

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: P561049

Luminaire Tested: FSR-12-4-LD4-1LO-40-UNV-82-88-EDD

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P561049
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-82-88-EDD
Description: 1X4 FSR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .500 CLEAR PC ENVIRONMENTAL SI
LENSES WITH, 80 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

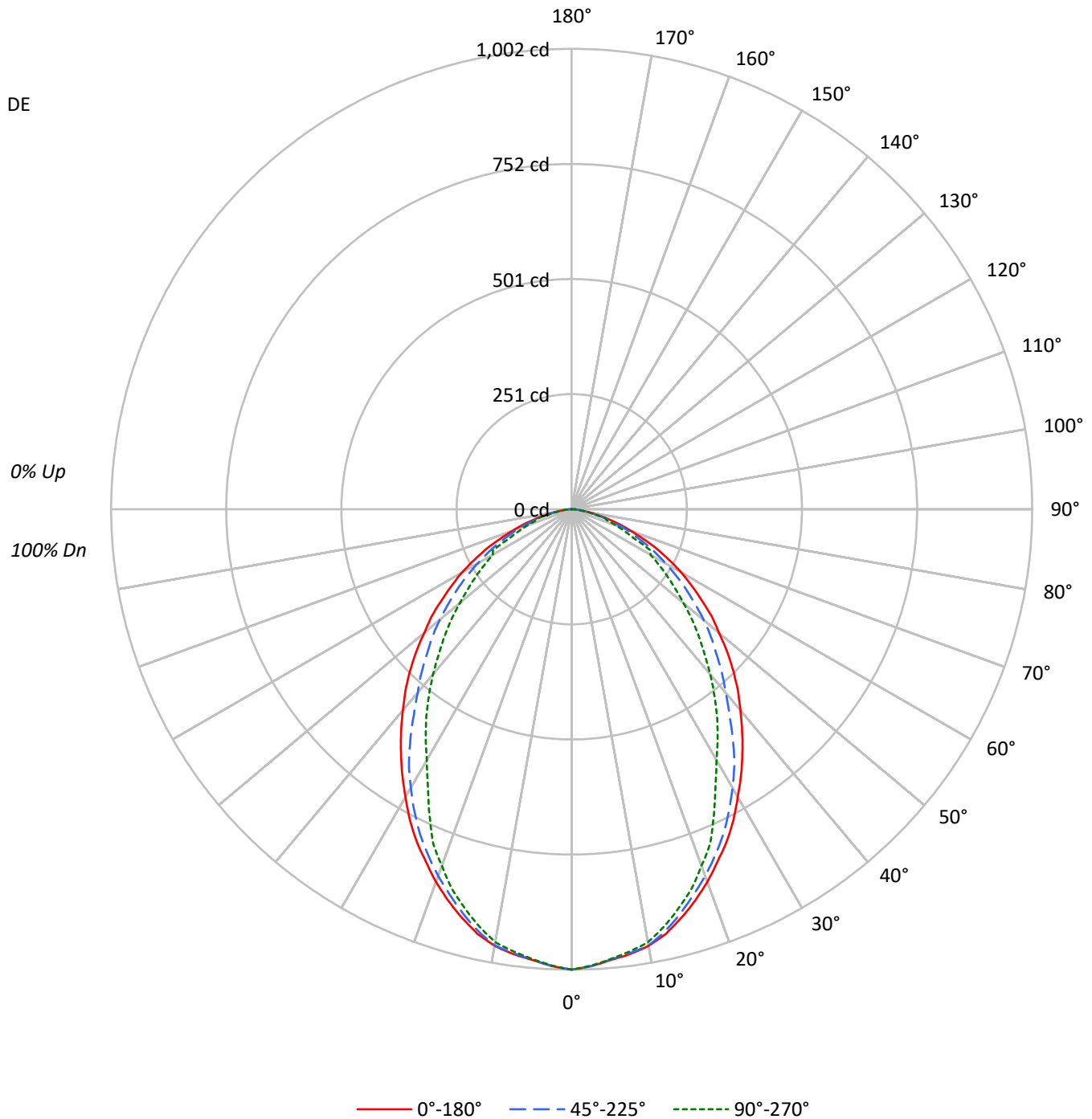
Lumens per Lamp: N/A
Luminaire Lumens: 1967.0 lumens
Efficiency: N/A
Efficacy: 84.1 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')
CIE Type: Direct

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: P561049
CATALOG NUMBER: FSR-12-4-LD4-1LO-40-UNV-82-88-EDD

Luminous Intensity Polar Plot





TEST NUMBER: P561049

CATALOG NUMBER: FSR-12-4-LD4-1LO-40-UNV-82-88-EDD

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°	2696	2696	2696
5°	2660	2656	2653
10°	2637	2633	2614
15°	2566	2540	2504
20°	2471	2432	2365
25°	2370	2318	2174
30°	2246	2174	1958
35°	2127	2009	1811
40°	2006	1831	1648
45°	1891	1693	1490
50°	1751	1571	1329
55°	1620	1424	1190
60°	1484	1272	1066
65°	1305	1114	944
70°	1076	975	802
75°	855	747	783
80°	575	539	502
85°	358	429	500

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 1891 cd/sqm



TEST NUMBER: P561049

CATALOG NUMBER: FSR-12-4-LD4-1LO-40-UNV-82-88-EDD

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	93.3	4.7
10°-20°	256.0	13.0
20°-30°	354.4	18.0
30°-40°	377.9	19.2
40°-50°	344.7	17.5
50°-60°	270.1	13.7
60°-70°	176.0	8.9
70°-80°	78.0	4.0
80°-90°	16.7	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°	703.6	35.8
0°-40°	1081.5	55.0
0°-60°	1696.3	86.2
0°-90°	1967.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1967.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1002	1002	1002	1002	1002	
5°	985	983	983	982	982	93
15°	921	921	912	902	899	259
25°	798	794	781	753	732	366
35°	648	643	612	565	551	405
45°	497	486	445	408	392	383
55°	345	335	304	268	254	310
65°	205	193	175	178	148	202
75°	82	76	72	68	75	88
85°	12	13	14	15	16	16
90°	0	0	0	0	0	



TEST NUMBER: P561049

CATALOG NUMBER: FSR-12-4-LD4-1LO-40-UNV-82-88-EDD

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1002.0	1002.0	1002.0	1002.0	1002.0
2.5°	995.0	995.0	995.0	993.9	993.9
5°	984.6	983.4	983.4	982.3	982.3
7.5°	976.5	975.3	974.2	973.0	970.7
10°	964.9	964.9	963.7	957.9	956.8
12.5°	946.4	945.2	940.6	932.5	930.1
15°	920.9	920.9	911.6	902.3	898.9
17.5°	893.1	891.9	880.3	871.1	866.4
20°	863.0	860.6	849.1	834.0	825.9
22.5°	829.4	829.4	815.5	795.8	787.7
25°	798.1	793.5	780.7	752.9	732.1
27.5°	762.2	755.2	741.3	702.0	677.6
30°	722.8	719.3	699.6	648.7	630.1
32.5°	685.7	679.9	659.1	605.8	590.8
35°	647.5	642.9	611.6	565.3	551.4
37.5°	609.3	603.5	564.1	527.0	509.7
40°	571.1	564.1	521.3	487.7	469.1
42.5°	535.2	525.9	484.2	448.3	427.4
45°	496.9	486.5	444.8	407.7	391.5
47.5°	458.7	449.4	411.2	373.0	354.5
50°	418.2	410.1	375.3	337.1	317.4
52.5°	384.6	371.8	338.2	300.0	283.8
55°	345.2	334.8	303.5	267.6	253.7
57.5°	309.3	298.9	269.9	236.3	224.7
60°	275.7	260.6	236.3	207.3	198.1
62.5°	238.6	227.0	206.2	181.9	193.4
65°	205.0	193.4	174.9	178.4	148.3
67.5°	168.0	162.2	146.0	129.7	125.1
70°	136.7	129.7	123.9	106.6	101.9
72.5°	108.9	101.9	93.8	84.6	81.1
75°	82.2	76.5	71.8	68.3	75.3
77.5°	56.8	54.4	51.0	47.5	46.3
80°	37.1	35.9	34.8	33.6	32.4
82.5°	22.0	22.0	22.0	22.0	22.0
85°	11.6	12.7	13.9	15.1	16.2
87.5°	7.0	7.0	8.1	9.3	10.4
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)