

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: P561514

Luminaire Tested: FSR-12-4-LD4-2HI-50-UNV-93-94-EDD-90

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P561514
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-LD4-2HI-50-UNV-93-94-EDD-90
Description: 1X4 FSR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .187 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: 7313.0 lumens
Efficiency: N/A
Efficacy: 84.6 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

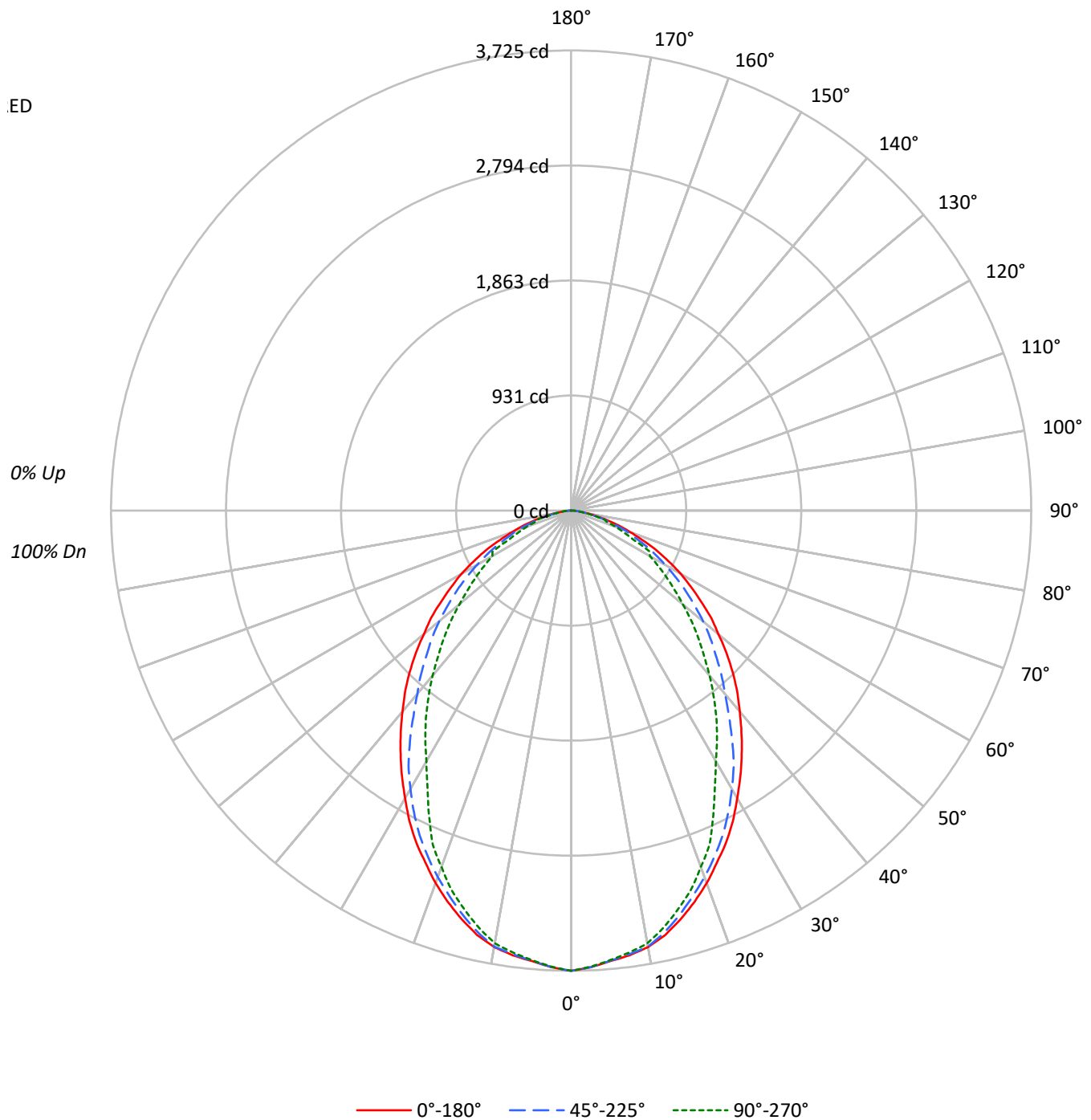
Input Watts (W): 86.4
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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°	10024	10024	10024
5°	9888	9876	9865
10°	9802	9791	9720
15°	9538	9442	9310
20°	9188	9040	8793
25°	8810	8618	8081
30°	8350	8082	7279
35°	7908	7470	6734
40°	7458	6808	6127
45°	7031	6293	5539
50°	6509	5841	4940
55°	6021	5294	4425
60°	5517	4728	3963
65°	4854	4141	3510
70°	3998	3626	2982
75°	3179	2776	2910
80°	2135	2002	1869
85°	1331	1596	1862

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 7031 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	346.8	4.7
10°-20°	951.7	13.0
20°-30°	1317.5	18.0
30°-40°	1404.8	19.2
40°-50°	1281.6	17.5
50°-60°	1004.0	13.7
60°-70°	654.4	8.9
70°-80°	289.9	4.0
80°-90°	62.2	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°	2615.9	35.8
0°-40°	4020.8	55.0
0°-60°	6306.4	86.2
0°-90°	7313.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	7313.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	3725	3725	3725	3725	3725	
5°	3660	3656	3656	3652	3652	347
15°	3424	3424	3389	3355	3342	962
25°	2967	2950	2903	2799	2722	1362
35°	2407	2390	2274	2102	2050	1505
45°	1848	1809	1654	1516	1456	1423
55°	1283	1245	1128	995	943	1151
65°	762	719	650	663	551	751
75°	306	284	267	254	280	328
85°	43	47	52	56	60	60
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	3725.1	3725.1	3725.1	3725.1	3725.1
2.5°	3699.3	3699.3	3699.3	3695.0	3695.0
5°	3660.5	3656.2	3656.2	3651.9	3651.9
7.5°	3630.4	3626.1	3621.8	3617.5	3608.9
10°	3587.3	3587.3	3583.0	3561.5	3557.2
12.5°	3518.4	3514.1	3496.9	3466.8	3458.1
15°	3423.7	3423.7	3389.2	3354.8	3341.9
17.5°	3320.3	3316.0	3273.0	3238.5	3221.3
20°	3208.4	3199.7	3156.7	3100.7	3070.6
22.5°	3083.5	3083.5	3031.8	2958.6	2928.4
25°	2967.2	2950.0	2902.6	2799.2	2721.7
27.5°	2833.7	2807.9	2756.2	2609.8	2519.3
30°	2687.3	2674.4	2601.1	2411.7	2342.7
32.5°	2549.5	2527.9	2450.4	2252.3	2196.3
35°	2407.3	2390.1	2273.8	2101.6	2049.9
37.5°	2265.2	2243.7	2097.3	1959.5	1894.9
40°	2123.1	2097.3	1937.9	1813.0	1744.1
42.5°	1989.6	1955.2	1800.1	1666.6	1589.1
45°	1847.5	1808.7	1653.7	1515.9	1455.6
47.5°	1705.4	1670.9	1528.8	1386.7	1317.8
50°	1554.7	1524.5	1395.3	1253.2	1180.0
52.5°	1429.8	1382.4	1257.5	1115.4	1055.1
55°	1283.3	1244.6	1128.3	994.8	943.1
57.5°	1149.8	1111.1	1003.4	878.5	835.5
60°	1025.0	969.0	878.5	770.9	736.4
62.5°	887.1	844.1	766.6	676.1	719.2
65°	762.3	719.2	650.3	663.2	551.2
67.5°	624.4	602.9	542.6	482.3	465.1
70°	508.2	482.3	460.8	396.2	379.0
72.5°	404.8	379.0	348.8	314.4	301.5
75°	305.8	284.2	267.0	254.1	279.9
77.5°	211.0	202.4	189.5	176.6	172.3
80°	137.8	133.5	129.2	124.9	120.6
82.5°	81.8	81.8	81.8	81.8	81.8
85°	43.1	47.4	51.7	56.0	60.3
87.5°	25.8	25.8	30.1	34.5	38.8
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)