

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: P559184

Luminaire Tested: FSR-12-1-LD4-2HI-50-UNV-82-84-EDD-90

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P559184  
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-LD4-2HI-50-UNV-82-84-EDD-90  
Description: 1X1 FSR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .125 CLEAR PC ENVIRONMENTAL SI  
LENSES WITH, 90 CRI AND 5000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

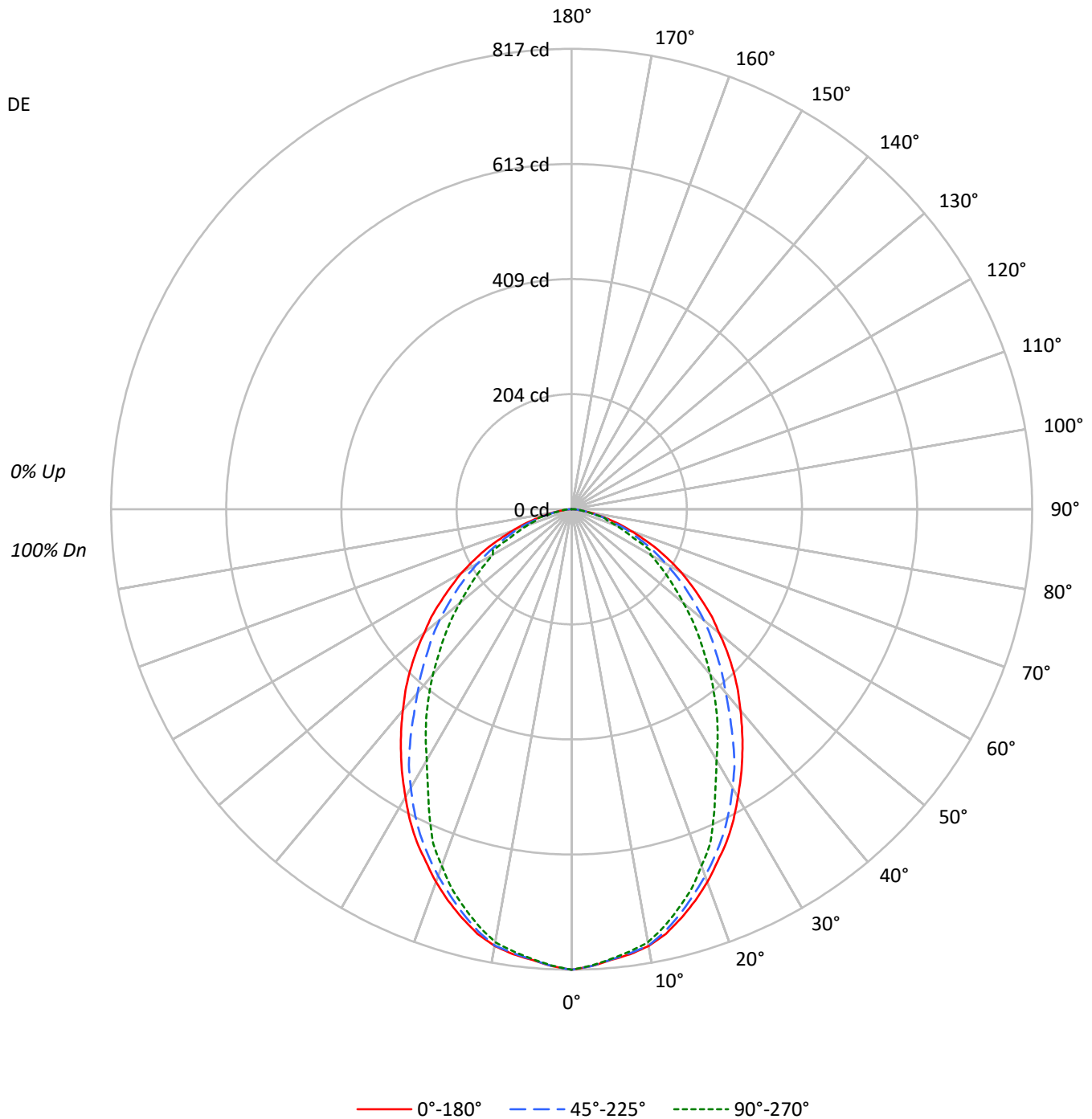
Lumens per Lamp: N/A  
Luminaire Lumens: 1604.0 lumens  
Efficiency: N/A  
Efficacy: 74.3 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 21.6  
Input Voltage (V):  
Input Current (Ain): NR  
Voltage 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°	8795	8795	8795
5°	8675	8665	8655
10°	8600	8590	8528
15°	8368	8284	8168
20°	8061	7931	7715
25°	7729	7561	7090
30°	7326	7091	6386
35°	6938	6553	5908
40°	6544	5973	5376
45°	6168	5521	4861
50°	5710	5124	4334
55°	5283	4645	3883
60°	4839	4148	3477
65°	4259	3632	3079
70°	3509	3182	2615
75°	2791	2437	2554
80°	1872	1754	1636
85°	1161	1396	1630

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 6168 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	76.1	4.7
10°-20°	208.7	13.0
20°-30°	289.0	18.0
30°-40°	308.1	19.2
40°-50°	281.1	17.5
50°-60°	220.2	13.7
60°-70°	143.5	8.9
70°-80°	63.6	4.0
80°-90°	13.6	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°	573.8	35.8
0°-40°	881.9	55.0
0°-60°	1383.2	86.2
0°-90°	1604.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1604.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	817	817	817	817	817	
5°	803	802	802	801	801	76
15°	751	751	743	736	733	211
25°	651	647	637	614	597	299
35°	528	524	499	461	450	330
45°	405	397	363	332	319	312
55°	282	273	248	218	207	252
65°	167	158	143	146	121	165
75°	67	62	59	56	61	72
85°	9	10	11	12	13	13
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	817.1	817.1	817.1	817.1	817.1
2.5°	811.4	811.4	811.4	810.4	810.4
5°	802.9	801.9	801.9	801.0	801.0
7.5°	796.3	795.3	794.4	793.4	791.6
10°	786.8	786.8	785.9	781.2	780.2
12.5°	771.7	770.8	767.0	760.4	758.5
15°	750.9	750.9	743.4	735.8	733.0
17.5°	728.3	727.3	717.9	710.3	706.5
20°	703.7	701.8	692.4	680.1	673.5
22.5°	676.3	676.3	665.0	648.9	642.3
25°	650.8	647.0	636.6	614.0	597.0
27.5°	621.5	615.9	604.5	572.4	552.6
30°	589.4	586.6	570.5	529.0	513.8
32.5°	559.2	554.5	537.5	494.0	481.7
35°	528.0	524.2	498.7	461.0	449.6
37.5°	496.8	492.1	460.0	429.8	415.6
40°	465.7	460.0	425.1	397.7	382.6
42.5°	436.4	428.8	394.8	365.5	348.5
45°	405.2	396.7	362.7	332.5	319.3
47.5°	374.1	366.5	335.3	304.2	289.0
50°	341.0	334.4	306.0	274.9	258.8
52.5°	313.6	303.2	275.8	244.6	231.4
55°	281.5	273.0	247.5	218.2	206.9
57.5°	252.2	243.7	220.1	192.7	183.2
60°	224.8	212.5	192.7	169.1	161.5
62.5°	194.6	185.1	168.1	148.3	157.7
65°	167.2	157.7	142.6	145.5	120.9
67.5°	137.0	132.2	119.0	105.8	102.0
70°	111.5	105.8	101.1	86.9	83.1
72.5°	88.8	83.1	76.5	69.0	66.1
75°	67.1	62.3	58.6	55.7	61.4
77.5°	46.3	44.4	41.6	38.7	37.8
80°	30.2	29.3	28.3	27.4	26.4
82.5°	17.9	17.9	17.9	17.9	17.9
85°	9.4	10.4	11.3	12.3	13.2
87.5°	5.7	5.7	6.6	7.6	8.5
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)