

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: P559174

Luminaire Tested: FSR-12-1-LD4-2HI-50-UNV-81-87-EDD-90

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P559174  
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-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 5000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

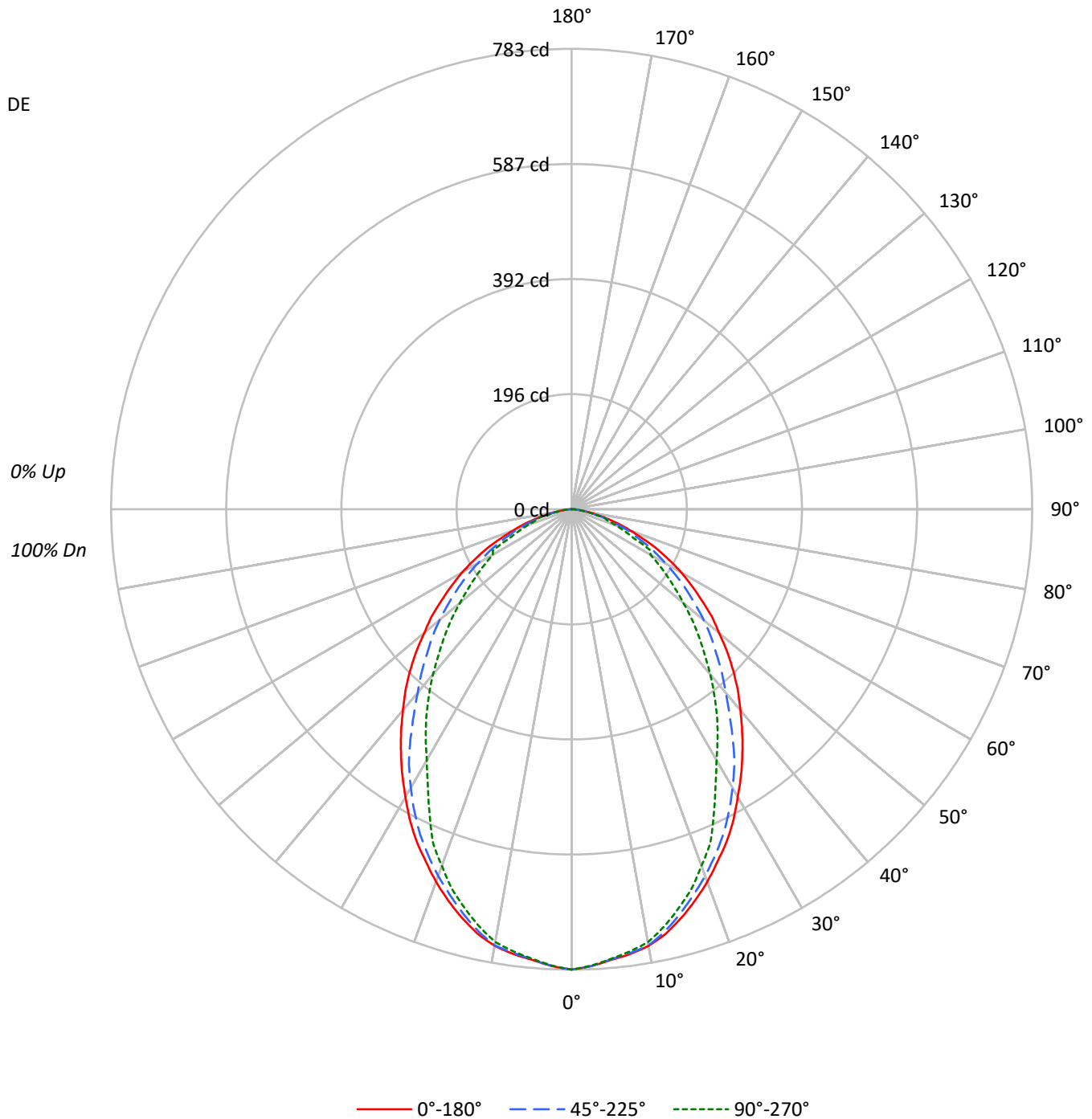
Lumens per Lamp: N/A  
Luminaire Lumens: 1537.0 lumens  
Efficiency: N/A  
Efficacy: 71.2 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 21.6  
Input Voltage (V):  
Input Current (Ain): NR  
Voltage 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°	8427	8427	8427
5°	8313	8303	8293
10°	8241	8231	8171
15°	8019	7938	7827
20°	7724	7600	7392
25°	7406	7245	6793
30°	7020	6795	6120
35°	6649	6280	5661
40°	6270	5723	5151
45°	5911	5291	4657
50°	5471	4912	4153
55°	5061	4449	3719
60°	4637	3974	3333
65°	4080	3482	2952
70°	3361	3046	2508
75°	2674	2333	2445
80°	1798	1686	1568
85°	1124	1346	1568

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 5911 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	72.9	4.7
10°-20°	200.0	13.0
20°-30°	276.9	18.0
30°-40°	295.3	19.2
40°-50°	269.4	17.5
50°-60°	211.0	13.7
60°-70°	137.5	8.9
70°-80°	60.9	4.0
80°-90°	13.1	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°	549.8	35.8
0°-40°	845.1	55.0
0°-60°	1325.4	86.2
0°-90°	1537.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1537.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	783	783	783	783	783	
5°	769	768	768	768	768	73
15°	720	720	712	705	702	202
25°	624	620	610	588	572	286
35°	506	502	478	442	431	316
45°	388	380	348	319	306	299
55°	270	262	237	209	198	242
65°	160	151	137	139	116	158
75°	64	60	56	53	59	69
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°	782.9	782.9	782.9	782.9	782.9
2.5°	777.5	777.5	777.5	776.6	776.6
5°	769.4	768.4	768.4	767.5	767.5
7.5°	763.0	762.1	761.2	760.3	758.5
10°	754.0	754.0	753.1	748.5	747.6
12.5°	739.5	738.6	735.0	728.6	726.8
15°	719.6	719.6	712.3	705.1	702.4
17.5°	697.8	696.9	687.9	680.6	677.0
20°	674.3	672.5	663.5	651.7	645.3
22.5°	648.1	648.1	637.2	621.8	615.5
25°	623.6	620.0	610.0	588.3	572.0
27.5°	595.6	590.1	579.3	548.5	529.5
30°	564.8	562.1	546.7	506.9	492.4
32.5°	535.8	531.3	515.0	473.4	461.6
35°	506.0	502.3	477.9	441.7	430.8
37.5°	476.1	471.6	440.8	411.8	398.3
40°	446.2	440.8	407.3	381.1	366.6
42.5°	418.2	410.9	378.3	350.3	334.0
45°	388.3	380.1	347.6	318.6	305.9
47.5°	358.4	351.2	321.3	291.4	277.0
50°	326.7	320.4	293.3	263.4	248.0
52.5°	300.5	290.5	264.3	234.4	221.8
55°	269.7	261.6	237.1	209.1	198.2
57.5°	241.7	233.5	210.9	184.6	175.6
60°	215.4	203.7	184.6	162.0	154.8
62.5°	186.5	177.4	161.1	142.1	151.2
65°	160.2	151.2	136.7	139.4	115.9
67.5°	131.2	126.7	114.0	101.4	97.8
70°	106.8	101.4	96.8	83.3	79.7
72.5°	85.1	79.7	73.3	66.1	63.4
75°	64.3	59.7	56.1	53.4	58.8
77.5°	44.4	42.5	39.8	37.1	36.2
80°	29.0	28.1	27.2	26.2	25.3
82.5°	17.2	17.2	17.2	17.2	17.2
85°	9.1	10.0	10.9	11.8	12.7
87.5°	5.4	5.4	6.3	7.2	8.1
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)