

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: P560452

Luminaire Tested: FSR-12-2-LD4-2LO-40-UNV-81-86-EDD-90

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P560452  
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-81-86-EDD-90  
Description: 1X2 FSR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .250 CLEAR PC ENVIRONMENTAL SI  
LENSES WITH, 90 CRI AND 4000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

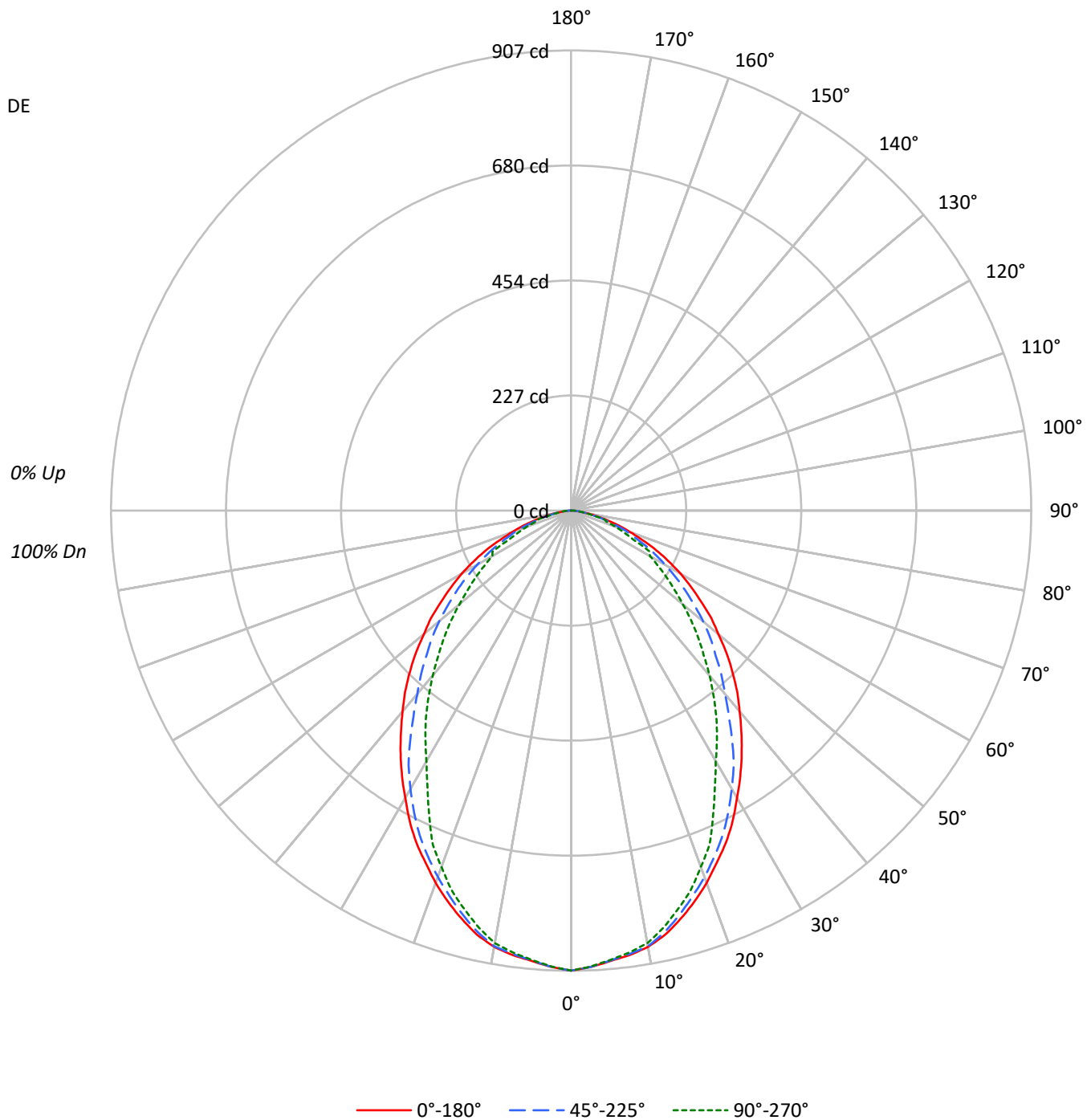
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 1780.0 lumens  
Efficiency: N/A  
Efficacy: 76.1 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	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°	4880	4880	4880
5°	4814	4808	4802
10°	4772	4766	4732
15°	4643	4596	4532
20°	4472	4400	4281
25°	4289	4195	3934
30°	4065	3934	3544
35°	3850	3637	3279
40°	3631	3314	2982
45°	3423	3064	2697
50°	3168	2843	2405
55°	2931	2577	2154
60°	2686	2301	1929
65°	2362	2016	1709
70°	1947	1766	1451
75°	1547	1352	1416
80°	1038	973	911
85°	648	778	908

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 3423 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	84.4	4.7
10°-20°	231.6	13.0
20°-30°	320.7	18.0
30°-40°	341.9	19.2
40°-50°	312.0	17.5
50°-60°	244.4	13.7
60°-70°	159.3	8.9
70°-80°	70.6	4.0
80°-90°	15.1	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°	636.7	35.8
0°-40°	978.7	55.0
0°-60°	1535.0	86.2
0°-90°	1780.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1780.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	907	907	907	907	907	
5°	891	890	890	889	889	85
15°	833	833	825	817	813	234
25°	722	718	706	681	662	332
35°	586	582	554	512	499	366
45°	450	440	402	369	354	346
55°	312	303	275	242	230	280
65°	186	175	158	161	134	183
75°	74	69	65	62	68	80
85°	10	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°	906.7	906.7	906.7	906.7	906.7
2.5°	900.4	900.4	900.4	899.4	899.4
5°	891.0	889.9	889.9	888.9	888.9
7.5°	883.6	882.6	881.6	880.5	878.4
10°	873.2	873.2	872.1	866.9	865.8
12.5°	856.4	855.3	851.2	843.8	841.7
15°	833.3	833.3	824.9	816.6	813.4
17.5°	808.2	807.1	796.6	788.3	784.1
20°	780.9	778.8	768.3	754.7	747.4
22.5°	750.5	750.5	737.9	720.1	712.8
25°	722.2	718.0	706.5	681.3	662.5
27.5°	689.7	683.4	670.9	635.2	613.2
30°	654.1	650.9	633.1	587.0	570.2
32.5°	620.5	615.3	596.4	548.2	534.6
35°	586.0	581.8	553.5	511.5	499.0
37.5°	551.4	546.1	510.5	476.9	461.2
40°	516.8	510.5	471.7	441.3	424.5
42.5°	484.3	475.9	438.2	405.7	386.8
45°	449.7	440.3	402.5	369.0	354.3
47.5°	415.1	406.7	372.1	337.5	320.8
50°	378.4	371.1	339.6	305.0	287.2
52.5°	348.0	336.5	306.1	271.5	256.8
55°	312.4	302.9	274.6	242.1	229.6
57.5°	279.9	270.4	244.2	213.8	203.4
60°	249.5	235.8	213.8	187.6	179.2
62.5°	215.9	205.5	186.6	164.6	175.1
65°	185.5	175.1	158.3	161.4	134.2
67.5°	152.0	146.8	132.1	117.4	113.2
70°	123.7	117.4	112.2	96.4	92.2
72.5°	98.5	92.2	84.9	76.5	73.4
75°	74.4	69.2	65.0	61.8	68.1
77.5°	51.4	49.3	46.1	43.0	41.9
80°	33.5	32.5	31.4	30.4	29.4
82.5°	19.9	19.9	19.9	19.9	19.9
85°	10.5	11.5	12.6	13.6	14.7
87.5°	6.3	6.3	7.3	8.4	9.4
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)