

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: P561000

Luminaire Tested: FSR-12-4-LD4-1LO-35-UNV-93-88-EDD-90

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P561000
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-35-UNV-93-88-EDD-90
Description: 1X4 FSR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .500 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 3500K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 1756.0 lumens
Efficiency: N/A
Efficacy: 75.0 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

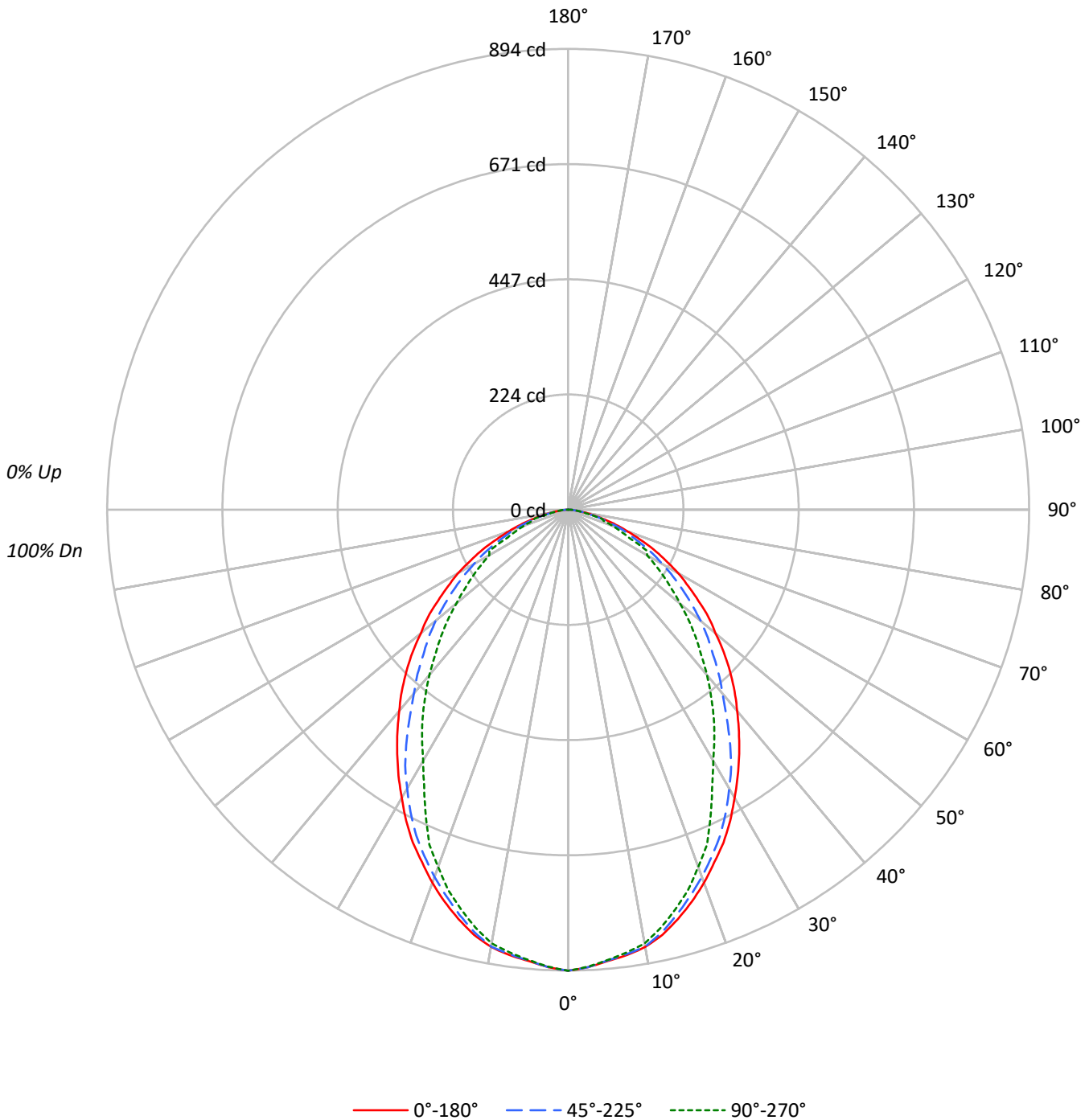
Input Watts (W): 23.4
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	2407	2407	2407
5°	2374	2371	2369
10°	2354	2351	2334
15°	2290	2267	2235
20°	2206	2171	2111
25°	2116	2070	1940
30°	2005	1941	1748
35°	1899	1794	1617
40°	1791	1635	1471
45°	1688	1511	1330
50°	1563	1402	1186
55°	1446	1271	1063
60°	1324	1136	952
65°	1165	994	843
70°	960	870	716
75°	763	666	699
80°	513	480	449
85°	318	383	448

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 1688 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	83.3	4.7
10°-20°	228.5	13.0
20°-30°	316.4	18.0
30°-40°	337.3	19.2
40°-50°	307.7	17.5
50°-60°	241.1	13.7
60°-70°	157.1	8.9
70°-80°	69.6	4.0
80°-90°	14.9	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°	628.1	35.8
0°-40°	965.5	55.0
0°-60°	1514.3	86.2
0°-90°	1756.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1756.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	894	894	894	894	894	
5°	879	878	878	877	877	83
15°	822	822	814	806	802	231
25°	712	708	697	672	654	327
35°	578	574	546	505	492	361
45°	444	434	397	364	350	342
55°	308	299	271	239	226	276
65°	183	173	156	159	132	180
75°	73	68	64	61	67	79
85°	10	11	12	13	14	14
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	894.5	894.5	894.5	894.5	894.5
2.5°	888.3	888.3	888.3	887.2	887.2
5°	879.0	877.9	877.9	876.9	876.9
7.5°	871.7	870.7	869.7	868.6	866.6
10°	861.4	861.4	860.4	855.2	854.2
12.5°	844.8	843.8	839.7	832.4	830.4
15°	822.1	822.1	813.8	805.6	802.4
17.5°	797.3	796.2	785.9	777.6	773.5
20°	770.4	768.3	758.0	744.5	737.3
22.5°	740.4	740.4	728.0	710.4	703.2
25°	712.5	708.3	697.0	672.2	653.5
27.5°	680.4	674.2	661.8	626.7	604.9
30°	645.3	642.2	624.6	579.1	562.5
32.5°	612.2	607.0	588.4	540.8	527.4
35°	578.1	573.9	546.0	504.6	492.2
37.5°	543.9	538.8	503.6	470.5	455.0
40°	509.8	503.6	465.3	435.3	418.8
42.5°	477.7	469.5	432.2	400.2	381.6
45°	443.6	434.3	397.1	364.0	349.5
47.5°	409.5	401.2	367.1	333.0	316.4
50°	373.3	366.1	335.0	300.9	283.3
52.5°	343.3	331.9	302.0	267.8	253.4
55°	308.2	298.9	270.9	238.9	226.5
57.5°	276.1	266.8	240.9	211.0	200.6
60°	246.1	232.7	211.0	185.1	176.8
62.5°	213.0	202.7	184.1	162.4	172.7
65°	183.0	172.7	156.1	159.2	132.4
67.5°	149.9	144.8	130.3	115.8	111.7
70°	122.0	115.8	110.6	95.1	91.0
72.5°	97.2	91.0	83.8	75.5	72.4
75°	73.4	68.2	64.1	61.0	67.2
77.5°	50.7	48.6	45.5	42.4	41.4
80°	33.1	32.1	31.0	30.0	29.0
82.5°	19.6	19.6	19.6	19.6	19.6
85°	10.3	11.4	12.4	13.4	14.5
87.5°	6.2	6.2	7.2	8.3	9.3
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)