

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: P559342

Luminaire Tested: FSR-12-1-LD4-2LO-40-UNV-93-97-EDD-90

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P559342  
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-LD4-2LO-40-UNV-93-97-EDD-90  
Description: 1X1 FSR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .375 CLEAR TEMPER  
GLASS ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 4000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

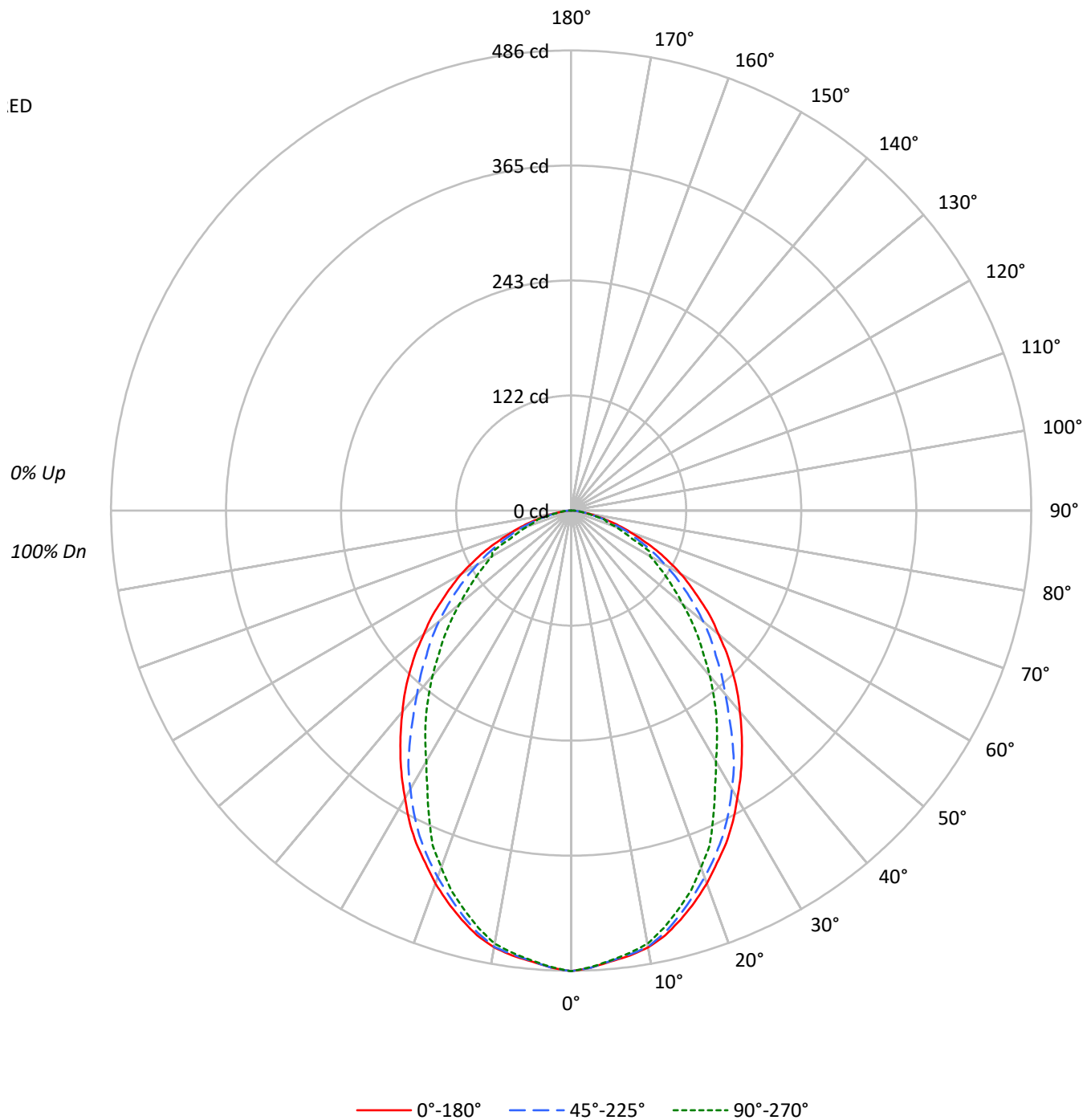
Lumens per Lamp: N/A  
Luminaire Lumens: 955.0 lumens  
Efficiency: N/A  
Efficacy: 81.6 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 11.7  
Input Voltage (V):  
Input Current (Ain): NR  
Voltage 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	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°	5237	5237	5237
5°	5165	5159	5153
10°	5121	5114	5077
15°	4982	4932	4863
20°	4800	4722	4593
25°	4602	4501	4221
30°	4361	4222	3802
35°	4131	3901	3518
40°	3896	3556	3201
45°	3673	3288	2894
50°	3399	3051	2581
55°	3145	2764	2312
60°	2880	2469	2071
65°	2534	2162	1834
70°	2090	1895	1558
75°	1659	1451	1522
80°	1116	1048	973
85°	692	827	976

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 3673 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	45.3	4.7
10°-20°	124.3	13.0
20°-30°	172.1	18.0
30°-40°	183.5	19.2
40°-50°	167.4	17.5
50°-60°	131.1	13.7
60°-70°	85.5	8.9
70°-80°	37.9	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°	341.6	35.8
0°-40°	525.1	55.0
0°-60°	823.5	86.2
0°-90°	955.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	955.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	486	486	486	486	486	
5°	478	478	478	477	477	45
15°	447	447	443	438	436	126
25°	388	385	379	366	355	178
35°	314	312	297	274	268	197
45°	241	236	216	198	190	186
55°	168	162	147	130	123	150
65°	100	94	85	87	72	98
75°	40	37	35	33	37	43
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°	486.5	486.5	486.5	486.5	486.5
2.5°	483.1	483.1	483.1	482.5	482.5
5°	478.0	477.5	477.5	476.9	476.9
7.5°	474.1	473.5	473.0	472.4	471.3
10°	468.5	468.5	467.9	465.1	464.5
12.5°	459.5	458.9	456.7	452.7	451.6
15°	447.1	447.1	442.6	438.1	436.4
17.5°	433.6	433.0	427.4	422.9	420.7
20°	419.0	417.9	412.2	404.9	401.0
22.5°	402.7	402.7	395.9	386.4	382.4
25°	387.5	385.2	379.0	365.6	355.4
27.5°	370.1	366.7	359.9	340.8	329.0
30°	350.9	349.2	339.7	314.9	305.9
32.5°	332.9	330.1	320.0	294.1	286.8
35°	314.4	312.1	296.9	274.4	267.7
37.5°	295.8	293.0	273.9	255.9	247.5
40°	277.3	273.9	253.1	236.8	227.8
42.5°	259.8	255.3	235.1	217.6	207.5
45°	241.3	236.2	216.0	198.0	190.1
47.5°	222.7	218.2	199.6	181.1	172.1
50°	203.0	199.1	182.2	163.7	154.1
52.5°	186.7	180.5	164.2	145.7	137.8
55°	167.6	162.5	147.3	129.9	123.2
57.5°	150.2	145.1	131.0	114.7	109.1
60°	133.8	126.5	114.7	100.7	96.2
62.5°	115.9	110.2	100.1	88.3	93.9
65°	99.5	93.9	84.9	86.6	72.0
67.5°	81.5	78.7	70.9	63.0	60.7
70°	66.4	63.0	60.2	51.7	49.5
72.5°	52.9	49.5	45.6	41.1	39.4
75°	39.9	37.1	34.9	33.2	36.6
77.5°	27.6	26.4	24.7	23.1	22.5
80°	18.0	17.4	16.9	16.3	15.7
82.5°	10.7	10.7	10.7	10.7	10.7
85°	5.6	6.2	6.7	7.3	7.9
87.5°	3.4	3.4	3.9	4.5	5.1
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)