

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: P563115

Luminaire Tested: FSR-24-4-LD4-3HI-35-UNV-93-94-EDD

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P563115  
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-35-UNV-93-94-EDD  
Description: 2X4 FSR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .187 CLEAR TEMPER  
GLASS ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 3500K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

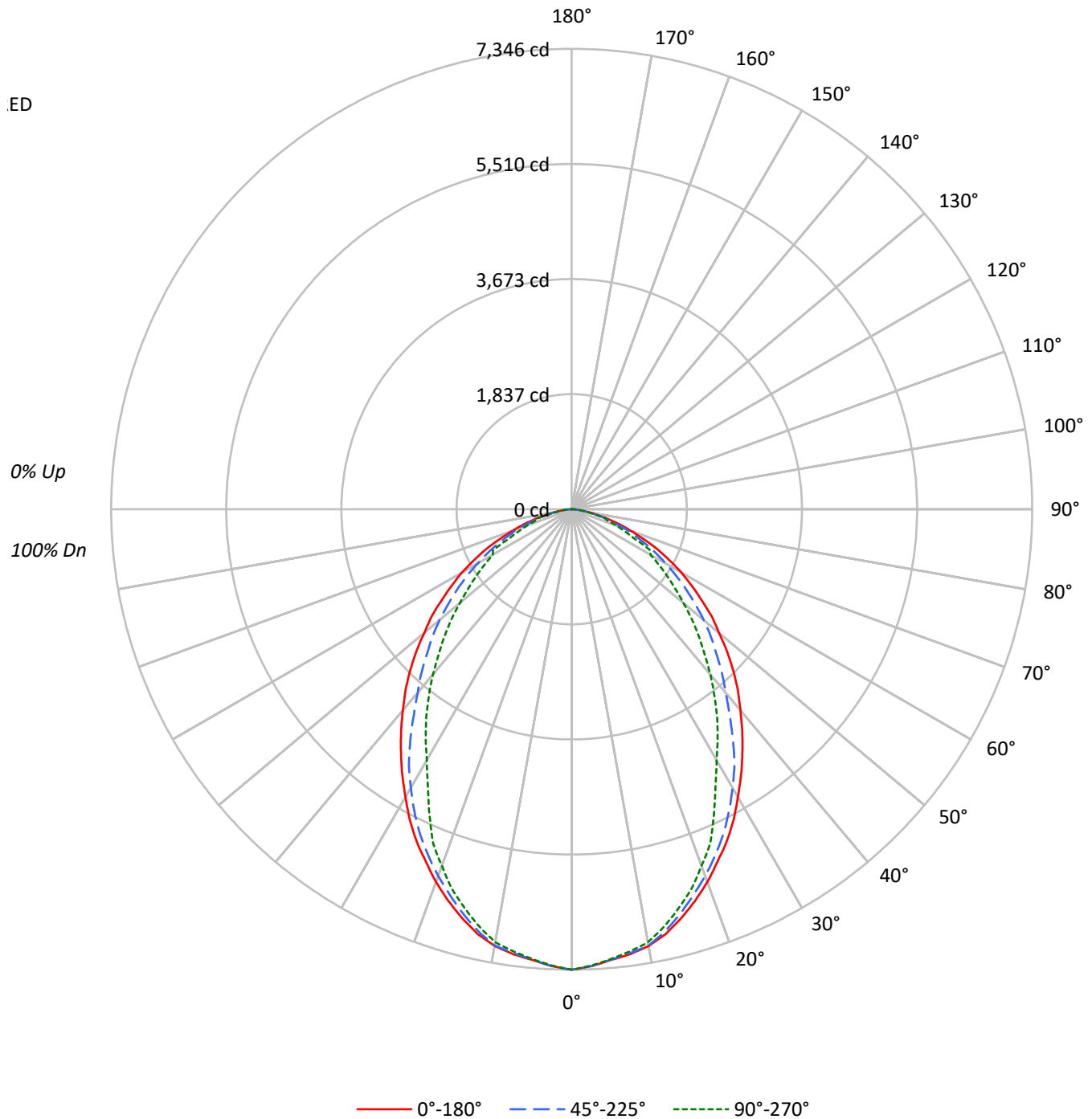
Lumens per Lamp: N/A  
Luminaire Lumens: 14422.0 lumens  
Efficiency: N/A  
Efficacy: 111.3 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 129.6  
Input Voltage (V):  
Input Current (Ain): NR  
Voltage 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	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°	9885	9885	9885
5°	9750	9739	9727
10°	9666	9654	9584
15°	9405	9310	9180
20°	9060	8914	8671
25°	8687	8498	7969
30°	8234	7970	7178
35°	7798	7366	6640
40°	7354	6713	6041
45°	6933	6206	5462
50°	6418	5760	4871
55°	5937	5220	4363
60°	5439	4662	3908
65°	4786	4083	3461
70°	3943	3575	2940
75°	3135	2738	2870
80°	2106	1974	1843
85°	1311	1573	1836

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 6933 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	683.8	4.7
10°-20°	1876.8	13.0
20°-30°	2598.2	18.0
30°-40°	2770.5	19.2
40°-50°	2527.5	17.5
50°-60°	1980.1	13.7
60°-70°	1290.5	8.9
70°-80°	571.8	4.0
80°-90°	122.8	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°	5158.9	35.8
0°-40°	7929.4	55.0
0°-60°	12436.9	86.2
0°-90°	14422.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	14422.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	7346	7346	7346	7346	7346	
5°	7219	7210	7210	7202	7202	685
15°	6752	6752	6684	6616	6590	1898
25°	5852	5818	5724	5520	5368	2686
35°	4748	4714	4484	4144	4043	2968
45°	3644	3567	3261	2990	2871	2807
55°	2531	2454	2225	1962	1860	2270
65°	1503	1418	1282	1308	1087	1481
75°	603	560	527	501	552	646
85°	85	93	102	110	119	118
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	7346.4	7346.4	7346.4	7346.4	7346.4
2.5°	7295.4	7295.4	7295.4	7286.9	7286.9
5°	7219.0	7210.5	7210.5	7202.0	7202.0
7.5°	7159.5	7151.0	7142.5	7134.1	7117.1
10°	7074.6	7074.6	7066.1	7023.6	7015.2
12.5°	6938.7	6930.2	6896.2	6836.8	6819.8
15°	6751.9	6751.9	6683.9	6616.0	6590.5
17.5°	6548.0	6539.5	6454.6	6386.7	6352.7
20°	6327.2	6310.2	6225.3	6114.9	6055.5
22.5°	6080.9	6080.9	5979.0	5834.6	5775.2
25°	5851.6	5817.6	5724.2	5520.4	5367.5
27.5°	5588.3	5537.4	5435.5	5146.7	4968.4
30°	5299.6	5274.1	5129.7	4756.0	4620.1
32.5°	5027.8	4985.3	4832.5	4441.8	4331.4
35°	4747.5	4713.6	4484.3	4144.5	4042.6
37.5°	4467.3	4424.8	4136.1	3864.3	3736.9
40°	4187.0	4136.1	3821.8	3575.5	3439.6
42.5°	3923.7	3855.8	3550.0	3286.8	3133.9
45°	3643.5	3567.0	3261.3	2989.5	2870.6
47.5°	3363.2	3295.3	3015.0	2734.7	2598.8
50°	3065.9	3006.5	2751.7	2471.4	2327.1
52.5°	2819.6	2726.2	2479.9	2199.7	2080.8
55°	2530.9	2454.5	2225.1	1961.9	1859.9
57.5°	2267.6	2191.2	1978.8	1732.6	1647.6
60°	2021.3	1910.9	1732.6	1520.2	1452.3
62.5°	1749.5	1664.6	1511.7	1333.4	1418.3
65°	1503.2	1418.3	1282.4	1307.9	1087.1
67.5°	1231.5	1189.0	1070.1	951.2	917.2
70°	1002.2	951.2	908.7	781.3	747.4
72.5°	798.3	747.4	687.9	620.0	594.5
75°	603.0	560.5	526.6	501.1	552.0
77.5°	416.2	399.2	373.7	348.2	339.7
80°	271.8	263.3	254.8	246.3	237.8
82.5°	161.4	161.4	161.4	161.4	161.4
85°	84.9	93.4	101.9	110.4	118.9
87.5°	51.0	51.0	59.5	67.9	76.4
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)