

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: P561028

Luminaire Tested: FSR-12-4-LD4-1LO-40-UNV-81-86-EDD-90

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P561028
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-40-UNV-81-86-EDD-90
Description: 1X4 FSR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .250 CLEAR PC ENVIRONMENTAL SI
LENSES WITH, 90 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 1938.0 lumens
Efficiency: N/A
Efficacy: 82.8 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

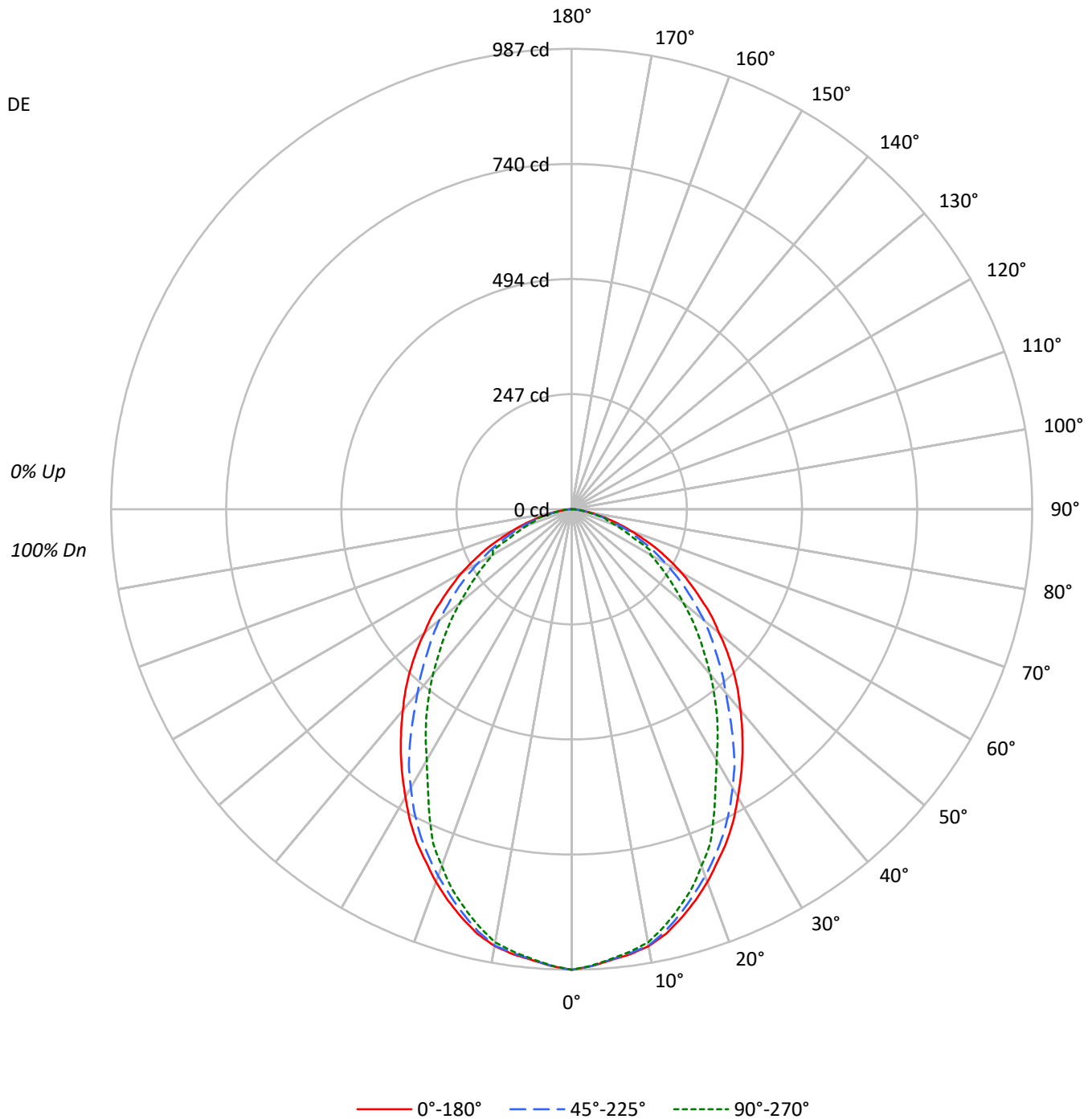
Input Watts (W): 23.4
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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°	2657	2657	2657
5°	2620	2617	2614
10°	2598	2595	2576
15°	2528	2502	2467
20°	2435	2395	2330
25°	2335	2284	2142
30°	2213	2142	1929
35°	2096	1980	1784
40°	1976	1804	1624
45°	1863	1668	1468
50°	1725	1548	1309
55°	1596	1403	1172
60°	1462	1253	1051
65°	1286	1097	930
70°	1060	961	790
75°	842	736	771
80°	566	530	496
85°	352	423	494

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 1863 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	91.9	4.7
10°-20°	252.2	13.0
20°-30°	349.1	18.0
30°-40°	372.3	19.2
40°-50°	339.6	17.5
50°-60°	266.1	13.7
60°-70°	173.4	8.9
70°-80°	76.8	4.0
80°-90°	16.5	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°	693.2	35.8
0°-40°	1065.5	55.0
0°-60°	1671.2	86.2
0°-90°	1938.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1938.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	987	987	987	987	987	
5°	970	969	969	968	968	92
15°	907	907	898	889	886	255
25°	786	782	769	742	721	361
35°	638	633	603	557	543	399
45°	490	479	438	402	386	377
55°	340	330	299	264	250	305
65°	202	191	172	176	146	199
75°	81	75	71	67	74	87
85°	11	13	14	15	16	16
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	987.2	987.2	987.2	987.2	987.2
2.5°	980.3	980.3	980.3	979.2	979.2
5°	970.1	968.9	968.9	967.8	967.8
7.5°	962.1	960.9	959.8	958.7	956.4
10°	950.7	950.7	949.5	943.8	942.7
12.5°	932.4	931.3	926.7	918.7	916.4
15°	907.3	907.3	898.2	889.0	885.6
17.5°	879.9	878.8	867.4	858.2	853.7
20°	850.2	848.0	836.5	821.7	813.7
22.5°	817.1	817.1	803.4	784.0	776.1
25°	786.3	781.8	769.2	741.8	721.3
27.5°	751.0	744.1	730.4	691.6	667.6
30°	712.1	708.7	689.3	639.1	620.8
32.5°	675.6	669.9	649.4	596.9	582.0
35°	638.0	633.4	602.6	556.9	543.2
37.5°	600.3	594.6	555.8	519.3	502.2
40°	562.6	555.8	513.6	480.5	462.2
42.5°	527.3	518.1	477.0	441.7	421.1
45°	489.6	479.3	438.2	401.7	385.7
47.5°	451.9	442.8	405.1	367.5	349.2
50°	412.0	404.0	369.8	332.1	312.7
52.5°	378.9	366.3	333.2	295.6	279.6
55°	340.1	329.8	299.0	263.6	249.9
57.5°	304.7	294.4	265.9	232.8	221.4
60°	271.6	256.8	232.8	204.3	195.2
62.5°	235.1	223.7	203.1	179.2	190.6
65°	202.0	190.6	172.3	175.8	146.1
67.5°	165.5	159.8	143.8	127.8	123.3
70°	134.7	127.8	122.1	105.0	100.4
72.5°	107.3	100.4	92.4	83.3	79.9
75°	81.0	75.3	70.8	67.3	74.2
77.5°	55.9	53.6	50.2	46.8	45.7
80°	36.5	35.4	34.2	33.1	32.0
82.5°	21.7	21.7	21.7	21.7	21.7
85°	11.4	12.6	13.7	14.8	16.0
87.5°	6.8	6.8	8.0	9.1	10.3
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)