

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: P321433

Luminaire Tested: **GLEON-SA9A-830-U-T2R-HSS**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P321433  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-1903-205-9)  
Test Lab: INNOVATION CENTER  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: McGRAW-EDISON  
Catalog Number: GLEON-SA9A-830-U-T2R-HSS  
Description: GALLEON AREA AND ROADWAY LUMINAIRE  
(9) 80 CRI, 3000K, 615mA LIGHTSQUARES WITH 16 LEDS EACH AND TYPE II  
ROADWAY OPTICS WITH HOUSE SIDE SHIELD  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 26723 lumens  
Efficiency: N/A  
Efficacy: 92.1 lumens/watt  
Luminous Opening: Rectangular (W 2.5' x L: 1' x H: 0')  
IES Classification: Type II - Medium  
BUG Rating: B1 - U0 - G3

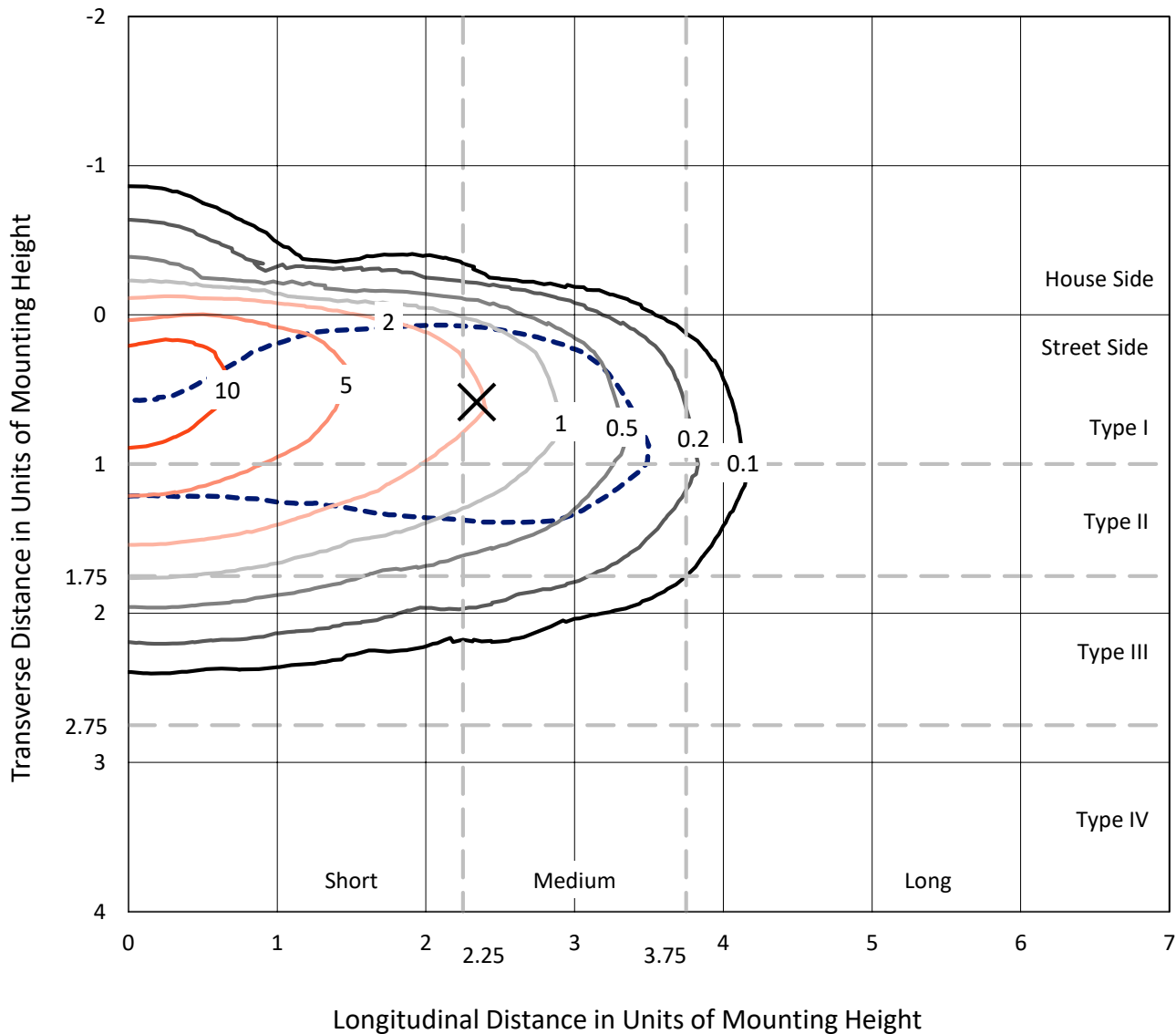
Input Watts (W): 290  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 24 FT



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### Iso-Footcandle Lines of Horizontal Illumination

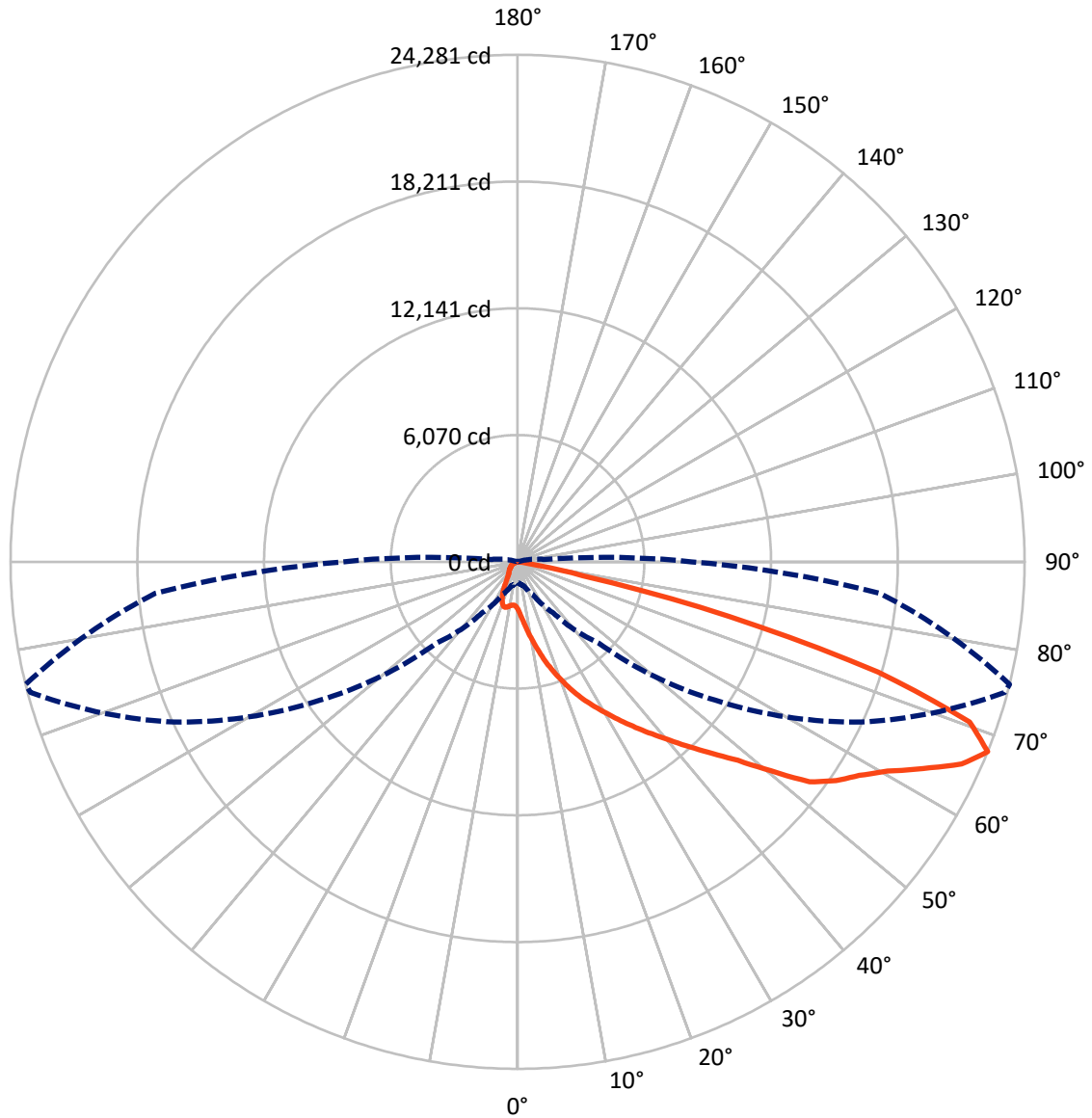
✕ Max cd  
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 12.8 fc  
 Type II - Medium - N/A

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### Luminous Intensity Polar Plot



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

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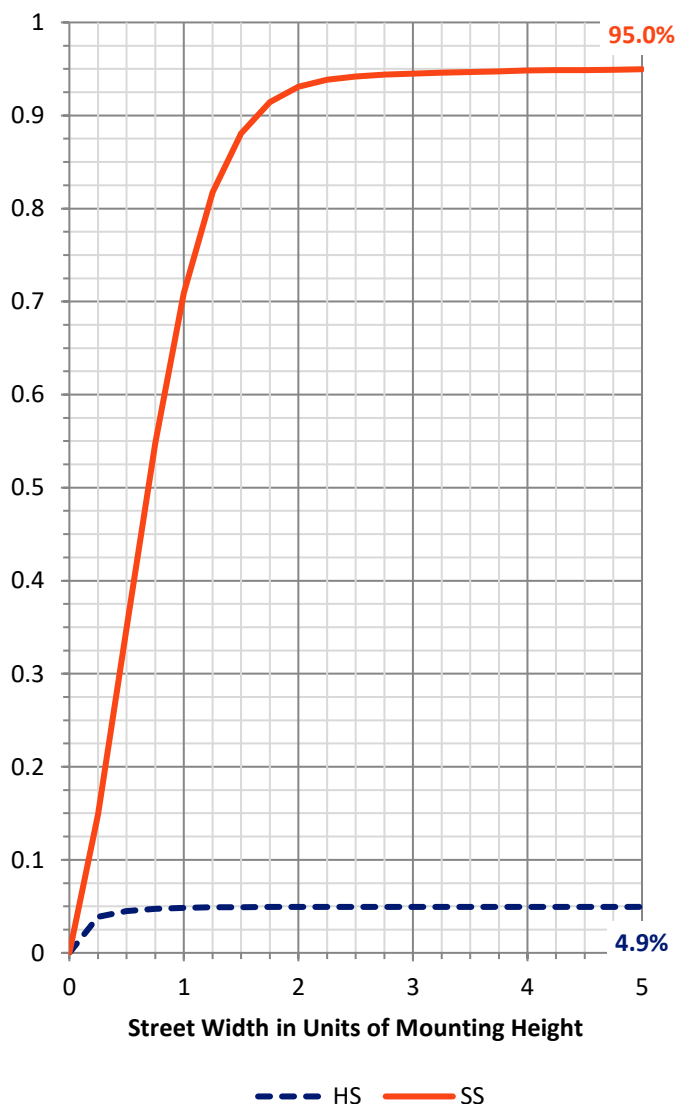
**FLUX DISTRIBUTION:**

		Downward	Upward	Total
<b>House Side</b>	Lumens	1327.0	0.0	1327.0
	% Fixture	5.0	0.0	5.0
<b>Street Side</b>	Lumens	25396.0	0.0	25396.0
	% Fixture	95.0	0.0	95.0
<b>Total</b>	Lumens	26723.0	0.0	26723.0
	% Fixture	100.0	0.0	100.0

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	281.9	1.1
10°-20°	1117.4	4.2
20°-30°	2273.6	8.5
30°-40°	3946.2	14.8
40°-50°	5575.5	20.9
50°-60°	6322.9	23.7
60°-70°	5244.2	19.6
70°-80°	1899.6	7.1
80°-90°	61.6	0.2
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°	26723.0	100.0
0°-180°	26723.0	100.0

**Coefficient of Utilization**



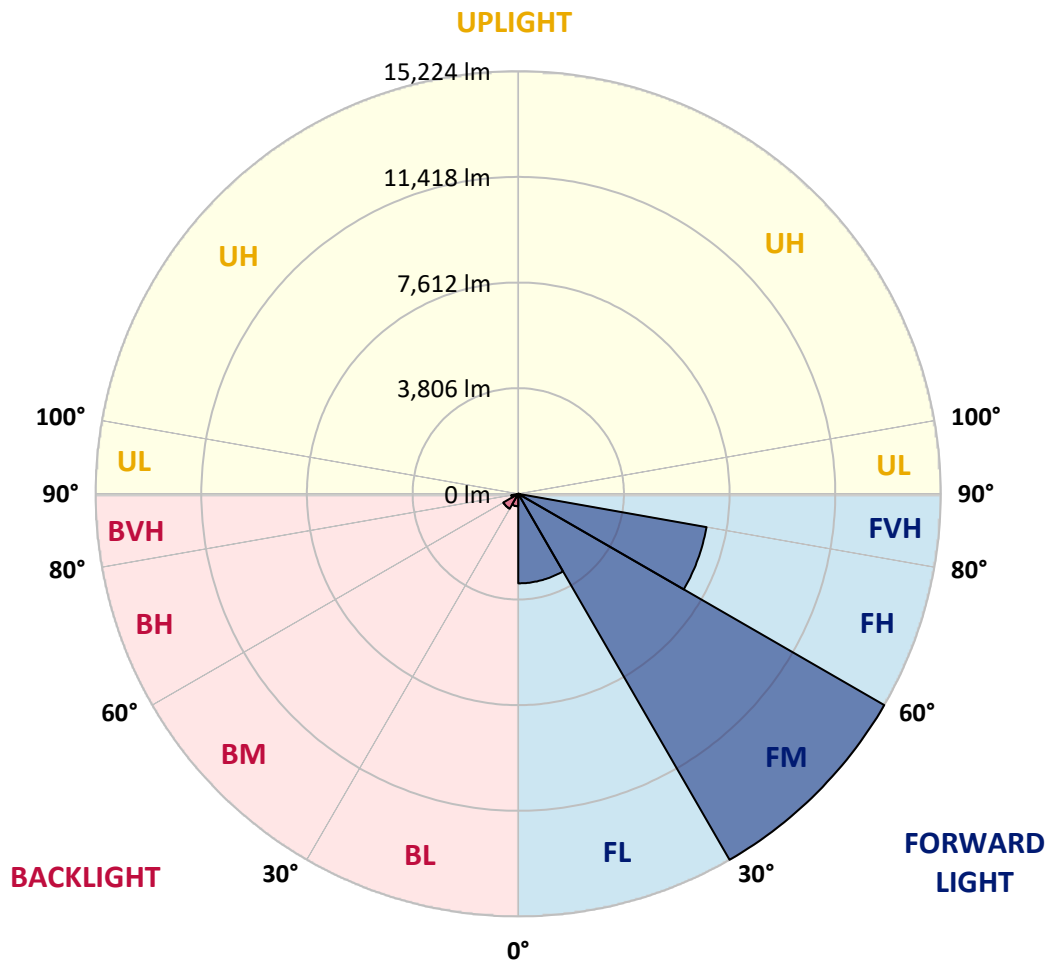
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**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	3225.4	12.1			
FM (30°-60°)	15223.6	57.0			
FH (60°-80°)	6887.4	25.8			G3/7500
FVH (80°-90°)	59.7	0.2			G1/100
BL (0°-30°)	447.5	1.7	B1/500		
BM (30°-60°)	621.1	2.3	B1/1000		
BH (60°-80°)	256.4	1.0	B1/500		G1/500
BVH (80°-90°)	1.9	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-G3**

Type II Medium





REPORT NUMBER: P321433

CATALOG NUMBER: GLEON-SA9A-830-U-T2R-HSS

**CANDELA DISTRIBUTION (FULL):**

	0°	5°	15°	25°	35°	45°	55°	65°	75°	76°	85°
0°	2266.9	2266.9	2266.9	2266.9	2266.9	2266.9	2266.9	2266.9	2266.9	2266.9	2266.9
2.5°	3383.9	3307.8	3325.4	3276.2	3187.2	3004.6	2848.8	2701.3	2529.2	2523.3	2381.6
5°	4563.0	4498.6	4490.4	4390.9	4229.3	3919.0	3616.9	3272.7	2888.6	2860.5	2559.6
7.5°	5633.3	5581.7	5563.0	5444.7	5143.8	4841.7	4448.3	3942.5	3341.8	3290.3	2799.6
10°	6455.2	6430.6	6435.3	6351.0	6093.4	5812.4	5296.0	4650.9	3855.8	3776.2	3087.7
12.5°	7078.2	7084.0	7126.2	7074.6	6930.6	6722.2	6170.7	5406.1	4424.9	4316.0	3416.7
15°	7536.0	7565.3	7642.5	7706.9	7696.4	7516.1	7010.2	6173.0	5029.1	4908.5	3783.2
17.5°	7832.2	7865.0	7977.4	8120.3	8251.4	8209.3	7820.5	6913.1	5640.3	5500.9	4175.5
20°	8092.2	8130.8	8251.4	8439.9	8684.6	8737.3	8482.1	7630.8	6250.3	6080.5	4580.6
22.5°	8655.4	8654.2	8728.0	8838.0	9071.1	9206.9	9045.3	8297.1	6853.3	6676.5	4993.9
25°	9674.1	9635.4	9609.7	9523.0	9574.5	9658.8	9568.7	8920.0	7459.9	7280.7	5413.1
27.5°	10884.8	10908.2	10699.8	10466.8	10286.5	10199.8	10052.3	9497.3	8043.0	7846.3	5822.9
30°	12162.3	12169.3	11923.4	11626.0	11229.0	10900.0	10644.8	10048.8	8642.5	8428.2	6221.1
32.5°	13314.4	13268.8	13025.2	12620.1	12118.9	11748.9	11218.5	10664.7	9277.1	9069.9	6663.7
35°	14227.7	14173.9	13877.6	13508.8	12988.9	12616.6	11978.4	11279.4	9944.6	9742.0	7107.4
37.5°	14895.2	14831.9	14527.5	14148.1	13699.7	13483.0	12860.1	11948.0	10672.9	10455.1	7574.6
40°	15127.0	15072.0	14881.1	14603.6	14243.0	14193.8	13795.7	12717.3	11465.6	11233.7	8103.9
42.5°	14988.8	14935.0	14867.1	14773.4	14623.5	14670.3	14678.5	13594.3	12346.1	12117.8	8688.2
45°	14440.8	14392.8	14463.1	14600.1	14786.3	15018.1	15484.1	14536.9	13329.7	13086.1	9363.8
47.5°	13634.1	13599.0	13793.3	14135.2	14679.7	15319.0	16220.6	15527.5	14433.8	14207.8	10206.8
50°	12486.6	12480.7	12869.5	13493.6	14330.8	15464.2	16981.7	16653.9	15967.7	15730.0	11378.9
52.5°	10699.8	10711.5	11476.1	12474.9	13718.4	15365.9	17471.2	18101.1	17752.2	17505.1	12394.1
55°	8998.5	9068.7	9610.8	11051.1	12779.3	15000.5	17639.8	18776.7	18736.9	18502.7	12958.5
57.5°	7332.2	7459.9	7982.1	9327.5	11408.2	14158.7	17547.3	19069.5	19469.9	19290.8	13703.2
60°	5526.7	5585.2	6187.1	7444.7	9648.3	12622.4	16876.3	19228.7	20472.2	20348.1	14783.9
62.5°	3516.2	3662.6	4196.5	5409.6	7512.6	10489.0	15745.2	19226.4	21726.3	21794.2	16178.5
65°	1852.4	2023.3	2306.7	3352.3	5162.5	8106.2	14043.9	19046.0	23264.8	23359.7	17268.6
67.5°	998.8	1048.0	1197.8	1740.0	2994.0	5491.6	11544.0	18156.2	24155.9	24281.2	17420.8
70°	730.6	757.6	813.8	962.5	1507.0	3189.6	8423.5	16138.7	23007.2	22960.4	15478.3
72.5°	560.9	603.0	645.2	704.9	866.5	1702.5	5244.5	12637.6	18357.5	18048.4	11569.8
75°	442.6	449.6	509.3	563.2	649.9	969.5	2328.9	7360.3	11204.5	10472.6	5999.7
77.5°	353.6	358.3	393.4	440.3	522.2	637.0	721.3	2895.7	3577.1	3191.9	1302.1
80°	209.6	221.3	292.7	339.6	433.2	401.6	263.5	628.8	558.5	505.8	219.0
82.5°	117.1	126.5	165.1	268.1	302.1	192.0	131.1	169.8	131.1	127.6	62.1
85°	0.0	5.9	106.6	166.3	122.9	42.2	55.0	56.2	38.6	36.3	24.6
87.5°	0.0	0.0	32.8	31.6	4.7	7.0	12.9	18.7	15.2	15.2	12.9
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: GLEON-SA9A-830-U-T2R-HSS

**CANDELA DISTRIBUTION (continued):**

	90°	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°
0°	2266.9	2266.9	2266.9	2266.9	2266.9	2266.9	2266.9	2266.9	2266.9	2266.9	2266.9
2.5°	2311.4	2248.1	2128.7	2011.6	1913.3	1832.5	1759.9	1730.6	1707.2	1703.7	1684.9
5°	2414.4	2286.8	2058.5	1871.1	1745.8	1656.8	1580.7	1533.9	1497.6	1483.5	1470.7
7.5°	2570.2	2377.0	2049.1	1833.6	1683.8	1533.9	1393.4	1241.2	1146.3	1110.0	1088.9
10°	2759.8	2496.4	2084.2	1823.1	1560.8	1244.7	1011.7	818.5	740.0	714.3	707.2
12.5°	2981.1	2645.1	2145.1	1757.5	1298.5	884.0	697.9	632.3	614.7	606.5	606.5
15°	3235.2	2807.8	2188.4	1567.9	960.1	668.6	604.2	573.7	555.0	544.5	545.6
17.5°	3495.2	2967.1	2167.4	1292.7	708.4	594.8	546.8	514.0	488.3	477.7	475.4
20°	3757.5	3114.6	2050.3	962.5	599.5	539.8	485.9	449.6	423.9	413.3	411.0
22.5°	4029.1	3239.9	1844.2	706.1	538.6	478.9	426.2	389.9	365.3	356.0	351.3
25°	4293.7	3341.8	1556.1	571.4	481.2	421.5	371.2	337.2	315.0	305.6	304.4
27.5°	4540.8	3406.2	1222.4	504.7	430.9	370.0	324.3	293.9	275.2	268.1	267.0
30°	4763.3	3412.0	903.9	455.5	386.4	325.5	283.4	256.4	240.0	233.0	230.7
32.5°	4988.1	3362.9	658.1	411.0	345.4	286.9	245.9	224.8	213.1	207.3	207.3
35°	5200.0	3249.3	512.9	372.3	305.6	249.4	216.6	201.4	194.4	188.5	188.5
37.5°	5407.3	3086.5	435.6	338.4	268.1	217.8	190.9	181.5	175.6	169.8	169.8
40°	5618.0	2881.6	395.8	306.8	237.7	193.2	169.8	161.6	155.7	151.0	149.9
42.5°	5876.8	2645.1	370.0	277.5	210.8	171.0	149.9	140.5	135.8	131.1	128.8
45°	6176.6	2441.4	348.9	248.2	188.5	152.2	130.0	120.6	113.6	107.7	106.6
47.5°	6608.6	2293.8	320.8	216.6	167.4	132.3	112.4	101.9	91.3	85.5	84.3
50°	7160.1	2172.0	284.5	188.5	146.4	112.4	93.7	80.8	71.4	65.6	65.6
52.5°	7434.1	2012.8	251.7	163.9	122.9	94.8	76.1	60.9	56.2	50.3	50.3
55°	7544.2	1891.0	219.0	139.3	101.9	78.5	59.7	46.8	43.3	39.8	38.6
57.5°	7853.3	1855.9	190.9	118.3	84.3	62.1	45.7	35.1	32.8	28.1	28.1
60°	8350.9	1873.5	165.1	100.7	67.9	48.0	34.0	26.9	24.6	19.9	19.9
62.5°	8888.4	1851.2	139.3	86.6	52.7	35.1	23.4	19.9	19.9	11.7	10.5
65°	8991.4	1648.6	119.4	71.4	41.0	25.8	15.2	12.9	17.6	2.3	0.0
67.5°	8345.1	1278.6	103.0	55.0	30.4	19.9	11.7	5.9	15.2	0.0	0.0
70°	6673.0	812.6	83.1	39.8	23.4	16.4	9.4	2.3	11.7	0.0	0.0
72.5°	4718.8	471.9	65.6	28.1	19.9	12.9	7.0	0.0	7.0	0.0	0.0
75°	2386.3	251.7	41.0	21.1	15.2	9.4	4.7	0.0	1.2	0.0	0.0
77.5°	516.4	117.1	25.8	15.2	10.5	5.9	2.3	0.0	0.0	0.0	0.0
80°	112.4	51.5	16.4	9.4	5.9	3.5	0.0	0.0	0.0	0.0	0.0
82.5°	41.0	26.9	8.2	4.7	2.3	0.0	0.0	0.0	0.0	0.0	0.0
85°	22.2	14.1	4.7	2.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0
87.5°	11.7	4.7	1.2	1.2	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**



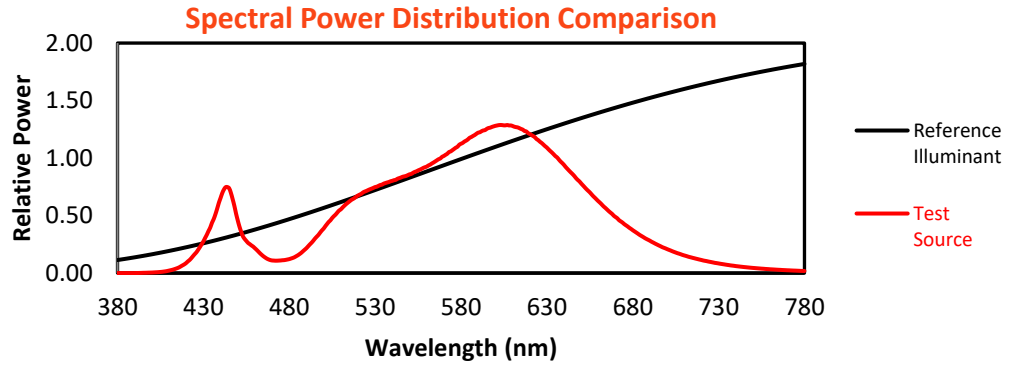
**Melanopic Lumens: NR**

**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**

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



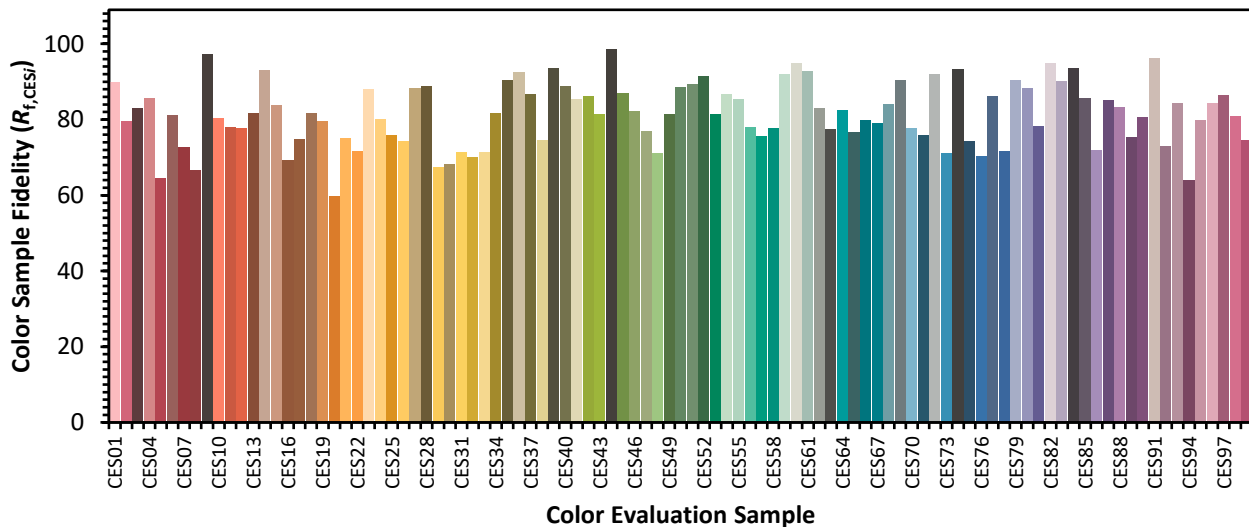
**Color Vector Graphics**



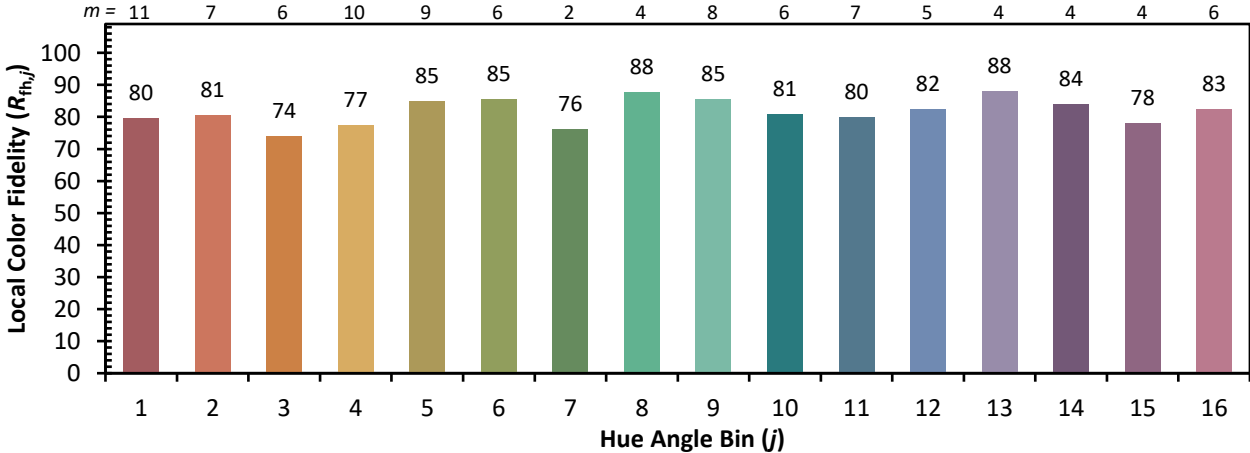


**Individual Sample Fidelity Index ( $R_{f,i}$ )**

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)