

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: P560962

Luminaire Tested: FSR-12-4-LD4-1LO-35-UNV-81-85-EDD-90

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P560962
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-81-85-EDD-90
Description: 1X4 FSR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .187 CLEAR PC ENVIRONMENTAL SI
LENSES WITH, 90 CRI AND 3500K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 1932.0 lumens
Efficiency: N/A
Efficacy: 82.6 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

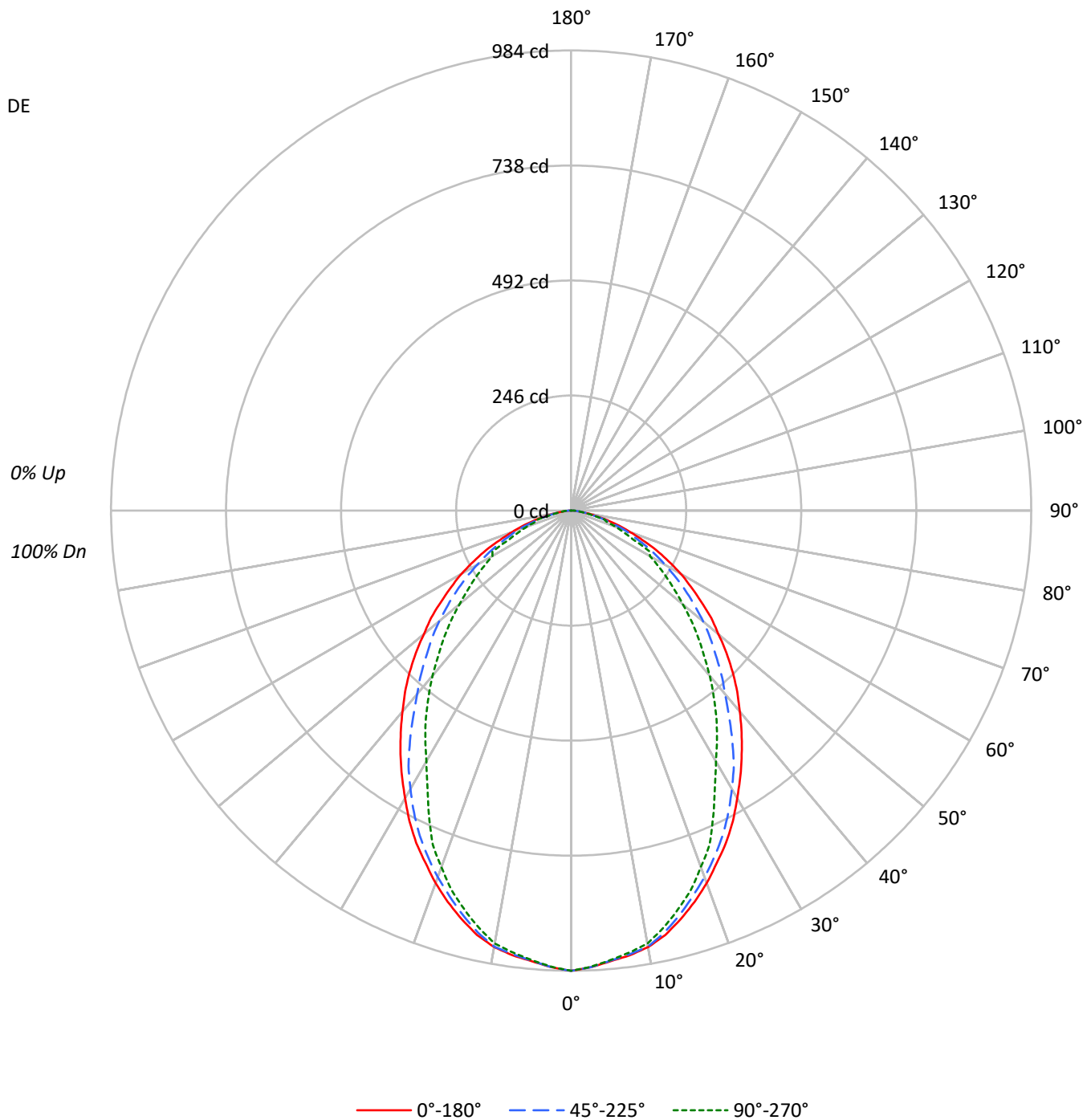
Input Watts (W): 23.4
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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°	2648	2648	2648
5°	2612	2609	2606
10°	2590	2587	2568
15°	2520	2495	2460
20°	2427	2388	2323
25°	2328	2277	2135
30°	2206	2135	1923
35°	2089	1973	1779
40°	1970	1799	1619
45°	1858	1663	1464
50°	1719	1543	1305
55°	1590	1399	1169
60°	1457	1249	1047
65°	1282	1094	927
70°	1057	958	788
75°	840	733	769
80°	564	528	494
85°	352	423	491

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 1858 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	91.6	4.7
10°-20°	251.4	13.0
20°-30°	348.1	18.0
30°-40°	371.1	19.2
40°-50°	338.6	17.5
50°-60°	265.3	13.7
60°-70°	172.9	8.9
70°-80°	76.6	4.0
80°-90°	16.4	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°	691.1	35.8
0°-40°	1062.2	55.0
0°-60°	1666.1	86.2
0°-90°	1932.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1932.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	984	984	984	984	984	
5°	967	966	966	965	965	92
15°	904	904	895	886	883	254
25°	784	779	767	740	719	360
35°	636	631	601	555	542	398
45°	488	478	437	400	385	376
55°	339	329	298	263	249	304
65°	201	190	172	175	146	198
75°	81	75	70	67	74	87
85°	11	12	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°	984.1	984.1	984.1	984.1	984.1
2.5°	977.3	977.3	977.3	976.2	976.2
5°	967.1	965.9	965.9	964.8	964.8
7.5°	959.1	958.0	956.8	955.7	953.4
10°	947.7	947.7	946.6	940.9	939.8
12.5°	929.5	928.4	923.8	915.9	913.6
15°	904.5	904.5	895.4	886.3	882.9
17.5°	877.2	876.1	864.7	855.6	851.0
20°	847.6	845.3	834.0	819.2	811.2
22.5°	814.6	814.6	801.0	781.6	773.7
25°	783.9	779.3	766.8	739.5	719.0
27.5°	748.6	741.8	728.1	689.5	665.6
30°	709.9	706.5	687.2	637.1	618.9
32.5°	673.5	667.8	647.4	595.0	580.2
35°	636.0	631.4	600.7	555.2	541.6
37.5°	598.4	592.8	554.1	517.7	500.6
40°	560.9	554.1	512.0	479.0	460.8
42.5°	525.6	516.5	475.6	440.3	419.8
45°	488.1	477.8	436.9	400.5	384.6
47.5°	450.5	441.4	403.9	366.3	348.1
50°	410.7	402.8	368.6	331.1	311.7
52.5°	377.7	365.2	332.2	294.7	278.7
55°	339.0	328.8	298.1	262.8	249.2
57.5°	303.8	293.5	265.1	232.1	220.7
60°	270.8	256.0	232.1	203.7	194.6
62.5°	234.4	223.0	202.5	178.6	190.0
65°	201.4	190.0	171.8	175.2	145.6
67.5°	165.0	159.3	143.4	127.4	122.9
70°	134.3	127.4	121.7	104.7	100.1
72.5°	106.9	100.1	92.2	83.1	79.6
75°	80.8	75.1	70.5	67.1	74.0
77.5°	55.7	53.5	50.1	46.6	45.5
80°	36.4	35.3	34.1	33.0	31.9
82.5°	21.6	21.6	21.6	21.6	21.6
85°	11.4	12.5	13.7	14.8	15.9
87.5°	6.8	6.8	8.0	9.1	10.2
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)