

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: P560389

Luminaire Tested: FSR-12-2-LD4-2LO-35-UNV-81-86-EDD

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P560389  
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-81-86-EDD  
Description: 1X2 FSR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .250 CLEAR PC ENVIRONMENTAL SI  
LENSES WITH, 80 CRI AND 3500K CCT LEDS  
Light Source: -  
Ballast/Driver: -

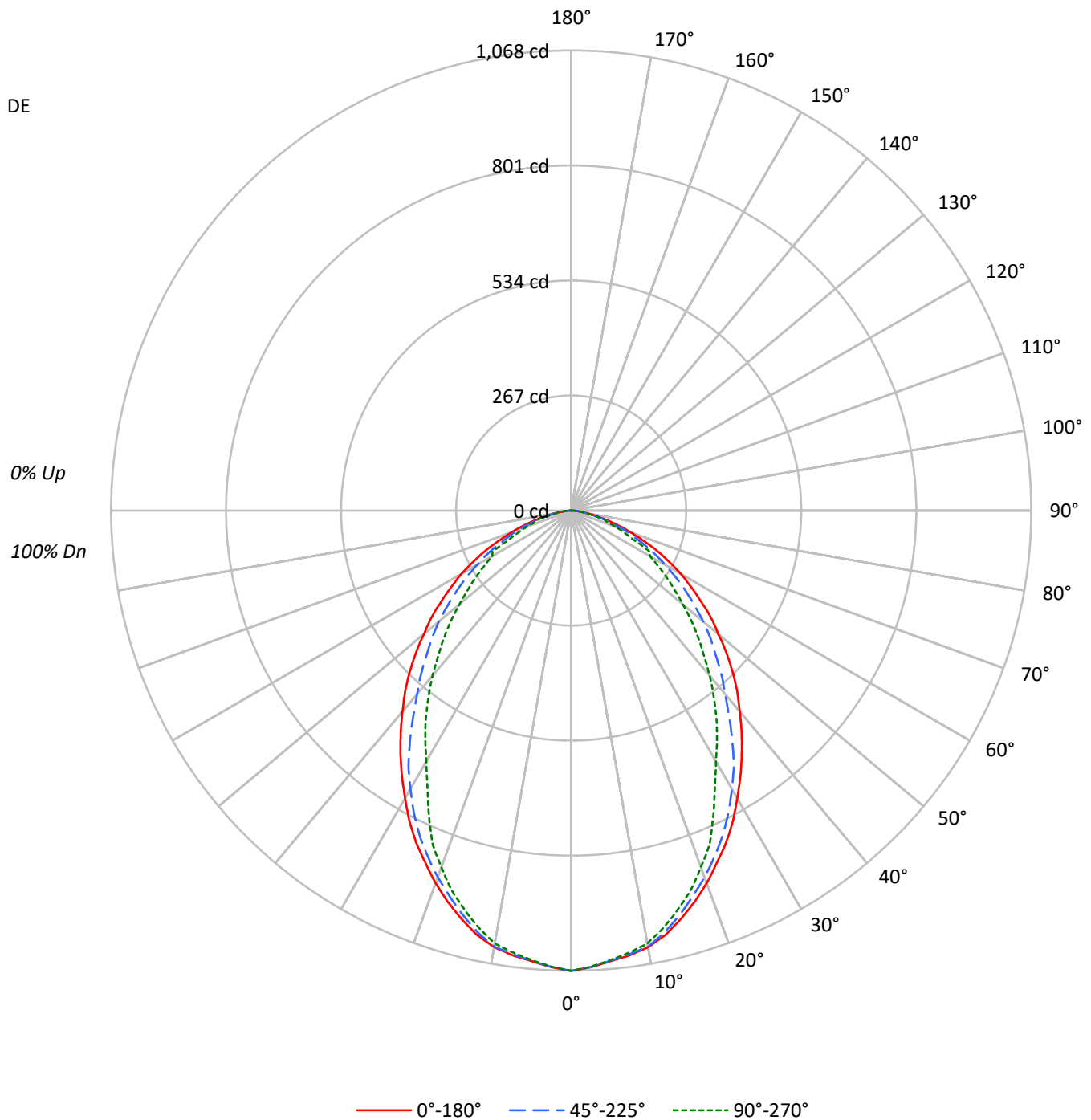
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 2097.0 lumens  
Efficiency: N/A  
Efficacy: 89.6 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	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°	5749	5749	5749
5°	5671	5664	5658
10°	5622	5615	5574
15°	5470	5415	5339
20°	5269	5184	5043
25°	5052	4942	4635
30°	4789	4635	4175
35°	4535	4284	3862
40°	4277	3904	3514
45°	4032	3609	3177
50°	3733	3350	2833
55°	3453	3035	2537
60°	3164	2711	2273
65°	2784	2375	2013
70°	2293	2079	1710
75°	1824	1593	1670
80°	1224	1147	1072
85°	760	914	1068

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 4032 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	99.4	4.7
10°-20°	272.9	13.0
20°-30°	377.8	18.0
30°-40°	402.8	19.2
40°-50°	367.5	17.5
50°-60°	287.9	13.7
60°-70°	187.6	8.9
70°-80°	83.1	4.0
80°-90°	17.9	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°	750.1	35.8
0°-40°	1153.0	55.0
0°-60°	1808.4	86.2
0°-90°	2097.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2097.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1068	1068	1068	1068	1068	
5°	1050	1048	1048	1047	1047	100
15°	982	982	972	962	958	276
25°	851	846	832	803	780	391
35°	690	685	652	603	588	432
45°	530	519	474	435	417	408
55°	368	357	324	285	270	330
65°	219	206	186	190	158	215
75°	88	82	77	73	80	94
85°	12	14	15	16	17	17
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1068.2	1068.2	1068.2	1068.2	1068.2
2.5°	1060.8	1060.8	1060.8	1059.5	1059.5
5°	1049.7	1048.4	1048.4	1047.2	1047.2
7.5°	1041.0	1039.8	1038.5	1037.3	1034.8
10°	1028.7	1028.7	1027.4	1021.3	1020.0
12.5°	1008.9	1007.7	1002.7	994.1	991.6
15°	981.7	981.7	971.9	962.0	958.3
17.5°	952.1	950.9	938.5	928.6	923.7
20°	920.0	917.5	905.2	889.1	880.5
22.5°	884.2	884.2	869.4	848.4	839.7
25°	850.8	845.9	832.3	802.7	780.5
27.5°	812.6	805.2	790.3	748.3	722.4
30°	770.6	766.9	745.9	691.5	671.8
32.5°	731.1	724.9	702.7	645.8	629.8
35°	690.3	685.4	652.0	602.6	587.8
37.5°	649.6	643.4	601.4	561.9	543.4
40°	608.8	601.4	555.7	519.9	500.1
42.5°	570.5	560.6	516.2	477.9	455.7
45°	529.8	518.7	474.2	434.7	417.4
47.5°	489.0	479.1	438.4	397.6	377.9
50°	445.8	437.2	400.1	359.4	338.4
52.5°	410.0	396.4	360.6	319.8	302.5
55°	368.0	356.9	323.5	285.3	270.4
57.5°	329.7	318.6	287.7	251.9	239.6
60°	293.9	277.9	251.9	221.0	211.2
62.5°	254.4	242.0	219.8	193.9	206.2
65°	218.6	206.2	186.5	190.2	158.1
67.5°	179.1	172.9	155.6	138.3	133.4
70°	145.7	138.3	132.1	113.6	108.7
72.5°	116.1	108.7	100.0	90.1	86.4
75°	87.7	81.5	76.6	72.9	80.3
77.5°	60.5	58.0	54.3	50.6	49.4
80°	39.5	38.3	37.0	35.8	34.6
82.5°	23.5	23.5	23.5	23.5	23.5
85°	12.3	13.6	14.8	16.1	17.3
87.5°	7.4	7.4	8.6	9.9	11.1
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)