

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: P561226

Luminaire Tested: FSR-12-4-LD4-1STD-40-UNV-81-94-EDD-90

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P561226
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-81-94-EDD-90
Description: 1X4 FSR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .187 CLEAR TEMPERED GLASS ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 2684.0 lumens
Efficiency: N/A
Efficacy: 80.6 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

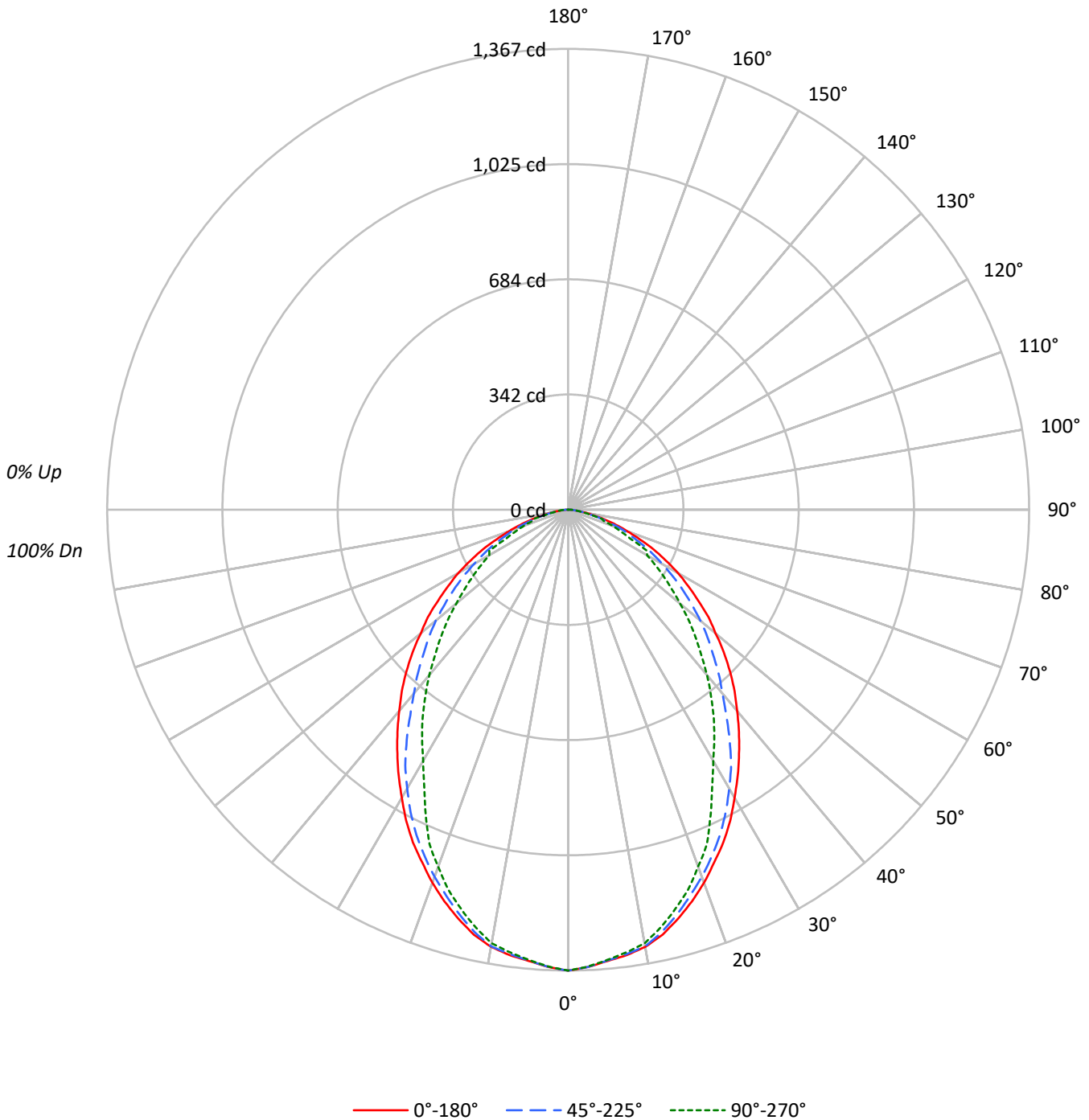
Input Watts (W): 33.3
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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	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°	3679	3679	3679
5°	3629	3625	3620
10°	3598	3593	3568
15°	3501	3465	3417
20°	3372	3318	3227
25°	3233	3163	2966
30°	3065	2967	2672
35°	2902	2741	2472
40°	2737	2499	2249
45°	2581	2310	2033
50°	2389	2144	1813
55°	2210	1943	1624
60°	2025	1735	1455
65°	1782	1520	1288
70°	1467	1330	1094
75°	1167	1019	1068
80°	784	735	687
85°	488	587	682

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 2581 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	127.3	4.7
10°-20°	349.3	13.0
20°-30°	483.5	18.0
30°-40°	515.6	19.2
40°-50°	470.4	17.5
50°-60°	368.5	13.7
60°-70°	240.2	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°	960.1	35.8
0°-40°	1475.7	55.0
0°-60°	2314.6	86.2
0°-90°	2684.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2684.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1367	1367	1367	1367	1367	
5°	1344	1342	1342	1340	1340	128
15°	1257	1257	1244	1231	1226	353
25°	1089	1083	1065	1027	999	500
35°	884	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°	1367.2	1367.2	1367.2	1367.2	1367.2
2.5°	1357.7	1357.7	1357.7	1356.1	1356.1
5°	1343.5	1341.9	1341.9	1340.3	1340.3
7.5°	1332.4	1330.8	1329.3	1327.7	1324.5
10°	1316.6	1316.6	1315.0	1307.1	1305.6
12.5°	1291.3	1289.7	1283.4	1272.4	1269.2
15°	1256.6	1256.6	1243.9	1231.3	1226.5
17.5°	1218.6	1217.0	1201.2	1188.6	1182.3
20°	1177.5	1174.4	1158.6	1138.0	1126.9
22.5°	1131.7	1131.7	1112.7	1085.9	1074.8
25°	1089.0	1082.7	1065.3	1027.4	998.9
27.5°	1040.0	1030.5	1011.6	957.8	924.6
30°	986.3	981.5	954.7	885.1	859.8
32.5°	935.7	927.8	899.3	826.6	806.1
35°	883.5	877.2	834.5	771.3	752.4
37.5°	831.4	823.5	769.7	719.2	695.5
40°	779.2	769.7	711.3	665.4	640.1
42.5°	730.2	717.6	660.7	611.7	583.2
45°	678.1	663.8	606.9	556.4	534.2
47.5°	625.9	613.3	561.1	508.9	483.7
50°	570.6	559.5	512.1	459.9	433.1
52.5°	524.7	507.4	461.5	409.4	387.2
55°	471.0	456.8	414.1	365.1	346.1
57.5°	422.0	407.8	368.3	322.4	306.6
60°	376.2	355.6	322.4	282.9	270.3
62.5°	325.6	309.8	281.3	248.1	264.0
65°	279.8	264.0	238.7	243.4	202.3
67.5°	229.2	221.3	199.2	177.0	170.7
70°	186.5	177.0	169.1	145.4	139.1
72.5°	148.6	139.1	128.0	115.4	110.6
75°	112.2	104.3	98.0	93.3	102.7
77.5°	77.4	74.3	69.5	64.8	63.2
80°	50.6	49.0	47.4	45.8	44.3
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)