

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: P560993

Luminaire Tested: FSR-12-4-LD4-1LO-35-UNV-93-84-EDD

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P560993
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-93-84-EDD
Description: 1X4 FSR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .125 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 3500K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 2485.0 lumens
Efficiency: N/A
Efficacy: 106.2 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

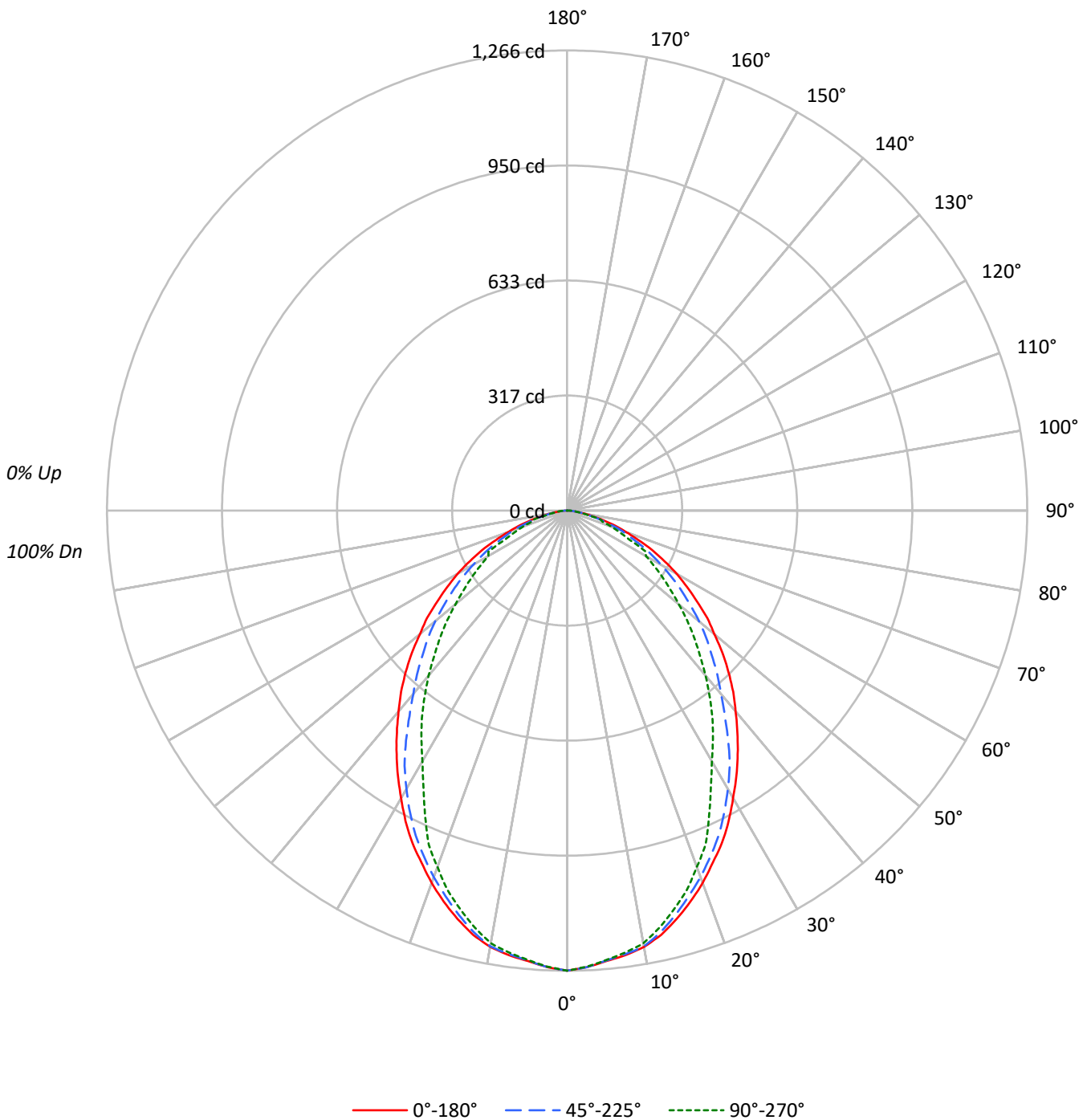
Input Watts (W): 23.4
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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	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°	3406	3406	3406
5°	3360	3356	3352
10°	3331	3327	3303
15°	3241	3209	3164
20°	3122	3072	2988
25°	2994	2928	2746
30°	2838	2747	2474
35°	2687	2538	2288
40°	2534	2313	2082
45°	2389	2138	1882
50°	2212	1985	1679
55°	2046	1799	1504
60°	1875	1607	1347
65°	1649	1407	1193
70°	1359	1232	1013
75°	1080	943	989
80°	725	680	635
85°	451	543	633

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 2389 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	117.8	4.7
10°-20°	323.4	13.0
20°-30°	447.7	18.0
30°-40°	477.4	19.2
40°-50°	435.5	17.5
50°-60°	341.2	13.7
60°-70°	222.4	8.9
70°-80°	98.5	4.0
80°-90°	21.2	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°	888.9	35.8
0°-40°	1366.3	55.0
0°-60°	2143.0	86.2
0°-90°	2485.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2485.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1266	1266	1266	1266	1266	
5°	1244	1242	1242	1241	1241	118
15°	1163	1163	1152	1140	1136	327
25°	1008	1002	986	951	925	463
35°	818	812	773	714	697	511
45°	628	615	562	515	495	484
55°	436	423	383	338	320	391
65°	259	244	221	225	187	255
75°	104	97	91	86	95	111
85°	15	16	18	19	20	20
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1265.8	1265.8	1265.8	1265.8	1265.8
2.5°	1257.0	1257.0	1257.0	1255.6	1255.6
5°	1243.9	1242.4	1242.4	1240.9	1240.9
7.5°	1233.6	1232.2	1230.7	1229.2	1226.3
10°	1219.0	1219.0	1217.5	1210.2	1208.8
12.5°	1195.6	1194.1	1188.3	1178.0	1175.1
15°	1163.4	1163.4	1151.7	1140.0	1135.6
17.5°	1128.3	1126.8	1112.2	1100.5	1094.6
20°	1090.2	1087.3	1072.7	1053.6	1043.4
22.5°	1047.8	1047.8	1030.2	1005.3	995.1
25°	1008.3	1002.4	986.3	951.2	924.9
27.5°	962.9	954.1	936.6	886.8	856.1
30°	913.2	908.8	883.9	819.5	796.1
32.5°	866.3	859.0	832.7	765.3	746.3
35°	818.0	812.2	772.7	714.1	696.6
37.5°	769.7	762.4	712.7	665.8	643.9
40°	721.4	712.7	658.5	616.1	592.7
42.5°	676.1	664.4	611.7	566.3	540.0
45°	627.8	614.6	561.9	515.1	494.6
47.5°	579.5	567.8	519.5	471.2	447.8
50°	528.3	518.0	474.1	425.8	401.0
52.5°	485.8	469.7	427.3	379.0	358.5
55°	436.1	422.9	383.4	338.0	320.5
57.5°	390.7	377.6	341.0	298.5	283.9
60°	348.3	329.3	298.5	261.9	250.2
62.5°	301.5	286.8	260.5	229.8	244.4
65°	259.0	244.4	221.0	225.4	187.3
67.5°	212.2	204.9	184.4	163.9	158.0
70°	172.7	163.9	156.6	134.6	128.8
72.5°	137.6	128.8	118.5	106.8	102.4
75°	103.9	96.6	90.7	86.3	95.1
77.5°	71.7	68.8	64.4	60.0	58.5
80°	46.8	45.4	43.9	42.4	41.0
82.5°	27.8	27.8	27.8	27.8	27.8
85°	14.6	16.1	17.6	19.0	20.5
87.5°	8.8	8.8	10.2	11.7	13.2
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)