

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: P438631

Luminaire Tested: **IST-SA1D-830-U-T4FT**

Issue Date: 12/10/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P438631  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2011-074-10)  
Test Lab: INNOVATION CENTER  
Issue Date: 12/10/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: McGRAW-EDISON  
Catalog Number: IST-SA1D-830-U-T4FT  
Description: IMPACT ELITE LED TRAPEZOID LUMINAIRE  
(1) 80 CRI, 3000K, 800mA LIGHTSQUARE WITH 16 LEDS AND TYPE IV FORWARD  
THROW OPTICS  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

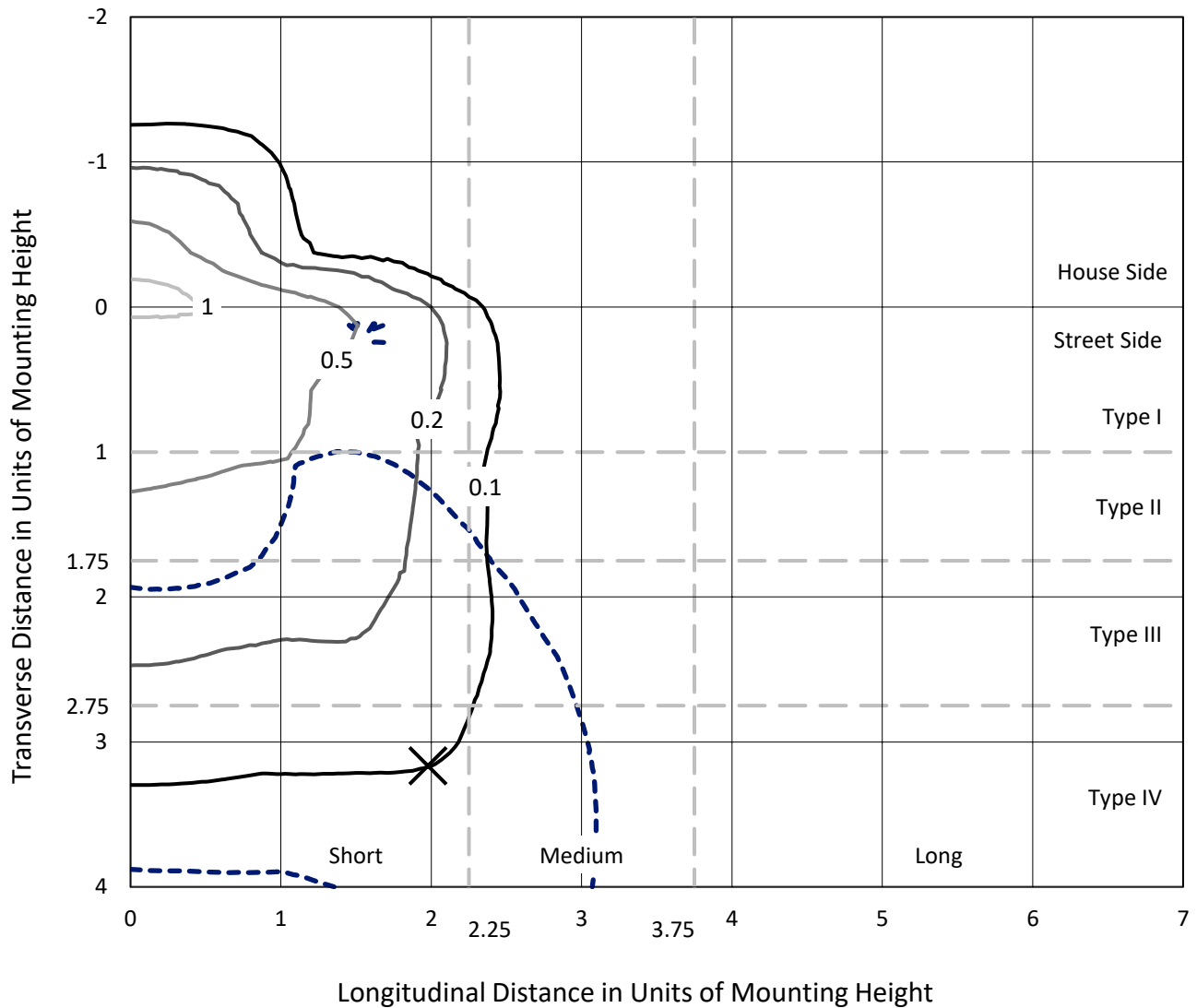
Lumens per Lamp: N/A  
Luminaire Lumens: 4539 lumens  
Efficiency: N/A  
Efficacy: 100.4 lumens/watt  
Luminous Opening: Rectangular (W 0.5' x L: 0.5' x H: 0')  
IES Classification: Type IV - Short  
BUG Rating: B1 - U0 - G1  
  
Input Watts (W): 45.2  
Input Voltage (V): NR  
Input Current (Ain): NR  
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: P438631  
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### Iso-Footcandle Lines of Horizontal Illumination

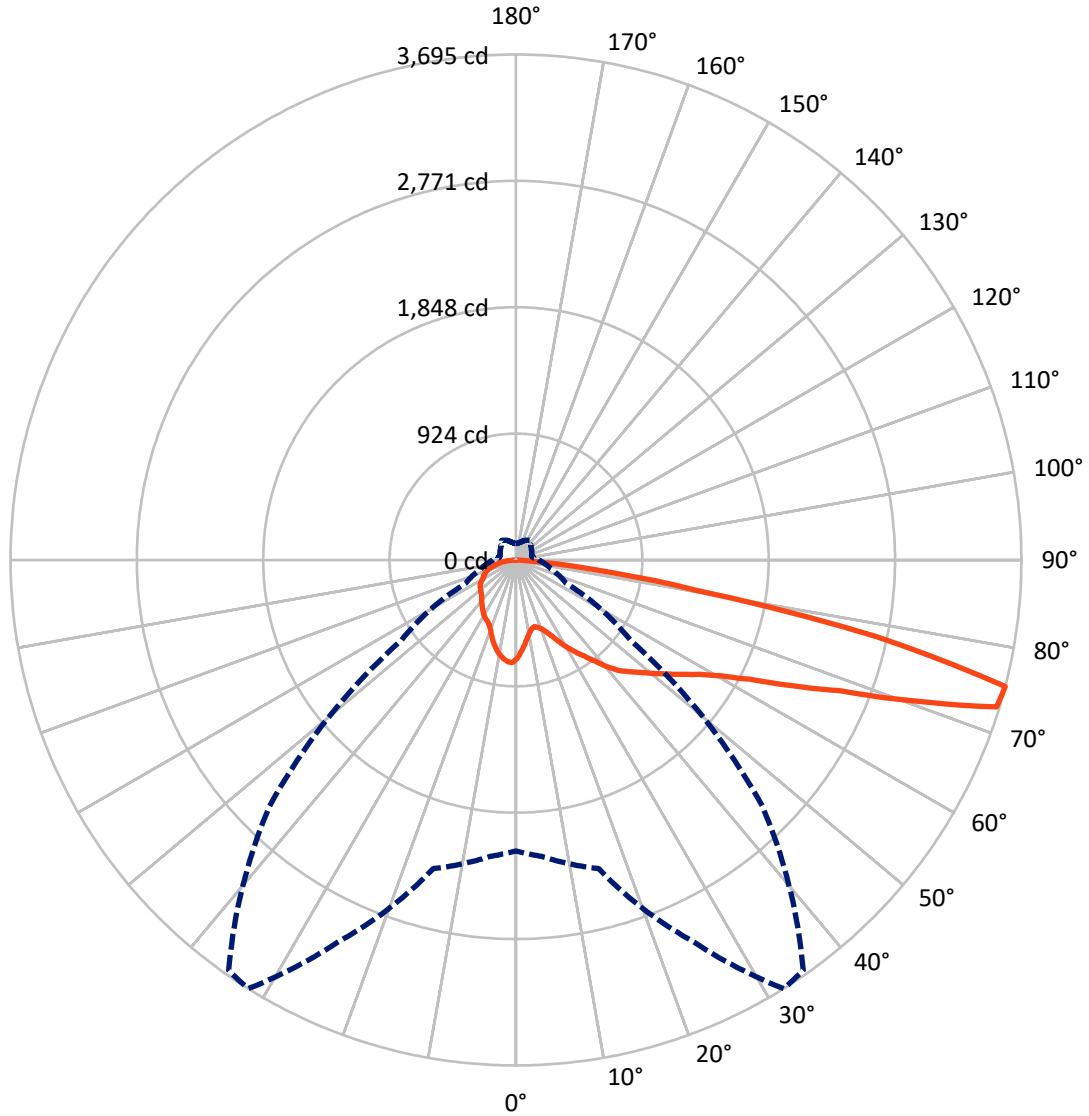
× Max cd  
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 1.2 fc  
 Type IV - Short - N/A

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### Luminous Intensity Polar Plot



— Vertical Plane Through 32-Deg Lateral    - - - Horizontal Cone Through 75-Deg Vertical

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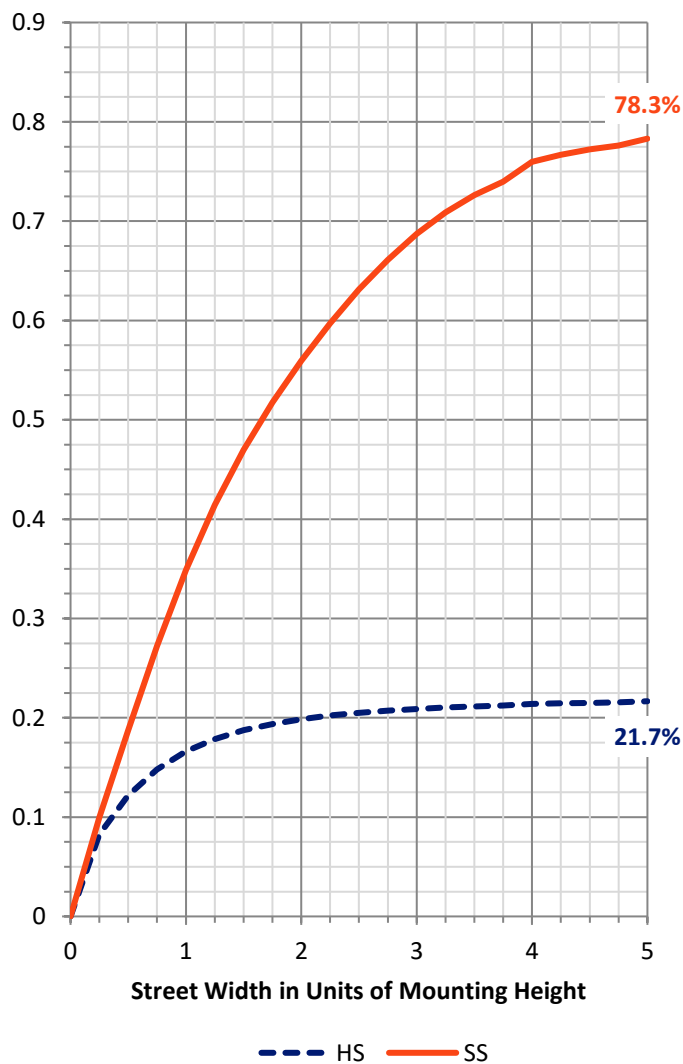
**FLUX DISTRIBUTION:**

		Downward	Upward	Total
<b>House Side</b>	Lumens	994.5	0.0	994.5
	% Fixture	21.9	0.0	21.9
<b>Street Side</b>	Lumens	3544.5	0.0	3544.5
	% Fixture	78.1	0.0	78.1
<b>Total</b>	Lumens	4539.0	0.0	4539.0
	% Fixture	100.0	0.0	100.0

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	65.6	1.4
10°-20°	179.4	4.0
20°-30°	296.8	6.5
30°-40°	442.4	9.7
40°-50°	629.9	13.9
50°-60°	866.6	19.1
60°-70°	1092.1	24.1
70°-80°	882.8	19.5
80°-90°	83.4	1.8
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°	4539.0	100.0
0°-180°	4539.0	100.0

**Coefficient of Utilization**



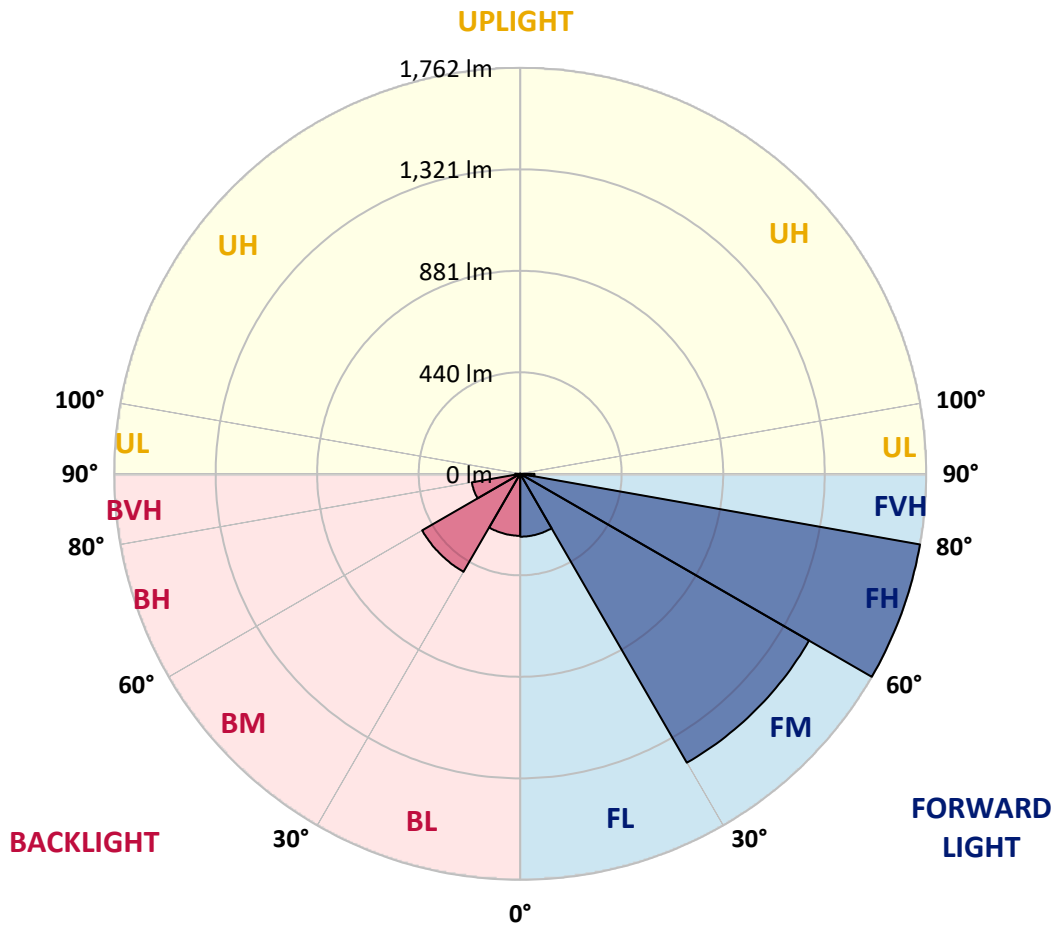
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**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	272.9	6.0			
FM (30°-60°)	1447.6	31.9			
FH (60°-80°)	1762.0	38.8			G1/1800
FVH (80°-90°)	62.0	1.4			G1/100
BL (0°-30°)	268.9	5.9	B1/500		
BM (30°-60°)	491.3	10.8	B1/1000		
BH (60°-80°)	213.0	4.7	B1/500		G1/500
BVH (80°-90°)	21.4	0.5			G1/100
UL (90°-100°)	0.0	0.0		U0/0	
UH (100°-180°)	0.0	0.0		U0/0	

**BUG Rating: B1-U0-G1**

Type IV Short





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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	15°	25°	32°	35°	45°	55°	65°	75°	85°
0°	722.6	722.6	722.6	722.6	722.6	722.6	722.6	722.6	722.6	722.6	722.6
2.5°	659.9	664.8	666.5	669.8	676.4	673.1	681.3	691.2	704.4	711.0	724.2
5°	603.8	603.8	608.7	617.0	628.5	628.5	643.4	661.5	684.6	702.8	725.9
7.5°	554.3	554.3	559.2	569.1	580.7	588.9	607.1	635.1	666.5	701.1	730.8
10°	513.1	514.7	518.0	527.9	542.7	551.0	577.4	608.7	650.0	694.5	735.8
12.5°	498.2	496.6	494.9	503.2	514.7	521.3	551.0	590.6	638.4	692.9	745.7
15°	509.8	506.5	501.5	501.5	506.5	509.8	534.5	575.7	628.5	691.2	757.2
17.5°	539.4	536.1	524.6	513.1	516.4	518.0	534.5	567.5	623.6	697.8	773.7
20°	580.7	575.7	555.9	541.1	537.8	537.8	547.7	572.4	626.9	711.0	795.1
22.5°	630.2	625.2	602.1	575.7	572.4	570.8	575.7	592.2	636.8	725.9	828.1
25°	696.2	691.2	663.2	630.2	618.6	617.0	612.0	621.9	653.3	745.7	851.2
27.5°	767.1	768.8	735.8	691.2	679.7	674.7	661.5	659.9	673.1	762.2	890.8
30°	833.1	829.8	795.1	758.9	742.4	735.8	714.3	704.4	696.2	786.9	937.0
32.5°	864.4	869.4	852.9	818.2	805.0	793.5	768.8	752.3	740.7	824.8	993.1
35°	917.2	918.9	912.3	890.8	864.4	856.2	833.1	821.5	796.8	871.0	1060.7
37.5°	970.0	975.0	973.3	960.1	937.0	928.8	909.0	904.0	854.5	928.8	1144.9
40°	1049.2	1041.0	1029.4	1034.4	1026.1	1021.2	1012.9	996.4	935.4	991.5	1227.4
42.5°	1135.0	1120.1	1078.9	1092.1	1103.6	1108.6	1120.1	1102.0	1019.5	1085.5	1295.0
45°	1204.3	1192.7	1138.3	1141.6	1164.7	1181.2	1235.6	1225.7	1128.4	1187.8	1385.7
47.5°	1243.9	1234.0	1196.0	1212.5	1227.4	1250.5	1356.0	1347.8	1230.7	1298.3	1494.6
50°	1300.0	1283.5	1247.2	1276.9	1303.3	1321.4	1473.2	1469.9	1318.1	1412.1	1618.3
52.5°	1331.3	1314.8	1311.5	1352.7	1384.1	1408.8	1598.5	1588.6	1403.9	1526.0	1735.5
55°	1374.2	1377.5	1398.9	1430.3	1474.8	1516.1	1720.6	1671.1	1483.1	1638.1	1850.9
57.5°	1468.2	1464.9	1506.2	1521.0	1578.7	1631.5	1865.8	1758.6	1549.1	1719.0	1905.4
60°	1593.6	1600.2	1615.0	1653.0	1715.7	1796.5	2006.0	1849.3	1591.9	1776.7	1895.5
62.5°	1831.2	1793.2	1786.6	1796.5	1920.2	2014.3	2142.9	1930.1	1610.1	1778.4	1791.6
65°	2072.0	2057.2	2006.0	2030.8	2210.6	2296.4	2319.5	1982.9	1573.8	1676.1	1560.6
67.5°	2321.1	2319.5	2265.0	2336.0	2552.1	2652.7	2515.8	1973.0	1455.0	1436.9	1199.3
70°	2576.8	2588.4	2588.4	2789.6	3084.9	3111.3	2735.2	1879.0	1219.1	1017.9	701.1
72.5°	2689.0	2695.6	2755.0	3202.0	3673.9	3682.1	2860.6	1595.2	831.4	542.7	353.0
75°	2126.4	2175.9	2336.0	3083.3	3695.3	3662.3	2548.8	1021.2	405.8	270.5	196.3
77.5°	834.7	852.9	1177.9	1963.1	2692.3	2725.3	1649.7	407.5	206.2	171.6	141.9
80°	235.9	247.5	417.4	780.3	1329.6	1469.9	656.6	176.5	138.6	125.4	102.3
82.5°	84.1	95.7	155.1	298.6	567.5	598.8	178.2	87.4	89.1	80.8	62.7
85°	11.5	9.9	21.4	54.4	125.4	105.6	29.7	23.1	36.3	37.9	26.4
87.5°	0.0	0.0	0.0	1.6	1.6	1.6	0.0	0.0	0.0	1.6	1.6
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: IST-SA1D-830-U-T4FT

**CANDELA DISTRIBUTION (continued):**

	90°	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°
0°	722.6	722.6	722.6	722.6	722.6	722.6	722.6	722.6	722.6	722.6	722.6
2.5°	727.5	730.8	737.4	740.7	744.0	750.6	749.0	752.3	752.3	750.6	753.9
5°	734.1	742.4	750.6	753.9	755.6	755.6	747.3	742.4	740.7	739.1	740.7
7.5°	740.7	752.3	760.5	758.9	752.3	740.7	730.8	722.6	714.3	711.0	714.3
10°	752.3	763.8	768.8	757.2	739.1	720.9	706.1	694.5	681.3	679.7	681.3
12.5°	762.2	777.0	777.0	750.6	725.9	701.1	678.0	659.9	643.4	638.4	638.4
15°	778.7	790.2	778.7	742.4	707.7	676.4	643.4	620.3	600.5	592.2	593.9
17.5°	796.8	805.0	775.4	729.2	687.9	646.7	603.8	572.4	557.6	549.3	551.0
20°	818.2	819.9	775.4	712.7	658.2	603.8	557.6	534.5	524.6	519.7	521.3
22.5°	846.3	839.7	770.4	691.2	620.3	560.9	518.0	511.4	511.4	511.4	516.4
25°	876.0	857.8	762.2	663.2	570.8	509.8	493.3	501.5	508.1	508.1	511.4
27.5°	905.7	876.0	745.7	621.9	513.1	473.5	480.1	493.3	499.9	499.9	503.2
30°	942.0	897.4	725.9	565.8	458.6	448.7	465.2	481.7	491.6	491.6	494.9
32.5°	988.2	915.6	696.2	508.1	422.3	427.3	445.4	463.6	475.1	478.4	480.1
35°	1039.3	940.3	654.9	443.8	397.6	410.8	425.6	442.1	452.0	455.3	455.3
37.5°	1092.1	965.1	600.5	389.3	376.1	394.3	409.1	417.4	424.0	424.0	424.0
40°	1144.9	978.3	529.5	346.4	354.7	381.1	394.3	391.0	389.3	384.4	386.0
42.5°	1199.3	988.2	453.7	315.1	333.2	366.2	376.1	367.9	354.7	346.4	348.1
45°	1258.7	1003.0	391.0	292.0	311.8	353.0	362.9	346.4	329.9	316.7	313.4
47.5°	1326.3	1027.8	334.9	270.5	298.6	344.8	354.7	331.6	310.1	292.0	288.7
50°	1418.7	1065.7	292.0	255.7	290.3	339.8	348.1	318.4	293.6	270.5	268.9
52.5°	1512.8	1093.7	262.3	242.5	280.4	329.9	339.8	308.5	278.8	254.1	250.8
55°	1582.0	1090.4	235.9	229.3	267.2	316.7	331.6	296.9	259.0	235.9	232.6
57.5°	1611.7	1022.8	214.5	217.8	252.4	300.2	318.4	278.8	244.2	224.4	222.7
60°	1560.6	913.9	199.6	204.6	235.9	278.8	293.6	265.6	234.3	216.1	214.5
62.5°	1471.5	791.8	188.1	194.7	219.4	259.0	278.8	249.1	221.1	207.9	206.2
65°	1260.4	658.2	176.5	183.1	204.6	239.2	265.6	239.2	211.2	198.0	196.3
67.5°	951.9	473.5	165.0	171.6	191.4	224.4	254.1	226.0	196.3	186.4	186.4
70°	567.5	290.3	150.1	160.0	174.9	206.2	235.9	207.9	178.2	174.9	171.6
72.5°	277.1	184.8	136.9	145.2	156.7	183.1	209.5	184.8	155.1	146.8	145.2
75°	166.6	133.6	118.8	128.7	136.9	153.4	176.5	158.4	135.3	122.1	120.4
77.5°	120.4	100.6	100.6	110.5	110.5	127.0	151.8	135.3	113.8	105.6	103.9
80°	85.8	75.9	82.5	89.1	85.8	107.2	128.7	113.8	92.4	85.8	84.1
82.5°	56.1	52.8	62.7	61.0	61.0	82.5	105.6	85.8	67.6	56.1	52.8
85°	23.1	26.4	36.3	34.6	34.6	46.2	54.4	44.5	31.3	24.7	24.7
87.5°	0.0	1.6	4.9	3.3	3.3	4.9	1.6	1.6	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

CCT = 3050K  
 CIE x = 0.4383  
 CIE y = 0.4131  
 Duv = 0.0034

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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**



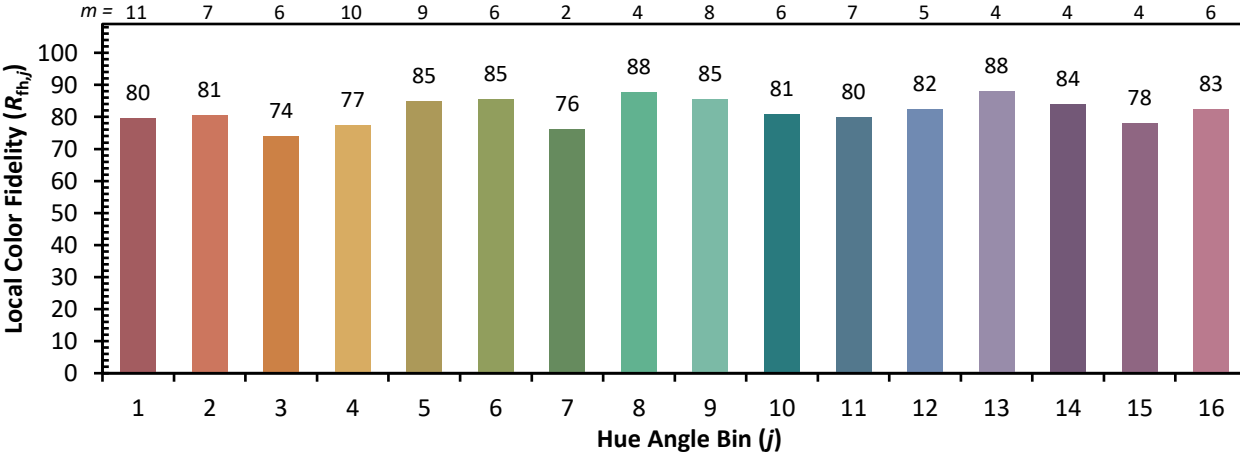


**Individual Sample Fidelity Index ( $R_{f,i}$ )**

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)