

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: P559190

Luminaire Tested: FSR-12-1-LD4-2HI-50-UNV-82-87-EDD-90

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P559190  
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-50-UNV-82-87-EDD-90  
Description: 1X1 FSR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .375 CLEAR PC ENVIRONMENTAL SI  
LENSES WITH, 90 CRI AND 5000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

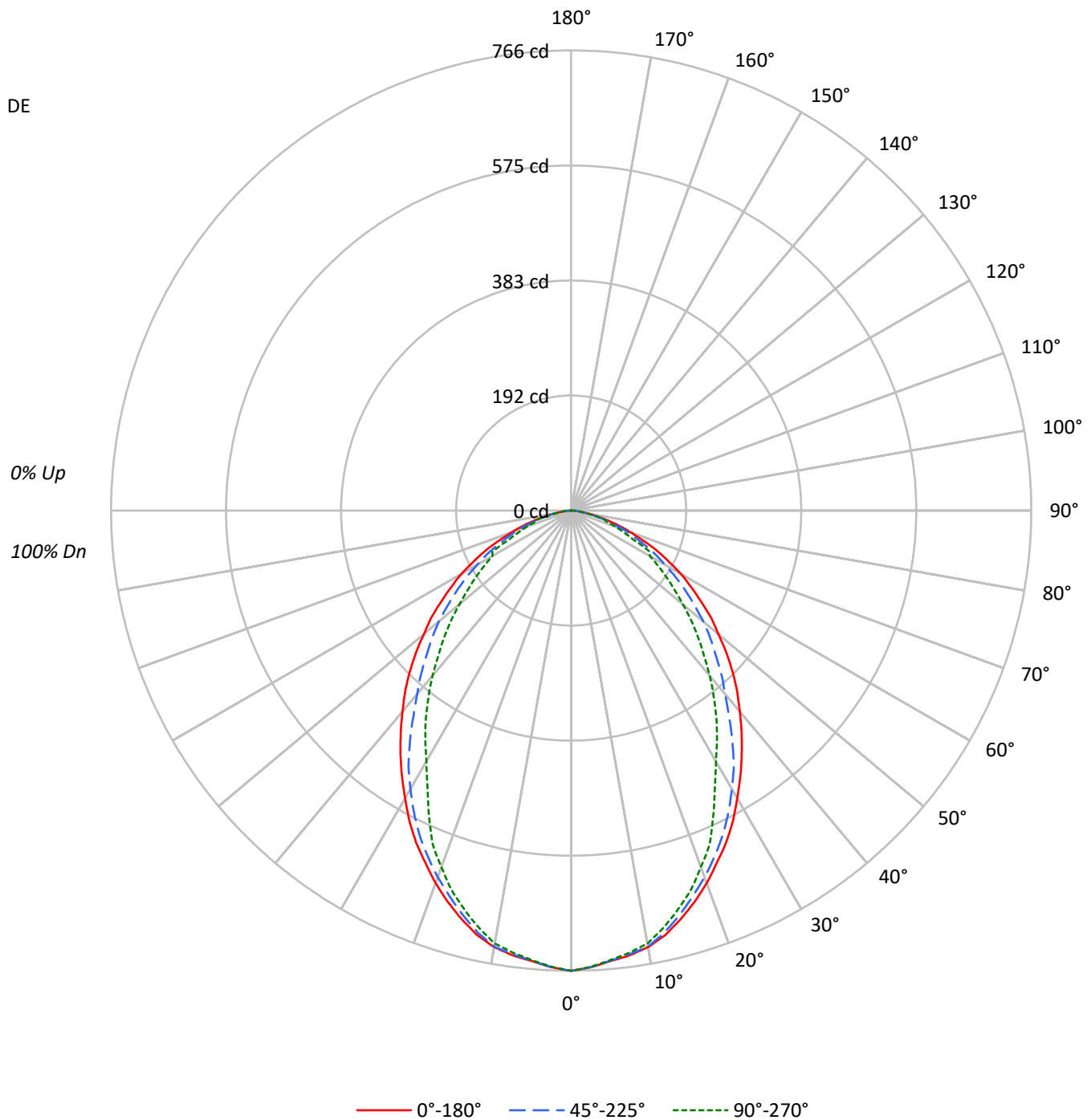
Lumens per Lamp: N/A  
Luminaire Lumens: 1504.0 lumens  
Efficiency: N/A  
Efficacy: 69.6 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 21.6  
Input Voltage (V):  
Input Current (Ain): NR  
Voltage 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	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°	8246	8246	8246
5°	8134	8124	8116
10°	8064	8054	7996
15°	7846	7767	7659
20°	7558	7436	7234
25°	7247	7090	6649
30°	6870	6650	5988
35°	6506	6144	5540
40°	6135	5601	5040
45°	5785	5177	4558
50°	5354	4806	4064
55°	4952	4354	3641
60°	4538	3890	3261
65°	3994	3405	2888
70°	3289	2984	2452
75°	2616	2283	2396
80°	1754	1649	1537
85°	1099	1309	1531

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 5785 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	71.3	4.7
10°-20°	195.7	13.0
20°-30°	271.0	18.0
30°-40°	288.9	19.2
40°-50°	263.6	17.5
50°-60°	206.5	13.7
60°-70°	134.6	8.9
70°-80°	59.6	4.0
80°-90°	12.8	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°	538.0	35.8
0°-40°	826.9	55.0
0°-60°	1297.0	86.2
0°-90°	1504.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1504.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	766	766	766	766	766	
5°	753	752	752	751	751	71
15°	704	704	697	690	687	198
25°	610	607	597	576	560	280
35°	495	492	468	432	422	310
45°	380	372	340	312	299	293
55°	264	256	232	205	194	237
65°	157	148	134	136	113	155
75°	63	58	55	52	58	67
85°	9	10	11	12	12	12
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	766.1	766.1	766.1	766.1	766.1
2.5°	760.8	760.8	760.8	759.9	759.9
5°	752.8	751.9	751.9	751.1	751.1
7.5°	746.6	745.7	744.9	744.0	742.2
10°	737.8	737.8	736.9	732.5	731.6
12.5°	723.6	722.7	719.2	713.0	711.2
15°	704.1	704.1	697.0	689.9	687.3
17.5°	682.9	682.0	673.1	666.0	662.5
20°	659.8	658.1	649.2	637.7	631.5
22.5°	634.2	634.2	623.5	608.5	602.3
25°	610.2	606.7	597.0	575.7	559.8
27.5°	582.8	577.5	566.8	536.7	518.1
30°	552.7	550.0	535.0	496.0	481.8
32.5°	524.3	519.9	504.0	463.2	451.7
35°	495.1	491.6	467.6	432.2	421.6
37.5°	465.9	461.4	431.3	403.0	389.7
40°	436.6	431.3	398.6	372.9	358.7
42.5°	409.2	402.1	370.2	342.8	326.8
45°	380.0	372.0	340.1	311.8	299.4
47.5°	350.7	343.6	314.4	285.2	271.0
50°	319.7	313.5	287.0	257.7	242.7
52.5°	294.0	284.3	258.6	229.4	217.0
55°	263.9	256.0	232.0	204.6	194.0
57.5°	236.5	228.5	206.4	180.7	171.8
60°	210.8	199.3	180.7	158.5	151.5
62.5°	182.5	173.6	157.7	139.1	147.9
65°	156.8	147.9	133.7	136.4	113.4
67.5°	128.4	124.0	111.6	99.2	95.7
70°	104.5	99.2	94.8	81.5	77.9
72.5°	83.3	77.9	71.7	64.7	62.0
75°	62.9	58.5	54.9	52.3	57.6
77.5°	43.4	41.6	39.0	36.3	35.4
80°	28.3	27.5	26.6	25.7	24.8
82.5°	16.8	16.8	16.8	16.8	16.8
85°	8.9	9.7	10.6	11.5	12.4
87.5°	5.3	5.3	6.2	7.1	8.0
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)