

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: P559893

Luminaire Tested: FSR-12-2-LD4-1LO-40-UNV-82-86-EDD

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P559893  
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-LD4-1LO-40-UNV-82-86-EDD  
Description: 1X2 FSR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .250 CLEAR PC ENVIRONMENTAL SI  
LENSES WITH, 80 CRI AND 4000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

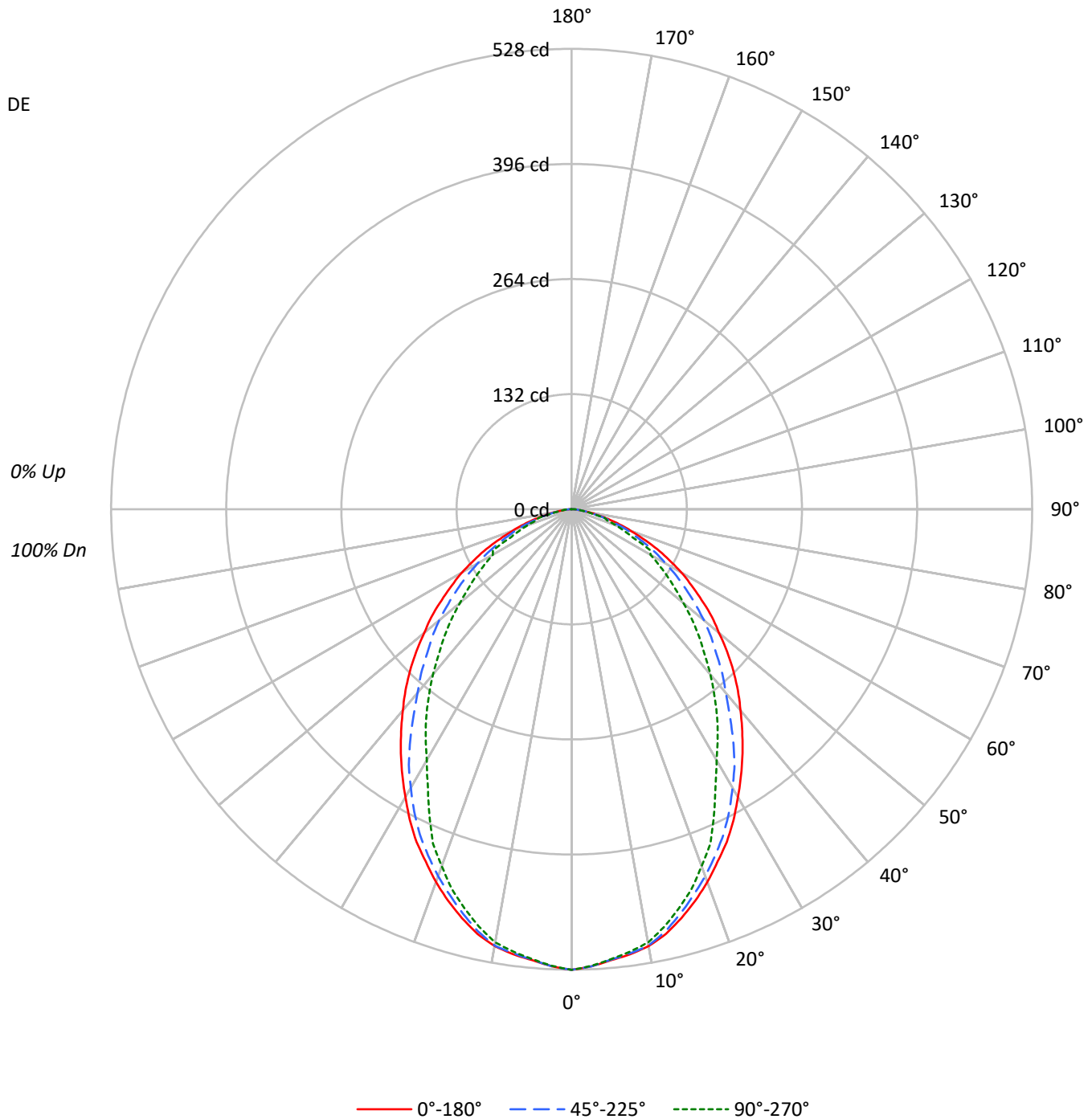
Lumens per Lamp: N/A  
Luminaire Lumens: 1037.0 lumens  
Efficiency: N/A  
Efficacy: 88.6 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 1' x L: 2' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 11.7  
Input Voltage (V):  
Input Current (Ain): NR  
Voltage 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	0		
RCR																										
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100					100			
1	110	106	102	99	108	104	100	97	100	97	94	96	94	91	92	90	89	87					87			
2	101	94	88	83	99	92	87	82	89	84	80	86	82	78	83	79	77	75					75			
3	93	84	77	71	91	82	76	70	79	74	69	77	72	68	74	70	67	65					65			
4	86	75	67	61	84	74	66	61	72	65	60	69	64	59	67	62	58	56					56			
5	80	68	60	54	78	67	59	53	65	58	53	63	57	52	61	56	52	50					50			
6	74	62	53	48	72	61	53	47	59	52	47	57	51	47	56	50	46	44					44			
7	69	56	48	43	67	56	48	42	54	47	42	53	46	42	51	46	42	40					40			
8	65	52	44	38	63	51	44	38	50	43	38	49	42	38	48	42	38	36					36			
9	61	48	40	35	59	47	40	35	46	39	35	45	39	34	44	38	34	33					33			
10	57	44	37	32	56	44	37	32	43	36	32	42	36	32	41	36	32	30					30			

**AVERAGE LUMINANCE (cd/sqm):**

	0°	45°	90°
0°	2843	2843	2843
5°	2804	2801	2798
10°	2780	2777	2757
15°	2705	2678	2640
20°	2606	2564	2494
25°	2499	2444	2292
30°	2368	2292	2064
35°	2243	2118	1910
40°	2115	1931	1737
45°	1994	1785	1571
50°	1846	1657	1401
55°	1708	1501	1255
60°	1564	1341	1124
65°	1377	1174	996
70°	1135	1028	845
75°	902	788	826
80°	604	567	530
85°	377	451	525

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 1994 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	49.2	4.7
10°-20°	134.9	13.0
20°-30°	186.8	18.0
30°-40°	199.2	19.2
40°-50°	181.7	17.5
50°-60°	142.4	13.7
60°-70°	92.8	8.9
70°-80°	41.1	4.0
80°-90°	8.8	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°	370.9	35.8
0°-40°	570.2	55.0
0°-60°	894.3	86.2
0°-90°	1037.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1037.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	528	528	528	528	528	
5°	519	518	518	518	518	49
15°	486	486	481	476	474	136
25°	421	418	412	397	386	193
35°	341	339	322	298	291	213
45°	262	256	234	215	206	202
55°	182	176	160	141	134	163
65°	108	102	92	94	78	107
75°	43	40	38	36	40	46
85°	6	7	7	8	8	8
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	528.2	528.2	528.2	528.2	528.2
2.5°	524.6	524.6	524.6	524.0	524.0
5°	519.1	518.5	518.5	517.9	517.9
7.5°	514.8	514.2	513.6	513.0	511.7
10°	508.7	508.7	508.1	505.0	504.4
12.5°	498.9	498.3	495.9	491.6	490.4
15°	485.5	485.5	480.6	475.7	473.9
17.5°	470.8	470.2	464.1	459.2	456.8
20°	455.0	453.7	447.6	439.7	435.4
22.5°	437.2	437.2	429.9	419.5	415.3
25°	420.8	418.3	411.6	396.9	385.9
27.5°	401.8	398.2	390.8	370.1	357.2
30°	381.1	379.2	368.8	342.0	332.2
32.5°	361.5	358.5	347.5	319.4	311.4
35°	341.4	338.9	322.4	298.0	290.7
37.5°	321.2	318.2	297.4	277.9	268.7
40°	301.1	297.4	274.8	257.1	247.3
42.5°	282.1	277.2	255.3	236.3	225.3
45°	262.0	256.5	234.5	215.0	206.4
47.5°	241.8	236.9	216.8	196.6	186.9
50°	220.5	216.2	197.9	177.7	167.3
52.5°	202.7	196.0	178.3	158.2	149.6
55°	182.0	176.5	160.0	141.1	133.7
57.5°	163.1	157.6	142.3	124.6	118.5
60°	145.3	137.4	124.6	109.3	104.4
62.5°	125.8	119.7	108.7	95.9	102.0
65°	108.1	102.0	92.2	94.0	78.2
67.5°	88.5	85.5	76.9	68.4	66.0
70°	72.1	68.4	65.3	56.2	53.7
72.5°	57.4	53.7	49.5	44.6	42.7
75°	43.4	40.3	37.9	36.0	39.7
77.5°	29.9	28.7	26.9	25.0	24.4
80°	19.5	18.9	18.3	17.7	17.1
82.5°	11.6	11.6	11.6	11.6	11.6
85°	6.1	6.7	7.3	7.9	8.5
87.5°	3.7	3.7	4.3	4.9	5.5
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)