

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: P561008

Luminaire Tested: FSR-12-4-LD4-1LO-40-UNV-80-84-EDD-90

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P561008  
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-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 4000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

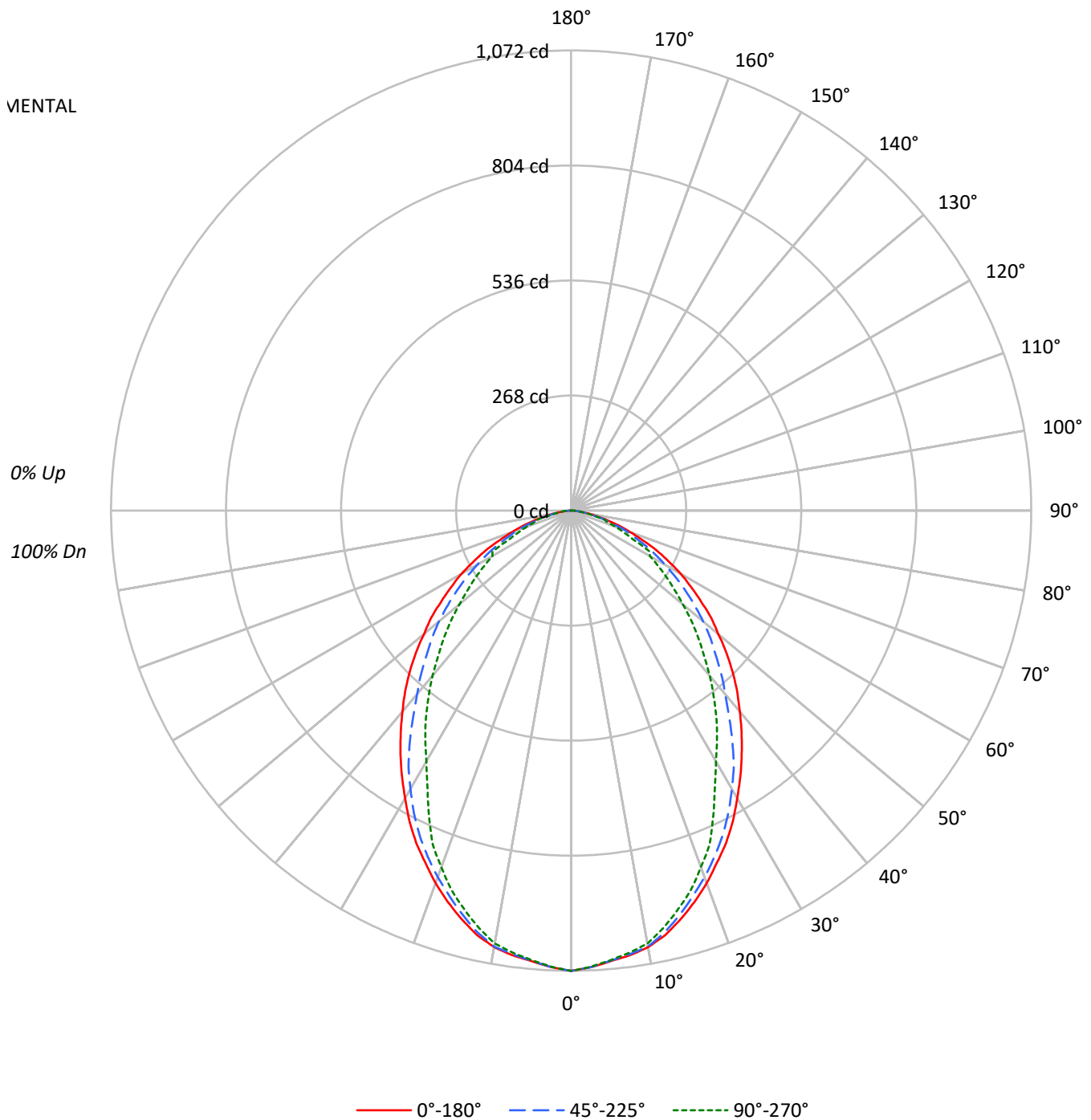
Lumens per Lamp: N/A  
Luminaire Lumens: 2105.0 lumens  
Efficiency: N/A  
Efficacy: 90.0 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 23.4  
Input Voltage (V):  
Input Current (Ain): NR  
Voltage 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	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°	2886	2886	2886
5°	2846	2843	2840
10°	2822	2818	2798
15°	2746	2718	2680
20°	2645	2602	2531
25°	2536	2481	2326
30°	2403	2326	2095
35°	2276	2150	1939
40°	2147	1959	1763
45°	2024	1811	1595
50°	1873	1681	1422
55°	1733	1524	1274
60°	1588	1361	1141
65°	1397	1192	1011
70°	1151	1043	858
75°	915	800	838
80°	615	576	538
85°	383	460	537

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 2024 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	99.8	4.7
10°-20°	273.9	13.0
20°-30°	379.2	18.0
30°-40°	404.4	19.2
40°-50°	368.9	17.5
50°-60°	289.0	13.7
60°-70°	188.4	8.9
70°-80°	83.4	4.0
80°-90°	17.9	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°	753.0	35.8
0°-40°	1157.3	55.0
0°-60°	1815.3	86.2
0°-90°	2105.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2105.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1072	1072	1072	1072	1072	
5°	1054	1052	1052	1051	1051	100
15°	986	986	976	966	962	277
25°	854	849	836	806	783	392
35°	693	688	654	605	590	433
45°	532	521	476	436	419	410
55°	369	358	325	286	272	331
65°	219	207	187	191	159	216
75°	88	82	77	73	81	94
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°	1072.3	1072.3	1072.3	1072.3	1072.3
2.5°	1064.8	1064.8	1064.8	1063.6	1063.6
5°	1053.7	1052.4	1052.4	1051.2	1051.2
7.5°	1045.0	1043.7	1042.5	1041.3	1038.8
10°	1032.6	1032.6	1031.4	1025.2	1023.9
12.5°	1012.8	1011.5	1006.6	997.9	995.4
15°	985.5	985.5	975.6	965.7	961.9
17.5°	955.7	954.5	942.1	932.2	927.2
20°	923.5	921.0	908.6	892.5	883.8
22.5°	887.6	887.6	872.7	851.6	842.9
25°	854.1	849.1	835.5	805.7	783.4
27.5°	815.7	808.2	793.3	751.2	725.2
30°	773.5	769.8	748.7	694.2	674.3
32.5°	733.8	727.6	705.3	648.3	632.2
35°	692.9	688.0	654.5	604.9	590.1
37.5°	652.0	645.8	603.7	564.0	545.4
40°	611.1	603.7	557.8	521.9	502.0
42.5°	572.7	562.8	518.2	479.7	457.4
45°	531.8	520.6	476.0	436.3	419.0
47.5°	490.9	481.0	440.1	399.2	379.3
50°	447.5	438.8	401.6	360.7	339.7
52.5°	411.5	397.9	362.0	321.1	303.7
55°	369.4	358.2	324.8	286.3	271.5
57.5°	331.0	319.8	288.8	252.9	240.5
60°	295.0	278.9	252.9	221.9	212.0
62.5°	255.4	243.0	220.6	194.6	207.0
65°	219.4	207.0	187.2	190.9	158.7
67.5°	179.7	173.5	156.2	138.8	133.9
70°	146.3	138.8	132.6	114.0	109.1
72.5°	116.5	109.1	100.4	90.5	86.8
75°	88.0	81.8	76.9	73.1	80.6
77.5°	60.7	58.3	54.5	50.8	49.6
80°	39.7	38.4	37.2	35.9	34.7
82.5°	23.6	23.6	23.6	23.6	23.6
85°	12.4	13.6	14.9	16.1	17.4
87.5°	7.4	7.4	8.7	9.9	11.2
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)