

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: P559157

Luminaire Tested: FSR-12-1-LD4-2HI-50-UNV-80-86-EDD

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P559157  
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-12-1-LD4-2HI-50-UNV-80-86-EDD  
Description: 1X1 FSR TROFFER WITH .125 PRISMATIC ACRYLIC FIXTURE SIDE AND .250 CLEAR PC ENVIRON  
SIDE LENSES WITH, 80 CRI AND 5000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

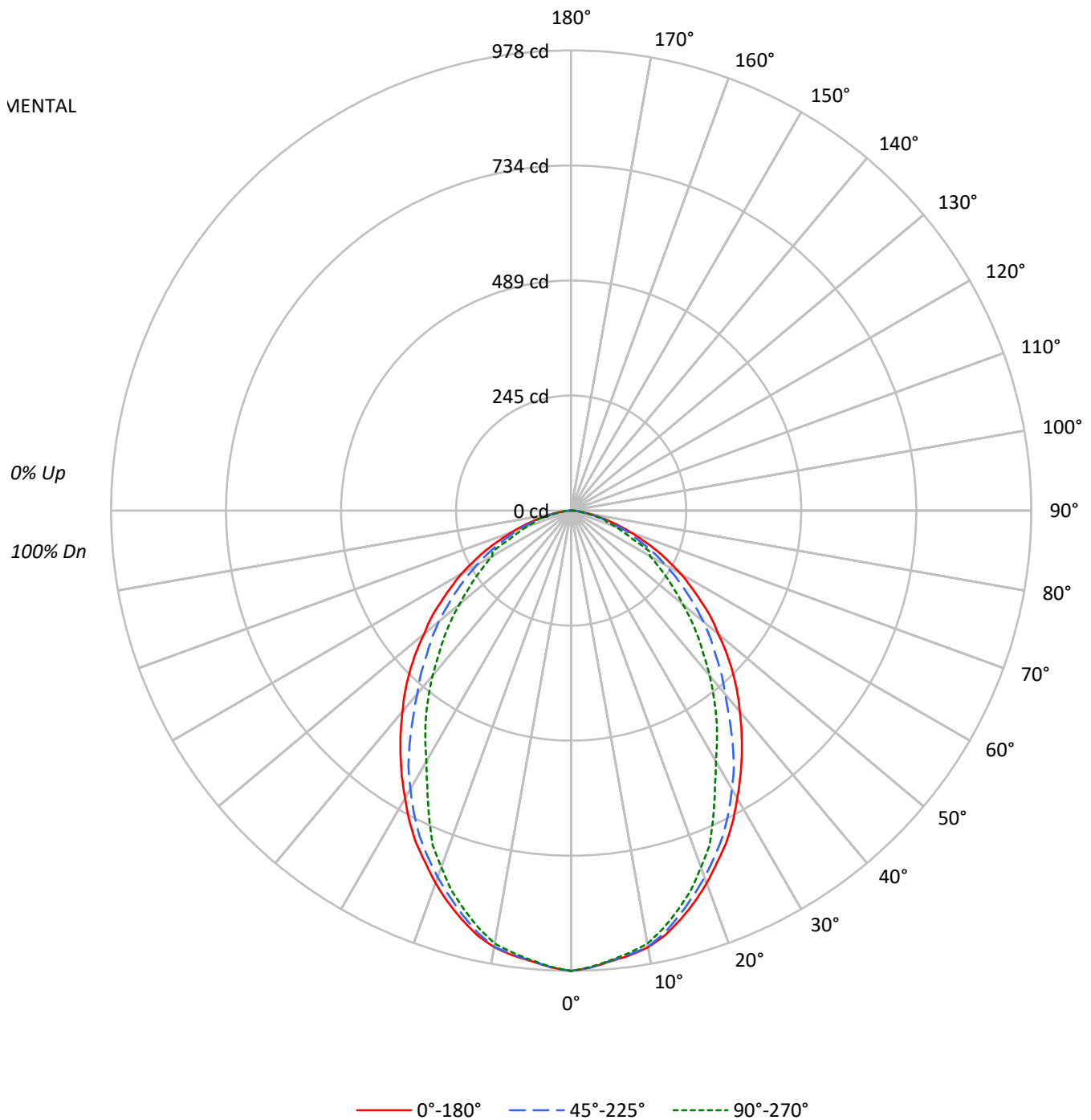
Lumens per Lamp: N/A  
Luminaire Lumens: 1921.0 lumens  
Efficiency: N/A  
Efficacy: 88.9 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 21.6  
Input Voltage (V):  
Input Current (Ain): NR  
Voltage 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°	10532	10532	10532
5°	10390	10377	10365
10°	10299	10287	10213
15°	10021	9921	9783
20°	9654	9498	9239
25°	9257	9056	8492
30°	8774	8493	7649
35°	8310	7849	7076
40°	7836	7154	6438
45°	7387	6613	5821
50°	6839	6137	5191
55°	6326	5562	4648
60°	5795	4969	4163
65°	5099	4350	3688
70°	4201	3808	3135
75°	3340	2915	3057
80°	2244	2101	1965
85°	1396	1680	1951

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 7387 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	91.1	4.7
10°-20°	250.0	13.0
20°-30°	346.1	18.0
30°-40°	369.0	19.2
40°-50°	336.7	17.5
50°-60°	263.7	13.7
60°-70°	171.9	8.9
70°-80°	76.2	4.0
80°-90°	16.4	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°	687.2	35.8
0°-40°	1056.2	55.0
0°-60°	1656.6	86.2
0°-90°	1921.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1921.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	978	978	978	978	978	
5°	962	960	960	959	959	91
15°	899	899	890	881	878	253
25°	779	775	762	735	715	358
35°	632	628	597	552	538	395
45°	485	475	434	398	382	374
55°	337	327	296	261	248	302
65°	200	189	171	174	145	197
75°	80	75	70	67	74	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°	978.5	978.5	978.5	978.5	978.5
2.5°	971.7	971.7	971.7	970.6	970.6
5°	961.6	960.4	960.4	959.3	959.3
7.5°	953.6	952.5	951.4	950.3	948.0
10°	942.3	942.3	941.2	935.5	934.4
12.5°	924.2	923.1	918.6	910.7	908.4
15°	899.3	899.3	890.3	881.2	877.9
17.5°	872.2	871.1	859.8	850.7	846.2
20°	842.8	840.5	829.2	814.5	806.6
22.5°	810.0	810.0	796.4	777.2	769.3
25°	779.4	774.9	762.5	735.3	715.0
27.5°	744.4	737.6	724.0	685.5	661.8
30°	705.9	702.5	683.3	633.5	615.4
32.5°	669.7	664.0	643.7	591.6	576.9
35°	632.4	627.8	597.3	552.1	538.5
37.5°	595.0	589.4	550.9	514.7	497.8
40°	557.7	550.9	509.1	476.3	458.2
42.5°	522.6	513.6	472.9	437.8	417.4
45°	485.3	475.1	434.4	398.2	382.4
47.5°	448.0	438.9	401.6	364.3	346.2
50°	408.4	400.5	366.5	329.2	310.0
52.5°	375.6	363.1	330.3	293.0	277.2
55°	337.1	326.9	296.4	261.3	247.7
57.5°	302.0	291.9	263.6	230.8	219.5
60°	269.2	254.5	230.8	202.5	193.4
62.5°	233.0	221.7	201.4	177.6	188.9
65°	200.2	188.9	170.8	174.2	144.8
67.5°	164.0	158.4	142.5	126.7	122.2
70°	133.5	126.7	121.0	104.1	99.6
72.5°	106.3	99.6	91.6	82.6	79.2
75°	80.3	74.7	70.1	66.7	73.5
77.5°	55.4	53.2	49.8	46.4	45.3
80°	36.2	35.1	33.9	32.8	31.7
82.5°	21.5	21.5	21.5	21.5	21.5
85°	11.3	12.4	13.6	14.7	15.8
87.5°	6.8	6.8	7.9	9.1	10.2
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)