

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: P561626

Luminaire Tested: FSR-12-4-LD4-2LO-40-UNV-82-94-EDD-90

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P561626
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-40-UNV-82-94-EDD-90
Description: 1X4 FSR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .187 CLEAR TEMPERED GLASS ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 3924.0 lumens
Efficiency: N/A
Efficacy: 83.8 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

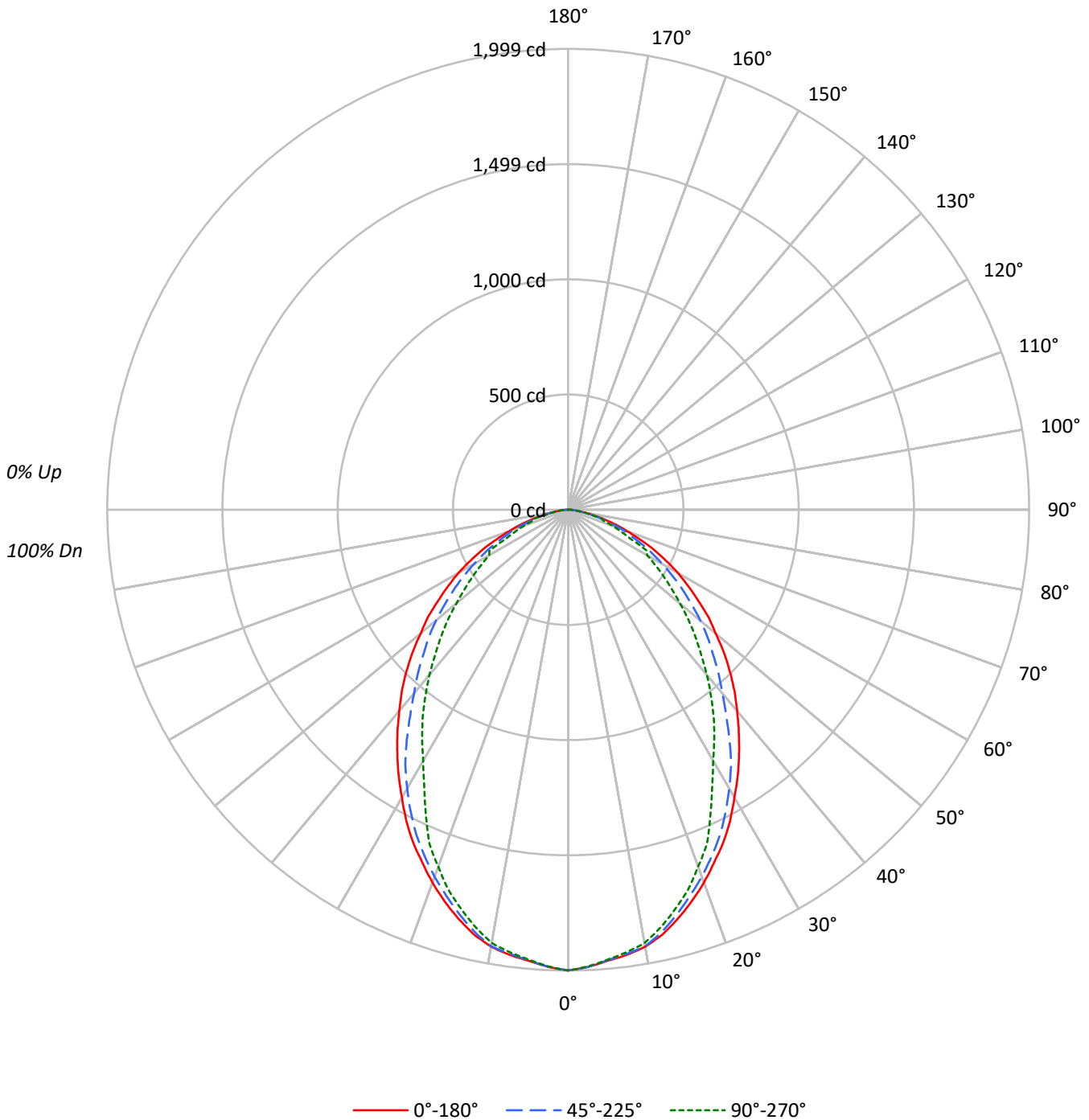
Input Watts (W): 46.8
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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	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°	5379	5379	5379
5°	5306	5300	5293
10°	5260	5253	5216
15°	5118	5066	4996
20°	4930	4851	4718
25°	4727	4624	4336
30°	4480	4337	3906
35°	4243	4008	3613
40°	4002	3653	3288
45°	3773	3377	2972
50°	3492	3134	2651
55°	3231	2840	2374
60°	2960	2537	2126
65°	2604	2222	1883
70°	2146	1946	1600
75°	1706	1490	1562
80°	1145	1074	1003
85°	713	855	1000

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 3773 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	186.1	4.7
10°-20°	510.6	13.0
20°-30°	706.9	18.0
30°-40°	753.8	19.2
40°-50°	687.7	17.5
50°-60°	538.8	13.7
60°-70°	351.1	8.9
70°-80°	155.6	4.0
80°-90°	33.4	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°	1403.6	35.8
0°-40°	2157.4	55.0
0°-60°	3383.9	86.2
0°-90°	3924.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3924.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1999	1999	1999	1999	1999	
5°	1964	1962	1962	1960	1960	186
15°	1837	1837	1819	1800	1793	516
25°	1592	1583	1558	1502	1460	731
35°	1292	1282	1220	1128	1100	808
45°	991	970	887	813	781	764
55°	689	668	605	534	506	618
65°	409	386	349	356	296	403
75°	164	152	143	136	150	176
85°	23	25	28	30	32	32
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1998.8	1998.8	1998.8	1998.8	1998.8
2.5°	1985.0	1985.0	1985.0	1982.7	1982.7
5°	1964.2	1961.9	1961.9	1959.5	1959.5
7.5°	1948.0	1945.7	1943.4	1941.1	1936.4
10°	1924.9	1924.9	1922.6	1911.0	1908.7
12.5°	1887.9	1885.6	1876.4	1860.2	1855.6
15°	1837.1	1837.1	1818.6	1800.1	1793.2
17.5°	1781.6	1779.3	1756.2	1737.7	1728.5
20°	1721.5	1716.9	1693.8	1663.8	1647.6
22.5°	1654.5	1654.5	1626.8	1587.5	1571.3
25°	1592.1	1582.9	1557.5	1502.0	1460.4
27.5°	1520.5	1506.6	1478.9	1400.3	1351.8
30°	1441.9	1435.0	1395.7	1294.0	1257.1
32.5°	1368.0	1356.4	1314.8	1208.5	1178.5
35°	1291.7	1282.5	1220.1	1127.7	1099.9
37.5°	1215.5	1203.9	1125.4	1051.4	1016.7
40°	1139.2	1125.4	1039.9	972.8	935.9
42.5°	1067.6	1049.1	965.9	894.3	852.7
45°	991.3	970.5	887.3	813.4	781.0
47.5°	915.1	896.6	820.3	744.1	707.1
50°	834.2	818.0	748.7	672.4	633.2
52.5°	767.2	741.8	674.8	598.5	566.1
55°	688.6	667.8	605.4	533.8	506.1
57.5°	617.0	596.2	538.4	471.4	448.3
60°	550.0	519.9	471.4	413.6	395.1
62.5°	476.0	452.9	411.3	362.8	385.9
65°	409.0	385.9	348.9	355.9	295.8
67.5°	335.1	323.5	291.2	258.8	249.6
70°	272.7	258.8	247.3	212.6	203.3
72.5°	217.2	203.3	187.2	168.7	161.8
75°	164.1	152.5	143.3	136.3	150.2
77.5°	113.2	108.6	101.7	94.7	92.4
80°	73.9	71.6	69.3	67.0	64.7
82.5°	43.9	43.9	43.9	43.9	43.9
85°	23.1	25.4	27.7	30.0	32.4
87.5°	13.9	13.9	16.2	18.5	20.8
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)