

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: P561050

Luminaire Tested: FSR-12-4-LD4-1LO-40-UNV-82-94-EDD-90

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P561050  
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-40-UNV-82-94-EDD-90  
Description: 1X4 FSR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .187 CLEAR TEMPERED GLASS ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 4000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

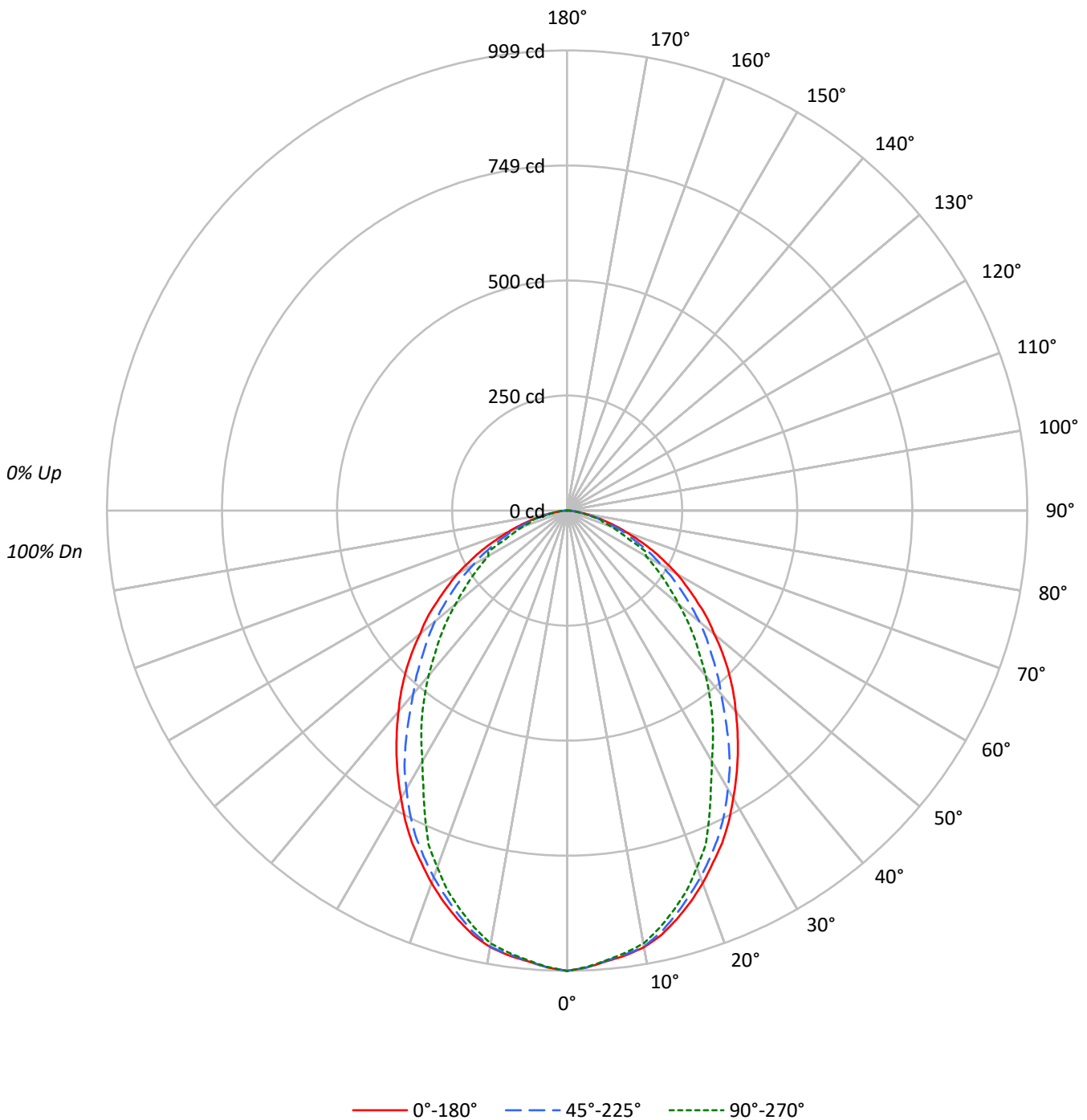
Lumens per Lamp: N/A  
Luminaire Lumens: 1962.0 lumens  
Efficiency: N/A  
Efficacy: 83.8 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 23.4  
Input Voltage (V):  
Input Current (Ain): NR  
Voltage 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	100	100	100	100	100		
1	110	106	102	99	108	104	100	97	100	97	94	96	94	91	92	90	89	87	87	87	87	87	87	87		
2	101	94	88	83	99	92	87	82	89	84	80	86	82	78	83	79	77	75	75	75	75	75	75	75		
3	93	84	77	71	91	82	76	70	79	74	69	77	72	68	74	70	67	65	65	65	65	65	65	65		
4	86	75	67	61	84	74	66	61	72	65	60	69	64	59	67	62	58	56	56	56	56	56	56	56		
5	80	68	60	54	78	67	59	53	65	58	53	63	57	52	61	56	52	50	50	50	50	50	50	50		
6	74	62	53	48	72	61	53	47	59	52	47	57	51	47	56	50	46	44	44	44	44	44	44	44		
7	69	56	48	43	67	56	48	42	54	47	42	53	46	42	51	46	42	40	40	40	40	40	40	40		
8	65	52	44	38	63	51	44	38	50	43	38	49	42	38	48	42	38	36	36	36	36	36	36	36		
9	61	48	40	35	59	47	40	35	46	39	35	45	39	34	44	38	34	33	33	33	33	33	33	33		
10	57	44	37	32	56	44	37	32	43	36	32	42	36	32	41	36	32	30	30	30	30	30	30	30		

**AVERAGE LUMINANCE (cd/sqm):**

	0°	45°	90°
0°	2689	2689	2689
5°	2653	2650	2647
10°	2630	2627	2608
15°	2559	2533	2498
20°	2465	2425	2359
25°	2364	2312	2168
30°	2240	2169	1953
35°	2122	2004	1807
40°	2001	1826	1644
45°	1886	1689	1486
50°	1746	1567	1325
55°	1615	1420	1187
60°	1480	1269	1063
65°	1302	1111	942
70°	1072	972	800
75°	853	744	781
80°	573	538	502
85°	358	429	500

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 1886 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	93.0	4.7
10°-20°	255.3	13.0
20°-30°	353.5	18.0
30°-40°	376.9	19.2
40°-50°	343.8	17.5
50°-60°	269.4	13.7
60°-70°	175.6	8.9
70°-80°	77.8	4.0
80°-90°	16.7	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°	701.8	35.8
0°-40°	1078.7	55.0
0°-60°	1691.9	86.2
0°-90°	1962.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1962.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	999	999	999	999	999	
5°	982	981	981	980	980	93
15°	918	918	909	900	897	258
25°	796	791	779	751	730	365
35°	646	641	610	564	550	404
45°	496	485	444	407	390	382
55°	344	334	303	267	253	309
65°	204	193	174	178	148	202
75°	82	76	72	68	75	88
85°	12	13	14	15	16	16
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	999.4	999.4	999.4	999.4	999.4
2.5°	992.5	992.5	992.5	991.3	991.3
5°	982.1	980.9	980.9	979.8	979.8
7.5°	974.0	972.8	971.7	970.5	968.2
10°	962.4	962.4	961.3	955.5	954.4
12.5°	944.0	942.8	938.2	930.1	927.8
15°	918.5	918.5	909.3	900.1	896.6
17.5°	890.8	889.7	878.1	868.9	864.2
20°	860.8	858.5	846.9	831.9	823.8
22.5°	827.3	827.3	813.4	793.8	785.7
25°	796.1	791.4	778.7	751.0	730.2
27.5°	760.2	753.3	739.5	700.2	675.9
30°	721.0	717.5	697.9	647.0	628.5
32.5°	684.0	678.2	657.4	604.3	589.3
35°	645.9	641.2	610.0	563.8	550.0
37.5°	607.7	602.0	562.7	525.7	508.4
40°	569.6	562.7	519.9	486.4	467.9
42.5°	533.8	524.5	483.0	447.1	426.3
45°	495.7	485.3	443.7	406.7	390.5
47.5°	457.5	448.3	410.2	372.0	353.6
50°	417.1	409.0	374.3	336.2	316.6
52.5°	383.6	370.9	337.4	299.2	283.1
55°	344.3	333.9	302.7	266.9	253.0
57.5°	308.5	298.1	269.2	235.7	224.1
60°	275.0	260.0	235.7	206.8	197.6
62.5°	238.0	226.5	205.7	181.4	193.0
65°	204.5	193.0	174.5	177.9	147.9
67.5°	167.5	161.8	145.6	129.4	124.8
70°	136.3	129.4	123.6	106.3	101.7
72.5°	108.6	101.7	93.6	84.3	80.9
75°	82.0	76.3	71.6	68.2	75.1
77.5°	56.6	54.3	50.8	47.4	46.2
80°	37.0	35.8	34.7	33.5	32.4
82.5°	22.0	22.0	22.0	22.0	22.0
85°	11.6	12.7	13.9	15.0	16.2
87.5°	6.9	6.9	8.1	9.2	10.4
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)