

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: P560402

Luminaire Tested: FSR-12-2-LD4-2LO-35-UNV-82-85-EDD-90

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P560402  
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-35-UNV-82-85-EDD-90  
Description: 1X2 FSR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .187 CLEAR PC ENVIRONMENTAL SI  
LENSES WITH, 90 CRI AND 3500K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

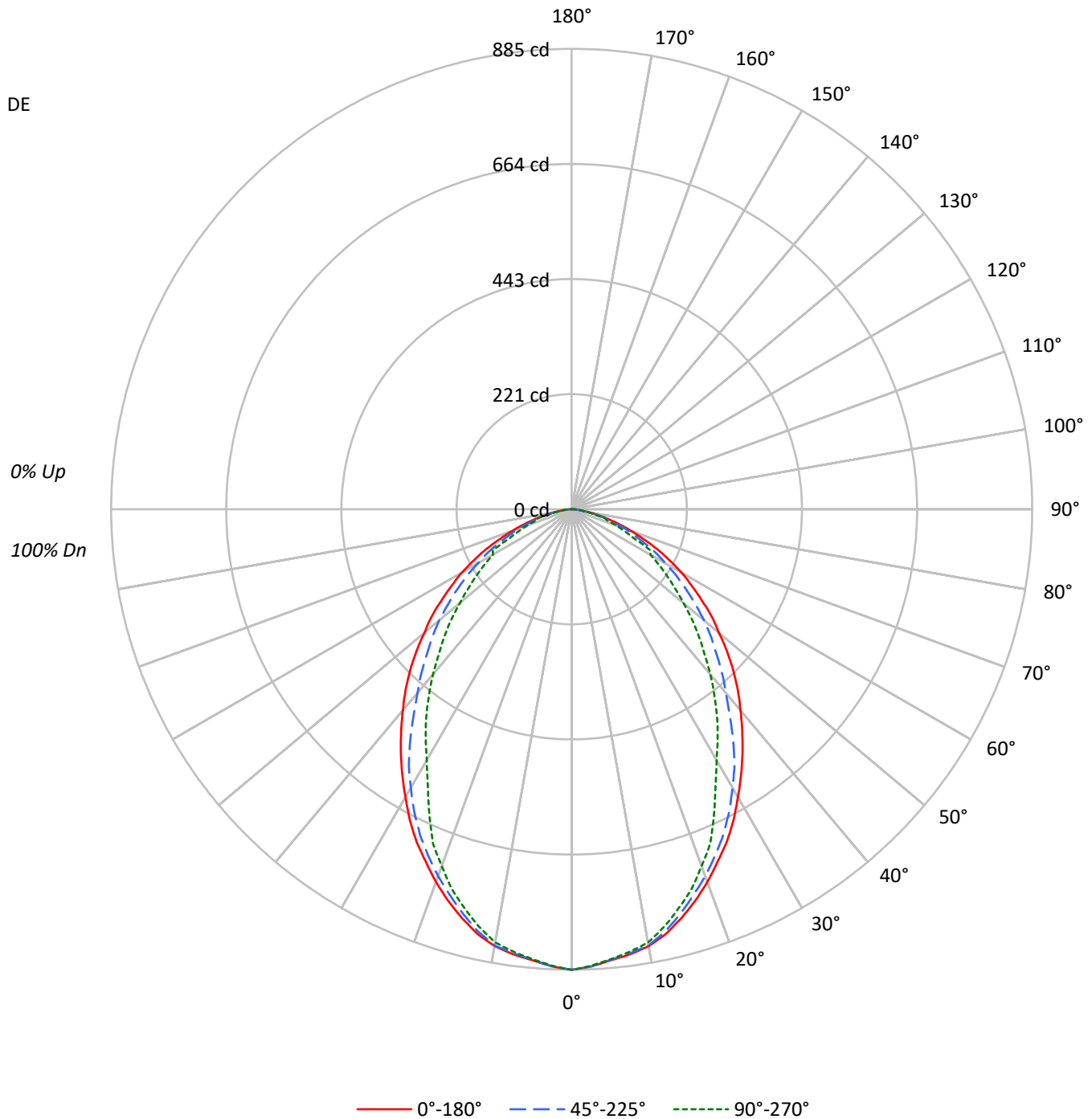
Lumens per Lamp: N/A  
Luminaire Lumens: 1738.0 lumens  
Efficiency: N/A  
Efficacy: 74.3 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 1' x L: 2' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 23.4  
Input Voltage (V):  
Input Current (Ain): NR  
Voltage 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°	4765	4765	4765
5°	4700	4694	4689
10°	4659	4653	4620
15°	4534	4488	4425
20°	4367	4297	4179
25°	4188	4096	3841
30°	3969	3842	3460
35°	3759	3551	3201
40°	3545	3236	2912
45°	3342	2991	2633
50°	3094	2776	2348
55°	2862	2517	2103
60°	2622	2248	1884
65°	2308	1968	1668
70°	1901	1723	1418
75°	1512	1320	1383
80°	1017	951	890
85°	630	760	883

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 3342 cd/sqm

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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	82.4	4.7
10°-20°	226.2	13.0
20°-30°	313.1	18.0
30°-40°	333.9	19.2
40°-50°	304.6	17.5
50°-60°	238.6	13.7
60°-70°	155.5	8.9
70°-80°	68.9	4.0
80°-90°	14.8	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°	621.7	35.8
0°-40°	955.6	55.0
0°-60°	1498.8	86.2
0°-90°	1738.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1738.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	885	885	885	885	885	
5°	870	869	869	868	868	83
15°	814	814	806	797	794	229
25°	705	701	690	665	647	324
35°	572	568	540	500	487	358
45°	439	430	393	360	346	338
55°	305	296	268	236	224	274
65°	181	171	154	158	131	179
75°	73	68	64	60	66	78
85°	10	11	12	13	14	14
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	885.3	885.3	885.3	885.3	885.3
2.5°	879.2	879.2	879.2	878.1	878.1
5°	870.0	868.9	868.9	867.9	867.9
7.5°	862.8	861.8	860.8	859.7	857.7
10°	852.6	852.6	851.5	846.4	845.4
12.5°	836.2	835.2	831.1	823.9	821.9
15°	813.7	813.7	805.5	797.3	794.2
17.5°	789.1	788.1	777.8	769.7	765.6
20°	762.5	760.4	750.2	736.9	729.7
22.5°	732.8	732.8	720.5	703.1	696.0
25°	705.2	701.1	689.8	665.3	646.8
27.5°	673.5	667.3	655.0	620.2	598.7
30°	638.7	635.6	618.2	573.2	556.8
32.5°	605.9	600.8	582.4	535.3	522.0
35°	572.1	568.0	540.4	499.5	487.2
37.5°	538.4	533.2	498.4	465.7	450.3
40°	504.6	498.4	460.6	430.9	414.5
42.5°	472.8	464.7	427.8	396.1	377.7
45°	439.1	429.9	393.0	360.3	345.9
47.5°	405.3	397.1	363.3	329.6	313.2
50°	369.5	362.3	331.6	297.8	280.4
52.5°	339.8	328.5	298.9	265.1	250.8
55°	305.0	295.8	268.2	236.4	224.1
57.5°	273.3	264.1	238.5	208.8	198.6
60°	243.6	230.3	208.8	183.2	175.0
62.5°	210.8	200.6	182.2	160.7	170.9
65°	181.2	170.9	154.5	157.6	131.0
67.5°	148.4	143.3	129.0	114.6	110.5
70°	120.8	114.6	109.5	94.2	90.1
72.5°	96.2	90.1	82.9	74.7	71.6
75°	72.7	67.5	63.5	60.4	66.5
77.5°	50.2	48.1	45.0	42.0	40.9
80°	32.8	31.7	30.7	29.7	28.7
82.5°	19.4	19.4	19.4	19.4	19.4
85°	10.2	11.3	12.3	13.3	14.3
87.5°	6.1	6.1	7.2	8.2	9.2
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)