

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: P561260

Luminaire Tested: FSR-12-4-LD4-1STD-40-UNV-93-96-EDD-90

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P561260
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-93-96-EDD-90
Description: 1X4 FSR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .250 CLEAR TEMPER
GLASS ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 2800.0 lumens
Efficiency: N/A
Efficacy: 84.1 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

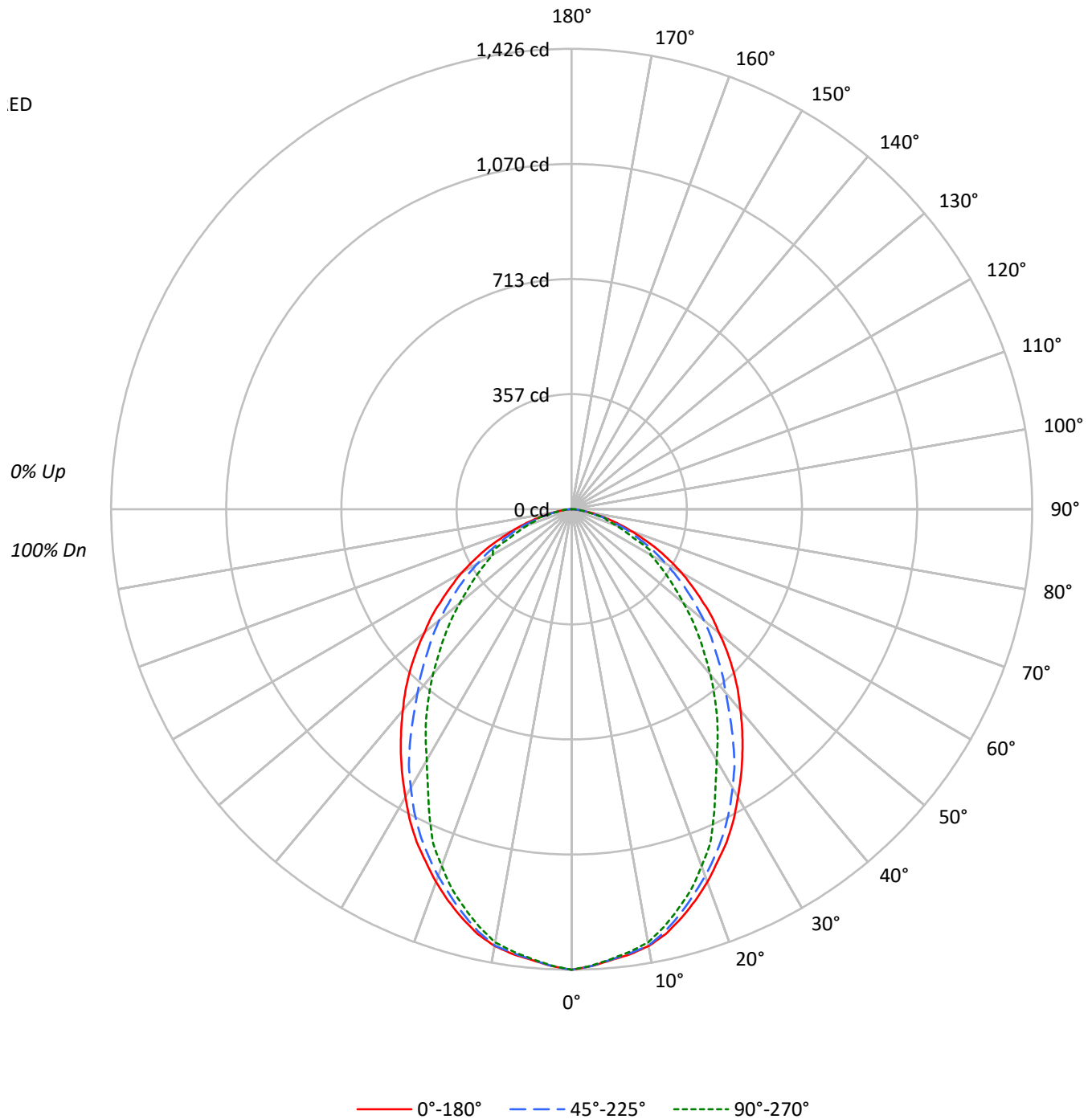
Input Watts (W): 33.3
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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	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°	3838	3838	3838
5°	3786	3781	3777
10°	3753	3749	3722
15°	3652	3615	3565
20°	3518	3461	3367
25°	3373	3300	3094
30°	3197	3095	2787
35°	3028	2860	2578
40°	2856	2607	2346
45°	2692	2410	2121
50°	2492	2236	1891
55°	2305	2027	1694
60°	2112	1810	1518
65°	1859	1585	1344
70°	1531	1388	1142
75°	1218	1063	1115
80°	818	767	716
85°	509	611	713

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 2692 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	132.8	4.7
10°-20°	364.4	13.0
20°-30°	504.4	18.0
30°-40°	537.9	19.2
40°-50°	490.7	17.5
50°-60°	384.4	13.7
60°-70°	250.6	8.9
70°-80°	111.0	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°	1001.6	35.8
0°-40°	1539.5	55.0
0°-60°	2414.6	86.2
0°-90°	2800.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2800.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1426	1426	1426	1426	1426	
5°	1402	1400	1400	1398	1398	133
15°	1311	1311	1298	1284	1280	369
25°	1136	1130	1111	1072	1042	522
35°	922	915	871	805	785	576
45°	707	692	633	580	557	545
55°	491	476	432	381	361	441
65°	292	275	249	254	211	288
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°	1426.3	1426.3	1426.3	1426.3	1426.3
2.5°	1416.4	1416.4	1416.4	1414.7	1414.7
5°	1401.5	1399.9	1399.9	1398.3	1398.3
7.5°	1390.0	1388.4	1386.7	1385.1	1381.8
10°	1373.5	1373.5	1371.9	1363.6	1362.0
12.5°	1347.1	1345.5	1338.9	1327.3	1324.1
15°	1310.9	1310.9	1297.7	1284.5	1279.5
17.5°	1271.3	1269.6	1253.2	1240.0	1233.4
20°	1228.4	1225.1	1208.6	1187.2	1175.7
22.5°	1180.6	1180.6	1160.8	1132.8	1121.2
25°	1136.1	1129.5	1111.3	1071.8	1042.1
27.5°	1085.0	1075.1	1055.3	999.2	964.6
30°	1028.9	1024.0	995.9	923.4	897.0
32.5°	976.1	967.9	938.2	862.4	840.9
35°	921.7	915.1	870.6	804.7	784.9
37.5°	867.3	859.1	803.0	750.2	725.5
40°	812.9	803.0	742.0	694.2	667.8
42.5°	761.8	748.6	689.2	638.1	608.4
45°	707.4	692.5	633.2	580.4	557.3
47.5°	653.0	639.8	585.4	530.9	504.6
50°	595.2	583.7	534.2	479.8	451.8
52.5°	547.4	529.3	481.5	427.1	404.0
55°	491.4	476.5	432.0	380.9	361.1
57.5°	440.3	425.4	384.2	336.4	319.9
60°	392.4	371.0	336.4	295.1	282.0
62.5°	339.7	323.2	293.5	258.9	275.4
65°	291.9	275.4	249.0	253.9	211.1
67.5°	239.1	230.8	207.8	184.7	178.1
70°	194.6	184.7	176.4	151.7	145.1
72.5°	155.0	145.1	133.6	120.4	115.4
75°	117.1	108.8	102.2	97.3	107.2
77.5°	80.8	77.5	72.6	67.6	66.0
80°	52.8	51.1	49.5	47.8	46.2
82.5°	31.3	31.3	31.3	31.3	31.3
85°	16.5	18.1	19.8	21.4	23.1
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)