

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: P563164

Luminaire Tested: FSR-24-4-LD4-3HI-40-UNV-82-96-EDD-90

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P563164  
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-40-UNV-82-96-EDD-90  
Description: 2X4 FSR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .250 CLEAR TEMPERED GLASS ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 4000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

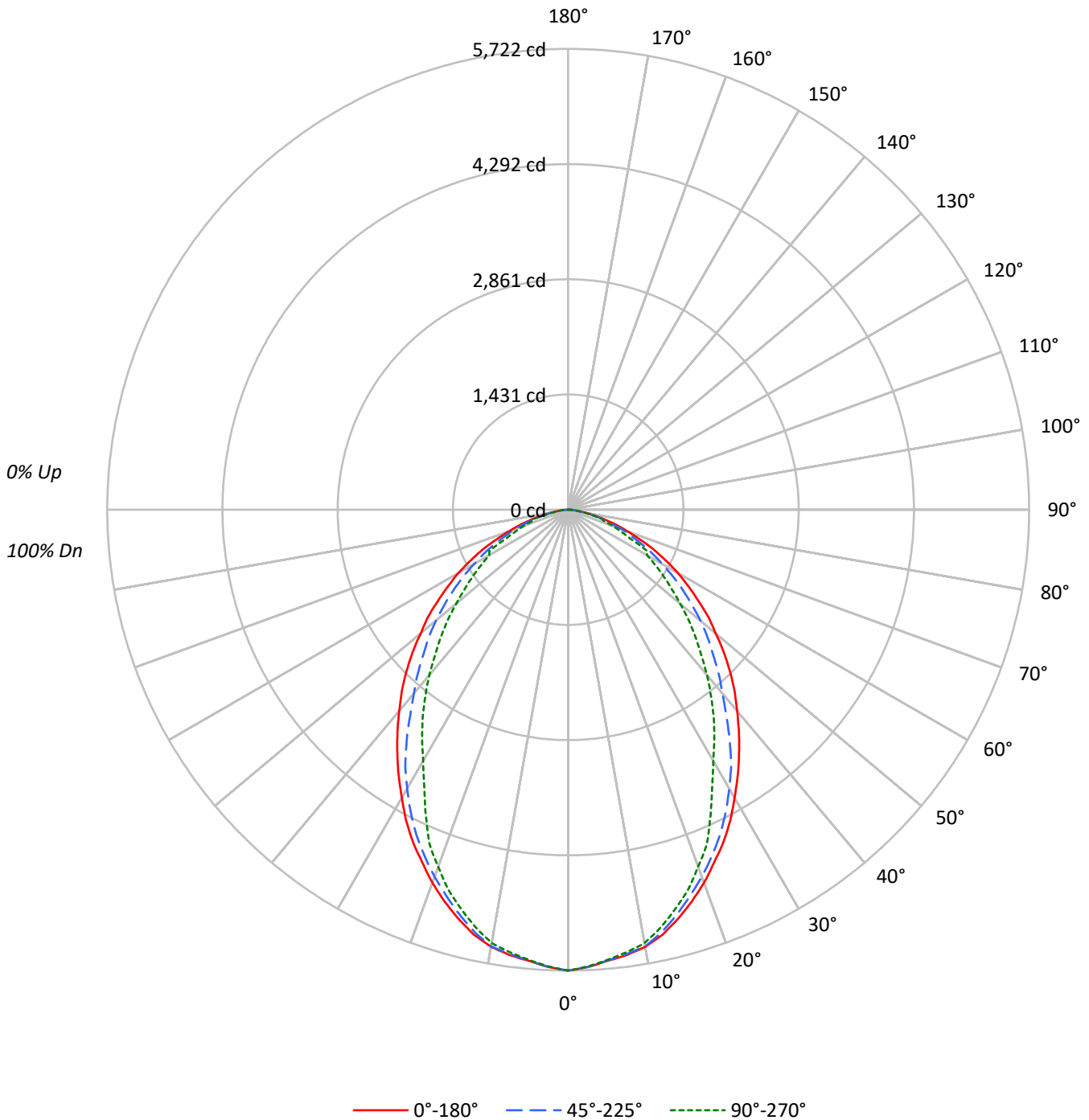
Lumens per Lamp: N/A  
Luminaire Lumens: 11234.0 lumens  
Efficiency: N/A  
Efficacy: 86.7 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 129.6  
Input Voltage (V):  
Input Current (Ain): NR  
Voltage 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	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°	7699	7699	7699
5°	7595	7586	7577
10°	7529	7520	7466
15°	7326	7252	7151
20°	7057	6943	6754
25°	6767	6620	6207
30°	6414	6208	5591
35°	6074	5737	5172
40°	5729	5229	4706
45°	5400	4834	4255
50°	4999	4487	3794
55°	4624	4066	3399
60°	4237	3632	3044
65°	3728	3180	2696
70°	3071	2785	2290
75°	2442	2132	2235
80°	1640	1538	1435
85°	1022	1226	1430

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 5400 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	532.7	4.7
10°-20°	1461.9	13.0
20°-30°	2023.9	18.0
30°-40°	2158.1	19.2
40°-50°	1968.8	17.5
50°-60°	1542.4	13.7
60°-70°	1005.3	8.9
70°-80°	445.4	4.0
80°-90°	95.6	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°	4018.5	35.8
0°-40°	6176.6	55.0
0°-60°	9687.8	86.2
0°-90°	11234.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	11234.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	5722	5722	5722	5722	5722	
5°	5623	5617	5617	5610	5610	534
15°	5259	5259	5206	5154	5134	1479
25°	4558	4532	4459	4300	4181	2093
35°	3698	3672	3493	3228	3149	2312
45°	2838	2778	2540	2329	2236	2186
55°	1971	1912	1733	1528	1449	1768
65°	1171	1105	999	1019	847	1154
75°	470	437	410	390	430	503
85°	66	73	79	86	93	92
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	5722.4	5722.4	5722.4	5722.4	5722.4
2.5°	5682.8	5682.8	5682.8	5676.1	5676.1
5°	5623.2	5616.6	5616.6	5610.0	5610.0
7.5°	5576.9	5570.3	5563.7	5557.1	5543.8
10°	5510.8	5510.8	5504.1	5471.1	5464.4
12.5°	5404.9	5398.3	5371.8	5325.5	5312.3
15°	5259.4	5259.4	5206.4	5153.5	5133.7
17.5°	5100.6	5094.0	5027.8	4974.9	4948.4
20°	4928.6	4915.4	4849.2	4763.2	4716.9
22.5°	4736.7	4736.7	4657.3	4544.9	4498.6
25°	4558.1	4531.7	4458.9	4300.1	4181.0
27.5°	4353.0	4313.3	4234.0	4009.0	3870.1
30°	4128.1	4108.3	3995.8	3704.7	3598.9
32.5°	3916.4	3883.3	3764.2	3459.9	3373.9
35°	3698.1	3671.6	3493.0	3228.4	3149.0
37.5°	3479.8	3446.7	3221.8	3010.1	2910.8
40°	3261.5	3221.8	2977.0	2785.1	2679.3
42.5°	3056.4	3003.5	2765.3	2560.2	2441.1
45°	2838.1	2778.5	2540.4	2328.7	2236.1
47.5°	2619.8	2566.8	2348.5	2130.2	2024.4
50°	2388.2	2341.9	2143.4	1925.1	1812.7
52.5°	2196.4	2123.6	1931.7	1713.4	1620.8
55°	1971.4	1911.9	1733.3	1528.2	1448.8
57.5°	1766.4	1706.8	1541.4	1349.6	1283.4
60°	1574.5	1488.5	1349.6	1184.2	1131.3
62.5°	1362.8	1296.6	1177.6	1038.6	1104.8
65°	1171.0	1104.8	998.9	1018.8	846.8
67.5°	959.3	926.2	833.6	740.9	714.5
70°	780.6	740.9	707.9	608.6	582.2
72.5°	621.9	582.2	535.9	482.9	463.1
75°	469.7	436.6	410.2	390.3	430.0
77.5°	324.2	310.9	291.1	271.2	264.6
80°	211.7	205.1	198.5	191.9	185.2
82.5°	125.7	125.7	125.7	125.7	125.7
85°	66.2	72.8	79.4	86.0	92.6
87.5°	39.7	39.7	46.3	52.9	59.5
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)