

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: P561005

Luminaire Tested: FSR-12-4-LD4-1LO-35-UNV-93-96-EDD

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P561005
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-93-96-EDD
Description: 1X4 FSR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .250 CLEAR TEMPER
GLASS ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 3500K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

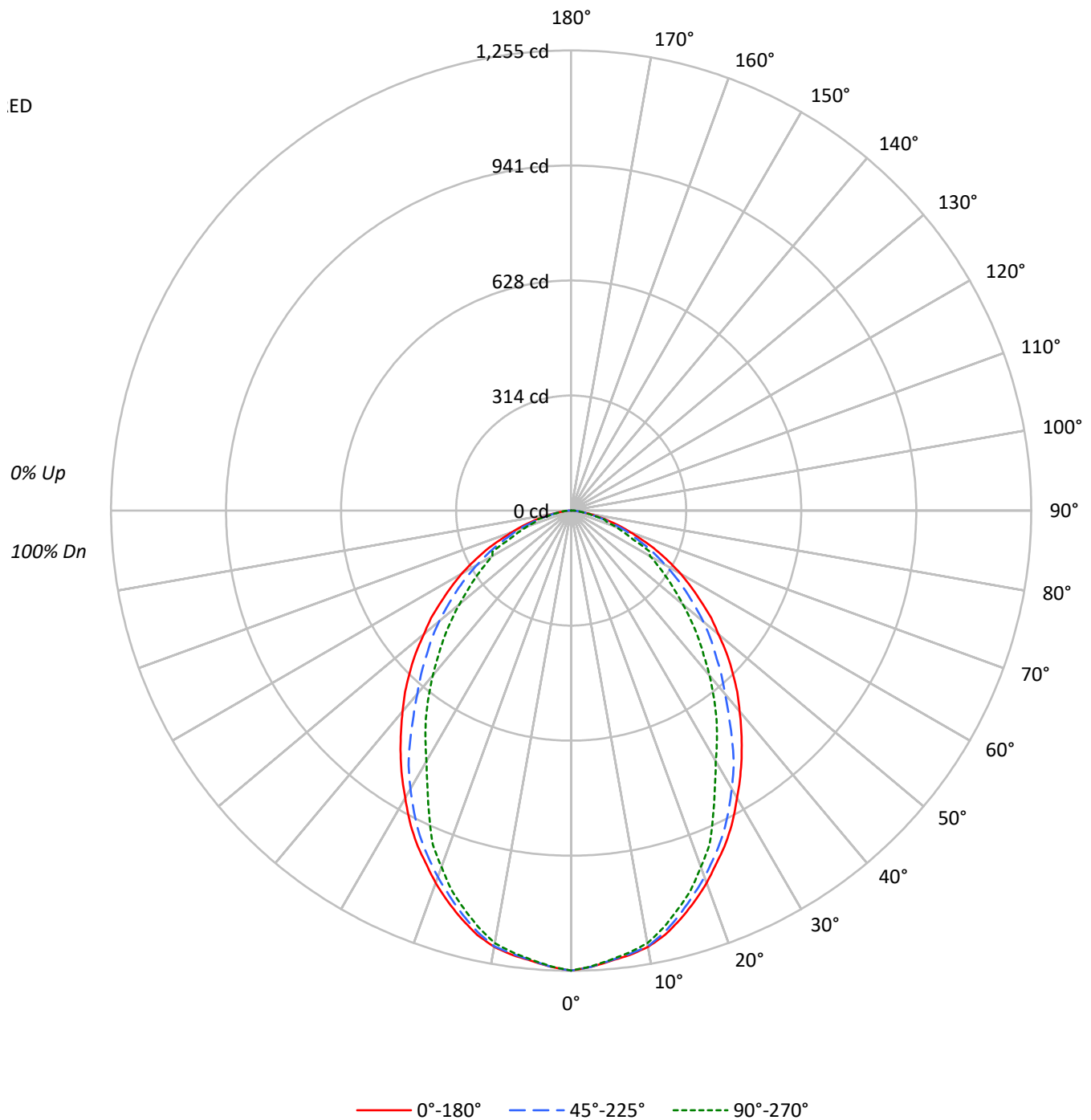
Lumens per Lamp: N/A
Luminaire Lumens: 2463.0 lumens
Efficiency: N/A
Efficacy: 105.3 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')
CIE Type: Direct

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°	3376	3376	3376
5°	3330	3326	3323
10°	3301	3298	3274
15°	3212	3180	3136
20°	3094	3045	2962
25°	2967	2903	2722
30°	2812	2722	2452
35°	2664	2516	2268
40°	2512	2293	2063
45°	2368	2120	1866
50°	2192	1967	1664
55°	2028	1783	1490
60°	1858	1593	1335
65°	1635	1394	1182
70°	1347	1221	1004
75°	1071	935	980
80°	719	674	629
85°	448	537	627

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 2368 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	116.8	4.7
10°-20°	320.5	13.0
20°-30°	443.7	18.0
30°-40°	473.1	19.2
40°-50°	431.7	17.5
50°-60°	338.2	13.7
60°-70°	220.4	8.9
70°-80°	97.6	4.0
80°-90°	21.0	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°	881.0	35.8
0°-40°	1354.2	55.0
0°-60°	2124.0	86.2
0°-90°	2463.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2463.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1255	1255	1255	1255	1255	
5°	1233	1231	1231	1230	1230	117
15°	1153	1153	1142	1130	1126	324
25°	999	994	978	943	917	459
35°	811	805	766	708	690	507
45°	622	609	557	511	490	479
55°	432	419	380	335	318	388
65°	257	242	219	223	186	253
75°	103	96	90	86	94	110
85°	14	16	17	19	20	20
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1254.6	1254.6	1254.6	1254.6	1254.6
2.5°	1245.9	1245.9	1245.9	1244.5	1244.5
5°	1232.9	1231.4	1231.4	1230.0	1230.0
7.5°	1222.7	1221.3	1219.8	1218.4	1215.5
10°	1208.2	1208.2	1206.8	1199.5	1198.1
12.5°	1185.0	1183.5	1177.7	1167.6	1164.7
15°	1153.1	1153.1	1141.5	1129.9	1125.5
17.5°	1118.3	1116.8	1102.3	1090.7	1084.9
20°	1080.6	1077.7	1063.2	1044.3	1034.2
22.5°	1038.5	1038.5	1021.1	996.4	986.3
25°	999.3	993.5	977.6	942.8	916.7
27.5°	954.4	945.7	928.3	879.0	848.5
30°	905.1	900.7	876.1	812.2	789.0
32.5°	858.7	851.4	825.3	758.6	739.7
35°	810.8	805.0	765.8	707.8	690.4
37.5°	762.9	755.7	706.4	659.9	638.2
40°	715.1	706.4	652.7	610.6	587.4
42.5°	670.1	658.5	606.3	561.3	535.2
45°	622.2	609.2	557.0	510.6	490.2
47.5°	574.4	562.8	514.9	467.0	443.8
50°	523.6	513.5	469.9	422.1	397.4
52.5°	481.5	465.6	423.5	375.7	355.4
55°	432.2	419.2	380.0	335.0	317.6
57.5°	387.3	374.2	337.9	295.9	281.4
60°	345.2	326.3	295.9	259.6	248.0
62.5°	298.8	284.3	258.2	227.7	242.2
65°	256.7	242.2	219.0	223.4	185.7
67.5°	210.3	203.1	182.8	162.4	156.6
70°	171.2	162.4	155.2	133.4	127.6
72.5°	136.3	127.6	117.5	105.9	101.5
75°	103.0	95.7	89.9	85.6	94.3
77.5°	71.1	68.2	63.8	59.5	58.0
80°	46.4	45.0	43.5	42.1	40.6
82.5°	27.6	27.6	27.6	27.6	27.6
85°	14.5	16.0	17.4	18.9	20.3
87.5°	8.7	8.7	10.2	11.6	13.1
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)