

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: P559334

Luminaire Tested: FSR-12-1-LD4-2LO-40-UNV-93-87-EDD-90

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P559334  
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-93-87-EDD-90  
Description: 1X1 FSR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .375 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 4000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

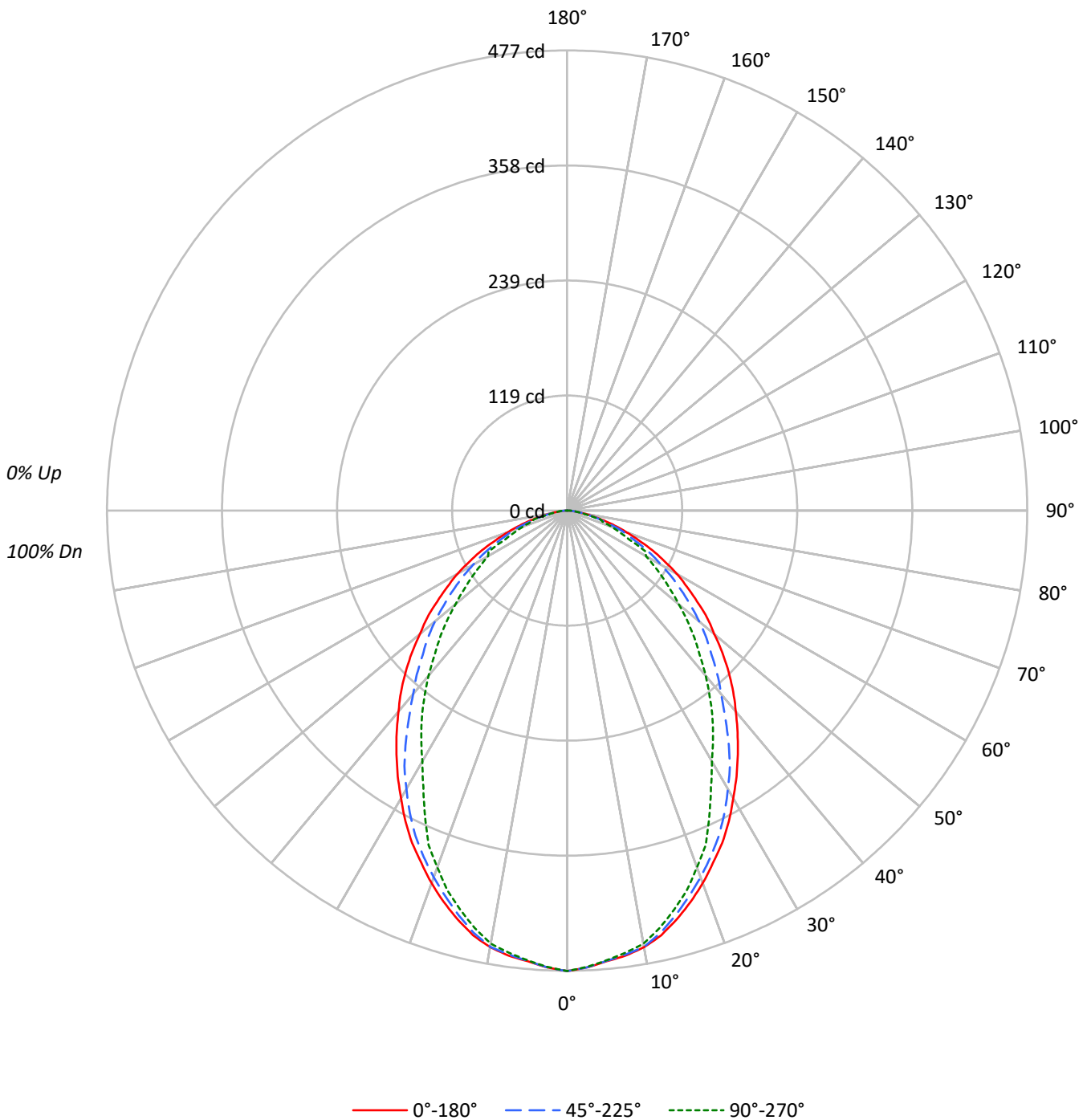
Lumens per Lamp: N/A  
Luminaire Lumens: 937.0 lumens  
Efficiency: N/A  
Efficacy: 80.1 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 11.7  
Input Voltage (V):  
Input Current (Ain): NR  
Voltage 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°	5138	5138	5138
5°	5068	5062	5056
10°	5023	5018	4982
15°	4889	4840	4772
20°	4709	4633	4506
25°	4516	4417	4141
30°	4279	4143	3731
35°	4052	3828	3452
40°	3822	3489	3140
45°	3603	3226	2839
50°	3336	2994	2532
55°	3085	2714	2267
60°	2827	2424	2032
65°	2488	2122	1798
70°	2049	1857	1530
75°	1630	1422	1493
80°	1097	1029	961
85°	679	815	951

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 3603 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	44.4	4.7
10°-20°	121.9	13.0
20°-30°	168.8	18.0
30°-40°	180.0	19.2
40°-50°	164.2	17.5
50°-60°	128.7	13.7
60°-70°	83.8	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°	335.2	35.8
0°-40°	515.2	55.0
0°-60°	808.0	86.2
0°-90°	937.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	937.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	477	477	477	477	477	
5°	469	468	468	468	468	45
15°	439	439	434	430	428	123
25°	380	378	372	359	349	175
35°	308	306	291	269	263	193
45°	237	232	212	194	186	182
55°	164	160	145	128	121	147
65°	98	92	83	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°	477.3	477.3	477.3	477.3	477.3
2.5°	474.0	474.0	474.0	473.4	473.4
5°	469.0	468.5	468.5	467.9	467.9
7.5°	465.2	464.6	464.1	463.5	462.4
10°	459.6	459.6	459.1	456.3	455.8
12.5°	450.8	450.3	448.1	444.2	443.1
15°	438.7	438.7	434.3	429.8	428.2
17.5°	425.4	424.9	419.4	414.9	412.7
20°	411.1	410.0	404.5	397.3	393.4
22.5°	395.1	395.1	388.5	379.1	375.2
25°	380.2	378.0	371.9	358.7	348.7
27.5°	363.1	359.8	353.1	334.4	322.8
30°	344.3	342.7	333.3	309.0	300.2
32.5°	326.7	323.9	314.0	288.6	281.4
35°	308.4	306.2	291.3	269.3	262.7
37.5°	290.2	287.5	268.7	251.1	242.8
40°	272.0	268.7	248.3	232.3	223.5
42.5°	254.9	250.5	230.6	213.5	203.6
45°	236.7	231.8	211.9	194.2	186.5
47.5°	218.5	214.1	195.9	177.7	168.8
50°	199.2	195.3	178.8	160.6	151.2
52.5°	183.2	177.1	161.1	142.9	135.2
55°	164.4	159.5	144.6	127.5	120.8
57.5°	147.3	142.4	128.6	112.6	107.0
60°	131.3	124.2	112.6	98.8	94.4
62.5°	113.7	108.2	98.2	86.6	92.1
65°	97.7	92.1	83.3	85.0	70.6
67.5°	80.0	77.3	69.5	61.8	59.6
70°	65.1	61.8	59.0	50.8	48.6
72.5°	51.9	48.6	44.7	40.3	38.6
75°	39.2	36.4	34.2	32.6	35.9
77.5°	27.0	25.9	24.3	22.6	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)