

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: P559753

Luminaire Tested: FSR-12-2-LD4-1HI-50-UNV-81-88-EDD

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P559753  
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-LD4-1HI-50-UNV-81-88-EDD  
Description: 1X2 FSR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .500 CLEAR PC ENVIRONMENTAL SI  
LENSES WITH, 80 CRI AND 5000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

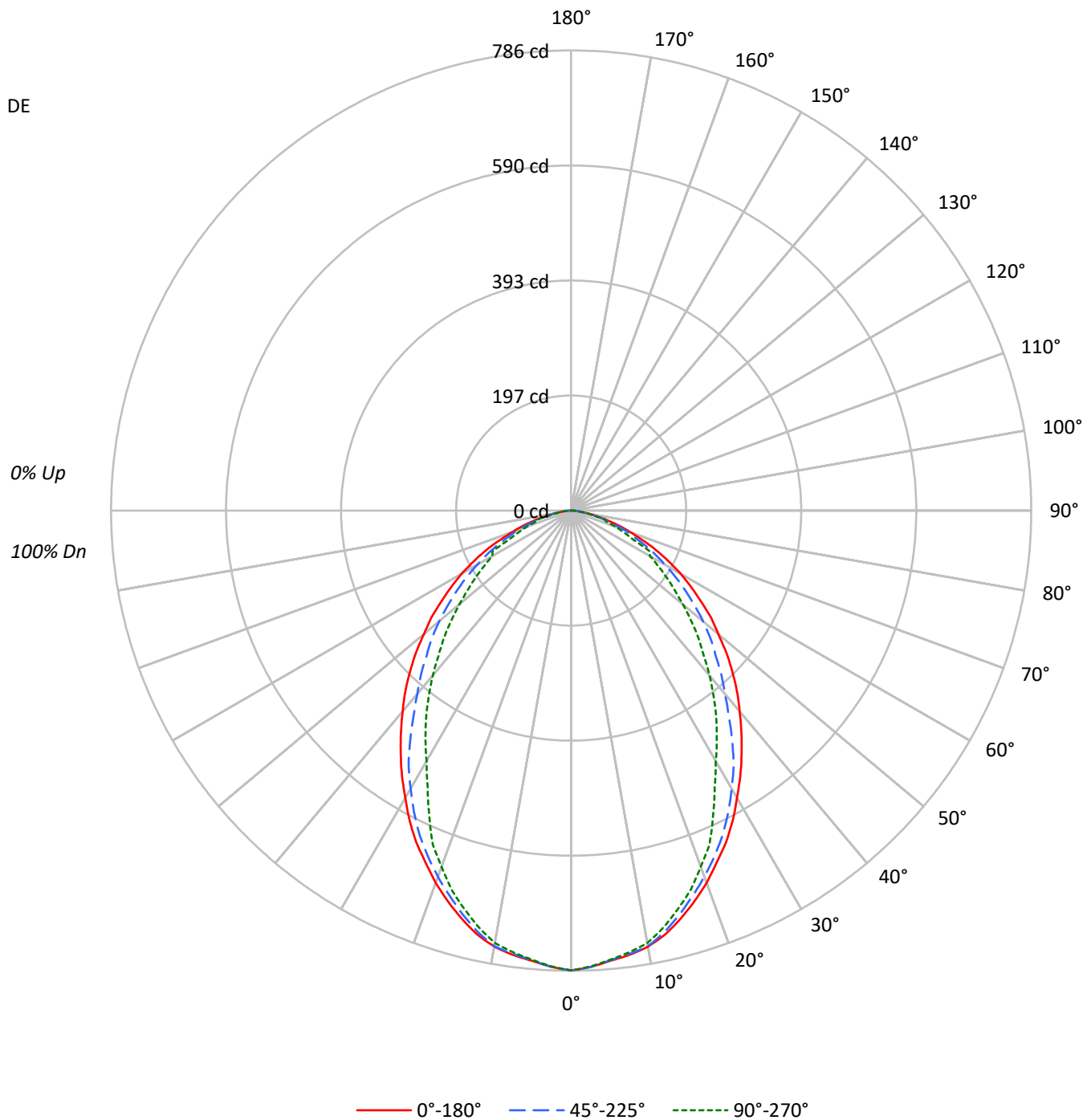
Lumens per Lamp: N/A  
Luminaire Lumens: 1542.0 lumens  
Efficiency: N/A  
Efficacy: 71.4 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 1' x L: 2' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 21.6  
Input Voltage (V):  
Input Current (Ain): NR  
Voltage 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	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				
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°	4228	4228	4228
5°	4170	4165	4160
10°	4134	4129	4099
15°	4022	3982	3926
20°	3875	3812	3708
25°	3716	3634	3408
30°	3521	3409	3070
35°	3335	3150	2840
40°	3145	2871	2584
45°	2965	2654	2336
50°	2745	2463	2083
55°	2539	2232	1866
60°	2326	1993	1672
65°	2046	1746	1480
70°	1687	1530	1257
75°	1341	1171	1227
80°	902	843	787
85°	562	673	784

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 2965 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	73.1	4.7
10°-20°	200.7	13.0
20°-30°	277.8	18.0
30°-40°	296.2	19.2
40°-50°	270.2	17.5
50°-60°	211.7	13.7
60°-70°	138.0	8.9
70°-80°	61.1	4.0
80°-90°	13.1	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°	551.6	35.8
0°-40°	847.8	55.0
0°-60°	1329.8	86.2
0°-90°	1542.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1542.0	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	707	705	203
25°	626	622	612	590	574	287
35°	508	504	480	443	432	317
45°	390	381	349	320	307	300
55°	271	262	238	210	199	243
65°	161	152	137	140	116	158
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°	785.5	785.5	785.5	785.5	785.5
2.5°	780.0	780.0	780.0	779.1	779.1
5°	771.9	770.9	770.9	770.0	770.0
7.5°	765.5	764.6	763.7	762.8	761.0
10°	756.4	756.4	755.5	751.0	750.1
12.5°	741.9	741.0	737.3	731.0	729.2
15°	721.9	721.9	714.6	707.4	704.7
17.5°	700.1	699.2	690.1	682.9	679.2
20°	676.5	674.7	665.6	653.8	647.4
22.5°	650.2	650.2	639.3	623.8	617.5
25°	625.7	622.0	612.0	590.2	573.9
27.5°	597.5	592.1	581.2	550.3	531.2
30°	566.6	563.9	548.5	508.5	494.0
32.5°	537.6	533.0	516.7	474.9	463.1
35°	507.6	504.0	479.5	443.1	432.2
37.5°	477.6	473.1	442.2	413.2	399.5
40°	447.7	442.2	408.6	382.3	367.8
42.5°	419.5	412.3	379.6	351.4	335.1
45°	389.6	381.4	348.7	319.6	306.9
47.5°	359.6	352.3	322.4	292.4	277.9
50°	327.8	321.5	294.2	264.2	248.8
52.5°	301.5	291.5	265.2	235.2	222.5
55°	270.6	262.4	237.9	209.8	198.9
57.5°	242.5	234.3	211.6	185.2	176.2
60°	216.1	204.3	185.2	162.5	155.3
62.5°	187.1	178.0	161.6	142.6	151.6
65°	160.7	151.6	137.1	139.8	116.2
67.5°	131.7	127.1	114.4	101.7	98.1
70°	107.2	101.7	97.2	83.5	79.9
72.5°	85.4	79.9	73.6	66.3	63.6
75°	64.5	59.9	56.3	53.6	59.0
77.5°	44.5	42.7	40.0	37.2	36.3
80°	29.1	28.1	27.2	26.3	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°	5.4	5.4	6.4	7.3	8.2
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)