

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: P561306

Luminaire Tested: FSR-12-4-LD4-1STD-50-UNV-82-94-EDD-90

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P561306
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-50-UNV-82-94-EDD-90
Description: 1X4 FSR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .187 CLEAR TEMPERED GLASS ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 5000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 2767.0 lumens
Efficiency: N/A
Efficacy: 83.1 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

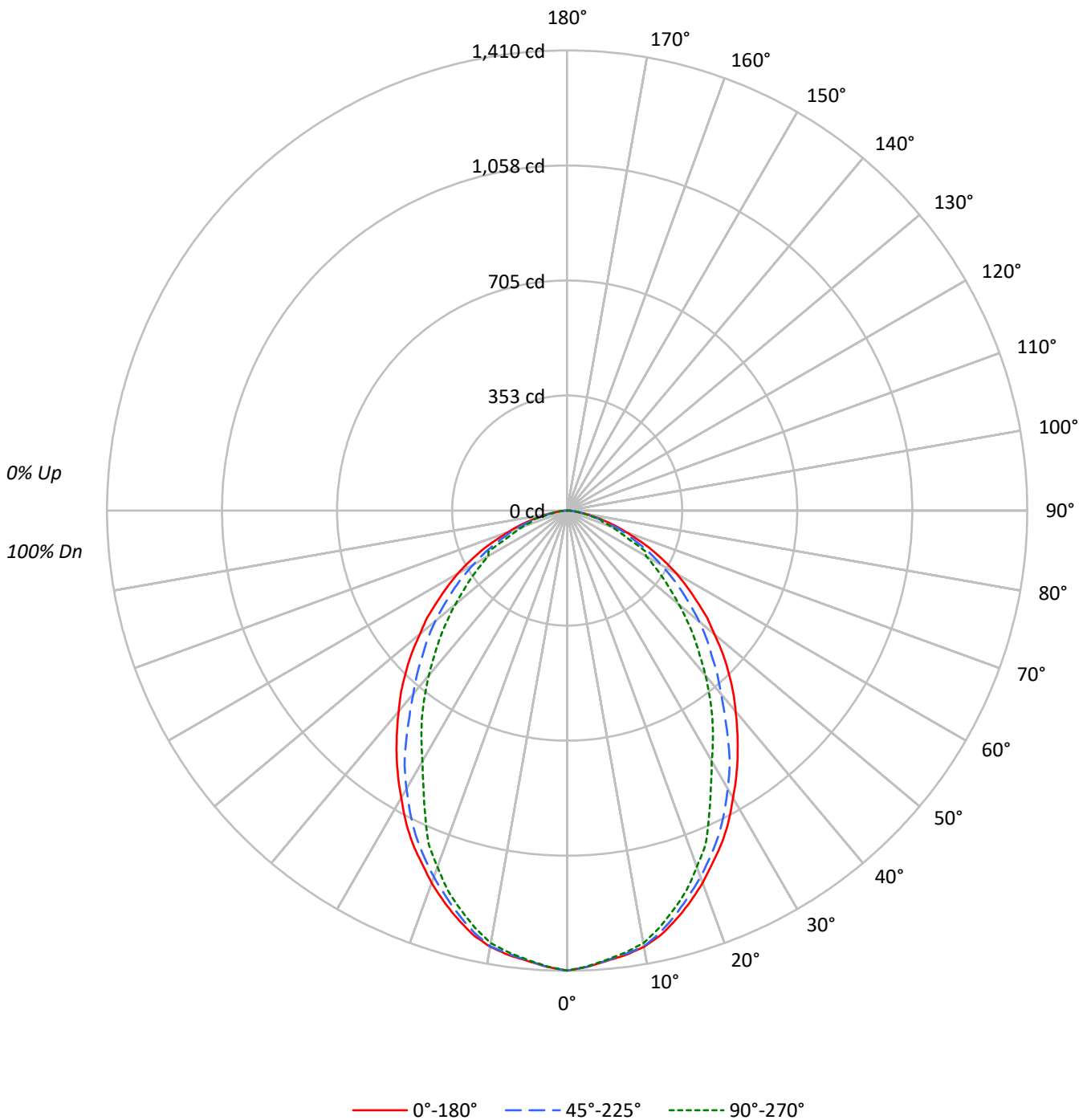
Input Watts (W): 33.3
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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	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°	3793	3793	3793
5°	3741	3737	3733
10°	3709	3704	3678
15°	3609	3573	3523
20°	3476	3420	3327
25°	3333	3261	3058
30°	3159	3058	2754
35°	2992	2826	2548
40°	2822	2576	2318
45°	2660	2381	2096
50°	2462	2210	1869
55°	2278	2003	1674
60°	2087	1789	1499
65°	1836	1566	1328
70°	1513	1372	1128
75°	1203	1050	1101
80°	807	758	707
85°	503	605	704

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 2660 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	131.2	4.7
10°-20°	360.1	13.0
20°-30°	498.5	18.0
30°-40°	531.5	19.2
40°-50°	484.9	17.5
50°-60°	379.9	13.7
60°-70°	247.6	8.9
70°-80°	109.7	4.0
80°-90°	23.6	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°	989.8	35.8
0°-40°	1521.3	55.0
0°-60°	2386.1	86.2
0°-90°	2767.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2767.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1410	1410	1410	1410	1410	
5°	1385	1383	1383	1382	1382	131
15°	1295	1295	1282	1269	1264	364
25°	1123	1116	1098	1059	1030	515
35°	911	904	860	795	776	569
45°	699	684	626	574	551	538
55°	486	471	427	376	357	436
65°	288	272	246	251	209	284
75°	116	108	101	96	106	124
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°	1409.5	1409.5	1409.5	1409.5	1409.5
2.5°	1399.7	1399.7	1399.7	1398.1	1398.1
5°	1385.0	1383.4	1383.4	1381.8	1381.8
7.5°	1373.6	1372.0	1370.4	1368.7	1365.5
10°	1357.3	1357.3	1355.7	1347.6	1345.9
12.5°	1331.3	1329.6	1323.1	1311.7	1308.4
15°	1295.4	1295.4	1282.4	1269.3	1264.5
17.5°	1256.3	1254.7	1238.4	1225.3	1218.8
20°	1213.9	1210.7	1194.4	1173.2	1161.8
22.5°	1166.7	1166.7	1147.1	1119.4	1108.0
25°	1122.7	1116.2	1098.2	1059.1	1029.8
27.5°	1072.2	1062.4	1042.8	987.4	953.2
30°	1016.8	1011.9	984.2	912.5	886.4
32.5°	964.6	956.5	927.2	852.2	831.0
35°	910.9	904.3	860.3	795.2	775.6
37.5°	857.1	848.9	793.5	741.4	717.0
40°	803.3	793.5	733.3	686.0	659.9
42.5°	752.8	739.8	681.1	630.6	601.3
45°	699.0	684.4	625.7	573.6	550.8
47.5°	645.3	632.2	578.5	524.7	498.6
50°	588.2	576.8	527.9	474.2	446.5
52.5°	541.0	523.1	475.8	422.0	399.2
55°	485.6	470.9	426.9	376.4	356.8
57.5°	435.1	420.4	379.7	332.4	316.1
60°	387.8	366.6	332.4	291.7	278.6
62.5°	335.7	319.4	290.0	255.8	272.1
65°	288.4	272.1	246.0	250.9	208.6
67.5°	236.3	228.1	205.3	182.5	176.0
70°	192.3	182.5	174.4	149.9	143.4
72.5°	153.2	143.4	132.0	118.9	114.1
75°	115.7	107.5	101.0	96.1	105.9
77.5°	79.8	76.6	71.7	66.8	65.2
80°	52.1	50.5	48.9	47.3	45.6
82.5°	31.0	31.0	31.0	31.0	31.0
85°	16.3	17.9	19.6	21.2	22.8
87.5°	9.8	9.8	11.4	13.0	14.7
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)