

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: P560854

Luminaire Tested: FSR-12-4-LD4-1HI-40-UNV-82-87-EDD-90

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P560854
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-LD4-1HI-40-UNV-82-87-EDD-90
Description: 1X4 FSR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .375 CLEAR PC ENVIRONMENTAL SI
LENSES WITH, 90 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 3015.0 lumens
Efficiency: N/A
Efficacy: 69.8 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

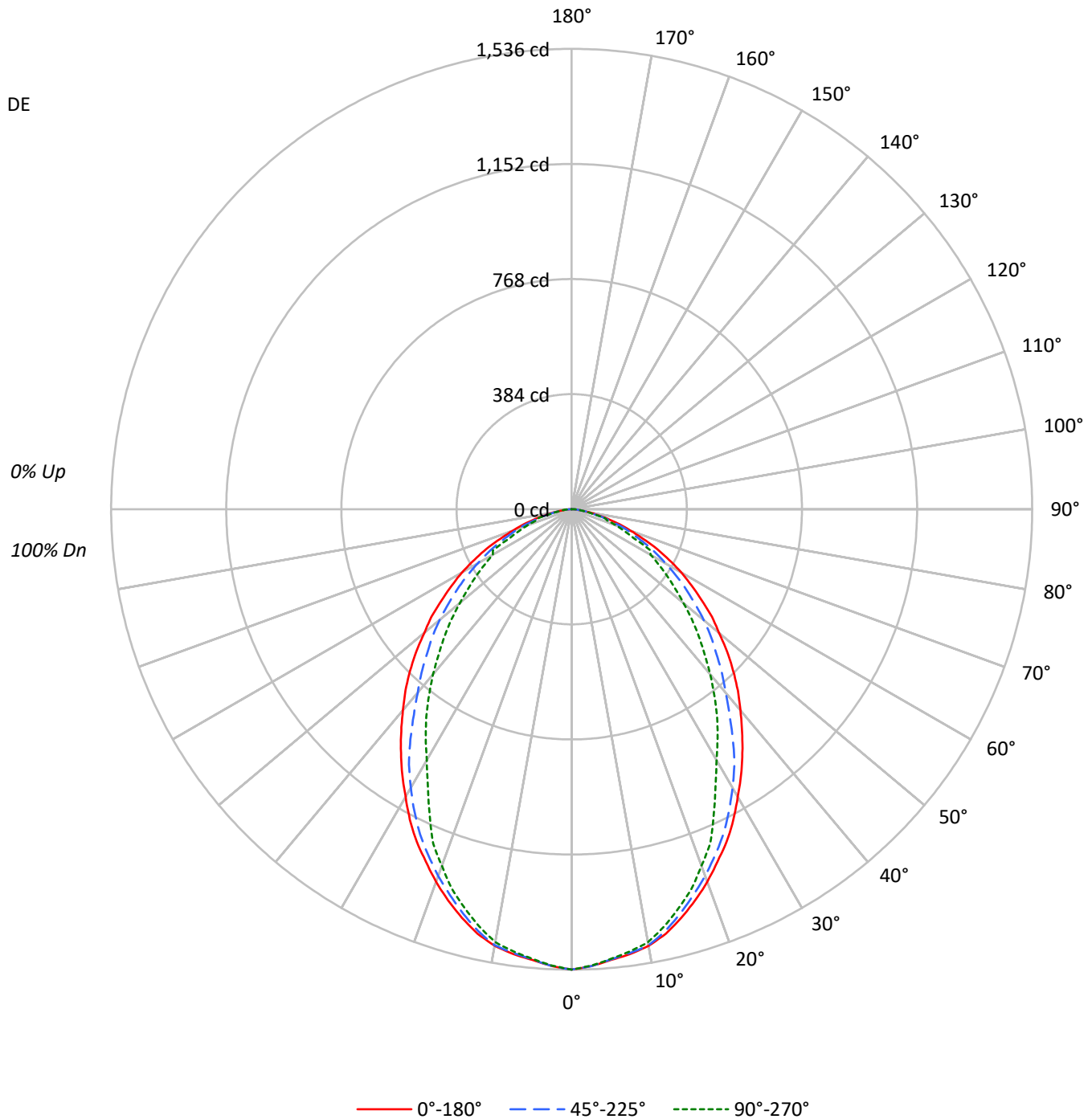
Input Watts (W): 43.2
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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	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°	4133	4133	4133
5°	4077	4072	4067
10°	4041	4036	4007
15°	3932	3893	3838
20°	3788	3727	3625
25°	3632	3553	3332
30°	3443	3332	3001
35°	3260	3080	2776
40°	3075	2807	2526
45°	2899	2595	2284
50°	2683	2408	2037
55°	2482	2183	1824
60°	2274	1949	1634
65°	2001	1707	1447
70°	1648	1495	1229
75°	1311	1145	1200
80°	880	826	770
85°	550	658	769

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 2899 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	143.0	4.7
10°-20°	392.3	13.0
20°-30°	543.2	18.0
30°-40°	579.2	19.2
40°-50°	528.4	17.5
50°-60°	414.0	13.7
60°-70°	269.8	8.9
70°-80°	119.5	4.0
80°-90°	25.7	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°	1078.5	35.8
0°-40°	1657.7	55.0
0°-60°	2600.0	86.2
0°-90°	3015.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3015.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1536	1536	1536	1536	1536	
5°	1509	1507	1507	1506	1506	143
15°	1412	1412	1397	1383	1378	397
25°	1223	1216	1197	1154	1122	562
35°	992	985	938	866	845	620
45°	762	746	682	625	600	587
55°	529	513	465	410	389	475
65°	314	296	268	273	227	310
75°	126	117	110	105	115	135
85°	18	20	21	23	25	25
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1535.8	1535.8	1535.8	1535.8	1535.8
2.5°	1525.1	1525.1	1525.1	1523.4	1523.4
5°	1509.2	1507.4	1507.4	1505.6	1505.6
7.5°	1496.7	1495.0	1493.2	1491.4	1487.9
10°	1479.0	1479.0	1477.2	1468.3	1466.6
12.5°	1450.6	1448.8	1441.7	1429.3	1425.7
15°	1411.5	1411.5	1397.3	1383.1	1377.8
17.5°	1368.9	1367.1	1349.4	1335.2	1328.1
20°	1322.7	1319.2	1301.4	1278.4	1265.9
22.5°	1271.3	1271.3	1249.9	1219.8	1207.3
25°	1223.3	1216.2	1196.7	1154.1	1122.1
27.5°	1168.3	1157.6	1136.3	1075.9	1038.7
30°	1107.9	1102.6	1072.4	994.3	965.9
32.5°	1051.1	1042.2	1010.3	928.6	905.5
35°	992.5	985.4	937.5	866.4	845.1
37.5°	933.9	925.0	864.7	807.8	781.2
40°	875.3	864.7	799.0	747.5	719.1
42.5°	820.3	806.1	742.2	687.1	655.2
45°	761.7	745.7	681.8	625.0	600.1
47.5°	703.1	688.9	630.3	571.7	543.3
50°	641.0	628.5	575.3	516.7	486.5
52.5°	589.5	569.9	518.4	459.9	435.0
55°	529.1	513.1	465.2	410.1	388.8
57.5°	474.1	458.1	413.7	362.2	344.4
60°	422.6	399.5	362.2	317.8	303.6
62.5°	365.8	348.0	316.0	278.8	296.5
65°	314.3	296.5	268.1	273.4	227.3
67.5°	257.4	248.6	223.7	198.9	191.8
70°	209.5	198.9	190.0	163.3	156.2
72.5°	166.9	156.2	143.8	129.6	124.3
75°	126.1	117.2	110.1	104.8	115.4
77.5°	87.0	83.4	78.1	72.8	71.0
80°	56.8	55.0	53.3	51.5	49.7
82.5°	33.7	33.7	33.7	33.7	33.7
85°	17.8	19.5	21.3	23.1	24.9
87.5°	10.7	10.7	12.4	14.2	16.0
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)