

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: P561573

Luminaire Tested: FSR-12-4-LD4-2LO-35-UNV-93-86-EDD

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P561573
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-93-86-EDD
Description: 1X4 FSR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .250 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 3500K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4817.0 lumens
Efficiency: N/A
Efficacy: 102.9 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

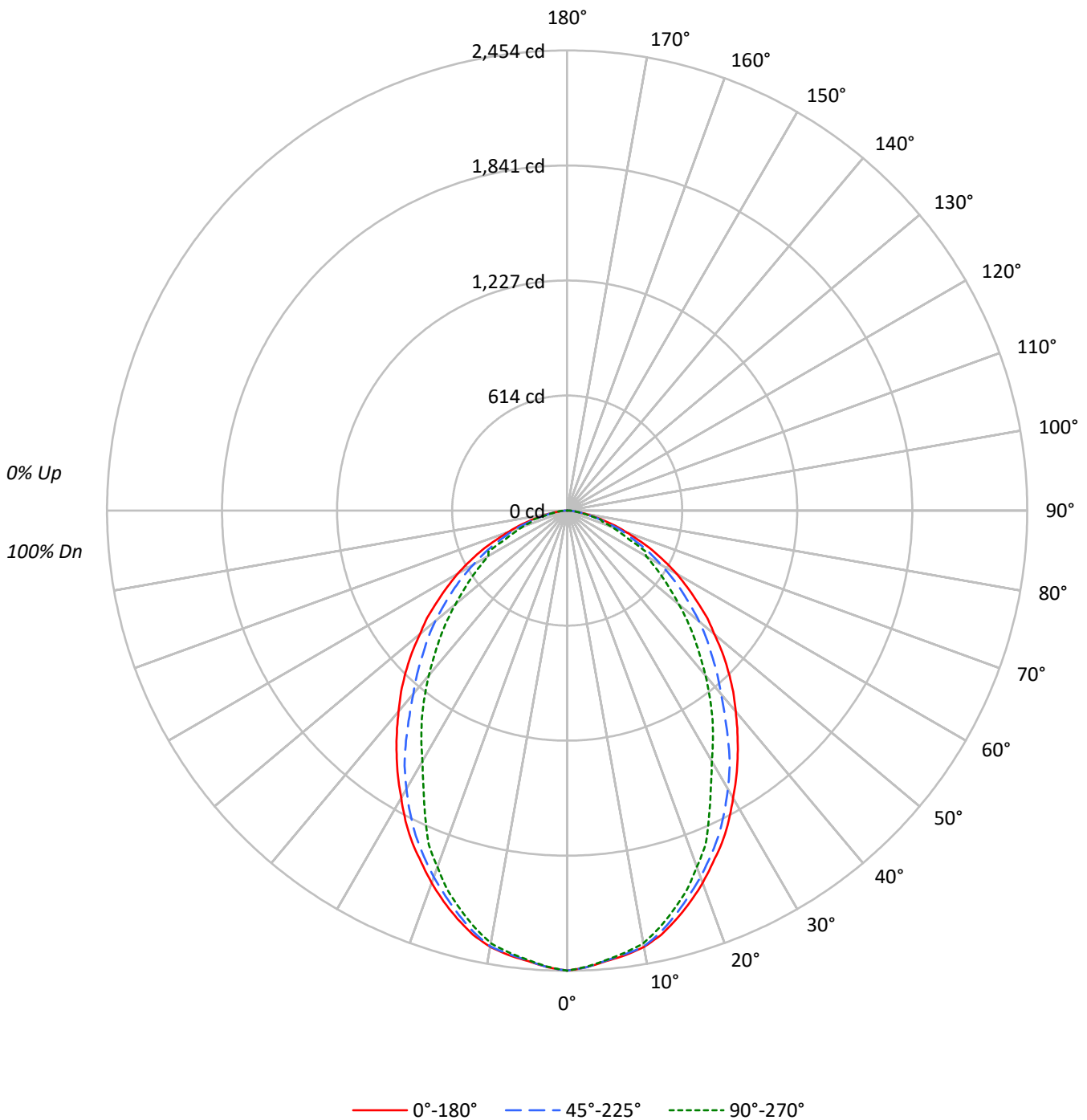
Input Watts (W): 46.8
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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°	6603	6603	6603
5°	6513	6505	6498
10°	6457	6449	6403
15°	6282	6220	6133
20°	6052	5954	5792
25°	5803	5677	5323
30°	5500	5324	4795
35°	5209	4920	4436
40°	4913	4484	4036
45°	4631	4145	3649
50°	4287	3848	3254
55°	3966	3487	2914
60°	3633	3115	2611
65°	3197	2727	2312
70°	2633	2388	1964
75°	2094	1829	1917
80°	1407	1319	1230
85°	877	1050	1226

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 4631 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	228.4	4.7
10°-20°	626.8	13.0
20°-30°	867.8	18.0
30°-40°	925.4	19.2
40°-50°	844.2	17.5
50°-60°	661.4	13.7
60°-70°	431.0	8.9
70°-80°	191.0	4.0
80°-90°	41.0	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°	1723.1	35.8
0°-40°	2648.4	55.0
0°-60°	4154.0	86.2
0°-90°	4817.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4817.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2454	2454	2454	2454	2454	
5°	2411	2408	2408	2406	2406	229
15°	2255	2255	2232	2210	2201	634
25°	1954	1943	1912	1844	1793	897
35°	1586	1574	1498	1384	1350	991
45°	1217	1191	1089	998	959	937
55°	845	820	743	655	621	758
65°	502	474	428	437	363	495
75°	201	187	176	167	184	216
85°	28	31	34	37	40	39
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2453.7	2453.7	2453.7	2453.7	2453.7
2.5°	2436.7	2436.7	2436.7	2433.9	2433.9
5°	2411.2	2408.3	2408.3	2405.5	2405.5
7.5°	2391.3	2388.5	2385.6	2382.8	2377.1
10°	2362.9	2362.9	2360.1	2345.9	2343.1
12.5°	2317.6	2314.7	2303.4	2283.5	2277.8
15°	2255.1	2255.1	2232.5	2209.8	2201.3
17.5°	2187.1	2184.2	2155.9	2133.2	2121.8
20°	2113.3	2107.6	2079.3	2042.4	2022.5
22.5°	2031.1	2031.1	1997.0	1948.8	1928.9
25°	1954.5	1943.1	1911.9	1843.8	1792.8
27.5°	1866.5	1849.5	1815.5	1719.0	1659.4
30°	1770.1	1761.6	1713.3	1588.5	1543.1
32.5°	1679.3	1665.1	1614.1	1483.6	1446.7
35°	1585.7	1574.3	1497.8	1384.3	1350.3
37.5°	1492.1	1477.9	1381.5	1290.7	1248.1
40°	1398.5	1381.5	1276.5	1194.2	1148.8
42.5°	1310.5	1287.8	1185.7	1097.8	1046.7
45°	1216.9	1191.4	1089.3	998.5	958.8
47.5°	1123.3	1100.6	1007.0	913.4	868.0
50°	1024.0	1004.2	919.1	825.5	777.2
52.5°	941.8	910.6	828.3	734.7	695.0
55°	845.3	819.8	743.2	655.3	621.2
57.5°	757.4	731.9	660.9	578.7	550.3
60°	675.1	638.2	578.7	507.8	485.1
62.5°	584.4	556.0	504.9	445.4	473.7
65°	502.1	473.7	428.3	436.8	363.1
67.5°	411.3	397.1	357.4	317.7	306.4
70°	334.7	317.7	303.5	261.0	249.6
72.5°	266.6	249.6	229.8	207.1	198.6
75°	201.4	187.2	175.9	167.4	184.4
77.5°	139.0	133.3	124.8	116.3	113.5
80°	90.8	87.9	85.1	82.3	79.4
82.5°	53.9	53.9	53.9	53.9	53.9
85°	28.4	31.2	34.0	36.9	39.7
87.5°	17.0	17.0	19.9	22.7	25.5
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)