

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: P561623

Luminaire Tested: FSR-12-4-LD4-2LO-40-UNV-82-87-EDD

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P561623
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-LD4-2LO-40-UNV-82-87-EDD
Description: 1X4 FSR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .375 CLEAR PC ENVIRONMENTAL SI
LENSES WITH, 80 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

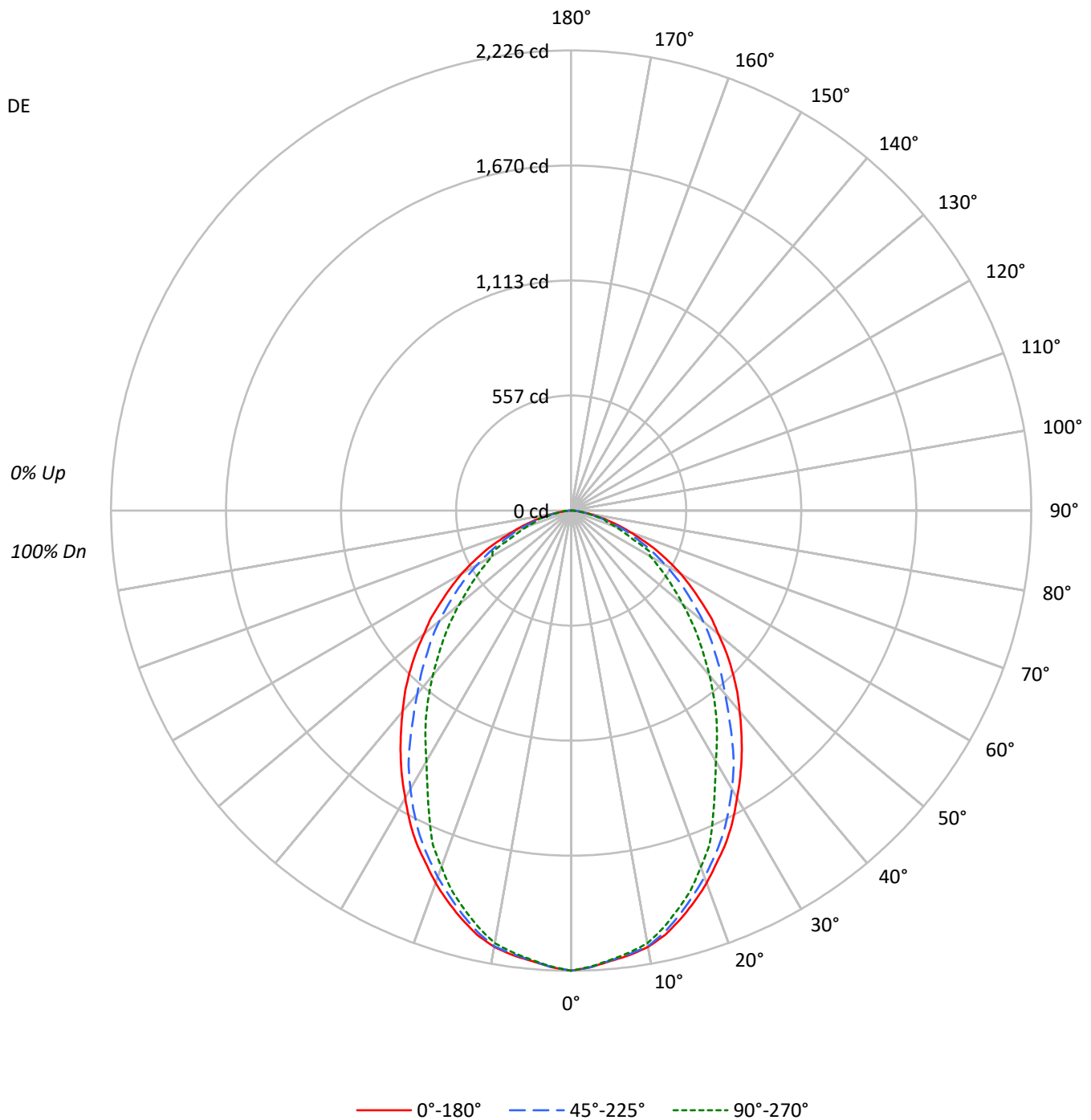
Lumens per Lamp: N/A
Luminaire Lumens: 4369.0 lumens
Efficiency: N/A
Efficacy: 93.4 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 46.8
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: P561623
CATALOG NUMBER: FSR-12-4-LD4-2LO-40-UNV-82-87-EDD

Luminous Intensity Polar Plot





TEST NUMBER: P561623

CATALOG NUMBER: FSR-12-4-LD4-2LO-40-UNV-82-87-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																			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°	5989	5989	5989
5°	5907	5900	5894
10°	5856	5849	5807
15°	5698	5641	5562
20°	5489	5401	5253
25°	5263	5149	4828
30°	4989	4829	4349
35°	4725	4463	4023
40°	4456	4067	3660
45°	4201	3760	3309
50°	3888	3490	2951
55°	3597	3163	2644
60°	3295	2825	2368
65°	2900	2474	2097
70°	2389	2166	1781
75°	1900	1658	1738
80°	1275	1196	1116
85°	794	954	1112

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 4201 cd/sqm



TEST NUMBER: P561623

CATALOG NUMBER: FSR-12-4-LD4-2LO-40-UNV-82-87-EDD

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	207.2	4.7
10°-20°	568.5	13.0
20°-30°	787.1	18.0
30°-40°	839.3	19.2
40°-50°	765.7	17.5
50°-60°	599.9	13.7
60°-70°	391.0	8.9
70°-80°	173.2	4.0
80°-90°	37.2	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°	1562.8	35.8
0°-40°	2402.1	55.0
0°-60°	3767.7	86.2
0°-90°	4369.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4369.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2226	2226	2226	2226	2226	
5°	2187	2184	2184	2182	2182	208
15°	2045	2045	2025	2004	1996	575
25°	1773	1762	1734	1672	1626	814
35°	1438	1428	1358	1256	1225	899
45°	1104	1081	988	906	870	850
55°	767	744	674	594	564	688
65°	455	430	388	396	329	449
75°	183	170	160	152	167	196
85°	26	28	31	33	36	36
90°	0	0	0	0	0	



TEST NUMBER: P561623

CATALOG NUMBER: FSR-12-4-LD4-2LO-40-UNV-82-87-EDD

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2225.5	2225.5	2225.5	2225.5	2225.5
2.5°	2210.1	2210.1	2210.1	2207.5	2207.5
5°	2186.9	2184.3	2184.3	2181.8	2181.8
7.5°	2168.9	2166.3	2163.8	2161.2	2156.0
10°	2143.2	2143.2	2140.6	2127.7	2125.2
12.5°	2102.0	2099.4	2089.1	2071.1	2066.0
15°	2045.4	2045.4	2024.8	2004.2	1996.5
17.5°	1983.7	1981.1	1955.4	1934.8	1924.5
20°	1916.8	1911.6	1885.9	1852.4	1834.4
22.5°	1842.2	1842.2	1811.3	1767.5	1749.5
25°	1772.7	1762.4	1734.1	1672.3	1626.0
27.5°	1692.9	1677.5	1646.6	1559.1	1505.1
30°	1605.5	1597.7	1554.0	1440.8	1399.6
32.5°	1523.1	1510.3	1463.9	1345.6	1312.2
35°	1438.2	1427.9	1358.5	1255.5	1224.7
37.5°	1353.3	1340.5	1253.0	1170.6	1132.1
40°	1268.4	1253.0	1157.8	1083.2	1042.0
42.5°	1188.7	1168.1	1075.4	995.7	949.4
45°	1103.8	1080.6	988.0	905.6	869.6
47.5°	1018.8	998.3	913.4	828.5	787.3
50°	928.8	910.8	833.6	748.7	705.0
52.5°	854.2	825.9	751.3	666.4	630.3
55°	766.7	743.6	674.1	594.3	563.5
57.5°	686.9	663.8	599.5	524.9	499.1
60°	612.3	578.9	524.9	460.5	440.0
62.5°	530.0	504.3	458.0	403.9	429.7
65°	455.4	429.7	388.5	396.2	329.3
67.5°	373.1	360.2	324.2	288.2	277.9
70°	303.6	288.2	275.3	236.7	226.4
72.5°	241.8	226.4	208.4	187.8	180.1
75°	182.7	169.8	159.5	151.8	167.2
77.5°	126.1	120.9	113.2	105.5	102.9
80°	82.3	79.8	77.2	74.6	72.0
82.5°	48.9	48.9	48.9	48.9	48.9
85°	25.7	28.3	30.9	33.4	36.0
87.5°	15.4	15.4	18.0	20.6	23.2
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)