

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: P563148

Luminaire Tested: FSR-24-4-LD4-3HI-40-UNV-81-96-EDD-90

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P563148  
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-81-96-EDD-90  
Description: 2X4 FSR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .250 CLEAR TEMPERED GLASS ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 4000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

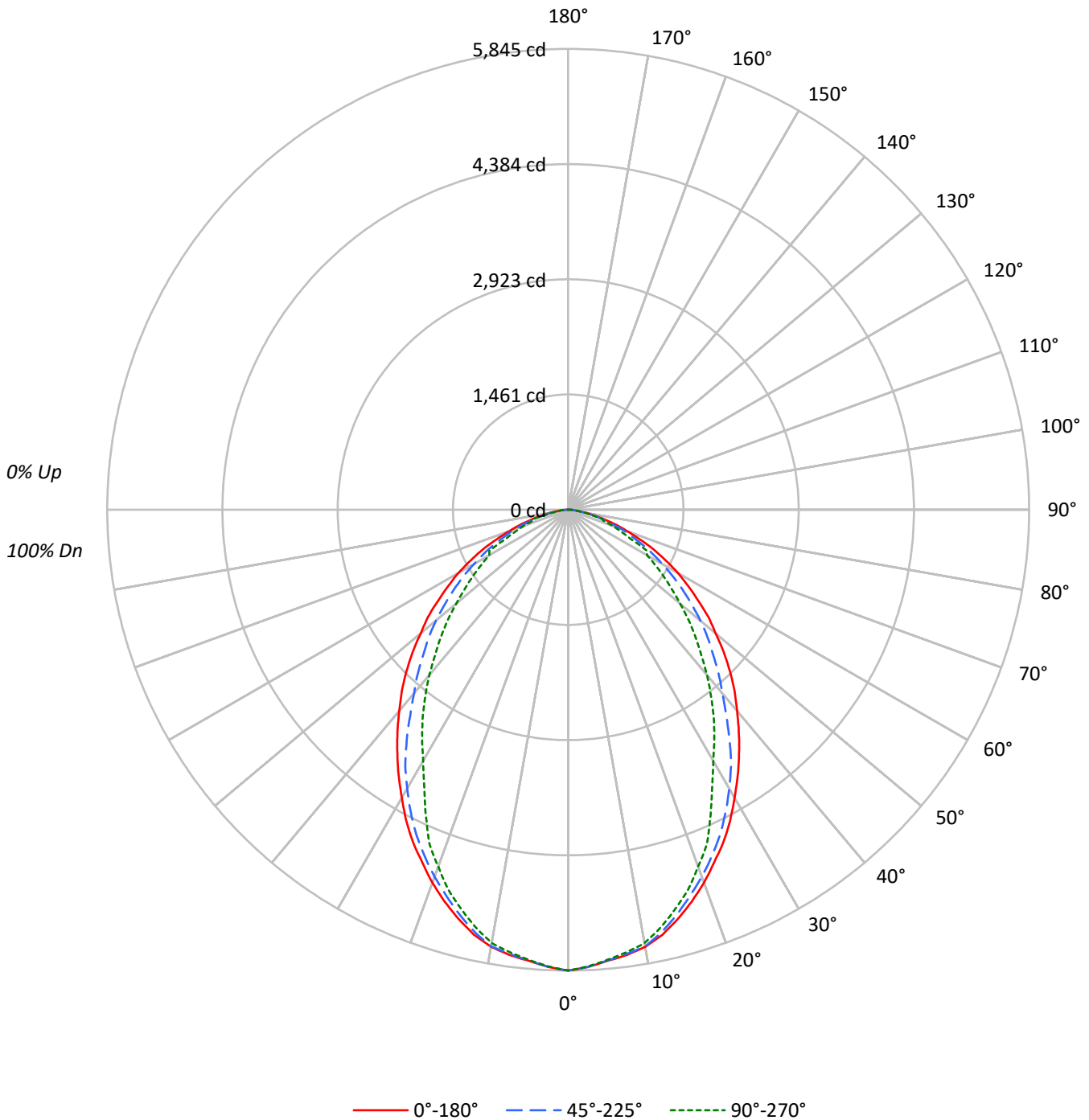
Lumens per Lamp: N/A  
Luminaire Lumens: 11475.0 lumens  
Efficiency: N/A  
Efficacy: 88.5 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 129.6  
Input Voltage (V):  
Input Current (Ain): NR  
Voltage 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°	7865	7865	7865
5°	7758	7749	7740
10°	7691	7681	7626
15°	7483	7408	7304
20°	7208	7092	6899
25°	6912	6762	6340
30°	6551	6341	5711
35°	6205	5860	5283
40°	5851	5341	4807
45°	5516	4938	4346
50°	5106	4583	3876
55°	4724	4153	3472
60°	4328	3710	3109
65°	3808	3249	2754
70°	3137	2844	2340
75°	2494	2178	2283
80°	1675	1571	1466
85°	1044	1252	1460

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 5516 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	544.1	4.7
10°-20°	1493.3	13.0
20°-30°	2067.3	18.0
30°-40°	2204.4	19.2
40°-50°	2011.0	17.5
50°-60°	1575.5	13.7
60°-70°	1026.8	8.9
70°-80°	454.9	4.0
80°-90°	97.7	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°	4104.7	35.8
0°-40°	6309.1	55.0
0°-60°	9895.6	86.2
0°-90°	11475.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	11475.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	5845	5845	5845	5845	5845	
5°	5744	5737	5737	5730	5730	545
15°	5372	5372	5318	5264	5244	1510
25°	4656	4629	4554	4392	4271	2138
35°	3777	3750	3568	3298	3217	2362
45°	2899	2838	2595	2379	2284	2233
55°	2014	1953	1770	1561	1480	1806
65°	1196	1128	1020	1041	865	1179
75°	480	446	419	399	439	514
85°	68	74	81	88	95	94
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	5845.2	5845.2	5845.2	5845.2	5845.2
2.5°	5804.7	5804.7	5804.7	5797.9	5797.9
5°	5743.8	5737.1	5737.1	5730.3	5730.3
7.5°	5696.5	5689.8	5683.0	5676.3	5662.8
10°	5629.0	5629.0	5622.2	5588.4	5581.7
12.5°	5520.9	5514.1	5487.1	5439.8	5426.2
15°	5372.2	5372.2	5318.1	5264.1	5243.8
17.5°	5210.0	5203.3	5135.7	5081.6	5054.6
20°	5034.3	5020.8	4953.2	4865.4	4818.1
22.5°	4838.3	4838.3	4757.3	4642.4	4595.1
25°	4655.9	4628.9	4554.5	4392.4	4270.7
27.5°	4446.4	4405.9	4324.8	4095.0	3953.1
30°	4216.7	4196.4	4081.5	3784.2	3676.1
32.5°	4000.4	3966.6	3845.0	3534.2	3446.3
35°	3777.4	3750.4	3567.9	3297.6	3216.6
37.5°	3554.4	3520.6	3290.9	3074.6	2973.3
40°	3331.4	3290.9	3040.9	2844.9	2736.8
42.5°	3122.0	3067.9	2824.6	2615.1	2493.5
45°	2899.0	2838.1	2594.9	2378.6	2284.0
47.5°	2676.0	2621.9	2398.9	2175.9	2067.8
50°	2439.4	2392.1	2189.4	1966.4	1851.5
52.5°	2243.5	2169.1	1973.2	1750.2	1655.6
55°	2013.7	1952.9	1770.5	1561.0	1479.9
57.5°	1804.2	1743.4	1574.5	1378.5	1310.9
60°	1608.3	1520.4	1378.5	1209.6	1155.5
62.5°	1392.0	1324.5	1202.8	1060.9	1128.5
65°	1196.1	1128.5	1020.4	1040.7	865.0
67.5°	979.8	946.0	851.4	756.8	729.8
70°	797.4	756.8	723.0	621.7	594.7
72.5°	635.2	594.7	547.4	493.3	473.0
75°	479.8	446.0	419.0	398.7	439.2
77.5°	331.1	317.6	297.3	277.1	270.3
80°	216.2	209.5	202.7	196.0	189.2
82.5°	128.4	128.4	128.4	128.4	128.4
85°	67.6	74.3	81.1	87.8	94.6
87.5°	40.5	40.5	47.3	54.1	60.8
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)