

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: P559116

Luminaire Tested: FSR-12-1-LD4-2HI-40-UNV-81-96-EDD-90

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P559116  
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-40-UNV-81-96-EDD-90  
Description: 1X1 FSR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .250 CLEAR TEMPERED GLASS ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 4000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

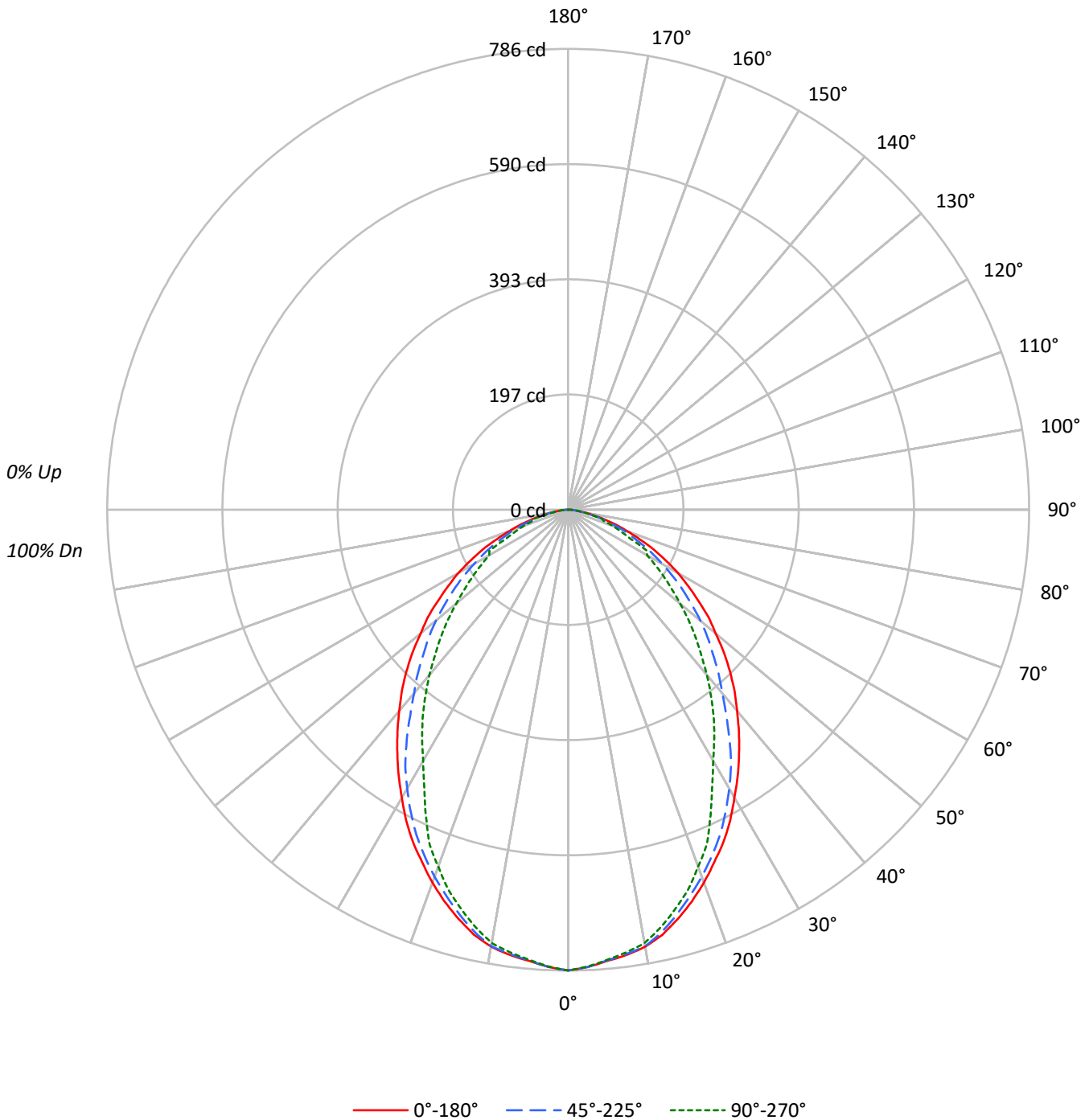
Lumens per Lamp: N/A  
Luminaire Lumens: 1543.0 lumens  
Efficiency: N/A  
Efficacy: 71.4 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 21.6  
Input Voltage (V):  
Input Current (Ain): NR  
Voltage 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	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°	8460	8460	8460
5°	8346	8335	8325
10°	8273	8263	8203
15°	8050	7969	7857
20°	7754	7629	7422
25°	7436	7273	6821
30°	7047	6821	6144
35°	6674	6305	5683
40°	6295	5746	5171
45°	5934	5311	4675
50°	5493	4930	4170
55°	5082	4468	3734
60°	4656	3991	3345
65°	4096	3494	2962
70°	3374	3059	2518
75°	2682	2341	2458
80°	1804	1692	1574
85°	1124	1346	1568

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 5934 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	73.2	4.7
10°-20°	200.8	13.0
20°-30°	278.0	18.0
30°-40°	296.4	19.2
40°-50°	270.4	17.5
50°-60°	211.8	13.7
60°-70°	138.1	8.9
70°-80°	61.2	4.0
80°-90°	13.2	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°	551.9	35.8
0°-40°	848.3	55.0
0°-60°	1330.6	86.2
0°-90°	1543.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1543.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	786	786	786	786	786	
5°	772	771	771	770	770	73
15°	722	722	715	708	705	203
25°	626	622	612	591	574	287
35°	508	504	480	443	432	318
45°	390	382	349	320	307	300
55°	271	263	238	210	199	243
65°	161	152	137	140	116	159
75°	64	60	56	54	59	69
85°	9	10	11	12	13	13
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	786.0	786.0	786.0	786.0	786.0
2.5°	780.5	780.5	780.5	779.6	779.6
5°	772.4	771.4	771.4	770.5	770.5
7.5°	766.0	765.1	764.2	763.3	761.4
10°	756.9	756.9	756.0	751.5	750.5
12.5°	742.4	741.5	737.8	731.5	729.6
15°	722.4	722.4	715.1	707.8	705.1
17.5°	700.6	699.7	690.6	683.3	679.7
20°	676.9	675.1	666.0	654.2	647.9
22.5°	650.6	650.6	639.7	624.2	617.9
25°	626.1	622.4	612.4	590.6	574.3
27.5°	597.9	592.4	581.5	550.6	531.6
30°	567.0	564.3	548.8	508.8	494.3
32.5°	537.9	533.4	517.0	475.2	463.4
35°	507.9	504.3	479.8	443.4	432.5
37.5°	478.0	473.4	442.5	413.4	399.8
40°	448.0	442.5	408.9	382.5	368.0
42.5°	419.8	412.5	379.8	351.6	335.3
45°	389.8	381.6	348.9	319.8	307.1
47.5°	359.8	352.6	322.6	292.6	278.0
50°	328.0	321.7	294.4	264.4	249.0
52.5°	301.7	291.7	265.3	235.3	222.6
55°	270.8	262.6	238.1	209.9	199.0
57.5°	242.6	234.4	211.7	185.4	176.3
60°	216.3	204.4	185.4	162.6	155.4
62.5°	187.2	178.1	161.7	142.7	151.7
65°	160.8	151.7	137.2	139.9	116.3
67.5°	131.8	127.2	114.5	101.8	98.1
70°	107.2	101.8	97.2	83.6	80.0
72.5°	85.4	80.0	73.6	66.3	63.6
75°	64.5	60.0	56.3	53.6	59.1
77.5°	44.5	42.7	40.0	37.3	36.3
80°	29.1	28.2	27.3	26.4	25.4
82.5°	17.3	17.3	17.3	17.3	17.3
85°	9.1	10.0	10.9	11.8	12.7
87.5°	5.5	5.5	6.4	7.3	8.2
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)