

Signify Classified - Internal
Cooper Lighting Solutions Photometric Lab
1121 Highway 74 South
Peachtree City, GA 30269



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

Test Report Prepared for

Cooper Lighting Solutions

Brand: McGRAW-EDISON

Report Number: P638002

Luminaire Tested: GWS-SA4D-830-U-T3-W-GRSWH

Issue Date: 1/10/2023

Test Information

Test Method: LM-79-2019
Report Number: P638002
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2209-782-25)
Test Lab: COOPER LIGHTING SOLUTIONS
Issue Date: 1/10/2023
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: McGRAW-EDISON
Catalog Number: GWS-SA4D-830-U-T3-W-GRSWH
Description: GALLEON WALL SLIM LUMINAIRE. (4) LIGHTSQUARES WITH 16 LEDS EACH AND TYPE III OPTICS W/ FACTORY INSTALLED GLARE SHIELD, WH
Light Source: (64) 3000K CCT, 80 CRI LEDS
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 16603.9 lumens
Efficiency: N/A
Efficacy: 102.4 lumens/watt
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')
IES Classification: Type II - Short
BUG Rating: B3 - U0 - G2

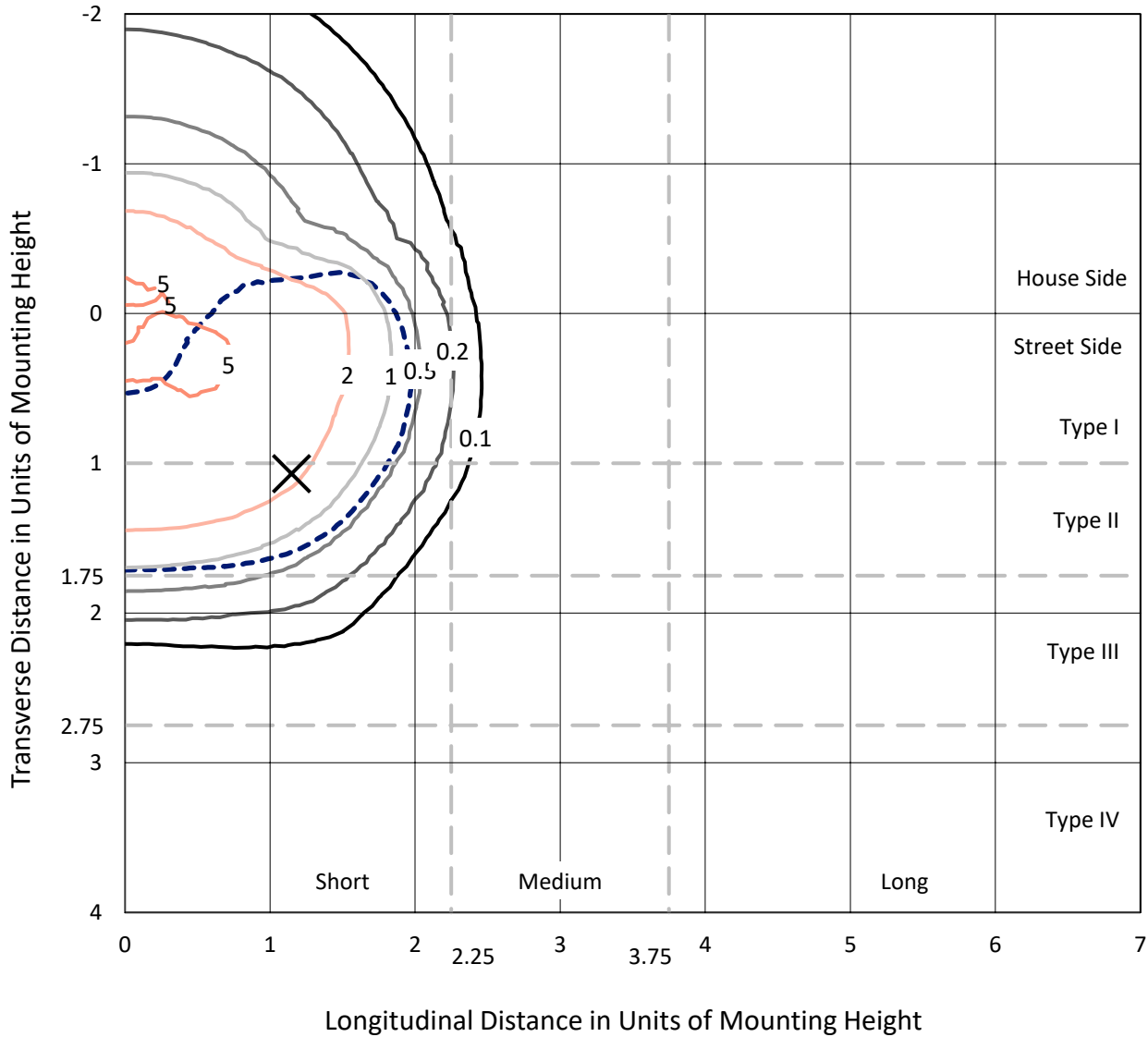
Input Watts (W): 162.1
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 0
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 28.75 FT



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 CATALOG NUMBER: GWS-SA4D-830-U-T3-W-GRSWH

Iso-Footcandle Lines of Horizontal Illumination

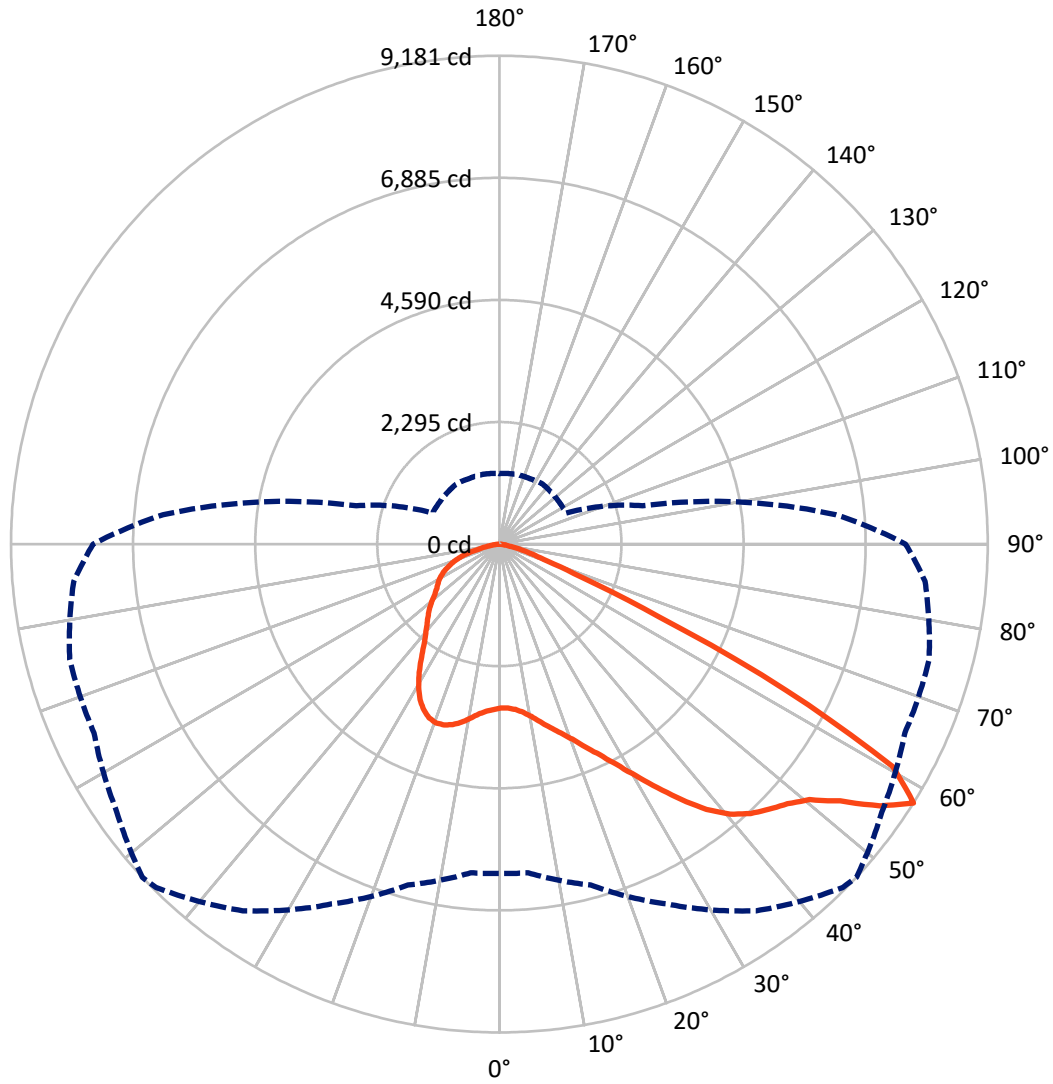
✕ Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 5.5 fc
 Type II - Short - N/A

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Luminous Intensity Polar Plot



— Vertical Plane Through 47-Deg Lateral - - - Horizontal Cone Through 57.5-Deg Vertical

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FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	5255.1	0.0	5255.1
	% Fixture	31.6	0.0	31.6
Street Side	Lumens	11348.8	0.0	11348.8
	% Fixture	68.4	0.0	68.4
Total	Lumens	16603.9	0.0	16603.9
	% Fixture	100.0	0.0	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	303.7	1.8
10°-20°	998.9	6.0
20°-30°	1798.6	10.8
30°-40°	2716.7	16.4
40°-50°	3658.3	22.0
50°-60°	4395.9	26.5
60°-70°	2140.9	12.9
70°-80°	527.4	3.2
80°-90°	63.4	0.4
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°	16603.9	100.0
0°-180°	16603.9	100.0

Coefficient of Utilization



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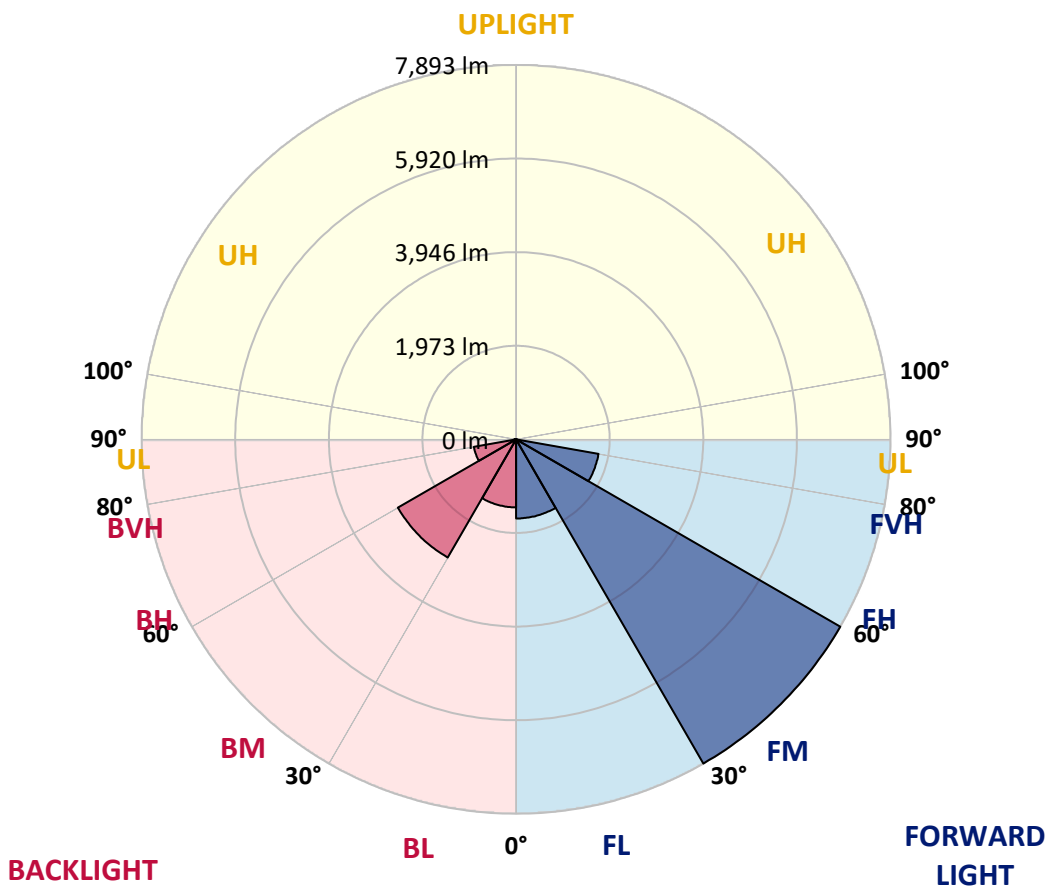
CATALOG NUMBER: GWS-SA4D-830-U-T3-W-GRSWH

LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	1667.8	10.0			
FM (30°-60°)	7892.7	47.5			
FH (60°-80°)	1764.5	10.6			G1/1800
FVH (80°-90°)	23.8	0.1			G1/100
BL (0°-30°)	1433.5	8.6	B3/2500		
BM (30°-60°)	2878.2	17.3	B3/5000		
BH (60°-80°)	903.8	5.4	B2/1000		G2/1000
BVH (80°-90°)	39.6	0.2			G1/100
UL (90°-100°)	0.0	0.0		U0/0	
UH (100°-180°)	0.0	0.0		U0/0	

BUG Rating: B3-U0-G2

Type II Short





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CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	45°	47°	55°	65°	75°	85°
0°	3079.2	3079.2	3079.2	3079.2	3079.2	3079.2	3079.2	3079.2	3079.2	3079.2	3079.2
2.5°	3073.6	3072.2	3072.2	3080.6	3080.6	3083.4	3087.6	3091.8	3093.2	3086.2	3070.8
5°	3107.1	3107.1	3107.1	3114.1	3114.1	3116.9	3122.4	3123.8	3122.4	3111.3	3096.0
7.5°	3160.1	3160.1	3161.5	3169.9	3176.8	3181.0	3190.8	3189.4	3185.2	3167.1	3147.6
10°	3246.6	3250.7	3254.9	3264.7	3278.6	3288.4	3295.4	3295.4	3289.8	3261.9	3236.8
12.5°	3369.3	3374.9	3379.1	3387.4	3398.6	3415.3	3430.6	3430.6	3423.7	3388.8	3351.2
15°	3512.9	3518.5	3517.1	3519.9	3540.8	3564.5	3577.1	3585.4	3588.2	3539.4	3480.9
17.5°	3677.5	3683.1	3677.5	3669.1	3671.9	3709.6	3731.9	3762.6	3780.7	3715.1	3621.7
20°	3826.7	3821.1	3821.1	3826.7	3835.1	3881.1	3914.6	3964.8	3987.1	3907.6	3762.6
22.5°	3984.3	3996.8	3991.3	3991.3	4024.7	4101.4	4141.9	4207.4	4231.1	4127.9	3932.7
25°	4187.9	4199.1	4196.3	4199.1	4238.1	4346.9	4387.3	4508.7	4532.4	4384.5	4121.0
27.5°	4411.0	4429.2	4437.5	4434.7	4497.5	4639.7	4689.9	4858.7	4901.9	4671.8	4321.8
30°	4701.1	4720.6	4727.6	4724.8	4798.7	4992.6	5049.7	5242.2	5303.6	5012.1	4577.0
32.5°	5037.2	5056.7	5077.6	5086.0	5180.8	5378.9	5461.1	5660.6	5748.4	5405.4	4885.2
35°	5370.5	5387.2	5427.7	5493.2	5622.9	5825.1	5897.6	6094.3	6179.4	5814.0	5257.5
37.5°	5738.7	5749.8	5784.7	5875.3	6062.2	6254.7	6327.2	6515.4	6525.2	6208.6	5678.7
40°	6141.7	6141.7	6134.7	6224.0	6419.2	6613.1	6675.8	6784.6	6727.4	6512.7	6088.7
42.5°	6483.4	6477.8	6483.4	6567.0	6712.1	6869.7	6924.1	6903.1	6830.6	6745.5	6459.7
45°	6791.6	6795.8	6846.0	6910.1	6985.4	7078.9	7110.9	6992.4	6926.8	6932.4	6756.7
47.5°	7000.8	7004.9	7122.1	7229.5	7275.5	7304.8	7290.8	7126.3	7092.8	7155.6	6985.4
50°	7028.6	7051.0	7253.2	7473.5	7587.9	7592.1	7553.0	7352.2	7342.4	7413.6	7108.1
52.5°	7034.2	7056.5	7309.0	7706.4	8003.5	8066.2	8021.6	7812.4	7710.6	7639.5	7258.8
55°	7013.3	7038.4	7317.3	7862.6	8431.6	8682.6	8686.8	8391.1	8066.2	8018.8	7688.3
57.5°	6191.9	6201.7	6634.0	7465.1	8414.9	9126.1	9180.5	8778.8	8407.9	8363.3	8032.7
60°	4313.4	4352.5	4822.4	5920.0	7069.1	8322.8	8498.5	8381.4	8133.1	7808.2	6892.0
62.5°	2160.2	2193.7	2665.0	3702.6	4875.4	5865.6	6053.8	6178.0	6236.5	5887.9	4692.7
65°	930.2	955.3	1248.1	1934.3	2759.9	3238.2	3303.7	3453.0	3818.3	3406.9	2528.4
67.5°	622.0	638.7	787.9	1179.8	1626.1	1656.8	1647.0	1679.1	1758.6	1451.8	1142.2
70°	476.9	490.9	591.3	864.6	1168.7	999.9	946.9	859.1	933.0	951.1	926.0
72.5°	345.9	357.0	432.3	589.9	732.2	638.7	630.3	675.0	775.4	803.3	787.9
75°	223.1	228.7	274.7	323.5	377.9	410.0	426.7	507.6	609.4	630.3	612.2
77.5°	149.2	153.4	179.9	207.8	214.8	216.2	221.7	258.0	327.7	366.8	362.6
80°	78.1	78.1	87.9	87.9	100.4	119.9	125.5	149.2	181.3	200.8	202.2
82.5°	30.7	32.1	37.7	41.8	50.2	61.4	65.5	78.1	94.8	108.8	121.3
85°	12.6	13.9	15.3	18.1	22.3	27.9	29.3	33.5	44.6	55.8	62.8
87.5°	0.0	0.0	1.4	1.4	2.8	4.2	4.2	5.6	7.0	12.6	16.7
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°	3079.2	3079.2	3079.2	3079.2	3079.2	3079.2	3079.2	3079.2	3079.2	3079.2	3079.2
2.5°	3089.0	3070.8	3089.0	3094.6	3109.9	3115.5	3105.7	3104.3	3104.3	3090.4	3086.2
5°	3109.9	3093.2	3111.3	3119.7	3142.0	3155.9	3158.7	3169.9	3176.8	3171.3	3169.9
7.5°	3161.5	3140.6	3160.1	3172.7	3201.9	3224.3	3234.0	3259.1	3277.2	3274.5	3273.1
10°	3252.1	3224.3	3246.6	3267.5	3299.6	3326.1	3327.5	3341.4	3359.5	3353.9	3351.2
12.5°	3356.7	3330.2	3355.3	3376.3	3413.9	3425.1	3406.9	3401.4	3404.2	3397.2	3391.6
15°	3485.0	3447.4	3469.7	3493.4	3514.3	3501.8	3462.7	3447.4	3446.0	3436.2	3430.6
17.5°	3613.3	3565.9	3582.7	3595.2	3585.4	3546.4	3497.6	3471.1	3458.5	3439.0	3433.4
20°	3740.2	3680.3	3677.5	3667.7	3623.1	3552.0	3486.4	3433.4	3401.4	3374.9	3365.1
22.5°	3885.3	3801.6	3759.8	3715.1	3617.5	3501.8	3402.8	3327.5	3275.9	3242.4	3231.2
25°	4041.5	3922.9	3836.5	3747.2	3561.7	3394.4	3256.3	3153.1	3091.8	3055.5	3043.0
27.5°	4196.3	4033.1	3903.4	3751.4	3450.2	3239.6	3054.1	2914.7	2853.3	2824.0	2814.2
30°	4405.5	4179.5	3982.9	3697.0	3303.7	3024.8	2793.3	2652.5	2612.0	2591.1	2582.7
32.5°	4646.7	4365.0	4088.9	3582.7	3116.9	2773.8	2529.8	2432.1	2404.2	2363.8	2362.4
35°	4964.7	4630.0	4189.3	3413.9	2881.2	2504.7	2327.5	2257.8	2207.6	2143.5	2137.9
37.5°	5335.6	4960.5	4243.7	3199.2	2606.5	2282.9	2176.9	2098.8	2017.9	1932.9	1921.7
40°	5719.1	5346.8	4247.9	2945.3	2337.3	2136.5	2047.2	1945.4	1845.0	1750.2	1737.6
42.5°	6122.2	5706.6	4174.0	2652.5	2117.0	2009.6	1918.9	1790.6	1677.7	1613.5	1606.5
45°	6482.0	5996.7	4006.6	2344.3	1953.8	1903.6	1787.8	1649.8	1589.8	1543.8	1534.0
47.5°	6765.1	6189.1	3780.7	2068.2	1821.3	1794.8	1644.2	1573.1	1527.1	1485.2	1475.5
50°	6904.5	6232.3	3486.4	1843.6	1698.6	1666.5	1563.3	1508.9	1478.2	1444.8	1436.4
52.5°	7077.5	6281.2	3232.6	1655.4	1578.7	1535.4	1496.4	1453.1	1430.8	1409.9	1402.9
55°	7474.9	6465.2	3098.7	1504.7	1464.3	1444.8	1439.2	1402.9	1396.0	1382.0	1369.5
57.5°	7636.7	6346.7	2782.2	1382.0	1373.7	1376.4	1390.4	1356.9	1349.9	1333.2	1324.8
60°	6141.7	4797.3	1884.1	1276.0	1298.3	1316.5	1330.4	1297.0	1287.2	1284.4	1273.2
62.5°	3935.5	2950.9	1315.1	1177.0	1210.5	1232.8	1241.2	1209.1	1202.1	1224.4	1225.8
65°	2048.6	1607.9	1066.8	1071.0	1098.9	1132.4	1149.1	1138.0	1135.2	1158.9	1160.3
67.5°	1045.9	983.2	930.2	945.5	967.8	1011.1	1050.1	1098.9	1115.7	1118.4	1119.8
70°	891.1	863.2	836.7	846.5	870.2	893.9	931.6	955.3	927.4	920.4	917.6
72.5°	758.6	737.7	725.2	736.3	748.9	744.7	733.5	744.7	748.9	750.3	751.7
75°	589.9	574.6	564.8	566.2	566.2	550.9	529.9	517.4	503.4	492.3	492.3
77.5°	361.2	364.0	373.7	372.4	371.0	365.4	344.5	333.3	299.8	290.1	290.1
80°	206.4	210.6	220.3	223.1	223.1	216.2	195.2	182.7	167.3	160.4	159.0
82.5°	125.5	131.1	136.7	139.5	140.9	132.5	114.4	104.6	96.2	89.3	89.3
85°	65.5	68.3	73.9	75.3	71.1	62.8	53.0	48.8	40.4	39.0	39.0
87.5°	18.1	19.5	22.3	18.1	16.7	12.6	7.0	5.6	2.8	1.4	1.4
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

λ (nm)	Power W [^] /nm	Lumens (ϕ /nm)	λ (nm)	Power W [^] /nm	Lumens (ϕ /nm)	λ (nm)	Power W [^] /nm	Lumens (ϕ /nm)	λ (nm)	Power W [^] /nm	Lumens (ϕ /nm)	λ (nm)	Power W [^] /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 W [^] /nm	Lumens (φ/nm)	λ (nm)	Power W [^] /nm	Lumens (φ/nm)	λ (nm)	Power W [^] /nm	Lumens (φ/nm)	λ (nm)	Power W [^] /nm	Lumens (φ/nm)	λ (nm)	Power W [^] /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			

REPORT NUMBER: SP1-2408-195-9

Melanopic Flux vs. Wavelength



Melanopic Lumens: NR

M/P: 2.32

λ (nm)	Power W [^] /nm	Lumens (φ/nm)	λ (nm)	Power W [^] /nm	Lumens (φ/nm)	λ (nm)	Power W [^] /nm	Lumens (φ/nm)	λ (nm)	Power W [^] /nm	Lumens (φ/nm)	λ (nm)	Power W [^] /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)