

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: P561078

Luminaire Tested: FSR-12-4-LD4-1LO-50-UNV-80-87-EDD-90

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P561078  
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-80-87-EDD-90  
Description: 1X4 FSR TROFFER WITH .125 PRISMATIC ACRYLIC FIXTURE SIDE AND .375 CLEAR PC ENVIRONM  
SIDE LENSES WITH, 90 CRI AND 5000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

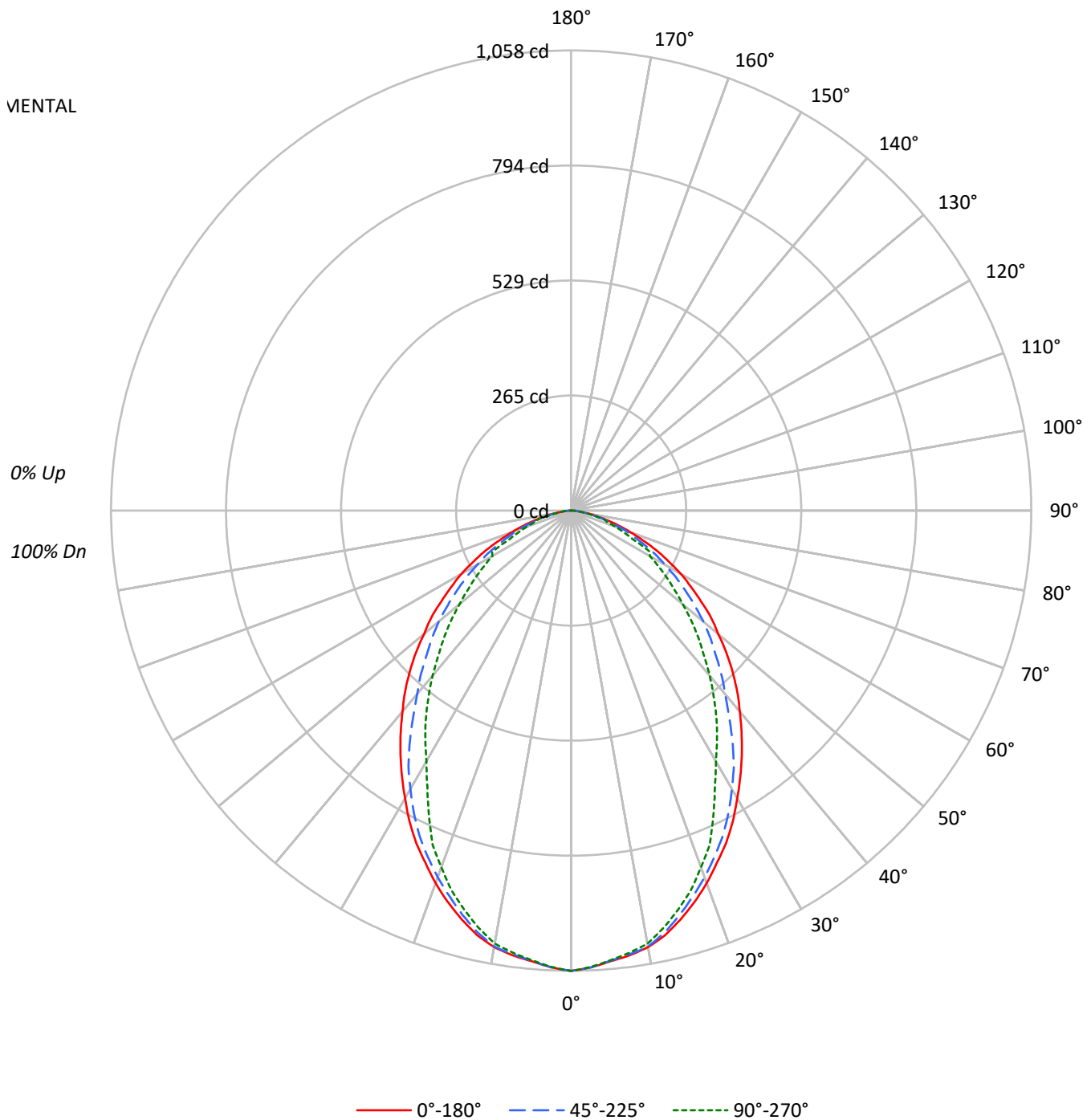
Lumens per Lamp: N/A  
Luminaire Lumens: 2078.0 lumens  
Efficiency: N/A  
Efficacy: 88.8 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 23.4  
Input Voltage (V):  
Input Current (Ain): NR  
Voltage 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	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°	2848	2848	2848
5°	2810	2806	2803
10°	2785	2782	2762
15°	2710	2683	2645
20°	2611	2569	2499
25°	2503	2449	2296
30°	2373	2297	2069
35°	2247	2122	1914
40°	2119	1935	1741
45°	1998	1788	1574
50°	1850	1660	1404
55°	1711	1504	1257
60°	1567	1343	1126
65°	1379	1177	997
70°	1136	1030	847
75°	904	789	827
80°	607	569	532
85°	377	454	528

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 1998 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	98.5	4.7
10°-20°	270.4	13.0
20°-30°	374.4	18.0
30°-40°	399.2	19.2
40°-50°	364.2	17.5
50°-60°	285.3	13.7
60°-70°	185.9	8.9
70°-80°	82.4	4.0
80°-90°	17.7	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°	743.3	35.8
0°-40°	1142.5	55.0
0°-60°	1792.0	86.2
0°-90°	2078.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2078.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1058	1058	1058	1058	1058	
5°	1040	1039	1039	1038	1038	99
15°	973	973	963	953	950	273
25°	843	838	825	795	773	387
35°	684	679	646	597	582	428
45°	525	514	470	431	414	404
55°	365	354	321	283	268	327
65°	217	204	185	188	157	213
75°	87	81	76	72	80	93
85°	12	14	15	16	17	17
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1058.5	1058.5	1058.5	1058.5	1058.5
2.5°	1051.2	1051.2	1051.2	1049.9	1049.9
5°	1040.1	1038.9	1038.9	1037.7	1037.7
7.5°	1031.6	1030.4	1029.1	1027.9	1025.5
10°	1019.3	1019.3	1018.1	1012.0	1010.8
12.5°	999.8	998.5	993.6	985.1	982.6
15°	972.8	972.8	963.1	953.3	949.6
17.5°	943.5	942.3	930.0	920.2	915.3
20°	911.7	909.2	897.0	881.1	872.5
22.5°	876.2	876.2	861.5	840.7	832.1
25°	843.1	838.2	824.8	795.4	773.4
27.5°	805.2	797.9	783.2	741.6	715.9
30°	763.6	759.9	739.1	685.3	665.7
32.5°	724.4	718.3	696.3	640.0	624.1
35°	684.1	679.2	646.1	597.2	582.5
37.5°	643.7	637.6	595.9	556.8	538.4
40°	603.3	595.9	550.7	515.2	495.6
42.5°	565.4	555.6	511.5	473.6	451.5
45°	525.0	514.0	469.9	430.7	413.6
47.5°	484.6	474.8	434.4	394.0	374.5
50°	441.8	433.2	396.5	356.1	335.3
52.5°	406.3	392.8	357.3	316.9	299.8
55°	364.7	353.7	320.6	282.7	268.0
57.5°	326.7	315.7	285.1	249.6	237.4
60°	291.2	275.3	249.6	219.0	209.3
62.5°	252.1	239.8	217.8	192.1	204.4
65°	216.6	204.4	184.8	188.5	156.6
67.5°	177.4	171.3	154.2	137.1	132.2
70°	144.4	137.1	130.9	112.6	107.7
72.5°	115.0	107.7	99.1	89.3	85.7
75°	86.9	80.8	75.9	72.2	79.5
77.5°	60.0	57.5	53.8	50.2	48.9
80°	39.2	37.9	36.7	35.5	34.3
82.5°	23.3	23.3	23.3	23.3	23.3
85°	12.2	13.5	14.7	15.9	17.1
87.5°	7.3	7.3	8.6	9.8	11.0
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)