

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: P560749

Luminaire Tested: FSR-12-2-LD4-2STD-50-UNV-93-96-EDD

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P560749  
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-12-2-LD4-2STD-50-UNV-93-96-EDD  
Description: 1X2 FSR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .250 CLEAR TEMPER  
GLASS ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 5000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

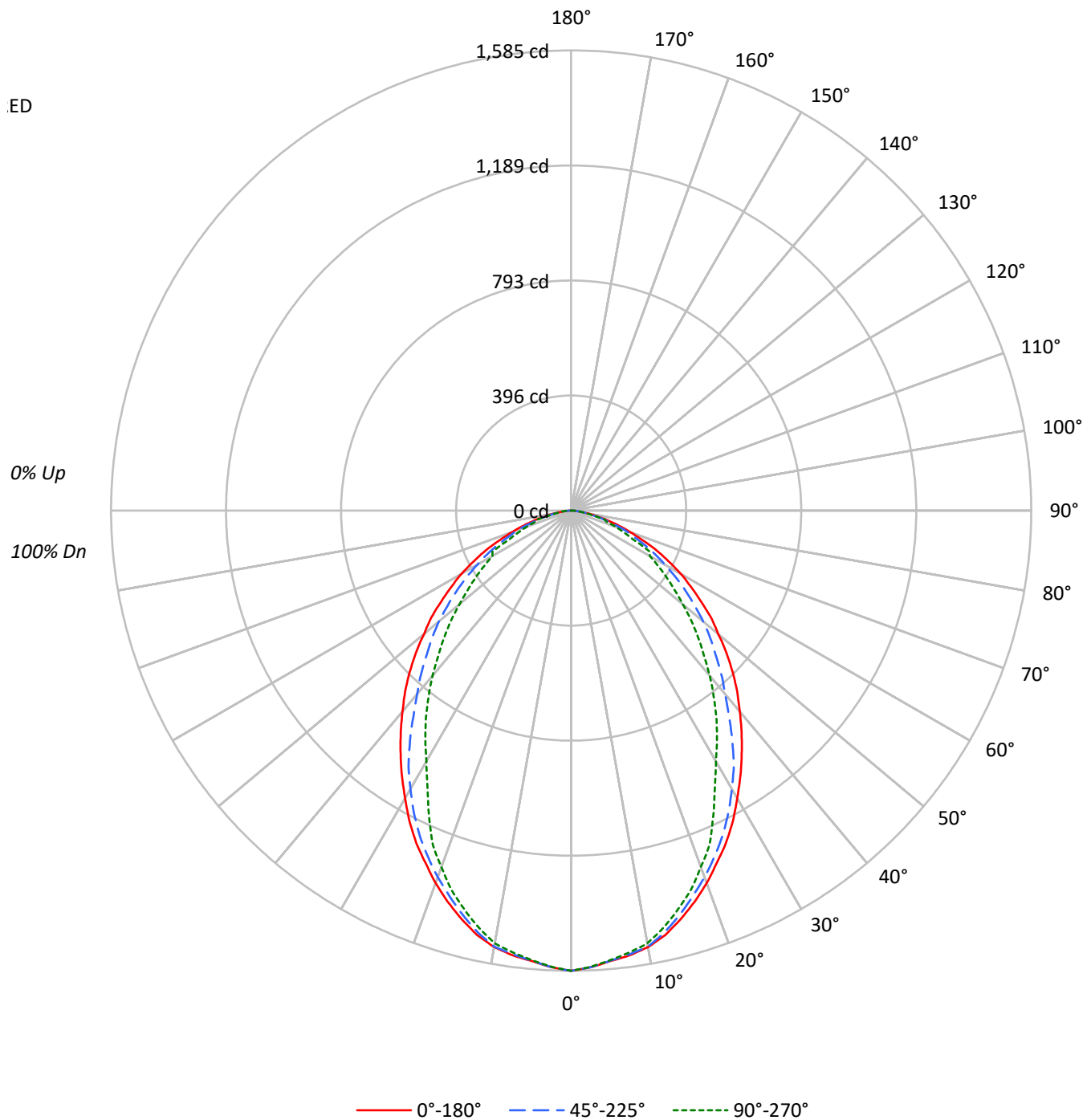
Lumens per Lamp: N/A  
Luminaire Lumens: 3112.0 lumens  
Efficiency: N/A  
Efficacy: 93.5 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 1' x L: 2' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 33.3  
Input Voltage (V):  
Input Current (Ain): NR  
Voltage 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: P560749

CATALOG NUMBER: FSR-12-2-LD4-2STD-50-UNV-93-96-EDD

### Luminous Intensity Polar Plot





TEST NUMBER: P560749

CATALOG NUMBER: FSR-12-2-LD4-2STD-50-UNV-93-96-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	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°	8531	8531	8531
5°	8415	8406	8396
10°	8343	8332	8272
15°	8118	8036	7924
20°	7820	7694	7484
25°	7498	7335	6878
30°	7107	6879	6195
35°	6730	6357	5731
40°	6348	5794	5214
45°	5984	5356	4714
50°	5539	4972	4204
55°	5124	4505	3765
60°	4695	4025	3373
65°	4131	3524	2988
70°	3402	3086	2538
75°	2705	2362	2477
80°	1816	1705	1590
85°	1130	1359	1587

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 5984 cd/sqm



TEST NUMBER: P560749

CATALOG NUMBER: FSR-12-2-LD4-2STD-50-UNV-93-96-EDD

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	147.6	4.7
10°-20°	405.0	13.0
20°-30°	560.7	18.0
30°-40°	597.8	19.2
40°-50°	545.4	17.5
50°-60°	427.3	13.7
60°-70°	278.5	8.9
70°-80°	123.4	4.0
80°-90°	26.5	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°	1113.2	35.8
0°-40°	1711.0	55.0
0°-60°	2683.7	86.2
0°-90°	3112.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3112.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1585	1585	1585	1585	1585	
5°	1558	1556	1556	1554	1554	148
15°	1457	1457	1442	1428	1422	410
25°	1263	1255	1235	1191	1158	580
35°	1024	1017	968	894	872	640
45°	786	770	704	645	619	606
55°	546	530	480	423	401	490
65°	324	306	277	282	235	320
75°	130	121	114	108	119	139
85°	18	20	22	24	26	25
90°	0	0	0	0	0	



TEST NUMBER: P560749

CATALOG NUMBER: FSR-12-2-LD4-2STD-50-UNV-93-96-EDD

**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1585.2	1585.2	1585.2	1585.2	1585.2
2.5°	1574.2	1574.2	1574.2	1572.4	1572.4
5°	1557.7	1555.9	1555.9	1554.1	1554.1
7.5°	1544.9	1543.1	1541.2	1539.4	1535.7
10°	1526.6	1526.6	1524.7	1515.6	1513.7
12.5°	1497.2	1495.4	1488.1	1475.3	1471.6
15°	1456.9	1456.9	1442.3	1427.6	1422.1
17.5°	1412.9	1411.1	1392.8	1378.1	1370.8
20°	1365.3	1361.6	1343.3	1319.5	1306.7
22.5°	1312.2	1312.2	1290.2	1259.0	1246.2
25°	1262.7	1255.3	1235.2	1191.2	1158.2
27.5°	1205.9	1194.9	1172.9	1110.6	1072.1
30°	1143.6	1138.1	1106.9	1026.3	996.9
32.5°	1084.9	1075.7	1042.8	958.5	934.6
35°	1024.4	1017.1	967.6	894.3	872.3
37.5°	964.0	954.8	892.5	833.8	806.4
40°	903.5	892.5	824.7	771.5	742.2
42.5°	846.7	832.0	766.0	709.2	676.2
45°	786.2	769.7	703.7	645.1	619.4
47.5°	725.7	711.1	650.6	590.1	560.8
50°	661.6	648.7	593.8	533.3	502.1
52.5°	608.4	588.3	535.1	474.6	449.0
55°	546.1	529.6	480.1	423.3	401.3
57.5°	489.3	472.8	427.0	373.9	355.5
60°	436.2	412.3	373.9	328.0	313.4
62.5°	377.5	359.2	326.2	287.7	306.0
65°	324.4	306.0	276.7	282.2	234.6
67.5°	265.7	256.6	230.9	205.3	197.9
70°	216.2	205.3	196.1	168.6	161.3
72.5°	172.3	161.3	148.4	133.8	128.3
75°	130.1	121.0	113.6	108.1	119.1
77.5°	89.8	86.1	80.6	75.1	73.3
80°	58.6	56.8	55.0	53.1	51.3
82.5°	34.8	34.8	34.8	34.8	34.8
85°	18.3	20.2	22.0	23.8	25.7
87.5°	11.0	11.0	12.8	14.7	16.5
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)