

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: P438968

Luminaire Tested: **ISW-SA1F-830-U-T2-HSS**

Issue Date: 12/10/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P438968  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2011-074-7)  
Test Lab: INNOVATION CENTER  
Issue Date: 12/10/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: McGRAW-EDISON  
Catalog Number: ISW-SA1F-830-U-T2-HSS  
Description: IMPACT ELITE LED WEDGE LUMINAIRE  
(1) 80 CRI, 3000K, 1200mA LIGHTSQUARE WITH 16 LEDS AND TYPE II OPTICS  
WITH HOUSE SIDE SHIELD  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

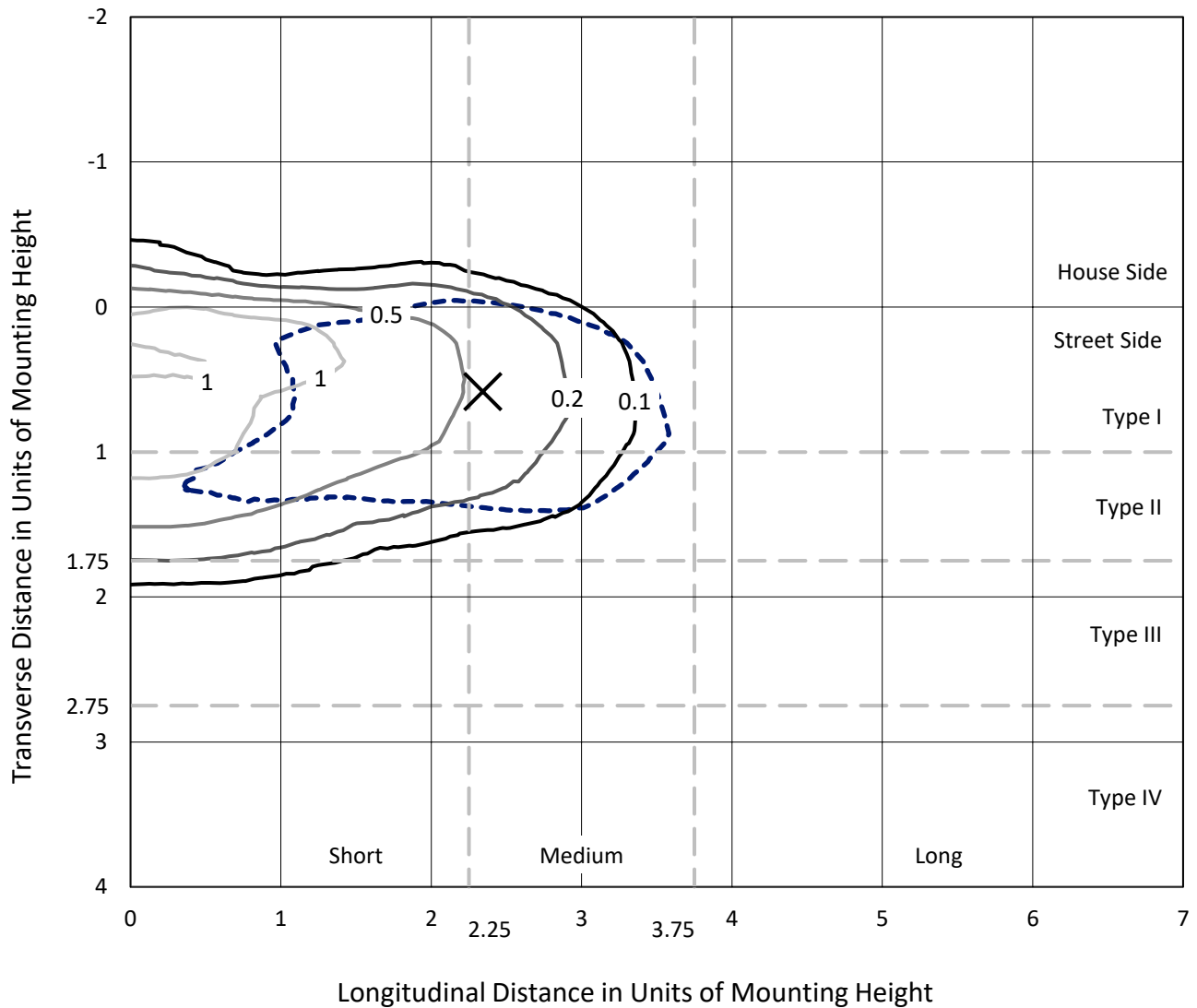
Lumens per Lamp: N/A  
Luminaire Lumens: 4592 lumens  
Efficiency: N/A  
Efficacy: 69.6 lumens/watt  
Luminous Opening: Rectangular (W 0.5' x L: 0.5' x H: 0')  
IES Classification: Type II - Medium  
BUG Rating: B1 - U0 - G1  
  
Input Watts (W): 66  
Input Voltage (V): NR  
Input Current (Ain): NR  
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



REPORT NUMBER: P438968  
 CATALOG NUMBER: ISW-SA1F-830-U-T2-HSS

### Iso-Footcandle Lines of Horizontal Illumination

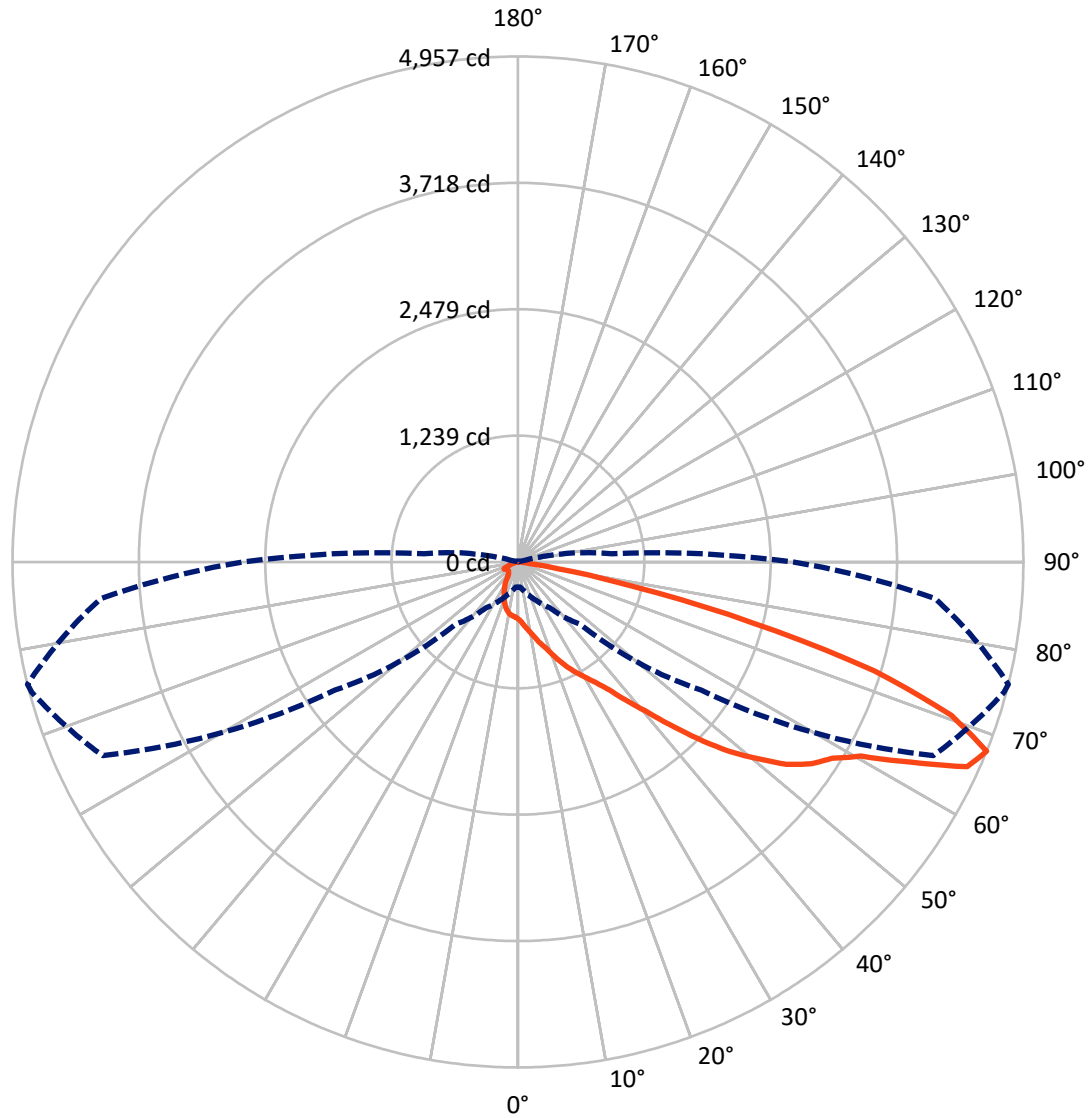
× Max cd  
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 1.4 fc  
 Type II - Medium - N/A

REPORT NUMBER: P438968  
CATALOG NUMBER: ISW-SA1F-830-U-T2-HSS

### Luminous Intensity Polar Plot



— Vertical Plane Through 76-Deg Lateral    - - - Horizontal Cone Through 67.5-Deg Vertical

REPORT NUMBER: P438968  
 CATALOG NUMBER: ISW-SA1F-830-U-T2-HSS

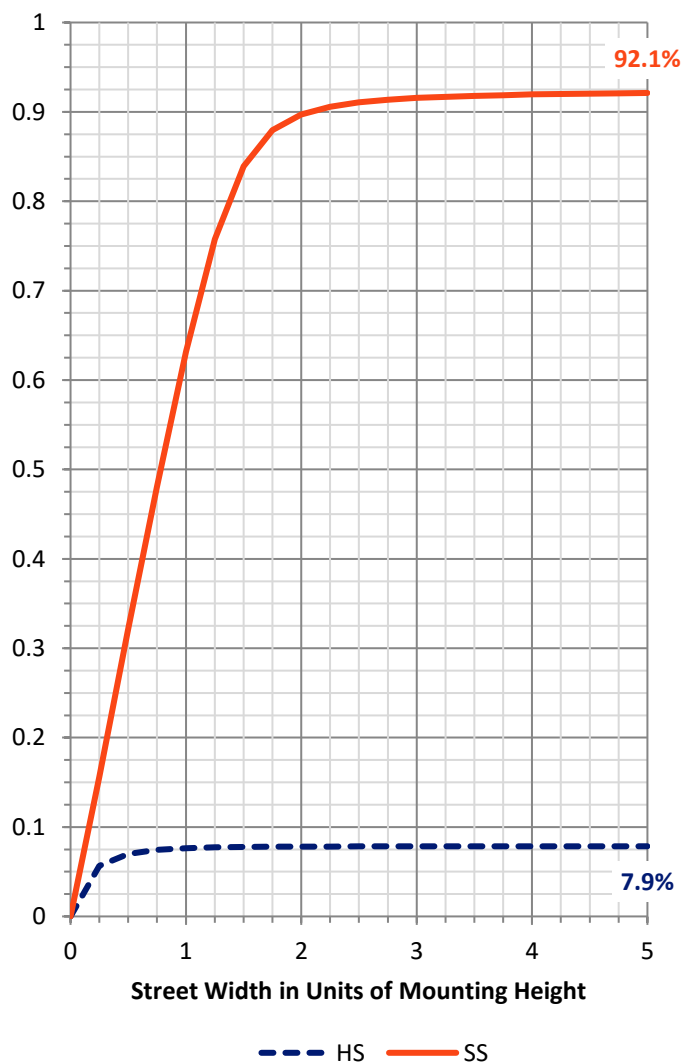
**FLUX DISTRIBUTION:**

		Downward	Upward	Total
<b>House Side</b>	Lumens	363.3	0.0	363.3
	% Fixture	7.9	0.0	7.9
<b>Street Side</b>	Lumens	4228.7	0.0	4228.7
	% Fixture	92.1	0.0	92.1
<b>Total</b>	Lumens	4592.0	0.0	4592.0
	% Fixture	100.0	0.0	100.0

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	53.6	1.2
10°-20°	149.2	3.2
20°-30°	257.5	5.6
30°-40°	458.7	10.0
40°-50°	816.9	17.8
50°-60°	1224.9	26.7
60°-70°	1160.2	25.3
70°-80°	452.2	9.8
80°-90°	18.7	0.4
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°	4592.0	100.0
0°-180°	4592.0	100.0

**Coefficient of Utilization**



REPORT NUMBER: P438968

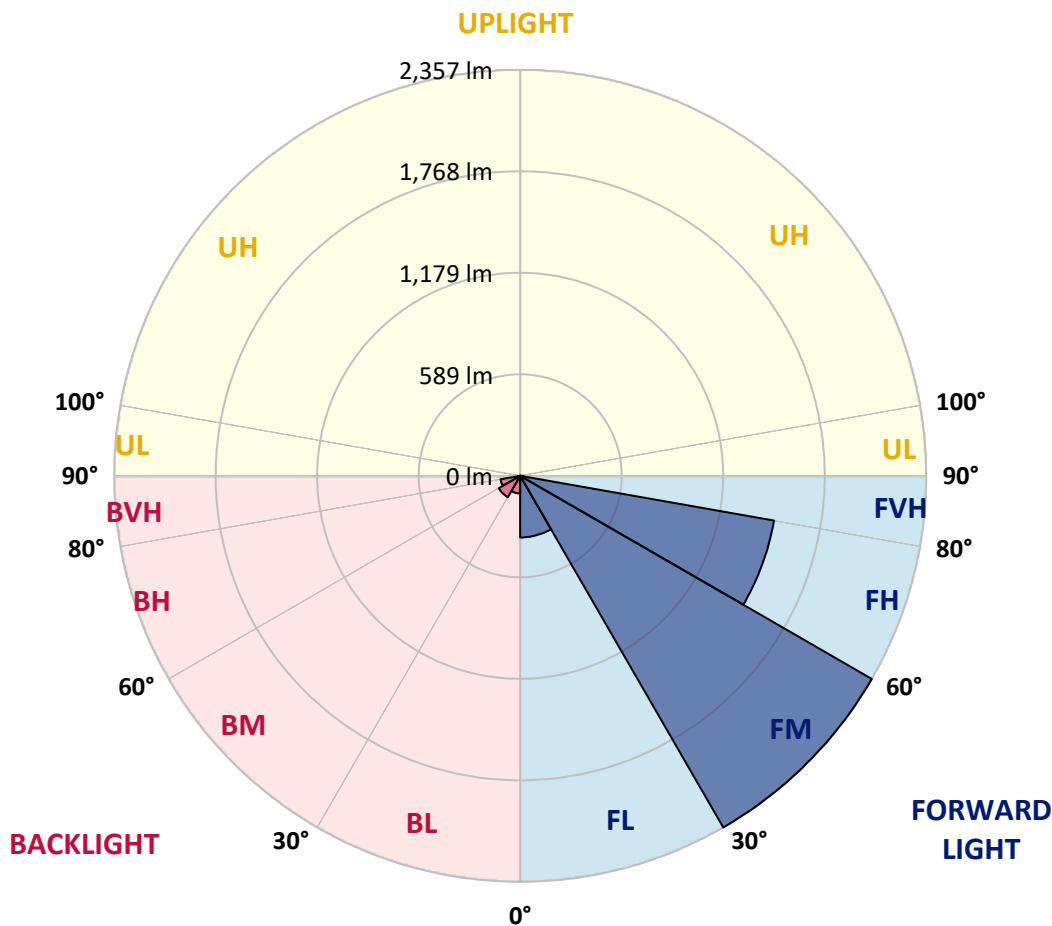
CATALOG NUMBER: ISW-SA1F-830-U-T2-HSS

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

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	358.0	7.8			
FM (30°-60°)	2357.2	51.3			
FH (60°-80°)	1496.4	32.6			G1/1800
FVH (80°-90°)	17.1	0.4			G1/100
BL (0°-30°)	102.3	2.2	B0/110		
BM (30°-60°)	143.4	3.1	B0/220		
BH (60°-80°)	116.0	2.5	B1/500		G1/500
BVH (80°-90°)	1.6	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-G1**

Type II Medium





REPORT NUMBER: P438968  
 CATALOG NUMBER: ISW-SA1F-830-U-T2-HSS

**CANDELA DISTRIBUTION (FULL):**

	0°	5°	15°	25°	35°	45°	55°	65°	75°	76°	85°
0°	558.4	558.4	558.4	558.4	558.4	558.4	558.4	558.4	558.4	558.4	558.4
2.5°	661.5	655.1	650.8	648.6	644.3	631.5	620.7	601.4	584.2	584.2	573.5
5°	721.7	719.5	710.9	706.6	704.5	695.9	676.6	652.9	625.0	622.9	597.1
7.5°	738.8	741.0	741.0	745.3	747.4	743.1	726.0	704.5	668.0	663.7	625.0
10°	732.4	732.4	738.8	751.7	768.9	777.5	775.4	758.2	715.2	710.9	657.2
12.5°	708.8	713.1	723.8	745.3	777.5	803.3	818.3	811.9	768.9	764.6	700.2
15°	676.6	680.9	700.2	730.3	773.2	822.6	857.0	876.3	833.4	829.1	745.3
17.5°	631.5	635.8	657.2	702.3	762.5	831.2	897.8	936.4	899.9	887.0	792.5
20°	614.3	618.6	635.8	672.3	743.1	831.2	934.3	1007.3	979.4	968.7	852.7
22.5°	683.0	680.9	665.8	670.1	723.8	824.8	962.2	1095.4	1073.9	1058.9	917.1
25°	807.6	816.2	794.7	745.3	736.7	818.3	981.5	1164.1	1162.0	1146.9	983.7
27.5°	951.5	955.8	932.2	880.6	809.7	831.2	1003.0	1232.8	1243.6	1230.7	1035.2
30°	1069.6	1084.6	1067.5	1020.2	945.0	887.0	1018.1	1295.1	1331.6	1314.5	1084.6
32.5°	1239.3	1245.7	1228.5	1159.8	1082.5	994.4	1046.0	1348.8	1428.3	1413.3	1142.6
35°	1417.6	1426.1	1393.9	1318.8	1224.3	1125.5	1112.6	1421.9	1567.9	1537.8	1230.7
37.5°	1576.5	1585.1	1570.1	1477.7	1385.3	1280.1	1230.7	1520.7	1737.6	1718.2	1340.2
40°	1703.2	1724.7	1720.4	1640.9	1555.0	1460.5	1400.4	1636.6	1933.0	1915.8	1479.8
42.5°	1832.1	1847.1	1838.5	1780.5	1720.4	1662.4	1587.2	1797.7	2184.3	2175.7	1653.8
45°	1993.2	2016.8	2006.1	1958.8	1885.8	1872.9	1802.0	1991.0	2482.9	2470.0	1864.3
47.5°	2231.6	2253.1	2235.9	2171.4	2087.7	2064.0	2003.9	2210.1	2775.0	2768.5	2072.6
50°	2360.4	2381.9	2427.0	2437.8	2381.9	2255.2	2184.3	2418.4	3037.0	3026.3	2272.4
52.5°	2315.3	2334.7	2444.2	2547.3	2669.7	2562.3	2403.4	2644.0	3277.6	3296.9	2467.8
55°	2122.0	2147.8	2304.6	2470.0	2766.4	2910.3	2727.7	2899.5	3466.6	3494.5	2596.7
57.5°	1731.1	1761.2	1963.1	2218.7	2618.2	2998.3	3129.4	3251.8	3595.4	3631.9	2762.1
60°	1037.4	1084.6	1293.0	1632.3	2186.5	2790.0	3415.0	3758.7	3846.7	3863.9	3114.3
62.5°	575.6	564.9	732.4	1011.6	1507.8	2265.9	3372.1	4375.1	4321.4	4321.4	3715.7
65°	345.8	356.5	442.4	601.4	876.3	1494.9	3006.9	4755.3	4826.1	4841.2	4203.3
67.5°	244.9	247.0	309.3	412.4	547.7	861.3	2192.9	4493.2	4935.7	4957.1	4106.6
70°	158.9	161.1	221.2	294.3	390.9	474.7	1340.2	3702.8	4521.1	4510.4	3631.9
72.5°	96.7	100.9	139.6	216.9	300.7	268.5	721.7	2676.2	3582.5	3655.6	2850.1
75°	60.1	64.4	83.8	150.3	210.5	182.6	317.9	1787.0	2311.0	2366.9	1840.7
77.5°	34.4	38.7	53.7	85.9	150.3	126.7	150.3	938.6	1119.0	1155.5	738.8
80°	12.9	15.0	27.9	43.0	92.4	77.3	68.7	317.9	356.5	399.5	225.5
82.5°	2.1	4.3	12.9	25.8	36.5	36.5	30.1	96.7	98.8	105.2	60.1
85°	0.0	0.0	4.3	6.4	6.4	6.4	10.7	19.3	30.1	30.1	17.2
87.5°	0.0	0.0	0.0	0.0	2.1	2.1	2.1	4.3	4.3	4.3	4.3
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: P438968  
 CATALOG NUMBER: ISW-SA1F-830-U-T2-HSS

**CANDELA DISTRIBUTION (continued):**

	90°	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°
0°	558.4	558.4	558.4	558.4	558.4	558.4	558.4	558.4	558.4	558.4	558.4
2.5°	562.7	558.4	541.2	524.1	511.2	500.4	483.3	483.3	476.8	470.4	472.5
5°	577.8	564.9	532.7	500.4	470.4	442.4	418.8	408.1	393.0	388.8	386.6
7.5°	597.1	573.5	519.8	468.2	418.8	382.3	352.2	332.9	315.7	311.4	313.6
10°	620.7	586.4	504.7	425.3	365.1	320.0	285.7	270.6	251.3	244.9	238.4
12.5°	655.1	601.4	481.1	378.0	311.4	266.3	216.9	180.4	167.5	163.2	163.2
15°	683.0	610.0	451.0	332.9	266.3	195.5	154.6	148.2	146.1	146.1	146.1
17.5°	715.2	616.4	414.5	290.0	206.2	143.9	135.3	135.3	133.2	133.2	131.0
20°	749.6	618.6	375.9	251.3	146.1	128.9	122.4	120.3	116.0	113.8	113.8
22.5°	788.2	616.4	332.9	206.2	128.9	118.1	107.4	103.1	98.8	94.5	94.5
25°	820.5	612.1	294.3	148.2	118.1	103.1	92.4	85.9	81.6	79.5	77.3
27.5°	848.4	588.5	255.6	126.7	107.4	92.4	79.5	73.0	68.7	66.6	66.6
30°	850.5	549.8	223.4	118.1	98.8	81.6	68.7	64.4	62.3	60.1	60.1
32.5°	863.4	511.2	189.0	111.7	88.1	73.0	62.3	58.0	53.7	53.7	53.7
35°	889.2	476.8	146.1	100.9	79.5	64.4	55.8	51.5	49.4	47.3	47.3
37.5°	930.0	453.2	120.3	92.4	73.0	58.0	51.5	47.3	45.1	43.0	43.0
40°	983.7	440.3	109.5	83.8	64.4	53.7	47.3	43.0	38.7	36.5	36.5
42.5°	1076.1	440.3	100.9	75.2	58.0	49.4	43.0	38.7	34.4	32.2	32.2
45°	1183.4	457.5	94.5	66.6	51.5	45.1	38.7	32.2	27.9	25.8	25.8
47.5°	1301.6	489.7	88.1	60.1	47.3	40.8	34.4	25.8	21.5	19.3	19.3
50°	1439.0	537.0	83.8	53.7	43.0	36.5	27.9	19.3	17.2	15.0	15.0
52.5°	1555.0	584.2	77.3	49.4	38.7	32.2	21.5	17.2	12.9	12.9	12.9
55°	1664.6	635.8	73.0	45.1	36.5	25.8	17.2	12.9	10.7	10.7	10.7
57.5°	1810.6	700.2	66.6	40.8	30.1	19.3	15.0	10.7	8.6	8.6	8.6
60°	2109.2	844.1	58.0	36.5	25.8	17.2	12.9	10.7	8.6	6.4	6.4
62.5°	2594.6	1078.2	49.4	32.2	19.3	15.0	10.7	8.6	6.4	4.3	4.3
65°	2901.7	1136.2	40.8	25.8	15.0	10.7	8.6	6.4	4.3	2.1	2.1
67.5°	2704.1	923.6	32.2	19.3	12.9	8.6	6.4	4.3	2.1	0.0	0.0
70°	2283.1	698.0	23.6	12.9	10.7	6.4	4.3	2.1	0.0	0.0	0.0
72.5°	1804.2	530.5	21.5	10.7	8.6	4.3	4.3	2.1	0.0	0.0	0.0
75°	1183.4	272.8	17.2	10.7	6.4	4.3	2.1	2.1	0.0	0.0	0.0
77.5°	466.1	103.1	12.9	8.6	6.4	4.3	2.1	2.1	0.0	0.0	0.0
80°	126.7	34.4	6.4	4.3	4.3	2.1	2.1	2.1	0.0	0.0	0.0
82.5°	32.2	15.0	4.3	4.3	2.1	2.1	2.1	2.1	2.1	0.0	0.0
85°	10.7	4.3	4.3	2.1	2.1	2.1	0.0	0.0	0.0	0.0	0.0
87.5°	4.3	4.3	4.3	2.1	2.1	2.1	0.0	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

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

REPORT NUMBER: SP1-2408-195-9

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

REPORT NUMBER: SP1-2408-195-9

**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			

REPORT NUMBER: SP1-2408-195-9

**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			

REPORT NUMBER: SP1-2408-195-9

**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)