

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: P559852

Luminaire Tested: FSR-12-2-LD4-1LO-35-UNV-93-96-EDD-90

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P559852  
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-35-UNV-93-96-EDD-90  
Description: 1X2 FSR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .250 CLEAR TEMPER  
GLASS ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 3500K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

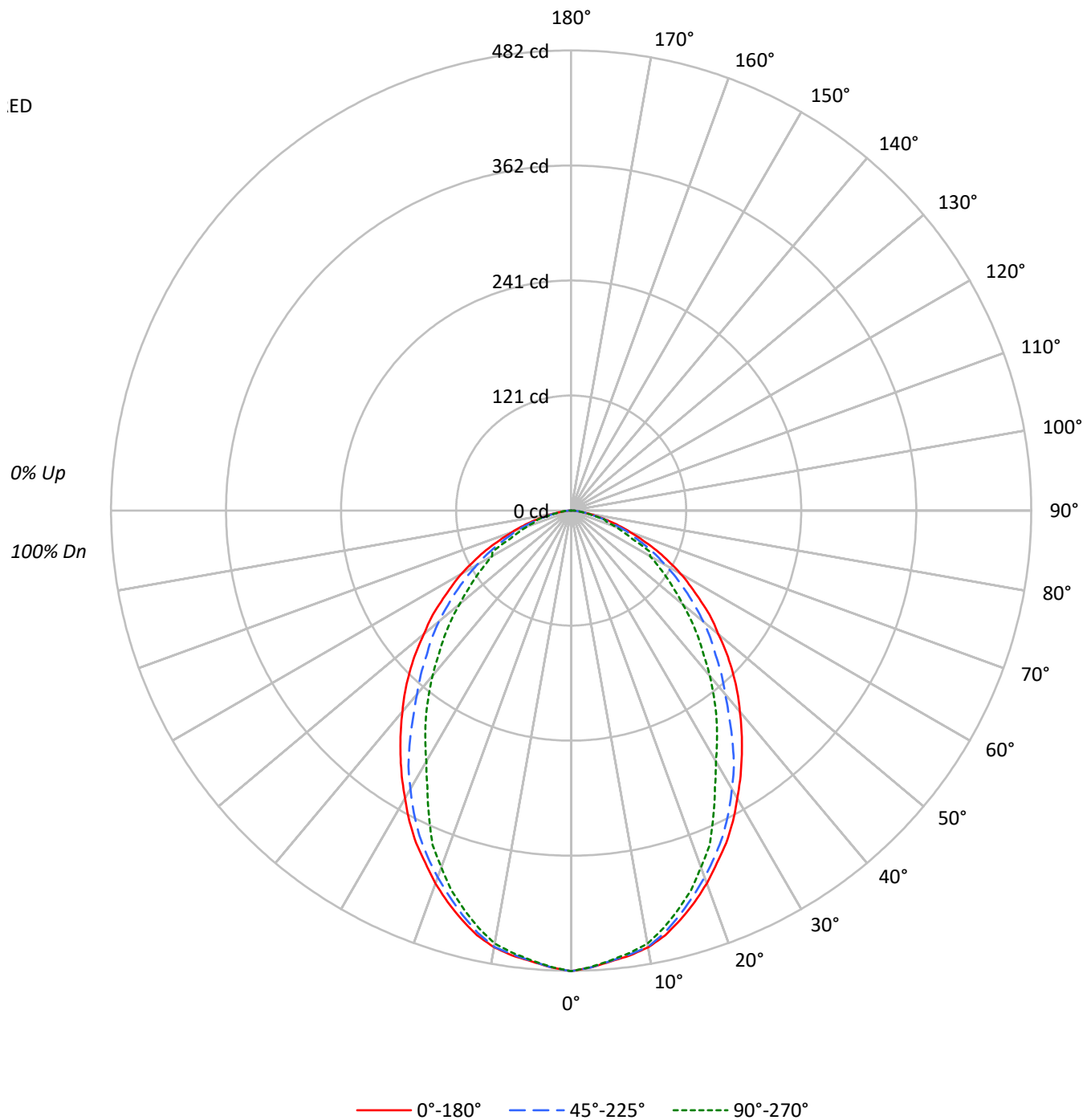
Lumens per Lamp: N/A  
Luminaire Lumens: 947.0 lumens  
Efficiency: N/A  
Efficacy: 80.9 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 1' x L: 2' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 11.7  
Input Voltage (V):  
Input Current (Ain): NR  
Voltage 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	100	100	100	100	100		
1	110	106	102	99	108	104	100	97	100	97	94	96	94	91	92	90	89	87	87	87	87	87	87	87		
2	101	94	88	83	99	92	87	82	89	84	80	86	82	78	83	79	77	75	75	75	75	75	75	75		
3	93	84	77	71	91	82	76	70	79	74	69	77	72	68	74	70	67	65	65	65	65	65	65	65		
4	86	75	67	61	84	74	66	61	72	65	60	69	64	59	67	62	58	56	56	56	56	56	56	56		
5	80	68	60	54	78	67	59	53	65	58	53	63	57	52	61	56	52	50	50	50	50	50	50	50		
6	74	62	53	48	72	61	53	47	59	52	47	57	51	47	56	50	46	44	44	44	44	44	44	44		
7	69	56	48	43	67	56	48	42	54	47	42	53	46	42	51	46	42	40	40	40	40	40	40	40		
8	65	52	44	38	63	51	44	38	50	43	38	49	42	38	48	42	38	36	36	36	36	36	36	36		
9	61	48	40	35	59	47	40	35	46	39	35	45	39	34	44	38	34	33	33	33	33	33	33	33		
10	57	44	37	32	56	44	37	32	43	36	32	42	36	32	41	36	32	30	30	30	30	30	30	30		

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

	0°	45°	90°
0°	2596	2596	2596
5°	2561	2558	2555
10°	2538	2536	2517
15°	2471	2445	2411
20°	2380	2341	2277
25°	2282	2232	2093
30°	2163	2093	1885
35°	2048	1935	1744
40°	1931	1763	1587
45°	1821	1630	1435
50°	1685	1513	1279
55°	1559	1371	1146
60°	1428	1225	1027
65°	1257	1072	909
70°	1035	939	773
75°	823	719	753
80°	552	518	483
85°	346	414	482

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 1821 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	44.9	4.7
10°-20°	123.2	13.0
20°-30°	170.6	18.0
30°-40°	181.9	19.2
40°-50°	166.0	17.5
50°-60°	130.0	13.7
60°-70°	84.8	8.9
70°-80°	37.5	4.0
80°-90°	8.1	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°	338.8	35.8
0°-40°	520.7	55.0
0°-60°	816.6	86.2
0°-90°	947.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	947.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	482	482	482	482	482	
5°	474	474	474	473	473	45
15°	443	443	439	434	433	125
25°	384	382	376	362	352	176
35°	312	310	294	272	266	195
45°	239	234	214	196	188	184
55°	166	161	146	129	122	149
65°	99	93	84	86	71	97
75°	40	37	35	33	36	42
85°	6	6	7	7	8	8
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	482.4	482.4	482.4	482.4	482.4
2.5°	479.0	479.0	479.0	478.5	478.5
5°	474.0	473.5	473.5	472.9	472.9
7.5°	470.1	469.6	469.0	468.4	467.3
10°	464.5	464.5	464.0	461.2	460.6
12.5°	455.6	455.1	452.8	448.9	447.8
15°	443.4	443.4	438.9	434.4	432.8
17.5°	430.0	429.4	423.8	419.4	417.1
20°	415.5	414.4	408.8	401.5	397.6
22.5°	399.3	399.3	392.6	383.1	379.2
25°	384.2	382.0	375.9	362.5	352.5
27.5°	367.0	363.6	356.9	338.0	326.2
30°	348.0	346.3	336.8	312.3	303.4
32.5°	330.1	327.4	317.3	291.7	284.4
35°	311.7	309.5	294.5	272.1	265.5
37.5°	293.3	290.5	271.6	253.7	245.4
40°	274.9	271.6	251.0	234.8	225.9
42.5°	257.6	253.2	233.1	215.8	205.8
45°	239.2	234.2	214.1	196.3	188.5
47.5°	220.8	216.4	198.0	179.6	170.6
50°	201.3	197.4	180.7	162.3	152.8
52.5°	185.1	179.0	162.8	144.4	136.6
55°	166.2	161.2	146.1	128.8	122.1
57.5°	148.9	143.9	129.9	113.8	108.2
60°	132.7	125.5	113.8	99.8	95.4
62.5°	114.9	109.3	99.3	87.6	93.1
65°	98.7	93.1	84.2	85.9	71.4
67.5°	80.9	78.1	70.3	62.5	60.2
70°	65.8	62.5	59.7	51.3	49.1
72.5°	52.4	49.1	45.2	40.7	39.0
75°	39.6	36.8	34.6	32.9	36.2
77.5°	27.3	26.2	24.5	22.9	22.3
80°	17.8	17.3	16.7	16.2	15.6
82.5°	10.6	10.6	10.6	10.6	10.6
85°	5.6	6.1	6.7	7.2	7.8
87.5°	3.3	3.3	3.9	4.5	5.0
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)