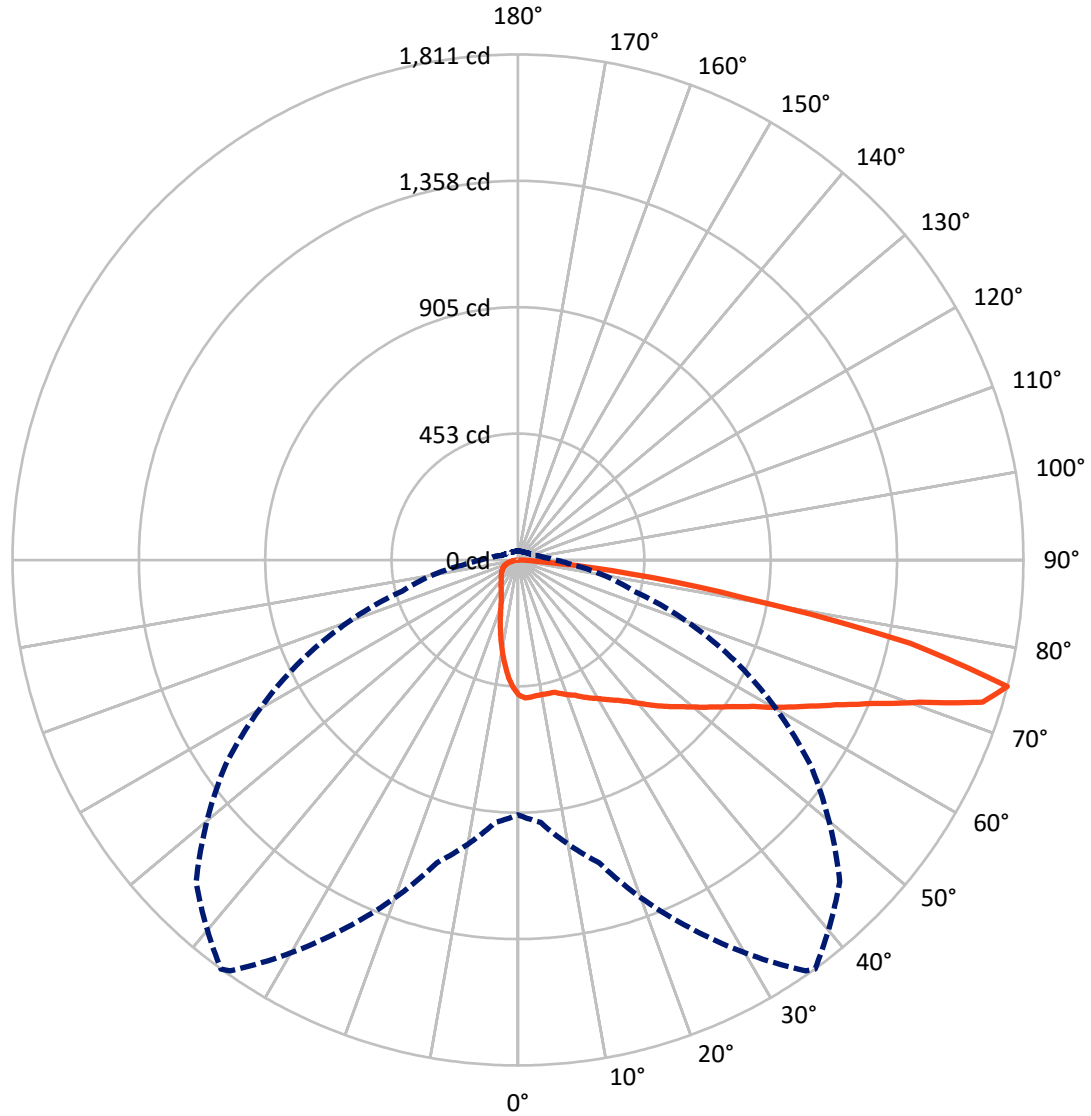
× Max cd  
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 0.8 fc  
 Type IV - Short - N/A

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### Luminous Intensity Polar Plot



— Vertical Plane Through 36-Deg Lateral      - - - Horizontal Cone Through 75-Deg Vertical

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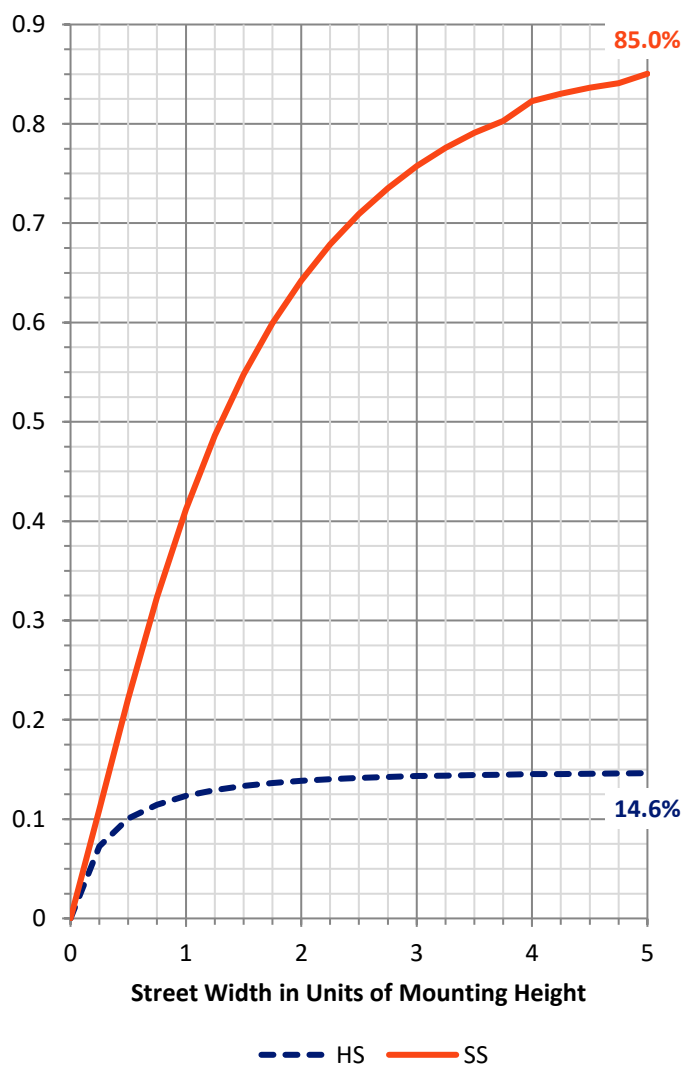
**FLUX DISTRIBUTION:**

		Downward	Upward	Total
<b>House Side</b>	Lumens	392.0	0.0	392.0
	% Fixture	14.8	0.0	14.8
<b>Street Side</b>	Lumens	2264.0	0.0	2264.0
	% Fixture	85.2	0.0	85.2
<b>Total</b>	Lumens	2656.0	0.0	2656.0
	% Fixture	100.0	0.0	100.0

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	42.7	1.6
10°-20°	110.5	4.2
20°-30°	170.9	6.4
30°-40°	247.5	9.3
40°-50°	358.0	13.5
50°-60°	496.6	18.7
60°-70°	627.0	23.6
70°-80°	538.6	20.3
80°-90°	64.2	2.4
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°	2656.0	100.0
0°-180°	2656.0	100.0

**Coefficient of Utilization**



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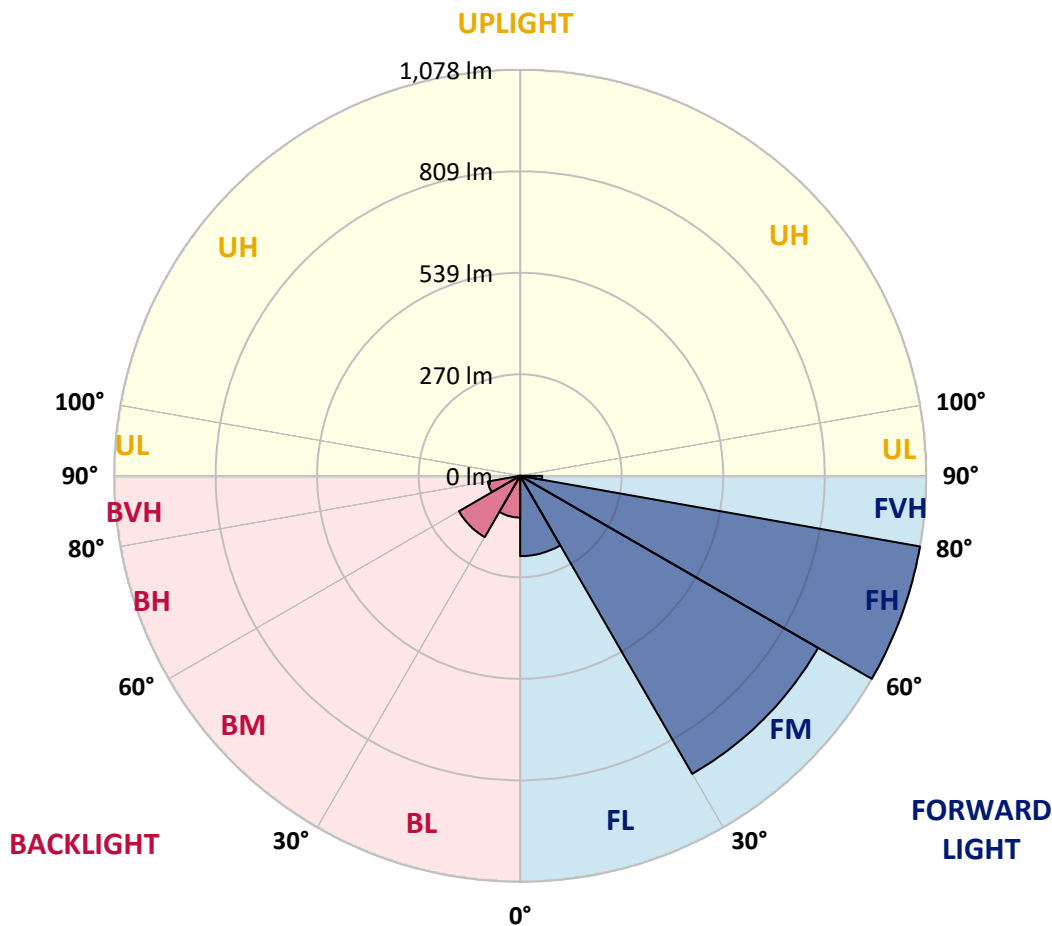
CATALOG NUMBER: ISW-SA1B-830-U-SL4

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

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	213.3	8.0			
FM (30°-60°)	914.2	34.4			
FH (60°-80°)	1078.3	40.6			G1/1800
FVH (80°-90°)	58.2	2.2			G1/100
BL (0°-30°)	110.9	4.2	B1/500		
BM (30°-60°)	187.9	7.1	B0/220		
BH (60°-80°)	87.2	3.3	B0/110		G0/110
BVH (80°-90°)	5.9	0.2			G0/10
UL (90°-100°)	0.0	0.0		U0/0	
UH (100°-180°)	0.0	0.0		U0/0	

**BUG Rating: B1-U0-G1**

Type IV Short





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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	15°	25°	35°	36°	45°	55°	65°	75°	85°
0°	484.6	484.6	484.6	484.6	484.6	484.6	484.6	484.6	484.6	484.6	484.6
2.5°	498.4	498.4	498.4	497.5	495.5	494.5	492.5	490.5	489.5	485.6	484.6
5°	498.4	499.4	498.4	497.5	495.5	493.5	491.5	487.5	484.6	479.6	474.7
7.5°	493.5	494.5	494.5	493.5	491.5	490.5	488.5	483.6	479.6	472.7	464.8
10°	485.6	487.5	487.5	488.5	489.5	489.5	487.5	483.6	477.6	469.7	456.8
12.5°	475.7	480.6	483.6	486.6	490.5	490.5	491.5	485.6	480.6	469.7	456.8
15°	472.7	475.7	481.6	490.5	494.5	491.5	495.5	492.5	486.6	475.7	459.8
17.5°	471.7	474.7	484.6	495.5	501.4	503.4	503.4	499.4	492.5	481.6	461.8
20°	475.7	479.6	492.5	506.4	515.3	515.3	514.3	509.3	500.4	487.5	465.7
22.5°	488.5	489.5	504.4	521.2	528.2	526.2	528.2	519.3	509.3	496.5	470.7
25°	505.4	507.4	519.3	539.1	543.0	544.0	541.1	531.1	520.2	507.4	476.6
27.5°	528.2	531.1	540.1	558.9	561.9	559.9	555.9	544.0	533.1	521.2	488.5
30°	554.9	556.9	567.8	575.7	578.7	576.7	573.8	560.9	552.0	541.1	506.4
32.5°	580.7	581.7	593.6	601.5	596.6	596.6	592.6	579.7	572.8	570.8	529.2
35°	607.5	609.4	620.3	624.3	616.4	617.4	616.4	605.5	607.5	611.4	563.8
37.5°	632.2	635.2	648.1	649.1	646.1	643.1	646.1	640.2	644.1	660.0	604.5
40°	654.0	658.0	673.8	676.8	675.8	675.8	677.8	676.8	691.7	717.4	654.0
42.5°	671.9	676.8	695.6	703.6	709.5	712.5	719.4	721.4	743.2	784.8	711.5
45°	689.7	694.7	720.4	733.3	747.2	748.2	762.0	769.0	809.6	847.3	773.9
47.5°	710.5	716.5	740.2	766.0	781.9	784.8	810.6	824.5	874.0	922.6	832.4
50°	739.2	741.2	760.1	803.7	823.5	828.4	857.2	885.9	940.4	989.0	883.9
52.5°	774.9	772.9	781.9	837.4	868.1	875.0	921.6	950.3	1015.7	1060.3	924.6
55°	804.7	802.7	815.6	876.0	924.6	926.5	982.0	1009.8	1085.1	1112.8	959.2
57.5°	839.3	835.4	848.3	922.6	989.0	990.0	1054.4	1086.1	1147.5	1159.4	982.0
60°	868.1	868.1	884.9	968.2	1060.3	1071.2	1129.7	1154.5	1208.0	1193.1	992.9
62.5°	894.8	899.8	923.6	1028.6	1144.5	1153.5	1212.9	1222.8	1270.4	1218.9	981.0
65°	926.5	934.5	980.0	1100.9	1244.6	1250.6	1300.1	1314.0	1332.8	1217.9	929.5
67.5°	960.2	973.1	1033.6	1182.2	1354.6	1370.5	1424.0	1410.1	1374.4	1179.2	821.5
70°	1005.8	1021.7	1107.9	1290.2	1505.3	1525.1	1595.4	1510.2	1352.6	1041.5	665.9
72.5°	1040.5	1061.3	1179.2	1429.9	1709.4	1740.1	1723.3	1512.2	1212.9	830.4	445.9
75°	912.7	944.4	1122.7	1452.7	1796.6	1810.5	1630.1	1278.3	859.2	429.1	192.2
77.5°	666.9	664.9	820.5	1128.7	1472.5	1435.9	1236.7	831.4	408.3	155.6	97.1
80°	334.9	322.1	443.9	601.5	794.7	819.5	731.3	432.1	161.5	83.2	58.5
82.5°	123.9	126.8	162.5	245.8	399.4	405.3	295.3	183.3	88.2	43.6	30.7
85°	47.6	49.5	53.5	53.5	74.3	82.2	76.3	73.3	29.7	14.9	16.8
87.5°	0.0	0.0	0.0	0.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
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: ISW-SA1B-830-U-SL4

**CANDELA DISTRIBUTION (continued):**

	90°	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°
0°	484.6	484.6	484.6	484.6	484.6	484.6	484.6	484.6	484.6	484.6	484.6
2.5°	481.6	479.6	475.7	468.7	464.8	461.8	457.8	453.9	452.9	451.9	456.8
5°	469.7	466.7	456.8	447.9	438.0	430.1	422.1	415.2	411.2	410.3	412.2
7.5°	457.8	453.9	439.0	421.2	404.3	390.4	376.6	369.6	358.7	358.7	359.7
10°	450.9	443.9	423.1	396.4	374.6	349.8	333.0	316.1	309.2	304.2	302.2
12.5°	446.9	436.0	408.3	378.5	344.9	312.1	289.4	268.5	257.6	249.7	249.7
15°	447.9	436.0	398.4	359.7	316.1	276.5	247.7	224.9	211.1	203.1	201.2
17.5°	446.9	432.1	386.5	335.9	287.4	245.8	211.1	187.3	173.4	168.5	167.5
20°	448.9	429.1	372.6	314.1	259.6	215.0	179.4	157.6	149.6	145.7	144.7
22.5°	449.9	423.1	358.7	290.3	229.9	186.3	156.6	141.7	135.8	132.8	131.8
25°	451.9	422.1	342.9	268.5	205.1	164.5	141.7	128.8	125.9	123.9	123.9
27.5°	459.8	422.1	329.0	240.8	179.4	146.7	128.8	120.9	118.9	117.9	117.9
30°	469.7	424.1	316.1	218.0	159.5	132.8	119.9	114.0	113.0	112.0	112.0
32.5°	486.6	431.1	301.2	196.2	142.7	122.9	113.0	108.0	106.0	106.0	106.0
35°	509.3	443.0	286.4	176.4	128.8	113.0	106.0	101.1	100.1	101.1	101.1
37.5°	542.0	456.8	273.5	158.6	117.9	105.0	99.1	96.1	95.1	95.1	96.1
40°	582.7	481.6	260.6	144.7	110.0	98.1	94.1	91.2	90.2	91.2	91.2
42.5°	627.3	508.4	249.7	130.8	102.1	93.1	88.2	86.2	85.2	86.2	87.2
45°	676.8	536.1	240.8	120.9	96.1	88.2	84.2	83.2	82.2	82.2	83.2
47.5°	718.4	565.8	233.9	114.0	91.2	84.2	81.3	79.3	78.3	77.3	78.3
50°	757.1	588.6	231.9	110.0	88.2	80.3	77.3	75.3	74.3	73.3	74.3
52.5°	785.8	600.5	231.9	107.0	85.2	77.3	74.3	72.3	71.3	69.4	70.4
55°	805.6	606.5	228.9	105.0	82.2	74.3	70.4	69.4	68.4	66.4	66.4
57.5°	817.5	605.5	218.0	104.0	81.3	70.4	67.4	66.4	65.4	63.4	63.4
60°	815.6	586.6	198.2	100.1	79.3	67.4	63.4	63.4	63.4	61.4	61.4
62.5°	786.8	534.1	165.5	94.1	77.3	64.4	59.5	61.4	62.4	60.4	60.4
65°	709.5	453.9	136.8	86.2	72.3	61.4	56.5	59.5	61.4	60.4	59.5
67.5°	597.5	359.7	113.0	78.3	67.4	57.5	52.5	56.5	57.5	57.5	57.5
70°	461.8	258.6	93.1	68.4	60.4	51.5	47.6	49.5	50.5	50.5	51.5
72.5°	273.5	154.6	76.3	58.5	51.5	44.6	41.6	42.6	41.6	41.6	41.6
75°	134.8	96.1	61.4	49.5	43.6	37.7	34.7	32.7	32.7	32.7	31.7
77.5°	82.2	71.3	50.5	39.6	34.7	28.7	26.8	24.8	24.8	24.8	24.8
80°	58.5	55.5	38.6	29.7	23.8	20.8	19.8	18.8	18.8	17.8	17.8
82.5°	36.7	41.6	28.7	19.8	15.9	14.9	13.9	12.9	11.9	10.9	10.9
85°	20.8	26.8	16.8	10.9	8.9	6.9	5.9	5.9	5.0	5.0	4.0
87.5°	1.0	2.0	2.0	2.0	2.0	1.0	1.0	1.0	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



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**

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)