

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: P563189

Luminaire Tested: FSR-24-4-LD4-3HI-50-UNV-80-86-EDD

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P563189  
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-24-4-LD4-3HI-50-UNV-80-86-EDD  
Description: 2X4 FSR TROFFER WITH .125 PRISMATIC ACRYLIC FIXTURE SIDE AND .250 CLEAR PC ENVIRON  
SIDE LENSES WITH, 80 CRI AND 5000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

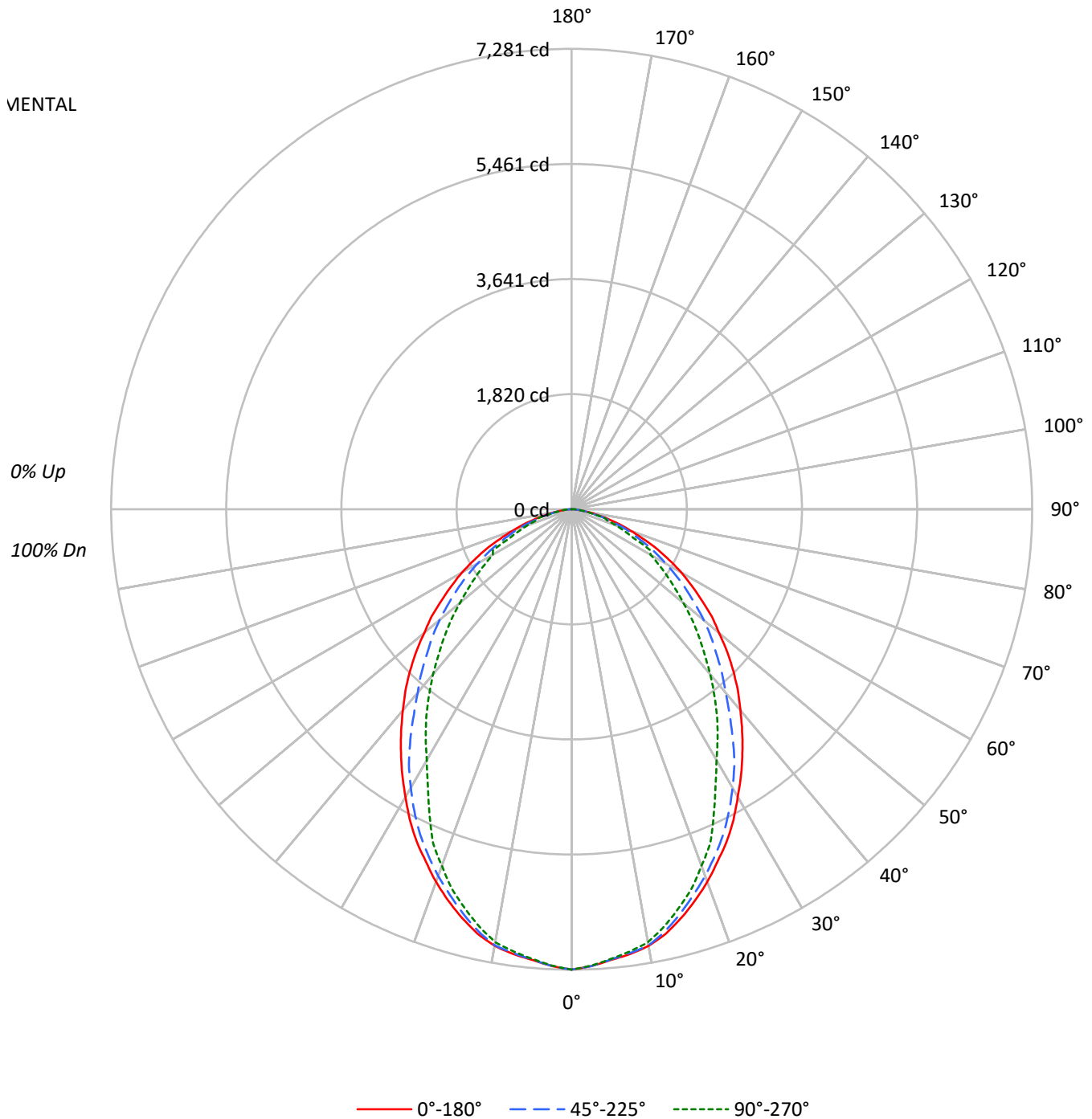
Lumens per Lamp: N/A  
Luminaire Lumens: 14293.0 lumens  
Efficiency: N/A  
Efficacy: 110.3 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 129.6  
Input Voltage (V):  
Input Current (Ain): NR  
Voltage 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	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°	9796	9796	9796
5°	9663	9652	9640
10°	9579	9568	9499
15°	9321	9227	9098
20°	8978	8834	8593
25°	8610	8422	7897
30°	8160	7898	7114
35°	7728	7300	6581
40°	7288	6653	5987
45°	6871	6150	5413
50°	6360	5708	4827
55°	5884	5173	4324
60°	5391	4621	3873
65°	4743	4046	3430
70°	3907	3543	2914
75°	3107	2713	2844
80°	2087	1956	1826
85°	1300	1559	1819

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 6871 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	677.7	4.7
10°-20°	1860.0	13.0
20°-30°	2575.0	18.0
30°-40°	2745.7	19.2
40°-50°	2504.9	17.5
50°-60°	1962.4	13.7
60°-70°	1279.0	8.9
70°-80°	566.6	4.0
80°-90°	121.6	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°	5112.7	35.8
0°-40°	7858.4	55.0
0°-60°	12325.7	86.2
0°-90°	14293.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	14293.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	7281	7281	7281	7281	7281	
5°	7154	7146	7146	7138	7138	679
15°	6692	6692	6624	6557	6532	1881
25°	5799	5766	5673	5471	5320	2662
35°	4705	4671	4444	4108	4006	2942
45°	3611	3535	3232	2963	2845	2781
55°	2508	2432	2205	1944	1843	2250
65°	1490	1406	1271	1296	1077	1468
75°	598	556	522	497	547	640
85°	84	93	101	109	118	117
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	7280.7	7280.7	7280.7	7280.7	7280.7
2.5°	7230.2	7230.2	7230.2	7221.7	7221.7
5°	7154.4	7146.0	7146.0	7137.6	7137.6
7.5°	7095.5	7087.1	7078.7	7070.2	7053.4
10°	7011.3	7011.3	7002.9	6960.8	6952.4
12.5°	6876.6	6868.2	6834.6	6775.6	6758.8
15°	6691.5	6691.5	6624.1	6556.8	6531.6
17.5°	6489.5	6481.1	6396.9	6329.5	6295.9
20°	6270.6	6253.8	6169.6	6060.2	6001.3
22.5°	6026.5	6026.5	5925.5	5782.4	5723.5
25°	5799.3	5765.6	5673.0	5471.0	5319.5
27.5°	5538.4	5487.9	5386.8	5100.7	4923.9
30°	5252.2	5226.9	5083.8	4713.5	4578.8
32.5°	4982.8	4940.8	4789.2	4402.1	4292.6
35°	4705.1	4671.4	4444.2	4107.5	4006.5
37.5°	4427.3	4385.2	4099.1	3829.7	3703.5
40°	4149.6	4099.1	3787.6	3543.5	3408.9
42.5°	3888.6	3821.3	3518.3	3257.4	3105.9
45°	3610.9	3535.1	3232.1	2962.8	2844.9
47.5°	3333.1	3265.8	2988.0	2710.3	2575.6
50°	3038.5	2979.6	2727.1	2449.3	2306.2
52.5°	2794.4	2701.8	2457.7	2180.0	2062.2
55°	2508.3	2432.5	2205.2	1944.3	1843.3
57.5°	2247.3	2171.6	1961.1	1717.1	1632.9
60°	2003.2	1893.8	1717.1	1506.6	1439.3
62.5°	1733.9	1649.7	1498.2	1321.5	1405.6
65°	1489.8	1405.6	1271.0	1296.2	1077.4
67.5°	1220.5	1178.4	1060.5	942.7	909.0
70°	993.2	942.7	900.6	774.4	740.7
72.5°	791.2	740.7	681.8	614.4	589.2
75°	597.6	555.5	521.9	496.6	547.1
77.5°	412.4	395.6	370.3	345.1	336.7
80°	269.3	260.9	252.5	244.1	235.7
82.5°	159.9	159.9	159.9	159.9	159.9
85°	84.2	92.6	101.0	109.4	117.8
87.5°	50.5	50.5	58.9	67.3	75.8
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)