

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: P438459

Luminaire Tested: **ISW-SA1C-830-U-T4FT-HSS**

Issue Date: 12/10/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P438459  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2011-074-11)  
Test Lab: INNOVATION CENTER  
Issue Date: 12/10/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: McGRAW-EDISON  
Catalog Number: ISW-SA1C-830-U-T4FT-HSS  
Description: IMPACT ELITE LED WEDGE LUMINAIRE  
(1) 80 CRI, 3000K, 615mA LIGHTSQUARE WITH 16 LEDS AND TYPE IV FORWARD  
THROW OPTICS WITH HOUSE SIDE SHIELD  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

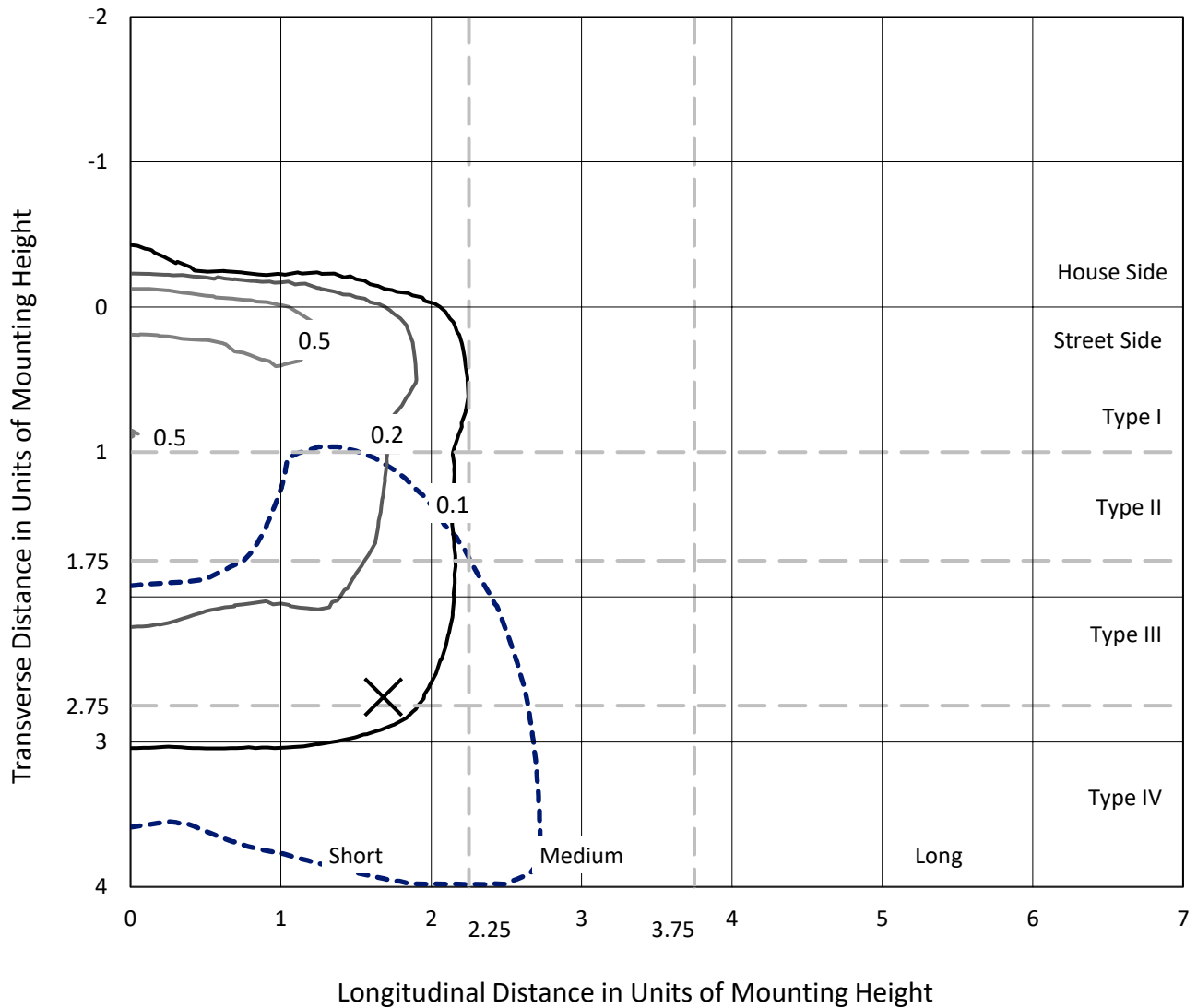
Lumens per Lamp: N/A  
Luminaire Lumens: 2757 lumens  
Efficiency: N/A  
Efficacy: 80.6 lumens/watt  
Luminous Opening: Rectangular (W 0.5' x L: 0.5' x H: 0')  
IES Classification: Type IV - Short  
BUG Rating: B0 - U0 - G1  
  
Input Watts (W): 34.2  
Input Voltage (V): NR  
Input Current (Ain): NR  
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: P438459  
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### Iso-Footcandle Lines of Horizontal Illumination

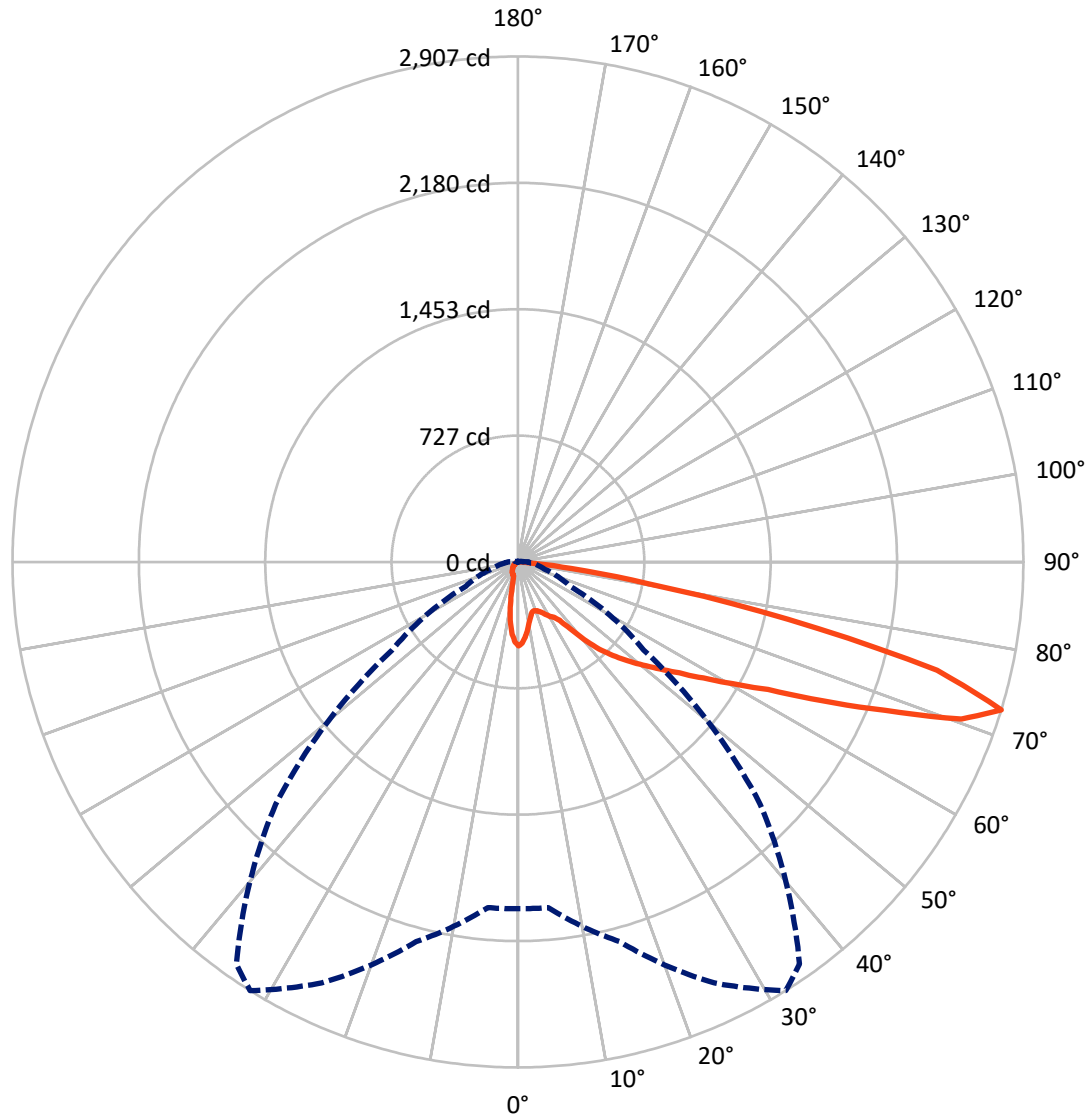
✕ Max cd  
 - - - 1/2 Max cd



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 32-Deg Lateral    - - - Horizontal Cone Through 72.5-Deg Vertical

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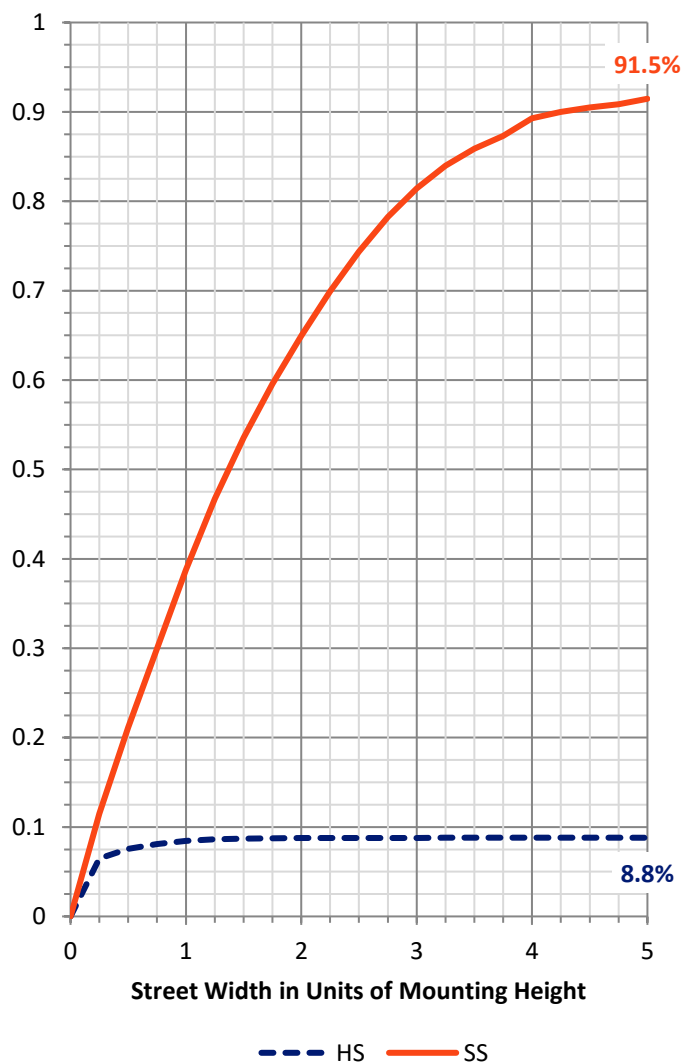
**FLUX DISTRIBUTION:**

		Downward	Upward	Total
<b>House Side</b>	Lumens	244.0	0.0	244.0
	% Fixture	8.9	0.0	8.9
<b>Street Side</b>	Lumens	2513.0	0.0	2513.0
	% Fixture	91.1	0.0	91.1
<b>Total</b>	Lumens	2757.0	0.0	2757.0
	% Fixture	100.0	0.0	100.0

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	40.1	1.5
10°-20°	87.1	3.2
20°-30°	131.8	4.8
30°-40°	212.5	7.7
40°-50°	376.4	13.7
50°-60°	576.5	20.9
60°-70°	771.3	28.0
70°-80°	532.5	19.3
80°-90°	28.8	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°	2757.0	100.0
0°-180°	2757.0	100.0

**Coefficient of Utilization**

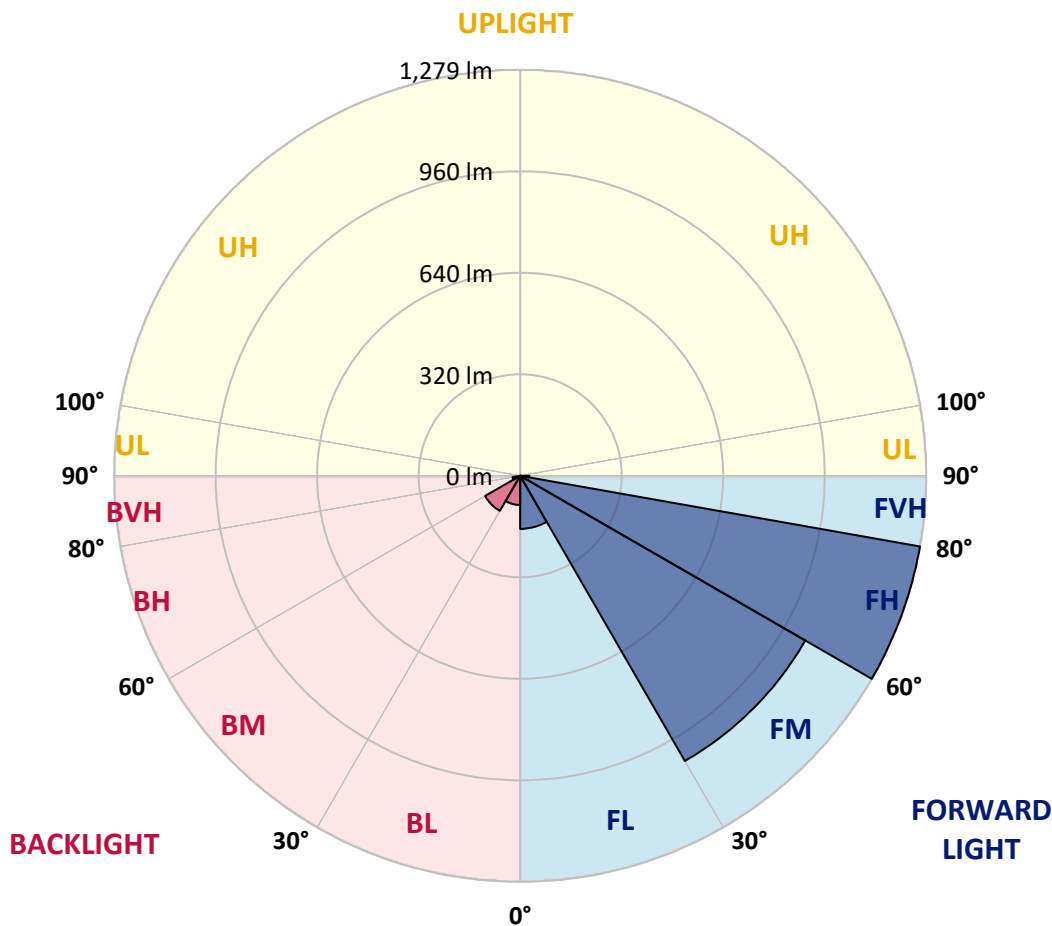


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**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	167.2	6.1			
FM (30°-60°)	1037.8	37.6			
FH (60°-80°)	1279.5	46.4			G1/1800
FVH (80°-90°)	28.5	1.0			G1/100
BL (0°-30°)	91.9	3.3	B0/110		
BM (30°-60°)	127.6	4.6	B0/220		
BH (60°-80°)	24.2	0.9	B0/110		G0/110
BVH (80°-90°)	0.4	0.0			G0/10
UL (90°-100°)	0.0	0.0		U0/0	
UH (100°-180°)	0.0	0.0		U0/0	

**BUG Rating: B0-U0-G1**  
 Type IV Short





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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	15°	25°	32°	35°	45°	55°	65°	75°	85°
0°	483.0	483.0	483.0	483.0	483.0	483.0	483.0	483.0	483.0	483.0	483.0
2.5°	464.9	464.9	466.3	467.7	467.7	471.9	477.4	478.8	483.0	485.8	487.2
5°	416.0	421.6	421.6	428.6	434.2	439.8	453.7	462.1	476.0	485.8	488.6
7.5°	371.3	372.7	376.9	385.3	396.5	400.7	418.8	442.5	469.1	485.8	492.8
10°	326.7	328.1	330.9	343.4	354.6	364.4	389.5	418.8	456.5	485.8	498.4
12.5°	294.6	294.6	297.4	311.3	323.9	333.7	361.6	399.3	443.9	487.2	506.8
15°	283.4	283.4	282.0	289.0	300.1	308.5	340.6	382.5	432.8	490.0	515.1
17.5°	289.0	289.0	283.4	284.8	294.6	300.1	328.1	370.0	427.2	495.6	529.1
20°	300.1	300.1	289.0	289.0	298.8	302.9	326.7	363.0	424.4	505.4	548.6
22.5°	312.7	314.1	298.8	298.8	308.5	312.7	335.0	367.2	428.6	517.9	568.2
25°	333.7	333.7	314.1	314.1	322.5	329.5	350.4	379.7	434.2	533.3	598.9
27.5°	363.0	361.6	336.4	329.5	342.0	347.6	371.3	395.1	439.8	551.4	626.8
30°	397.9	390.9	365.8	351.8	363.0	367.2	390.9	416.0	456.5	578.0	670.1
32.5°	435.6	438.4	397.9	372.7	378.3	383.9	414.6	448.1	484.4	612.9	728.7
35°	509.6	509.6	467.7	420.2	410.4	413.2	446.7	490.0	519.3	671.5	795.7
37.5°	601.7	604.5	565.4	515.1	484.4	471.9	495.6	540.3	569.6	745.5	869.7
40°	702.2	698.0	657.5	611.5	586.3	571.0	558.4	611.5	638.0	825.1	943.7
42.5°	786.0	777.6	723.1	699.4	684.1	664.5	639.4	700.8	725.9	925.6	1028.9
45°	840.4	833.4	779.0	772.0	766.4	755.3	760.8	808.3	832.0	1041.4	1118.2
47.5°	882.3	872.5	826.5	836.2	847.4	858.6	907.4	942.3	936.7	1147.5	1190.8
50°	939.5	925.6	882.3	901.8	931.2	953.5	1065.2	1075.0	1031.7	1238.3	1256.4
52.5°	974.4	957.7	946.5	978.6	1021.9	1049.8	1238.3	1200.6	1107.1	1303.9	1308.1
55°	1003.8	1002.4	1021.9	1063.8	1126.6	1161.5	1380.7	1308.1	1155.9	1370.9	1336.0
57.5°	1093.1	1087.5	1121.0	1154.5	1259.2	1317.9	1534.2	1386.3	1190.8	1407.2	1320.7
60°	1220.1	1222.9	1224.3	1285.8	1419.8	1500.7	1655.7	1451.9	1217.3	1412.8	1276.0
62.5°	1418.4	1437.9	1404.4	1451.9	1613.8	1715.7	1773.0	1499.3	1209.0	1372.3	1162.9
65°	1706.0	1699.0	1651.5	1704.6	1921.0	1983.8	1894.4	1513.3	1160.1	1232.7	950.7
67.5°	1999.1	2001.9	1979.6	2063.3	2274.1	2263.0	2031.2	1465.8	1034.5	931.2	596.1
70°	2190.4	2194.6	2250.4	2476.6	2705.5	2628.7	2142.9	1298.3	728.7	443.9	226.2
72.5°	1993.5	1994.9	2260.2	2670.6	2906.6	2822.8	1969.8	882.3	332.3	157.8	79.6
75°	1262.0	1199.2	1679.4	2264.4	2489.1	2406.8	1404.4	411.8	146.6	79.6	33.5
77.5°	439.8	446.7	684.1	1303.9	1590.1	1623.6	721.8	135.4	81.0	54.4	18.1
80°	88.0	99.1	202.4	480.2	753.9	783.2	261.1	65.6	53.0	41.9	9.8
82.5°	5.6	7.0	60.0	199.6	308.5	293.2	51.7	33.5	36.3	29.3	5.6
85°	0.0	0.0	4.2	33.5	55.8	41.9	5.6	8.4	15.4	16.8	2.8
87.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.4	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



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**CANDELA DISTRIBUTION (continued):**

	90°	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°
0°	483.0	483.0	483.0	483.0	483.0	483.0	483.0	483.0	483.0	483.0	483.0
2.5°	487.2	487.2	480.2	477.4	473.3	467.7	462.1	459.3	453.7	455.1	455.1
5°	488.6	485.8	477.4	464.9	450.9	437.0	420.2	409.0	396.5	399.3	397.9
7.5°	491.4	490.0	470.5	448.1	423.0	392.3	363.0	337.8	315.5	309.9	305.7
10°	497.0	492.8	464.9	428.6	378.3	328.1	277.8	234.5	216.4	196.8	192.7
12.5°	502.6	495.6	455.1	400.7	323.9	249.9	184.3	145.2	121.5	114.5	111.7
15°	511.0	499.8	442.5	361.6	259.7	168.9	115.9	94.9	90.7	89.3	89.3
17.5°	522.1	502.6	430.0	316.9	191.3	108.9	85.2	85.2	86.6	88.0	88.0
20°	538.9	509.6	411.8	262.5	128.4	82.4	81.0	82.4	83.8	85.2	85.2
22.5°	557.0	520.7	390.9	205.2	90.7	76.8	76.8	78.2	79.6	81.0	81.0
25°	578.0	529.1	363.0	146.6	75.4	72.6	72.6	74.0	75.4	76.8	76.8
27.5°	600.3	538.9	325.3	100.5	68.4	68.4	69.8	71.2	72.6	72.6	74.0
30°	633.8	554.2	286.2	74.0	62.8	62.8	65.6	68.4	69.8	69.8	71.2
32.5°	677.1	566.8	233.1	62.8	58.6	57.2	60.0	64.2	67.0	68.4	68.4
35°	724.5	584.9	174.5	57.2	54.4	53.0	54.4	58.6	64.2	67.0	67.0
37.5°	773.4	601.7	129.8	54.4	50.3	48.9	50.3	53.0	58.6	64.2	65.6
40°	822.3	604.5	93.5	50.3	47.5	46.1	46.1	48.9	54.4	60.0	61.4
42.5°	872.5	615.7	71.2	47.5	43.3	43.3	43.3	44.7	48.9	53.0	54.4
45°	929.8	622.6	57.2	43.3	40.5	40.5	40.5	40.5	43.3	44.7	44.7
47.5°	978.6	612.9	46.1	39.1	37.7	37.7	37.7	36.3	36.3	34.9	34.9
50°	1013.5	590.5	37.7	34.9	34.9	36.3	33.5	30.7	30.7	27.9	27.9
52.5°	1034.5	557.0	32.1	30.7	33.5	33.5	29.3	27.9	25.1	22.3	20.9
55°	1033.1	501.2	27.9	26.5	29.3	29.3	25.1	22.3	19.5	16.8	16.8
57.5°	992.6	439.8	25.1	22.3	25.1	23.7	20.9	16.8	14.0	11.2	11.2
60°	929.8	374.1	22.3	18.1	19.5	18.1	16.8	12.6	9.8	7.0	7.0
62.5°	844.6	312.7	18.1	15.4	14.0	14.0	12.6	9.8	5.6	4.2	4.2
65°	682.7	231.7	14.0	11.2	9.8	11.2	8.4	5.6	2.8	1.4	1.4
67.5°	421.6	132.6	11.2	8.4	7.0	8.4	5.6	4.2	1.4	0.0	0.0
70°	166.1	57.2	8.4	5.6	5.6	5.6	4.2	2.8	0.0	0.0	0.0
72.5°	57.2	25.1	7.0	4.2	4.2	2.8	2.8	1.4	0.0	0.0	0.0
75°	25.1	15.4	5.6	4.2	2.8	2.8	1.4	1.4	0.0	0.0	0.0
77.5°	14.0	9.8	4.2	2.8	2.8	1.4	1.4	1.4	0.0	0.0	0.0
80°	8.4	5.6	2.8	2.8	2.8	1.4	1.4	1.4	0.0	0.0	0.0
82.5°	5.6	2.8	1.4	1.4	1.4	1.4	1.4	1.4	0.0	0.0	0.0
85°	2.8	1.4	0.0	1.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0
87.5°	0.0	0.0	0.0	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  
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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**

$R_f = 81.5$   
 $R_g = 99.2$   
 $CIE R_a = 81.0$   
 $R_9 = 7.1$



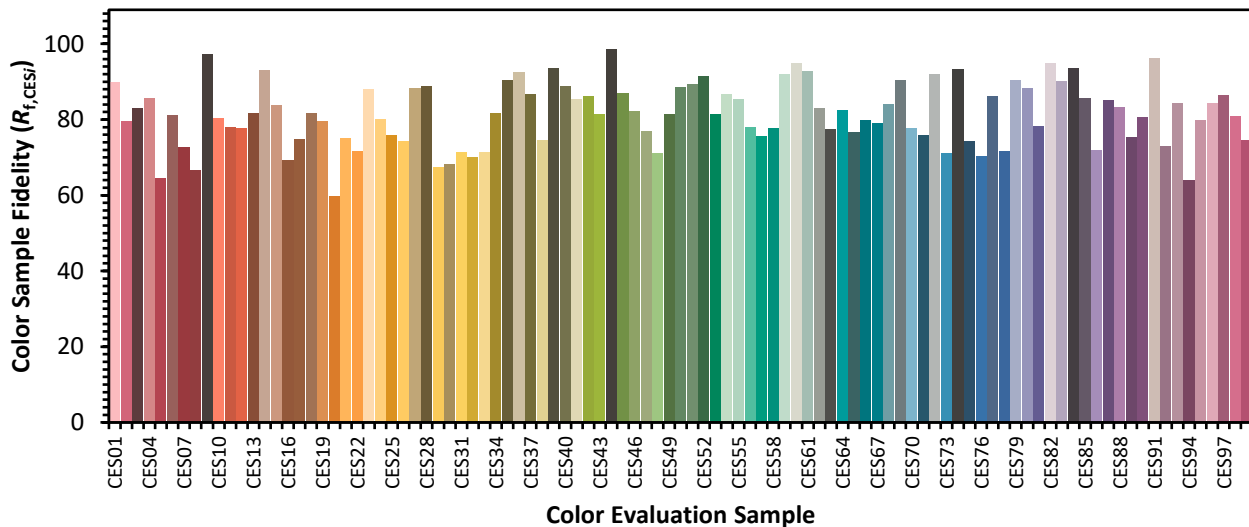
**Color Vector Graphics**



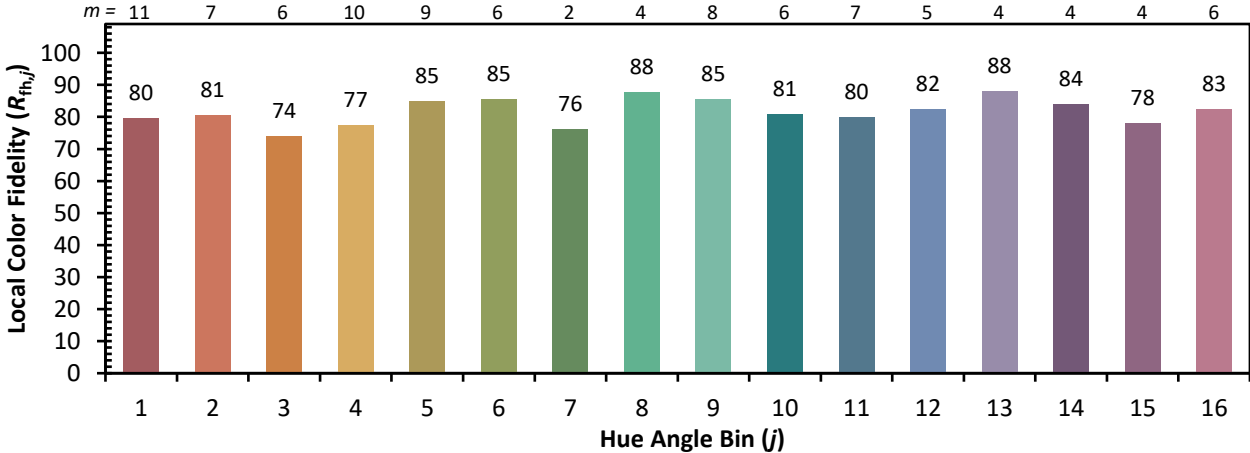


**Individual Sample Fidelity Index ( $R_{f,i}$ )**

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)