

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: P561080

Luminaire Tested: FSR-12-4-LD4-1LO-50-UNV-80-88-EDD-90

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P561080  
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-80-88-EDD-90  
Description: 1X4 FSR TROFFER WITH .125 PRISMATIC ACRYLIC FIXTURE SIDE AND .500 CLEAR PC ENVIRON  
SIDE LENSES WITH, 90 CRI AND 5000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

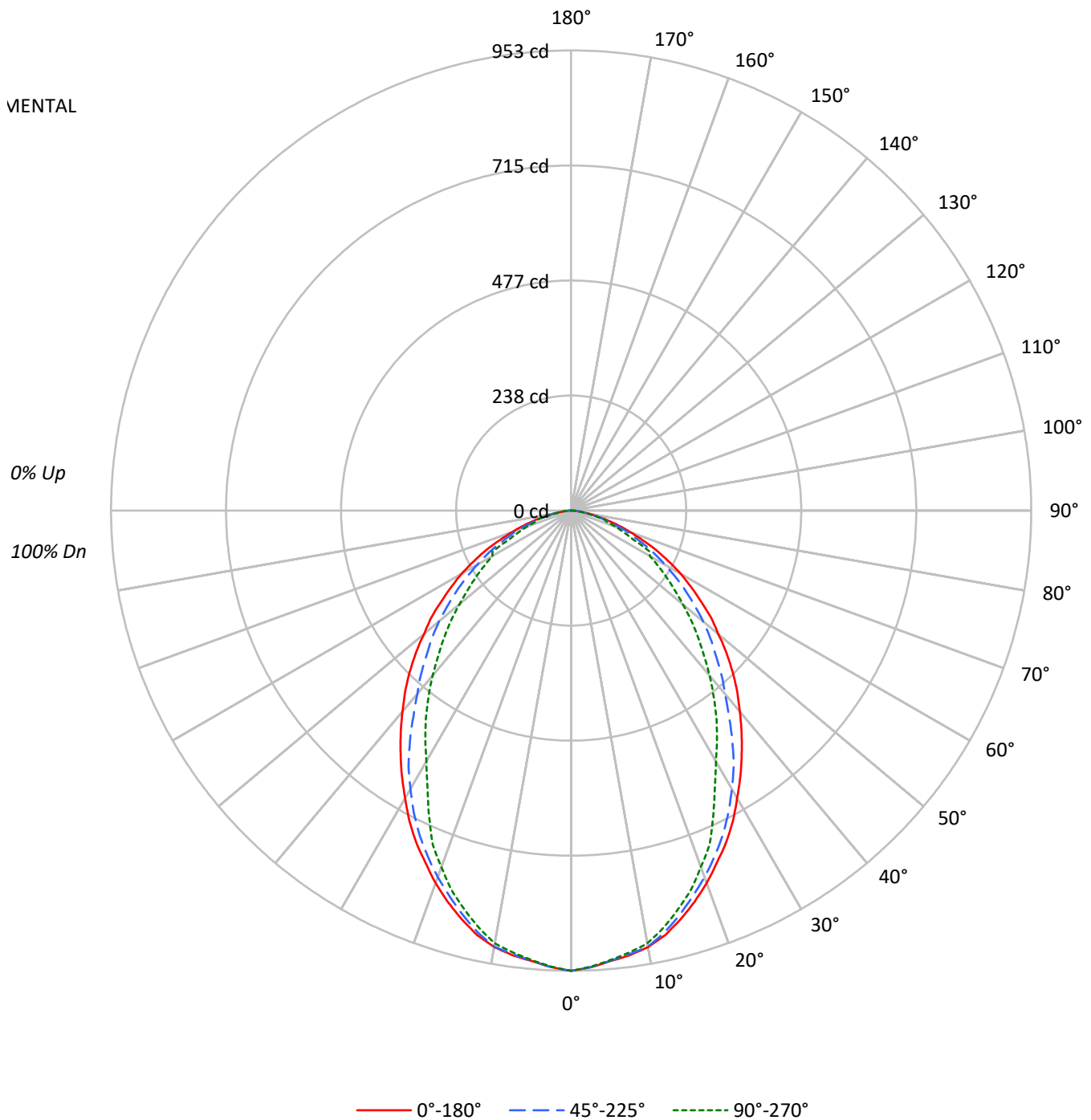
Lumens per Lamp: N/A  
Luminaire Lumens: 1871.0 lumens  
Efficiency: N/A  
Efficacy: 80.0 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 23.4  
Input Voltage (V):  
Input Current (Ain): NR  
Voltage 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°	2565	2565	2565
5°	2530	2527	2524
10°	2508	2505	2487
15°	2440	2416	2382
20°	2351	2313	2250
25°	2254	2205	2067
30°	2136	2068	1863
35°	2023	1911	1723
40°	1908	1742	1567
45°	1799	1610	1417
50°	1665	1495	1264
55°	1540	1354	1132
60°	1411	1210	1014
65°	1242	1060	898
70°	1023	928	763
75°	813	710	744
80°	547	513	479
85°	340	408	475

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 1799 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	88.7	4.7
10°-20°	243.5	13.0
20°-30°	337.1	18.0
30°-40°	359.4	19.2
40°-50°	327.9	17.5
50°-60°	256.9	13.7
60°-70°	167.4	8.9
70°-80°	74.2	4.0
80°-90°	15.9	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°	669.3	35.8
0°-40°	1028.7	55.0
0°-60°	1613.5	86.2
0°-90°	1871.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1871.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	953	953	953	953	953	
5°	936	935	935	934	934	89
15°	876	876	867	858	855	246
25°	759	755	743	716	696	349
35°	616	612	582	538	524	385
45°	473	463	423	388	372	364
55°	328	318	289	254	241	294
65°	195	184	166	170	141	192
75°	78	73	68	65	72	84
85°	11	12	13	14	15	15
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	953.1	953.1	953.1	953.1	953.1
2.5°	946.5	946.5	946.5	945.3	945.3
5°	936.5	935.4	935.4	934.3	934.3
7.5°	928.8	927.7	926.6	925.5	923.3
10°	917.8	917.8	916.7	911.2	910.1
12.5°	900.2	899.1	894.7	887.0	884.8
15°	875.9	875.9	867.1	858.3	855.0
17.5°	849.5	848.4	837.4	828.6	824.2
20°	820.8	818.6	807.6	793.3	785.6
22.5°	788.9	788.9	775.7	756.9	749.2
25°	759.1	754.7	742.6	716.2	696.3
27.5°	725.0	718.4	705.2	667.7	644.6
30°	687.5	684.2	665.5	617.0	599.4
32.5°	652.3	646.8	626.9	576.2	561.9
35°	615.9	611.5	581.8	537.7	524.5
37.5°	579.6	574.0	536.6	501.3	484.8
40°	543.2	536.6	495.8	463.9	446.2
42.5°	509.0	500.2	460.6	426.4	406.6
45°	472.7	462.8	423.1	387.8	372.4
47.5°	436.3	427.5	391.1	354.8	337.2
50°	397.8	390.0	357.0	320.6	301.9
52.5°	365.8	353.7	321.7	285.4	269.9
55°	328.3	318.4	288.7	254.5	241.3
57.5°	294.2	284.3	256.7	224.8	213.8
60°	262.2	247.9	224.8	197.2	188.4
62.5°	227.0	216.0	196.1	173.0	184.0
65°	195.0	184.0	166.4	169.7	141.0
67.5°	159.8	154.3	138.8	123.4	119.0
70°	130.0	123.4	117.9	101.4	97.0
72.5°	103.6	97.0	89.2	80.4	77.1
75°	78.2	72.7	68.3	65.0	71.6
77.5°	54.0	51.8	48.5	45.2	44.1
80°	35.3	34.2	33.1	32.0	30.9
82.5°	20.9	20.9	20.9	20.9	20.9
85°	11.0	12.1	13.2	14.3	15.4
87.5°	6.6	6.6	7.7	8.8	9.9
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)