

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: P561581

Luminaire Tested: FSR-12-4-LD4-2LO-35-UNV-93-96-EDD

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P561581
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-LD4-2LO-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

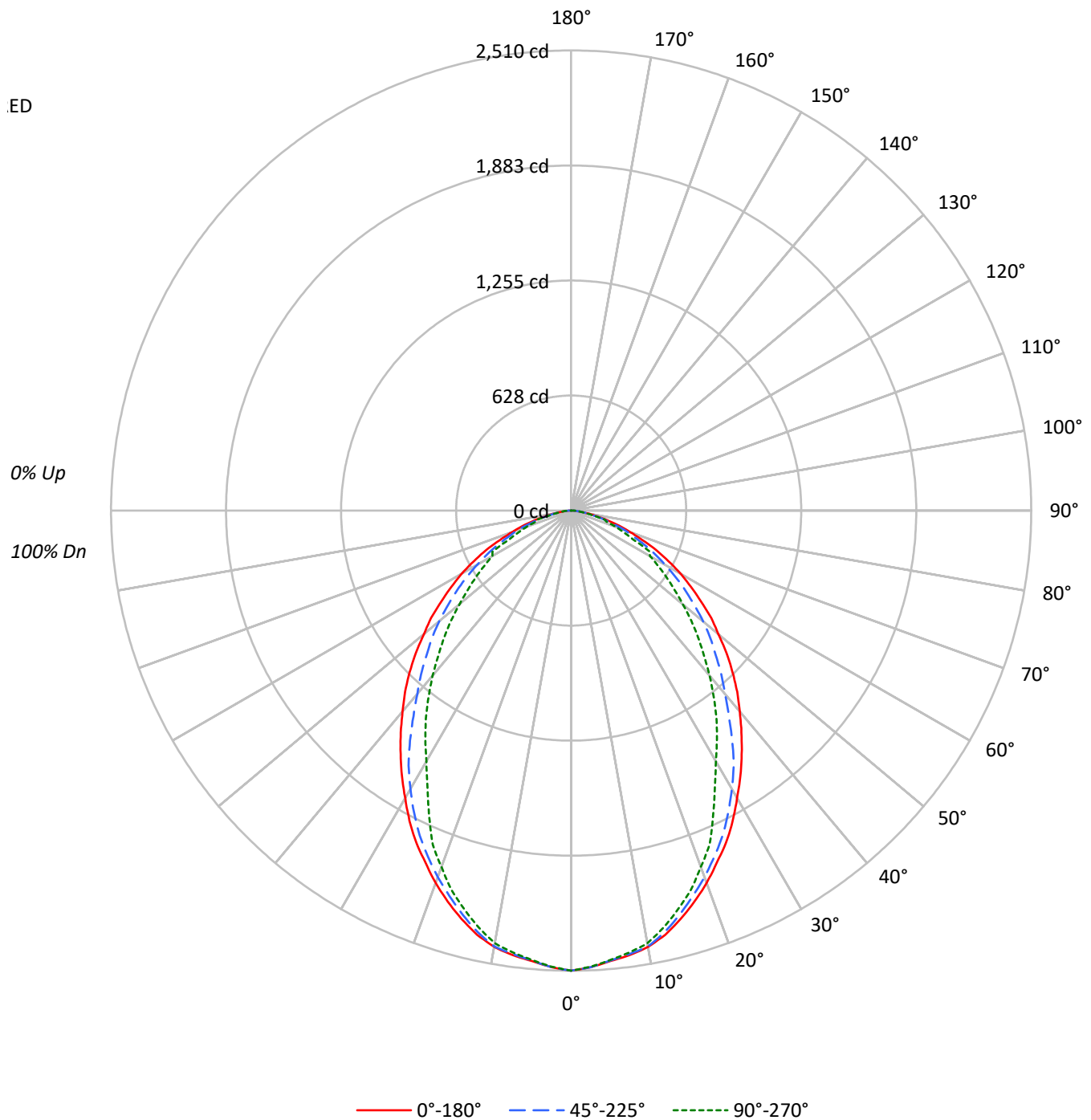
Lumens per Lamp: N/A
Luminaire Lumens: 4927.0 lumens
Efficiency: N/A
Efficacy: 105.3 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 46.8
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												100																
1	110	106	102	99	108	104	100	97	100	97	94	96	94	91	92	90	89	87												87																
2	101	94	88	83	99	92	87	82	89	84	80	86	82	78	83	79	77	75												75																
3	93	84	77	71	91	82	76	70	79	74	69	77	72	68	74	70	67	65												65																
4	86	75	67	61	84	74	66	61	72	65	60	69	64	59	67	62	58	56												56																
5	80	68	60	54	78	67	59	53	65	58	53	63	57	52	61	56	52	50												50																
6	74	62	53	48	72	61	53	47	59	52	47	57	51	47	56	50	46	44												44																
7	69	56	48	43	67	56	48	42	54	47	42	53	46	42	51	46	42	40												40																
8	65	52	44	38	63	51	44	38	50	43	38	49	42	38	48	42	38	36												36																
9	61	48	40	35	59	47	40	35	46	39	35	45	39	34	44	38	34	33												33																
10	57	44	37	32	56	44	37	32	43	36	32	42	36	32	41	36	32	30												30																

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	6754	6754	6754
5°	6662	6654	6646
10°	6604	6596	6549
15°	6426	6361	6272
20°	6190	6090	5924
25°	5936	5807	5445
30°	5626	5445	4905
35°	5328	5033	4537
40°	5025	4586	4128
45°	4737	4240	3732
50°	4385	3936	3328
55°	4056	3567	2981
60°	3716	3186	2670
65°	3270	2790	2365
70°	2694	2443	2009
75°	2142	1870	1961
80°	1438	1348	1258
85°	895	1074	1254

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 4737 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	233.6	4.7
10°-20°	641.2	13.0
20°-30°	887.6	18.0
30°-40°	946.5	19.2
40°-50°	863.5	17.5
50°-60°	676.5	13.7
60°-70°	440.9	8.9
70°-80°	195.3	4.0
80°-90°	41.9	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°	1762.4	35.8
0°-40°	2708.9	55.0
0°-60°	4248.9	86.2
0°-90°	4927.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4927.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2510	2510	2510	2510	2510	
5°	2466	2463	2463	2460	2460	234
15°	2307	2307	2283	2260	2252	648
25°	1999	1988	1956	1886	1834	918
35°	1622	1610	1532	1416	1381	1014
45°	1245	1219	1114	1021	981	959
55°	865	838	760	670	635	776
65°	514	484	438	447	371	506
75°	206	192	180	171	189	221
85°	29	32	35	38	41	40
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2509.7	2509.7	2509.7	2509.7	2509.7
2.5°	2492.3	2492.3	2492.3	2489.4	2489.4
5°	2466.2	2463.3	2463.3	2460.4	2460.4
7.5°	2445.9	2443.0	2440.1	2437.2	2431.4
10°	2416.9	2416.9	2414.0	2399.5	2396.6
12.5°	2370.5	2367.6	2356.0	2335.7	2329.9
15°	2306.6	2306.6	2283.4	2260.2	2251.5
17.5°	2237.0	2234.1	2205.1	2181.9	2170.3
20°	2161.6	2155.8	2126.8	2089.0	2068.7
22.5°	2077.4	2077.4	2042.6	1993.3	1973.0
25°	1999.1	1987.5	1955.6	1885.9	1833.7
27.5°	1909.1	1891.7	1856.9	1758.3	1697.3
30°	1810.5	1801.8	1752.5	1624.8	1578.4
32.5°	1717.7	1703.1	1650.9	1517.5	1479.7
35°	1621.9	1610.3	1532.0	1415.9	1381.1
37.5°	1526.2	1511.7	1413.0	1320.2	1276.6
40°	1430.4	1413.0	1305.6	1221.5	1175.1
42.5°	1340.5	1317.3	1212.8	1122.9	1070.6
45°	1244.7	1218.6	1114.2	1021.3	980.7
47.5°	1149.0	1125.8	1030.0	934.3	887.8
50°	1047.4	1027.1	940.1	844.3	795.0
52.5°	963.3	931.4	847.2	751.5	710.9
55°	864.6	838.5	760.2	670.2	635.4
57.5°	774.7	748.6	676.0	591.9	562.9
60°	690.5	652.8	591.9	519.4	496.1
62.5°	597.7	568.7	516.5	455.5	484.5
65°	513.6	484.5	438.1	446.8	371.4
67.5°	420.7	406.2	365.6	325.0	313.4
70°	342.4	325.0	310.5	266.9	255.3
72.5°	272.7	255.3	235.0	211.8	203.1
75°	206.0	191.5	179.9	171.2	188.6
77.5°	142.2	136.4	127.7	119.0	116.1
80°	92.8	89.9	87.0	84.1	81.2
82.5°	55.1	55.1	55.1	55.1	55.1
85°	29.0	31.9	34.8	37.7	40.6
87.5°	17.4	17.4	20.3	23.2	26.1
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)