

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: P560969

Luminaire Tested: FSR-12-4-LD4-1LO-35-UNV-81-88-EDD

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P560969
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-81-88-EDD
Description: 1X4 FSR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .500 CLEAR PC ENVIRONMENTAL SI
LENSES WITH, 80 CRI AND 3500K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 1990.0 lumens
Efficiency: N/A
Efficacy: 85.0 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

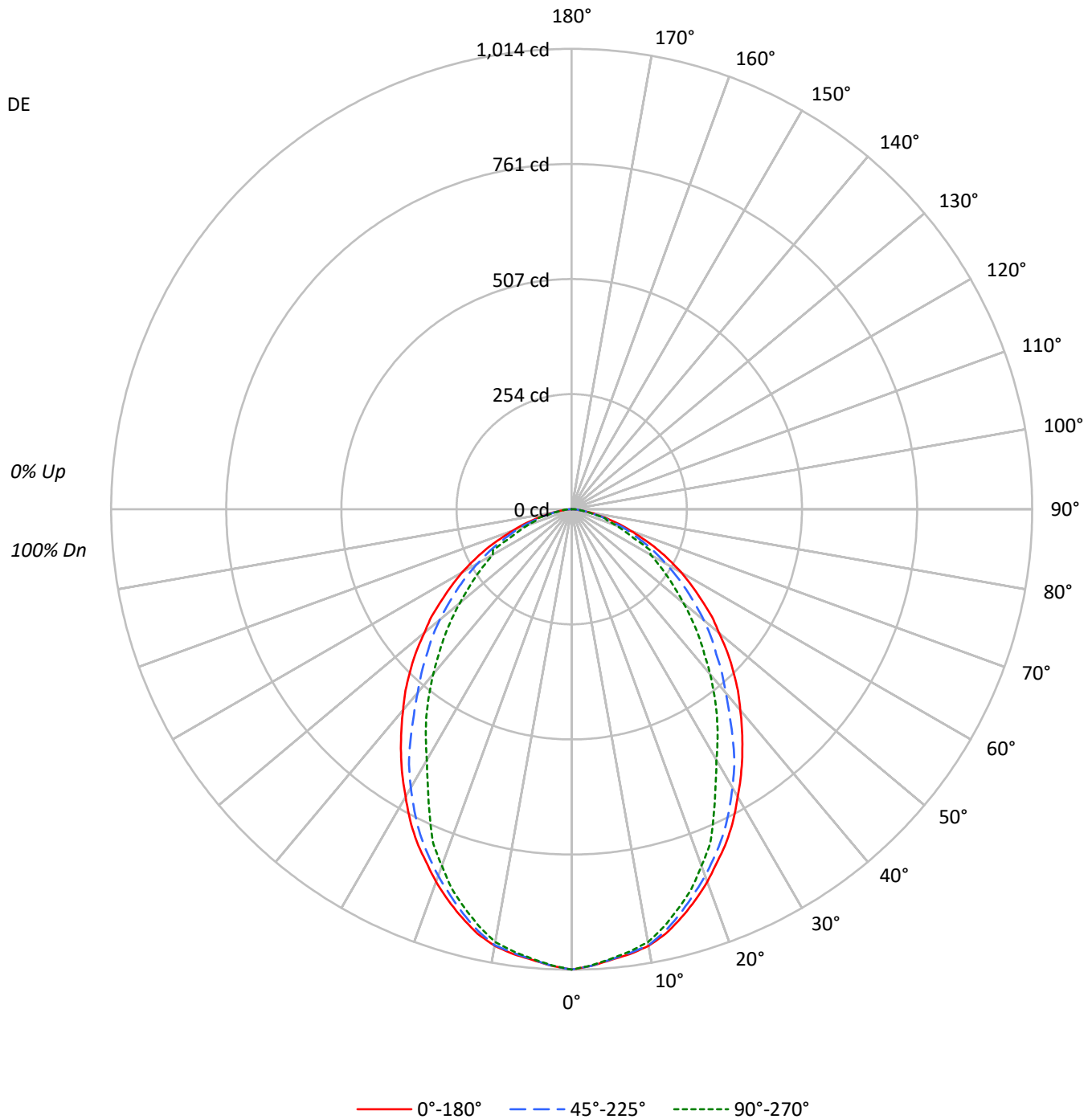
Input Watts (W): 23.4
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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°	2728	2728	2728
5°	2691	2687	2685
10°	2667	2664	2645
15°	2595	2569	2534
20°	2500	2460	2393
25°	2397	2345	2199
30°	2272	2199	1981
35°	2152	2033	1832
40°	2029	1852	1667
45°	1913	1713	1507
50°	1771	1590	1344
55°	1638	1440	1204
60°	1501	1287	1079
65°	1321	1127	955
70°	1088	987	811
75°	865	756	792
80°	581	545	508
85°	361	435	506

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 1913 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	94.4	4.7
10°-20°	259.0	13.0
20°-30°	358.5	18.0
30°-40°	382.3	19.2
40°-50°	348.7	17.5
50°-60°	273.2	13.7
60°-70°	178.1	8.9
70°-80°	78.9	4.0
80°-90°	16.9	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°	711.8	35.8
0°-40°	1094.1	55.0
0°-60°	1716.1	86.2
0°-90°	1990.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1990.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1014	1014	1014	1014	1014	
5°	996	995	995	994	994	95
15°	932	932	922	913	909	262
25°	807	803	790	762	741	371
35°	655	650	619	572	558	410
45°	503	492	450	412	396	387
55°	349	339	307	271	257	313
65°	207	196	177	180	150	204
75°	83	77	73	69	76	89
85°	12	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°	1013.7	1013.7	1013.7	1013.7	1013.7
2.5°	1006.6	1006.6	1006.6	1005.5	1005.5
5°	996.1	994.9	994.9	993.8	993.8
7.5°	987.9	986.7	985.6	984.4	982.0
10°	976.2	976.2	975.0	969.1	968.0
12.5°	957.4	956.3	951.6	943.4	941.0
15°	931.6	931.6	922.3	912.9	909.4
17.5°	903.5	902.4	890.6	881.3	876.6
20°	873.1	870.7	859.0	843.8	835.6
22.5°	839.1	839.1	825.0	805.1	796.9
25°	807.4	802.7	789.8	761.7	740.6
27.5°	771.1	764.1	750.0	710.2	685.6
30°	731.3	727.7	707.8	656.3	637.5
32.5°	693.8	687.9	666.8	612.9	597.7
35°	655.1	650.4	618.8	571.9	557.8
37.5°	616.4	610.6	570.7	533.2	515.6
40°	577.7	570.7	527.3	493.4	474.6
42.5°	541.4	532.0	489.8	453.5	432.4
45°	502.7	492.2	450.0	412.5	396.1
47.5°	464.1	454.7	416.0	377.3	358.6
50°	423.1	414.8	379.7	341.0	321.1
52.5°	389.1	376.2	342.2	303.5	287.1
55°	349.2	338.7	307.0	270.7	256.6
57.5°	312.9	302.3	273.0	239.1	227.3
60°	278.9	263.7	239.1	209.8	200.4
62.5°	241.4	229.7	208.6	184.0	195.7
65°	207.4	195.7	177.0	180.5	150.0
67.5°	169.9	164.1	147.7	131.3	126.6
70°	138.3	131.3	125.4	107.8	103.1
72.5°	110.2	103.1	94.9	85.5	82.0
75°	83.2	77.3	72.7	69.1	76.2
77.5°	57.4	55.1	51.6	48.0	46.9
80°	37.5	36.3	35.2	34.0	32.8
82.5°	22.3	22.3	22.3	22.3	22.3
85°	11.7	12.9	14.1	15.2	16.4
87.5°	7.0	7.0	8.2	9.4	10.5
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)