

LM-79-2019 Approved Method: Electrical and Photometric Measurements of Solid-State Lighting Products

Test Report Prepared for

Cooper Lighting Solutions

Brand: FAIL-SAFE

Report Number: P1219442

Luminaire Tested: FWLSC-D-24-UNV-200-35-OPL/84-IP6X

Issue Date: 12/9/2025

Tested By:

Approved By:



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Test Information

Test Method: LM-79-2019
Report Number: P1219442
Test Lab: INNOVATION CENTER
Issue Date: 12/9/2025
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: FAIL-SAFE
Catalog Number: FWLSC-D-24-UNV-200-35-OPL/84-IP6X
Description: FAILSAFE FWLDL LED FIXTURE WITH SCONE

Light Source:
Ballast/Driver: -

Summary

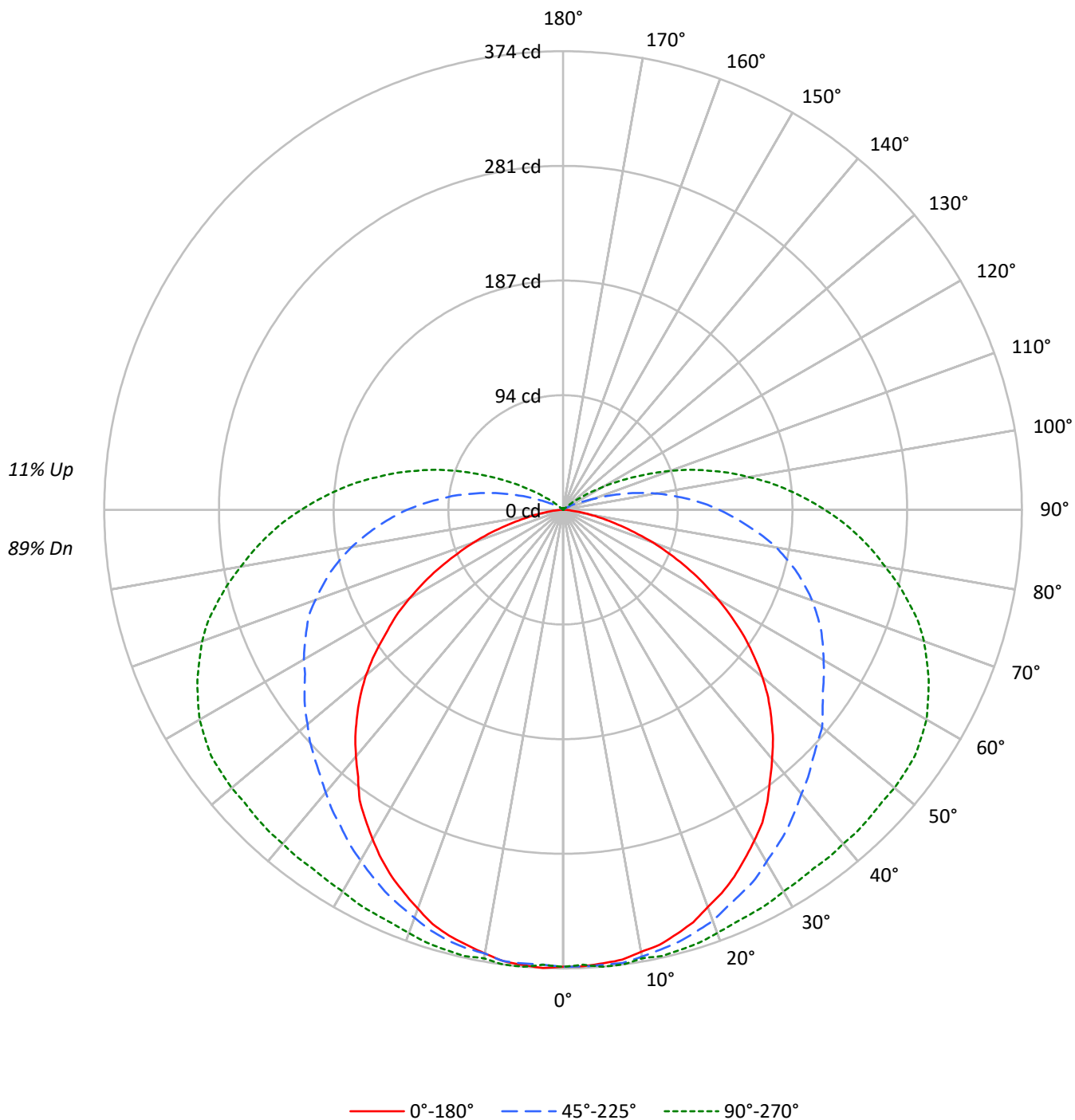
Lumens per Lamp: N/A
Luminaire Lumens: 1720.0 lumens
Efficiency: N/A
Efficacy: 49.9 lumens/watt
Spacing Criteria (0/90/45): 1.24 / 1.47 / 1.5
Luminous Opening: Rectangular w/ Sides (W: 0.33' x L: 2' x H: 0.21')
CIE Type: Semi-Direct

Input Watts (W): 34.5
Input Voltage (V): 122
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: >0.9
Total Harmonic Distortion (THDi): <20
Frequency (hertz): 60
Stabilization Time: HR
Operation Time: HR
Ambient Temperature (°C): NR
Test Distance: 24 FT

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Luminous Intensity Polar Plot



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COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	20					20					20					20					20
RC	80					70					50					30					10
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	50	30	10	
RCR																					
0	116	116	116	116	112	112	112	112	105	105	105	98	98	98	92	92	92	89			
1	102	96	90	85	98	92	87	83	86	82	78	80	77	73	75	72	69	66			
2	92	81	73	66	88	79	71	64	73	67	61	68	63	58	63	59	55	52			
3	83	70	61	53	79	68	59	52	63	56	50	59	53	47	55	50	45	42			
4	75	62	52	44	72	59	50	43	55	48	41	52	45	40	48	43	38	35			
5	69	55	45	37	66	53	43	37	49	41	35	46	39	34	43	37	32	30			
6	63	49	39	32	60	47	38	32	44	36	30	41	34	29	39	33	28	26			
7	58	44	35	28	56	43	34	28	40	32	27	38	31	26	35	29	25	22			
8	54	40	31	25	52	39	30	24	36	29	23	34	28	23	32	26	22	20			
9	51	37	28	22	49	35	27	22	33	26	21	32	25	20	30	24	20	18			
10	47	34	25	20	45	33	25	20	31	24	19	29	23	18	28	22	18	16			

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°	135°	180°
0°	6077	6077	6077	6077	6077
5°	6023	5832	5800	5812	6044
10°	5951	5609	5529	5568	5972
15°	5881	5399	5356	5380	5902
20°	5764	5199	5176	5161	5786
25°	5665	4986	5043	4967	5665
30°	5533	4792	4950	4774	5510
35°	5386	4636	4913	4596	5362
40°	5189	4471	4933	4451	5138
45°	5009	4355	4991	4334	4955
50°	4785	4307	5089	4246	4724
55°	4461	4205	5215	4184	4362
60°	4027	4194	5308	4171	3988
65°	3509	4217	5367	4191	3468
70°	2894	4225	5431	4197	2846
75°	2101	4212	5446	4184	2042
80°	1324	4170	5433	4137	1248
85°	561	4047	5460	4047	561

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 90°

Vertical Angle: 87.5°

Luminance: 5476 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	35.4	2.1
10°-20°	102.9	6.0
20°-30°	159.3	9.3
30°-40°	200.5	11.7
40°-50°	225.5	13.1
50°-60°	233.6	13.6
60°-70°	223.5	13.0
70°-80°	194.4	11.3
80°-90°	152.1	8.8
90°-100°	104.5	6.1
100°-110°	58.5	3.4
110°-120°	22.9	1.3
120°-130°	5.2	0.3
130°-140°	0.4	0.0
140°-150°	0.4	0.0
150°-160°	0.4	0.0
160°-170°	0.3	0.0
170°-180°	0.1	0.0
0°-30°	297.7	17.3
0°-40°	498.2	29.0
0°-60°	957.3	55.7
0°-90°	1527.3	88.8
90°-120°	186.0	10.8
90°-150°	192.0	11.2
90°-180°	193.0	11.2
0°-180°	1720.0	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	373	373	373	373	373	
5°	371	373	374	371	373	35
15°	358	365	371	363	359	101
25°	330	345	363	344	330	152
35°	290	318	357	316	289	181
45°	240	288	354	286	237	185
55°	180	259	350	257	176	161
65°	111	232	329	231	110	110
75°	46	198	292	196	45	50
85°	7	151	241	151	7	9
90°	0	127	214	127	0	1
95°	0	102	184	101	0	0
105°	0	50	123	52	0	0
115°	1	12	62	15	0	1
125°	0	0	17	1	1	0
135°	0	0	0	1	1	0
145°	0	0	0	1	1	0
155°	0	0	0	1	1	0
165°	1	1	0	1	1	0
175°	1	1	0	1	1	0
180°	1	1	1	1	1	

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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°
0°	372.6	372.6	372.6	372.6	372.6	372.6	372.6	372.6	372.6
2.5°	372.6	370.0	372.6	374.0	371.3	371.3	371.3	371.3	374.0
5°	371.3	370.0	372.6	376.6	374.0	372.6	371.3	370.0	372.6
7.5°	370.0	368.7	372.6	375.3	374.0	372.6	371.3	368.7	371.3
10°	366.0	366.0	370.0	374.0	371.3	370.0	367.3	366.0	367.3
12.5°	363.4	363.4	367.3	372.6	372.6	368.7	366.0	363.4	363.4
15°	358.1	358.1	364.7	371.3	371.3	368.7	363.4	359.4	359.4
17.5°	352.7	354.1	360.7	370.0	370.0	366.0	359.4	354.1	354.1
20°	344.8	347.4	356.7	366.0	367.3	362.0	354.1	347.4	346.1
22.5°	338.2	339.5	350.1	362.0	364.7	358.1	348.8	340.8	338.2
25°	330.2	332.9	344.8	359.4	363.4	355.4	343.5	332.9	330.2
27.5°	320.9	324.9	339.5	356.7	362.0	352.7	336.8	324.9	320.9
30°	311.6	315.6	331.5	351.4	359.4	347.4	330.2	315.6	310.3
32.5°	302.4	306.3	324.9	348.8	358.1	344.8	323.6	306.3	299.7
35°	290.4	295.7	318.3	346.1	356.7	342.1	315.6	295.7	289.1
37.5°	277.2	283.8	310.3	343.5	356.7	339.5	309.0	283.8	274.5
40°	265.2	271.9	302.4	340.8	355.4	336.8	301.0	271.9	262.6
42.5°	253.3	261.2	295.7	339.5	355.4	335.5	293.1	259.9	250.6
45°	240.0	249.3	287.8	336.8	354.1	332.9	286.4	248.0	237.4
47.5°	226.8	237.4	281.1	332.9	352.7	328.9	279.8	236.1	224.1
50°	212.2	224.1	275.8	330.2	352.7	326.2	271.9	224.1	209.5
52.5°	196.3	210.9	266.6	327.6	351.4	323.6	265.2	210.9	193.6
55°	180.4	198.9	258.6	324.9	350.1	320.9	257.3	197.6	176.4
57.5°	163.1	185.7	252.0	320.9	346.1	318.3	249.3	184.3	161.8
60°	145.9	173.7	245.3	315.6	342.1	313.0	244.0	172.4	144.5
62.5°	128.6	161.8	238.7	310.3	335.5	307.7	237.4	161.8	127.3
65°	111.4	151.2	232.1	302.4	328.9	299.7	230.7	149.9	110.1
67.5°	94.2	140.6	224.1	294.4	320.9	291.7	224.1	139.2	92.8
70°	78.2	127.3	216.2	285.1	313.0	282.5	214.8	126.0	76.9
72.5°	61.0	118.0	206.9	275.8	303.7	271.9	205.5	116.7	61.0
75°	46.4	108.7	197.6	263.9	291.7	262.6	196.3	107.4	45.1
77.5°	33.2	98.1	187.0	253.3	279.8	250.6	185.7	96.8	31.8
80°	22.5	87.5	176.4	241.4	266.6	240.0	175.0	87.5	21.2
82.5°	13.3	76.9	164.4	229.4	254.6	226.8	163.1	76.9	11.9
85°	6.6	66.3	151.2	216.2	241.4	214.8	151.2	66.3	6.6
87.5°	4.0	57.0	139.2	202.9	228.1	201.6	139.2	55.7	2.7
90°	0.0	46.4	127.3	189.6	213.5	188.3	127.3	45.1	0.0
92.5°	0.0	37.1	115.4	175.0	198.9	173.7	114.0	35.8	0.0
95°	0.0	27.8	102.1	161.8	184.3	160.5	100.8	27.8	0.0
97.5°	0.0	21.2	88.9	147.2	169.7	145.9	88.9	19.9	0.0
100°	0.0	14.6	76.9	131.3	153.8	131.3	75.6	14.6	0.0
102.5°	0.0	9.3	63.7	116.7	139.2	115.4	63.7	9.3	0.0
105°	0.0	5.3	50.4	102.1	123.3	102.1	51.7	6.6	0.0
107.5°	0.0	2.7	37.1	86.2	108.7	86.2	39.8	2.7	0.0
110°	0.0	0.0	25.2	70.3	92.8	71.6	30.5	0.0	0.0

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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°
112.5°	1.3	0.0	17.2	54.4	76.9	58.3	21.2	0.0	0.0
115°	1.3	0.0	11.9	41.1	62.3	45.1	14.6	0.0	0.0
117.5°	1.3	0.0	9.3	30.5	49.1	33.2	10.6	1.3	1.3
120°	0.0	0.0	4.0	22.5	37.1	25.2	5.3	1.3	1.3
122.5°	0.0	0.0	0.0	15.9	26.5	17.2	1.3	1.3	0.0
125°	0.0	0.0	0.0	10.6	17.2	11.9	1.3	1.3	1.3
127.5°	0.0	0.0	0.0	4.0	11.9	5.3	1.3	1.3	1.3
130°	0.0	0.0	0.0	0.0	4.0	0.0	1.3	1.3	1.3
132.5°	0.0	0.0	0.0	0.0	0.0	0.0	1.3	1.3	1.3
135°	0.0	0.0	0.0	0.0	0.0	0.0	1.3	1.3	1.3
137.5°	0.0	0.0	0.0	0.0	0.0	1.3	1.3	1.3	1.3
140°	0.0	0.0	0.0	0.0	0.0	1.3	1.3	1.3	1.3
142.5°	0.0	0.0	0.0	0.0	0.0	1.3	1.3	1.3	1.3
145°	0.0	0.0	0.0	0.0	0.0	1.3	1.3	2.7	1.3
147.5°	0.0	0.0	0.0	0.0	0.0	1.3	1.3	2.7	1.3
150°	0.0	0.0	0.0	0.0	1.3	1.3	1.3	2.7	1.3
152.5°	0.0	0.0	0.0	0.0	1.3	1.3	1.3	2.7	1.3
155°	0.0	0.0	0.0	0.0	0.0	1.3	1.3	2.7	1.3
157.5°	0.0	0.0	0.0	0.0	0.0	1.3	1.3	1.3	1.3
160°	0.0	0.0	1.3	1.3	0.0	1.3	1.3	1.3	1.3
162.5°	1.3	0.0	1.3	1.3	1.3	0.0	1.3	1.3	1.3
165°	1.3	1.3	1.3	1.3	0.0	0.0	1.3	1.3	1.3
167.5°	1.3	1.3	1.3	1.3	0.0	0.0	1.3	1.3	1.3
170°	1.3	1.3	1.3	0.0	0.0	0.0	0.0	1.3	1.3
172.5°	1.3	1.3	1.3	0.0	0.0	0.0	0.0	1.3	1.3
175°	1.3	1.3	1.3	0.0	0.0	0.0	1.3	1.3	1.3
177.5°	1.3	1.3	1.3	0.0	0.0	0.0	1.3	1.3	1.3
180°	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3

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CIE UGR TABLE:

Reflectances:											
Ceiling		0.7	0.7	0.5	0.5	0.3	0.7	0.7	0.5	0.5	0.3
Wall		0.5	0.3	0.5	0.3	0.3	0.5	0.3	0.5	0.3	0.3
Reference plane		0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
Room Dimensions		Viewed crosswise					Viewed endwise				
X=2H	Y=2H	13.6	15.1	14.1	15.6	16.2	18.7	20.2	19.2	20.8	21.3
	3H	15.0	16.4	15.5	16.9	17.5	21.8	23.2	22.4	23.8	24.4
	4H	15.3	16.7	15.9	17.2	17.9	23.4	24.7	23.9	25.3	25.9
	6H	15.5	16.8	16.1	17.4	18.0	25.0	26.2	25.5	26.8	27.4
	8H	15.6	16.8	16.1	17.4	18.0	25.7	27.0	26.3	27.5	28.2
	12H	15.6	16.7	16.1	17.3	18.0	26.6	27.7	27.1	28.3	29.0
4H	2H	15.3	16.6	15.8	17.2	17.8	19.0	20.4	19.6	20.9	21.5
	3H	16.9	18.1	17.5	18.7	19.4	22.4	23.6	23.0	24.2	24.8
	4H	17.5	18.6	18.1	19.2	19.9	24.1	25.2	24.7	25.8	26.5
	6H	17.9	18.8	18.5	19.4	20.1	25.9	26.9	26.5	27.5	28.2
	8H	17.9	18.8	18.5	19.5	20.2	26.8	27.7	27.4	28.3	29.1
	12H	18.0	18.8	18.6	19.5	20.2	27.8	28.6	28.4	29.3	30.0
8H	4H	19.0	19.9	19.6	20.6	21.3	24.3	25.2	24.9	25.8	26.5
	6H	19.7	20.4	20.3	21.1	21.8	26.3	27.1	26.9	27.7	28.4
	8H	19.9	20.6	20.5	21.2	22.0	27.3	28.0	28.0	28.7	29.4
	12H	20.0	20.6	20.6	21.3	22.1	28.5	29.1	29.1	29.8	30.5
12H	4H	19.5	20.3	20.1	21.0	21.7	24.3	25.1	24.9	25.8	26.5
	6H	20.3	21.0	21.0	21.7	22.4	26.3	27.0	27.0	27.7	28.4
	8H	20.7	21.3	21.3	22.0	22.7	27.4	28.1	28.1	28.7	29.5

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