

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: P561212

Luminaire Tested: FSR-12-4-LD4-1STD-40-UNV-80-96-EDD-90

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P561212  
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-12-4-LD4-1STD-40-UNV-80-96-EDD-90  
Description: 1X4 FSR TROFFER WITH .125 PRISMATIC ACRYLIC FIXTURE SIDE AND .250 CLEAR TEMPERED G ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 4000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

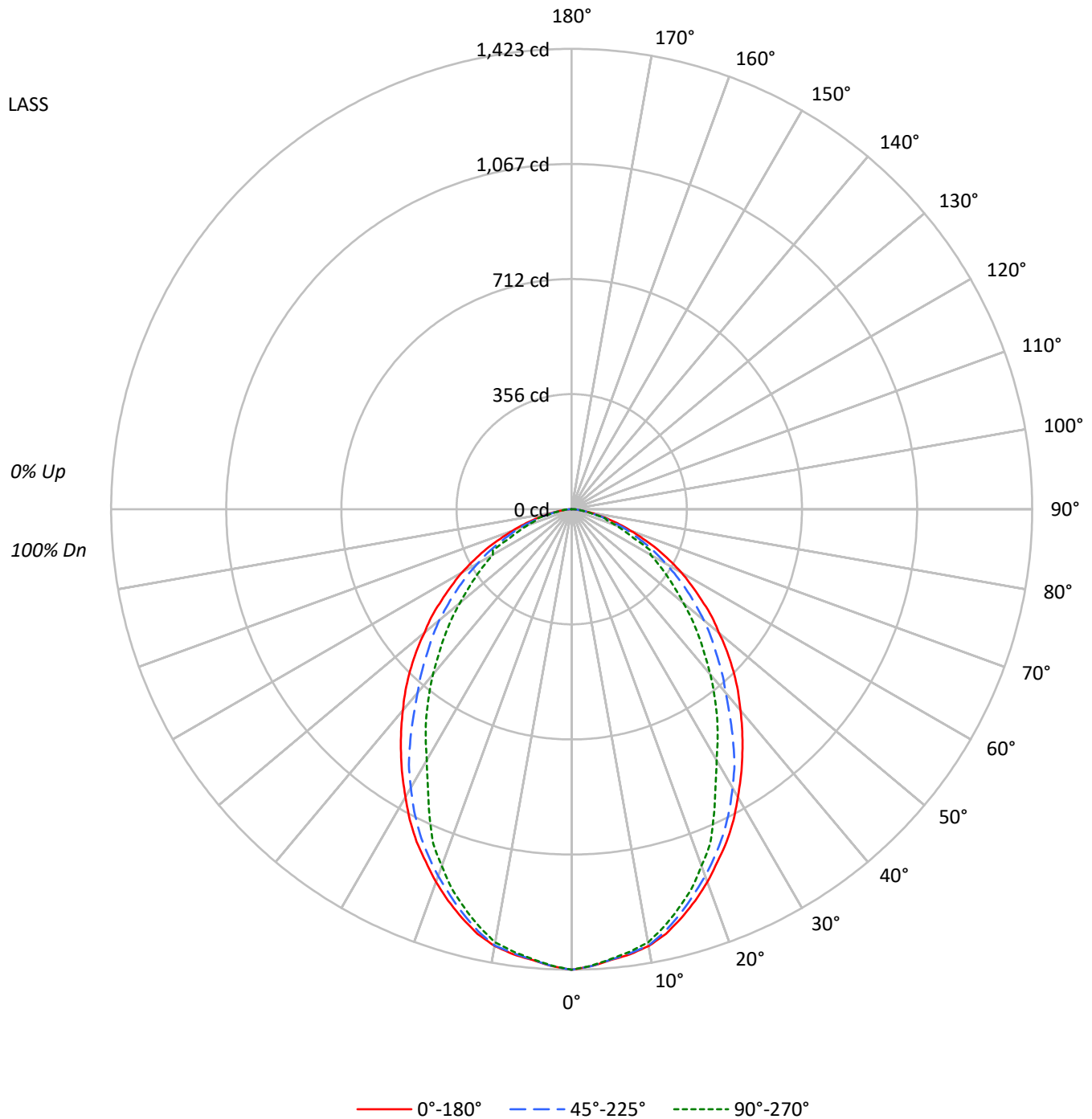
Lumens per Lamp: N/A  
Luminaire Lumens: 2794.0 lumens  
Efficiency: N/A  
Efficacy: 83.9 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 33.3  
Input Voltage (V):  
Input Current (Ain): NR  
Voltage 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	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°	3830	3830	3830
5°	3778	3773	3769
10°	3745	3741	3714
15°	3644	3607	3557
20°	3510	3454	3359
25°	3366	3293	3088
30°	3190	3088	2781
35°	3021	2854	2573
40°	2850	2601	2341
45°	2686	2404	2116
50°	2487	2232	1887
55°	2300	2023	1690
60°	2108	1807	1514
65°	1854	1582	1341
70°	1528	1386	1139
75°	1214	1061	1111
80°	817	766	714
85°	509	608	710

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 2686 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	132.5	4.7
10°-20°	363.6	13.0
20°-30°	503.4	18.0
30°-40°	536.7	19.2
40°-50°	489.7	17.5
50°-60°	383.6	13.7
60°-70°	250.0	8.9
70°-80°	110.8	4.0
80°-90°	23.8	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°	999.4	35.8
0°-40°	1536.2	55.0
0°-60°	2409.4	86.2
0°-90°	2794.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2794.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1423	1423	1423	1423	1423	
5°	1398	1397	1397	1395	1395	133
15°	1308	1308	1295	1282	1277	368
25°	1134	1127	1109	1070	1040	520
35°	920	913	869	803	783	575
45°	706	691	632	579	556	544
55°	490	476	431	380	360	440
65°	291	275	248	253	211	287
75°	117	109	102	97	107	125
85°	16	18	20	21	23	23
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1423.2	1423.2	1423.2	1423.2	1423.2
2.5°	1413.4	1413.4	1413.4	1411.7	1411.7
5°	1398.5	1396.9	1396.9	1395.3	1395.3
7.5°	1387.0	1385.4	1383.7	1382.1	1378.8
10°	1370.6	1370.6	1368.9	1360.7	1359.1
12.5°	1344.2	1342.6	1336.0	1324.5	1321.2
15°	1308.1	1308.1	1294.9	1281.7	1276.8
17.5°	1268.6	1266.9	1250.5	1237.3	1230.7
20°	1225.8	1222.5	1206.0	1184.7	1173.1
22.5°	1178.1	1178.1	1158.3	1130.4	1118.8
25°	1133.6	1127.1	1109.0	1069.5	1039.9
27.5°	1082.6	1072.8	1053.0	997.1	962.5
30°	1026.7	1021.8	993.8	921.4	895.1
32.5°	974.0	965.8	936.2	860.5	839.1
35°	919.7	913.2	868.7	802.9	783.2
37.5°	865.5	857.2	801.3	748.6	724.0
40°	811.2	801.3	740.4	692.7	666.4
42.5°	760.2	747.0	687.8	636.7	607.1
45°	705.9	691.0	631.8	579.2	556.1
47.5°	651.6	638.4	584.1	529.8	503.5
50°	594.0	582.5	533.1	478.8	450.8
52.5°	546.3	528.2	480.4	426.1	403.1
55°	490.3	475.5	431.1	380.1	360.3
57.5°	439.3	424.5	383.4	335.7	319.2
60°	391.6	370.2	335.7	294.5	281.4
62.5°	338.9	322.5	292.9	258.3	274.8
65°	291.2	274.8	248.4	253.4	210.6
67.5°	238.6	230.3	207.3	184.3	177.7
70°	194.2	184.3	176.1	151.4	144.8
72.5°	154.7	144.8	133.3	120.1	115.2
75°	116.8	108.6	102.0	97.1	106.9
77.5°	80.6	77.3	72.4	67.5	65.8
80°	52.7	51.0	49.4	47.7	46.1
82.5°	31.3	31.3	31.3	31.3	31.3
85°	16.5	18.1	19.7	21.4	23.0
87.5°	9.9	9.9	11.5	13.2	14.8
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)