

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: P559492

Luminaire Tested: FSR-12-1-LD4-2STD-40-UNV-81-86-EDD-90

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P559492  
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-40-UNV-81-86-EDD-90  
Description: 1X1 FSR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .250 CLEAR PC ENVIRONMENTAL SI  
LENSES WITH, 90 CRI AND 4000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

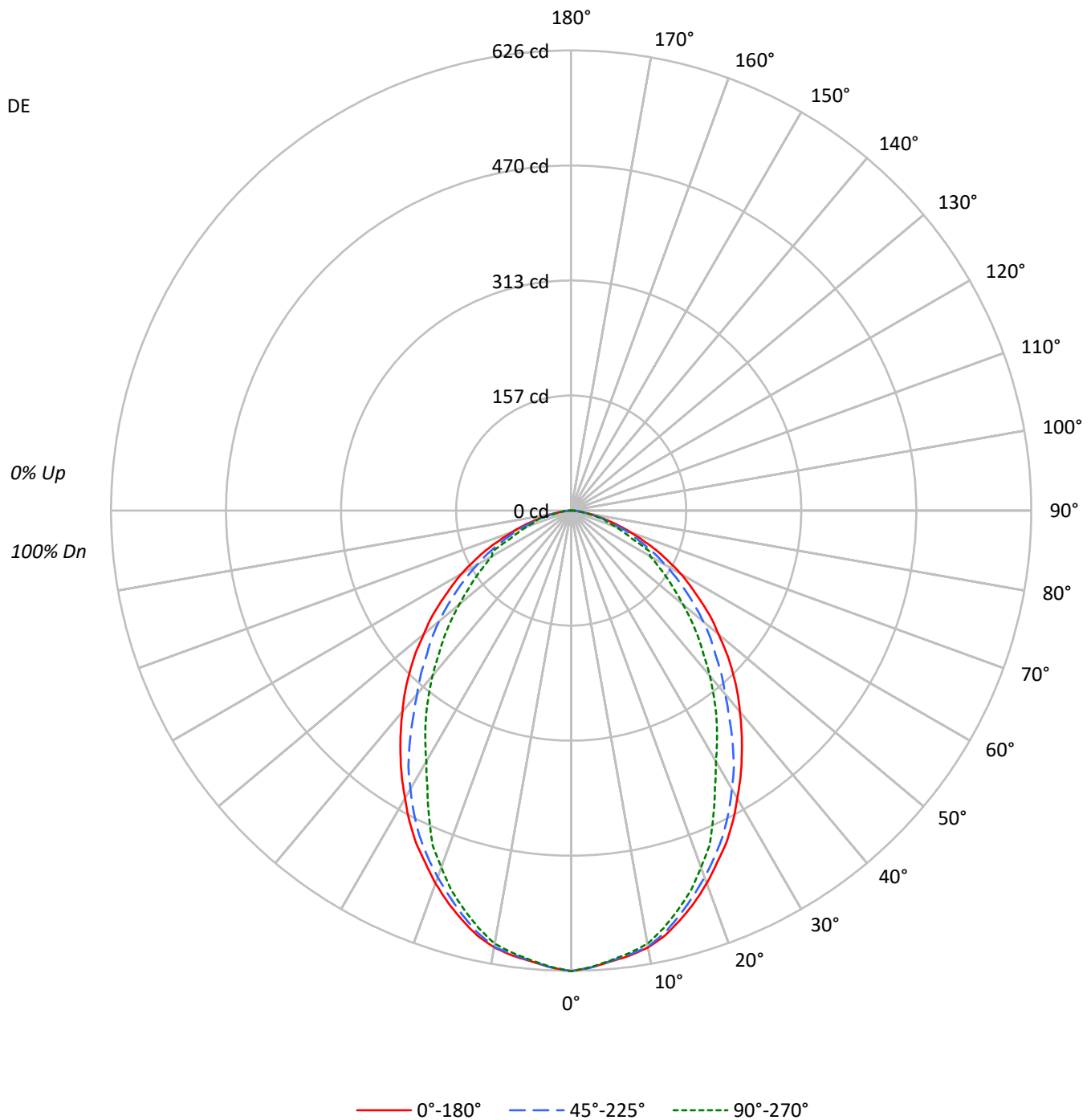
Lumens per Lamp: N/A  
Luminaire Lumens: 1230.0 lumens  
Efficiency: N/A  
Efficacy: 74.1 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 16.6  
Input Voltage (V):  
Input Current (Ain): NR  
Voltage 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																		
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°	6744	6744	6744
5°	6653	6645	6636
10°	6595	6586	6539
15°	6416	6352	6264
20°	6181	6081	5915
25°	5928	5798	5437
30°	5618	5438	4897
35°	5321	5025	4531
40°	5018	4579	4123
45°	4730	4233	3726
50°	4379	3930	3324
55°	4052	3562	2976
60°	3711	3182	2667
65°	3265	2786	2361
70°	2691	2439	2005
75°	2138	1867	1959
80°	1438	1345	1258
85°	889	1074	1247

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 4730 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	58.3	4.7
10°-20°	160.1	13.0
20°-30°	221.6	18.0
30°-40°	236.3	19.2
40°-50°	215.5	17.5
50°-60°	168.9	13.7
60°-70°	110.1	8.9
70°-80°	48.8	4.0
80°-90°	10.5	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°	440.0	35.8
0°-40°	676.3	55.0
0°-60°	1060.7	86.2
0°-90°	1230.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1230.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	626	626	626	626	626	
5°	616	615	615	614	614	58
15°	576	576	570	564	562	162
25°	499	496	488	471	458	229
35°	405	402	382	354	345	253
45°	311	304	278	255	245	239
55°	216	209	190	167	159	194
65°	128	121	109	112	93	126
75°	51	48	45	43	47	55
85°	7	8	9	9	10	10
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	626.5	626.5	626.5	626.5	626.5
2.5°	622.2	622.2	622.2	621.5	621.5
5°	615.7	615.0	615.0	614.2	614.2
7.5°	610.6	609.9	609.2	608.4	607.0
10°	603.4	603.4	602.6	599.0	598.3
12.5°	591.8	591.1	588.2	583.1	581.6
15°	575.8	575.8	570.0	564.3	562.1
17.5°	558.5	557.7	550.5	544.7	541.8
20°	539.6	538.2	530.9	521.5	516.4
22.5°	518.6	518.6	509.9	497.6	492.5
25°	499.1	496.2	488.2	470.8	457.8
27.5°	476.6	472.3	463.6	438.9	423.7
30°	452.0	449.8	437.5	405.6	394.0
32.5°	428.8	425.2	412.1	378.8	369.4
35°	404.9	402.0	382.4	353.5	344.8
37.5°	381.0	377.4	352.7	329.6	318.7
40°	357.1	352.7	325.9	304.9	293.4
42.5°	334.6	328.8	302.8	280.3	267.3
45°	310.7	304.2	278.1	255.0	244.8
47.5°	286.8	281.0	257.1	233.2	221.6
50°	261.5	256.4	234.7	210.8	198.5
52.5°	240.5	232.5	211.5	187.6	177.5
55°	215.9	209.3	189.8	167.3	158.6
57.5°	193.4	186.9	168.8	147.8	140.5
60°	172.4	163.0	147.8	129.7	123.9
62.5°	149.2	142.0	128.9	113.7	121.0
65°	128.2	121.0	109.4	111.5	92.7
67.5°	105.0	101.4	91.3	81.1	78.2
70°	85.5	81.1	77.5	66.6	63.7
72.5°	68.1	63.7	58.7	52.9	50.7
75°	51.4	47.8	44.9	42.7	47.1
77.5°	35.5	34.0	31.9	29.7	29.0
80°	23.2	22.5	21.7	21.0	20.3
82.5°	13.8	13.8	13.8	13.8	13.8
85°	7.2	8.0	8.7	9.4	10.1
87.5°	4.3	4.3	5.1	5.8	6.5
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)