

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: P559316

Luminaire Tested: FSR-12-1-LD4-2LO-40-UNV-82-86-EDD-90

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P559316  
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-82-86-EDD-90  
Description: 1X1 FSR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .250 CLEAR PC ENVIRONMENTAL SI  
LENSES WITH, 90 CRI AND 4000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

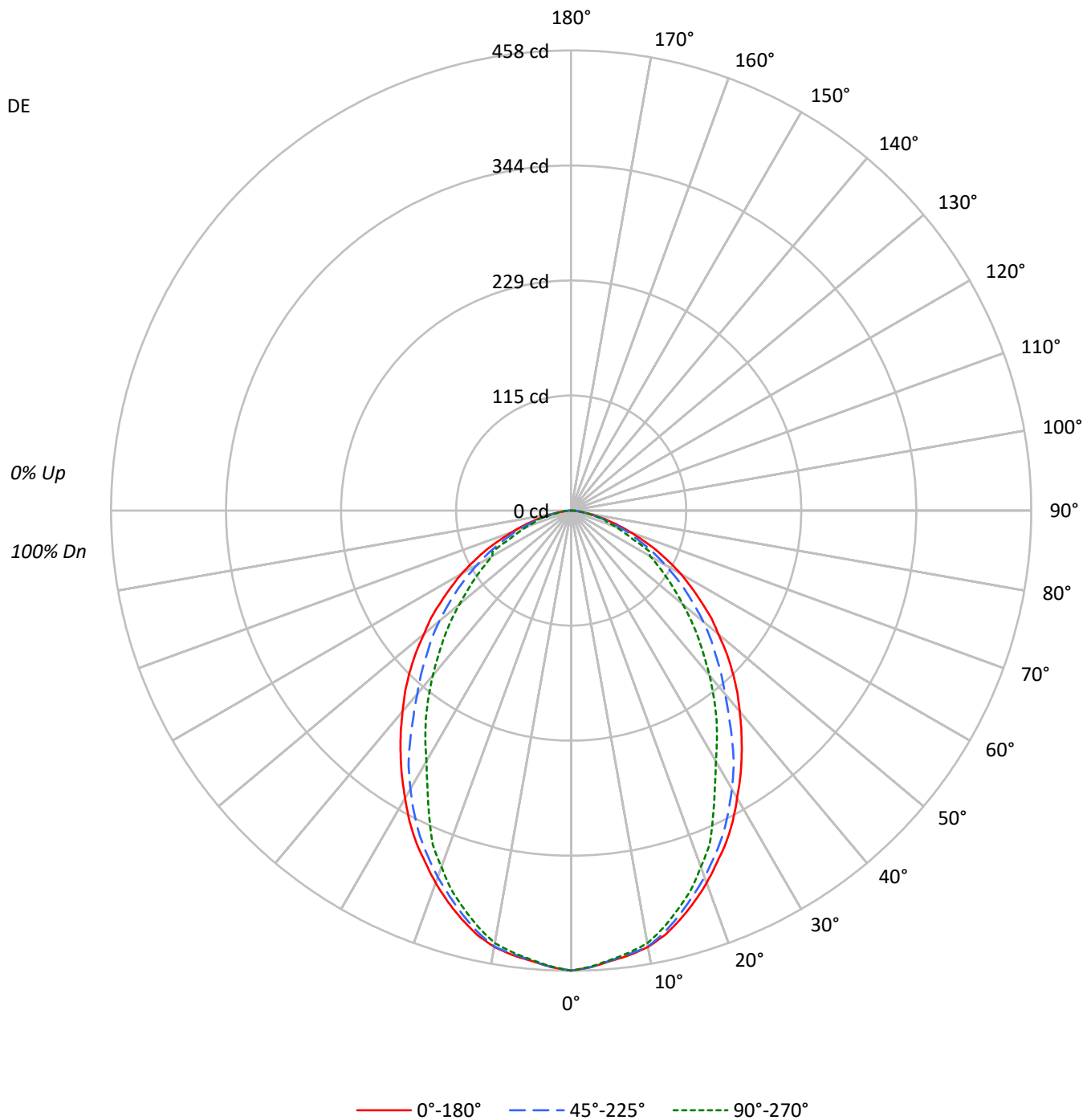
Lumens per Lamp: N/A  
Luminaire Lumens: 899.0 lumens  
Efficiency: N/A  
Efficacy: 76.8 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 11.7  
Input Voltage (V):  
Input Current (Ain): NR  
Voltage 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	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°	4929	4929	4929
5°	4862	4857	4850
10°	4820	4815	4780
15°	4690	4642	4578
20°	4518	4446	4324
25°	4333	4238	3974
30°	4107	3975	3580
35°	3888	3673	3311
40°	3667	3347	3013
45°	3457	3095	2723
50°	3200	2872	2430
55°	2961	2603	2175
60°	2713	2325	1948
65°	2387	2035	1727
70°	1967	1781	1467
75°	1564	1364	1431
80°	1048	986	917
85°	655	790	914

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 3457 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	42.6	4.7
10°-20°	117.0	13.0
20°-30°	162.0	18.0
30°-40°	172.7	19.2
40°-50°	157.6	17.5
50°-60°	123.4	13.7
60°-70°	80.4	8.9
70°-80°	35.6	4.0
80°-90°	7.7	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°	321.6	35.8
0°-40°	494.3	55.0
0°-60°	775.3	86.2
0°-90°	899.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	899.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	458	458	458	458	458	
5°	450	450	450	449	449	43
15°	421	421	417	412	411	118
25°	365	363	357	344	335	167
35°	296	294	280	258	252	185
45°	227	222	203	186	179	175
55°	158	153	139	122	116	142
65°	94	88	80	82	68	92
75°	38	35	33	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°	457.9	457.9	457.9	457.9	457.9
2.5°	454.8	454.8	454.8	454.2	454.2
5°	450.0	449.5	449.5	448.9	448.9
7.5°	446.3	445.8	445.2	444.7	443.6
10°	441.0	441.0	440.5	437.8	437.3
12.5°	432.5	432.0	429.9	426.2	425.1
15°	420.9	420.9	416.6	412.4	410.8
17.5°	408.2	407.6	402.4	398.1	396.0
20°	394.4	393.4	388.1	381.2	377.5
22.5°	379.1	379.1	372.7	363.7	360.0
25°	364.8	362.6	356.8	344.1	334.6
27.5°	348.4	345.2	338.8	320.8	309.7
30°	330.4	328.8	319.8	296.5	288.0
32.5°	313.4	310.8	301.2	276.9	270.0
35°	295.9	293.8	279.5	258.4	252.0
37.5°	278.5	275.8	257.8	240.9	232.9
40°	261.0	257.8	238.2	222.9	214.4
42.5°	244.6	240.4	221.3	204.9	195.4
45°	227.1	222.4	203.3	186.4	178.9
47.5°	209.6	205.4	187.9	170.5	162.0
50°	191.1	187.4	171.5	154.1	145.1
52.5°	175.8	169.9	154.6	137.1	129.7
55°	157.8	153.0	138.7	122.3	115.9
57.5°	141.4	136.6	123.4	108.0	102.7
60°	126.0	119.1	108.0	94.8	90.5
62.5°	109.1	103.8	94.2	83.1	88.4
65°	93.7	88.4	79.9	81.5	67.8
67.5°	76.8	74.1	66.7	59.3	57.2
70°	62.5	59.3	56.6	48.7	46.6
72.5°	49.8	46.6	42.9	38.6	37.1
75°	37.6	34.9	32.8	31.2	34.4
77.5°	25.9	24.9	23.3	21.7	21.2
80°	16.9	16.4	15.9	15.4	14.8
82.5°	10.1	10.1	10.1	10.1	10.1
85°	5.3	5.8	6.4	6.9	7.4
87.5°	3.2	3.2	3.7	4.2	4.8
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)