

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: P560948

Luminaire Tested: FSR-12-4-LD4-1LO-35-UNV-80-86-EDD-90

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P560948
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-80-86-EDD-90
Description: 1X4 FSR TROFFER WITH .125 PRISMATIC ACRYLIC FIXTURE SIDE AND .250 CLEAR PC ENVIRONM
SIDE LENSES WITH, 90 CRI AND 3500K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 2011.0 lumens
Efficiency: N/A
Efficacy: 85.9 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

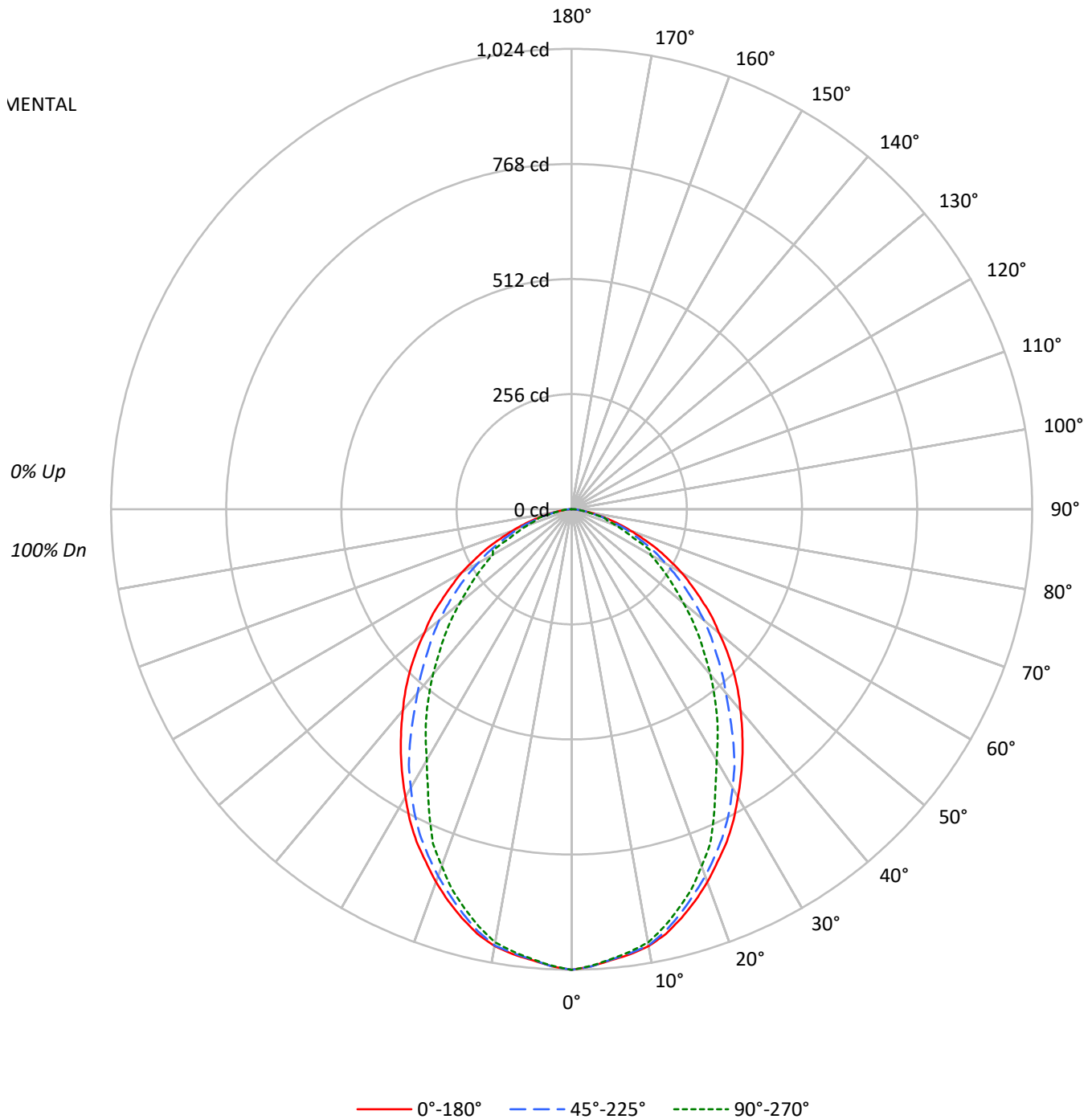
Input Watts (W): 23.4
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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	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°	2757	2757	2757
5°	2719	2716	2713
10°	2696	2692	2673
15°	2623	2596	2560
20°	2527	2486	2418
25°	2423	2370	2222
30°	2296	2223	2002
35°	2175	2054	1852
40°	2051	1872	1685
45°	1933	1731	1523
50°	1790	1606	1358
55°	1656	1456	1217
60°	1517	1300	1090
65°	1335	1138	965
70°	1099	997	820
75°	874	763	801
80°	587	550	514
85°	364	438	513

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 1933 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	95.4	4.7
10°-20°	261.7	13.0
20°-30°	362.3	18.0
30°-40°	386.3	19.2
40°-50°	352.4	17.5
50°-60°	276.1	13.7
60°-70°	180.0	8.9
70°-80°	79.7	4.0
80°-90°	17.1	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°	719.4	35.8
0°-40°	1105.7	55.0
0°-60°	1734.2	86.2
0°-90°	2011.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2011.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1024	1024	1024	1024	1024	
5°	1007	1005	1005	1004	1004	96
15°	942	942	932	922	919	265
25°	816	811	798	770	748	375
35°	662	657	625	578	564	414
45°	508	497	455	417	400	391
55°	353	342	310	274	259	317
65°	210	198	179	182	152	207
75°	84	78	73	70	77	90
85°	12	13	14	15	17	16
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1024.4	1024.4	1024.4	1024.4	1024.4
2.5°	1017.3	1017.3	1017.3	1016.1	1016.1
5°	1006.6	1005.4	1005.4	1004.2	1004.2
7.5°	998.3	997.1	996.0	994.8	992.4
10°	986.5	986.5	985.3	979.4	978.2
12.5°	967.5	966.3	961.6	953.3	951.0
15°	941.5	941.5	932.0	922.5	919.0
17.5°	913.1	911.9	900.0	890.6	885.8
20°	882.3	879.9	868.1	852.7	844.4
22.5°	847.9	847.9	833.7	813.6	805.3
25°	815.9	811.2	798.2	769.8	748.4
27.5°	779.2	772.1	757.9	717.7	692.8
30°	739.0	735.4	715.3	663.2	644.2
32.5°	701.1	695.2	673.8	619.4	604.0
35°	662.0	657.3	625.3	577.9	563.7
37.5°	622.9	617.0	576.7	538.8	521.1
40°	583.8	576.7	532.9	498.6	479.6
42.5°	547.1	537.6	495.0	458.3	437.0
45°	508.0	497.4	454.8	416.9	400.3
47.5°	469.0	459.5	420.4	381.3	362.4
50°	427.5	419.2	383.7	344.6	324.5
52.5°	393.2	380.1	345.8	306.7	290.1
55°	352.9	342.2	310.3	273.6	259.4
57.5°	316.2	305.5	275.9	241.6	229.7
60°	281.9	266.5	241.6	212.0	202.5
62.5°	244.0	232.1	210.8	185.9	197.8
65°	209.6	197.8	178.8	182.4	151.6
67.5°	171.7	165.8	149.2	132.6	127.9
70°	139.7	132.6	126.7	109.0	104.2
72.5°	111.3	104.2	95.9	86.5	82.9
75°	84.1	78.2	73.4	69.9	77.0
77.5°	58.0	55.7	52.1	48.6	47.4
80°	37.9	36.7	35.5	34.3	33.2
82.5°	22.5	22.5	22.5	22.5	22.5
85°	11.8	13.0	14.2	15.4	16.6
87.5°	7.1	7.1	8.3	9.5	10.7
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)