

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: P559022

Luminaire Tested: FSR-12-1-LD4-1STD-50-UNV-93-97-EDD-90

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P559022  
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-LD4-1STD-50-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 5000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

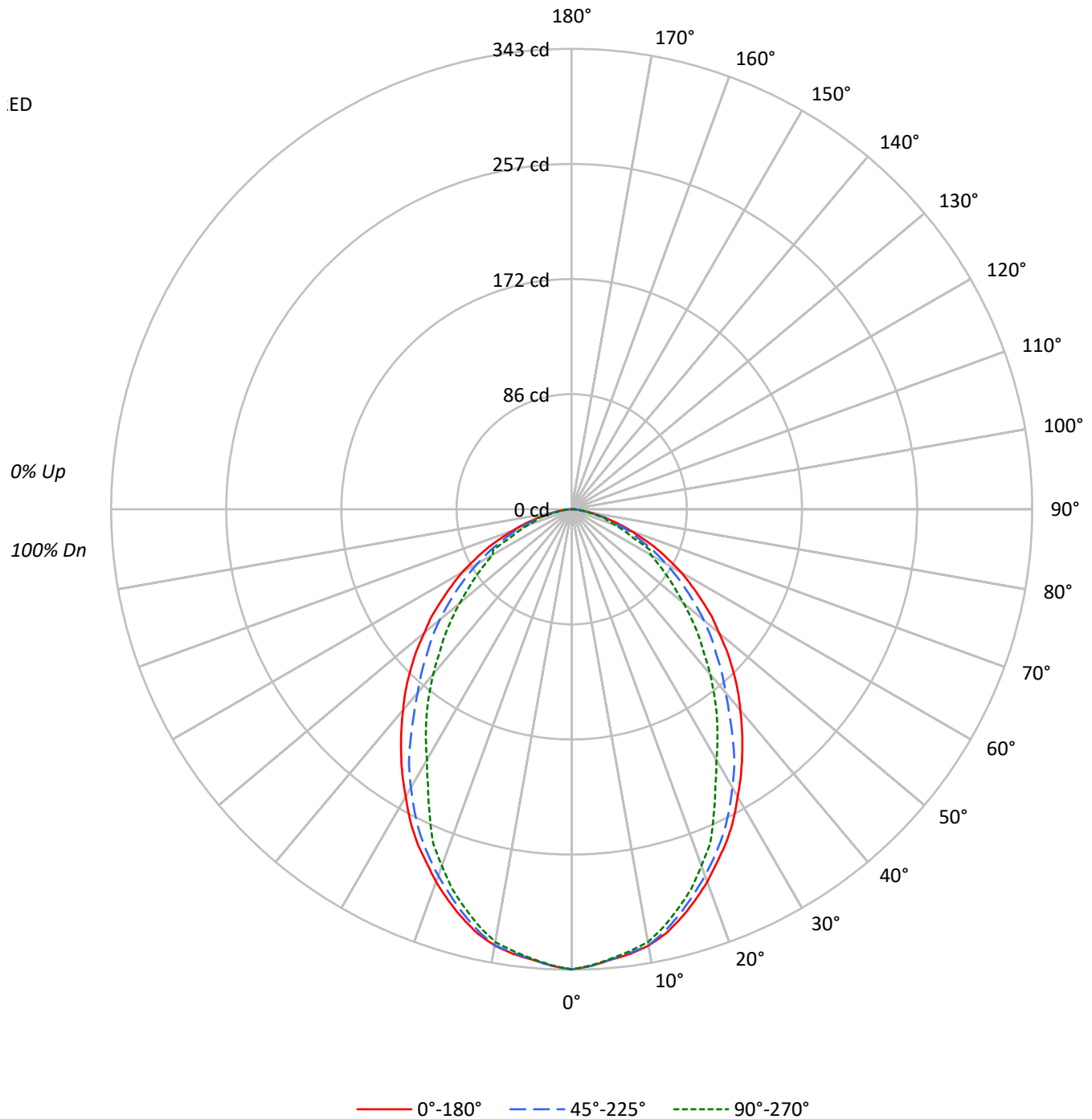
Lumens per Lamp: N/A  
Luminaire Lumens: 673.0 lumens  
Efficiency: N/A  
Efficacy: 81.1 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 8.3  
Input Voltage (V):  
Input Current (Ain): NR  
Voltage 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	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°	3690	3690	3690
5°	3640	3636	3632
10°	3608	3604	3578
15°	3511	3476	3427
20°	3383	3328	3237
25°	3244	3172	2975
30°	3074	2976	2680
35°	2911	2750	2478
40°	2746	2505	2255
45°	2588	2317	2040
50°	2396	2150	1819
55°	2216	1948	1629
60°	2030	1739	1460
65°	1785	1523	1291
70°	1473	1334	1098
75°	1169	1023	1073
80°	787	738	688
85°	494	593	679

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 2588 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	31.9	4.7
10°-20°	87.6	13.0
20°-30°	121.2	18.0
30°-40°	129.3	19.2
40°-50°	117.9	17.5
50°-60°	92.4	13.7
60°-70°	60.2	8.9
70°-80°	26.7	4.0
80°-90°	5.7	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°	240.7	35.8
0°-40°	370.0	55.0
0°-60°	580.4	86.2
0°-90°	673.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	673.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	343	343	343	343	343	
5°	337	336	336	336	336	32
15°	315	315	312	309	308	89
25°	273	272	267	258	250	125
35°	222	220	209	193	189	139
45°	170	166	152	140	134	131
55°	118	114	104	92	87	106
65°	70	66	60	61	51	69
75°	28	26	25	23	26	30
85°	4	4	5	5	6	6
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	342.8	342.8	342.8	342.8	342.8
2.5°	340.4	340.4	340.4	340.0	340.0
5°	336.9	336.5	336.5	336.1	336.1
7.5°	334.1	333.7	333.3	332.9	332.1
10°	330.1	330.1	329.7	327.8	327.4
12.5°	323.8	323.4	321.8	319.0	318.2
15°	315.1	315.1	311.9	308.7	307.5
17.5°	305.6	305.2	301.2	298.0	296.4
20°	295.3	294.5	290.5	285.4	282.6
22.5°	283.8	283.8	279.0	272.3	269.5
25°	273.1	271.5	267.1	257.6	250.5
27.5°	260.8	258.4	253.6	240.2	231.8
30°	247.3	246.1	239.4	221.9	215.6
32.5°	234.6	232.6	225.5	207.3	202.1
35°	221.5	220.0	209.3	193.4	188.6
37.5°	208.5	206.5	193.0	180.3	174.4
40°	195.4	193.0	178.3	166.9	160.5
42.5°	183.1	179.9	165.7	153.4	146.2
45°	170.0	166.5	152.2	139.5	134.0
47.5°	156.9	153.8	140.7	127.6	121.3
50°	143.1	140.3	128.4	115.3	108.6
52.5°	131.6	127.2	115.7	102.6	97.1
55°	118.1	114.5	103.8	91.6	86.8
57.5°	105.8	102.3	92.3	80.8	76.9
60°	94.3	89.2	80.8	70.9	67.8
62.5°	81.6	77.7	70.5	62.2	66.2
65°	70.1	66.2	59.8	61.0	50.7
67.5°	57.5	55.5	49.9	44.4	42.8
70°	46.8	44.4	42.4	36.5	34.9
72.5°	37.3	34.9	32.1	28.9	27.7
75°	28.1	26.2	24.6	23.4	25.8
77.5°	19.4	18.6	17.4	16.2	15.9
80°	12.7	12.3	11.9	11.5	11.1
82.5°	7.5	7.5	7.5	7.5	7.5
85°	4.0	4.4	4.8	5.2	5.5
87.5°	2.4	2.4	2.8	3.2	3.6
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)