

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: P560954

Luminaire Tested: FSR-12-4-LD4-1LO-35-UNV-80-94-EDD-90

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P560954
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-35-UNV-80-94-EDD-90
Description: 1X4 FSR TROFFER WITH .125 PRISMATIC ACRYLIC FIXTURE SIDE AND .187 CLEAR TEMPERED G ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 3500K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

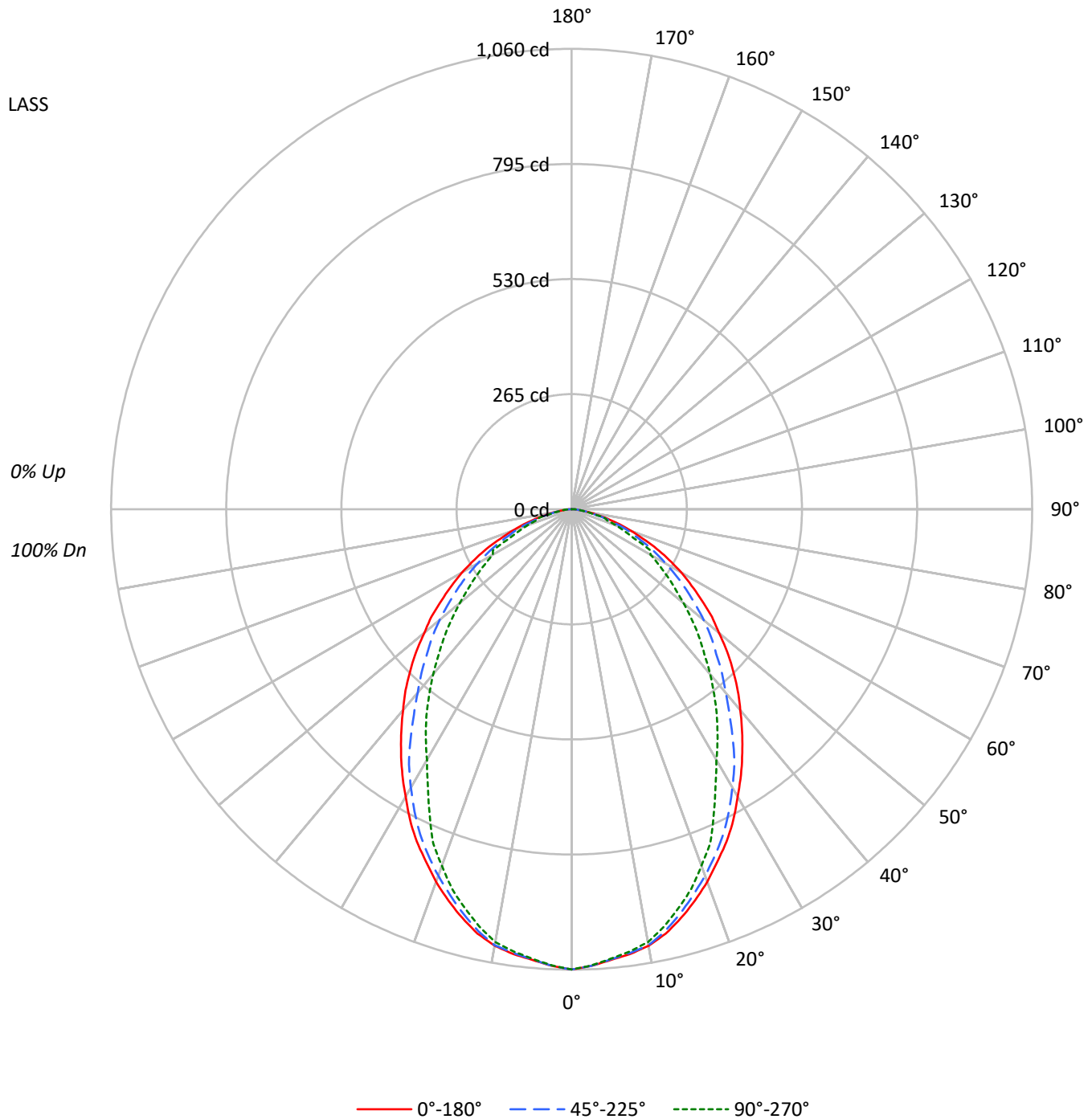
Lumens per Lamp: N/A
Luminaire Lumens: 2080.0 lumens
Efficiency: N/A
Efficacy: 88.9 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 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°	2851	2851	2851
5°	2813	2809	2806
10°	2788	2785	2765
15°	2713	2686	2648
20°	2613	2571	2501
25°	2506	2451	2298
30°	2375	2299	2070
35°	2249	2124	1915
40°	2121	1936	1743
45°	2000	1790	1576
50°	1851	1662	1405
55°	1712	1506	1258
60°	1569	1345	1128
65°	1380	1178	998
70°	1137	1031	848
75°	905	789	828
80°	607	569	532
85°	377	454	528

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 2000 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	98.6	4.7
10°-20°	270.7	13.0
20°-30°	374.7	18.0
30°-40°	399.6	19.2
40°-50°	364.5	17.5
50°-60°	285.6	13.7
60°-70°	186.1	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°	744.0	35.8
0°-40°	1143.6	55.0
0°-60°	1793.7	86.2
0°-90°	2080.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2080.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1060	1060	1060	1060	1060	
5°	1041	1040	1040	1039	1039	99
15°	974	974	964	954	950	274
25°	844	839	826	796	774	387
35°	685	680	647	598	583	428
45°	526	514	470	431	414	405
55°	365	354	321	283	268	327
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°	1059.5	1059.5	1059.5	1059.5	1059.5
2.5°	1052.2	1052.2	1052.2	1051.0	1051.0
5°	1041.2	1039.9	1039.9	1038.7	1038.7
7.5°	1032.6	1031.4	1030.1	1028.9	1026.5
10°	1020.3	1020.3	1019.1	1013.0	1011.8
12.5°	1000.7	999.5	994.6	986.0	983.6
15°	973.8	973.8	964.0	954.2	950.5
17.5°	944.4	943.2	930.9	921.1	916.2
20°	912.5	910.1	897.8	881.9	873.3
22.5°	877.0	877.0	862.3	841.5	832.9
25°	843.9	839.0	825.6	796.2	774.1
27.5°	806.0	798.6	783.9	742.3	716.6
30°	764.3	760.7	739.8	685.9	666.3
32.5°	725.1	719.0	697.0	640.6	624.7
35°	684.7	679.8	646.7	597.7	583.0
37.5°	644.3	638.2	596.5	557.3	538.9
40°	603.9	596.5	551.2	515.7	496.1
42.5°	565.9	556.1	512.0	474.0	452.0
45°	525.5	514.5	470.4	431.2	414.0
47.5°	485.1	475.3	434.8	394.4	374.8
50°	442.2	433.6	396.9	356.4	335.6
52.5°	406.7	393.2	357.7	317.2	300.1
55°	365.0	354.0	320.9	282.9	268.2
57.5°	327.0	316.0	285.4	249.9	237.6
60°	291.5	275.6	249.9	219.3	209.5
62.5°	252.3	240.1	218.0	192.3	204.6
65°	216.8	204.6	185.0	188.6	156.8
67.5°	177.6	171.5	154.3	137.2	132.3
70°	144.5	137.2	131.1	112.7	107.8
72.5°	115.1	107.8	99.2	89.4	85.7
75°	87.0	80.8	75.9	72.3	79.6
77.5°	60.0	57.6	53.9	50.2	49.0
80°	39.2	38.0	36.7	35.5	34.3
82.5°	23.3	23.3	23.3	23.3	23.3
85°	12.2	13.5	14.7	15.9	17.1
87.5°	7.3	7.3	8.6	9.8	11.0
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)