

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: P561070

Luminaire Tested: FSR-12-4-LD4-1LO-40-UNV-93-97-EDD-90

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P561070
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-40-UNV-93-97-EDD-90
Description: 1X4 FSR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .375 CLEAR TEMPER
GLASS ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 2016.0 lumens
Efficiency: N/A
Efficacy: 86.2 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

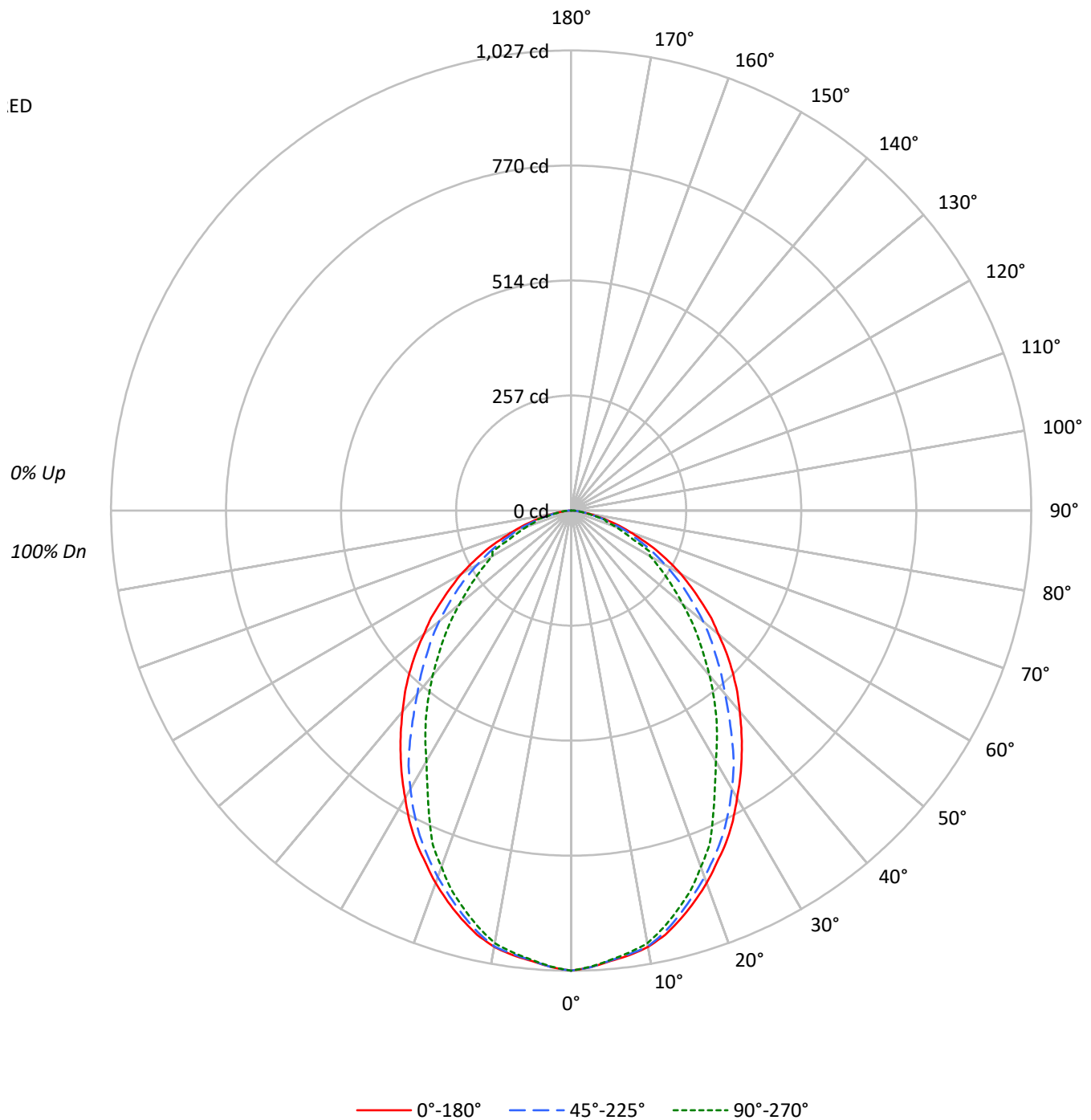
Input Watts (W): 23.4
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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																												
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°	2763	2763	2763
5°	2726	2723	2719
10°	2702	2699	2679
15°	2629	2603	2567
20°	2533	2492	2424
25°	2429	2376	2228
30°	2302	2228	2007
35°	2180	2059	1856
40°	2056	1877	1689
45°	1938	1735	1527
50°	1794	1611	1362
55°	1660	1459	1220
60°	1521	1304	1093
65°	1338	1142	968
70°	1102	999	822
75°	876	765	803
80°	589	552	514
85°	367	438	513

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 1938 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	95.6	4.7
10°-20°	262.3	13.0
20°-30°	363.2	18.0
30°-40°	387.3	19.2
40°-50°	353.3	17.5
50°-60°	276.8	13.7
60°-70°	180.4	8.9
70°-80°	79.9	4.0
80°-90°	17.2	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°	721.1	35.8
0°-40°	1108.4	55.0
0°-60°	1738.5	86.2
0°-90°	2016.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2016.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1027	1027	1027	1027	1027	
5°	1009	1008	1008	1007	1007	96
15°	944	944	934	925	921	265
25°	818	813	800	772	750	376
35°	664	659	627	579	565	415
45°	509	499	456	418	401	392
55°	354	343	311	274	260	317
65°	210	198	179	183	152	207
75°	84	78	74	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°	1026.9	1026.9	1026.9	1026.9	1026.9
2.5°	1019.8	1019.8	1019.8	1018.6	1018.6
5°	1009.1	1007.9	1007.9	1006.7	1006.7
7.5°	1000.8	999.6	998.4	997.2	994.9
10°	988.9	988.9	987.7	981.8	980.6
12.5°	969.9	968.8	964.0	955.7	953.3
15°	943.8	943.8	934.3	924.8	921.3
17.5°	915.3	914.1	902.3	892.8	888.0
20°	884.5	882.1	870.2	854.8	846.5
22.5°	850.0	850.0	835.8	815.6	807.3
25°	818.0	813.2	800.2	771.7	750.3
27.5°	781.2	774.1	759.8	719.4	694.5
30°	740.8	737.2	717.1	664.8	645.8
32.5°	702.8	696.9	675.5	620.9	605.5
35°	663.6	658.9	626.8	579.4	565.1
37.5°	624.5	618.5	578.2	540.2	522.4
40°	585.3	578.2	534.2	499.8	480.8
42.5°	548.5	539.0	496.2	459.4	438.1
45°	509.3	498.6	455.9	417.9	401.3
47.5°	470.1	460.6	421.5	382.3	363.3
50°	428.6	420.3	384.7	345.5	325.3
52.5°	394.1	381.1	346.7	307.5	290.9
55°	353.8	343.1	311.0	274.2	260.0
57.5°	317.0	306.3	276.6	242.2	230.3
60°	282.6	267.1	242.2	212.5	203.0
62.5°	244.6	232.7	211.3	186.4	198.3
65°	210.1	198.3	179.3	182.8	152.0
67.5°	172.1	166.2	149.6	133.0	128.2
70°	140.1	133.0	127.0	109.2	104.5
72.5°	111.6	104.5	96.2	86.7	83.1
75°	84.3	78.4	73.6	70.0	77.2
77.5°	58.2	55.8	52.2	48.7	47.5
80°	38.0	36.8	35.6	34.4	33.2
82.5°	22.6	22.6	22.6	22.6	22.6
85°	11.9	13.1	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)