

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: P438104

Luminaire Tested: **ISW-SA1A-830-U-SL2**

Issue Date: 12/10/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P438104  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2011-074-14)  
Test Lab: INNOVATION CENTER  
Issue Date: 12/10/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: McGRAW-EDISON  
Catalog Number: ISW-SA1A-830-U-SL2  
Description: IMPACT ELITE LED WEDGE LUMINAIRE  
(1) 80 CRI, 3000K, 350mA LIGHTSQUARE WITH 16 LEDS AND TYPE II SPILL LIGHT  
ELIMINATOR OPTICS  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

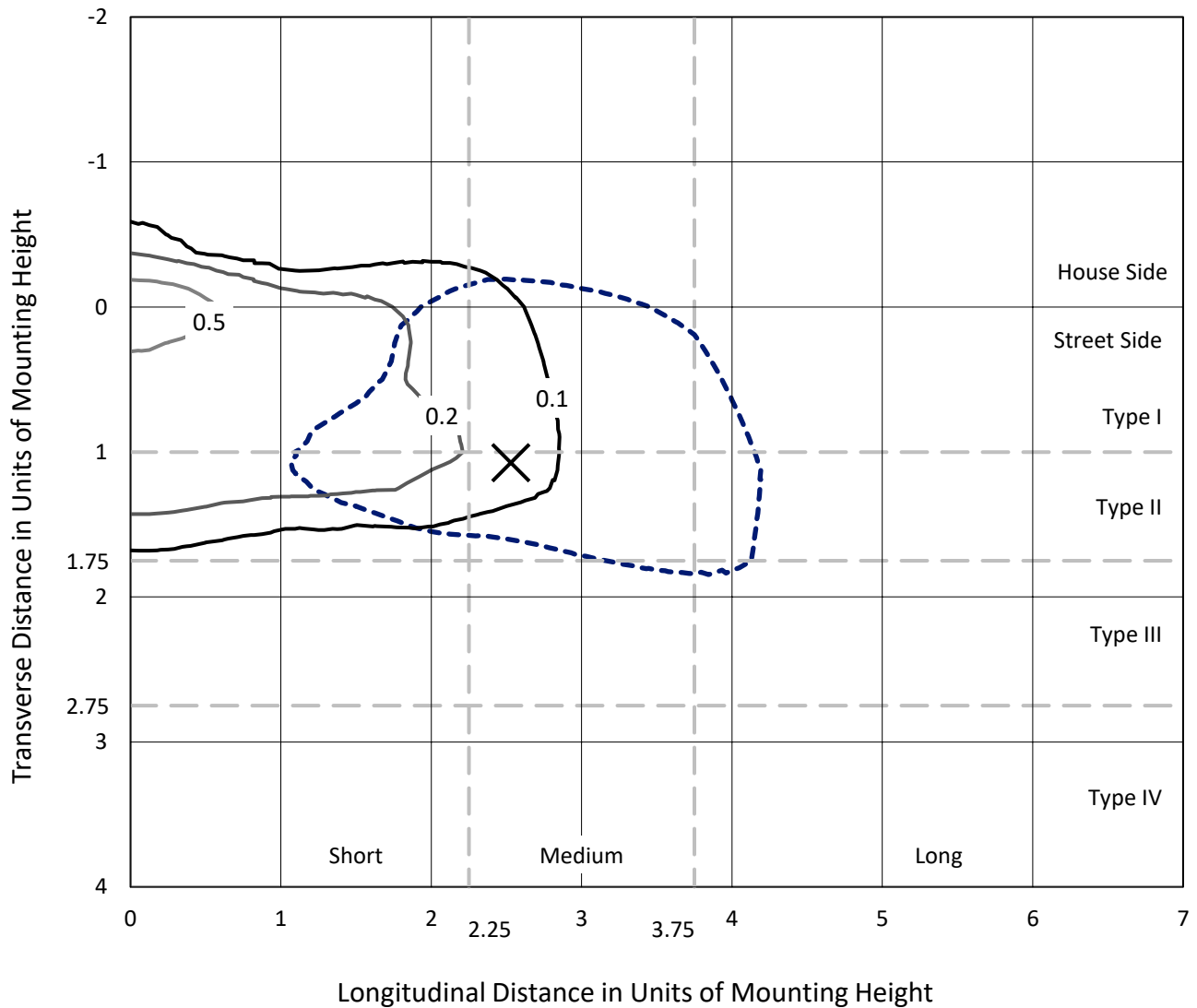
Lumens per Lamp: N/A  
Luminaire Lumens: 2169 lumens  
Efficiency: N/A  
Efficacy: 107.9 lumens/watt  
Luminous Opening: Rectangular (W 0.5' x L: 0.5' x H: 0')  
IES Classification: Type III - Medium  
BUG Rating: B1 - U0 - G1  
  
Input Watts (W): 20.1  
Input Voltage (V): NR  
Input Current (Ain): 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

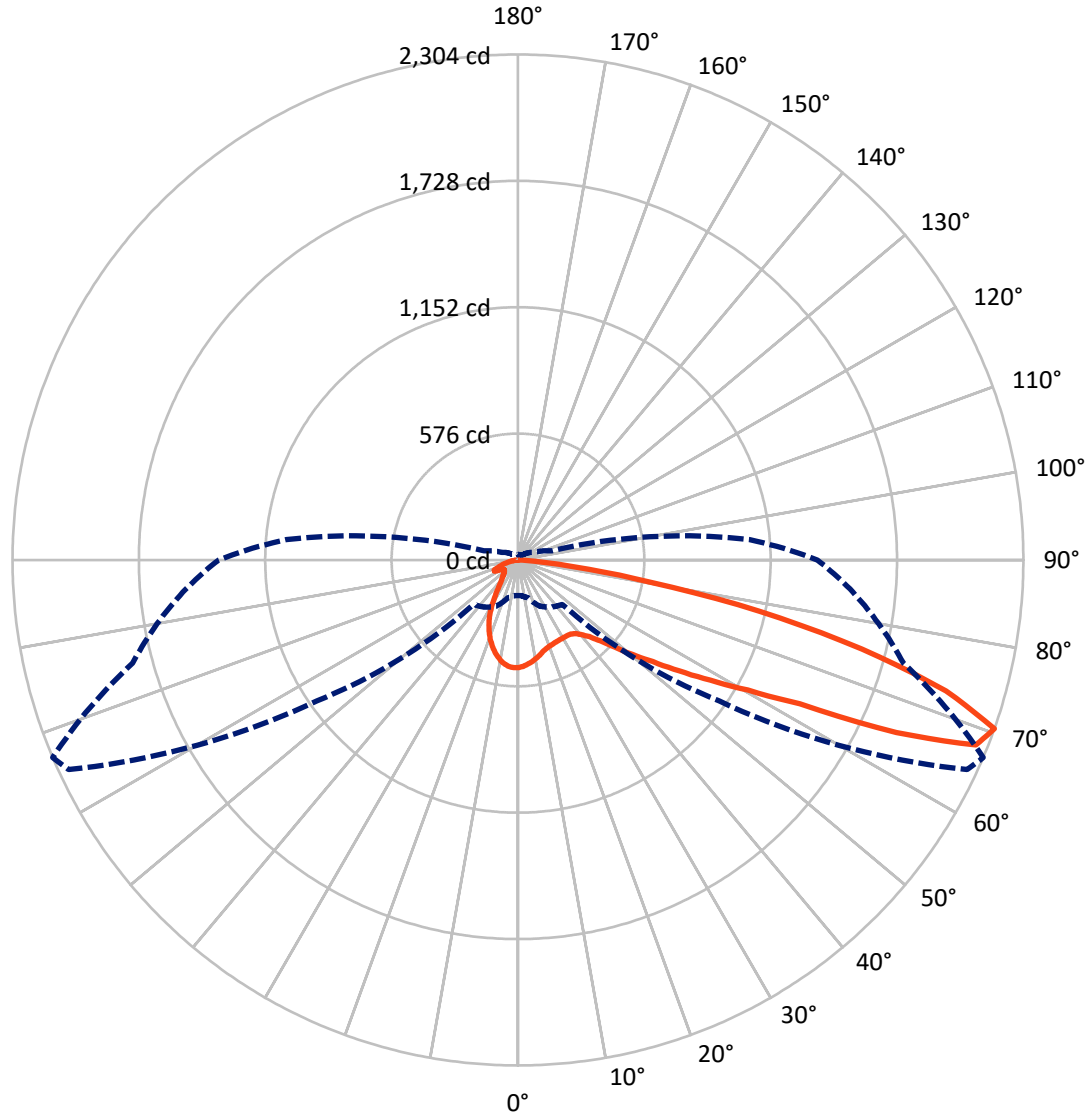
× Max cd  
 - - - 1/2 Max cd



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

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### Luminous Intensity Polar Plot



— Vertical Plane Through 67-Deg Lateral      - - - Horizontal Cone Through 70-Deg Vertical

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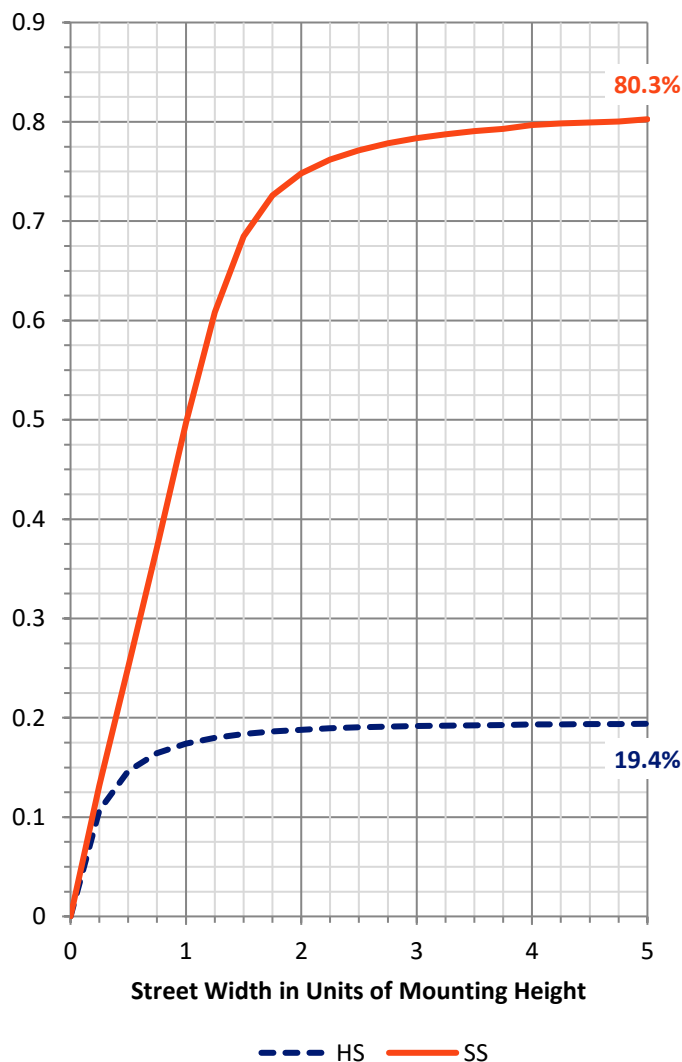
**FLUX DISTRIBUTION:**

		Downward	Upward	Total
<b>House Side</b>	Lumens	424.8	0.0	424.8
	% Fixture	19.6	0.0	19.6
<b>Street Side</b>	Lumens	1744.2	0.0	1744.2
	% Fixture	80.4	0.0	80.4
<b>Total</b>	Lumens	2169.0	0.0	2169.0
	% Fixture	100.0	0.0	100.0

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	43.0	2.0
10°-20°	104.1	4.8
20°-30°	143.5	6.6
30°-40°	193.8	8.9
40°-50°	287.5	13.3
50°-60°	442.6	20.4
60°-70°	547.2	25.2
70°-80°	366.5	16.9
80°-90°	40.8	1.9
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°	2169.0	100.0
0°-180°	2169.0	100.0

**Coefficient of Utilization**



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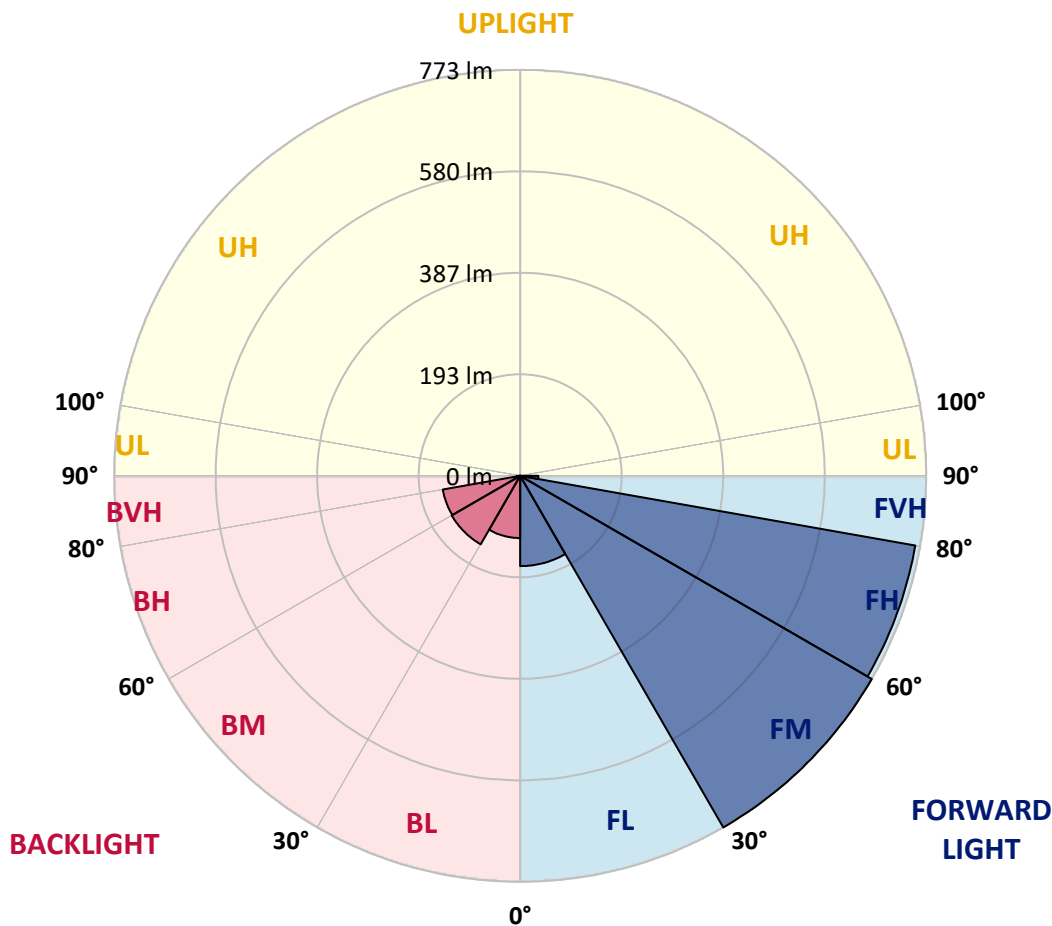
CATALOG NUMBER: ISW-SA1A-830-U-SL2

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

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	172.0	7.9			
FM	(30°-60°)	773.3	35.7			
FH	(60°-80°)	764.1	35.2			G1/1800
FVH	(80°-90°)	34.8	1.6			G1/100
BL	(0°-30°)	118.5	5.5	B1/500		
BM	(30°-60°)	150.6	6.9	B0/220		
BH	(60°-80°)	149.6	6.9	B1/500		G1/500
BVH	(80°-90°)	6.1	0.3			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 III Medium





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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	15°	25°	35°	45°	55°	65°	67°	75°	85°
0°	489.8	489.8	489.8	489.8	489.8	489.8	489.8	489.8	489.8	489.8	489.8
2.5°	463.1	466.2	467.0	469.4	472.5	475.6	479.6	484.3	485.1	487.4	492.1
5°	431.7	433.3	434.8	439.5	445.0	455.2	465.4	474.9	476.4	484.3	492.9
7.5°	402.7	406.6	407.4	411.3	419.9	432.5	446.6	463.1	467.8	478.8	492.1
10°	381.5	383.8	385.4	392.5	399.5	413.6	430.9	451.3	456.0	472.5	491.3
12.5°	364.2	368.1	370.5	375.2	386.2	398.7	416.0	438.0	444.3	464.7	488.2
15°	354.8	357.9	358.7	364.2	372.8	385.4	401.9	427.0	431.7	456.8	488.2
17.5°	352.4	353.2	354.0	357.1	364.2	374.4	391.7	417.6	423.1	453.7	488.2
20°	357.1	357.1	357.1	355.6	361.1	368.9	386.2	409.7	417.6	450.5	490.6
22.5°	368.1	368.9	366.5	362.6	360.3	365.8	380.7	407.4	414.4	449.7	495.3
25°	383.8	384.6	383.0	377.5	366.5	365.8	378.3	405.0	411.3	449.0	494.5
27.5°	405.0	409.7	405.0	398.7	384.6	372.0	380.7	403.4	410.5	449.0	496.1
30°	434.8	438.0	435.6	425.4	407.4	385.4	383.8	405.0	410.5	448.2	495.3
32.5°	464.7	465.4	467.8	460.7	438.8	405.0	392.5	406.6	411.3	447.4	492.9
35°	487.4	492.1	502.3	503.1	477.2	433.3	410.5	412.9	414.4	449.7	490.6
37.5°	516.5	518.0	534.5	547.1	524.3	472.5	435.6	424.6	425.4	457.6	494.5
40°	543.2	549.4	572.2	587.9	580.0	525.1	470.2	445.8	447.4	471.7	503.9
42.5°	583.2	587.9	611.4	633.4	635.8	584.8	518.0	481.9	478.0	499.2	524.3
45°	618.5	624.0	653.8	686.0	697.0	652.3	577.7	531.4	525.1	545.5	562.0
47.5°	667.9	677.4	700.9	737.8	774.7	734.7	653.8	598.9	593.4	607.5	612.2
50°	715.0	720.5	740.2	784.9	850.0	838.3	747.2	686.8	678.2	680.5	691.5
52.5°	722.1	724.5	744.9	792.0	914.4	964.6	861.8	785.7	770.0	772.3	785.7
55°	668.7	678.2	693.1	759.0	919.1	1105.1	1022.7	916.0	891.6	883.0	894.0
57.5°	558.1	569.1	590.2	658.5	865.0	1181.3	1286.5	1071.4	1033.7	993.7	1007.0
60°	411.3	423.1	436.4	503.1	727.6	1193.0	1548.6	1259.8	1204.0	1104.4	1111.4
62.5°	315.5	315.5	327.3	354.8	486.6	1107.5	1702.4	1578.4	1441.9	1239.4	1230.7
65°	255.1	258.2	270.0	295.9	307.7	786.5	1763.7	2041.5	1896.3	1401.0	1356.3
67.5°	211.1	211.9	225.3	266.1	269.2	432.5	1599.6	2284.8	2250.3	1603.6	1489.7
70°	161.7	162.5	178.2	231.5	262.2	286.5	1119.3	2259.7	2303.7	1818.6	1518.8
72.5°	107.5	112.2	131.1	183.7	261.4	270.0	607.5	1976.4	2040.0	1902.6	1421.5
75°	66.7	67.5	87.1	127.2	240.2	269.2	357.1	1540.0	1618.5	1578.4	1233.1
77.5°	40.8	42.4	51.8	83.2	186.0	270.0	254.3	1059.6	1124.8	1036.1	726.8
80°	25.1	25.1	29.8	50.2	120.9	241.7	219.0	616.1	609.9	383.0	206.4
82.5°	9.4	10.2	15.7	27.5	61.2	187.6	192.3	278.6	256.7	113.0	73.8
85°	1.6	1.6	3.1	8.6	16.5	77.7	106.7	98.1	82.4	34.5	30.6
87.5°	0.0	0.0	0.0	0.8	0.8	1.6	2.4	2.4	2.4	2.4	3.1
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-SA1A-830-U-SL2

**CANDELA DISTRIBUTION (continued):**

	90°	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°
0°	489.8	489.8	489.8	489.8	489.8	489.8	489.8	489.8	489.8	489.8	489.8
2.5°	492.1	493.7	492.9	490.6	488.2	486.6	482.7	480.4	481.1	481.1	481.9
5°	493.7	496.1	492.1	487.4	478.8	469.4	460.7	456.0	449.7	452.1	450.5
7.5°	496.1	497.6	490.6	476.4	461.5	445.8	430.9	417.6	407.4	402.7	405.8
10°	494.5	496.8	483.5	462.3	439.5	414.4	391.7	369.7	355.6	346.1	348.5
12.5°	493.7	491.3	473.3	441.9	410.5	376.0	341.4	314.7	291.2	281.8	283.3
15°	490.6	489.0	460.7	420.7	377.5	328.9	283.3	248.8	220.6	211.1	214.3
17.5°	492.1	487.4	445.8	394.8	335.9	276.3	220.6	186.8	172.7	169.5	168.8
20°	490.6	481.9	430.9	366.5	292.0	214.3	164.0	146.0	146.0	150.7	151.5
22.5°	492.1	477.2	414.4	334.4	241.7	160.9	127.9	123.2	130.3	140.5	140.5
25°	492.1	471.7	396.4	298.3	189.2	122.4	109.1	109.1	118.5	127.9	127.2
27.5°	489.0	460.7	376.0	259.8	140.5	101.3	95.8	98.1	104.4	112.2	111.5
30°	481.1	449.7	350.9	215.1	106.7	89.5	88.7	89.5	92.6	97.3	96.5
32.5°	474.1	437.2	326.5	167.2	90.3	83.2	82.4	83.2	84.0	85.6	85.6
35°	469.4	426.2	297.5	128.7	81.6	79.3	77.7	77.7	76.1	76.9	76.9
37.5°	463.9	416.0	267.7	100.5	76.9	75.4	73.8	71.4	71.4	69.9	69.9
40°	463.9	408.1	237.0	84.8	73.8	73.0	69.9	66.7	65.1	65.1	65.1
42.5°	476.4	408.1	208.8	77.7	70.6	69.9	65.9	62.8	61.2	61.2	61.2
45°	497.6	412.9	179.7	73.0	68.3	66.7	62.0	58.9	57.3	57.3	56.5
47.5°	534.5	432.5	153.8	70.6	65.9	63.6	58.1	54.9	53.4	53.4	53.4
50°	596.5	471.7	132.6	68.3	63.6	59.7	54.9	51.8	50.2	50.2	49.4
52.5°	682.1	530.6	122.4	66.7	60.4	55.7	51.8	48.7	47.1	46.3	46.3
55°	784.9	619.3	120.9	65.9	57.3	52.6	48.7	45.5	44.0	43.2	43.2
57.5°	897.1	716.6	131.9	64.4	54.2	48.7	45.5	42.4	40.8	40.0	40.0
60°	1005.5	823.4	167.2	62.8	51.8	45.5	41.6	39.2	37.7	36.9	36.9
62.5°	1131.0	935.6	244.9	63.6	50.2	42.4	38.5	36.1	35.3	34.5	34.5
65°	1269.2	1064.3	313.2	69.9	51.0	39.2	35.3	33.8	32.2	31.4	31.4
67.5°	1391.6	1147.5	261.4	80.8	55.7	36.9	31.4	30.6	29.0	28.3	29.0
70°	1364.2	1059.6	160.9	81.6	56.5	35.3	28.3	26.7	25.1	25.1	25.1
72.5°	1244.1	934.8	112.2	70.6	50.2	31.4	24.3	22.8	22.0	22.0	22.0
75°	1047.1	770.8	89.5	57.3	39.2	25.9	20.4	19.6	18.8	18.1	18.1
77.5°	573.0	419.1	66.7	44.0	29.0	19.6	17.3	15.7	14.9	14.9	14.9
80°	168.0	143.6	41.6	31.4	18.8	14.1	13.3	11.8	11.0	11.0	11.0
82.5°	70.6	59.7	25.1	17.3	12.6	9.4	8.6	7.8	7.1	6.3	7.1
85°	27.5	29.0	15.7	10.2	7.1	4.7	3.9	3.1	3.1	2.4	3.1
87.5°	3.1	3.9	3.1	2.4	1.6	0.8	0.8	0.8	0.8	0.8	0.8
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)