

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: P561132

Luminaire Tested: FSR-12-4-LD4-1LO-50-UNV-93-96-EDD-90

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P561132
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-93-96-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 5000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

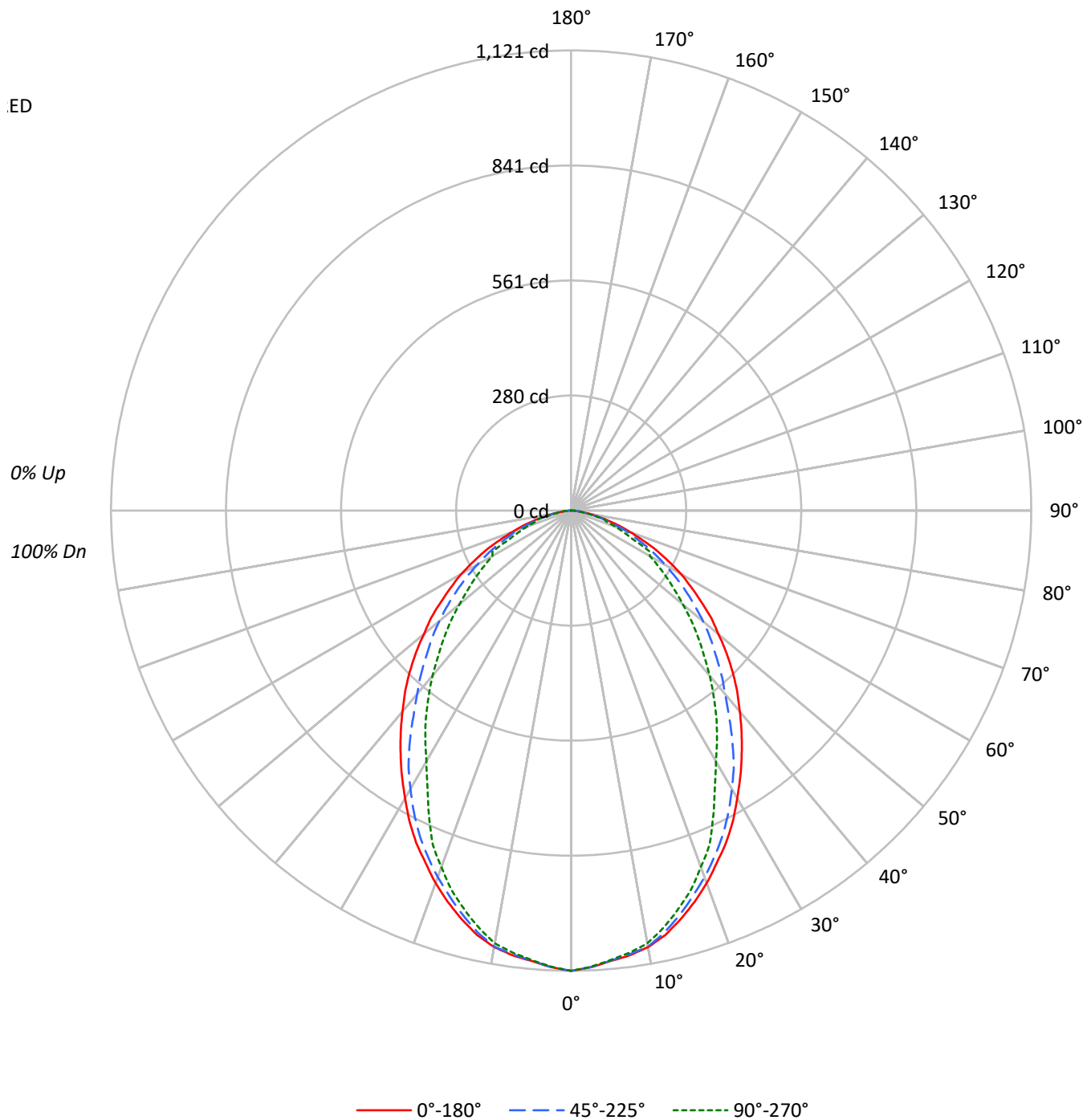
Lumens per Lamp: N/A
Luminaire Lumens: 2201.0 lumens
Efficiency: N/A
Efficacy: 94.1 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 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																												
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°	3017	3017	3017
5°	2976	2972	2969
10°	2950	2947	2925
15°	2871	2842	2802
20°	2765	2721	2646
25°	2651	2594	2432
30°	2513	2433	2191
35°	2380	2248	2027
40°	2245	2049	1844
45°	2116	1894	1667
50°	1959	1758	1487
55°	1812	1593	1332
60°	1660	1423	1193
65°	1461	1246	1056
70°	1203	1091	898
75°	957	836	875
80°	643	603	563
85°	401	482	559

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 2116 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	104.4	4.7
10°-20°	286.4	13.0
20°-30°	396.5	18.0
30°-40°	422.8	19.2
40°-50°	385.7	17.5
50°-60°	302.2	13.7
60°-70°	197.0	8.9
70°-80°	87.3	4.0
80°-90°	18.7	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°	787.3	35.8
0°-40°	1210.1	55.0
0°-60°	1898.1	86.2
0°-90°	2201.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2201.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1121	1121	1121	1121	1121	
5°	1102	1100	1100	1099	1099	105
15°	1030	1030	1020	1010	1006	290
25°	893	888	874	842	819	410
35°	724	719	684	632	617	453
45°	556	544	498	456	438	428
55°	386	375	340	299	284	346
65°	229	216	196	200	166	226
75°	92	86	80	76	84	99
85°	13	14	16	17	18	18
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1121.2	1121.2	1121.2	1121.2	1121.2
2.5°	1113.4	1113.4	1113.4	1112.1	1112.1
5°	1101.7	1100.4	1100.4	1099.1	1099.1
7.5°	1092.6	1091.3	1090.1	1088.8	1086.2
10°	1079.7	1079.7	1078.4	1071.9	1070.6
12.5°	1058.9	1057.6	1052.5	1043.4	1040.8
15°	1030.4	1030.4	1020.1	1009.7	1005.8
17.5°	999.3	998.0	985.1	974.7	969.5
20°	965.6	963.0	950.1	933.2	924.1
22.5°	928.0	928.0	912.5	890.4	881.4
25°	893.0	887.9	873.6	842.5	819.2
27.5°	852.9	845.1	829.5	785.5	758.2
30°	808.8	804.9	782.9	725.8	705.1
32.5°	767.3	760.8	737.5	677.9	661.0
35°	724.5	719.4	684.4	632.5	617.0
37.5°	681.8	675.3	631.2	589.7	570.3
40°	639.0	631.2	583.3	545.7	524.9
42.5°	598.8	588.4	541.8	501.6	478.3
45°	556.0	544.4	497.7	456.2	438.1
47.5°	513.3	502.9	460.1	417.4	396.6
50°	467.9	458.8	419.9	377.2	355.1
52.5°	430.3	416.1	378.5	335.7	317.6
55°	386.2	374.6	339.6	299.4	283.9
57.5°	346.1	334.4	302.0	264.4	251.5
60°	308.5	291.6	264.4	232.0	221.6
62.5°	267.0	254.0	230.7	203.5	216.5
65°	229.4	216.5	195.7	199.6	165.9
67.5°	187.9	181.5	163.3	145.2	140.0
70°	152.9	145.2	138.7	119.2	114.1
72.5°	121.8	114.1	105.0	94.6	90.7
75°	92.0	85.5	80.4	76.5	84.2
77.5°	63.5	60.9	57.0	53.1	51.8
80°	41.5	40.2	38.9	37.6	36.3
82.5°	24.6	24.6	24.6	24.6	24.6
85°	13.0	14.3	15.6	16.8	18.1
87.5°	7.8	7.8	9.1	10.4	11.7
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)