

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: P561072

Luminaire Tested: FSR-12-4-LD4-1LO-50-UNV-80-84-EDD-90

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P561072  
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-12-4-LD4-1LO-50-UNV-80-84-EDD-90  
Description: 1X4 FSR TROFFER WITH .125 PRISMATIC ACRYLIC FIXTURE SIDE AND .125 CLEAR PC ENVIRONM  
SIDE LENSES WITH, 90 CRI AND 5000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

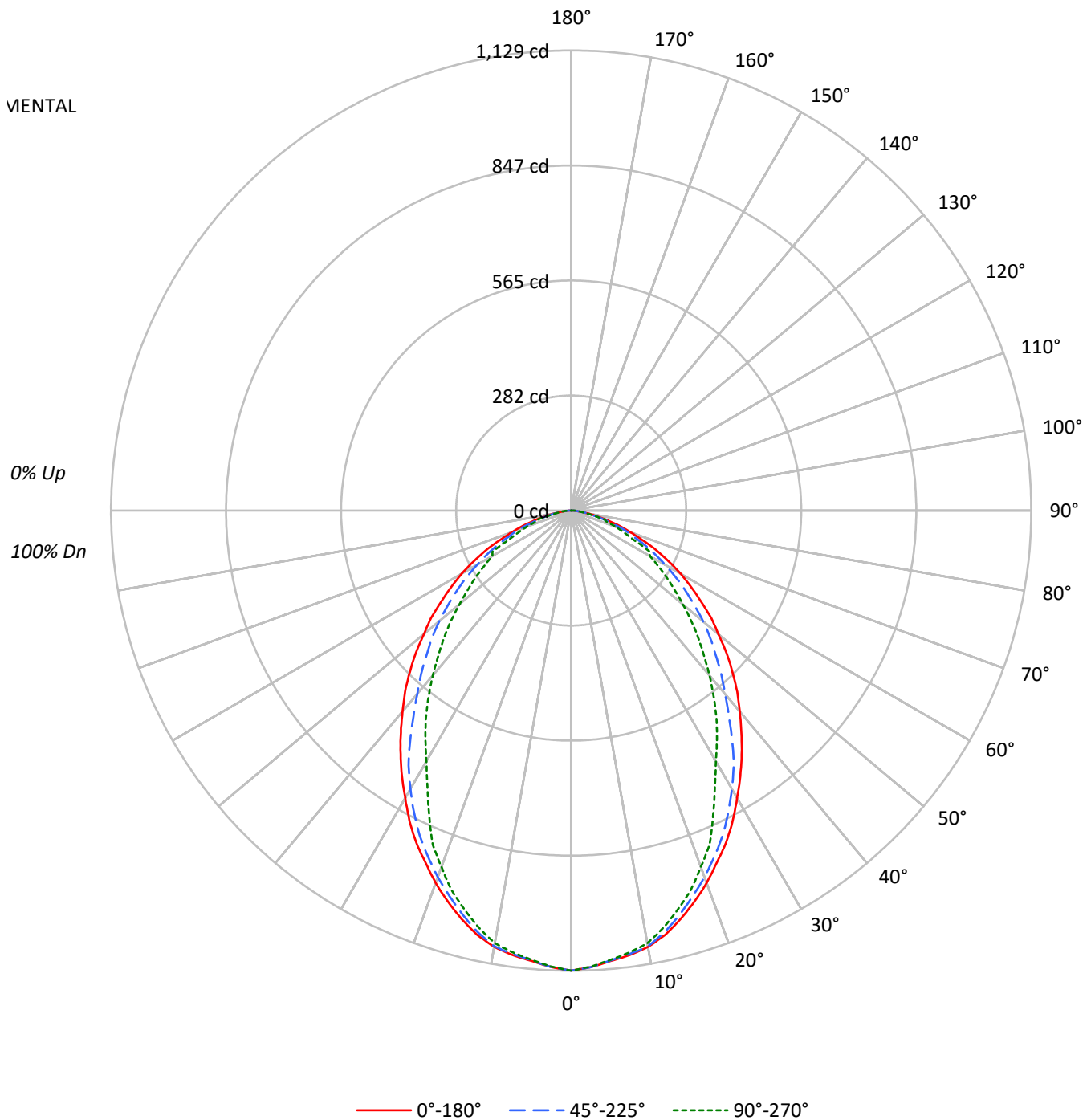
Lumens per Lamp: N/A  
Luminaire Lumens: 2216.0 lumens  
Efficiency: N/A  
Efficacy: 94.7 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 23.4  
Input Voltage (V):  
Input Current (Ain): NR  
Voltage 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	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°	3038	3038	3038
5°	2996	2993	2989
10°	2970	2967	2945
15°	2890	2861	2821
20°	2784	2739	2664
25°	2670	2612	2449
30°	2530	2449	2206
35°	2396	2263	2041
40°	2260	2063	1857
45°	2130	1907	1679
50°	1972	1770	1497
55°	1825	1604	1341
60°	1672	1433	1201
65°	1471	1255	1063
70°	1212	1098	903
75°	964	841	882
80°	648	606	566
85°	401	485	565

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 2130 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	105.1	4.7
10°-20°	288.4	13.0
20°-30°	399.2	18.0
30°-40°	425.7	19.2
40°-50°	388.4	17.5
50°-60°	304.3	13.7
60°-70°	198.3	8.9
70°-80°	87.8	4.0
80°-90°	18.9	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°	792.7	35.8
0°-40°	1218.4	55.0
0°-60°	1911.0	86.2
0°-90°	2216.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2216.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1129	1129	1129	1129	1129	
5°	1109	1108	1108	1107	1107	105
15°	1038	1038	1027	1017	1013	292
25°	899	894	880	848	825	413
35°	730	724	689	637	621	456
45°	560	548	501	459	441	431
55°	389	377	342	301	286	349
65°	231	218	197	201	167	228
75°	93	86	81	77	85	99
85°	13	14	16	17	18	18
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1128.8	1128.8	1128.8	1128.8	1128.8
2.5°	1121.0	1121.0	1121.0	1119.7	1119.7
5°	1109.2	1107.9	1107.9	1106.6	1106.6
7.5°	1100.1	1098.8	1097.5	1096.2	1093.6
10°	1087.0	1087.0	1085.7	1079.2	1077.9
12.5°	1066.2	1064.9	1059.6	1050.5	1047.9
15°	1037.5	1037.5	1027.0	1016.6	1012.7
17.5°	1006.1	1004.8	991.8	981.3	976.1
20°	972.2	969.6	956.5	939.6	930.4
22.5°	934.4	934.4	918.7	896.5	887.4
25°	899.1	893.9	879.6	848.2	824.7
27.5°	858.7	850.8	835.2	790.8	763.4
30°	814.3	810.4	788.2	730.8	709.9
32.5°	772.5	766.0	742.5	682.5	665.5
35°	729.5	724.3	689.0	636.8	621.2
37.5°	686.4	679.9	635.5	593.8	574.2
40°	643.4	635.5	587.2	549.4	528.5
42.5°	602.9	592.5	545.5	505.0	481.5
45°	559.8	548.1	501.1	459.4	441.1
47.5°	516.8	506.3	463.3	420.2	399.3
50°	471.1	462.0	422.8	379.7	357.6
52.5°	433.3	418.9	381.1	338.0	319.7
55°	388.9	377.1	341.9	301.4	285.8
57.5°	348.4	336.7	304.1	266.2	253.2
60°	310.6	293.6	266.2	233.6	223.2
62.5°	268.8	255.8	232.3	204.9	217.9
65°	231.0	217.9	197.1	201.0	167.0
67.5°	189.2	182.7	164.4	146.2	140.9
70°	154.0	146.2	139.6	120.1	114.8
72.5°	122.7	114.8	105.7	95.3	91.3
75°	92.7	86.1	80.9	77.0	84.8
77.5°	63.9	61.3	57.4	53.5	52.2
80°	41.8	40.5	39.1	37.8	36.5
82.5°	24.8	24.8	24.8	24.8	24.8
85°	13.0	14.4	15.7	17.0	18.3
87.5°	7.8	7.8	9.1	10.4	11.7
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)