

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: FAIL-SAFE

Report Number: P561122

Luminaire Tested: FSR-12-4-LD4-1LO-50-UNV-93-85-EDD-90

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P561122
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2102-135-5)
Test Lab: INNOVATION CENTER
Issue Date: 7/20/2021
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: FAIL-SAFE
Catalog Number: FSR-12-4-LD4-1LO-50-UNV-93-85-EDD-90
Description: 1X4 FSR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .187 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 5000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 2177.0 lumens
Efficiency: N/A
Efficacy: 93.0 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')
CIE Type: Direct

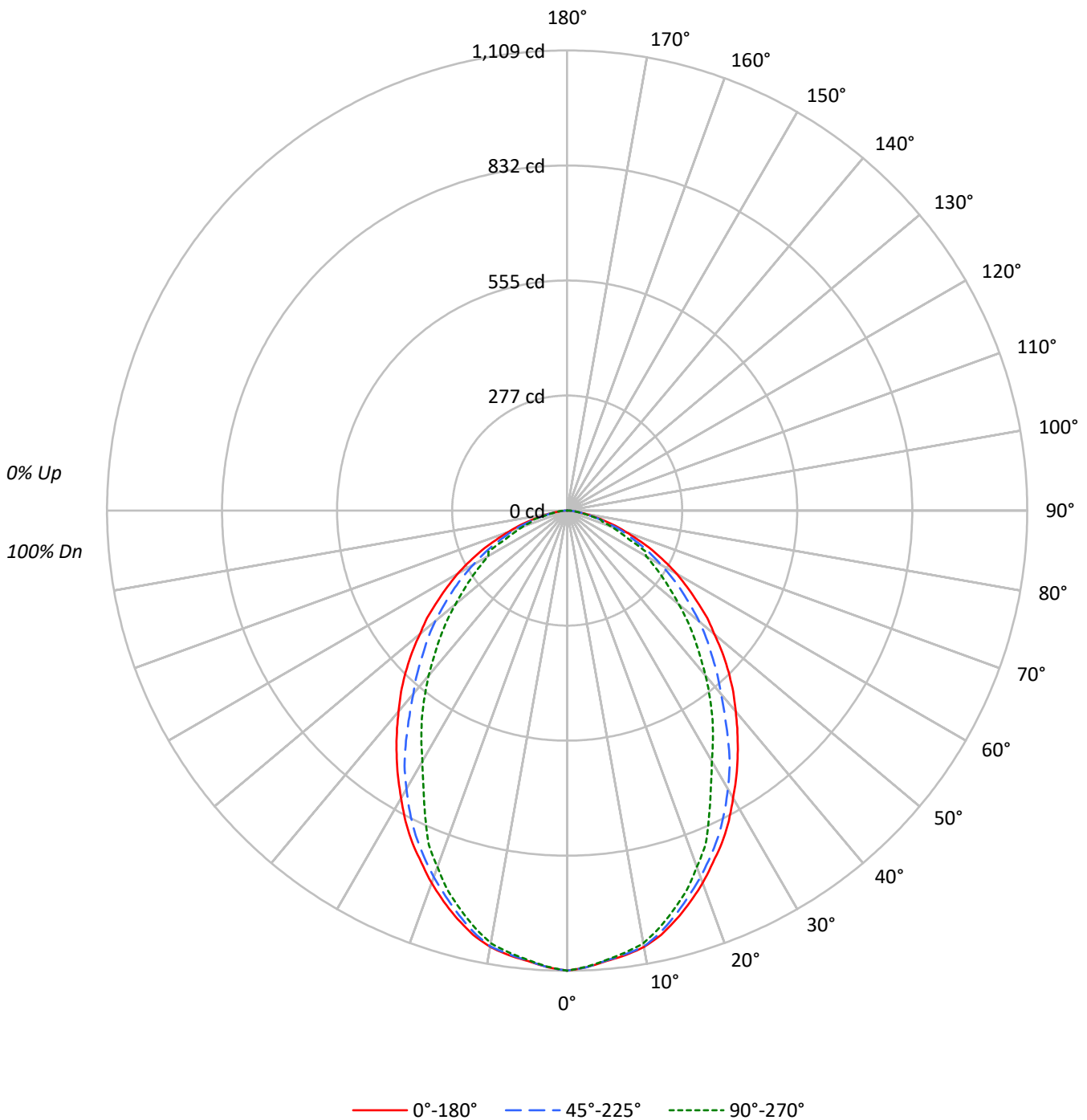
Input Watts (W): 23.4
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



TEST NUMBER: P561122

CATALOG NUMBER: FSR-12-4-LD4-1LO-50-UNV-93-85-EDD-90

Luminous Intensity Polar Plot





TEST NUMBER: P561122

CATALOG NUMBER: FSR-12-4-LD4-1LO-50-UNV-93-85-EDD-90

COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	20									20									20									20									20									
RC	80									70									50									30									10									0
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	50	30	10	50	30	10	50	30	10	0																			
RCR																																														
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100																												
1	110	106	102	99	108	104	100	97	100	97	94	96	94	91	92	90	89	87																												
2	101	94	88	83	99	92	87	82	89	84	80	86	82	78	83	79	77	75																												
3	93	84	77	71	91	82	76	70	79	74	69	77	72	68	74	70	67	65																												
4	86	75	67	61	84	74	66	61	72	65	60	69	64	59	67	62	58	56																												
5	80	68	60	54	78	67	59	53	65	58	53	63	57	52	61	56	52	50																												
6	74	62	53	48	72	61	53	47	59	52	47	57	51	47	56	50	46	44																												
7	69	56	48	43	67	56	48	42	54	47	42	53	46	42	51	46	42	40																												
8	65	52	44	38	63	51	44	38	50	43	38	49	42	38	48	42	38	36																												
9	61	48	40	35	59	47	40	35	46	39	35	45	39	34	44	38	34	33																												
10	57	44	37	32	56	44	37	32	43	36	32	42	36	32	41	36	32	30																												

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	2984	2984	2984
5°	2944	2940	2937
10°	2918	2914	2893
15°	2839	2811	2771
20°	2735	2691	2618
25°	2623	2566	2406
30°	2486	2406	2167
35°	2354	2224	2005
40°	2220	2027	1824
45°	2093	1874	1649
50°	1937	1739	1471
55°	1792	1576	1317
60°	1642	1407	1180
65°	1445	1233	1045
70°	1190	1079	887
75°	946	827	866
80°	635	597	556
85°	395	475	553

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 2093 cd/sqm



TEST NUMBER: P561122

CATALOG NUMBER: FSR-12-4-LD4-1LO-50-UNV-93-85-EDD-90

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	103.2	4.7
10°-20°	283.3	13.0
20°-30°	392.2	18.0
30°-40°	418.2	19.2
40°-50°	381.5	17.5
50°-60°	298.9	13.7
60°-70°	194.8	8.9
70°-80°	86.3	4.0
80°-90°	18.5	0.9
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°-30°	778.7	35.8
0°-40°	1196.9	55.0
0°-60°	1877.3	86.2
0°-90°	2177.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2177.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1109	1109	1109	1109	1109	
5°	1090	1088	1088	1087	1087	103
15°	1019	1019	1009	999	995	287
25°	883	878	864	833	810	406
35°	717	712	677	626	610	448
45°	550	538	492	451	433	424
55°	382	370	336	296	281	343
65°	227	214	194	197	164	224
75°	91	85	80	76	83	98
85°	13	14	15	17	18	18
90°	0	0	0	0	0	



TEST NUMBER: P561122

CATALOG NUMBER: FSR-12-4-LD4-1LO-50-UNV-93-85-EDD-90

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1108.9	1108.9	1108.9	1108.9	1108.9
2.5°	1101.2	1101.2	1101.2	1100.0	1100.0
5°	1089.7	1088.4	1088.4	1087.1	1087.1
7.5°	1080.7	1079.4	1078.2	1076.9	1074.3
10°	1067.9	1067.9	1066.6	1060.2	1058.9
12.5°	1047.4	1046.1	1041.0	1032.0	1029.5
15°	1019.2	1019.2	1008.9	998.7	994.8
17.5°	988.4	987.1	974.3	964.1	958.9
20°	955.1	952.5	939.7	923.0	914.1
22.5°	917.9	917.9	902.5	880.7	871.8
25°	883.3	878.2	864.1	833.3	810.2
27.5°	843.6	835.9	820.5	776.9	750.0
30°	800.0	796.1	774.3	717.9	697.4
32.5°	758.9	752.5	729.5	670.5	653.8
35°	716.6	711.5	676.9	625.6	610.2
37.5°	674.3	667.9	624.3	583.3	564.1
40°	632.0	624.3	576.9	539.7	519.2
42.5°	592.3	582.0	535.9	496.1	473.1
45°	550.0	538.4	492.3	451.3	433.3
47.5°	507.7	497.4	455.1	412.8	392.3
50°	462.8	453.8	415.4	373.1	351.3
52.5°	425.6	411.5	374.3	332.0	314.1
55°	382.0	370.5	335.9	296.1	280.8
57.5°	342.3	330.8	298.7	261.5	248.7
60°	305.1	288.5	261.5	229.5	219.2
62.5°	264.1	251.3	228.2	201.3	214.1
65°	226.9	214.1	193.6	197.4	164.1
67.5°	185.9	179.5	161.5	143.6	138.5
70°	151.3	143.6	137.2	117.9	112.8
72.5°	120.5	112.8	103.8	93.6	89.7
75°	91.0	84.6	79.5	75.6	83.3
77.5°	62.8	60.3	56.4	52.6	51.3
80°	41.0	39.7	38.5	37.2	35.9
82.5°	24.4	24.4	24.4	24.4	24.4
85°	12.8	14.1	15.4	16.7	17.9
87.5°	7.7	7.7	9.0	10.3	11.5
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)