

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: P561110

Luminaire Tested: FSR-12-4-LD4-1LO-50-UNV-82-87-EDD-90

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P561110
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-82-87-EDD-90
Description: 1X4 FSR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .375 CLEAR PC ENVIRONMENTAL SI
LENSES WITH, 90 CRI AND 5000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

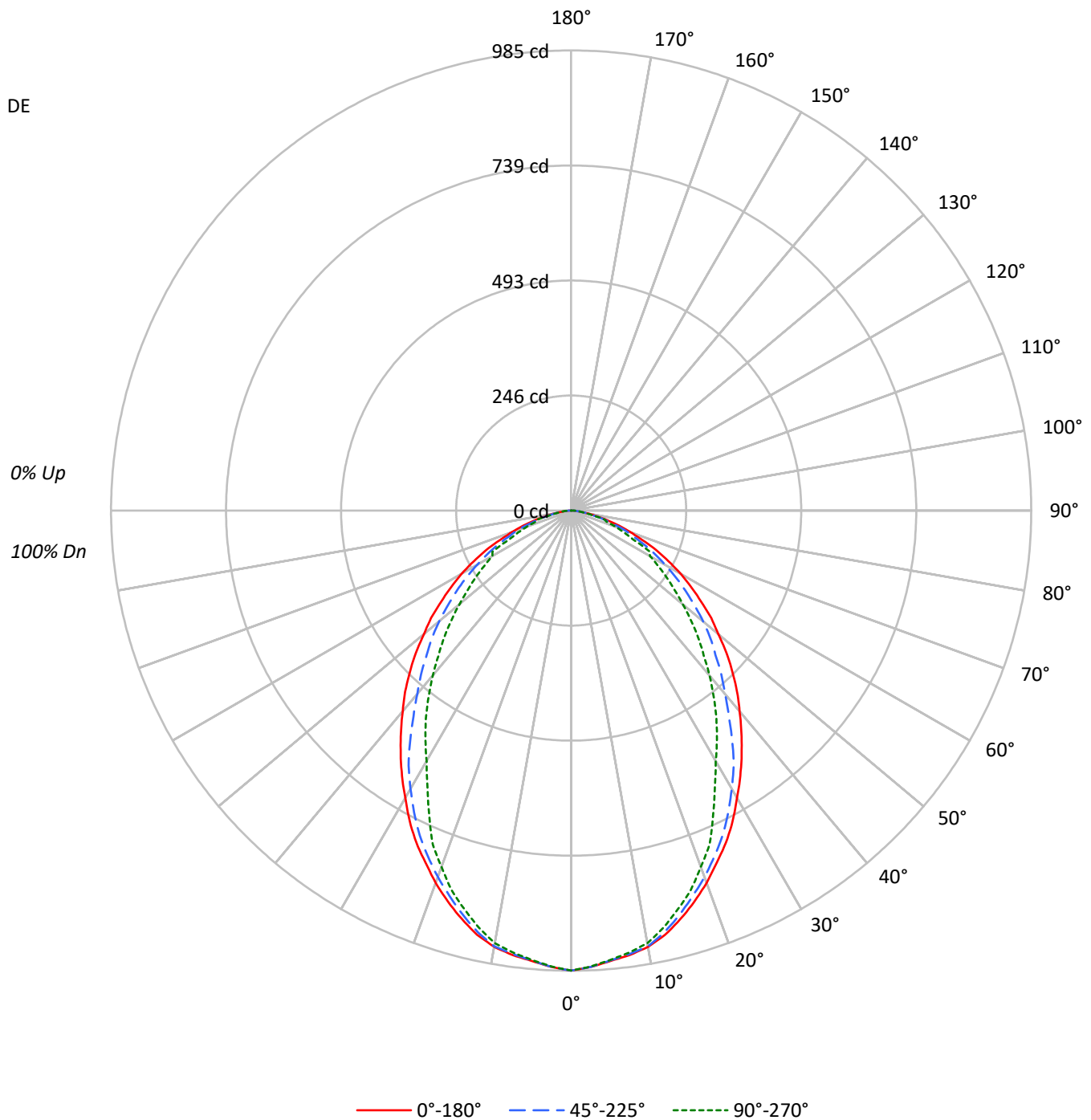
Lumens per Lamp: N/A
Luminaire Lumens: 1933.0 lumens
Efficiency: N/A
Efficacy: 82.6 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')
CIE Type: Direct

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	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°	2650	2650	2650
5°	2614	2610	2608
10°	2591	2588	2569
15°	2521	2496	2461
20°	2428	2389	2324
25°	2329	2278	2136
30°	2207	2136	1924
35°	2090	1974	1780
40°	1971	1799	1619
45°	1858	1663	1464
50°	1720	1544	1306
55°	1591	1399	1170
60°	1458	1250	1048
65°	1283	1095	928
70°	1057	958	788
75°	840	734	769
80°	564	528	494
85°	352	423	491

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 1858 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	91.7	4.7
10°-20°	251.5	13.0
20°-30°	348.2	18.0
30°-40°	371.3	19.2
40°-50°	338.8	17.5
50°-60°	265.4	13.7
60°-70°	173.0	8.9
70°-80°	76.6	4.0
80°-90°	16.4	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°	691.4	35.8
0°-40°	1062.8	55.0
0°-60°	1666.9	86.2
0°-90°	1933.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1933.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	985	985	985	985	985	
5°	968	966	966	965	965	92
15°	905	905	896	887	883	254
25°	784	780	767	740	719	360
35°	636	632	601	556	542	398
45°	488	478	437	401	385	376
55°	339	329	298	263	249	304
65°	202	190	172	175	146	199
75°	81	75	71	67	74	87
85°	11	12	14	15	16	16
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	984.6	984.6	984.6	984.6	984.6
2.5°	977.8	977.8	977.8	976.7	976.7
5°	967.6	966.4	966.4	965.3	965.3
7.5°	959.6	958.5	957.3	956.2	953.9
10°	948.2	948.2	947.1	941.4	940.3
12.5°	930.0	928.9	924.3	916.3	914.1
15°	905.0	905.0	895.9	886.7	883.3
17.5°	877.6	876.5	865.1	856.0	851.5
20°	848.0	845.8	834.4	819.6	811.6
22.5°	815.0	815.0	801.4	782.0	774.1
25°	784.3	779.7	767.2	739.9	719.4
27.5°	749.0	742.2	728.5	689.8	665.9
30°	710.3	706.9	687.5	637.5	619.2
32.5°	673.9	668.2	647.7	595.3	580.5
35°	636.3	631.8	601.0	555.5	541.8
37.5°	598.8	593.1	554.4	517.9	500.9
40°	561.2	554.4	512.2	479.2	461.0
42.5°	525.9	516.8	475.8	440.5	420.0
45°	488.3	478.1	437.1	400.7	384.8
47.5°	450.8	441.7	404.1	366.5	348.3
50°	410.9	403.0	368.8	331.3	311.9
52.5°	377.9	365.4	332.4	294.8	278.9
55°	339.2	329.0	298.2	263.0	249.3
57.5°	303.9	293.7	265.2	232.2	220.8
60°	270.9	256.1	232.2	203.8	194.7
62.5°	234.5	223.1	202.6	178.7	190.1
65°	201.5	190.1	171.9	175.3	145.7
67.5°	165.1	159.4	143.4	127.5	122.9
70°	134.3	127.5	121.8	104.7	100.2
72.5°	107.0	100.2	92.2	83.1	79.7
75°	80.8	75.1	70.6	67.2	74.0
77.5°	55.8	53.5	50.1	46.7	45.5
80°	36.4	35.3	34.1	33.0	31.9
82.5°	21.6	21.6	21.6	21.6	21.6
85°	11.4	12.5	13.7	14.8	15.9
87.5°	6.8	6.8	8.0	9.1	10.2
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)