

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: P562195

Luminaire Tested: FSR-24-4-LD4-1LO-40-UNV-82-85-EDD

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P562195
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-LD4-1LO-40-UNV-82-85-EDD
Description: 2X4 FSR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .187 CLEAR PC ENVIRONMENTAL SI
LENSES WITH, 80 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

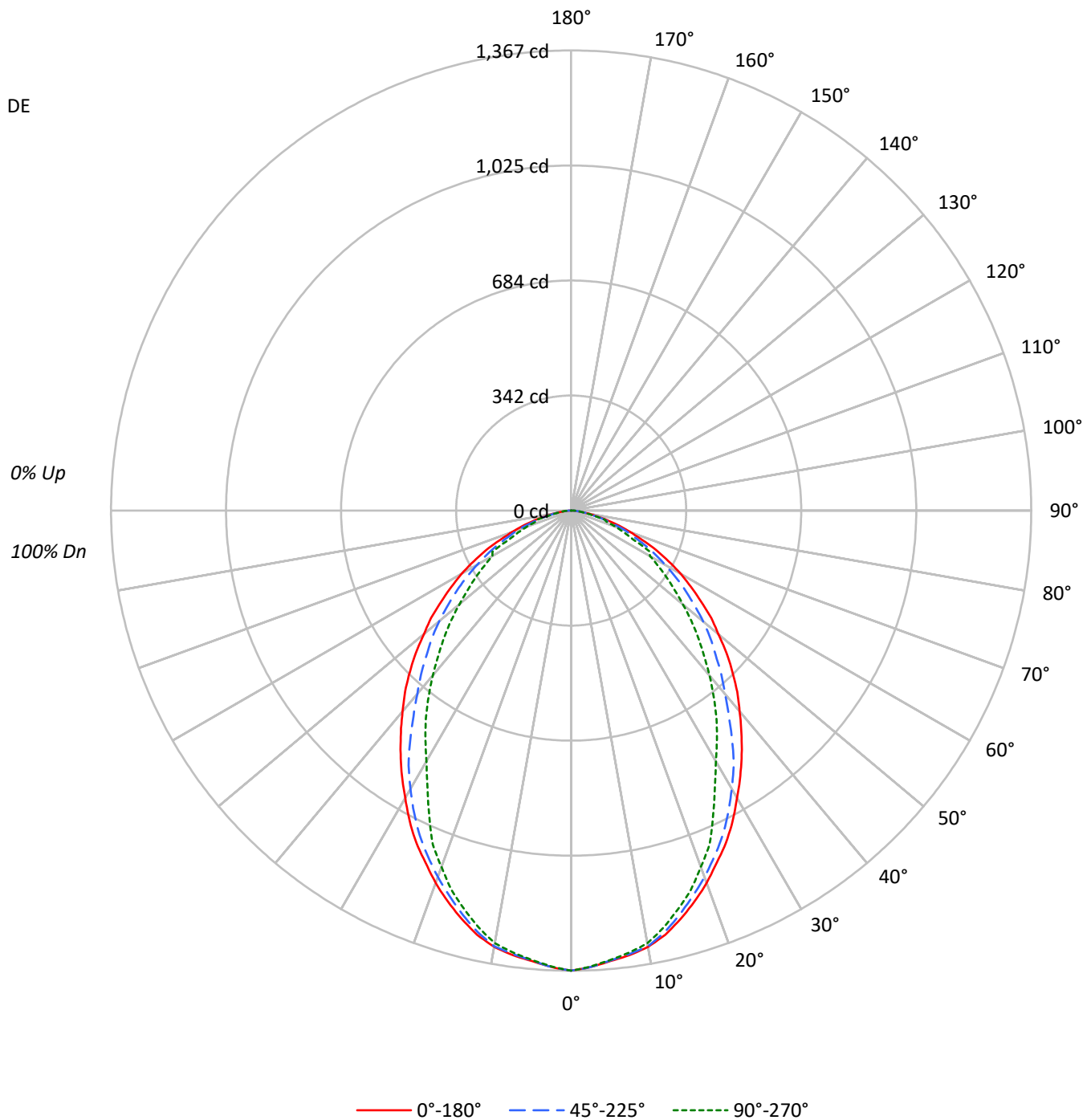
Lumens per Lamp: N/A
Luminaire Lumens: 2683.0 lumens
Efficiency: N/A
Efficacy: 114.7 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 23.4
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°	1839	1839	1839
5°	1814	1812	1810
10°	1798	1796	1783
15°	1750	1732	1708
20°	1685	1658	1613
25°	1616	1581	1482
30°	1532	1483	1335
35°	1451	1370	1235
40°	1368	1249	1124
45°	1290	1154	1016
50°	1194	1072	906
55°	1104	971	812
60°	1012	867	727
65°	890	760	644
70°	733	665	547
75°	583	509	534
80°	392	367	342
85°	244	293	341

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 1290 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	127.2	4.7
10°-20°	349.1	13.0
20°-30°	483.4	18.0
30°-40°	515.4	19.2
40°-50°	470.2	17.5
50°-60°	368.4	13.7
60°-70°	240.1	8.9
70°-80°	106.4	4.0
80°-90°	22.8	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°	959.7	35.8
0°-40°	1475.1	55.0
0°-60°	2313.7	86.2
0°-90°	2683.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2683.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1367	1367	1367	1367	1367	
5°	1343	1341	1341	1340	1340	127
15°	1256	1256	1243	1231	1226	353
25°	1089	1082	1065	1027	998	500
35°	883	877	834	771	752	552
45°	678	664	607	556	534	522
55°	471	457	414	365	346	422
65°	280	264	239	243	202	276
75°	112	104	98	93	103	120
85°	16	17	19	20	22	22
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1366.7	1366.7	1366.7	1366.7	1366.7
2.5°	1357.2	1357.2	1357.2	1355.6	1355.6
5°	1343.0	1341.4	1341.4	1339.8	1339.8
7.5°	1331.9	1330.3	1328.8	1327.2	1324.0
10°	1316.1	1316.1	1314.5	1306.6	1305.1
12.5°	1290.8	1289.3	1282.9	1271.9	1268.7
15°	1256.1	1256.1	1243.4	1230.8	1226.1
17.5°	1218.2	1216.6	1200.8	1188.1	1181.8
20°	1177.1	1173.9	1158.1	1137.6	1126.5
22.5°	1131.3	1131.3	1112.3	1085.4	1074.4
25°	1088.6	1082.3	1064.9	1027.0	998.5
27.5°	1039.6	1030.1	1011.2	957.5	924.3
30°	985.9	981.2	954.3	884.8	859.5
32.5°	935.3	927.4	899.0	826.3	805.8
35°	883.2	876.9	834.2	771.0	752.1
37.5°	831.1	823.2	769.5	718.9	695.2
40°	778.9	769.5	711.0	665.2	639.9
42.5°	730.0	717.3	660.4	611.5	583.0
45°	677.8	663.6	606.7	556.2	534.0
47.5°	625.7	613.0	560.9	508.8	483.5
50°	570.4	559.3	511.9	459.8	432.9
52.5°	524.6	507.2	461.4	409.2	387.1
55°	470.8	456.6	414.0	365.0	346.0
57.5°	421.9	407.6	368.1	322.3	306.5
60°	376.0	355.5	322.3	282.8	270.2
62.5°	325.5	309.7	281.2	248.1	263.9
65°	279.7	263.9	238.6	243.3	202.2
67.5°	229.1	221.2	199.1	177.0	170.6
70°	186.4	177.0	169.1	145.4	139.0
72.5°	148.5	139.0	128.0	115.3	110.6
75°	112.2	104.3	98.0	93.2	102.7
77.5°	77.4	74.3	69.5	64.8	63.2
80°	50.6	49.0	47.4	45.8	44.2
82.5°	30.0	30.0	30.0	30.0	30.0
85°	15.8	17.4	19.0	20.5	22.1
87.5°	9.5	9.5	11.1	12.6	14.2
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)