

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: P558954

Luminaire Tested: FSR-12-1-LD4-1STD-40-UNV-93-94-EDD-90

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P558954  
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-40-UNV-93-94-EDD-90  
Description: 1X1 FSR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .187 CLEAR TEMPER  
GLASS ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 4000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

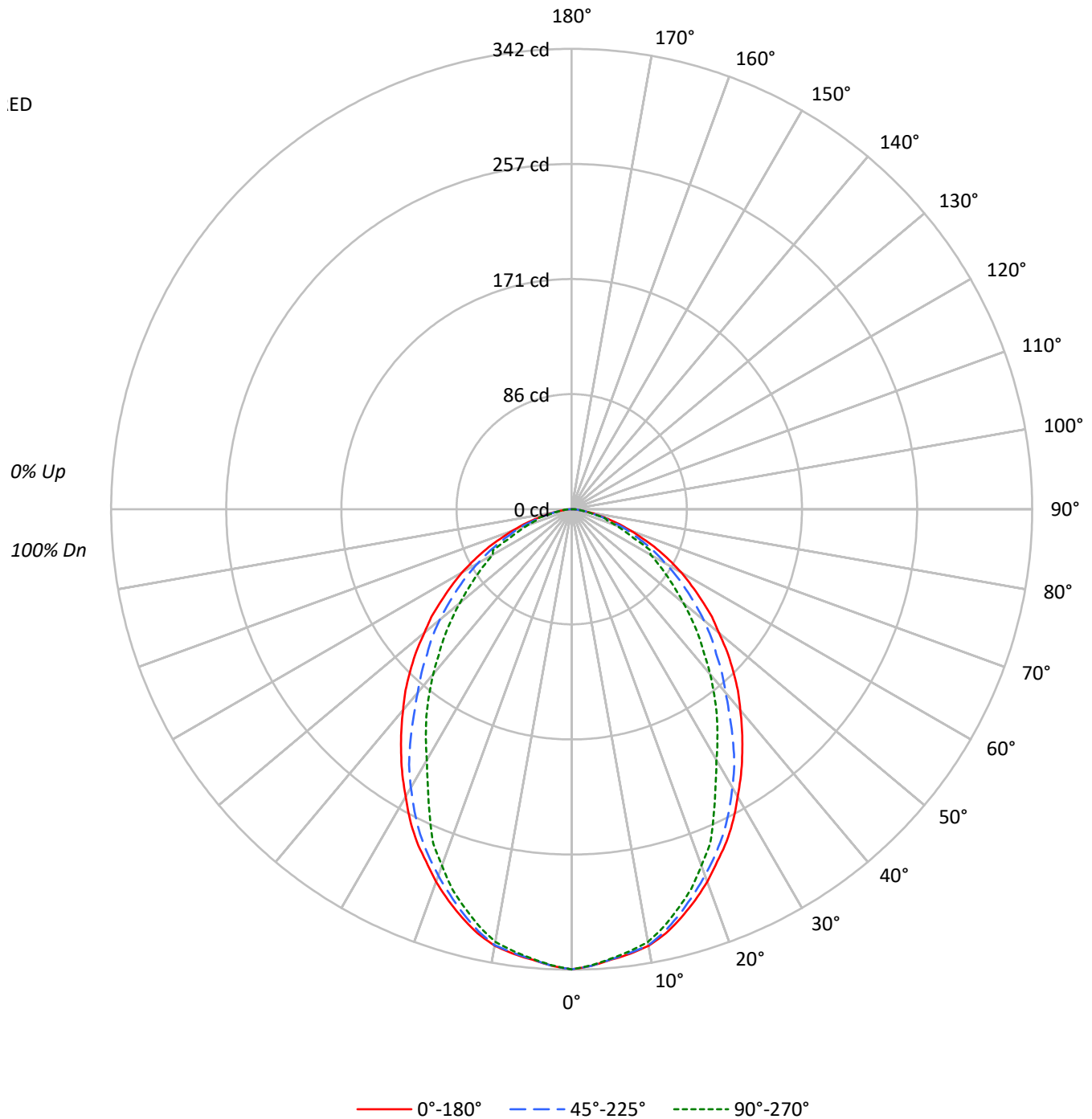
Lumens per Lamp: N/A  
Luminaire Lumens: 671.0 lumens  
Efficiency: N/A  
Efficacy: 80.8 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 8.3  
Input Voltage (V):  
Input Current (Ain): NR  
Voltage 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	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°	3679	3679	3679
5°	3629	3625	3621
10°	3598	3594	3568
15°	3500	3466	3417
20°	3372	3317	3227
25°	3234	3163	2966
30°	3065	2967	2672
35°	2903	2741	2472
40°	2737	2498	2248
45°	2580	2309	2034
50°	2388	2143	1814
55°	2211	1942	1623
60°	2024	1735	1455
65°	1780	1521	1289
70°	1467	1331	1095
75°	1169	1019	1069
80°	781	738	688
85°	494	580	679

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 2580 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	31.8	4.7
10°-20°	87.3	13.0
20°-30°	120.9	18.0
30°-40°	128.9	19.2
40°-50°	117.6	17.5
50°-60°	92.1	13.7
60°-70°	60.0	8.9
70°-80°	26.6	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°	240.0	35.8
0°-40°	368.9	55.0
0°-60°	578.6	86.2
0°-90°	671.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	671.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	342	342	342	342	342	
5°	336	336	336	335	335	32
15°	314	314	311	308	307	88
25°	272	271	266	257	250	125
35°	221	219	209	193	188	138
45°	170	166	152	139	134	131
55°	118	114	104	91	86	106
65°	70	66	60	61	51	69
75°	28	26	24	23	26	30
85°	4	4	5	5	6	5
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	341.8	341.8	341.8	341.8	341.8
2.5°	339.4	339.4	339.4	339.0	339.0
5°	335.9	335.5	335.5	335.1	335.1
7.5°	333.1	332.7	332.3	331.9	331.1
10°	329.2	329.2	328.8	326.8	326.4
12.5°	322.8	322.4	320.9	318.1	317.3
15°	314.1	314.1	311.0	307.8	306.6
17.5°	304.7	304.3	300.3	297.1	295.6
20°	294.4	293.6	289.6	284.5	281.7
22.5°	282.9	282.9	278.2	271.5	268.7
25°	272.3	270.7	266.3	256.8	249.7
27.5°	260.0	257.6	252.9	239.5	231.2
30°	246.6	245.4	238.7	221.3	215.0
32.5°	233.9	231.9	224.8	206.7	201.5
35°	220.9	219.3	208.6	192.8	188.1
37.5°	207.8	205.9	192.4	179.8	173.9
40°	194.8	192.4	177.8	166.4	160.0
42.5°	182.6	179.4	165.2	152.9	145.8
45°	169.5	166.0	151.7	139.1	133.6
47.5°	156.5	153.3	140.3	127.2	120.9
50°	142.6	139.9	128.0	115.0	108.3
52.5°	131.2	126.8	115.4	102.3	96.8
55°	117.8	114.2	103.5	91.3	86.5
57.5°	105.5	101.9	92.1	80.6	76.7
60°	94.0	88.9	80.6	70.7	67.6
62.5°	81.4	77.4	70.3	62.0	66.0
65°	69.9	66.0	59.7	60.9	50.6
67.5°	57.3	55.3	49.8	44.3	42.7
70°	46.6	44.3	42.3	36.4	34.8
72.5°	37.1	34.8	32.0	28.8	27.7
75°	28.1	26.1	24.5	23.3	25.7
77.5°	19.4	18.6	17.4	16.2	15.8
80°	12.6	12.2	11.9	11.5	11.1
82.5°	7.5	7.5	7.5	7.5	7.5
85°	4.0	4.3	4.7	5.1	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)