

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: P560982

Luminaire Tested: FSR-12-4-LD4-1LO-35-UNV-82-87-EDD-90

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P560982
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-82-87-EDD-90
Description: 1X4 FSR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .375 CLEAR PC ENVIRONMENTAL SI
LENSES WITH, 90 CRI AND 3500K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 1810.0 lumens
Efficiency: N/A
Efficacy: 77.4 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

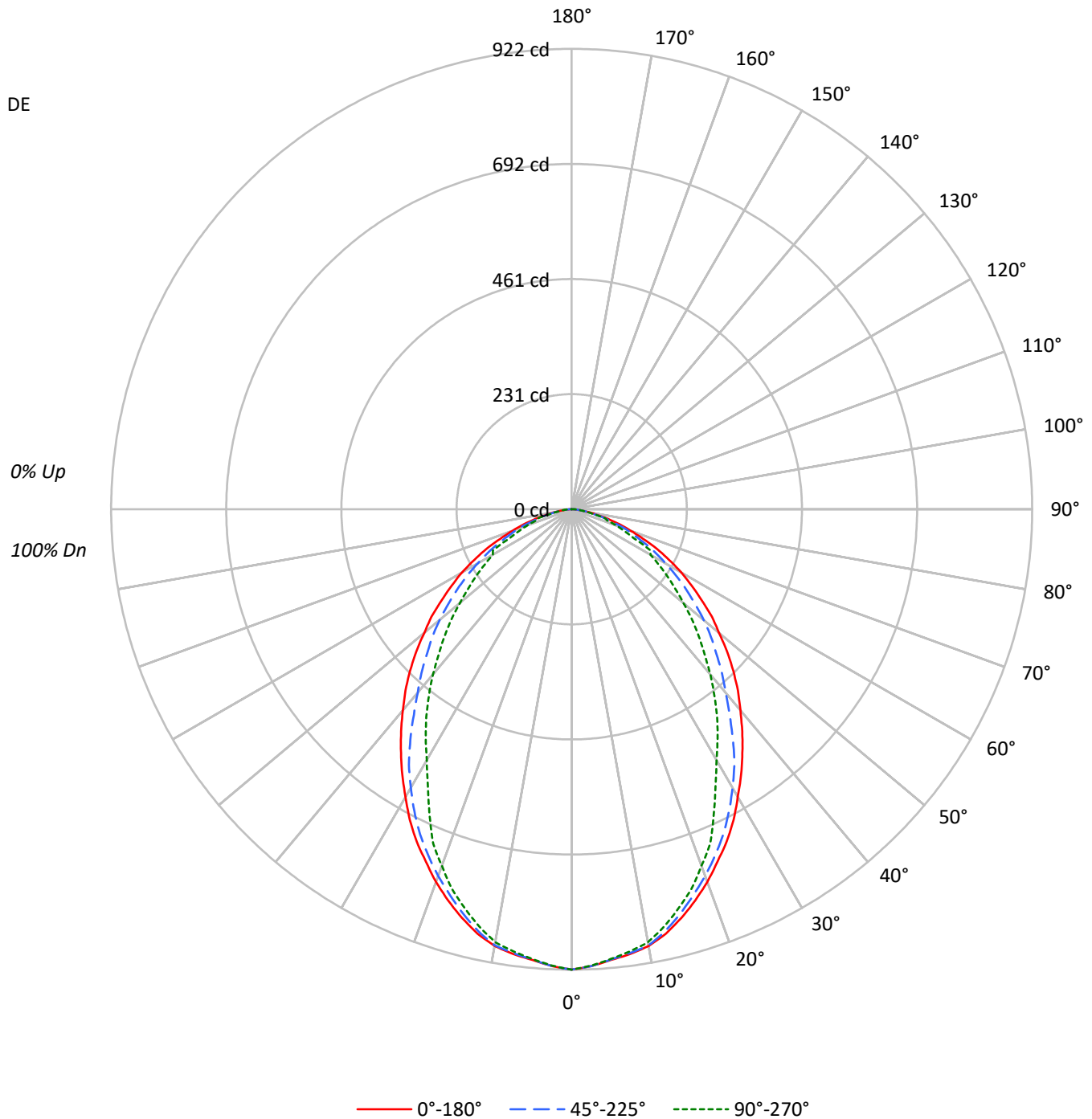
Input Watts (W): 23.4
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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	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°	2481	2481	2481
5°	2447	2444	2442
10°	2426	2423	2406
15°	2361	2337	2304
20°	2274	2237	2176
25°	2181	2133	2000
30°	2067	2000	1802
35°	1957	1849	1667
40°	1846	1685	1516
45°	1740	1558	1371
50°	1611	1446	1223
55°	1490	1310	1095
60°	1365	1170	981
65°	1202	1025	869
70°	990	897	738
75°	787	687	721
80°	528	496	462
85°	330	395	460

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 1740 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	85.8	4.7
10°-20°	235.5	13.0
20°-30°	326.1	18.0
30°-40°	347.7	19.2
40°-50°	317.2	17.5
50°-60°	248.5	13.7
60°-70°	162.0	8.9
70°-80°	71.8	4.0
80°-90°	15.4	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°	647.5	35.8
0°-40°	995.2	55.0
0°-60°	1560.9	86.2
0°-90°	1810.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1810.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	922	922	922	922	922	
5°	906	905	905	904	904	86
15°	847	847	839	830	827	238
25°	734	730	718	693	674	337
35°	596	592	563	520	507	373
45°	457	448	409	375	360	352
55°	318	308	279	246	233	285
65°	189	178	161	164	136	186
75°	76	70	66	63	69	81
85°	11	12	13	14	15	15
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	922.0	922.0	922.0	922.0	922.0
2.5°	915.6	915.6	915.6	914.5	914.5
5°	906.0	904.9	904.9	903.9	903.9
7.5°	898.5	897.5	896.4	895.3	893.2
10°	887.9	887.9	886.8	881.5	880.4
12.5°	870.8	869.8	865.5	858.0	855.9
15°	847.4	847.4	838.9	830.3	827.1
17.5°	821.8	820.7	810.1	801.5	797.3
20°	794.1	792.0	781.3	767.4	760.0
22.5°	763.2	763.2	750.4	732.3	724.8
25°	734.4	730.1	718.4	692.8	673.6
27.5°	701.4	695.0	682.2	645.9	623.5
30°	665.1	661.9	643.8	596.9	579.8
32.5°	631.0	625.7	606.5	557.5	543.6
35°	595.8	591.6	562.8	520.2	507.4
37.5°	560.7	555.3	519.1	485.0	469.0
40°	525.5	519.1	479.6	448.7	431.7
42.5°	492.4	483.9	445.5	412.5	393.3
45°	457.3	447.7	409.3	375.2	360.3
47.5°	422.1	413.6	378.4	343.2	326.2
50°	384.8	377.3	345.3	310.2	292.1
52.5°	353.9	342.1	311.2	276.1	261.1
55°	317.6	308.0	279.3	246.2	233.4
57.5°	284.6	275.0	248.4	217.4	206.8
60°	253.7	239.8	217.4	190.8	182.3
62.5°	219.6	208.9	189.7	167.3	178.0
65°	188.7	178.0	160.9	164.1	136.4
67.5°	154.6	149.2	134.3	119.4	115.1
70°	125.8	119.4	114.0	98.1	93.8
72.5°	100.2	93.8	86.3	77.8	74.6
75°	75.7	70.3	66.1	62.9	69.3
77.5°	52.2	50.1	46.9	43.7	42.6
80°	34.1	33.0	32.0	30.9	29.8
82.5°	20.3	20.3	20.3	20.3	20.3
85°	10.7	11.7	12.8	13.9	14.9
87.5°	6.4	6.4	7.5	8.5	9.6
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)