

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: P562454

Luminaire Tested: FSR-24-4-LD4-1STD-50-UNV-82-87-EDD-90

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P562454  
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-24-4-LD4-1STD-50-UNV-82-87-EDD-90  
Description: 2X4 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**

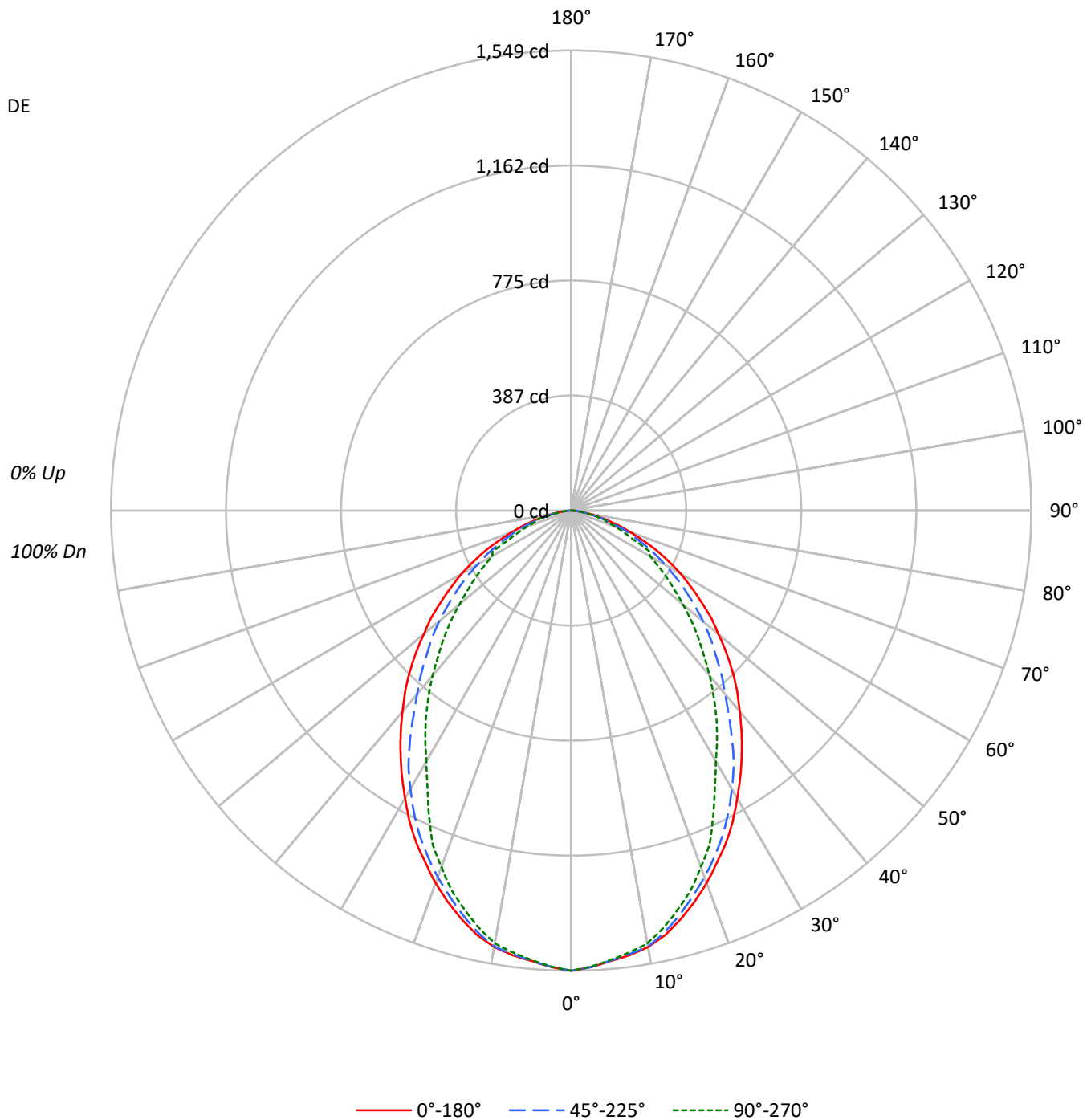
Lumens per Lamp: N/A  
Luminaire Lumens: 3041.0 lumens  
Efficiency: N/A  
Efficacy: 91.3 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 33.3  
Input Voltage (V):  
Input Current (Ain): NR  
Voltage 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: P562454

CATALOG NUMBER: FSR-24-4-LD4-1STD-50-UNV-82-87-EDD-90

### Luminous Intensity Polar Plot





TEST NUMBER: P562454

CATALOG NUMBER: FSR-24-4-LD4-1STD-50-UNV-82-87-EDD-90

**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	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°	2084	2084	2084
5°	2056	2053	2051
10°	2038	2036	2021
15°	1983	1963	1936
20°	1910	1880	1828
25°	1832	1792	1680
30°	1736	1680	1514
35°	1644	1553	1400
40°	1551	1415	1274
45°	1462	1309	1152
50°	1353	1214	1027
55°	1252	1101	920
60°	1147	983	824
65°	1009	861	730
70°	831	754	620
75°	661	577	605
80°	444	416	388
85°	276	332	387

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 1462 cd/sqm



TEST NUMBER: P562454

CATALOG NUMBER: FSR-24-4-LD4-1STD-50-UNV-82-87-EDD-90

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	144.2	4.7
10°-20°	395.7	13.0
20°-30°	547.9	18.0
30°-40°	584.2	19.2
40°-50°	532.9	17.5
50°-60°	417.5	13.7
60°-70°	272.1	8.9
70°-80°	120.6	4.0
80°-90°	25.9	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°	1087.8	35.8
0°-40°	1672.0	55.0
0°-60°	2622.4	86.2
0°-90°	3041.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3041.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1549	1549	1549	1549	1549	
5°	1522	1520	1520	1519	1519	144
15°	1424	1424	1409	1395	1390	400
25°	1234	1227	1207	1164	1132	566
35°	1001	994	946	874	852	626
45°	768	752	688	630	605	592
55°	534	518	469	414	392	479
65°	317	299	270	276	229	312
75°	127	118	111	106	116	136
85°	18	20	22	23	25	25
90°	0	0	0	0	0	



TEST NUMBER: P562454

CATALOG NUMBER: FSR-24-4-LD4-1STD-50-UNV-82-87-EDD-90

**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1549.0	1549.0	1549.0	1549.0	1549.0
2.5°	1538.3	1538.3	1538.3	1536.5	1536.5
5°	1522.2	1520.4	1520.4	1518.6	1518.6
7.5°	1509.6	1507.9	1506.1	1504.3	1500.7
10°	1491.7	1491.7	1489.9	1481.0	1479.2
12.5°	1463.1	1461.3	1454.1	1441.6	1438.0
15°	1423.7	1423.7	1409.4	1395.0	1389.7
17.5°	1380.7	1378.9	1361.0	1346.7	1339.5
20°	1334.1	1330.6	1312.7	1289.4	1276.8
22.5°	1282.2	1282.2	1260.7	1230.3	1217.7
25°	1233.9	1226.7	1207.0	1164.0	1131.8
27.5°	1178.3	1167.6	1146.1	1085.2	1047.6
30°	1117.5	1112.1	1081.6	1002.8	974.2
32.5°	1060.2	1051.2	1019.0	936.6	913.3
35°	1001.1	993.9	945.5	873.9	852.4
37.5°	942.0	933.0	872.1	814.8	788.0
40°	882.9	872.1	805.9	753.9	725.3
42.5°	827.4	813.0	748.6	693.0	660.8
45°	768.3	752.1	687.7	630.4	605.3
47.5°	709.2	694.8	635.7	576.6	548.0
50°	646.5	633.9	580.2	521.1	490.7
52.5°	594.5	574.8	522.9	463.8	438.7
55°	533.7	517.5	469.2	413.7	392.2
57.5°	478.1	462.0	417.3	365.3	347.4
60°	426.2	402.9	365.3	320.6	306.2
62.5°	368.9	351.0	318.8	281.2	299.1
65°	317.0	299.1	270.4	275.8	229.2
67.5°	259.7	250.7	225.6	200.6	193.4
70°	211.3	200.6	191.6	164.8	157.6
72.5°	168.3	157.6	145.1	130.7	125.4
75°	127.1	118.2	111.0	105.7	116.4
77.5°	87.7	84.2	78.8	73.4	71.6
80°	57.3	55.5	53.7	51.9	50.1
82.5°	34.0	34.0	34.0	34.0	34.0
85°	17.9	19.7	21.5	23.3	25.1
87.5°	10.7	10.7	12.5	14.3	16.1
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)