

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: P563774

Luminaire Tested: FSR-24-4-LD4-4HI-50-UNV-80-97-EDD-90

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P563774  
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-LD4-4HI-50-UNV-80-97-EDD-90  
Description: 2X4 FSR TROFFER WITH .125 PRISMATIC ACRYLIC FIXTURE SIDE AND .375 CLEAR TEMPERED G ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 5000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

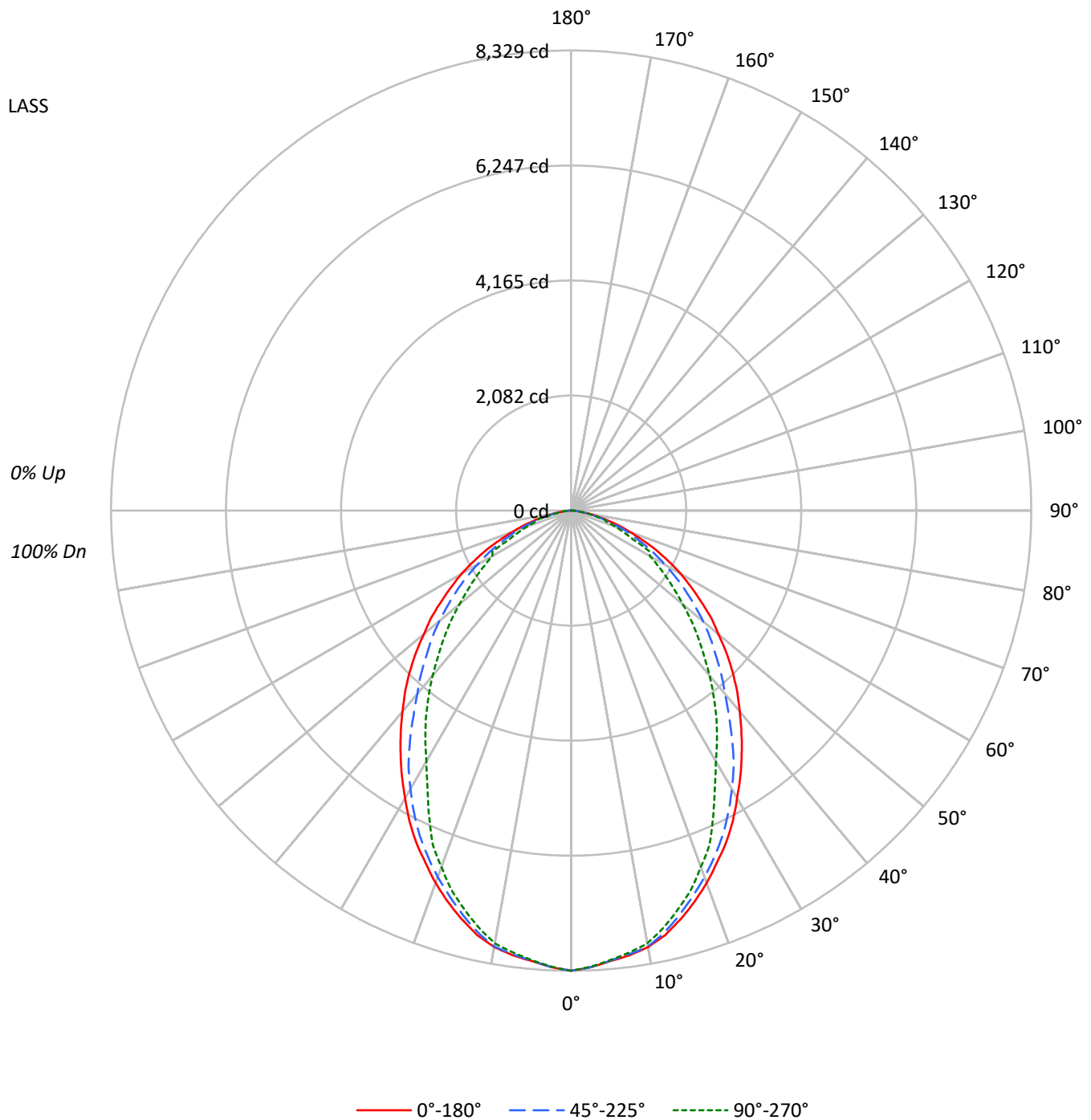
Lumens per Lamp: N/A  
Luminaire Lumens: 16351.0 lumens  
Efficiency: N/A  
Efficacy: 94.6 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 172.8  
Input Voltage (V):  
Input Current (Ain): NR  
Voltage 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°	11207	11207	11207
5°	11054	11041	11028
10°	10959	10945	10866
15°	10663	10556	10408
20°	10271	10106	9830
25°	9849	9635	9034
30°	9335	9036	8138
35°	8841	8351	7528
40°	8338	7611	6849
45°	7860	7036	6193
50°	7276	6530	5523
55°	6731	5918	4947
60°	6167	5286	4431
65°	5426	4629	3924
70°	4470	4053	3333
75°	3554	3104	3254
80°	2387	2239	2089
85°	1487	1783	2081

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 7860 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	775.3	4.7
10°-20°	2127.8	13.0
20°-30°	2945.8	18.0
30°-40°	3141.1	19.2
40°-50°	2865.6	17.5
50°-60°	2244.9	13.7
60°-70°	1463.1	8.9
70°-80°	648.2	4.0
80°-90°	139.2	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°	5848.9	35.8
0°-40°	8989.9	55.0
0°-60°	14100.5	86.2
0°-90°	16351.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	16351.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	8329	8329	8329	8329	8329	
5°	8184	8175	8175	8165	8165	777
15°	7655	7655	7578	7501	7472	2152
25°	6634	6596	6490	6259	6086	3046
35°	5382	5344	5084	4699	4583	3365
45°	4131	4044	3698	3389	3255	3182
55°	2869	2783	2523	2224	2109	2574
65°	1704	1608	1454	1483	1232	1680
75°	684	636	597	568	626	733
85°	96	106	116	125	135	134
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	8329.0	8329.0	8329.0	8329.0	8329.0
2.5°	8271.2	8271.2	8271.2	8261.6	8261.6
5°	8184.5	8174.9	8174.9	8165.3	8165.3
7.5°	8117.1	8107.5	8097.9	8088.3	8069.0
10°	8020.9	8020.9	8011.2	7963.1	7953.5
12.5°	7866.8	7857.2	7818.7	7751.2	7732.0
15°	7655.0	7655.0	7577.9	7500.9	7472.0
17.5°	7423.9	7414.2	7317.9	7240.9	7202.4
20°	7173.5	7154.3	7058.0	6932.8	6865.4
22.5°	6894.3	6894.3	6778.7	6615.0	6547.6
25°	6634.3	6595.8	6489.9	6258.8	6085.5
27.5°	6335.8	6278.0	6162.5	5835.1	5632.9
30°	6008.4	5979.5	5815.8	5392.2	5238.1
32.5°	5700.3	5652.2	5478.8	5035.9	4910.7
35°	5382.5	5344.0	5084.0	4698.9	4583.3
37.5°	5064.8	5016.6	4689.3	4381.1	4236.7
40°	4747.0	4689.3	4333.0	4053.8	3899.7
42.5°	4448.5	4371.5	4024.9	3726.4	3553.1
45°	4130.8	4044.1	3697.5	3389.4	3254.6
47.5°	3813.0	3736.0	3418.3	3100.5	2946.4
50°	3476.0	3408.6	3119.8	2802.0	2638.3
52.5°	3196.8	3090.9	2811.6	2493.9	2359.1
55°	2869.4	2782.7	2522.8	2224.3	2108.7
57.5°	2570.9	2484.3	2243.5	1964.3	1868.0
60°	2291.7	2166.5	1964.3	1723.6	1646.5
62.5°	1983.5	1887.3	1713.9	1511.7	1608.0
65°	1704.3	1608.0	1454.0	1482.8	1232.5
67.5°	1396.2	1348.0	1213.2	1078.4	1039.9
70°	1136.2	1078.4	1030.3	885.9	847.3
72.5°	905.1	847.3	779.9	702.9	674.0
75°	683.7	635.5	597.0	568.1	625.9
77.5°	471.8	452.6	423.7	394.8	385.2
80°	308.1	298.5	288.9	279.2	269.6
82.5°	182.9	182.9	182.9	182.9	182.9
85°	96.3	105.9	115.5	125.2	134.8
87.5°	57.8	57.8	67.4	77.0	86.7
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)