

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: P559331

Luminaire Tested: FSR-12-1-LD4-2LO-40-UNV-93-85-EDD

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P559331  
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-93-85-EDD  
Description: 1X1 FSR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .187 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 4000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

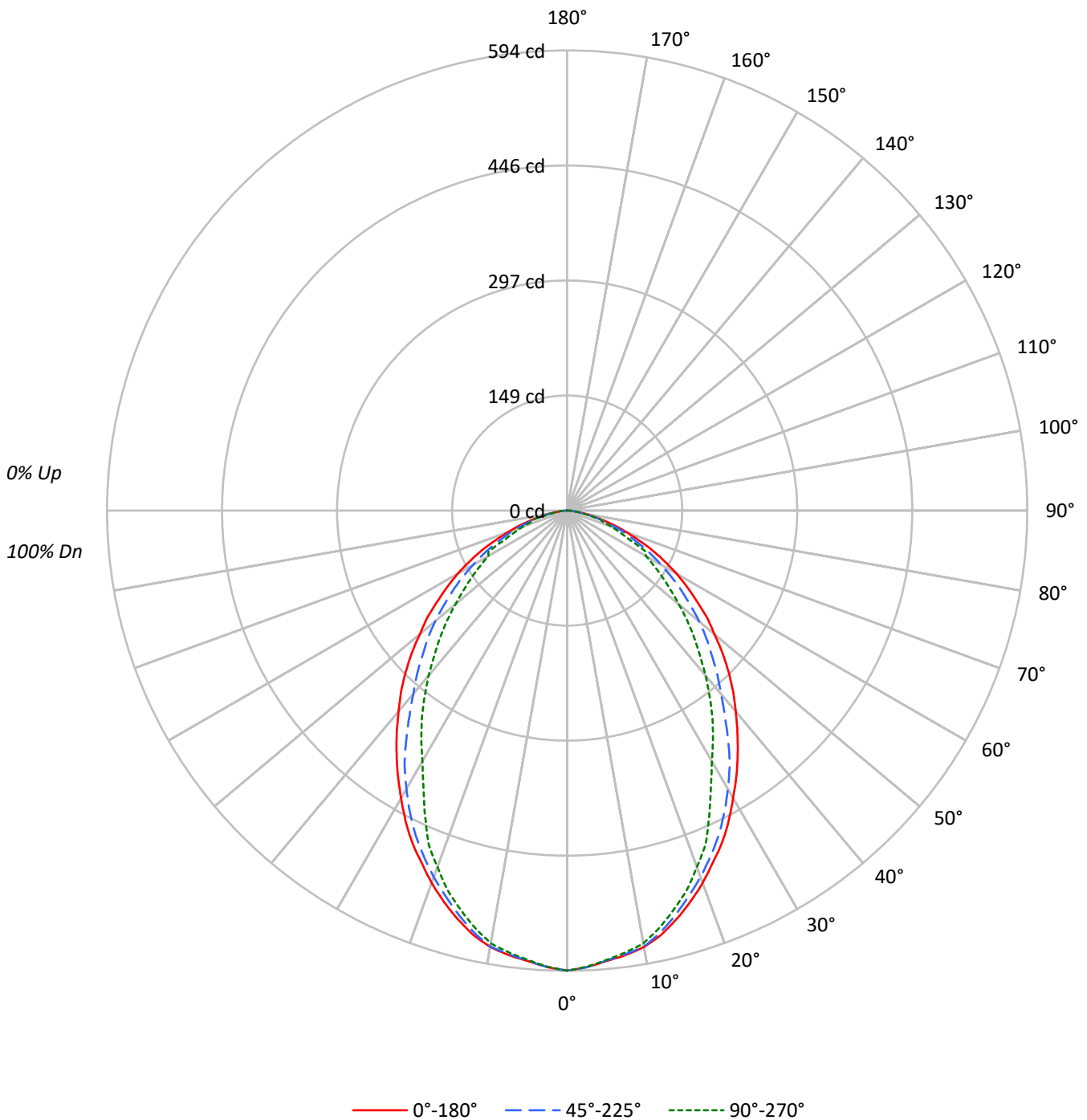
Lumens per Lamp: N/A  
Luminaire Lumens: 1166.0 lumens  
Efficiency: N/A  
Efficacy: 99.7 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 11.7  
Input Voltage (V):  
Input Current (Ain): NR  
Voltage 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	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°	6393	6393	6393
5°	6306	6299	6292
10°	6252	6244	6199
15°	6083	6022	5937
20°	5859	5765	5608
25°	5619	5497	5154
30°	5326	5154	4642
35°	5043	4763	4294
40°	4756	4342	3908
45°	4485	4014	3533
50°	4151	3726	3150
55°	3840	3376	2822
60°	3518	3016	2527
65°	3095	2641	2239
70°	2549	2313	1901
75°	2030	1772	1855
80°	1364	1277	1190
85°	852	1013	1186

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 4485 cd/sqm

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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	55.3	4.7
10°-20°	151.7	13.0
20°-30°	210.1	18.0
30°-40°	224.0	19.2
40°-50°	204.3	17.5
50°-60°	160.1	13.7
60°-70°	104.3	8.9
70°-80°	46.2	4.0
80°-90°	9.9	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°	417.1	35.8
0°-40°	641.1	55.0
0°-60°	1005.5	86.2
0°-90°	1166.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1166.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	594	594	594	594	594	
5°	584	583	583	582	582	55
15°	546	546	540	535	533	153
25°	473	470	463	446	434	217
35°	384	381	362	335	327	240
45°	295	288	264	242	232	227
55°	205	198	180	159	150	184
65°	122	115	104	106	88	120
75°	49	45	43	40	45	52
85°	7	8	8	9	10	10
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	593.9	593.9	593.9	593.9	593.9
2.5°	589.8	589.8	589.8	589.1	589.1
5°	583.6	583.0	583.0	582.3	582.3
7.5°	578.8	578.2	577.5	576.8	575.4
10°	572.0	572.0	571.3	567.9	567.2
12.5°	561.0	560.3	557.6	552.7	551.4
15°	545.9	545.9	540.4	534.9	532.8
17.5°	529.4	528.7	521.8	516.4	513.6
20°	511.5	510.2	503.3	494.4	489.6
22.5°	491.6	491.6	483.4	471.7	466.9
25°	473.1	470.3	462.8	446.3	434.0
27.5°	451.8	447.7	439.5	416.1	401.7
30°	428.5	426.4	414.7	384.5	373.5
32.5°	406.5	403.1	390.7	359.1	350.2
35°	383.8	381.1	362.5	335.1	326.8
37.5°	361.2	357.7	334.4	312.4	302.1
40°	338.5	334.4	309.0	289.1	278.1
42.5°	317.2	311.7	287.0	265.7	253.4
45°	294.6	288.4	263.7	241.7	232.1
47.5°	271.9	266.4	243.8	221.1	210.1
50°	247.9	243.1	222.5	199.8	188.1
52.5°	228.0	220.4	200.5	177.8	168.2
55°	204.6	198.4	179.9	158.6	150.4
57.5°	183.3	177.2	160.0	140.1	133.2
60°	163.4	154.5	140.1	122.9	117.4
62.5°	141.4	134.6	122.2	107.8	114.7
65°	121.5	114.7	103.7	105.7	87.9
67.5°	99.6	96.1	86.5	76.9	74.2
70°	81.0	76.9	73.5	63.2	60.4
72.5°	64.5	60.4	55.6	50.1	48.1
75°	48.8	45.3	42.6	40.5	44.6
77.5°	33.6	32.3	30.2	28.2	27.5
80°	22.0	21.3	20.6	19.9	19.2
82.5°	13.0	13.0	13.0	13.0	13.0
85°	6.9	7.6	8.2	8.9	9.6
87.5°	4.1	4.1	4.8	5.5	6.2
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)