

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: P561126

Luminaire Tested: FSR-12-4-LD4-1LO-50-UNV-93-87-EDD-90

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P561126
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-LD4-1LO-50-UNV-93-87-EDD-90
Description: 1X4 FSR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .375 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 5000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 2082.0 lumens
Efficiency: N/A
Efficacy: 89.0 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

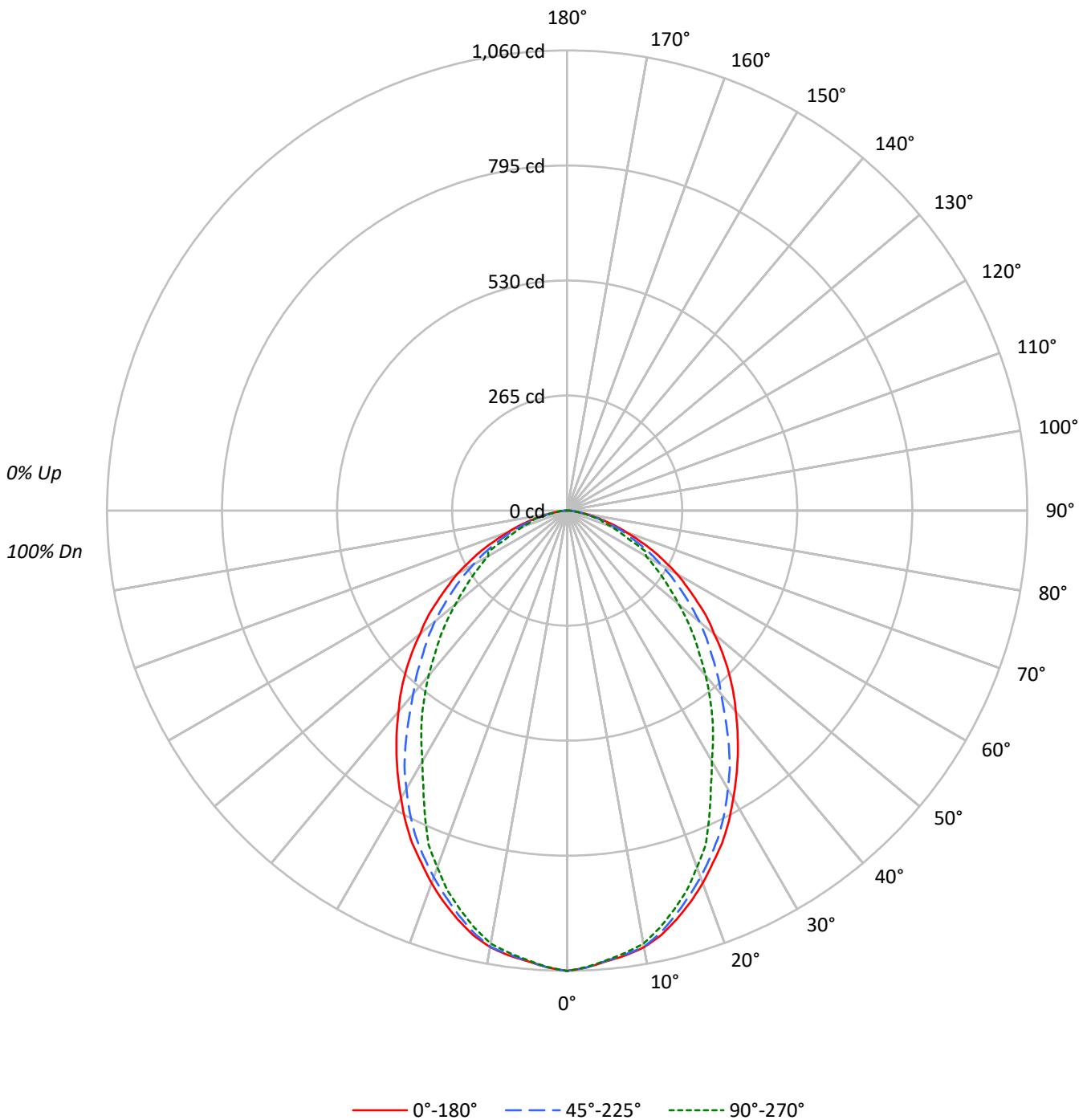
Input Watts (W): 23.4
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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	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°	2854	2854	2854
5°	2815	2812	2808
10°	2791	2787	2767
15°	2715	2688	2651
20°	2616	2574	2503
25°	2508	2454	2301
30°	2377	2301	2073
35°	2252	2127	1917
40°	2123	1938	1744
45°	2002	1792	1577
50°	1853	1663	1406
55°	1714	1507	1260
60°	1570	1346	1129
65°	1382	1179	999
70°	1138	1032	849
75°	906	790	829
80°	607	570	532
85°	380	454	531

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 2002 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	98.7	4.7
10°-20°	270.9	13.0
20°-30°	375.1	18.0
30°-40°	400.0	19.2
40°-50°	364.9	17.5
50°-60°	285.9	13.7
60°-70°	186.3	8.9
70°-80°	82.5	4.0
80°-90°	17.7	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°	744.8	35.8
0°-40°	1144.7	55.0
0°-60°	1795.4	86.2
0°-90°	2082.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2082.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1060	1060	1060	1060	1060	
5°	1042	1041	1041	1040	1040	99
15°	975	975	965	955	951	274
25°	845	840	826	797	775	388
35°	685	680	647	598	584	428
45°	526	515	471	432	414	405
55°	365	354	321	283	268	328
65°	217	205	185	189	157	214
75°	87	81	76	72	80	93
85°	12	14	15	16	17	17
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1060.5	1060.5	1060.5	1060.5	1060.5
2.5°	1053.2	1053.2	1053.2	1052.0	1052.0
5°	1042.2	1040.9	1040.9	1039.7	1039.7
7.5°	1033.6	1032.3	1031.1	1029.9	1027.4
10°	1021.3	1021.3	1020.1	1014.0	1012.7
12.5°	1001.7	1000.5	995.6	987.0	984.5
15°	974.7	974.7	964.9	955.1	951.4
17.5°	945.3	944.1	931.8	922.0	917.1
20°	913.4	911.0	898.7	882.8	874.2
22.5°	877.9	877.9	863.1	842.3	833.7
25°	844.8	839.9	826.4	796.9	774.9
27.5°	806.7	799.4	784.7	743.0	717.2
30°	765.1	761.4	740.5	686.6	667.0
32.5°	725.8	719.7	697.6	641.2	625.3
35°	685.4	680.5	647.4	598.3	583.6
37.5°	644.9	638.8	597.1	557.9	539.5
40°	604.4	597.1	551.7	516.2	496.6
42.5°	566.4	556.6	512.5	474.5	452.4
45°	526.0	514.9	470.8	431.6	414.4
47.5°	485.5	475.7	435.3	394.8	375.2
50°	442.6	434.0	397.2	356.8	335.9
52.5°	407.1	393.6	358.0	317.5	300.4
55°	365.4	354.3	321.2	283.2	268.5
57.5°	327.4	316.3	285.7	250.1	237.9
60°	291.8	275.9	250.1	219.5	209.7
62.5°	252.6	240.3	218.2	192.5	204.8
65°	217.0	204.8	185.1	188.8	156.9
67.5°	177.8	171.6	154.5	137.3	132.4
70°	144.7	137.3	131.2	112.8	107.9
72.5°	115.2	107.9	99.3	89.5	85.8
75°	87.1	80.9	76.0	72.3	79.7
77.5°	60.1	57.6	53.9	50.3	49.0
80°	39.2	38.0	36.8	35.6	34.3
82.5°	23.3	23.3	23.3	23.3	23.3
85°	12.3	13.5	14.7	15.9	17.2
87.5°	7.4	7.4	8.6	9.8	11.0
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)