

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: P559302

Luminaire Tested: FSR-12-1-LD4-2LO-40-UNV-81-87-EDD-90

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P559302  
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-40-UNV-81-87-EDD-90  
Description: 1X1 FSR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .375 CLEAR PC ENVIRONMENTAL SI  
LENSES WITH, 90 CRI AND 4000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

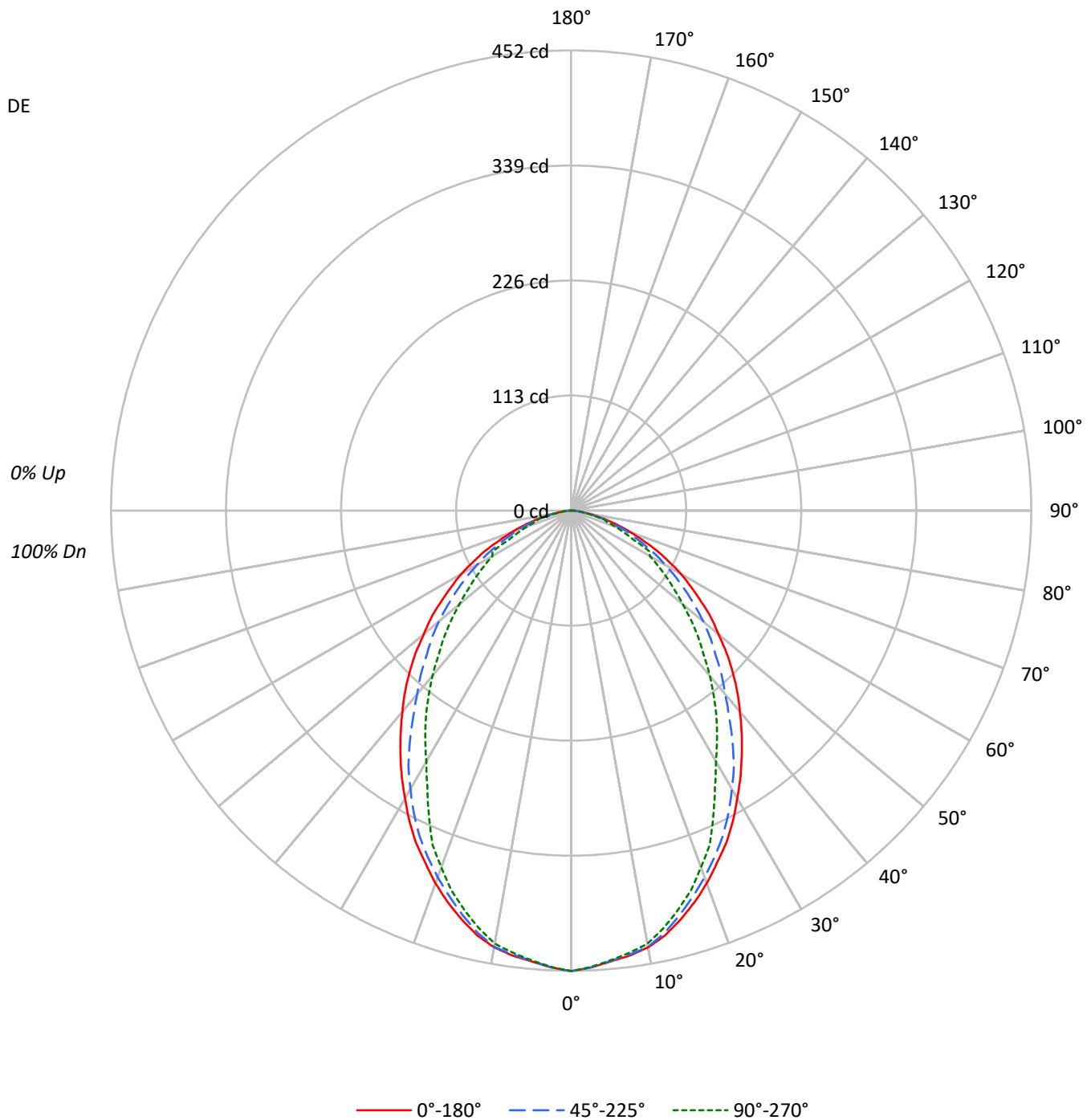
Lumens per Lamp: N/A  
Luminaire Lumens: 888.0 lumens  
Efficiency: N/A  
Efficacy: 75.9 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 11.7  
Input Voltage (V):  
Input Current (Ain): NR  
Voltage 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°	4869	4869	4869
5°	4803	4797	4791
10°	4761	4756	4721
15°	4632	4586	4522
20°	4463	4391	4270
25°	4279	4187	3925
30°	4056	3926	3536
35°	3841	3628	3271
40°	3622	3306	2976
45°	3414	3057	2691
50°	3162	2837	2400
55°	2924	2571	2149
60°	2680	2297	1925
65°	2358	2012	1704
70°	1942	1762	1448
75°	1543	1347	1414
80°	1035	973	905
85°	642	778	902

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 3414 cd/sqm

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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	42.1	4.7
10°-20°	115.6	13.0
20°-30°	160.0	18.0
30°-40°	170.6	19.2
40°-50°	155.6	17.5
50°-60°	121.9	13.7
60°-70°	79.5	8.9
70°-80°	35.2	4.0
80°-90°	7.6	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°	317.6	35.8
0°-40°	488.2	55.0
0°-60°	765.8	86.2
0°-90°	888.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	888.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	452	452	452	452	452	
5°	444	444	444	443	443	42
15°	416	416	412	407	406	117
25°	360	358	352	340	330	165
35°	292	290	276	255	249	183
45°	224	220	201	184	177	173
55°	156	151	137	121	114	140
65°	93	87	79	80	67	91
75°	37	34	32	31	34	40
85°	5	6	6	7	7	7
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	452.3	452.3	452.3	452.3	452.3
2.5°	449.2	449.2	449.2	448.7	448.7
5°	444.5	444.0	444.0	443.4	443.4
7.5°	440.8	440.3	439.8	439.3	438.2
10°	435.6	435.6	435.1	432.5	431.9
12.5°	427.2	426.7	424.6	421.0	419.9
15°	415.7	415.7	411.5	407.4	405.8
17.5°	403.2	402.7	397.4	393.2	391.2
20°	389.6	388.5	383.3	376.5	372.8
22.5°	374.4	374.4	368.1	359.3	355.6
25°	360.3	358.2	352.5	339.9	330.5
27.5°	344.1	341.0	334.7	316.9	305.9
30°	326.3	324.7	315.9	292.8	284.5
32.5°	309.6	307.0	297.5	273.5	266.7
35°	292.3	290.2	276.1	255.2	248.9
37.5°	275.1	272.4	254.7	237.9	230.1
40°	257.8	254.7	235.3	220.2	211.8
42.5°	241.6	237.4	218.6	202.4	193.0
45°	224.3	219.6	200.8	184.1	176.8
47.5°	207.1	202.9	185.6	168.4	160.0
50°	188.8	185.1	169.4	152.2	143.3
52.5°	173.6	167.9	152.7	135.4	128.1
55°	155.8	151.1	137.0	120.8	114.5
57.5°	139.6	134.9	121.8	106.7	101.4
60°	124.5	117.7	106.7	93.6	89.4
62.5°	107.7	102.5	93.1	82.1	87.3
65°	92.6	87.3	79.0	80.5	66.9
67.5°	75.8	73.2	65.9	58.6	56.5
70°	61.7	58.6	56.0	48.1	46.0
72.5°	49.2	46.0	42.4	38.2	36.6
75°	37.1	34.5	32.4	30.9	34.0
77.5°	25.6	24.6	23.0	21.4	20.9
80°	16.7	16.2	15.7	15.2	14.6
82.5°	9.9	9.9	9.9	9.9	9.9
85°	5.2	5.8	6.3	6.8	7.3
87.5°	3.1	3.1	3.7	4.2	4.7
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)