

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: P559298

Luminaire Tested: FSR-12-1-LD4-2LO-40-UNV-81-85-EDD-90

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P559298  
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-81-85-EDD-90  
Description: 1X1 FSR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .187 CLEAR PC ENVIRONMENTAL SI  
LENSES WITH, 90 CRI AND 4000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

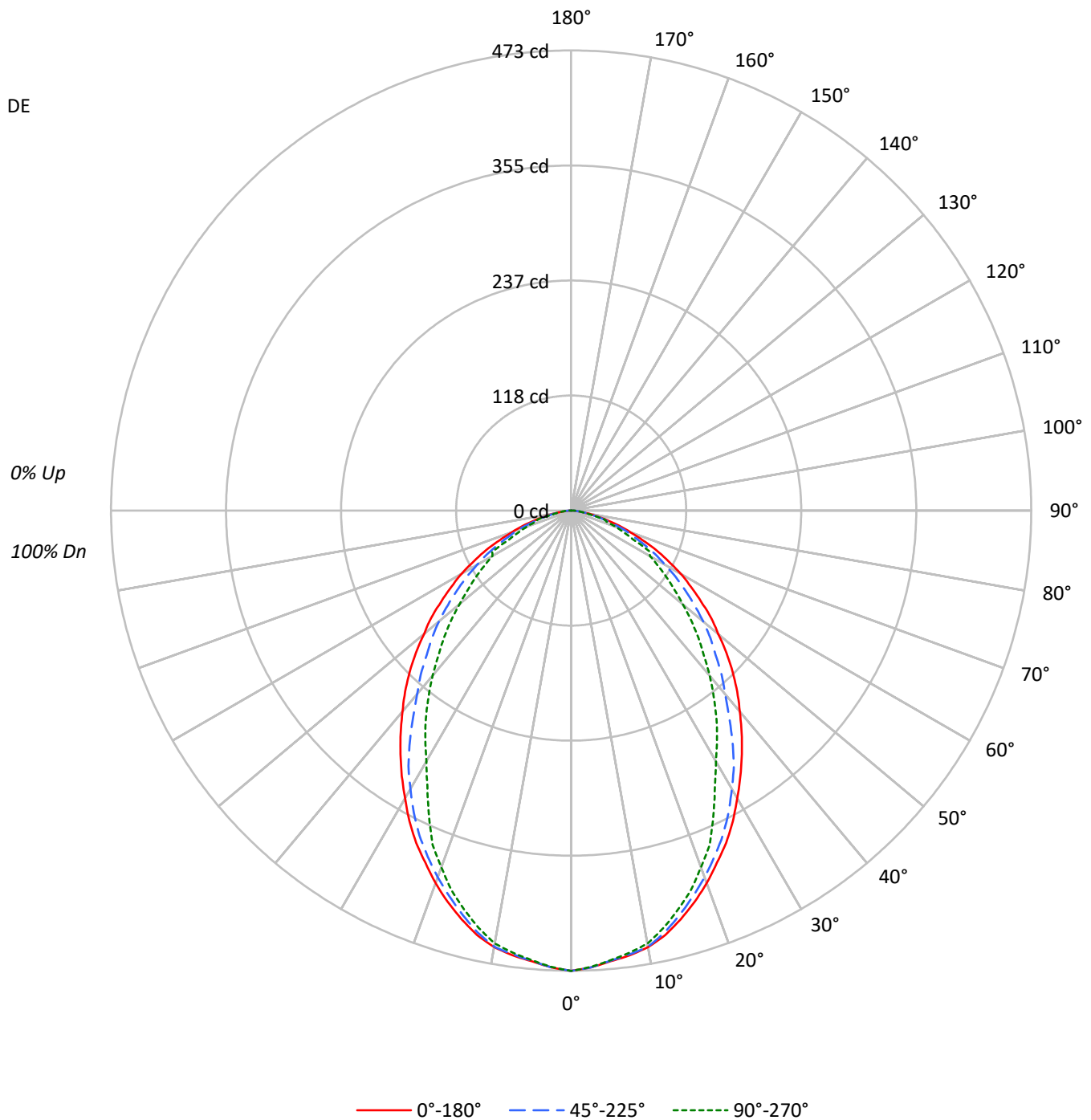
Lumens per Lamp: N/A  
Luminaire Lumens: 929.0 lumens  
Efficiency: N/A  
Efficacy: 79.4 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 11.7  
Input Voltage (V):  
Input Current (Ain): NR  
Voltage 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	0																			
RCR																																														
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100																												
1	110	106	102	99	108	104	100	97	100	97	94	96	94	91	92	90	89	87																												
2	101	94	88	83	99	92	87	82	89	84	80	86	82	78	83	79	77	75																												
3	93	84	77	71	91	82	76	70	79	74	69	77	72	68	74	70	67	65																												
4	86	75	67	61	84	74	66	61	72	65	60	69	64	59	67	62	58	56																												
5	80	68	60	54	78	67	59	53	65	58	53	63	57	52	61	56	52	50																												
6	74	62	53	48	72	61	53	47	59	52	47	57	51	47	56	50	46	44																												
7	69	56	48	43	67	56	48	42	54	47	42	53	46	42	51	46	42	40																												
8	65	52	44	38	63	51	44	38	50	43	38	49	42	38	48	42	38	36																												
9	61	48	40	35	59	47	40	35	46	39	35	45	39	34	44	38	34	33																												
10	57	44	37	32	56	44	37	32	43	36	32	42	36	32	41	36	32	30																												

**AVERAGE LUMINANCE (cd/sqm):**

	0°	45°	90°
0°	5093	5093	5093
5°	5024	5019	5012
10°	4981	4975	4939
15°	4846	4797	4730
20°	4669	4593	4468
25°	4476	4379	4107
30°	4243	4107	3699
35°	4018	3796	3422
40°	3790	3459	3114
45°	3573	3198	2815
50°	3307	2969	2510
55°	3059	2689	2248
60°	2803	2403	2013
65°	2465	2104	1783
70°	2033	1841	1514
75°	1614	1410	1481
80°	1085	1017	948
85°	679	815	951

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 3573 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	44.0	4.7
10°-20°	120.9	13.0
20°-30°	167.4	18.0
30°-40°	178.5	19.2
40°-50°	162.8	17.5
50°-60°	127.5	13.7
60°-70°	83.1	8.9
70°-80°	36.8	4.0
80°-90°	7.9	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°	332.3	35.8
0°-40°	510.8	55.0
0°-60°	801.1	86.2
0°-90°	929.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	929.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	473	473	473	473	473	
5°	465	464	464	464	464	44
15°	435	435	430	426	424	122
25°	377	375	369	356	346	173
35°	306	304	289	267	260	191
45°	235	230	210	193	185	181
55°	163	158	143	126	120	146
65°	97	91	83	84	70	95
75°	39	36	34	32	36	42
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°	473.2	473.2	473.2	473.2	473.2
2.5°	469.9	469.9	469.9	469.4	469.4
5°	465.0	464.5	464.5	463.9	463.9
7.5°	461.2	460.6	460.1	459.5	458.4
10°	455.7	455.7	455.2	452.4	451.9
12.5°	447.0	446.4	444.2	440.4	439.3
15°	434.9	434.9	430.5	426.2	424.5
17.5°	421.8	421.2	415.8	411.4	409.2
20°	407.6	406.5	401.0	393.9	390.1
22.5°	391.7	391.7	385.1	375.8	372.0
25°	376.9	374.7	368.7	355.6	345.8
27.5°	360.0	356.7	350.1	331.5	320.0
30°	341.4	339.7	330.4	306.4	297.6
32.5°	323.9	321.1	311.3	286.1	279.0
35°	305.8	303.6	288.9	267.0	260.4
37.5°	287.8	285.0	266.4	248.9	240.7
40°	269.7	266.4	246.2	230.3	221.6
42.5°	252.7	248.4	228.7	211.7	201.9
45°	234.7	229.8	210.1	192.6	184.9
47.5°	216.6	212.3	194.2	176.2	167.4
50°	197.5	193.7	177.3	159.2	149.9
52.5°	181.6	175.6	159.7	141.7	134.0
55°	163.0	158.1	143.3	126.4	119.8
57.5°	146.1	141.1	127.5	111.6	106.1
60°	130.2	123.1	111.6	97.9	93.5
62.5°	112.7	107.2	97.4	85.9	91.4
65°	96.8	91.4	82.6	84.2	70.0
67.5°	79.3	76.6	68.9	61.3	59.1
70°	64.6	61.3	58.5	50.3	48.1
72.5°	51.4	48.1	44.3	39.9	38.3
75°	38.8	36.1	33.9	32.3	35.6
77.5°	26.8	25.7	24.1	22.4	21.9
80°	17.5	17.0	16.4	15.9	15.3
82.5°	10.4	10.4	10.4	10.4	10.4
85°	5.5	6.0	6.6	7.1	7.7
87.5°	3.3	3.3	3.8	4.4	4.9
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)