

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: P561140

Luminaire Tested: FSR-12-4-LD4-1STD-35-UNV-80-86-EDD-90

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P561140
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-35-UNV-80-86-EDD-90
Description: 1X4 FSR TROFFER WITH .125 PRISMATIC ACRYLIC FIXTURE SIDE AND .250 CLEAR PC ENVIRON
SIDE LENSES WITH, 90 CRI AND 3500K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 2693.0 lumens
Efficiency: N/A
Efficacy: 80.9 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

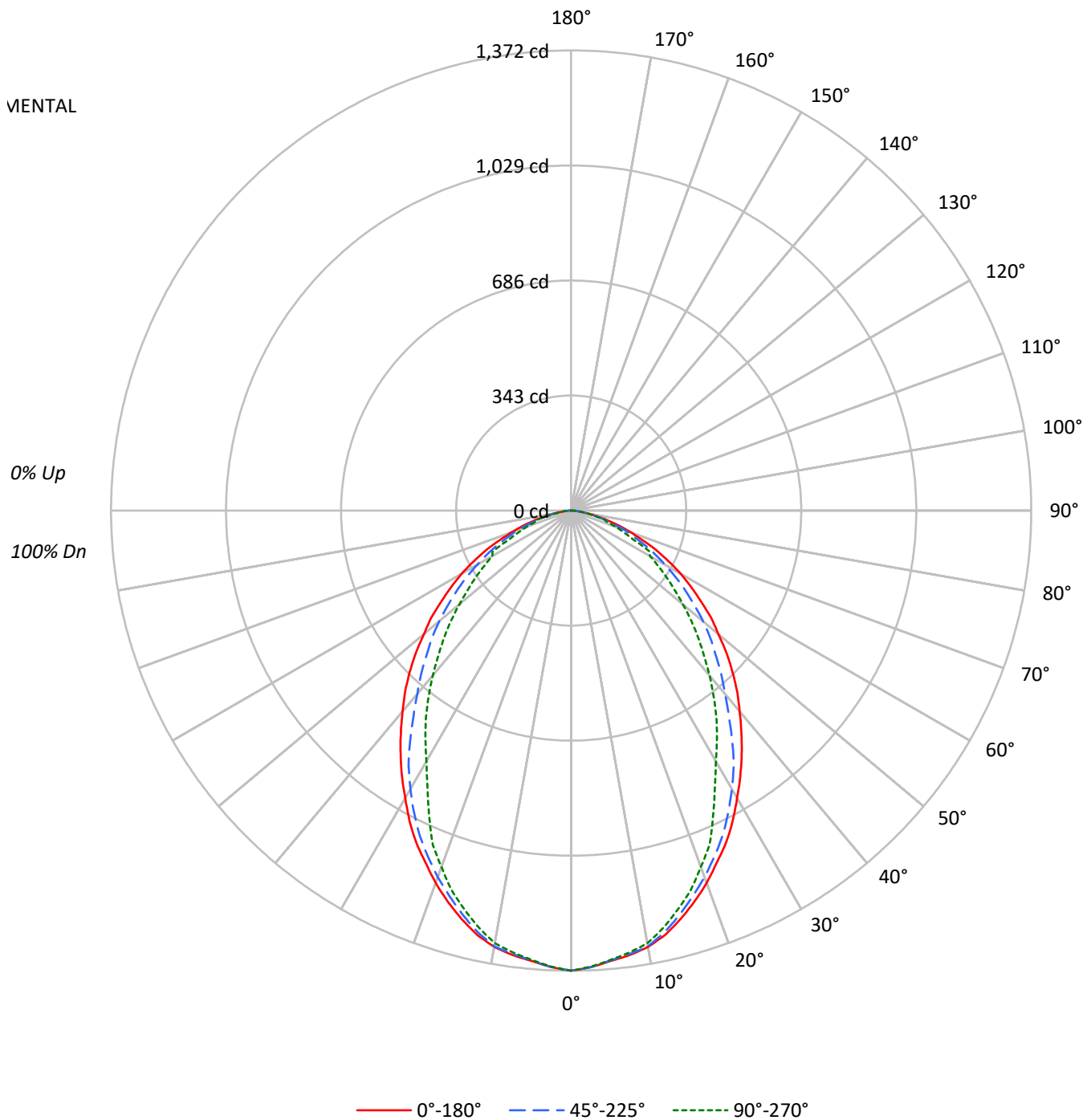
Input Watts (W): 33.3
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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	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									100																			
1	110	106	102	99	108	104	100	97	100	97	94	96	94	91	92	90	89	87									87																			
2	101	94	88	83	99	92	87	82	89	84	80	86	82	78	83	79	77	75									75																			
3	93	84	77	71	91	82	76	70	79	74	69	77	72	68	74	70	67	65									65																			
4	86	75	67	61	84	74	66	61	72	65	60	69	64	59	67	62	58	56									56																			
5	80	68	60	54	78	67	59	53	65	58	53	63	57	52	61	56	52	50									50																			
6	74	62	53	48	72	61	53	47	59	52	47	57	51	47	56	50	46	44									44																			
7	69	56	48	43	67	56	48	42	54	47	42	53	46	42	51	46	42	40									40																			
8	65	52	44	38	63	51	44	38	50	43	38	49	42	38	48	42	38	36									36																			
9	61	48	40	35	59	47	40	35	46	39	35	45	39	34	44	38	34	33									33																			
10	57	44	37	32	56	44	37	32	43	36	32	42	36	32	41	36	32	30									30																			

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	3691	3691	3691
5°	3641	3637	3633
10°	3610	3605	3579
15°	3512	3477	3428
20°	3383	3329	3238
25°	3244	3174	2976
30°	3075	2976	2681
35°	2912	2751	2480
40°	2746	2507	2256
45°	2589	2318	2040
50°	2397	2151	1819
55°	2217	1949	1629
60°	2031	1741	1460
65°	1787	1525	1293
70°	1472	1335	1098
75°	1171	1022	1072
80°	786	738	688
85°	491	587	685

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 2589 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	127.7	4.7
10°-20°	350.4	13.0
20°-30°	485.2	18.0
30°-40°	517.3	19.2
40°-50°	472.0	17.5
50°-60°	369.7	13.7
60°-70°	241.0	8.9
70°-80°	106.8	4.0
80°-90°	22.9	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°	963.3	35.8
0°-40°	1480.6	55.0
0°-60°	2322.3	86.2
0°-90°	2693.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2693.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1372	1372	1372	1372	1372	
5°	1348	1346	1346	1345	1345	128
15°	1261	1261	1248	1235	1231	354
25°	1093	1086	1069	1031	1002	502
35°	886	880	837	774	755	554
45°	680	666	609	558	536	524
55°	473	458	416	366	347	424
65°	281	265	240	244	203	277
75°	113	105	98	94	103	121
85°	16	17	19	21	22	22
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1371.8	1371.8	1371.8	1371.8	1371.8
2.5°	1362.3	1362.3	1362.3	1360.7	1360.7
5°	1348.0	1346.4	1346.4	1344.8	1344.8
7.5°	1336.9	1335.3	1333.7	1332.1	1329.0
10°	1321.0	1321.0	1319.4	1311.5	1309.9
12.5°	1295.7	1294.1	1287.7	1276.6	1273.5
15°	1260.8	1260.8	1248.1	1235.4	1230.6
17.5°	1222.7	1221.1	1205.3	1192.6	1186.2
20°	1181.5	1178.3	1162.4	1141.8	1130.7
22.5°	1135.5	1135.5	1116.5	1089.5	1078.4
25°	1092.7	1086.3	1068.9	1030.8	1002.3
27.5°	1043.5	1034.0	1015.0	961.0	927.7
30°	989.6	984.8	957.9	888.1	862.7
32.5°	938.8	930.9	902.4	829.4	808.8
35°	886.5	880.2	837.3	773.9	754.9
37.5°	834.2	826.2	772.3	721.6	697.8
40°	781.8	772.3	713.6	667.7	642.3
42.5°	732.7	720.0	662.9	613.7	585.2
45°	680.3	666.1	609.0	558.2	536.0
47.5°	628.0	615.3	563.0	510.7	485.3
50°	572.5	561.4	513.8	461.5	434.5
52.5°	526.5	509.1	463.1	410.7	388.5
55°	472.6	458.3	415.5	366.3	347.3
57.5°	423.4	409.2	369.5	323.5	307.7
60°	377.4	356.8	323.5	283.9	271.2
62.5°	326.7	310.8	282.3	249.0	264.8
65°	280.7	264.8	239.5	244.2	203.0
67.5°	230.0	222.0	199.8	177.6	171.3
70°	187.1	177.6	169.7	145.9	139.6
72.5°	149.1	139.6	128.5	115.8	111.0
75°	112.6	104.7	98.3	93.6	103.1
77.5°	77.7	74.5	69.8	65.0	63.4
80°	50.7	49.2	47.6	46.0	44.4
82.5°	30.1	30.1	30.1	30.1	30.1
85°	15.9	17.4	19.0	20.6	22.2
87.5°	9.5	9.5	11.1	12.7	14.3
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)