

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: P561011

Luminaire Tested: FSR-12-4-LD4-1LO-40-UNV-80-85-EDD

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P561011  
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-80-85-EDD  
Description: 1X4 FSR TROFFER WITH .125 PRISMATIC ACRYLIC FIXTURE SIDE AND .187 CLEAR PC ENVIRON  
SIDE LENSES WITH, 80 CRI AND 4000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

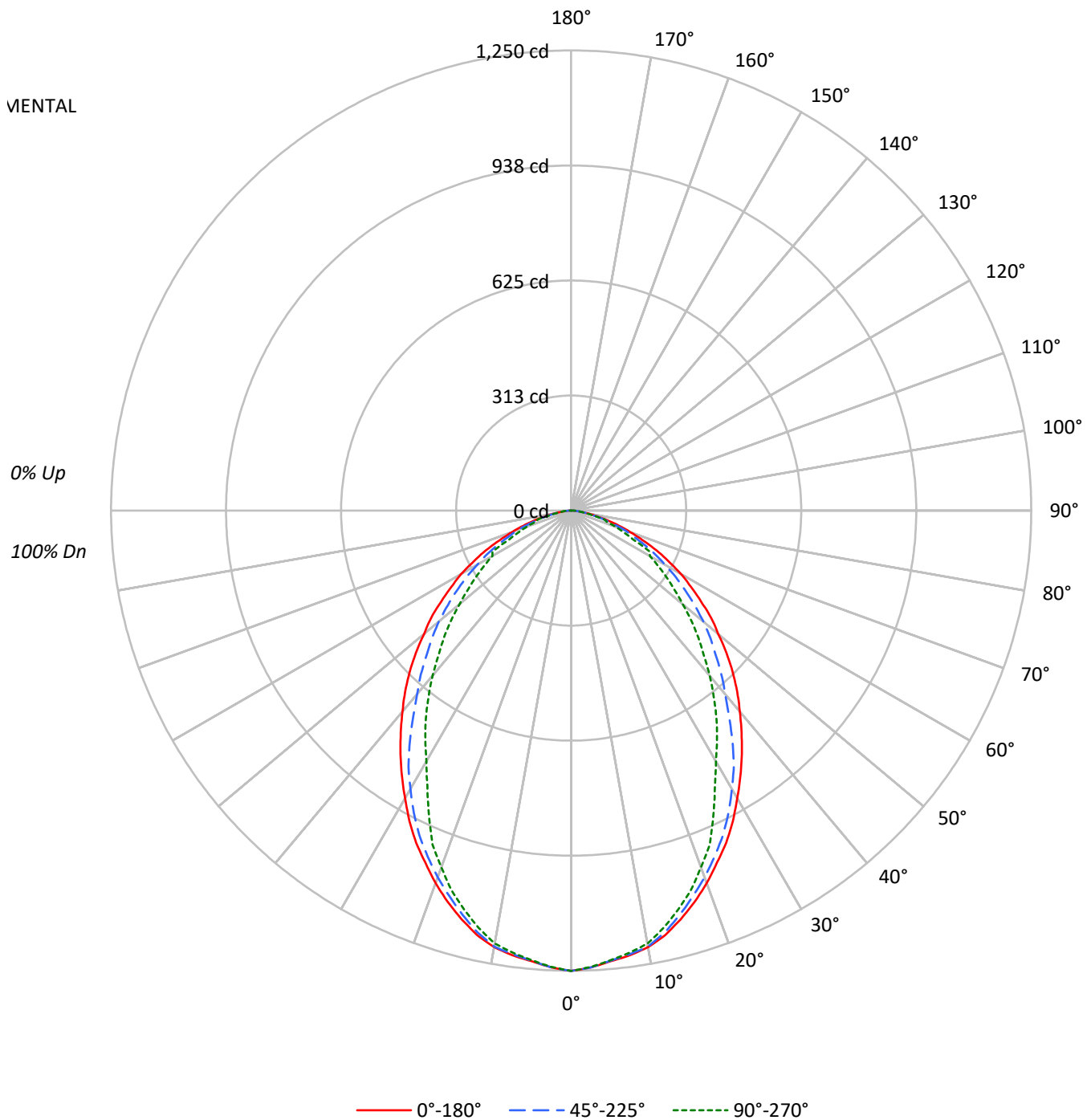
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 2455.0 lumens  
Efficiency: N/A  
Efficacy: 104.9 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				
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°	3365	3365	3365
5°	3320	3316	3312
10°	3291	3287	3263
15°	3202	3170	3126
20°	3084	3035	2952
25°	2958	2893	2713
30°	2803	2713	2444
35°	2655	2508	2261
40°	2504	2285	2057
45°	2360	2113	1860
50°	2185	1961	1658
55°	2021	1777	1485
60°	1852	1587	1330
65°	1629	1390	1179
70°	1342	1217	1001
75°	1067	932	977
80°	717	673	628
85°	448	534	624

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 2360 cd/sqm

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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	116.4	4.7
10°-20°	319.5	13.0
20°-30°	442.3	18.0
30°-40°	471.6	19.2
40°-50°	430.2	17.5
50°-60°	337.1	13.7
60°-70°	219.7	8.9
70°-80°	97.3	4.0
80°-90°	20.9	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°	878.2	35.8
0°-40°	1349.8	55.0
0°-60°	2117.1	86.2
0°-90°	2455.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2455.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1250	1250	1250	1250	1250	
5°	1229	1227	1227	1226	1226	117
15°	1149	1149	1138	1126	1122	323
25°	996	990	974	940	914	457
35°	808	802	763	706	688	505
45°	620	607	555	509	489	478
55°	431	418	379	334	317	386
65°	256	241	218	223	185	252
75°	103	95	90	85	94	110
85°	14	16	17	19	20	20
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1250.5	1250.5	1250.5	1250.5	1250.5
2.5°	1241.9	1241.9	1241.9	1240.4	1240.4
5°	1228.9	1227.4	1227.4	1226.0	1226.0
7.5°	1218.7	1217.3	1215.8	1214.4	1211.5
10°	1204.3	1204.3	1202.8	1195.6	1194.2
12.5°	1181.1	1179.7	1173.9	1163.8	1160.9
15°	1149.3	1149.3	1137.8	1126.2	1121.9
17.5°	1114.6	1113.2	1098.7	1087.2	1081.4
20°	1077.1	1074.2	1059.7	1040.9	1030.8
22.5°	1035.1	1035.1	1017.8	993.2	983.1
25°	996.1	990.3	974.4	939.7	913.7
27.5°	951.3	942.6	925.3	876.1	845.7
30°	902.1	897.8	873.2	809.6	786.5
32.5°	855.9	848.6	822.6	756.1	737.3
35°	808.2	802.4	763.3	705.5	688.2
37.5°	760.4	753.2	704.1	657.8	636.1
40°	712.7	704.1	650.6	608.6	585.5
42.5°	667.9	656.4	604.3	559.5	533.5
45°	620.2	607.2	555.2	508.9	488.7
47.5°	572.5	560.9	513.2	465.5	442.4
50°	521.9	511.8	468.4	420.7	396.1
52.5°	480.0	464.1	422.1	374.4	354.2
55°	430.8	417.8	378.8	334.0	316.6
57.5°	386.0	373.0	336.9	294.9	280.5
60°	344.1	325.3	294.9	258.8	247.2
62.5°	297.8	283.4	257.3	227.0	241.4
65°	255.9	241.4	218.3	222.6	185.1
67.5°	209.6	202.4	182.2	161.9	156.1
70°	170.6	161.9	154.7	133.0	127.2
72.5°	135.9	127.2	117.1	105.5	101.2
75°	102.6	95.4	89.6	85.3	94.0
77.5°	70.8	67.9	63.6	59.3	57.8
80°	46.3	44.8	43.4	41.9	40.5
82.5°	27.5	27.5	27.5	27.5	27.5
85°	14.5	15.9	17.3	18.8	20.2
87.5°	8.7	8.7	10.1	11.6	13.0
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)