

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: P560465

Luminaire Tested: FSR-12-2-LD4-2LO-40-UNV-82-84-EDD

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P560465  
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-12-2-LD4-2LO-40-UNV-82-84-EDD  
Description: 1X2 FSR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .125 CLEAR PC ENVIRONMENTAL SI  
LENSES WITH, 80 CRI AND 4000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

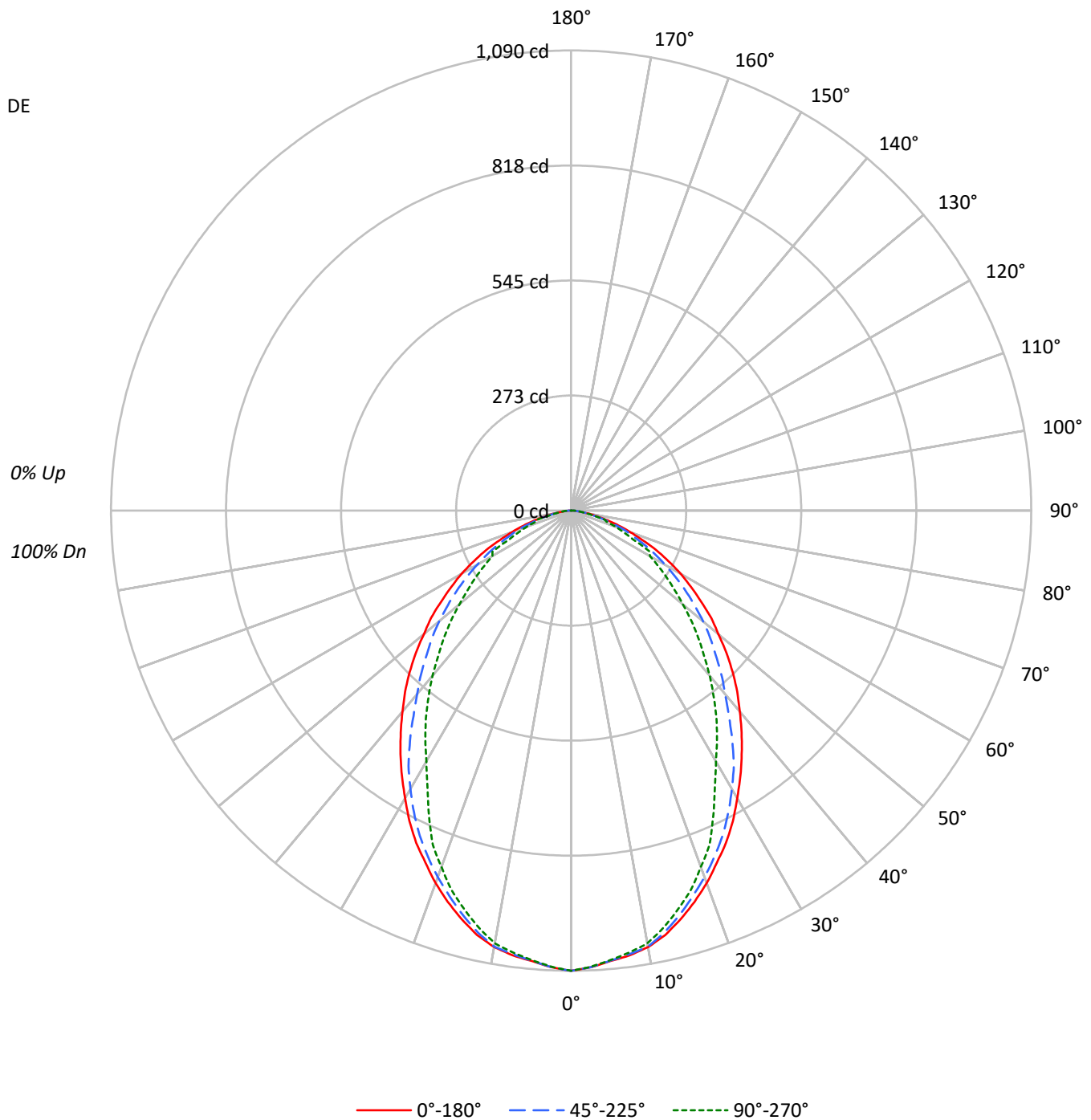
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 2140.0 lumens  
Efficiency: N/A  
Efficacy: 91.5 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 1' x L: 2' 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	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°	5867	5867	5867
5°	5787	5780	5774
10°	5737	5730	5689
15°	5582	5526	5449
20°	5377	5290	5146
25°	5156	5044	4730
30°	4887	4731	4261
35°	4629	4372	3941
40°	4365	3984	3586
45°	4115	3683	3242
50°	3809	3419	2891
55°	3523	3098	2590
60°	3228	2767	2320
65°	2841	2423	2054
70°	2340	2121	1745
75°	1861	1624	1703
80°	1249	1172	1094
85°	778	932	1087

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 4115 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	101.5	4.7
10°-20°	278.5	13.0
20°-30°	385.5	18.0
30°-40°	411.1	19.2
40°-50°	375.0	17.5
50°-60°	293.8	13.7
60°-70°	191.5	8.9
70°-80°	84.8	4.0
80°-90°	18.2	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°	765.5	35.8
0°-40°	1176.6	55.0
0°-60°	1845.4	86.2
0°-90°	2140.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2140.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1090	1090	1090	1090	1090	
5°	1071	1070	1070	1069	1069	102
15°	1002	1002	992	982	978	282
25°	868	863	849	819	796	399
35°	704	699	665	615	600	440
45°	541	529	484	444	426	416
55°	376	364	330	291	276	337
65°	223	210	190	194	161	220
75°	90	83	78	74	82	96
85°	13	14	15	16	18	17
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1090.1	1090.1	1090.1	1090.1	1090.1
2.5°	1082.5	1082.5	1082.5	1081.3	1081.3
5°	1071.2	1069.9	1069.9	1068.7	1068.7
7.5°	1062.4	1061.1	1059.8	1058.6	1056.1
10°	1049.8	1049.8	1048.5	1042.2	1040.9
12.5°	1029.6	1028.3	1023.3	1014.5	1012.0
15°	1001.9	1001.9	991.8	981.7	977.9
17.5°	971.6	970.4	957.8	947.7	942.6
20°	938.9	936.3	923.7	907.4	898.5
22.5°	902.3	902.3	887.2	865.8	856.9
25°	868.3	863.2	849.4	819.1	796.5
27.5°	829.2	821.7	806.5	763.7	737.2
30°	786.4	782.6	761.2	705.7	685.6
32.5°	746.0	739.7	717.1	659.1	642.7
35°	704.5	699.4	665.4	615.0	599.9
37.5°	662.9	656.6	613.7	573.4	554.5
40°	621.3	613.7	567.1	530.6	510.4
42.5°	582.2	572.1	526.8	487.7	465.0
45°	540.6	529.3	483.9	443.6	426.0
47.5°	499.0	489.0	447.4	405.8	385.6
50°	454.9	446.1	408.3	366.7	345.3
52.5°	418.4	404.5	368.0	326.4	308.8
55°	375.5	364.2	330.2	291.1	276.0
57.5°	336.5	325.1	293.6	257.1	244.5
60°	299.9	283.5	257.1	225.6	215.5
62.5°	259.6	247.0	224.3	197.9	210.5
65°	223.1	210.5	190.3	194.1	161.3
67.5°	182.7	176.4	158.8	141.1	136.1
70°	148.7	141.1	134.8	115.9	110.9
72.5°	118.5	110.9	102.1	92.0	88.2
75°	89.5	83.2	78.1	74.4	81.9
77.5°	61.8	59.2	55.4	51.7	50.4
80°	40.3	39.1	37.8	36.5	35.3
82.5°	23.9	23.9	23.9	23.9	23.9
85°	12.6	13.9	15.1	16.4	17.6
87.5°	7.6	7.6	8.8	10.1	11.3
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)