

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: P559390

Luminaire Tested: FSR-12-1-LD4-2LO-50-UNV-82-97-EDD-90

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P559390  
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-12-1-LD4-2LO-50-UNV-82-97-EDD-90  
Description: 1X1 FSR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .375 CLEAR TEMPERED GLASS ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 5000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

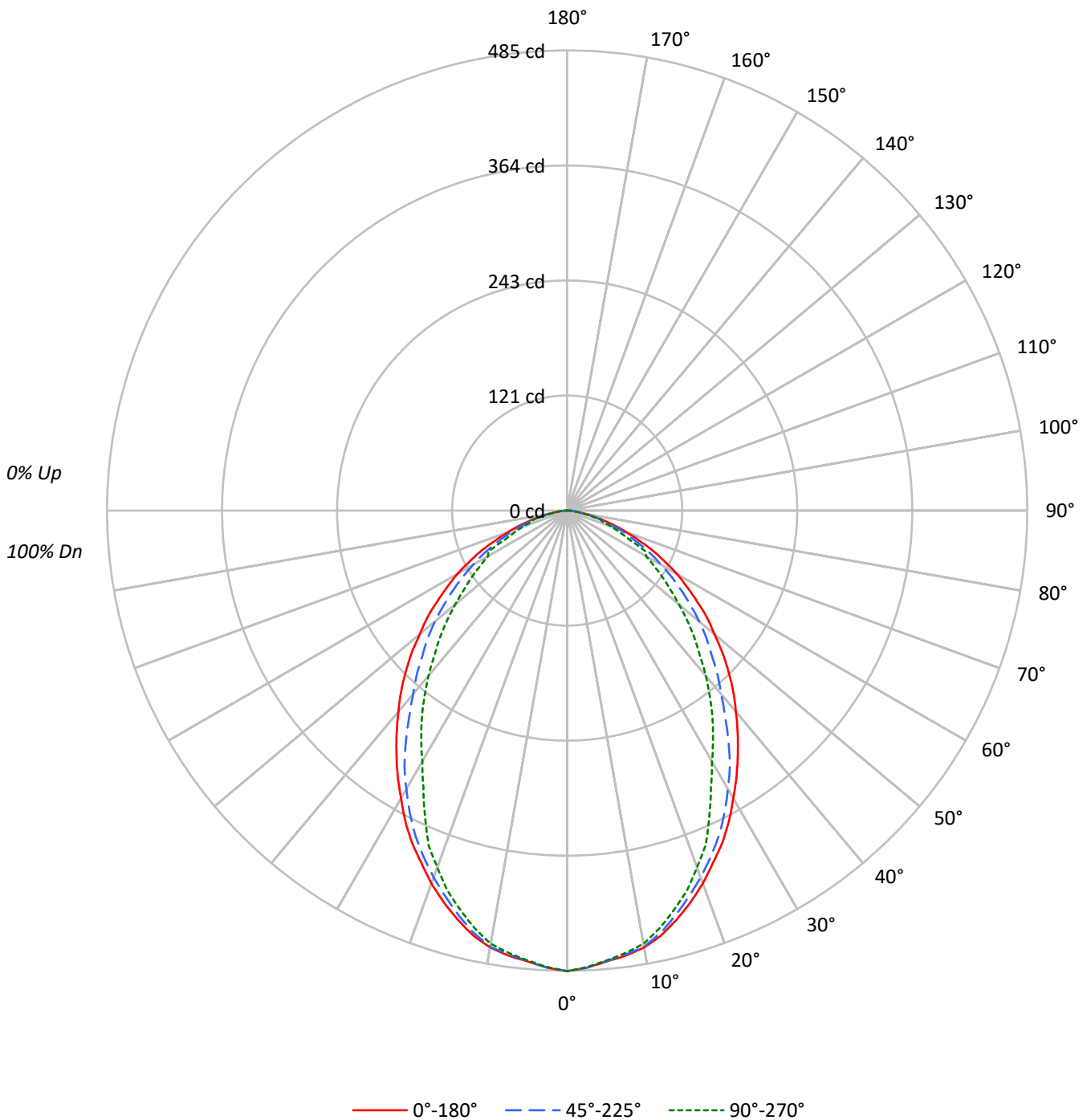
Lumens per Lamp: N/A  
Luminaire Lumens: 953.0 lumens  
Efficiency: N/A  
Efficacy: 81.5 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 11.7  
Input Voltage (V):  
Input Current (Ain): NR  
Voltage 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



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### Luminous Intensity Polar Plot





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**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°	5225	5225	5225
5°	5154	5149	5142
10°	5110	5103	5067
15°	4972	4922	4853
20°	4789	4712	4583
25°	4593	4493	4213
30°	4353	4213	3795
35°	4122	3893	3510
40°	3888	3548	3194
45°	3666	3280	2888
50°	3393	3044	2575
55°	3138	2759	2306
60°	2876	2465	2067
65°	2529	2157	1829
70°	2083	1888	1555
75°	1655	1447	1518
80°	1116	1041	973
85°	692	827	976

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 3666 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	45.2	4.7
10°-20°	124.0	13.0
20°-30°	171.7	18.0
30°-40°	183.1	19.2
40°-50°	167.0	17.5
50°-60°	130.8	13.7
60°-70°	85.3	8.9
70°-80°	37.8	4.0
80°-90°	8.1	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°	340.9	35.8
0°-40°	524.0	55.0
0°-60°	821.8	86.2
0°-90°	953.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	953.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	485	485	485	485	485	
5°	477	476	476	476	476	45
15°	446	446	442	437	436	125
25°	387	384	378	365	355	178
35°	314	312	296	274	267	196
45°	241	236	216	198	190	185
55°	167	162	147	130	123	150
65°	99	94	85	86	72	98
75°	40	37	35	33	36	43
85°	6	6	7	7	8	8
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	485.4	485.4	485.4	485.4	485.4
2.5°	482.1	482.1	482.1	481.5	481.5
5°	477.0	476.5	476.5	475.9	475.9
7.5°	473.1	472.5	472.0	471.4	470.3
10°	467.5	467.5	466.9	464.1	463.6
12.5°	458.5	457.9	455.7	451.8	450.7
15°	446.2	446.2	441.7	437.2	435.5
17.5°	432.7	432.1	426.5	422.0	419.8
20°	418.1	417.0	411.4	404.1	400.1
22.5°	401.8	401.8	395.1	385.6	381.6
25°	386.7	384.4	378.3	364.8	354.7
27.5°	369.3	365.9	359.2	340.1	328.3
30°	350.2	348.5	339.0	314.3	305.3
32.5°	332.2	329.4	319.3	293.5	286.2
35°	313.7	311.5	296.3	273.9	267.1
37.5°	295.2	292.4	273.3	255.3	246.9
40°	276.7	273.3	252.5	236.3	227.3
42.5°	259.3	254.8	234.6	217.2	207.1
45°	240.8	235.7	215.5	197.5	189.7
47.5°	222.2	217.7	199.2	180.7	171.7
50°	202.6	198.7	181.8	163.3	153.8
52.5°	186.3	180.1	163.9	145.4	137.5
55°	167.2	162.2	147.0	129.6	122.9
57.5°	149.8	144.8	130.8	114.5	108.9
60°	133.6	126.3	114.5	100.5	96.0
62.5°	115.6	110.0	99.9	88.1	93.7
65°	99.3	93.7	84.7	86.4	71.8
67.5°	81.4	78.6	70.7	62.9	60.6
70°	66.2	62.9	60.0	51.6	49.4
72.5°	52.8	49.4	45.5	41.0	39.3
75°	39.8	37.0	34.8	33.1	36.5
77.5°	27.5	26.4	24.7	23.0	22.4
80°	18.0	17.4	16.8	16.3	15.7
82.5°	10.7	10.7	10.7	10.7	10.7
85°	5.6	6.2	6.7	7.3	7.9
87.5°	3.4	3.4	3.9	4.5	5.1
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)