

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: P563134

Luminaire Tested: FSR-24-4-LD4-3HI-40-UNV-80-97-EDD-90

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P563134  
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-80-97-EDD-90  
Description: 2X4 FSR TROFFER WITH .125 PRISMATIC ACRYLIC FIXTURE SIDE AND .375 CLEAR TEMPERED G ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 4000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

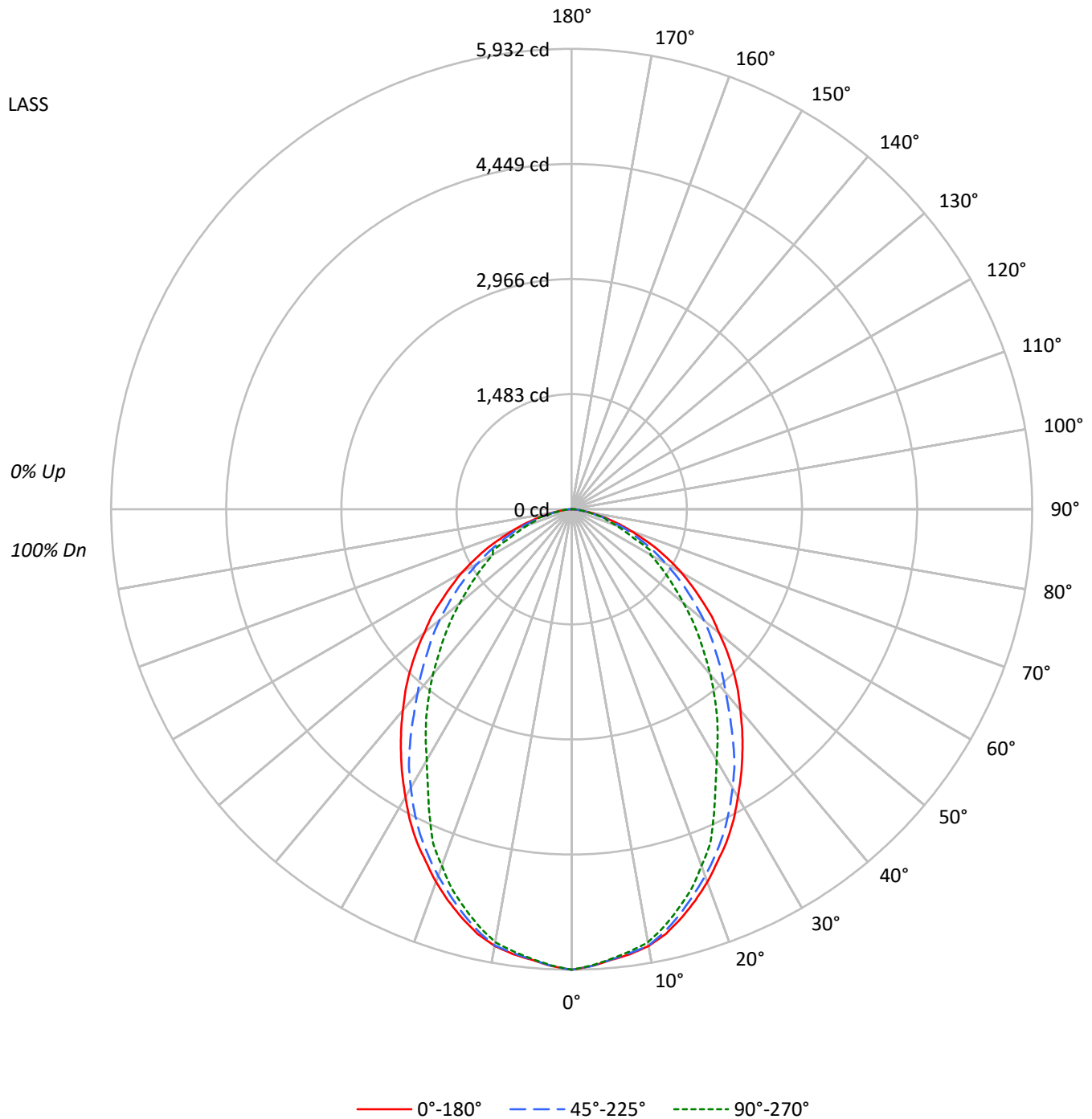
Lumens per Lamp: N/A  
Luminaire Lumens: 11646.0 lumens  
Efficiency: N/A  
Efficacy: 89.9 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 129.6  
Input Voltage (V):  
Input Current (Ain): NR  
Voltage 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°	7982	7982	7982
5°	7873	7864	7855
10°	7805	7796	7740
15°	7595	7518	7413
20°	7316	7198	7002
25°	7015	6862	6435
30°	6649	6436	5796
35°	6297	5948	5362
40°	5939	5421	4879
45°	5598	5011	4411
50°	5182	4651	3933
55°	4794	4215	3523
60°	4392	3765	3156
65°	3865	3297	2795
70°	3184	2887	2374
75°	2531	2210	2318
80°	1701	1594	1488
85°	1059	1271	1482

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 5598 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	552.2	4.7
10°-20°	1515.5	13.0
20°-30°	2098.1	18.0
30°-40°	2237.2	19.2
40°-50°	2041.0	17.5
50°-60°	1599.0	13.7
60°-70°	1042.1	8.9
70°-80°	461.7	4.0
80°-90°	99.1	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°	4165.9	35.8
0°-40°	6403.1	55.0
0°-60°	10043.0	86.2
0°-90°	11646.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	11646.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	5932	5932	5932	5932	5932	
5°	5829	5823	5823	5816	5816	553
15°	5452	5452	5397	5342	5322	1533
25°	4725	4698	4622	4458	4334	2169
35°	3834	3806	3621	3347	3264	2397
45°	2942	2880	2634	2414	2318	2266
55°	2044	1982	1797	1584	1502	1833
65°	1214	1145	1036	1056	878	1196
75°	487	453	425	405	446	522
85°	69	75	82	89	96	95
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	5932.3	5932.3	5932.3	5932.3	5932.3
2.5°	5891.2	5891.2	5891.2	5884.3	5884.3
5°	5829.4	5822.6	5822.6	5815.7	5815.7
7.5°	5781.4	5774.6	5767.7	5760.9	5747.1
10°	5712.9	5712.9	5706.0	5671.7	5664.8
12.5°	5603.1	5596.3	5568.8	5520.8	5507.1
15°	5452.2	5452.2	5397.4	5342.5	5321.9
17.5°	5287.6	5280.8	5212.2	5157.3	5129.9
20°	5109.3	5095.6	5027.0	4937.9	4889.9
22.5°	4910.4	4910.4	4828.2	4711.6	4663.6
25°	4725.3	4697.8	4622.4	4457.8	4334.4
27.5°	4512.7	4471.5	4389.2	4156.1	4012.0
30°	4279.5	4258.9	4142.3	3840.6	3730.8
32.5°	4060.0	4025.7	3902.3	3586.8	3497.7
35°	3833.7	3806.3	3621.1	3346.8	3264.5
37.5°	3607.4	3573.1	3339.9	3120.5	3017.6
40°	3381.1	3339.9	3086.2	2887.3	2777.6
42.5°	3168.5	3113.6	2866.7	2654.1	2530.7
45°	2942.2	2880.4	2633.5	2414.1	2318.1
47.5°	2715.8	2661.0	2434.7	2208.3	2098.6
50°	2475.8	2427.8	2222.0	1995.7	1879.1
52.5°	2276.9	2201.5	2002.6	1776.3	1680.3
55°	2043.7	1982.0	1796.8	1584.2	1501.9
57.5°	1831.1	1769.4	1598.0	1399.1	1330.5
60°	1632.2	1543.1	1399.1	1227.6	1172.7
62.5°	1412.8	1344.2	1220.8	1076.7	1145.3
65°	1213.9	1145.3	1035.6	1056.2	877.8
67.5°	994.4	960.1	864.1	768.1	740.7
70°	809.3	768.1	733.8	631.0	603.5
72.5°	644.7	603.5	555.5	500.6	480.1
75°	486.9	452.6	425.2	404.6	445.8
77.5°	336.1	322.3	301.8	281.2	274.3
80°	219.5	212.6	205.7	198.9	192.0
82.5°	130.3	130.3	130.3	130.3	130.3
85°	68.6	75.4	82.3	89.2	96.0
87.5°	41.1	41.1	48.0	54.9	61.7
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)