

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: P563981

Luminaire Tested: FSR-24-4-LD4-4LO-50-UNV-81-96-EDD

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P563981  
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-LD4-4LO-50-UNV-81-96-EDD  
Description: 2X4 FSR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .250 CLEAR TEMPERED GLASS ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 5000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

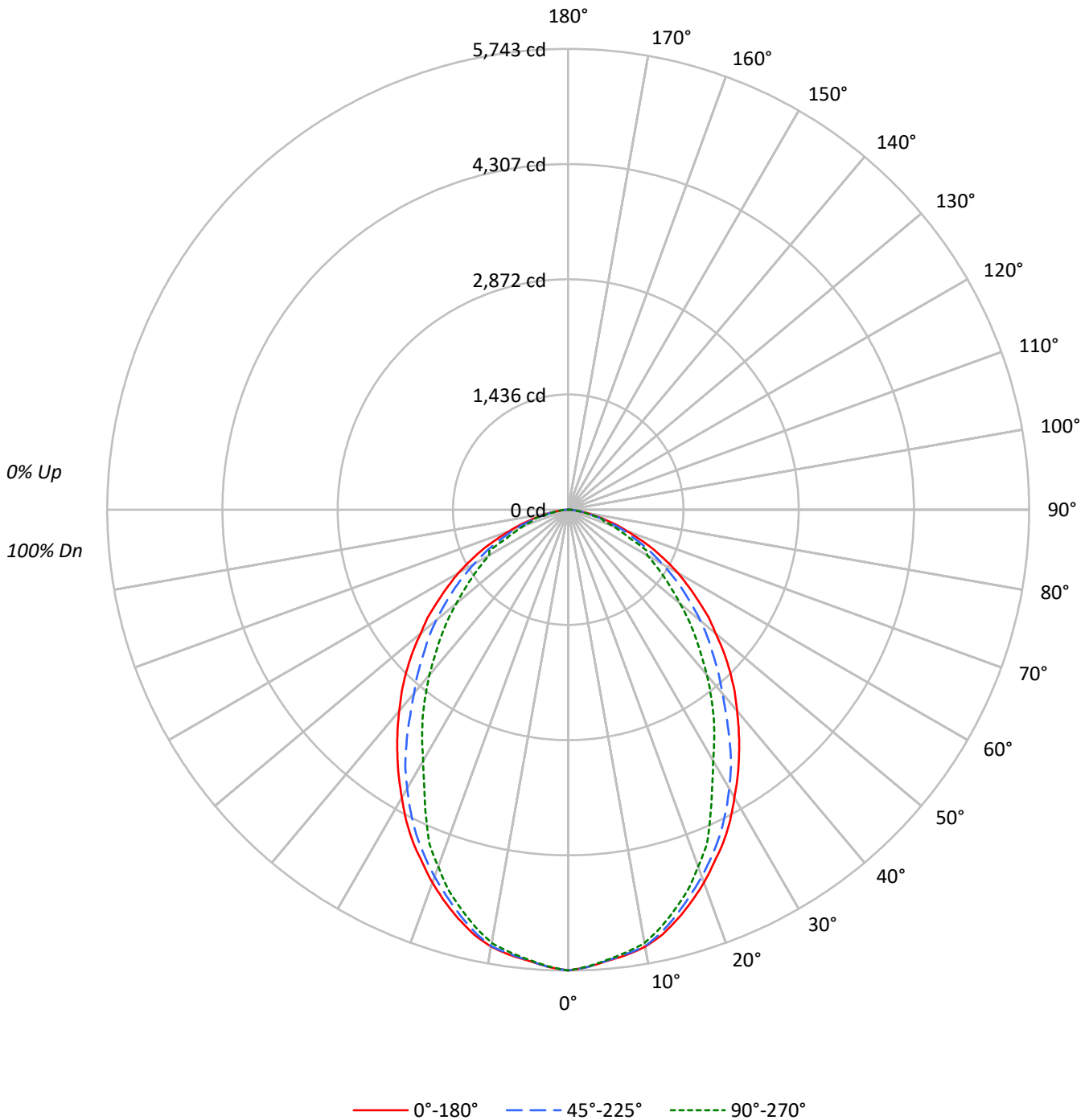
Lumens per Lamp: N/A  
Luminaire Lumens: 11274.0 lumens  
Efficiency: N/A  
Efficacy: 120.4 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 93.6  
Input Voltage (V):  
Input Current (Ain): NR  
Voltage 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									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°	7727	7727	7727
5°	7622	7613	7604
10°	7556	7547	7492
15°	7352	7278	7176
20°	7082	6968	6778
25°	6791	6643	6229
30°	6436	6230	5611
35°	6096	5758	5191
40°	5749	5247	4723
45°	5420	4851	4270
50°	5017	4503	3808
55°	4641	4080	3411
60°	4252	3645	3055
65°	3741	3192	2706
70°	3082	2795	2298
75°	2451	2140	2243
80°	1647	1543	1440
85°	1025	1230	1434

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 5420 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	534.6	4.7
10°-20°	1467.1	13.0
20°-30°	2031.1	18.0
30°-40°	2165.8	19.2
40°-50°	1975.8	17.5
50°-60°	1547.9	13.7
60°-70°	1008.8	8.9
70°-80°	447.0	4.0
80°-90°	95.9	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°	4032.8	35.8
0°-40°	6198.6	55.0
0°-60°	9722.3	86.2
0°-90°	11274.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	11274.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	5743	5743	5743	5743	5743	
5°	5643	5637	5637	5630	5630	536
15°	5278	5278	5225	5172	5152	1484
25°	4574	4548	4475	4315	4196	2100
35°	3711	3685	3505	3240	3160	2320
45°	2848	2788	2549	2337	2244	2194
55°	1978	1919	1739	1534	1454	1775
65°	1175	1109	1002	1022	850	1158
75°	471	438	412	392	432	505
85°	66	73	80	86	93	92
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	5742.8	5742.8	5742.8	5742.8	5742.8
2.5°	5703.0	5703.0	5703.0	5696.4	5696.4
5°	5643.2	5636.6	5636.6	5630.0	5630.0
7.5°	5596.8	5590.1	5583.5	5576.8	5563.6
10°	5530.4	5530.4	5523.7	5490.5	5483.9
12.5°	5424.1	5417.5	5391.0	5344.5	5331.2
15°	5278.1	5278.1	5225.0	5171.9	5151.9
17.5°	5118.7	5112.1	5045.7	4992.6	4966.0
20°	4946.1	4932.9	4866.5	4780.2	4733.7
22.5°	4753.6	4753.6	4673.9	4561.1	4514.6
25°	4574.3	4547.8	4474.8	4315.4	4195.9
27.5°	4368.5	4328.7	4249.0	4023.3	3883.9
30°	4142.8	4122.9	4010.0	3717.9	3611.7
32.5°	3930.3	3897.2	3777.7	3472.3	3385.9
35°	3711.3	3684.7	3505.4	3239.9	3160.2
37.5°	3492.2	3459.0	3233.2	3020.8	2921.2
40°	3273.1	3233.2	2987.6	2795.1	2688.8
42.5°	3067.3	3014.2	2775.1	2569.3	2449.8
45°	2848.2	2788.4	2549.4	2337.0	2244.0
47.5°	2629.1	2576.0	2356.9	2137.8	2031.6
50°	2396.7	2350.2	2151.1	1932.0	1819.1
52.5°	2204.2	2131.2	1938.6	1719.5	1626.6
55°	1978.5	1918.7	1739.4	1533.6	1454.0
57.5°	1772.6	1712.9	1546.9	1354.4	1288.0
60°	1580.1	1493.8	1354.4	1188.4	1135.3
62.5°	1367.7	1301.3	1181.8	1042.3	1108.7
65°	1175.1	1108.7	1002.5	1022.4	849.8
67.5°	962.7	929.5	836.5	743.6	717.0
70°	783.4	743.6	710.4	610.8	584.2
72.5°	624.1	584.2	537.8	484.7	464.7
75°	471.4	438.2	411.6	391.7	431.5
77.5°	325.3	312.0	292.1	272.2	265.6
80°	212.5	205.8	199.2	192.5	185.9
82.5°	126.1	126.1	126.1	126.1	126.1
85°	66.4	73.0	79.7	86.3	92.9
87.5°	39.8	39.8	46.5	53.1	59.8
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)