

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: P559559

Luminaire Tested: FSR-12-1-LD4-2STD-50-UNV-81-87-EDD

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P559559  
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-LD4-2STD-50-UNV-81-87-EDD  
Description: 1X1 FSR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .375 CLEAR PC ENVIRONMENTAL SI  
LENSES WITH, 80 CRI AND 5000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

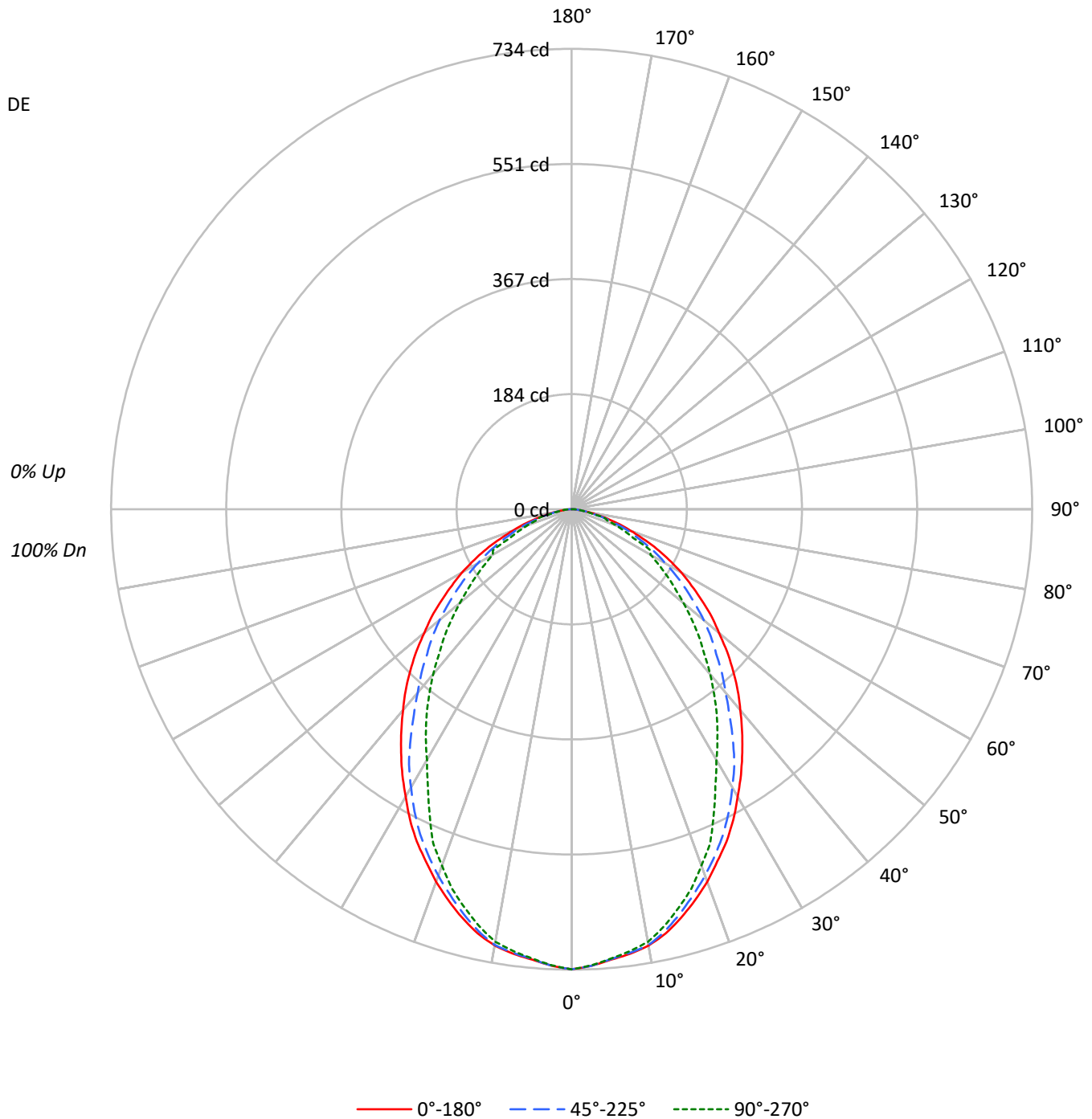
Lumens per Lamp: N/A  
Luminaire Lumens: 1440.0 lumens  
Efficiency: N/A  
Efficacy: 86.7 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 16.6  
Input Voltage (V):  
Input Current (Ain): NR  
Voltage 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	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°	7895	7895	7895
5°	7788	7779	7770
10°	7721	7711	7655
15°	7513	7437	7333
20°	7237	7120	6926
25°	6940	6788	6365
30°	6576	6366	5734
35°	6229	5883	5303
40°	5875	5362	4825
45°	5538	4956	4363
50°	5126	4602	3892
55°	4742	4170	3485
60°	4344	3724	3122
65°	3823	3260	2763
70°	3150	2854	2348
75°	2504	2188	2292
80°	1680	1574	1469
85°	1050	1260	1470

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 5538 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	68.3	4.7
10°-20°	187.4	13.0
20°-30°	259.4	18.0
30°-40°	276.6	19.2
40°-50°	252.4	17.5
50°-60°	197.7	13.7
60°-70°	128.8	8.9
70°-80°	57.1	4.0
80°-90°	12.3	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°	515.1	35.8
0°-40°	791.7	55.0
0°-60°	1241.8	86.2
0°-90°	1440.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1440.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	734	734	734	734	734	
5°	721	720	720	719	719	68
15°	674	674	667	661	658	190
25°	584	581	572	551	536	268
35°	474	471	448	414	404	296
45°	364	356	326	298	287	280
55°	253	245	222	196	186	227
65°	150	142	128	131	108	148
75°	60	56	53	50	55	65
85°	8	9	10	11	12	12
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	733.5	733.5	733.5	733.5	733.5
2.5°	728.4	728.4	728.4	727.6	727.6
5°	720.8	719.9	719.9	719.1	719.1
7.5°	714.9	714.0	713.2	712.3	710.6
10°	706.4	706.4	705.5	701.3	700.4
12.5°	692.8	692.0	688.6	682.6	680.9
15°	674.2	674.2	667.4	660.6	658.0
17.5°	653.8	653.0	644.5	637.7	634.3
20°	631.8	630.1	621.6	610.6	604.6
22.5°	607.2	607.2	597.0	582.6	576.6
25°	584.3	580.9	571.5	551.2	535.9
27.5°	558.0	552.9	542.7	513.9	496.1
30°	529.1	526.6	512.2	474.9	461.3
32.5°	502.0	497.8	482.5	443.5	432.5
35°	474.0	470.6	447.7	413.8	403.6
37.5°	446.0	441.8	413.0	385.8	373.1
40°	418.1	413.0	381.6	357.0	343.4
42.5°	391.8	385.0	354.5	328.2	312.9
45°	363.8	356.2	325.6	298.5	286.6
47.5°	335.8	329.0	301.0	273.1	259.5
50°	306.1	300.2	274.8	246.8	232.4
52.5°	281.5	272.2	247.6	219.6	207.8
55°	252.7	245.1	222.2	195.9	185.7
57.5°	226.4	218.8	197.6	173.0	164.5
60°	201.8	190.8	173.0	151.8	145.0
62.5°	174.7	166.2	150.9	133.1	141.6
65°	150.1	141.6	128.0	130.6	108.5
67.5°	123.0	118.7	106.8	95.0	91.6
70°	100.1	95.0	90.7	78.0	74.6
72.5°	79.7	74.6	68.7	61.9	59.4
75°	60.2	56.0	52.6	50.0	55.1
77.5°	41.6	39.9	37.3	34.8	33.9
80°	27.1	26.3	25.4	24.6	23.7
82.5°	16.1	16.1	16.1	16.1	16.1
85°	8.5	9.3	10.2	11.0	11.9
87.5°	5.1	5.1	5.9	6.8	7.6
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)