

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: P561701

Luminaire Tested: FSR-12-4-LD4-2LO-50-UNV-93-86-EDD

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P561701
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-50-UNV-93-86-EDD
Description: 1X4 FSR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .250 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 5000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4947.0 lumens
Efficiency: N/A
Efficacy: 105.7 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

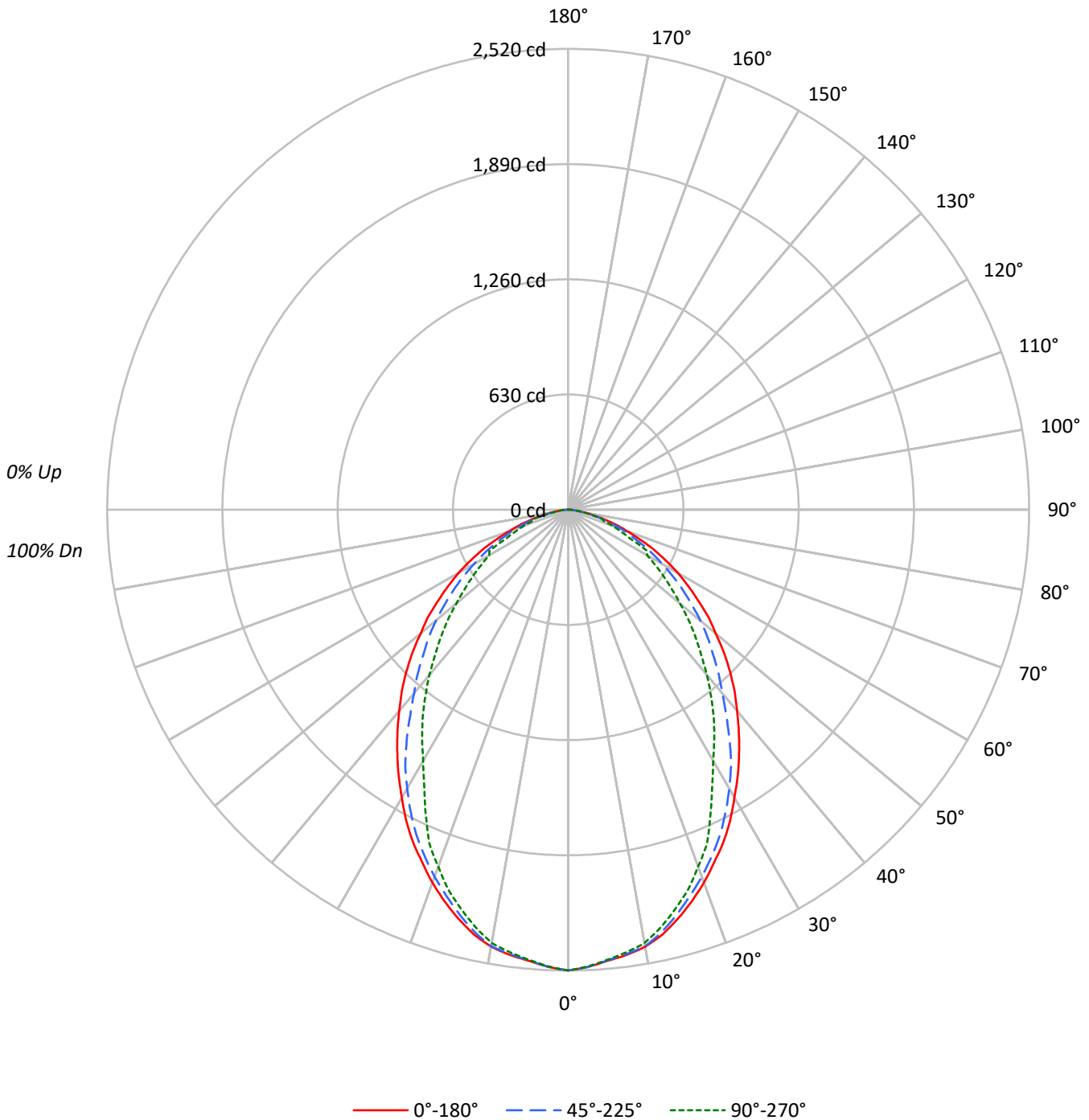
Input Watts (W): 46.8
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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																												
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°	6781	6781	6781
5°	6689	6681	6673
10°	6631	6623	6575
15°	6452	6387	6298
20°	6215	6115	5948
25°	5960	5830	5467
30°	5648	5468	4924
35°	5350	5053	4555
40°	5045	4605	4145
45°	4756	4257	3747
50°	4403	3952	3342
55°	4073	3581	2993
60°	3731	3198	2681
65°	3283	2801	2374
70°	2705	2452	2017
75°	2150	1878	1969
80°	1444	1354	1265
85°	898	1081	1260

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 4756 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	234.6	4.7
10°-20°	643.8	13.0
20°-30°	891.2	18.0
30°-40°	950.3	19.2
40°-50°	867.0	17.5
50°-60°	679.2	13.7
60°-70°	442.7	8.9
70°-80°	196.1	4.0
80°-90°	42.1	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°	1769.6	35.8
0°-40°	2719.9	55.0
0°-60°	4266.1	86.2
0°-90°	4947.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4947.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2520	2520	2520	2520	2520	
5°	2476	2473	2473	2470	2470	235
15°	2316	2316	2293	2269	2261	651
25°	2007	1996	1964	1894	1841	922
35°	1628	1617	1538	1422	1387	1018
45°	1250	1224	1119	1026	985	963
55°	868	842	763	673	638	779
65°	516	486	440	449	373	508
75°	207	192	181	172	189	222
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°	2519.9	2519.9	2519.9	2519.9	2519.9
2.5°	2502.5	2502.5	2502.5	2499.5	2499.5
5°	2476.2	2473.3	2473.3	2470.4	2470.4
7.5°	2455.8	2452.9	2450.0	2447.1	2441.3
10°	2426.7	2426.7	2423.8	2409.2	2406.3
12.5°	2380.1	2377.2	2365.5	2345.1	2339.3
15°	2316.0	2316.0	2292.7	2269.4	2260.7
17.5°	2246.1	2243.2	2214.0	2190.7	2179.1
20°	2170.3	2164.5	2135.4	2097.5	2077.1
22.5°	2085.9	2085.9	2050.9	2001.4	1981.0
25°	2007.2	1995.6	1963.5	1893.6	1841.2
27.5°	1916.9	1899.4	1864.5	1765.4	1704.2
30°	1817.8	1809.1	1759.6	1631.4	1584.8
32.5°	1724.6	1710.1	1657.6	1523.6	1485.7
35°	1628.5	1616.8	1538.2	1421.7	1386.7
37.5°	1532.4	1517.8	1418.7	1325.5	1281.8
40°	1436.2	1418.7	1310.9	1226.5	1179.9
42.5°	1345.9	1322.6	1217.7	1127.4	1075.0
45°	1249.8	1223.6	1118.7	1025.5	984.7
47.5°	1153.6	1130.3	1034.2	938.1	891.4
50°	1051.7	1031.3	943.9	847.7	798.2
52.5°	967.2	935.1	850.7	754.5	713.7
55°	868.1	841.9	763.3	673.0	638.0
57.5°	777.8	751.6	678.8	594.3	565.2
60°	693.3	655.5	594.3	521.5	498.2
62.5°	600.1	571.0	518.6	457.4	486.5
65°	515.6	486.5	439.9	448.6	372.9
67.5°	422.4	407.9	367.1	326.3	314.6
70°	343.8	326.3	311.7	268.0	256.4
72.5°	273.8	256.4	236.0	212.7	203.9
75°	206.8	192.3	180.6	171.9	189.4
77.5°	142.7	136.9	128.2	119.4	116.5
80°	93.2	90.3	87.4	84.5	81.6
82.5°	55.4	55.4	55.4	55.4	55.4
85°	29.1	32.0	35.0	37.9	40.8
87.5°	17.5	17.5	20.4	23.3	26.2
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)