

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: P559314

Luminaire Tested: FSR-12-1-LD4-2LO-40-UNV-82-85-EDD-90

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P559314  
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-82-85-EDD-90  
Description: 1X1 FSR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .187 CLEAR PC ENVIRONMENTAL SI  
LENSES WITH, 90 CRI AND 4000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

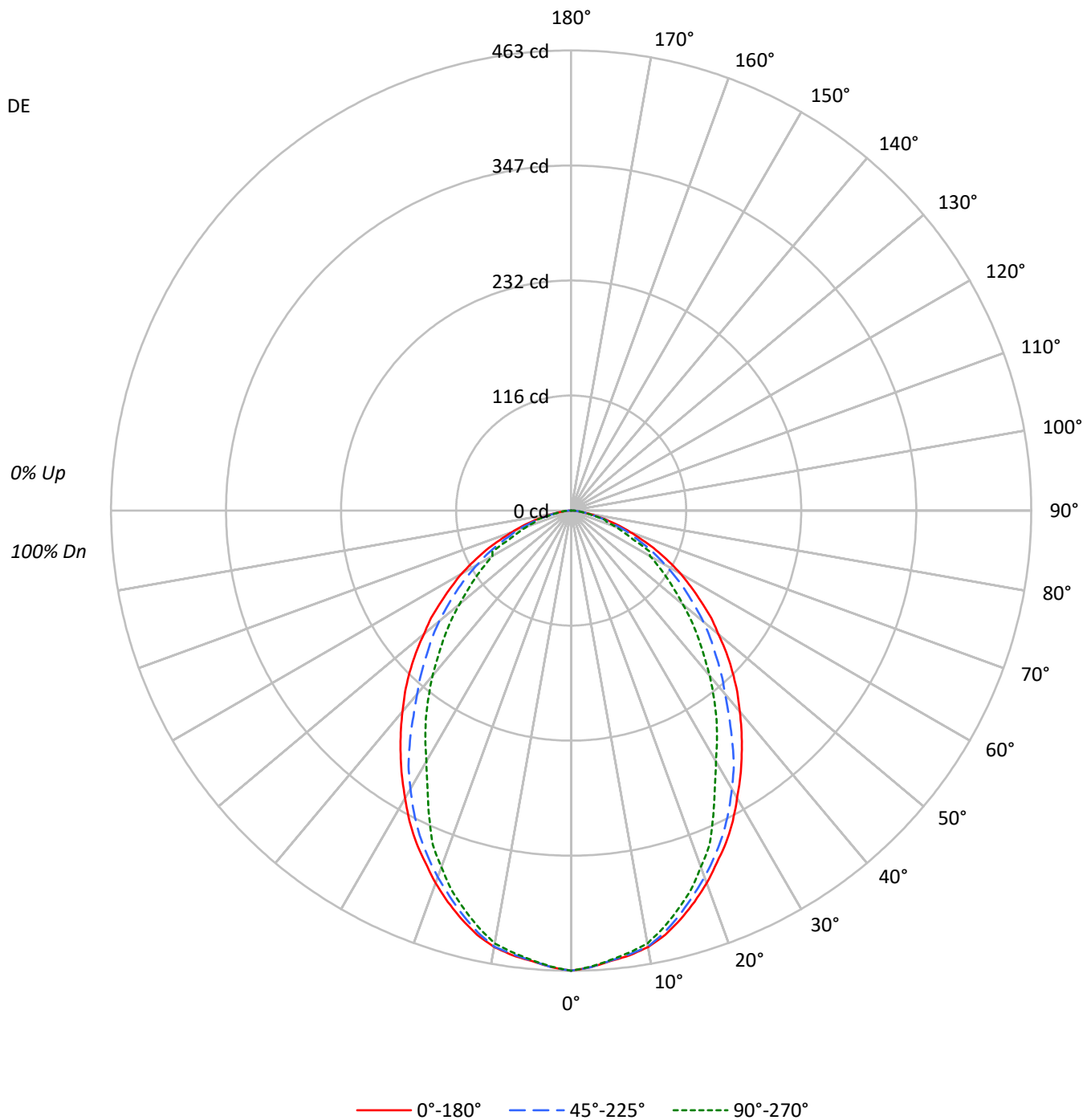
Lumens per Lamp: N/A  
Luminaire Lumens: 909.0 lumens  
Efficiency: N/A  
Efficacy: 77.7 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 11.7  
Input Voltage (V):  
Input Current (Ain): NR  
Voltage 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°	4984	4984	4984
5°	4916	4911	4904
10°	4874	4868	4833
15°	4743	4695	4629
20°	4568	4495	4372
25°	4380	4285	4018
30°	4151	4018	3619
35°	3932	3713	3348
40°	3708	3385	3046
45°	3495	3130	2754
50°	3235	2904	2457
55°	2993	2631	2199
60°	2743	2351	1970
65°	2412	2058	1745
70°	1989	1803	1482
75°	1580	1381	1447
80°	1060	998	930
85°	667	790	926

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 3495 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	43.1	4.7
10°-20°	118.3	13.0
20°-30°	163.8	18.0
30°-40°	174.6	19.2
40°-50°	159.3	17.5
50°-60°	124.8	13.7
60°-70°	81.3	8.9
70°-80°	36.0	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°	325.2	35.8
0°-40°	499.8	55.0
0°-60°	783.9	86.2
0°-90°	909.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	909.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	463	463	463	463	463	
5°	455	454	454	454	454	43
15°	426	426	421	417	415	120
25°	369	367	361	348	338	169
35°	299	297	283	261	255	187
45°	230	225	206	188	181	177
55°	160	155	140	124	117	143
65°	95	89	81	82	68	93
75°	38	35	33	32	35	41
85°	5	6	6	7	8	7
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	463.0	463.0	463.0	463.0	463.0
2.5°	459.8	459.8	459.8	459.3	459.3
5°	455.0	454.5	454.5	453.9	453.9
7.5°	451.3	450.7	450.2	449.7	448.6
10°	445.9	445.9	445.4	442.7	442.2
12.5°	437.3	436.8	434.7	430.9	429.8
15°	425.6	425.6	421.3	417.0	415.4
17.5°	412.7	412.2	406.8	402.5	400.4
20°	398.8	397.7	392.4	385.4	381.7
22.5°	383.3	383.3	376.8	367.7	364.0
25°	368.8	366.7	360.8	347.9	338.3
27.5°	352.2	349.0	342.6	324.4	313.1
30°	334.0	332.4	323.3	299.8	291.2
32.5°	316.9	314.2	304.6	280.0	273.0
35°	299.2	297.1	282.6	261.2	254.8
37.5°	281.6	278.9	260.7	243.6	235.5
40°	263.9	260.7	240.9	225.4	216.8
42.5°	247.3	243.0	223.8	207.2	197.5
45°	229.6	224.8	205.6	188.4	180.9
47.5°	212.0	207.7	190.0	172.4	163.8
50°	193.2	189.5	173.4	155.8	146.7
52.5°	177.7	171.8	156.3	138.6	131.1
55°	159.5	154.7	140.2	123.7	117.2
57.5°	142.9	138.1	124.7	109.2	103.8
60°	127.4	120.4	109.2	95.8	91.5
62.5°	110.3	104.9	95.3	84.0	89.4
65°	94.7	89.4	80.8	82.4	68.5
67.5°	77.6	74.9	67.4	60.0	57.8
70°	63.2	60.0	57.3	49.2	47.1
72.5°	50.3	47.1	43.4	39.1	37.5
75°	38.0	35.3	33.2	31.6	34.8
77.5°	26.2	25.2	23.6	21.9	21.4
80°	17.1	16.6	16.1	15.5	15.0
82.5°	10.2	10.2	10.2	10.2	10.2
85°	5.4	5.9	6.4	7.0	7.5
87.5°	3.2	3.2	3.7	4.3	4.8
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)