

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: P563951

Luminaire Tested: FSR-24-4-LD4-4LO-40-UNV-93-97-EDD

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P563951  
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-40-UNV-93-97-EDD  
Description: 2X4 FSR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .375 CLEAR TEMPER  
GLASS ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 4000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

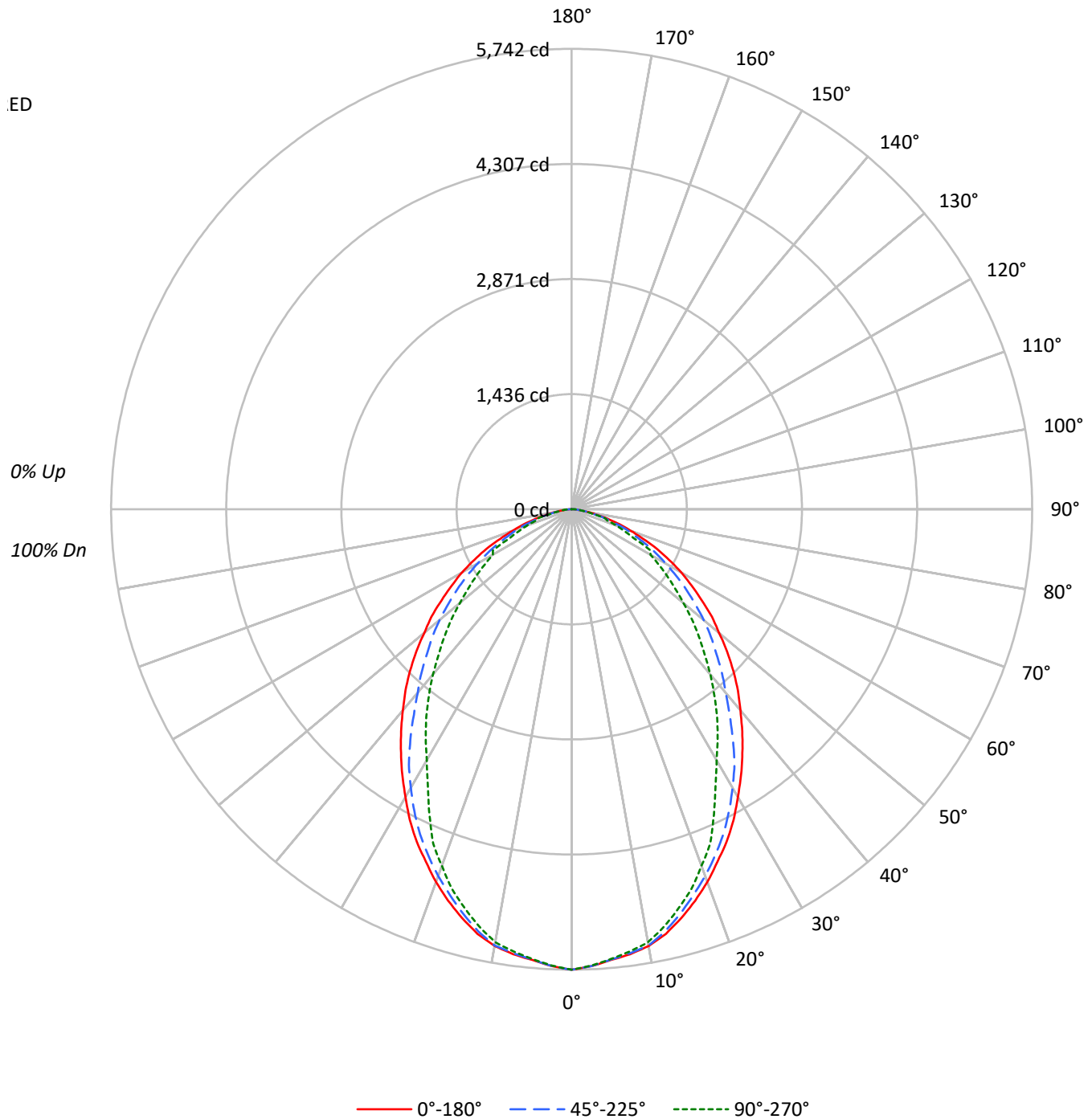
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 11273.0 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																												
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°	7726	7726	7726
5°	7621	7612	7603
10°	7555	7546	7492
15°	7351	7277	7176
20°	7081	6967	6777
25°	6790	6643	6229
30°	6436	6230	5611
35°	6095	5757	5190
40°	5748	5247	4722
45°	5419	4851	4270
50°	5016	4502	3808
55°	4641	4080	3410
60°	4252	3644	3055
65°	3741	3191	2705
70°	3081	2794	2298
75°	2450	2140	2243
80°	1646	1543	1440
85°	1025	1230	1434

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 5419 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	534.5	4.7
10°-20°	1467.0	13.0
20°-30°	2030.9	18.0
30°-40°	2165.6	19.2
40°-50°	1975.6	17.5
50°-60°	1547.8	13.7
60°-70°	1008.7	8.9
70°-80°	446.9	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°	4032.4	35.8
0°-40°	6198.0	55.0
0°-60°	9721.4	86.2
0°-90°	11273.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	11273.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	5742	5742	5742	5742	5742	
5°	5643	5636	5636	5630	5630	536
15°	5278	5278	5224	5171	5152	1484
25°	4574	4547	4474	4315	4196	2100
35°	3711	3684	3505	3240	3160	2320
45°	2848	2788	2549	2337	2244	2194
55°	1978	1918	1739	1534	1454	1774
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°	5742.3	5742.3	5742.3	5742.3	5742.3
2.5°	5702.5	5702.5	5702.5	5695.8	5695.8
5°	5642.7	5636.1	5636.1	5629.5	5629.5
7.5°	5596.3	5589.6	5583.0	5576.4	5563.1
10°	5529.9	5529.9	5523.2	5490.1	5483.4
12.5°	5423.7	5417.0	5390.5	5344.0	5330.7
15°	5277.6	5277.6	5224.5	5171.4	5151.5
17.5°	5118.3	5111.7	5045.3	4992.2	4965.6
20°	4945.7	4932.4	4866.0	4779.7	4733.3
22.5°	4753.2	4753.2	4673.5	4560.7	4514.2
25°	4573.9	4547.4	4474.4	4315.0	4195.5
27.5°	4368.1	4328.3	4248.6	4022.9	3883.5
30°	4142.4	4122.5	4009.7	3717.6	3611.4
32.5°	3930.0	3896.8	3777.3	3471.9	3385.6
35°	3710.9	3684.4	3505.1	3239.6	3159.9
37.5°	3491.9	3458.7	3233.0	3020.5	2920.9
40°	3272.8	3233.0	2987.3	2794.8	2688.6
42.5°	3067.0	3013.9	2774.9	2569.1	2449.6
45°	2847.9	2788.2	2549.2	2336.8	2243.8
47.5°	2628.9	2575.7	2356.7	2137.6	2031.4
50°	2396.5	2350.0	2150.9	1931.8	1819.0
52.5°	2204.0	2131.0	1938.4	1719.4	1626.4
55°	1978.3	1918.5	1739.3	1533.5	1453.8
57.5°	1772.5	1712.7	1546.8	1354.3	1287.9
60°	1580.0	1493.7	1354.3	1188.3	1135.2
62.5°	1367.5	1301.1	1181.7	1042.2	1108.6
65°	1175.0	1108.6	1002.4	1022.3	849.7
67.5°	962.6	929.4	836.5	743.5	717.0
70°	783.3	743.5	710.3	610.7	584.2
72.5°	624.0	584.2	537.7	484.6	464.7
75°	471.3	438.1	411.6	391.7	431.5
77.5°	325.3	312.0	292.1	272.2	265.5
80°	212.4	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	59.7
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)