

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: P559308

Luminaire Tested: FSR-12-1-LD4-2LO-40-UNV-81-96-EDD-90

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P559308  
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-81-96-EDD-90  
Description: 1X1 FSR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .250 CLEAR TEMPERED GLASS ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 4000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

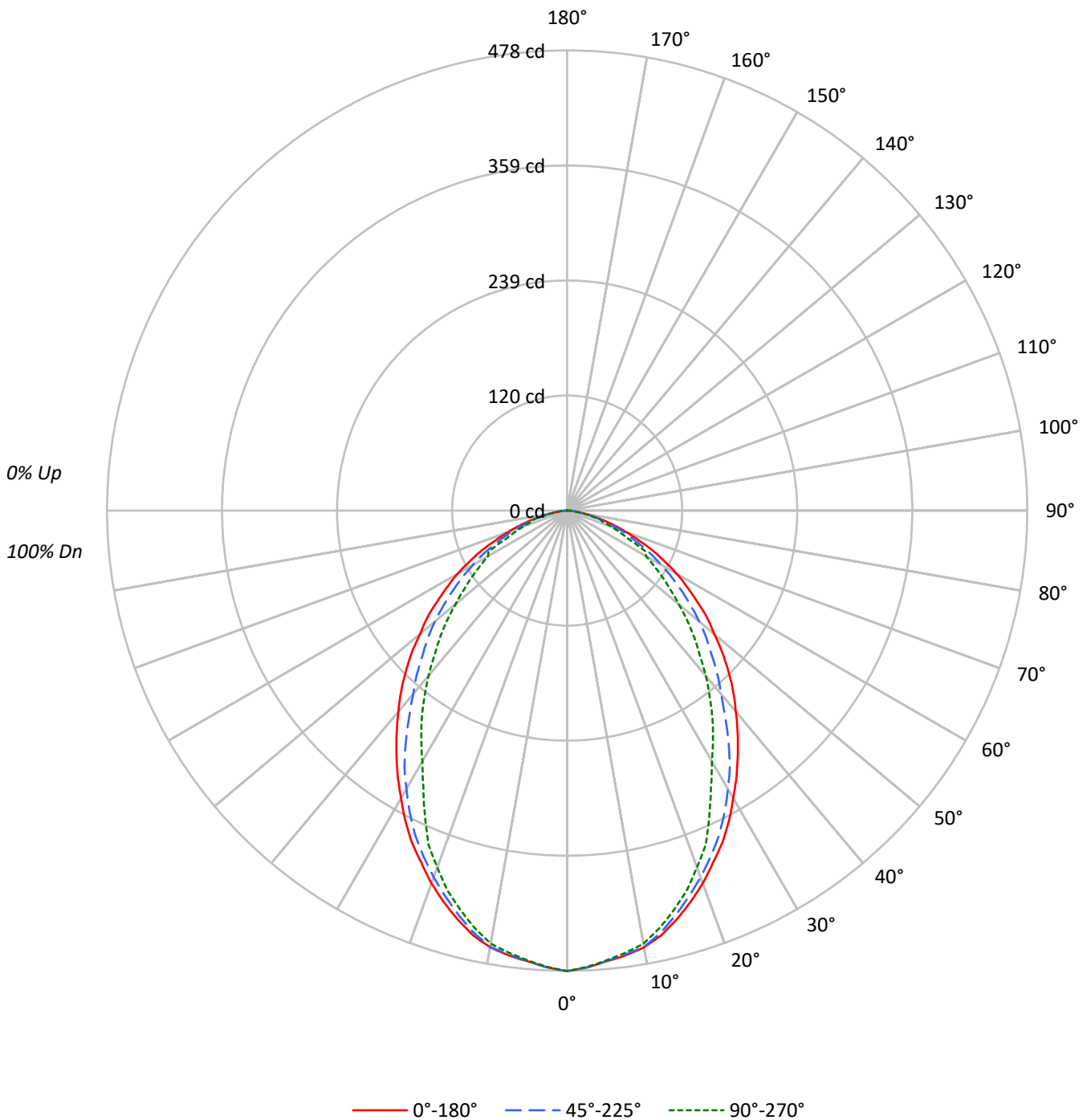
Lumens per Lamp: N/A  
Luminaire Lumens: 939.0 lumens  
Efficiency: N/A  
Efficacy: 80.3 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 11.7  
Input Voltage (V):  
Input Current (Ain): NR  
Voltage 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°	5148	5148	5148
5°	5078	5073	5066
10°	5034	5029	4992
15°	4899	4850	4782
20°	4719	4643	4517
25°	4525	4426	4151
30°	4288	4151	3739
35°	4062	3837	3459
40°	3830	3496	3147
45°	3611	3232	2845
50°	3342	3001	2537
55°	3093	2719	2273
60°	2833	2428	2037
65°	2493	2127	1803
70°	2052	1863	1533
75°	1634	1426	1493
80°	1097	1029	961
85°	679	815	951

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 3611 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	44.5	4.7
10°-20°	122.2	13.0
20°-30°	169.2	18.0
30°-40°	180.4	19.2
40°-50°	164.6	17.5
50°-60°	128.9	13.7
60°-70°	84.0	8.9
70°-80°	37.2	4.0
80°-90°	8.0	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°	335.9	35.8
0°-40°	516.3	55.0
0°-60°	809.8	86.2
0°-90°	939.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	939.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	478	478	478	478	478	
5°	470	470	470	469	469	45
15°	440	440	435	431	429	124
25°	381	379	373	359	350	175
35°	309	307	292	270	263	193
45°	237	232	212	195	187	183
55°	165	160	145	128	121	148
65°	98	92	84	85	71	96
75°	39	36	34	33	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°	478.3	478.3	478.3	478.3	478.3
2.5°	475.0	475.0	475.0	474.4	474.4
5°	470.0	469.5	469.5	468.9	468.9
7.5°	466.1	465.6	465.0	464.5	463.4
10°	460.6	460.6	460.1	457.3	456.7
12.5°	451.8	451.2	449.0	445.1	444.0
15°	439.6	439.6	435.2	430.8	429.1
17.5°	426.3	425.8	420.3	415.8	413.6
20°	412.0	410.9	405.3	398.1	394.3
22.5°	395.9	395.9	389.3	379.9	376.0
25°	381.0	378.8	372.7	359.4	349.5
27.5°	363.9	360.5	353.9	335.1	323.5
30°	345.0	343.4	334.0	309.7	300.8
32.5°	327.4	324.6	314.6	289.2	282.0
35°	309.1	306.9	292.0	269.8	263.2
37.5°	290.9	288.1	269.3	251.6	243.3
40°	272.6	269.3	248.8	232.8	224.0
42.5°	255.5	251.0	231.1	214.0	204.0
45°	237.2	232.2	212.3	194.6	186.9
47.5°	219.0	214.6	196.3	178.1	169.2
50°	199.6	195.7	179.2	160.9	151.5
52.5°	183.6	177.5	161.5	143.2	135.5
55°	164.8	159.8	144.9	127.7	121.1
57.5°	147.6	142.7	128.8	112.8	107.3
60°	131.6	124.4	112.8	99.0	94.6
62.5°	113.9	108.4	98.4	86.8	92.3
65°	97.9	92.3	83.5	85.2	70.8
67.5°	80.2	77.4	69.7	61.9	59.7
70°	65.2	61.9	59.2	50.9	48.7
72.5°	52.0	48.7	44.8	40.4	38.7
75°	39.3	36.5	34.3	32.6	35.9
77.5°	27.1	26.0	24.3	22.7	22.1
80°	17.7	17.1	16.6	16.0	15.5
82.5°	10.5	10.5	10.5	10.5	10.5
85°	5.5	6.1	6.6	7.2	7.7
87.5°	3.3	3.3	3.9	4.4	5.0
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)