

Scaled data based on original data using
LM-79-2019 Approved Method: Electrical and Photometric Measurements of Solid-
State Lighting Products

Test Report Prepared for

Cooper Lighting Solutions

Brand: McGRAW-EDISON

Report Number: P638964

Luminaire Tested: GWS-SA4F-830-U-SL2-W-GRSBK

Issue Date: 1/10/2023

Test Information

Test Method: LM-79-2019
Report Number: P638964
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2209-782-28)
Test Lab: COOPER LIGHTING SOLUTIONS
Issue Date: 1/10/2023
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: McGRAW-EDISON
Catalog Number: GWS-SA4F-830-U-SL2-W-GRSBK
Description: GALLEON WALL SLIM LUMINAIRE. (4) LIGHTSQUARES WITH 16 LEDS EACH AND TYPE II SPILL LIGHT ELIMINATOR OPTICS W/ FACTORY INSTALLED GLARE SHIELD, BK
Light Source: (64) 3000K CCT, 80 CRI LEDS
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 15871 lumens
Efficiency: N/A
Efficacy: 70.4 lumens/watt
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')
IES Classification: Type II - Short
BUG Rating: B3 - U0 - G1

Input Watts (W): 225.3
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 0
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 28.75 FT



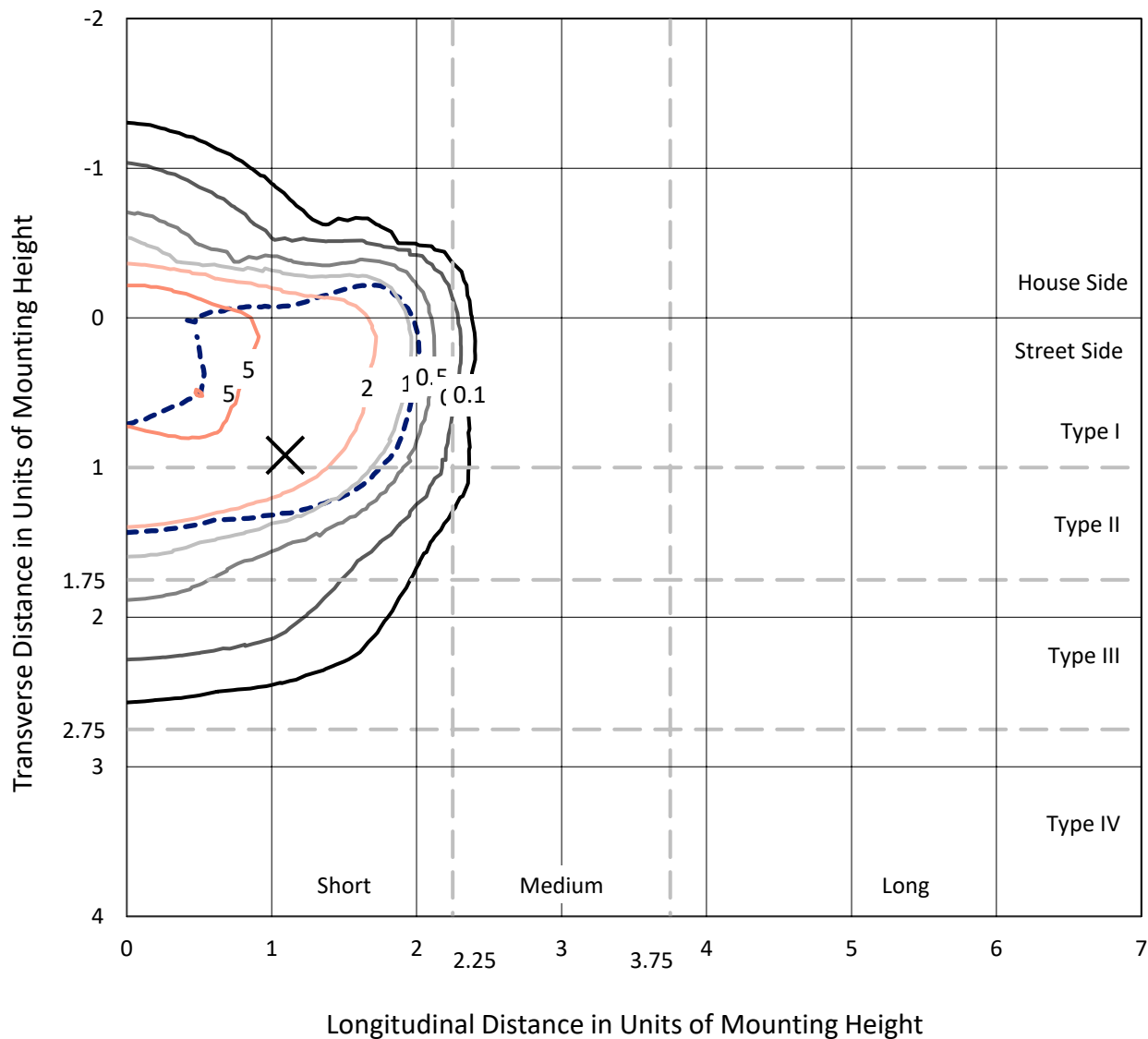
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Iso-Footcandle Lines of Horizontal Illumination

✕ Max cd

--- 1/2 Max cd

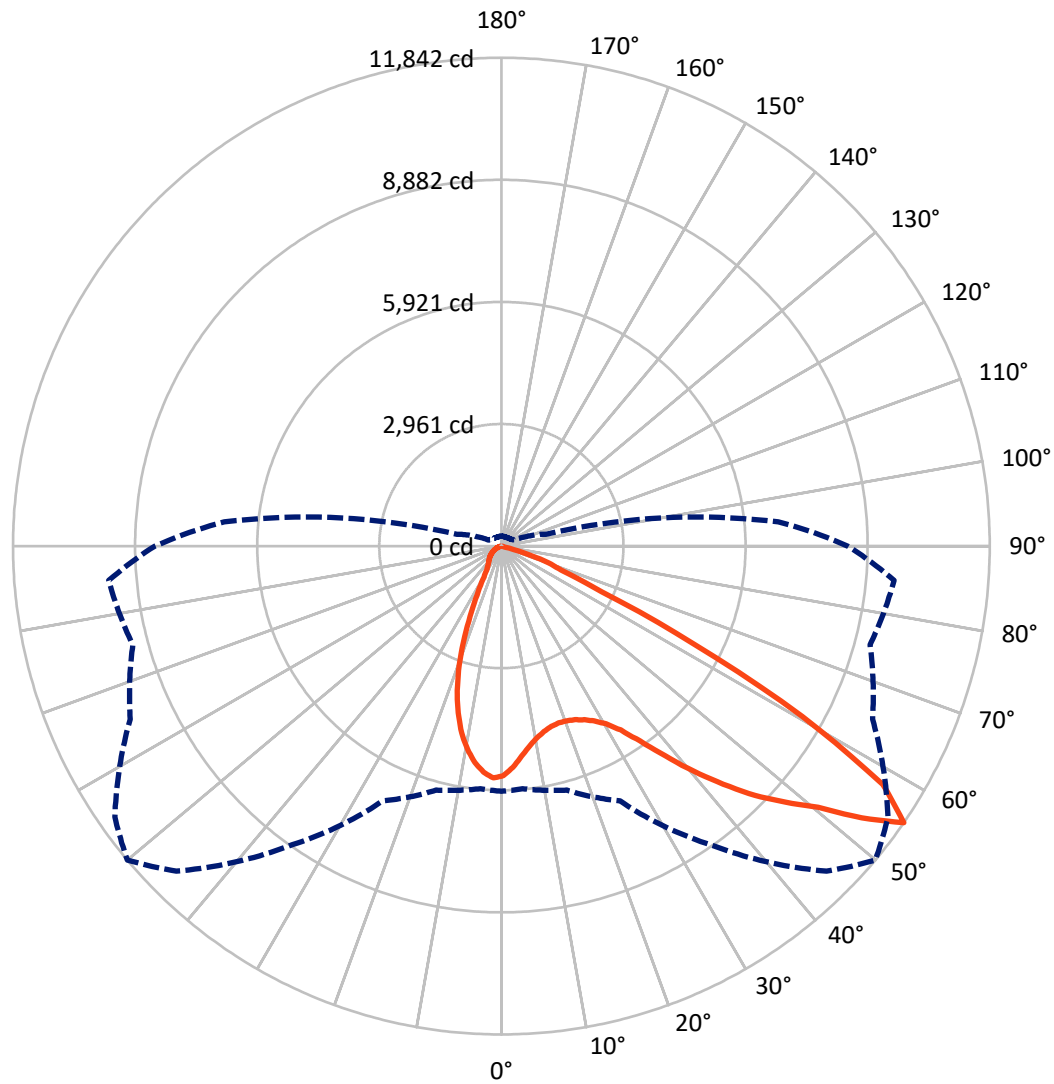


Based on 25 foot mounting height. Maximum calculated value = 8.9 fc
 Type II - Short - N/A

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Luminous Intensity Polar Plot



— Vertical Plane Through 50-Deg Lateral - - - Horizontal Cone Through 55-Deg Vertical

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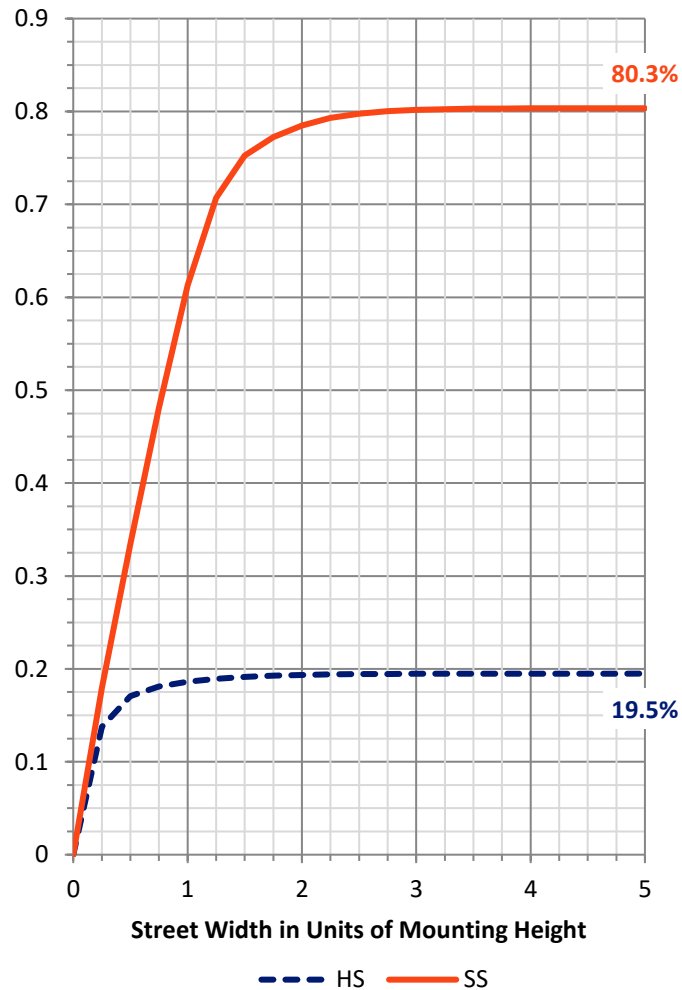
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	3127.3	0.0	3127.3
	% Fixture	19.7	0.0	19.7
Street Side	Lumens	12743.7	0.0	12743.7
	% Fixture	80.3	0.0	80.3
Total	Lumens	15871.0	0.0	15871.0
	% Fixture	100.0	0.0	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	489.0	3.1
10°-20°	1203.4	7.6
20°-30°	1697.4	10.7
30°-40°	2511.9	15.8
40°-50°	3623.8	22.8
50°-60°	4274.6	26.9
60°-70°	1906.8	12.0
70°-80°	163.9	1.0
80°-90°	0.1	0.0
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°	15871.0	100.0
0°-180°	15871.0	100.0

Coefficient of Utilization



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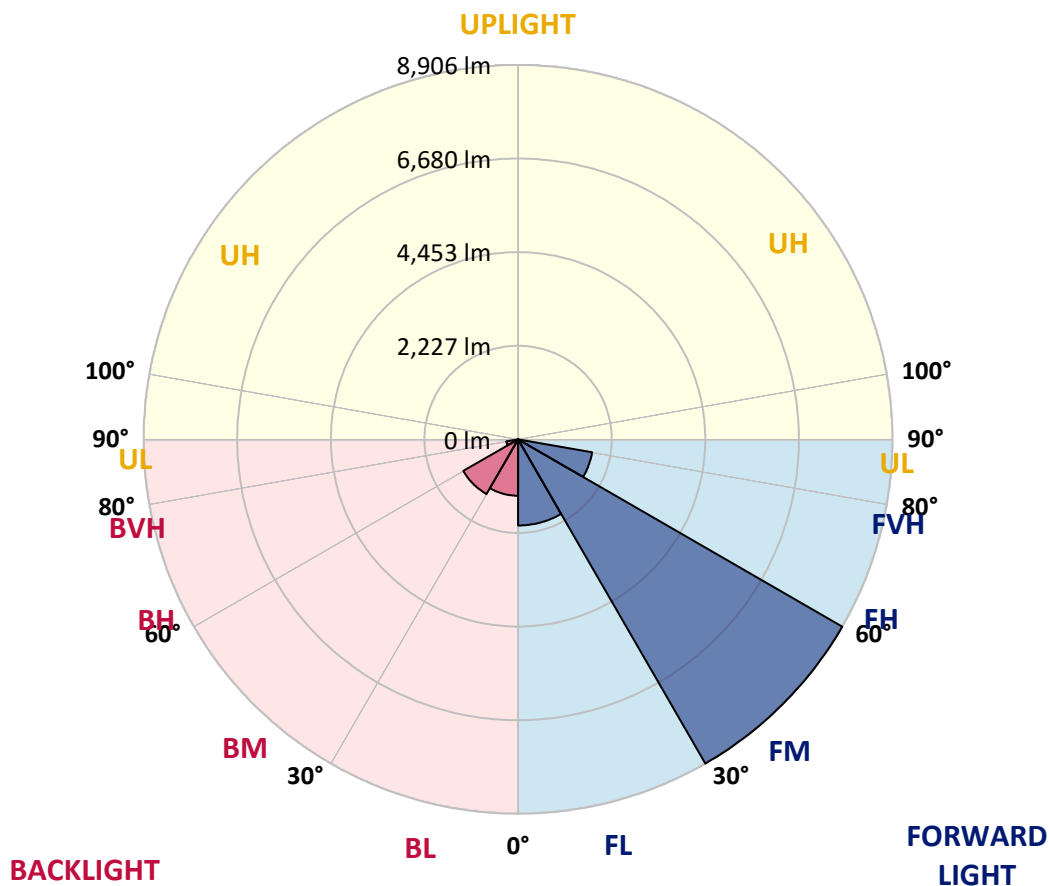
CATALOG NUMBER: GWS-SA4F-830-U-SL2-W-GRSBK

LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	2049.0	12.9			
FM	(30°-60°)	8906.3	56.1			
FH	(60°-80°)	1788.4	11.3			G1/1800
FVH	(80°-90°)	0.0	0.0			G0/10
BL	(0°-30°)	1340.9	8.4	B3/2500		
BM	(30°-60°)	1504.0	9.5	B2/2500		
BH	(60°-80°)	282.4	1.8	B1/500		G1/500
BVH	(80°-90°)	0.1	0.0			G0/10
UL	(90°-100°)	0.0	0.0		U0/0	
UH	(100°-180°)	0.0	0.0		U0/0	

BUG Rating: B3-U0-G1

Type II Short





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CATALOG NUMBER: GWS-SA4F-830-U-SL2-W-GRSBK

CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	45°	50°	55°	65°	75°	85°
0°	5568.4	5568.4	5568.4	5568.4	5568.4	5568.4	5568.4	5568.4	5568.4	5568.4	5568.4
2.5°	5173.2	5177.1	5179.0	5231.3	5250.7	5328.2	5368.9	5390.2	5446.4	5512.2	5566.5
5°	4826.4	4820.5	4830.2	4896.1	4938.7	5053.0	5115.0	5157.7	5281.7	5436.7	5566.5
7.5°	4524.1	4535.7	4547.4	4619.0	4683.0	4807.0	4896.1	4960.0	5132.5	5363.1	5582.0
10°	4311.0	4311.0	4328.4	4409.8	4485.4	4638.4	4727.5	4808.9	5014.3	5297.2	5599.4
12.5°	4154.0	4156.0	4177.3	4270.3	4357.5	4516.4	4609.4	4688.8	4915.5	5231.3	5603.3
15°	4080.4	4074.6	4092.0	4190.9	4287.7	4436.9	4533.8	4611.3	4845.7	5194.5	5622.7
17.5°	4061.0	4057.2	4070.7	4167.6	4266.4	4411.7	4506.7	4584.2	4836.0	5206.1	5680.8
20°	4117.2	4109.5	4103.7	4187.0	4280.0	4423.4	4522.2	4609.4	4882.5	5270.1	5769.9
22.5°	4250.9	4250.9	4237.4	4278.0	4340.0	4469.9	4572.5	4686.9	5004.6	5397.9	5901.7
25°	4497.0	4477.6	4452.4	4469.9	4462.1	4543.5	4665.5	4824.4	5235.2	5609.1	6062.5
27.5°	4777.9	4795.4	4752.7	4754.7	4686.9	4657.8	4799.2	5039.5	5578.1	5907.5	6300.8
30°	5159.6	5146.1	5148.0	5142.2	4985.2	4847.7	5000.7	5320.4	6010.2	6362.8	6610.8
32.5°	5458.0	5477.4	5541.3	5578.1	5372.7	5151.9	5314.6	5702.1	6502.3	6882.1	6990.6
35°	5773.8	5808.7	5938.5	6058.6	5886.2	5632.4	5806.7	6207.8	6965.4	7395.5	7426.5
37.5°	6107.1	6176.8	6331.8	6543.0	6515.9	6291.1	6450.0	6802.6	7329.6	7705.5	7786.9
40°	6488.8	6556.6	6810.4	7114.6	7178.5	7128.1	7180.4	7385.8	7569.9	7719.1	7941.9
42.5°	6907.3	7000.3	7321.9	7728.8	7969.0	8013.6	7891.5	7870.2	7674.5	7564.1	7909.0
45°	7401.3	7509.8	7874.1	8401.1	8782.8	8842.8	8631.6	8358.5	7740.4	7449.8	7810.1
47.5°	7955.5	8058.1	8420.5	9054.0	9621.7	9645.0	9276.8	8837.0	7936.1	7581.5	7885.7
50°	8141.5	8205.4	8519.3	9263.3	10309.5	10487.8	9955.0	9375.7	8329.4	7969.0	8253.8
52.5°	7502.1	7527.3	7800.5	8552.2	10170.0	11315.1	10945.0	10179.7	9028.8	8560.0	8821.5
55°	5944.3	5903.6	6124.5	6814.3	8839.0	11146.5	11842.1	11443.0	9929.8	9253.6	9559.7
57.5°	4157.9	4109.5	4059.1	4526.0	6595.3	9449.3	10912.1	11619.3	10788.1	9941.4	10356.0
60°	3417.8	3371.3	3127.2	2912.1	3987.4	6785.2	8381.7	9712.8	10718.4	9906.5	10330.9
62.5°	2952.8	2925.7	2826.8	2534.3	2346.3	3873.1	5248.7	6523.6	8224.8	7779.1	7802.4
65°	2319.2	2311.5	2379.3	2410.3	2075.1	2142.9	2677.7	3390.7	4446.6	4192.8	3975.8
67.5°	1584.9	1567.5	1695.3	2084.8	1995.6	1691.5	1567.5	1581.0	1924.0	1176.1	933.9
70°	1007.5	966.8	968.8	1292.3	1623.6	1335.0	1209.0	1063.7	957.1	174.4	197.6
72.5°	645.2	620.0	532.8	583.2	751.8	651.0	656.8	565.8	377.8	93.0	108.5
75°	271.3	249.9	191.8	153.1	151.1	94.9	83.3	77.5	52.3	52.3	56.2
77.5°	1.9	0.0	0.0	1.9	3.9	1.9	1.9	3.9	7.8	11.6	13.6
80°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.9
82.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
85°	0.0	0.0	0.0	0.0	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

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CANDELA DISTRIBUTION (continued):

	90°	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°
0°	5568.4	5568.4	5568.4	5568.4	5568.4	5568.4	5568.4	5568.4	5568.4	5568.4	5568.4
2.5°	5599.4	5552.9	5605.2	5624.6	5622.7	5624.6	5568.4	5529.7	5527.7	5479.3	5456.1
5°	5620.7	5583.9	5622.7	5597.5	5537.4	5461.9	5361.1	5273.9	5235.2	5179.0	5151.9
7.5°	5661.4	5622.7	5616.9	5516.1	5366.9	5208.1	5029.8	4870.9	4785.7	4683.0	4688.8
10°	5690.5	5645.9	5570.4	5365.0	5117.0	4863.2	4597.7	4361.4	4212.2	4074.6	4051.4
12.5°	5702.1	5636.2	5459.9	5149.9	4801.2	4469.9	4080.4	3743.3	3510.8	3330.6	3305.4
15°	5723.4	5616.9	5318.5	4890.3	4411.7	3942.9	3446.8	2985.7	2677.7	2470.3	2487.8
17.5°	5756.4	5595.6	5159.6	4599.7	3993.2	3330.6	2660.2	2131.3	1848.4	1728.3	1730.2
20°	5802.9	5570.4	4985.2	4280.0	3491.4	2638.9	1860.0	1460.9	1381.5	1377.6	1371.8
22.5°	5864.9	5545.2	4799.2	3929.3	2896.6	1848.4	1238.1	1114.1	1147.0	1210.9	1222.6
25°	5938.5	5514.2	4591.9	3534.0	2247.5	1212.9	928.1	908.7	988.1	1073.4	1092.8
27.5°	6052.8	5498.7	4355.5	3084.5	1577.1	869.9	759.5	771.1	842.8	914.5	931.9
30°	6246.6	5527.7	4097.9	2580.8	1013.3	693.6	658.8	676.2	714.9	751.8	767.3
32.5°	6510.1	5613.0	3847.9	2030.5	722.7	602.6	594.8	604.5	620.0	641.3	647.1
35°	6818.1	5760.2	3590.2	1453.1	596.8	550.3	542.5	542.5	550.3	554.1	556.1
37.5°	7071.9	5915.2	3348.0	966.8	534.8	509.6	497.9	492.1	490.2	494.1	496.0
40°	7182.4	5979.2	3084.5	703.3	490.2	472.8	455.3	437.9	437.9	451.4	453.4
42.5°	7104.9	5907.5	2780.3	581.3	459.2	434.0	406.9	391.4	399.1	412.7	416.6
45°	6940.2	5731.2	2445.1	513.4	428.2	395.3	364.3	354.6	362.3	379.8	383.6
47.5°	6913.1	5614.9	2044.1	468.9	395.3	362.3	329.4	319.7	329.4	342.9	346.8
50°	7182.4	5715.7	1598.5	430.1	364.3	327.4	300.3	290.6	296.4	304.2	308.1
52.5°	7674.5	6089.6	1290.4	393.3	327.4	292.6	275.1	263.5	263.5	271.3	273.2
55°	8401.1	6742.6	1114.1	350.7	284.8	265.4	249.9	238.3	238.3	242.2	244.1
57.5°	9238.1	7533.1	1154.8	294.5	249.9	240.3	226.7	217.0	220.9	220.9	220.9
60°	9121.8	7474.9	1236.1	248.0	220.9	217.0	205.4	201.5	211.2	203.4	199.6
62.5°	6719.3	5163.5	647.1	203.4	189.9	186.0	178.3	186.0	199.6	178.3	170.5
65°	3262.8	2499.4	259.6	166.6	160.8	156.9	153.1	164.7	172.4	139.5	131.8
67.5°	767.3	623.9	168.6	141.4	133.7	125.9	129.8	131.8	125.9	94.9	91.1
70°	199.6	195.7	131.8	118.2	106.6	98.8	98.8	96.9	83.3	60.1	56.2
72.5°	108.5	106.6	94.9	89.1	73.6	65.9	67.8	60.1	46.5	34.9	32.9
75°	54.3	58.1	54.3	50.4	40.7	36.8	36.8	32.9	23.3	13.6	13.6
77.5°	11.6	13.6	13.6	11.6	9.7	7.8	7.8	9.7	3.9	0.0	0.0
80°	1.9	1.9	1.9	1.9	1.9	0.0	0.0	0.0	0.0	0.0	0.0
82.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
85°	0.0	0.0	0.0	0.0	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

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
 R_f: 81.5
 R_g: 99.2

CRI (Ra): 81.0
 R1: 79.6
 R2: 85.6
 R3: 92.0
 R4: 82.6
 R5: 78.9
 R6: 81.7
 R7: 85.2
 R8: 62.0
 R9: 7.1
 R10: 67.0
 R11: 82.7
 R12: 63.2
 R13: 80.3
 R14: 95.0
 R15: 71.7



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

λ (nm)	Power W ^λ /nm	Lumens (φ/nm)	λ (nm)	Power W ^λ /nm	Lumens (φ/nm)	λ (nm)	Power W ^λ /nm	Lumens (φ/nm)	λ (nm)	Power W ^λ /nm	Lumens (φ/nm)	λ (nm)	Power W ^λ /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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Scotopic Flux vs. Wavelength



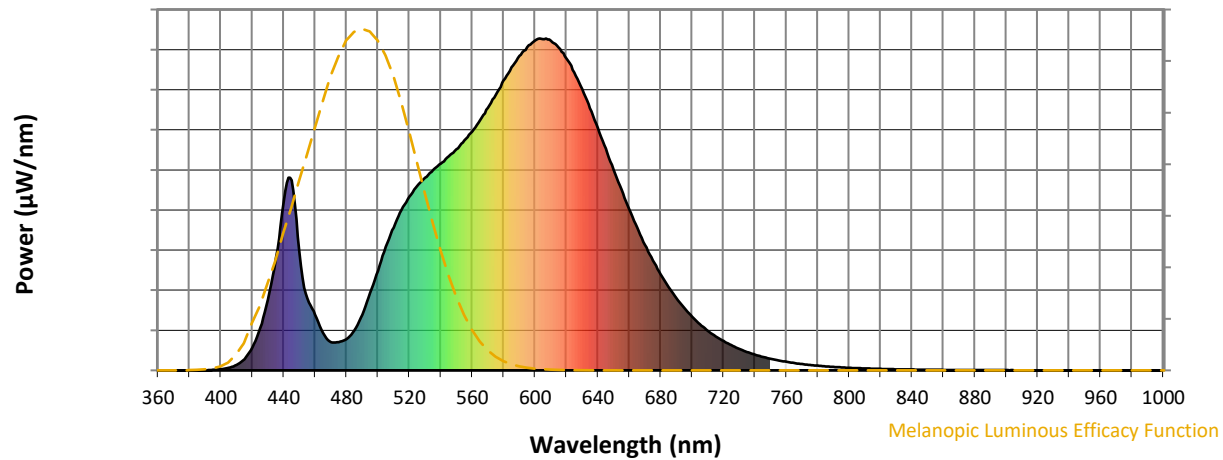
Scotopic Lumens: NR

S/P: 1.27

λ (nm)	Power $\text{W}^\wedge/\text{nm}$	Lumens (ϕ/nm)	λ (nm)	Power $\text{W}^\wedge/\text{nm}$	Lumens (ϕ/nm)	λ (nm)	Power $\text{W}^\wedge/\text{nm}$	Lumens (ϕ/nm)	λ (nm)	Power $\text{W}^\wedge/\text{nm}$	Lumens (ϕ/nm)	λ (nm)	Power $\text{W}^\wedge/\text{nm}$	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 $\text{W}^\wedge/\text{nm}$	Lumens (ϕ/nm)	λ (nm)	Power $\text{W}^\wedge/\text{nm}$	Lumens (ϕ/nm)	λ (nm)	Power $\text{W}^\wedge/\text{nm}$	Lumens (ϕ/nm)	λ (nm)	Power $\text{W}^\wedge/\text{nm}$	Lumens (ϕ/nm)	λ (nm)	Power $\text{W}^\wedge/\text{nm}$	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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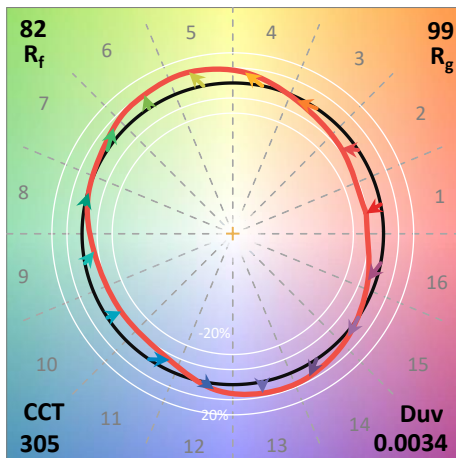
TM-30-18

Summary

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



Color Vector Graphics

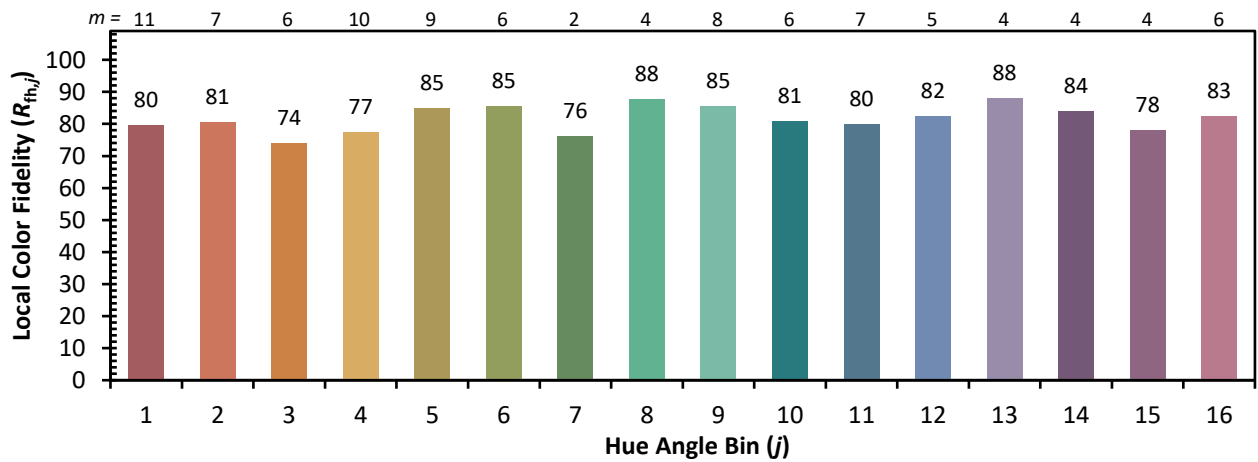
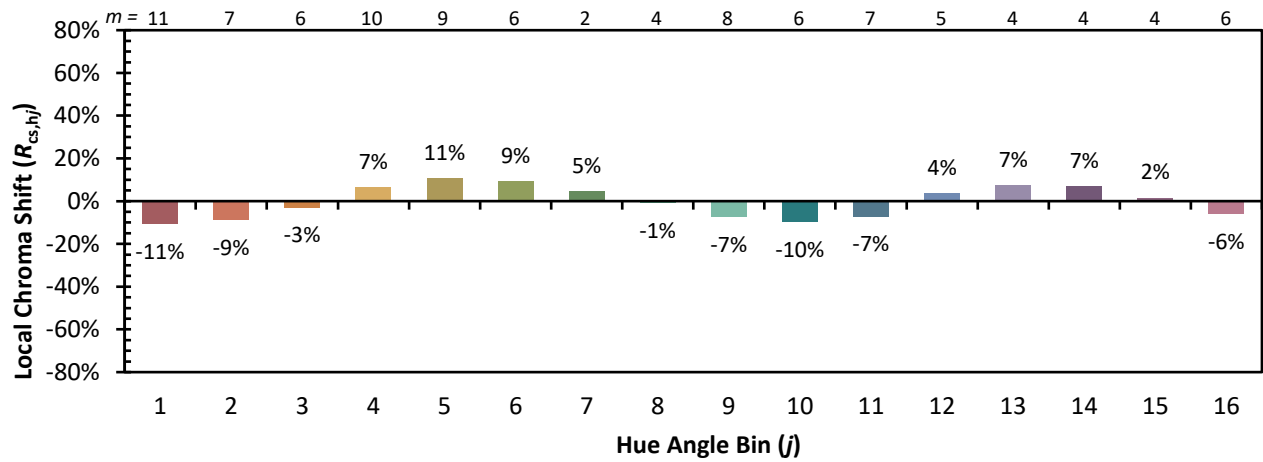


Individual Sample Fidelity Index ($R_{f,i}$)

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)