

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: P561493

Luminaire Tested: FSR-12-4-LD4-2HI-50-UNV-82-86-EDD

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P561493
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-82-86-EDD
Description: 1X4 FSR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .250 CLEAR PC ENVIRONMENTAL SI
LENSES WITH, 80 CRI AND 5000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 7543.0 lumens
Efficiency: N/A
Efficacy: 87.3 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

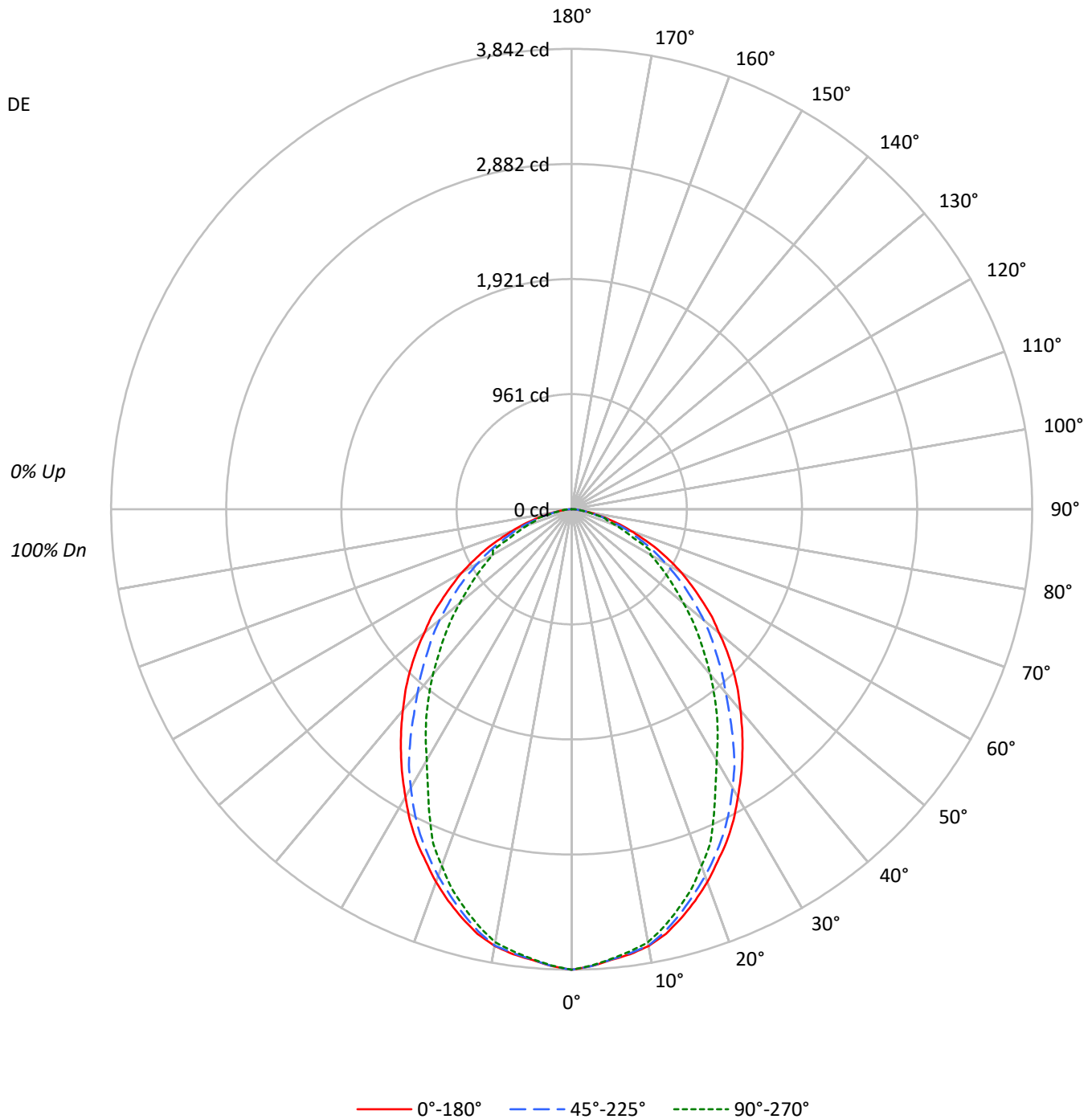
Input Watts (W): 86.4
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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	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°	10340	10340	10340
5°	10199	10187	10175
10°	10111	10098	10026
15°	9838	9739	9603
20°	9477	9324	9070
25°	9087	8889	8335
30°	8613	8337	7508
35°	8157	7705	6946
40°	7693	7022	6320
45°	7252	6491	5714
50°	6713	6025	5095
55°	6210	5460	4564
60°	5690	4877	4088
65°	5006	4271	3621
70°	4124	3740	3076
75°	3279	2863	3002
80°	2202	2066	1928
85°	1371	1646	1920

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 7252 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	357.7	4.7
10°-20°	981.6	13.0
20°-30°	1358.9	18.0
30°-40°	1449.0	19.2
40°-50°	1321.9	17.5
50°-60°	1035.6	13.7
60°-70°	675.0	8.9
70°-80°	299.0	4.0
80°-90°	64.2	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°	2698.2	35.8
0°-40°	4147.2	55.0
0°-60°	6504.8	86.2
0°-90°	7543.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	7543.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	3842	3842	3842	3842	3842	
5°	3776	3771	3771	3767	3767	358
15°	3531	3531	3496	3460	3447	993
25°	3060	3043	2994	2887	2807	1405
35°	2483	2465	2345	2168	2114	1552
45°	1906	1866	1706	1564	1501	1468
55°	1324	1284	1164	1026	973	1187
65°	786	742	671	684	569	775
75°	315	293	275	262	289	338
85°	44	49	53	58	62	62
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	3842.3	3842.3	3842.3	3842.3	3842.3
2.5°	3815.7	3815.7	3815.7	3811.2	3811.2
5°	3775.7	3771.2	3771.2	3766.8	3766.8
7.5°	3744.6	3740.1	3735.7	3731.3	3722.4
10°	3700.2	3700.2	3695.7	3673.5	3669.1
12.5°	3629.1	3624.6	3606.9	3575.8	3566.9
15°	3531.4	3531.4	3495.8	3460.3	3447.0
17.5°	3424.8	3420.3	3375.9	3340.4	3322.6
20°	3309.3	3300.4	3256.0	3198.2	3167.1
22.5°	3180.4	3180.4	3127.1	3051.6	3020.5
25°	3060.5	3042.7	2993.9	2887.3	2807.3
27.5°	2922.8	2896.2	2842.9	2691.8	2598.6
30°	2771.8	2758.5	2682.9	2487.5	2416.4
32.5°	2629.6	2607.4	2527.5	2323.1	2265.4
35°	2483.1	2465.3	2345.4	2167.7	2114.4
37.5°	2336.5	2314.3	2163.2	2021.1	1954.5
40°	2189.9	2163.2	1998.9	1870.1	1799.0
42.5°	2052.2	2016.7	1856.7	1719.0	1639.1
45°	1905.6	1865.6	1705.7	1563.6	1501.4
47.5°	1759.0	1723.5	1576.9	1430.3	1359.2
50°	1603.6	1572.5	1439.2	1292.6	1217.1
52.5°	1474.7	1425.9	1297.1	1150.5	1088.3
55°	1323.7	1283.7	1163.8	1026.1	972.8
57.5°	1186.0	1146.0	1035.0	906.2	861.7
60°	1057.2	999.4	906.2	795.1	759.6
62.5°	915.0	870.6	790.7	697.4	741.8
65°	786.2	741.8	670.7	684.1	568.6
67.5°	644.1	621.9	559.7	497.5	479.7
70°	524.2	497.5	475.3	408.7	390.9
72.5°	417.5	390.9	359.8	324.3	310.9
75°	315.4	293.2	275.4	262.1	288.7
77.5°	217.7	208.8	195.4	182.1	177.7
80°	142.1	137.7	133.3	128.8	124.4
82.5°	84.4	84.4	84.4	84.4	84.4
85°	44.4	48.9	53.3	57.7	62.2
87.5°	26.7	26.7	31.1	35.5	40.0
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)