

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: P559980

Luminaire Tested: FSR-12-2-LD4-1LO-50-UNV-93-96-EDD-90

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P559980  
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-LD4-1LO-50-UNV-93-96-EDD-90  
Description: 1X2 FSR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .250 CLEAR TEMPER GLASS ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 5000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

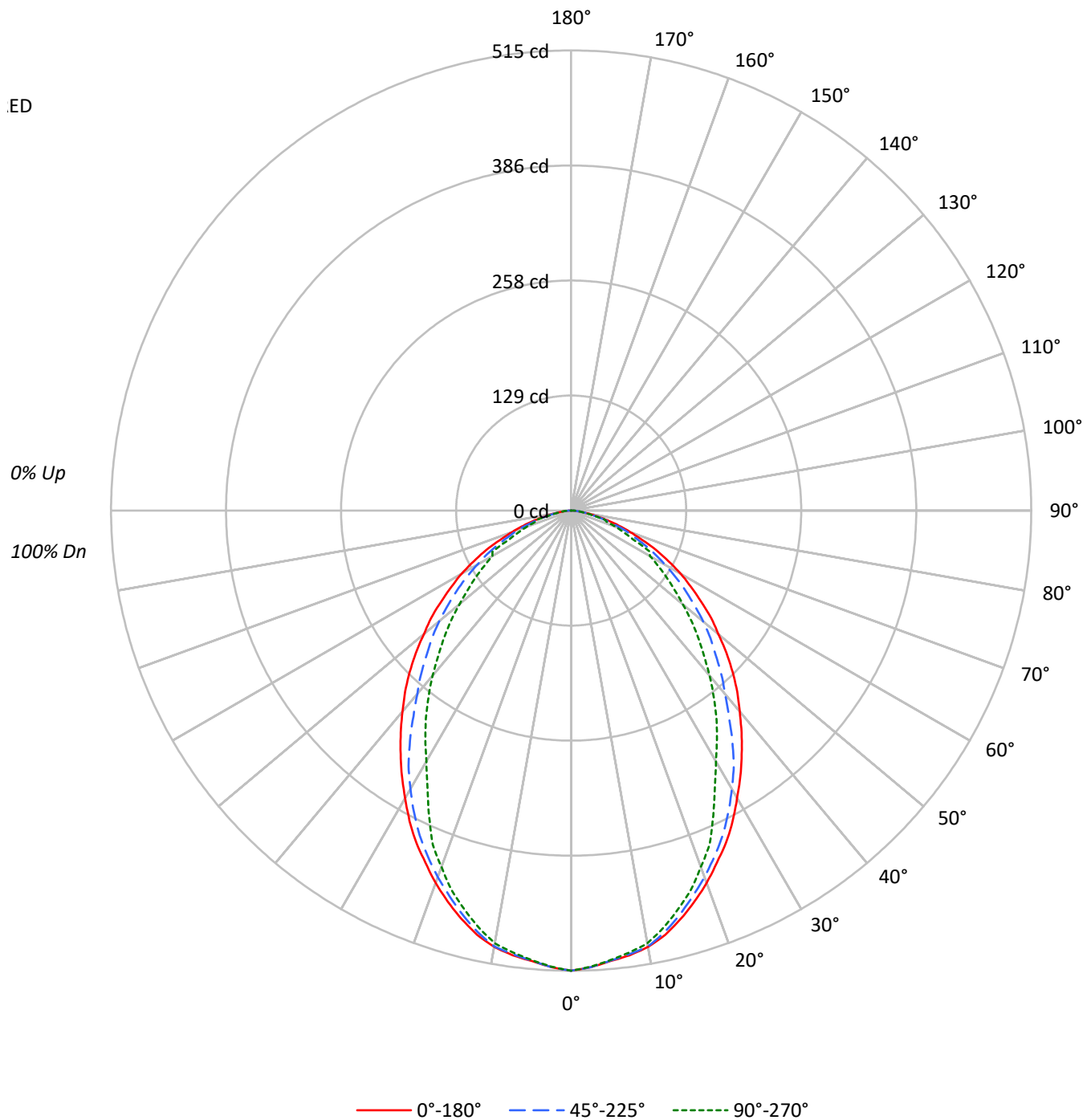
Lumens per Lamp: N/A  
Luminaire Lumens: 1011.0 lumens  
Efficiency: N/A  
Efficacy: 86.4 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 1' x L: 2' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 11.7  
Input Voltage (V):  
Input Current (Ain): NR  
Voltage 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°	2772	2772	2772
5°	2734	2731	2728
10°	2710	2707	2688
15°	2637	2611	2574
20°	2540	2499	2431
25°	2436	2383	2235
30°	2309	2235	2013
35°	2187	2066	1862
40°	2062	1882	1694
45°	1944	1740	1531
50°	1799	1615	1366
55°	1665	1464	1224
60°	1525	1308	1096
65°	1342	1145	970
70°	1106	1002	825
75°	880	767	805
80°	592	555	518
85°	371	438	513

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 1944 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	47.9	4.7
10°-20°	131.6	13.0
20°-30°	182.1	18.0
30°-40°	194.2	19.2
40°-50°	177.2	17.5
50°-60°	138.8	13.7
60°-70°	90.5	8.9
70°-80°	40.1	4.0
80°-90°	8.6	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°	361.6	35.8
0°-40°	555.9	55.0
0°-60°	871.9	86.2
0°-90°	1011.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1011.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	515	515	515	515	515	
5°	506	506	506	505	505	48
15°	473	473	469	464	462	133
25°	410	408	401	387	376	188
35°	333	330	314	290	283	208
45°	255	250	229	210	201	197
55°	177	172	156	138	130	159
65°	105	99	90	92	76	104
75°	42	39	37	35	39	45
85°	6	6	7	8	8	8
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	515.0	515.0	515.0	515.0	515.0
2.5°	511.4	511.4	511.4	510.8	510.8
5°	506.1	505.5	505.5	504.9	504.9
7.5°	501.9	501.3	500.7	500.1	498.9
10°	495.9	495.9	495.3	492.4	491.8
12.5°	486.4	485.8	483.4	479.3	478.1
15°	473.3	473.3	468.6	463.8	462.0
17.5°	459.0	458.4	452.5	447.7	445.3
20°	443.5	442.4	436.4	428.7	424.5
22.5°	426.3	426.3	419.1	409.0	404.8
25°	410.2	407.8	401.3	387.0	376.3
27.5°	391.7	388.2	381.0	360.8	348.3
30°	371.5	369.7	359.6	333.4	323.9
32.5°	352.5	349.5	338.8	311.4	303.6
35°	332.8	330.4	314.4	290.5	283.4
37.5°	313.2	310.2	289.9	270.9	262.0
40°	293.5	289.9	267.9	250.6	241.1
42.5°	275.1	270.3	248.9	230.4	219.7
45°	255.4	250.1	228.6	209.6	201.2
47.5°	235.8	231.0	211.4	191.7	182.2
50°	214.9	210.8	192.9	173.3	163.1
52.5°	197.7	191.1	173.8	154.2	145.9
55°	177.4	172.1	156.0	137.5	130.4
57.5°	159.0	153.6	138.7	121.5	115.5
60°	141.7	134.0	121.5	106.6	101.8
62.5°	122.6	116.7	106.0	93.5	99.4
65°	105.4	99.4	89.9	91.7	76.2
67.5°	86.3	83.4	75.0	66.7	64.3
70°	70.3	66.7	63.7	54.8	52.4
72.5°	56.0	52.4	48.2	43.5	41.7
75°	42.3	39.3	36.9	35.1	38.7
77.5°	29.2	28.0	26.2	24.4	23.8
80°	19.1	18.5	17.9	17.3	16.7
82.5°	11.3	11.3	11.3	11.3	11.3
85°	6.0	6.5	7.1	7.7	8.3
87.5°	3.6	3.6	4.2	4.8	5.4
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)