

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: P438791

Luminaire Tested: **ISW-SA1E-830-U-SL4-HSS**

Issue Date: 12/10/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P438791  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2011-074-19)  
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-SL4-HSS  
Description: IMPACT ELITE LED WEDGE LUMINAIRE  
(1) 80 CRI, 3000K, 1050mA LIGHTSQUARE WITH 16 LEDS AND TYPE IV SPILL  
LIGHT ELIMINATOR OPTICS WITH HOUSE SIDE SHIELD  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

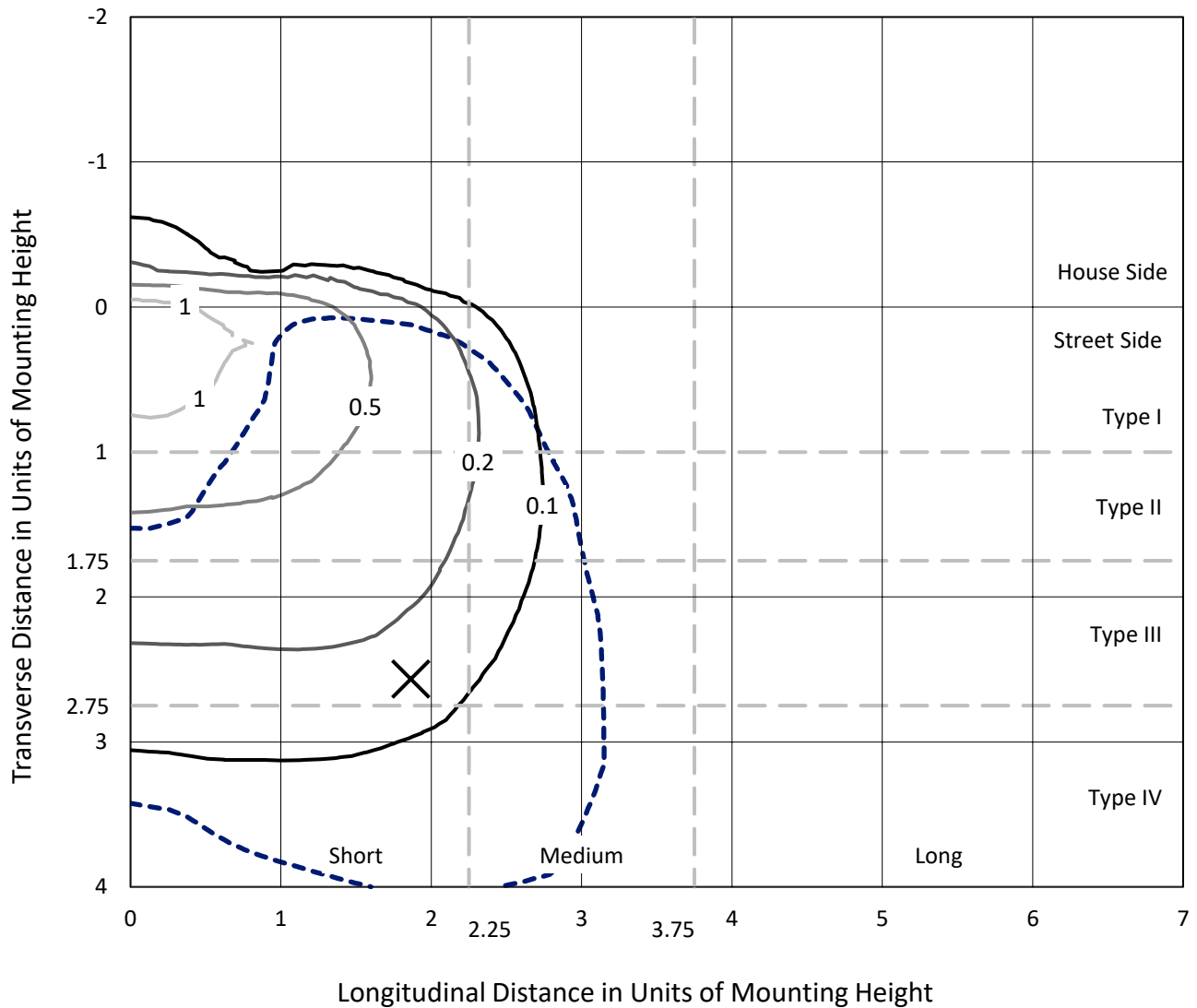
Lumens per Lamp: N/A  
Luminaire Lumens: 4603 lumens  
Efficiency: N/A  
Efficacy: 79.1 lumens/watt  
Luminous Opening: Rectangular (W 0.5' x L: 0.5' x H: 0')  
IES Classification: Type IV - Short  
BUG Rating: B1 - U0 - G2  
  
Input Watts (W): 58.2  
Input Voltage (V): NR  
Input Current (Ain): NR  
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: P438791  
 CATALOG NUMBER: ISW-SA1E-830-U-SL4-HSS

### Iso-Footcandle Lines of Horizontal Illumination

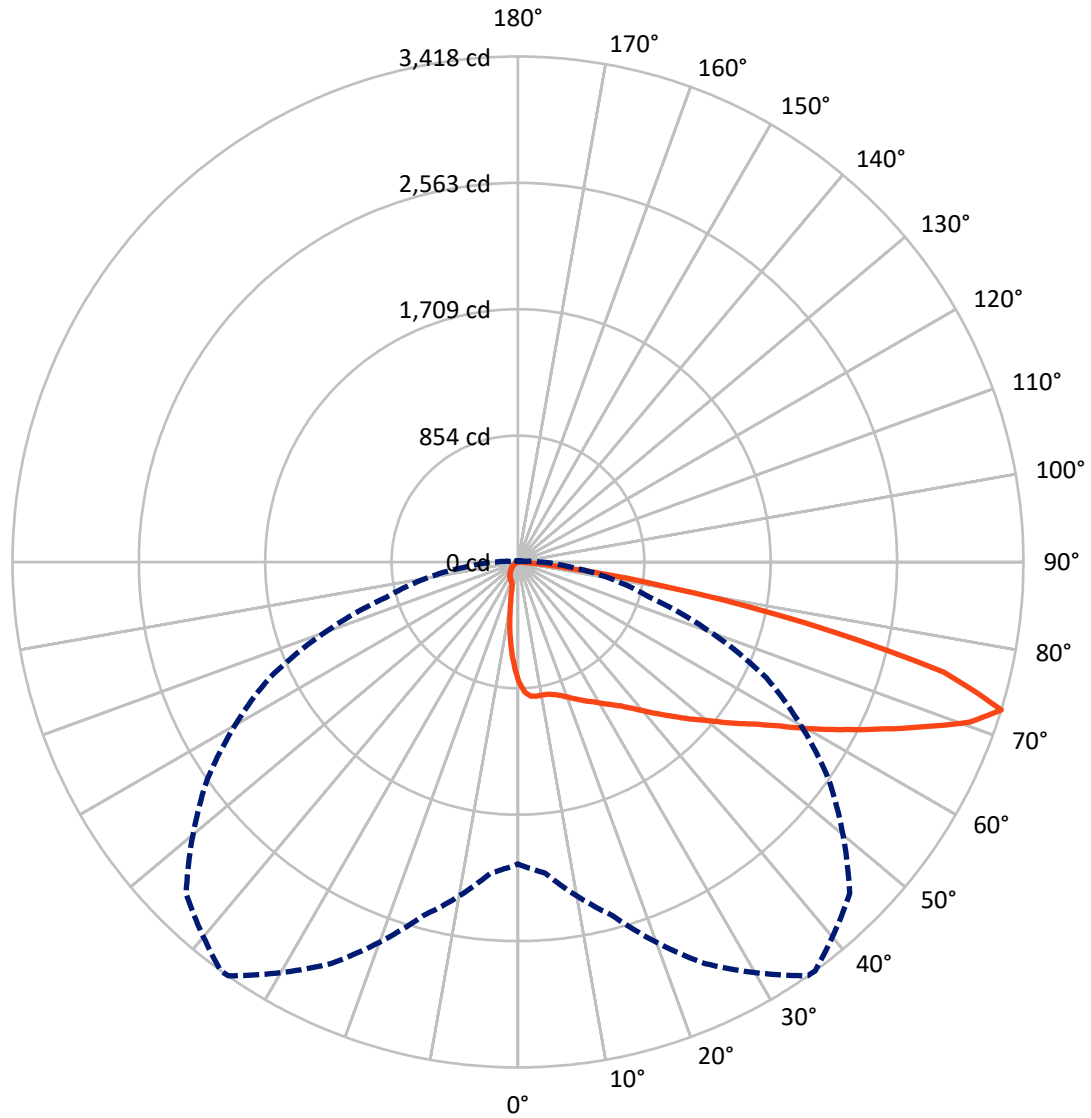
✕ Max cd  
 - - - 1/2 Max cd



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

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### Luminous Intensity Polar Plot



— Vertical Plane Through 36-Deg Lateral    - - - Horizontal Cone Through 72.5-Deg Vertical

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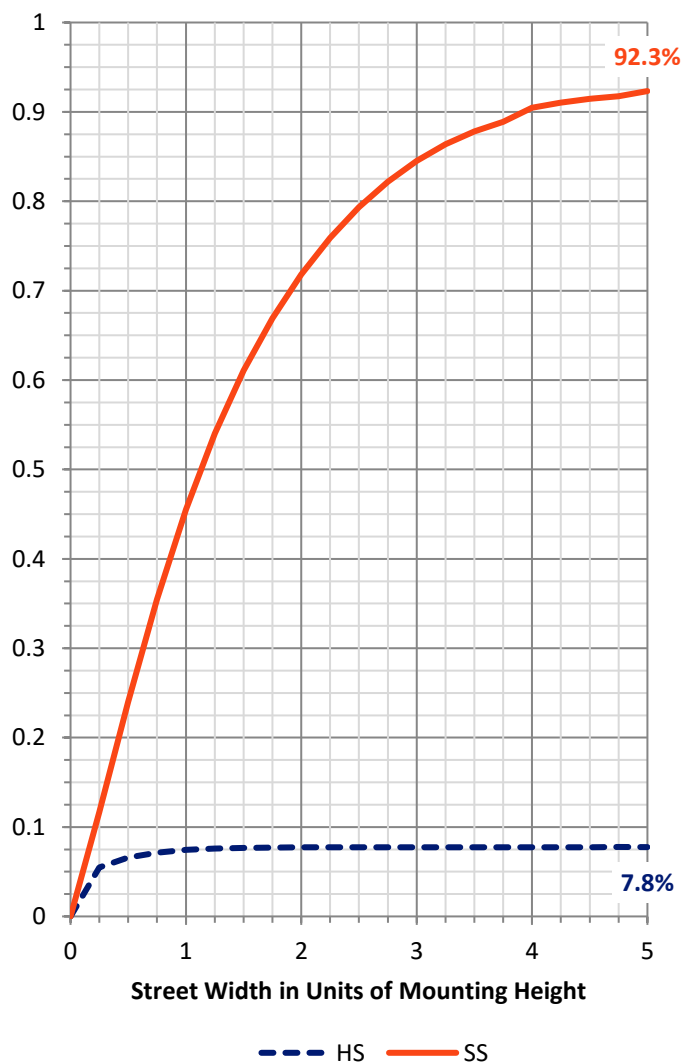
**FLUX DISTRIBUTION:**

		Downward	Upward	Total
<b>House Side</b>	Lumens	359.1	0.0	359.1
	% Fixture	7.8	0.0	7.8
<b>Street Side</b>	Lumens	4243.9	0.0	4243.9
	% Fixture	92.2	0.0	92.2
<b>Total</b>	Lumens	4603.0	0.0	4603.0
	% Fixture	100.0	0.0	100.0

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	69.1	1.5
10°-20°	173.3	3.8
20°-30°	283.1	6.1
30°-40°	430.3	9.3
40°-50°	658.1	14.3
50°-60°	935.7	20.3
60°-70°	1186.6	25.8
70°-80°	812.5	17.7
80°-90°	54.4	1.2
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°	4603.0	100.0
0°-180°	4603.0	100.0

**Coefficient of Utilization**



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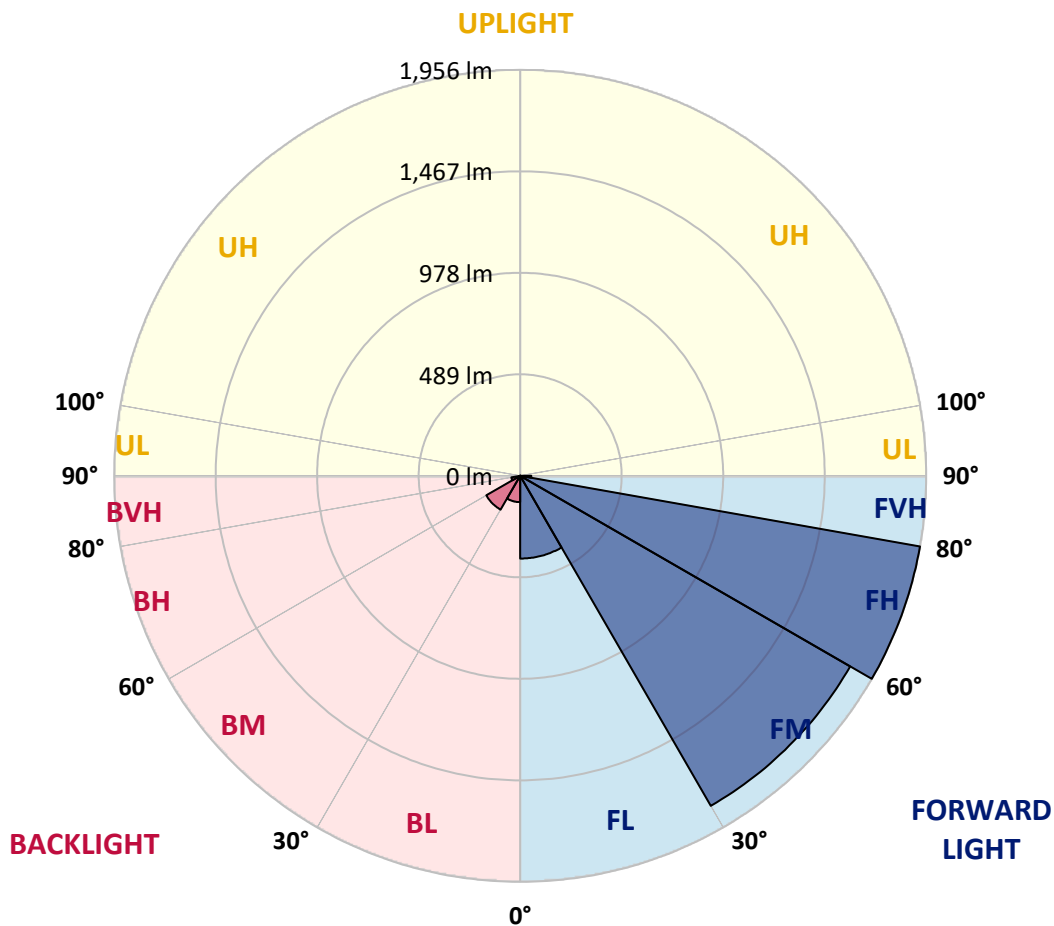
CATALOG NUMBER: ISW-SA1E-830-U-SL4-HSS

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

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	398.7	8.7			
FM (30°-60°)	1835.8	39.9			
FH (60°-80°)	1955.8	42.5			G2/5000
FVH (80°-90°)	53.6	1.2			G1/100
BL (0°-30°)	126.7	2.8	B1/500		
BM (30°-60°)	188.3	4.1	B0/220		
BH (60°-80°)	43.3	0.9	B0/110		G0/110
BVH (80°-90°)	0.8	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-G2**

Type IV Short





REPORT NUMBER: P438791

CATALOG NUMBER: ISW-SA1E-830-U-SL4-HSS

**CANDELA DISTRIBUTION (FULL):**

	0°	5°	15°	25°	35°	36°	45°	55°	65°	75°	85°
0°	808.4	808.4	808.4	808.4	808.4	808.4	808.4	808.4	808.4	808.4	808.4
2.5°	905.6	899.5	895.5	891.4	879.3	881.3	869.1	857.0	838.7	830.6	818.5
5°	927.9	925.9	923.8	917.8	907.6	911.7	899.5	887.4	861.0	836.7	810.4
7.5°	923.8	927.9	925.9	921.8	913.7	915.7	905.6	893.4	871.2	838.7	802.3
10°	915.7	917.8	917.8	915.7	913.7	913.7	905.6	895.5	875.2	846.8	800.3
12.5°	899.5	903.6	909.7	913.7	915.7	917.8	911.7	903.6	885.3	855.0	806.3
15°	893.4	897.5	909.7	921.8	927.9	929.9	923.8	913.7	897.5	871.2	816.5
17.5°	893.4	897.5	917.8	936.0	948.1	950.2	942.1	931.9	911.7	885.3	828.6
20°	905.6	909.7	934.0	966.4	972.5	976.5	964.4	950.2	927.9	901.5	842.8
22.5°	925.9	931.9	962.3	992.7	1004.9	1006.9	992.7	966.4	946.1	919.8	855.0
25°	960.3	974.5	1002.8	1035.3	1037.3	1039.3	1017.0	990.7	966.4	940.0	869.1
27.5°	1008.9	1021.1	1045.4	1081.9	1069.7	1069.7	1051.5	1017.0	992.7	968.4	893.4
30°	1071.7	1079.8	1108.2	1122.4	1106.2	1108.2	1085.9	1053.5	1033.2	1008.9	929.9
32.5°	1130.5	1136.6	1166.9	1169.0	1150.7	1148.7	1132.5	1094.0	1077.8	1069.7	980.6
35°	1185.2	1193.3	1217.6	1215.6	1197.3	1195.3	1187.2	1152.8	1152.8	1160.9	1055.5
37.5°	1225.7	1246.0	1276.4	1268.2	1256.1	1256.1	1250.0	1223.7	1243.9	1274.3	1154.8
40°	1278.4	1290.5	1331.1	1325.0	1327.0	1327.0	1329.0	1312.8	1349.3	1399.9	1270.3
42.5°	1306.7	1331.1	1379.7	1387.8	1406.0	1406.0	1422.2	1418.2	1487.0	1551.9	1404.0
45°	1351.3	1377.6	1430.3	1460.7	1483.0	1493.1	1521.5	1543.8	1641.0	1722.1	1545.8
47.5°	1408.0	1430.3	1474.9	1531.6	1572.1	1588.3	1645.1	1681.5	1811.2	1894.3	1679.5
50°	1485.0	1489.1	1521.5	1606.6	1677.5	1687.6	1776.8	1837.5	1983.4	2060.4	1774.7
52.5°	1568.1	1560.0	1578.2	1693.7	1793.0	1811.2	1912.5	2005.7	2151.6	2167.8	1813.2
55°	1632.9	1632.9	1647.1	1788.9	1922.6	1932.8	2074.6	2173.8	2305.5	2230.6	1837.5
57.5°	1716.0	1707.9	1730.2	1886.2	2084.7	2092.8	2256.9	2333.9	2390.6	2271.1	1833.5
60°	1776.8	1786.9	1821.3	2011.8	2252.9	2289.3	2427.1	2451.4	2479.8	2285.3	1821.3
62.5°	1861.9	1859.8	1926.7	2151.6	2471.7	2496.0	2591.2	2550.7	2548.6	2309.6	1805.1
65°	1932.8	1949.0	2050.3	2319.7	2704.6	2720.9	2753.3	2700.6	2643.9	2335.9	1663.3
67.5°	2042.2	2074.6	2202.2	2540.5	2953.8	2972.1	3000.4	2885.0	2670.2	2149.5	1385.8
70°	2165.7	2208.3	2414.9	2834.3	3221.3	3241.5	3247.6	2903.2	2419.0	1687.6	940.0
72.5°	2042.2	2111.0	2475.7	2996.4	3415.8	3417.8	3172.6	2564.9	1853.7	921.8	332.3
75°	1314.8	1402.0	2050.3	2658.1	2941.7	2974.1	2487.9	1793.0	865.1	206.6	93.2
77.5°	445.7	476.1	1006.9	1677.5	1973.3	1985.4	1637.0	907.6	273.5	83.1	50.6
80°	257.3	255.3	352.5	733.4	984.6	1023.1	824.6	362.6	127.6	42.5	34.4
82.5°	60.8	62.8	184.4	267.4	391.0	352.5	174.2	218.8	58.8	24.3	30.4
85°	0.0	0.0	30.4	64.8	46.6	54.7	16.2	66.9	10.1	10.1	20.3
87.5°	0.0	0.0	0.0	0.0	2.0	2.0	2.0	2.0	2.0	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



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 CATALOG NUMBER: ISW-SA1E-830-U-SL4-HSS

**CANDELA DISTRIBUTION (continued):**

	90°	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°
0°	808.4	808.4	808.4	808.4	808.4	808.4	808.4	808.4	808.4	808.4	808.4
2.5°	806.3	796.2	775.9	759.7	737.4	719.2	701.0	692.9	678.7	674.6	676.7
5°	794.2	778.0	739.5	701.0	658.4	617.9	575.4	551.1	540.9	522.7	518.6
7.5°	780.0	755.7	701.0	638.2	565.2	506.5	447.7	407.2	370.7	356.6	350.5
10°	773.9	743.5	666.5	571.3	472.0	376.8	303.9	251.2	218.8	206.6	202.6
12.5°	773.9	737.4	634.1	506.5	374.8	265.4	198.5	168.2	158.0	156.0	154.0
15°	782.0	735.4	603.7	437.6	283.6	184.4	151.9	147.9	145.9	145.9	147.9
17.5°	786.1	731.4	571.3	370.7	208.7	147.9	141.8	141.8	141.8	141.8	141.8
20°	796.2	729.3	534.9	299.8	158.0	137.8	135.7	135.7	135.7	135.7	137.8
22.5°	798.2	729.3	490.3	231.0	139.8	131.7	129.7	129.7	129.7	131.7	131.7
25°	810.4	725.3	447.7	176.3	131.7	123.6	123.6	121.6	123.6	123.6	123.6
27.5°	826.6	727.3	395.1	145.9	123.6	117.5	115.5	115.5	115.5	115.5	115.5
30°	844.8	731.4	340.4	129.7	115.5	111.4	109.4	107.4	107.4	107.4	107.4
32.5°	879.3	735.4	281.6	117.5	107.4	103.3	101.3	99.3	99.3	99.3	99.3
35°	931.9	757.7	231.0	109.4	99.3	95.2	93.2	91.2	91.2	91.2	89.1
37.5°	1002.8	792.1	182.3	101.3	91.2	87.1	85.1	83.1	81.0	81.0	81.0
40°	1087.9	828.6	151.9	91.2	83.1	79.0	77.0	75.0	72.9	70.9	70.9
42.5°	1189.2	873.2	121.6	83.1	75.0	70.9	68.9	66.9	62.8	60.8	62.8
45°	1302.7	915.7	103.3	77.0	68.9	64.8	62.8	58.8	54.7	52.7	52.7
47.5°	1402.0	925.9	91.2	68.9	62.8	58.8	56.7	50.6	46.6	42.5	42.5
50°	1468.8	907.6	81.0	62.8	56.7	54.7	50.6	42.5	36.5	34.4	32.4
52.5°	1476.9	859.0	70.9	56.7	52.7	48.6	42.5	36.5	30.4	26.3	26.3
55°	1468.8	778.0	62.8	52.7	46.6	42.5	36.5	28.4	22.3	20.3	18.2
57.5°	1442.5	692.9	56.7	46.6	42.5	36.5	28.4	22.3	16.2	14.2	12.2
60°	1393.9	589.6	50.6	42.5	36.5	30.4	22.3	16.2	10.1	8.1	8.1
62.5°	1302.7	476.1	44.6	36.5	30.4	24.3	18.2	10.1	6.1	4.1	4.1
65°	1122.4	356.6	38.5	30.4	24.3	20.3	12.2	6.1	2.0	0.0	0.0
67.5°	873.2	241.1	30.4	24.3	20.3	16.2	10.1	2.0	0.0	0.0	0.0
70°	514.6	127.6	24.3	18.2	16.2	12.2	6.1	2.0	0.0	0.0	0.0
72.5°	147.9	50.6	18.2	14.2	12.2	8.1	4.1	2.0	0.0	0.0	0.0
75°	60.8	30.4	12.2	10.1	10.1	6.1	2.0	2.0	0.0	0.0	0.0
77.5°	40.5	22.3	8.1	6.1	6.1	4.1	2.0	0.0	0.0	0.0	0.0
80°	32.4	12.2	4.1	4.1	4.1	2.0	2.0	0.0	0.0	0.0	0.0
82.5°	28.4	8.1	2.0	2.0	2.0	2.0	0.0	0.0	0.0	0.0	0.0
85°	14.2	4.1	2.0	2.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
87.5°	2.0	2.0	2.0	0.0	0.0	0.0	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

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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)