

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: P563188

Luminaire Tested: FSR-24-4-LD4-3HI-50-UNV-80-86-EDD-90

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P563188  
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-90  
Description: 2X4 FSR TROFFER WITH .125 PRISMATIC ACRYLIC FIXTURE SIDE AND .250 CLEAR PC ENVIRONM  
SIDE LENSES WITH, 90 CRI AND 5000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

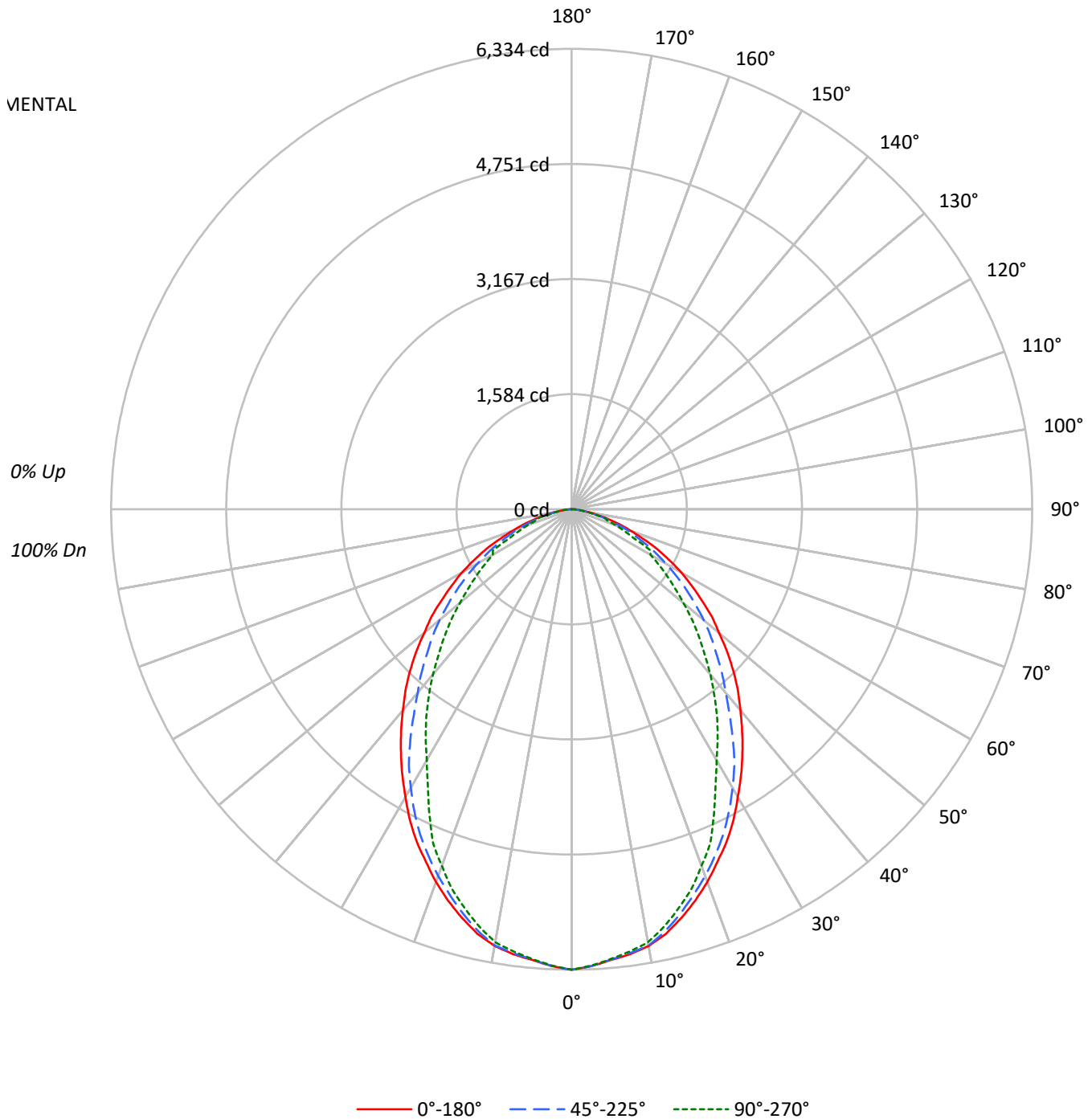
Lumens per Lamp: N/A  
Luminaire Lumens: 12435.0 lumens  
Efficiency: N/A  
Efficacy: 95.9 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 129.6  
Input Voltage (V):  
Input Current (Ain): NR  
Voltage 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	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°	8523	8523	8523
5°	8407	8397	8387
10°	8334	8324	8264
15°	8109	8028	7915
20°	7811	7686	7476
25°	7490	7327	6871
30°	7099	6872	6189
35°	6724	6351	5725
40°	6341	5788	5209
45°	5978	5351	4710
50°	5533	4966	4200
55°	5119	4501	3762
60°	4690	4020	3370
65°	4126	3520	2984
70°	3399	3082	2535
75°	2703	2360	2475
80°	1815	1702	1588
85°	1130	1357	1582

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 5978 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	589.6	4.7
10°-20°	1618.2	13.0
20°-30°	2240.3	18.0
30°-40°	2388.8	19.2
40°-50°	2179.3	17.5
50°-60°	1707.3	13.7
60°-70°	1112.7	8.9
70°-80°	493.0	4.0
80°-90°	105.8	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°	4448.1	35.8
0°-40°	6836.9	55.0
0°-60°	10723.5	86.2
0°-90°	12435.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	12435.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	6334	6334	6334	6334	6334	
5°	6224	6217	6217	6210	6210	591
15°	5822	5822	5763	5704	5682	1637
25°	5045	5016	4936	4760	4628	2316
35°	4093	4064	3866	3574	3486	2559
45°	3142	3076	2812	2578	2475	2420
55°	2182	2116	1919	1692	1604	1957
65°	1296	1223	1106	1128	937	1277
75°	520	483	454	432	476	557
85°	73	81	88	95	102	102
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	6334.2	6334.2	6334.2	6334.2	6334.2
2.5°	6290.3	6290.3	6290.3	6283.0	6283.0
5°	6224.4	6217.1	6217.1	6209.7	6209.7
7.5°	6173.1	6165.8	6158.5	6151.2	6136.5
10°	6099.9	6099.9	6092.6	6056.0	6048.6
12.5°	5982.7	5975.4	5946.1	5894.9	5880.2
15°	5821.6	5821.6	5763.0	5704.5	5682.5
17.5°	5645.9	5638.6	5565.3	5506.7	5477.5
20°	5455.5	5440.8	5367.6	5272.4	5221.2
22.5°	5243.1	5243.1	5155.3	5030.8	4979.5
25°	5045.4	5016.1	4935.6	4759.8	4628.0
27.5°	4818.4	4774.5	4686.6	4437.6	4283.8
30°	4569.4	4547.5	4423.0	4100.8	3983.6
32.5°	4335.1	4298.5	4166.7	3829.8	3734.6
35°	4093.4	4064.2	3866.4	3573.5	3485.7
37.5°	3851.8	3815.2	3566.2	3331.9	3222.0
40°	3610.1	3566.2	3295.3	3082.9	2965.7
42.5°	3383.1	3324.6	3060.9	2833.9	2702.1
45°	3141.5	3075.6	2812.0	2577.6	2475.1
47.5°	2899.8	2841.2	2599.6	2357.9	2240.8
50°	2643.5	2592.3	2372.6	2130.9	2006.4
52.5°	2431.2	2350.6	2138.3	1896.6	1794.1
55°	2182.2	2116.3	1918.6	1691.6	1603.7
57.5°	1955.2	1889.3	1706.2	1493.9	1420.6
60°	1742.8	1647.6	1493.9	1310.8	1252.2
62.5°	1508.5	1435.3	1303.5	1149.7	1222.9
65°	1296.1	1222.9	1105.7	1127.7	937.3
67.5°	1061.8	1025.2	922.7	820.2	790.9
70°	864.1	820.2	783.5	673.7	644.4
72.5°	688.3	644.4	593.1	534.6	512.6
75°	519.9	483.3	454.0	432.0	476.0
77.5°	358.8	344.2	322.2	300.2	292.9
80°	234.3	227.0	219.7	212.4	205.0
82.5°	139.1	139.1	139.1	139.1	139.1
85°	73.2	80.6	87.9	95.2	102.5
87.5°	43.9	43.9	51.3	58.6	65.9
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)