

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: P438787

Luminaire Tested: **ISW-SA1E-830-U-SL2-HSS**

Issue Date: 12/10/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P438787  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2011-074-15)  
Test Lab: INNOVATION CENTER  
Issue Date: 12/10/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: McGRAW-EDISON  
Catalog Number: ISW-SA1E-830-U-SL2-HSS  
Description: IMPACT ELITE LED WEDGE LUMINAIRE  
(1) 80 CRI, 3000K, 1050mA LIGHTSQUARE WITH 16 LEDS AND TYPE II SPILL  
LIGHT ELIMINATOR OPTICS WITH HOUSE SIDE SHIELD  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

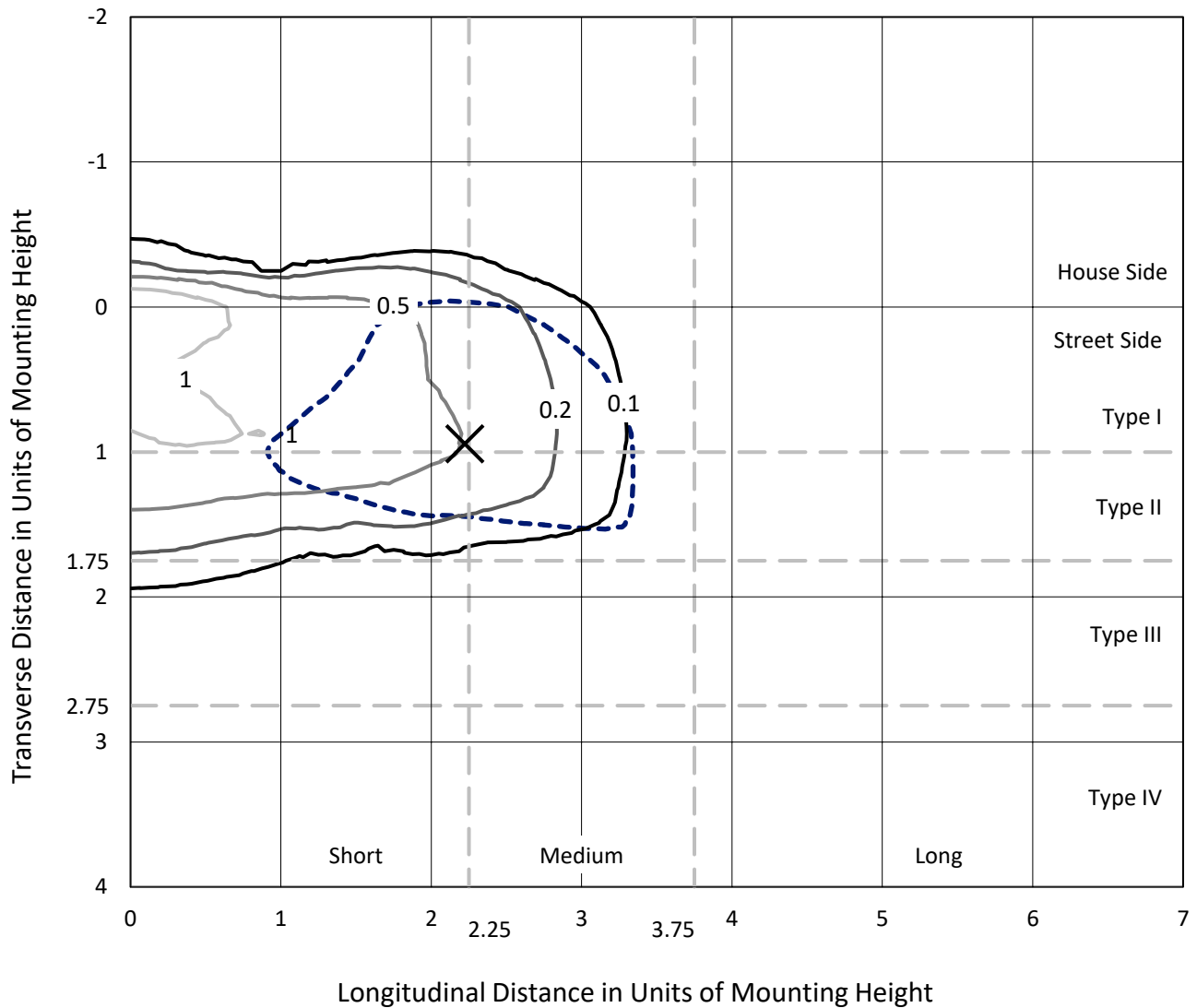
Lumens per Lamp: N/A  
Luminaire Lumens: 4547 lumens  
Efficiency: N/A  
Efficacy: 78.1 lumens/watt  
Luminous Opening: Rectangular (W 0.5' x L: 0.5' x H: 0')  
IES Classification: Type II - Short  
BUG Rating: B1 - U0 - G1  
  
Input Watts (W): 58.2  
Input Voltage (V): NR  
Input Current (Ain): NR  
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: P438787  
 CATALOG NUMBER: ISW-SA1E-830-U-SL2-HSS

### Iso-Footcandle Lines of Horizontal Illumination

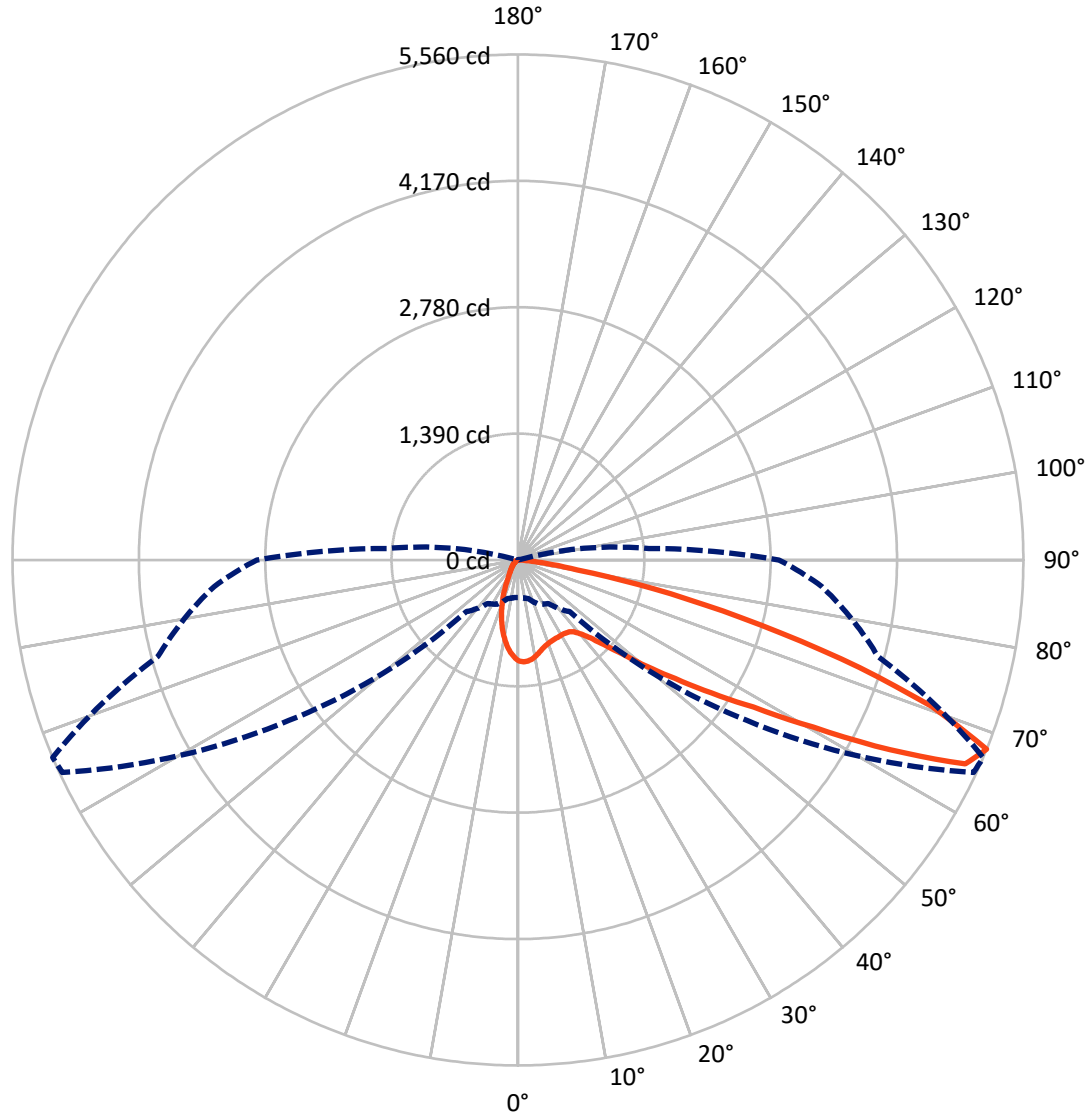
✕ Max cd  
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 1.8 fc  
 Type II - Short - N/A

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### Luminous Intensity Polar Plot



— Vertical Plane Through 67-Deg Lateral    - - - Horizontal Cone Through 67.5-Deg Vertical

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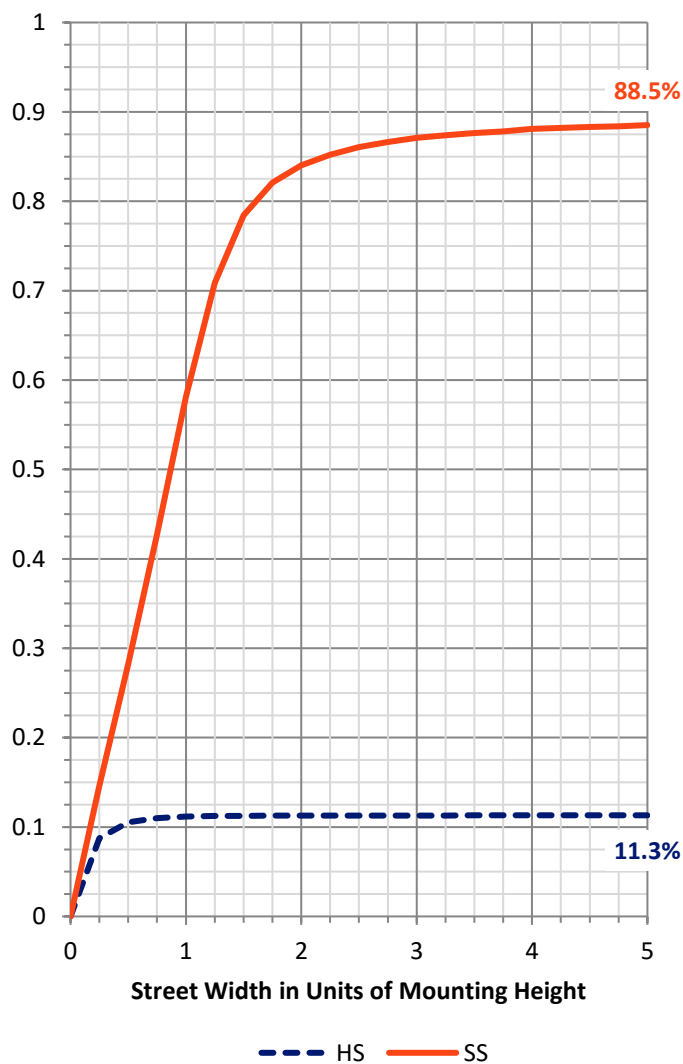
**FLUX DISTRIBUTION:**

		Downward	Upward	Total
<b>House Side</b>	Lumens	518.9	0.0	518.9
	% Fixture	11.4	0.0	11.4
<b>Street Side</b>	Lumens	4028.1	0.0	4028.1
	% Fixture	88.6	0.0	88.6
<b>Total</b>	Lumens	4547.0	0.0	4547.0
	% Fixture	100.0	0.0	100.0

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	90.4	2.0
10°-20°	196.0	4.3
20°-30°	280.8	6.2
30°-40°	413.2	9.1
40°-50°	682.6	15.0
50°-60°	1098.0	24.1
60°-70°	1197.2	26.3
70°-80°	544.9	12.0
80°-90°	43.8	1.0
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°	4547.0	100.0
0°-180°	4547.0	100.0

**Coefficient of Utilization**



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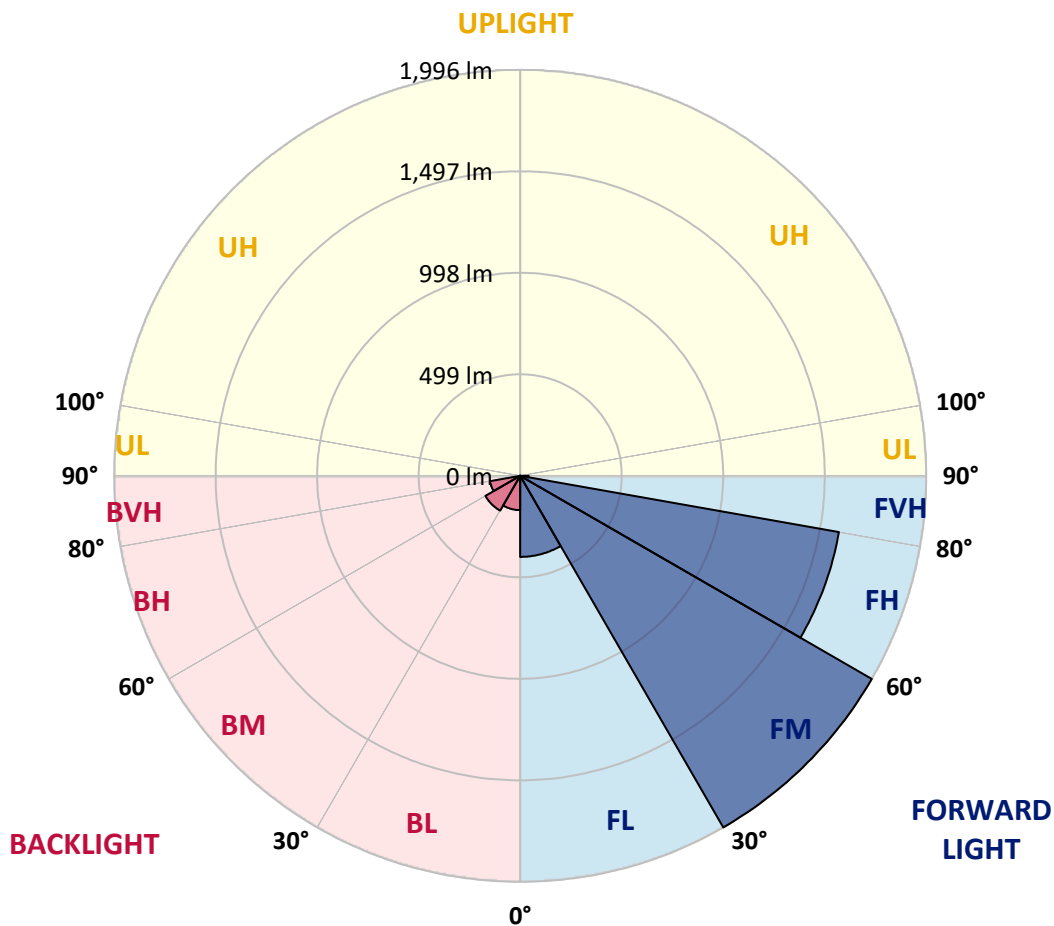
CATALOG NUMBER: ISW-SA1E-830-U-SL2-HSS

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

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	398.6	8.8			
FM (30°-60°)	1996.3	43.9			
FH (60°-80°)	1591.5	35.0			G1/1800
FVH (80°-90°)	41.6	0.9			G1/100
BL (0°-30°)	168.6	3.7	B1/500		
BM (30°-60°)	197.6	4.3	B0/220		
BH (60°-80°)	150.6	3.3	B1/500		G1/500
BVH (80°-90°)	2.2	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 Short





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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	15°	25°	35°	45°	55°	65°	67°	75°	85°
0°	1109.5	1109.5	1109.5	1109.5	1109.5	1109.5	1109.5	1109.5	1109.5	1109.5	1109.5
2.5°	1095.5	1105.5	1107.5	1111.5	1111.5	1117.5	1119.5	1123.5	1121.5	1123.5	1119.5
5°	1019.7	1027.7	1023.7	1043.7	1055.6	1077.6	1099.5	1117.5	1117.5	1123.5	1121.5
7.5°	943.9	951.9	951.9	967.8	987.8	1019.7	1055.6	1097.5	1101.5	1121.5	1115.5
10°	884.0	888.0	892.0	910.0	933.9	965.8	1013.7	1067.6	1075.6	1109.5	1111.5
12.5°	836.1	842.1	848.1	866.1	888.0	919.9	965.8	1027.7	1041.7	1089.5	1107.5
15°	812.2	812.2	818.2	834.1	854.1	888.0	929.9	1001.7	1013.7	1077.6	1105.5
17.5°	800.2	802.2	806.2	814.2	830.1	858.1	904.0	973.8	989.8	1067.6	1105.5
20°	816.2	816.2	810.2	814.2	822.1	844.1	886.0	953.9	973.8	1061.6	1115.5
22.5°	850.1	850.1	840.1	834.1	828.1	836.1	874.0	945.9	963.8	1061.6	1121.5
25°	902.0	902.0	896.0	878.0	852.1	846.1	876.0	943.9	957.8	1063.6	1129.5
27.5°	963.8	965.8	959.8	939.9	900.0	866.1	882.0	939.9	955.8	1061.6	1133.4
30°	1045.6	1053.6	1045.6	1017.7	969.8	906.0	896.0	937.9	953.9	1057.6	1135.4
32.5°	1127.5	1133.4	1141.4	1123.5	1055.6	967.8	925.9	945.9	959.8	1059.6	1131.5
35°	1207.3	1223.2	1237.2	1243.2	1173.4	1055.6	975.8	963.8	969.8	1065.6	1131.5
37.5°	1293.1	1309.1	1339.0	1368.9	1311.0	1153.4	1049.6	1003.7	1003.7	1085.6	1143.4
40°	1402.8	1410.8	1468.7	1504.6	1476.7	1311.0	1155.4	1071.6	1069.6	1141.4	1177.4
42.5°	1508.6	1530.6	1606.4	1660.3	1642.3	1496.6	1283.1	1191.3	1171.4	1231.2	1239.2
45°	1662.3	1696.2	1756.0	1835.9	1853.8	1704.2	1480.7	1345.0	1325.0	1364.9	1343.0
47.5°	1805.9	1829.9	1887.8	1989.5	2093.3	1971.6	1704.2	1560.5	1542.5	1558.5	1522.6
50°	1851.8	1863.8	1929.7	2055.4	2300.8	2354.7	2011.5	1839.9	1837.9	1825.9	1766.0
52.5°	1772.0	1774.0	1849.8	2003.5	2386.6	2773.8	2446.5	2201.0	2167.1	2141.2	2061.4
55°	1528.6	1546.5	1610.4	1801.9	2302.8	3015.2	3142.9	2638.1	2582.2	2488.4	2388.6
57.5°	1195.3	1187.3	1239.2	1414.8	2045.4	3111.0	3829.4	3192.8	3053.1	2771.8	2638.1
60°	870.0	850.1	884.0	983.8	1486.7	2923.4	4226.5	3975.1	3735.6	3077.1	2945.4
62.5°	646.5	646.5	682.5	728.4	911.9	2280.9	4288.3	4871.0	4601.6	3464.2	3270.6
65°	516.8	514.8	544.8	614.6	650.5	1414.8	3977.0	5509.6	5407.8	3867.3	3484.2
67.5°	413.1	413.1	439.0	534.8	584.7	804.2	3077.1	5529.6	5559.5	4098.8	3354.5
70°	291.3	301.3	333.2	447.0	564.7	614.6	1865.8	4749.3	4827.1	4028.9	3009.2
72.5°	163.6	171.6	229.5	331.3	542.8	590.7	1043.7	3587.9	3719.6	3376.4	2454.5
75°	77.8	85.8	133.7	227.5	453.0	562.7	634.6	2544.3	2526.3	2193.1	1524.6
77.5°	33.9	37.9	59.9	131.7	321.3	524.8	465.0	1590.4	1518.6	1029.7	640.6
80°	12.0	14.0	25.9	75.8	181.6	429.0	387.1	734.3	664.5	285.4	167.6
82.5°	2.0	2.0	10.0	35.9	81.8	239.5	319.3	351.2	303.3	71.8	71.8
85°	0.0	0.0	2.0	12.0	20.0	22.0	143.7	141.7	117.7	23.9	35.9
87.5°	0.0	0.0	0.0	2.0	2.0	4.0	4.0	4.0	4.0	4.0	6.0
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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**CANDELA DISTRIBUTION (continued):**

	90°	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°
0°	1109.5	1109.5	1109.5	1109.5	1109.5	1109.5	1109.5	1109.5	1109.5	1109.5	1109.5
2.5°	1109.5	1107.5	1087.6	1069.6	1045.6	1025.7	1007.7	989.8	981.8	983.8	987.8
5°	1111.5	1099.5	1057.6	1011.7	963.8	915.9	870.0	842.1	820.2	812.2	820.2
7.5°	1101.5	1081.6	1017.7	943.9	868.0	784.2	714.4	662.5	624.6	600.6	610.6
10°	1093.5	1063.6	969.8	858.1	750.3	640.6	540.8	466.9	415.1	385.1	379.1
12.5°	1079.6	1043.7	913.9	772.3	622.6	472.9	353.2	275.4	233.5	211.5	217.5
15°	1075.6	1019.7	858.1	672.5	486.9	319.3	213.5	169.6	151.7	147.7	147.7
17.5°	1071.6	1003.7	798.2	574.7	349.2	199.6	147.7	135.7	131.7	129.7	131.7
20°	1067.6	981.8	738.3	468.9	235.5	143.7	127.7	121.7	117.7	117.7	115.7
22.5°	1071.6	967.8	682.5	369.2	161.6	121.7	111.7	107.8	103.8	101.8	101.8
25°	1067.6	949.9	614.6	271.4	125.7	107.8	99.8	91.8	87.8	85.8	83.8
27.5°	1061.6	927.9	550.8	195.6	109.8	95.8	85.8	77.8	71.8	69.8	69.8
30°	1055.6	900.0	476.9	143.7	99.8	85.8	73.8	65.9	59.9	55.9	55.9
32.5°	1039.7	874.0	405.1	115.7	89.8	75.8	63.9	53.9	49.9	47.9	47.9
35°	1029.7	844.1	329.3	99.8	81.8	65.9	53.9	45.9	41.9	39.9	39.9
37.5°	1027.7	812.2	261.4	89.8	73.8	57.9	45.9	39.9	35.9	33.9	33.9
40°	1035.7	796.2	201.5	81.8	63.9	49.9	39.9	33.9	29.9	27.9	27.9
42.5°	1067.6	794.2	153.7	73.8	57.9	43.9	35.9	27.9	23.9	22.0	22.0
45°	1139.4	806.2	121.7	67.8	49.9	37.9	29.9	23.9	20.0	18.0	18.0
47.5°	1257.2	856.1	101.8	61.9	41.9	31.9	23.9	20.0	14.0	14.0	14.0
50°	1448.7	961.8	89.8	53.9	35.9	25.9	20.0	14.0	10.0	10.0	10.0
52.5°	1732.1	1123.5	81.8	47.9	29.9	22.0	16.0	10.0	8.0	8.0	8.0
55°	2025.4	1325.0	75.8	39.9	25.9	18.0	12.0	8.0	6.0	6.0	4.0
57.5°	2292.8	1490.6	67.8	33.9	20.0	14.0	8.0	6.0	4.0	4.0	4.0
60°	2610.1	1656.3	57.9	25.9	16.0	10.0	6.0	4.0	2.0	2.0	2.0
62.5°	2917.4	1750.1	47.9	20.0	12.0	8.0	4.0	2.0	2.0	2.0	2.0
65°	3051.1	1706.2	37.9	16.0	10.0	6.0	2.0	2.0	2.0	0.0	0.0
67.5°	2871.5	1442.8	29.9	12.0	8.0	4.0	2.0	2.0	0.0	0.0	0.0
70°	2472.4	1167.4	23.9	10.0	6.0	2.0	2.0	2.0	0.0	0.0	0.0
72.5°	1941.6	860.1	20.0	8.0	4.0	2.0	2.0	2.0	0.0	0.0	0.0
75°	1181.3	433.0	18.0	6.0	4.0	4.0	2.0	2.0	2.0	0.0	0.0
77.5°	401.1	135.7	12.0	6.0	4.0	4.0	2.0	2.0	2.0	2.0	2.0
80°	117.7	43.9	10.0	4.0	4.0	2.0	2.0	2.0	2.0	2.0	2.0
82.5°	61.9	20.0	6.0	4.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
85°	33.9	10.0	4.0	2.0	2.0	2.0	0.0	0.0	2.0	2.0	2.0
87.5°	6.0	4.0	4.0	2.0	2.0	2.0	0.0	0.0	0.0	2.0	2.0
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**

$\lambda$ (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)