

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: P563069

Luminaire Tested: FSR-24-4-LD4-3HI-35-UNV-80-96-EDD

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P563069  
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-80-96-EDD  
Description: 2X4 FSR TROFFER WITH .125 PRISMATIC ACRYLIC FIXTURE SIDE AND .250 CLEAR TEMPERED G ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 3500K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

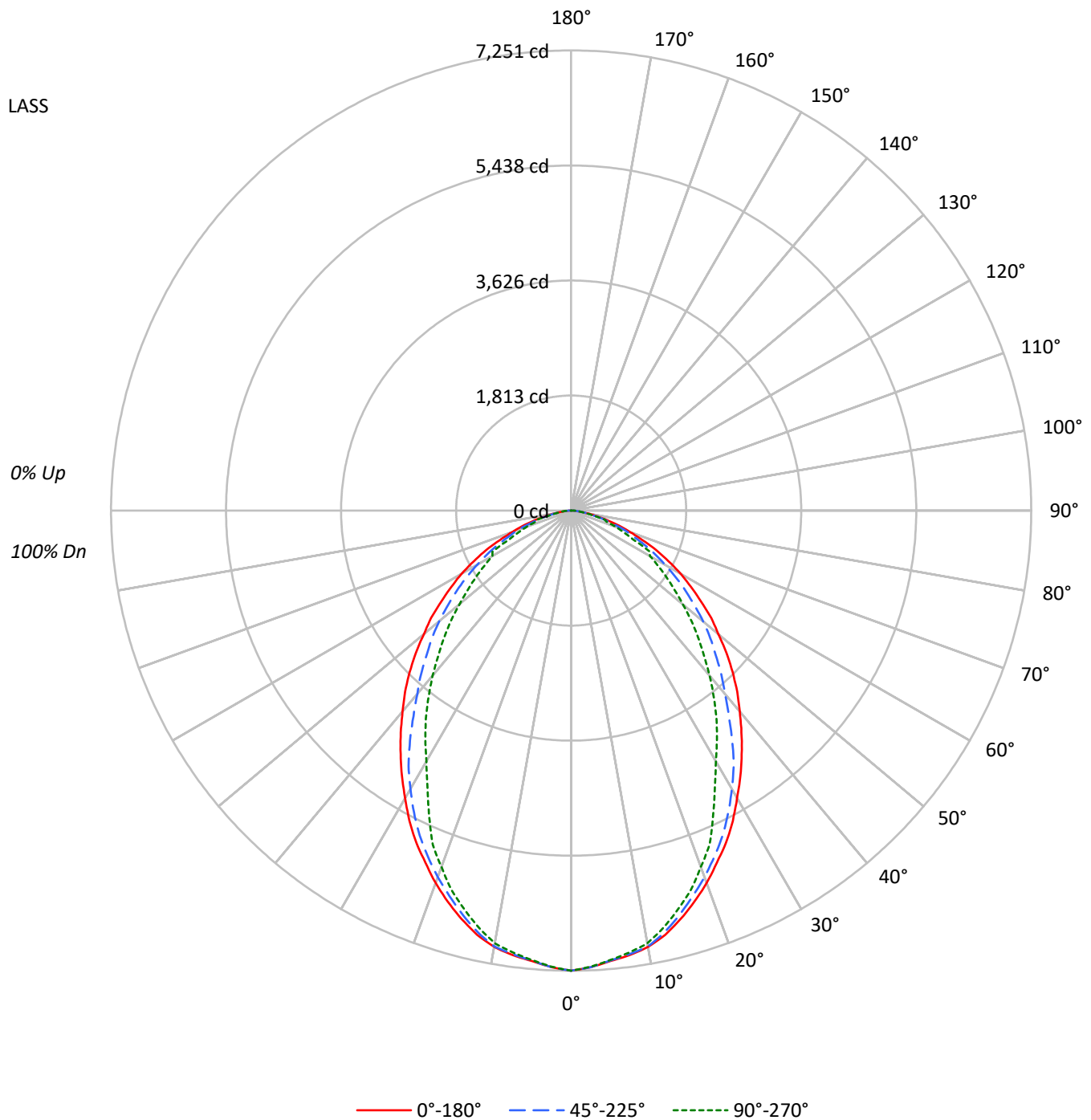
Lumens per Lamp: N/A  
Luminaire Lumens: 14234.0 lumens  
Efficiency: N/A  
Efficacy: 109.8 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 129.6  
Input Voltage (V):  
Input Current (Ain): NR  
Voltage 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																												
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°	9756	9756	9756
5°	9623	9612	9600
10°	9540	9528	9459
15°	9283	9189	9061
20°	8941	8798	8557
25°	8574	8387	7865
30°	8126	7866	7084
35°	7696	7270	6554
40°	7258	6625	5963
45°	6843	6125	5391
50°	6334	5685	4807
55°	5860	5152	4306
60°	5369	4602	3857
65°	4724	4030	3416
70°	3891	3528	2902
75°	3094	2702	2832
80°	2078	1949	1819
85°	1294	1553	1812

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 6843 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	674.9	4.7
10°-20°	1852.3	13.0
20°-30°	2564.4	18.0
30°-40°	2734.4	19.2
40°-50°	2494.6	17.5
50°-60°	1954.3	13.7
60°-70°	1273.7	8.9
70°-80°	564.3	4.0
80°-90°	121.2	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°	5091.6	35.8
0°-40°	7826.0	55.0
0°-60°	12274.8	86.2
0°-90°	14234.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	14234.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	7251	7251	7251	7251	7251	
5°	7125	7116	7116	7108	7108	676
15°	6664	6664	6597	6530	6505	1873
25°	5775	5742	5650	5448	5298	2651
35°	4686	4652	4426	4090	3990	2929
45°	3596	3520	3219	2950	2833	2770
55°	2498	2422	2196	1936	1836	2240
65°	1484	1400	1266	1291	1073	1462
75°	595	553	520	495	545	638
85°	84	92	101	109	117	116
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	7250.6	7250.6	7250.6	7250.6	7250.6
2.5°	7200.3	7200.3	7200.3	7191.9	7191.9
5°	7124.9	7116.5	7116.5	7108.1	7108.1
7.5°	7066.2	7057.8	7049.4	7041.1	7024.3
10°	6982.4	6982.4	6974.0	6932.1	6923.7
12.5°	6848.3	6839.9	6806.4	6747.7	6730.9
15°	6663.9	6663.9	6596.8	6529.7	6504.6
17.5°	6462.7	6454.3	6370.5	6303.4	6269.9
20°	6244.7	6228.0	6144.2	6035.2	5976.5
22.5°	6001.7	6001.7	5901.1	5758.6	5699.9
25°	5775.3	5741.8	5649.6	5448.4	5297.6
27.5°	5515.5	5465.2	5364.6	5079.6	4903.6
30°	5230.5	5205.4	5062.9	4694.0	4559.9
32.5°	4962.3	4920.4	4769.5	4383.9	4274.9
35°	4685.7	4652.1	4425.8	4090.5	3989.9
37.5°	4409.0	4367.1	4082.1	3813.9	3688.2
40°	4132.4	4082.1	3772.0	3528.9	3394.8
42.5°	3872.6	3805.5	3503.8	3243.9	3093.0
45°	3596.0	3520.5	3218.8	2950.5	2833.2
47.5°	3319.4	3252.3	2975.7	2699.1	2565.0
50°	3026.0	2967.3	2715.8	2439.2	2296.7
52.5°	2782.9	2690.7	2447.6	2171.0	2053.6
55°	2497.9	2422.5	2196.1	1936.3	1835.7
57.5°	2238.0	2162.6	1953.1	1710.0	1626.1
60°	1995.0	1886.0	1710.0	1500.4	1433.4
62.5°	1726.7	1642.9	1492.0	1316.0	1399.8
65°	1483.7	1399.8	1265.7	1290.9	1072.9
67.5°	1215.4	1173.5	1056.2	938.8	905.3
70°	989.1	938.8	896.9	771.2	737.6
72.5°	787.9	737.6	679.0	611.9	586.8
75°	595.1	553.2	519.7	494.6	544.8
77.5°	410.7	394.0	368.8	343.7	335.3
80°	268.2	259.8	251.5	243.1	234.7
82.5°	159.3	159.3	159.3	159.3	159.3
85°	83.8	92.2	100.6	109.0	117.4
87.5°	50.3	50.3	58.7	67.1	75.4
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)