

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: P560477

Luminaire Tested: FSR-12-2-LD4-2LO-40-UNV-82-96-EDD

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P560477  
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-LD4-2LO-40-UNV-82-96-EDD  
Description: 1X2 FSR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .250 CLEAR TEMPERED GLASS ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 4000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

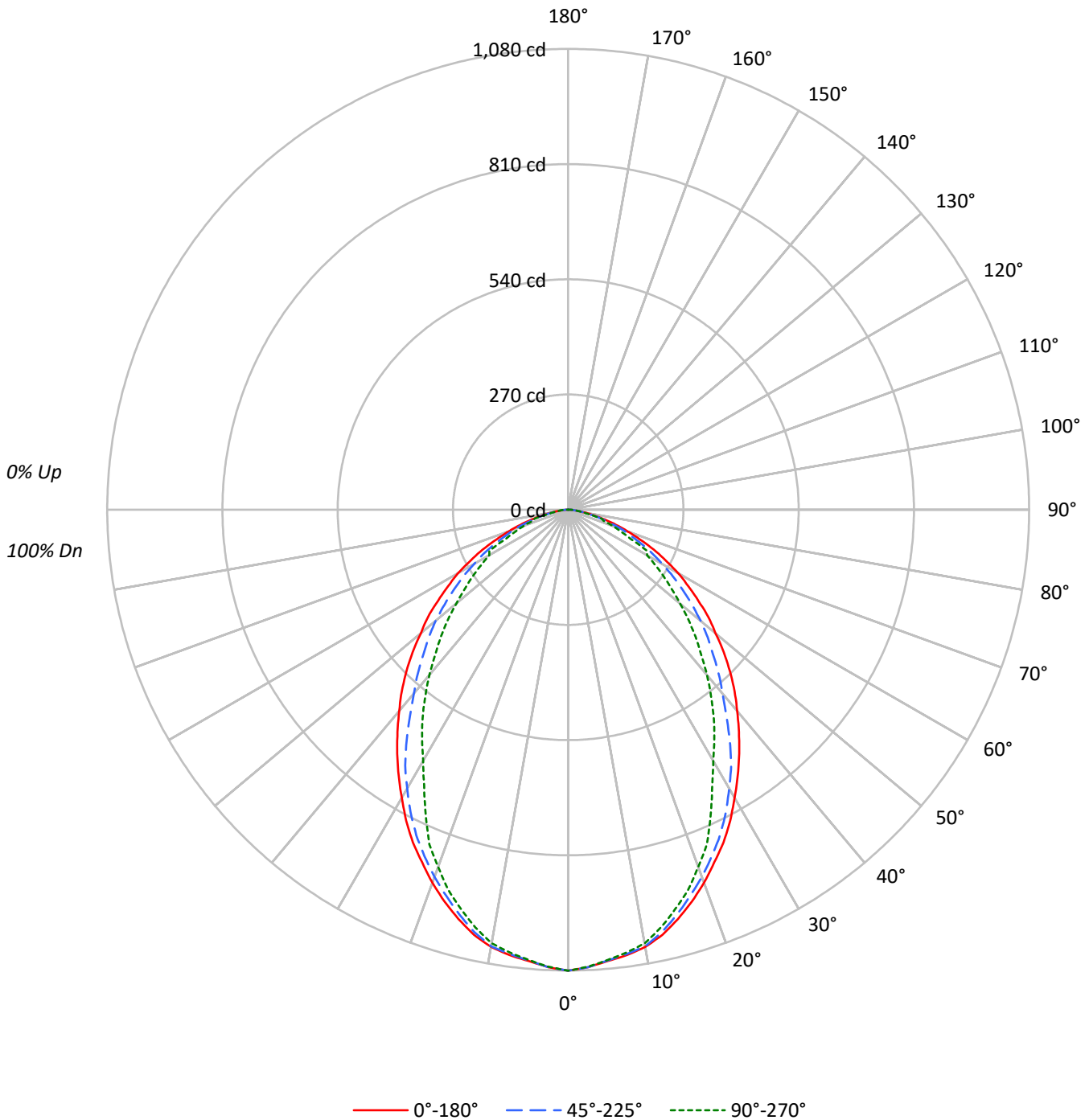
Lumens per Lamp: N/A  
Luminaire Lumens: 2121.0 lumens  
Efficiency: N/A  
Efficacy: 90.6 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 1' x L: 2' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 23.4  
Input Voltage (V):  
Input Current (Ain): NR  
Voltage 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: P560477

CATALOG NUMBER: FSR-12-2-LD4-2LO-40-UNV-82-96-EDD

### Luminous Intensity Polar Plot





TEST NUMBER: P560477

CATALOG NUMBER: FSR-12-2-LD4-2LO-40-UNV-82-96-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	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°	5815	5815	5815
5°	5736	5729	5722
10°	5686	5679	5638
15°	5533	5477	5400
20°	5329	5243	5101
25°	5111	4999	4688
30°	4844	4688	4223
35°	4587	4333	3906
40°	4326	3949	3554
45°	4078	3650	3213
50°	3775	3388	2865
55°	3492	3070	2566
60°	3200	2743	2299
65°	2816	2402	2036
70°	2319	2102	1729
75°	1844	1609	1688
80°	1240	1162	1085
85°	772	926	1081

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 4078 cd/sqm



TEST NUMBER: P560477

CATALOG NUMBER: FSR-12-2-LD4-2LO-40-UNV-82-96-EDD

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	100.6	4.7
10°-20°	276.0	13.0
20°-30°	382.1	18.0
30°-40°	407.4	19.2
40°-50°	371.7	17.5
50°-60°	291.2	13.7
60°-70°	189.8	8.9
70°-80°	84.1	4.0
80°-90°	18.0	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°	758.7	35.8
0°-40°	1166.1	55.0
0°-60°	1829.1	86.2
0°-90°	2121.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2121.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1080	1080	1080	1080	1080	
5°	1062	1060	1060	1059	1059	101
15°	993	993	983	973	969	279
25°	861	856	842	812	789	395
35°	698	693	660	610	594	437
45°	536	525	480	440	422	413
55°	372	361	327	288	274	334
65°	221	209	189	192	160	218
75°	89	82	77	74	81	95
85°	12	14	15	16	18	17
90°	0	0	0	0	0	



TEST NUMBER: P560477

CATALOG NUMBER: FSR-12-2-LD4-2LO-40-UNV-82-96-EDD

**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1080.4	1080.4	1080.4	1080.4	1080.4
2.5°	1072.9	1072.9	1072.9	1071.7	1071.7
5°	1061.7	1060.4	1060.4	1059.2	1059.2
7.5°	1052.9	1051.7	1050.4	1049.2	1046.7
10°	1040.4	1040.4	1039.2	1032.9	1031.7
12.5°	1020.5	1019.2	1014.2	1005.5	1003.0
15°	993.0	993.0	983.0	973.0	969.2
17.5°	963.0	961.8	949.3	939.3	934.3
20°	930.5	928.0	915.5	899.3	890.6
22.5°	894.3	894.3	879.3	858.1	849.3
25°	860.6	855.6	841.8	811.9	789.4
27.5°	821.9	814.4	799.4	756.9	730.7
30°	779.4	775.6	754.4	699.5	679.5
32.5°	739.4	733.2	710.7	653.2	637.0
35°	698.2	693.2	659.5	609.5	594.5
37.5°	657.0	650.7	608.3	568.3	549.6
40°	615.8	608.3	562.1	525.8	505.9
42.5°	577.1	567.1	522.1	483.4	460.9
45°	535.8	524.6	479.6	439.7	422.2
47.5°	494.6	484.6	443.4	402.2	382.2
50°	450.9	442.2	404.7	363.5	342.2
52.5°	414.7	400.9	364.7	323.5	306.0
55°	372.2	361.0	327.2	288.5	273.5
57.5°	333.5	322.2	291.0	254.8	242.3
60°	297.3	281.0	254.8	223.6	213.6
62.5°	257.3	244.8	222.3	196.1	208.6
65°	221.1	208.6	188.6	192.4	159.9
67.5°	181.1	174.9	157.4	139.9	134.9
70°	147.4	139.9	133.6	114.9	109.9
72.5°	117.4	109.9	101.2	91.2	87.4
75°	88.7	82.4	77.4	73.7	81.2
77.5°	61.2	58.7	55.0	51.2	50.0
80°	40.0	38.7	37.5	36.2	35.0
82.5°	23.7	23.7	23.7	23.7	23.7
85°	12.5	13.7	15.0	16.2	17.5
87.5°	7.5	7.5	8.7	10.0	11.2
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)