

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: P561944

Luminaire Tested: FSR-24-2-LD4-1LO-35-UNV-82-88-EDD-90

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P561944  
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-24-2-LD4-1LO-35-UNV-82-88-EDD-90  
Description: 2X4 FSR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .500 CLEAR PC ENVIRONMENTAL SI  
LENSES WITH, 90 CRI AND 3500K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

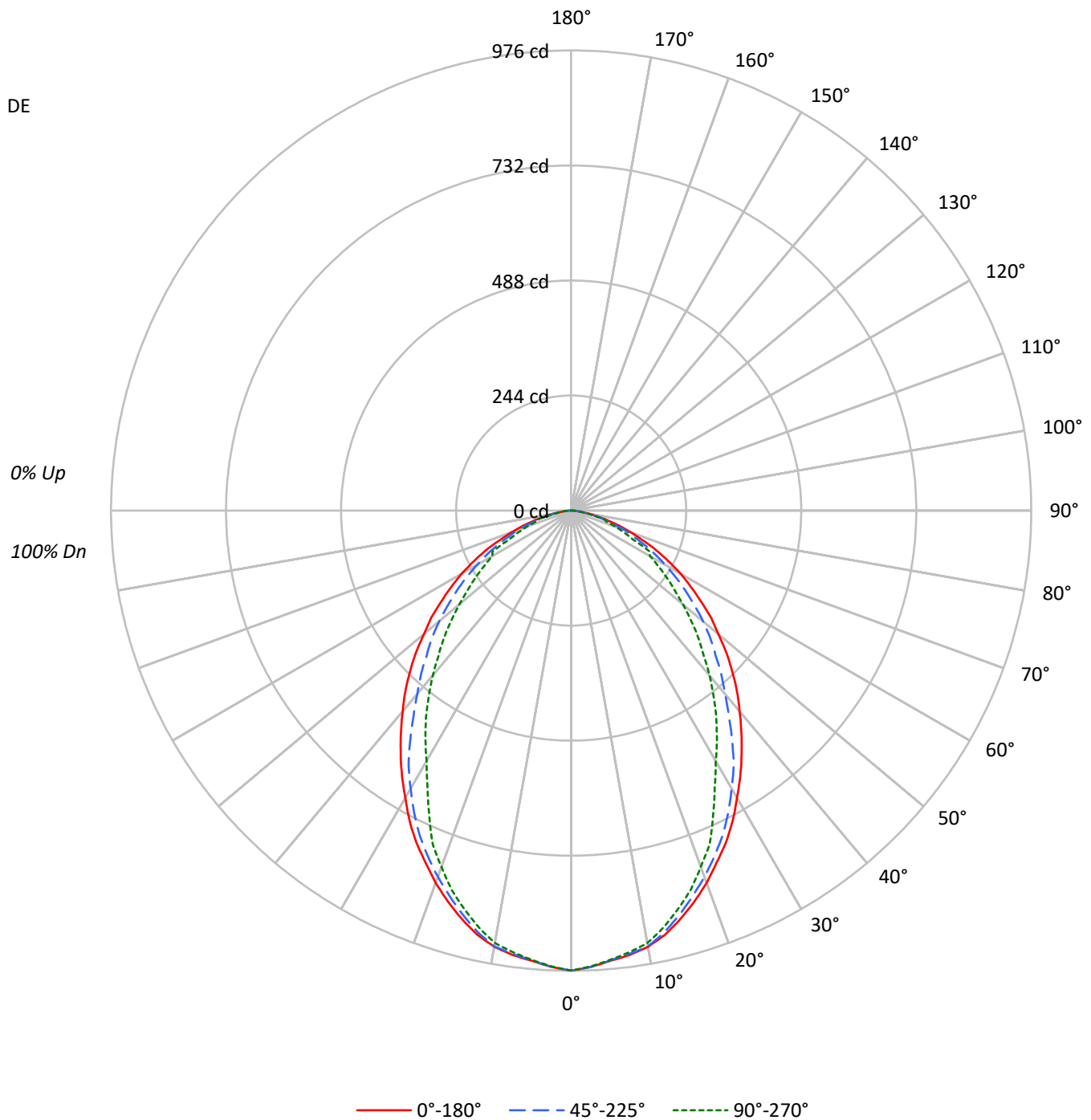
Lumens per Lamp: N/A  
Luminaire Lumens: 1915.0 lumens  
Efficiency: N/A  
Efficacy: 81.8 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 23.4  
Input Voltage (V):  
Input Current (Ain): NR  
Voltage 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°	1313	1313	1313
5°	1295	1293	1292
10°	1283	1282	1273
15°	1249	1236	1219
20°	1203	1184	1151
25°	1154	1128	1058
30°	1093	1058	953
35°	1035	978	882
40°	977	891	802
45°	921	824	725
50°	852	765	647
55°	788	693	579
60°	722	619	519
65°	635	542	459
70°	524	475	390
75°	416	363	381
80°	280	262	245
85°	174	208	244

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 921 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	90.8	4.7
10°-20°	249.2	13.0
20°-30°	345.0	18.0
30°-40°	367.9	19.2
40°-50°	335.6	17.5
50°-60°	262.9	13.7
60°-70°	171.4	8.9
70°-80°	75.9	4.0
80°-90°	16.3	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°	685.0	35.8
0°-40°	1052.9	55.0
0°-60°	1651.4	86.2
0°-90°	1915.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1915.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	976	976	976	976	976	
5°	959	957	957	956	956	91
15°	896	896	888	878	875	252
25°	777	772	760	733	713	357
35°	630	626	595	550	537	394
45°	484	474	433	397	381	373
55°	336	326	296	260	247	301
65°	200	188	170	174	144	197
75°	80	74	70	66	73	86
85°	11	12	14	15	16	16
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	975.5	975.5	975.5	975.5	975.5
2.5°	968.7	968.7	968.7	967.6	967.6
5°	958.6	957.4	957.4	956.3	956.3
7.5°	950.7	949.5	948.4	947.3	945.0
10°	939.4	939.4	938.3	932.6	931.5
12.5°	921.3	920.2	915.7	907.8	905.6
15°	896.5	896.5	887.5	878.5	875.1
17.5°	869.5	868.3	857.1	848.0	843.5
20°	840.1	837.9	826.6	812.0	804.1
22.5°	807.4	807.4	793.9	774.7	766.8
25°	777.0	772.5	760.1	733.0	712.7
27.5°	742.0	735.3	721.7	683.4	659.7
30°	703.7	700.3	681.1	631.5	613.5
32.5°	667.6	662.0	641.7	589.8	575.1
35°	630.4	625.9	595.4	550.3	536.8
37.5°	593.2	587.5	549.2	513.1	496.2
40°	556.0	549.2	507.5	474.8	456.7
42.5°	521.0	512.0	471.4	436.4	416.1
45°	483.8	473.6	433.0	397.0	381.2
47.5°	446.6	437.6	400.3	363.1	345.1
50°	407.1	399.2	365.4	328.2	309.0
52.5°	374.4	362.0	329.3	292.1	276.3
55°	336.1	325.9	295.5	260.5	247.0
57.5°	301.1	291.0	262.8	230.1	218.8
60°	268.4	253.7	230.1	201.9	192.8
62.5°	232.3	221.0	200.7	177.1	188.3
65°	199.6	188.3	170.3	173.7	144.3
67.5°	163.5	157.9	142.1	126.3	121.8
70°	133.1	126.3	120.7	103.7	99.2
72.5°	106.0	99.2	91.3	82.3	78.9
75°	80.1	74.4	69.9	66.5	73.3
77.5°	55.3	53.0	49.6	46.2	45.1
80°	36.1	35.0	33.8	32.7	31.6
82.5°	21.4	21.4	21.4	21.4	21.4
85°	11.3	12.4	13.5	14.7	15.8
87.5°	6.8	6.8	7.9	9.0	10.1
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)