

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: P559337

Luminaire Tested: FSR-12-1-LD4-2LO-40-UNV-93-88-EDD

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P559337  
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-93-88-EDD  
Description: 1X1 FSR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .500 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 4000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

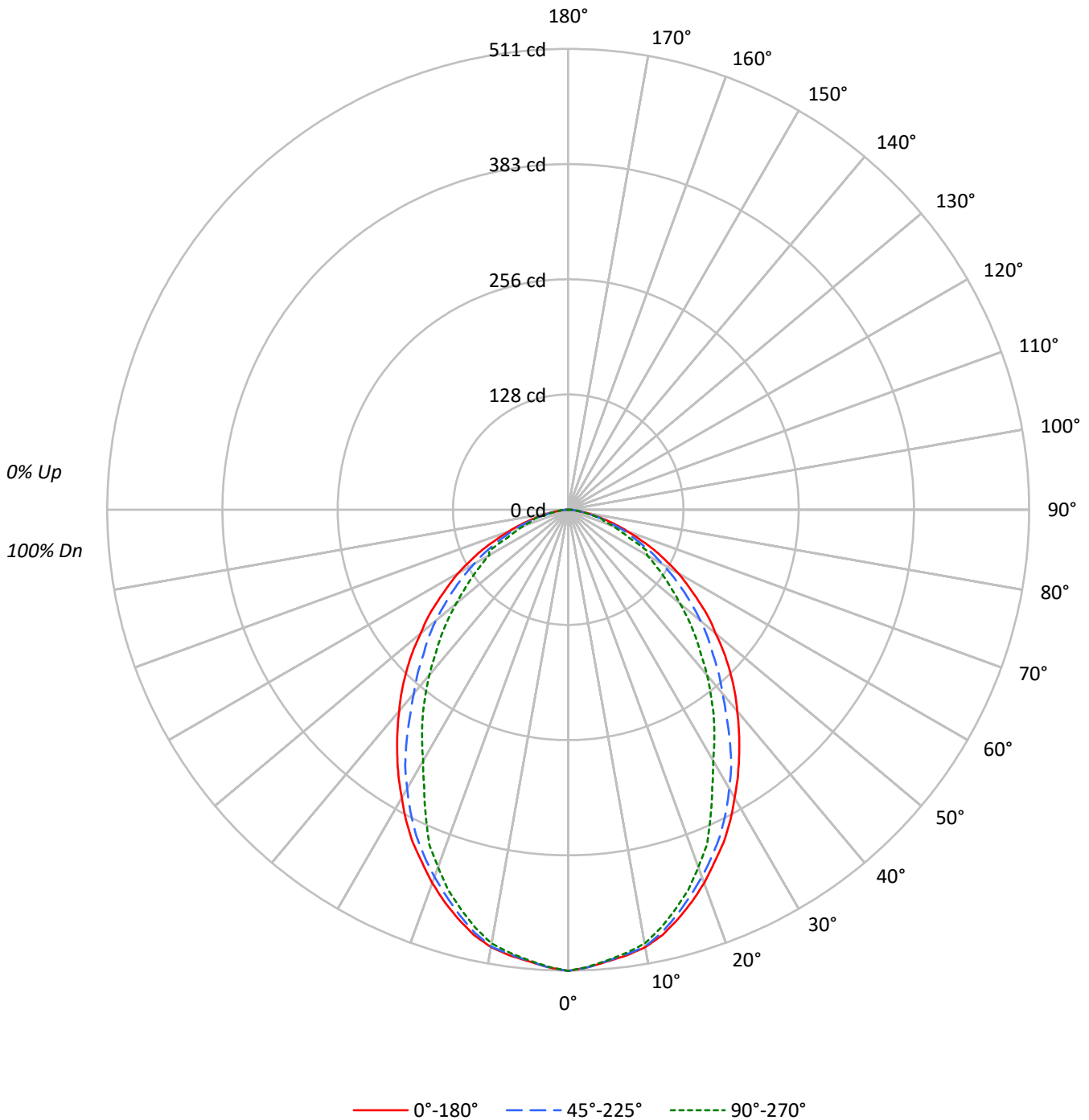
Lumens per Lamp: N/A  
Luminaire Lumens: 1004.0 lumens  
Efficiency: N/A  
Efficacy: 85.8 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 11.7  
Input Voltage (V):  
Input Current (Ain): NR  
Voltage 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	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°	5505	5505	5505
5°	5431	5424	5418
10°	5383	5376	5338
15°	5238	5185	5113
20°	5046	4964	4829
25°	4839	4733	4438
30°	4585	4438	3997
35°	4343	4102	3698
40°	4096	3739	3365
45°	3860	3456	3041
50°	3574	3208	2713
55°	3307	2907	2430
60°	3029	2596	2176
65°	2664	2274	1928
70°	2197	1992	1637
75°	1747	1526	1597
80°	1172	1097	1029
85°	729	877	1025

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 3860 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	47.6	4.7
10°-20°	130.7	13.0
20°-30°	180.9	18.0
30°-40°	192.9	19.2
40°-50°	175.9	17.5
50°-60°	137.8	13.7
60°-70°	89.8	8.9
70°-80°	39.8	4.0
80°-90°	8.5	0.8
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°	359.1	35.8
0°-40°	552.0	55.0
0°-60°	865.8	86.2
0°-90°	1004.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1004.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	511	511	511	511	511	
5°	503	502	502	501	501	48
15°	470	470	465	461	459	132
25°	407	405	398	384	374	187
35°	330	328	312	288	281	207
45°	254	248	227	208	200	195
55°	176	171	155	137	130	158
65°	105	99	89	91	76	103
75°	42	39	37	35	38	45
85°	6	6	7	8	8	8
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	511.4	511.4	511.4	511.4	511.4
2.5°	507.9	507.9	507.9	507.3	507.3
5°	502.6	502.0	502.0	501.4	501.4
7.5°	498.4	497.8	497.2	496.6	495.5
10°	492.5	492.5	491.9	489.0	488.4
12.5°	483.0	482.5	480.1	475.9	474.8
15°	470.0	470.0	465.3	460.6	458.8
17.5°	455.8	455.3	449.3	444.6	442.2
20°	440.5	439.3	433.4	425.7	421.6
22.5°	423.3	423.3	416.2	406.2	402.0
25°	407.4	405.0	398.5	384.3	373.7
27.5°	389.0	385.5	378.4	358.3	345.9
30°	368.9	367.2	357.1	331.1	321.6
32.5°	350.0	347.1	336.4	309.2	301.5
35°	330.5	328.1	312.2	288.5	281.4
37.5°	311.0	308.0	287.9	269.0	260.1
40°	291.5	287.9	266.1	248.9	239.5
42.5°	273.2	268.4	247.1	228.8	218.2
45°	253.6	248.3	227.0	208.1	199.8
47.5°	234.1	229.4	209.9	190.4	180.9
50°	213.4	209.3	191.6	172.1	162.0
52.5°	196.3	189.8	172.6	153.1	144.9
55°	176.2	170.9	154.9	136.6	129.5
57.5°	157.9	152.5	137.8	120.6	114.7
60°	140.7	133.0	120.6	105.8	101.1
62.5°	121.8	115.9	105.2	92.8	98.7
65°	104.6	98.7	89.3	91.1	75.7
67.5°	85.7	82.8	74.5	66.2	63.9
70°	69.8	66.2	63.3	54.4	52.0
72.5°	55.6	52.0	47.9	43.2	41.4
75°	42.0	39.0	36.7	34.9	38.4
77.5°	29.0	27.8	26.0	24.2	23.6
80°	18.9	18.3	17.7	17.1	16.6
82.5°	11.2	11.2	11.2	11.2	11.2
85°	5.9	6.5	7.1	7.7	8.3
87.5°	3.5	3.5	4.1	4.7	5.3
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)