

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: P560876

Luminaire Tested: FSR-12-4-LD4-1HI-40-UNV-93-96-EDD-90

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P560876
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-LD4-1HI-40-UNV-93-96-EDD-90
Description: 1X4 FSR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .250 CLEAR TEMPER
GLASS ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 3434.0 lumens
Efficiency: N/A
Efficacy: 79.5 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

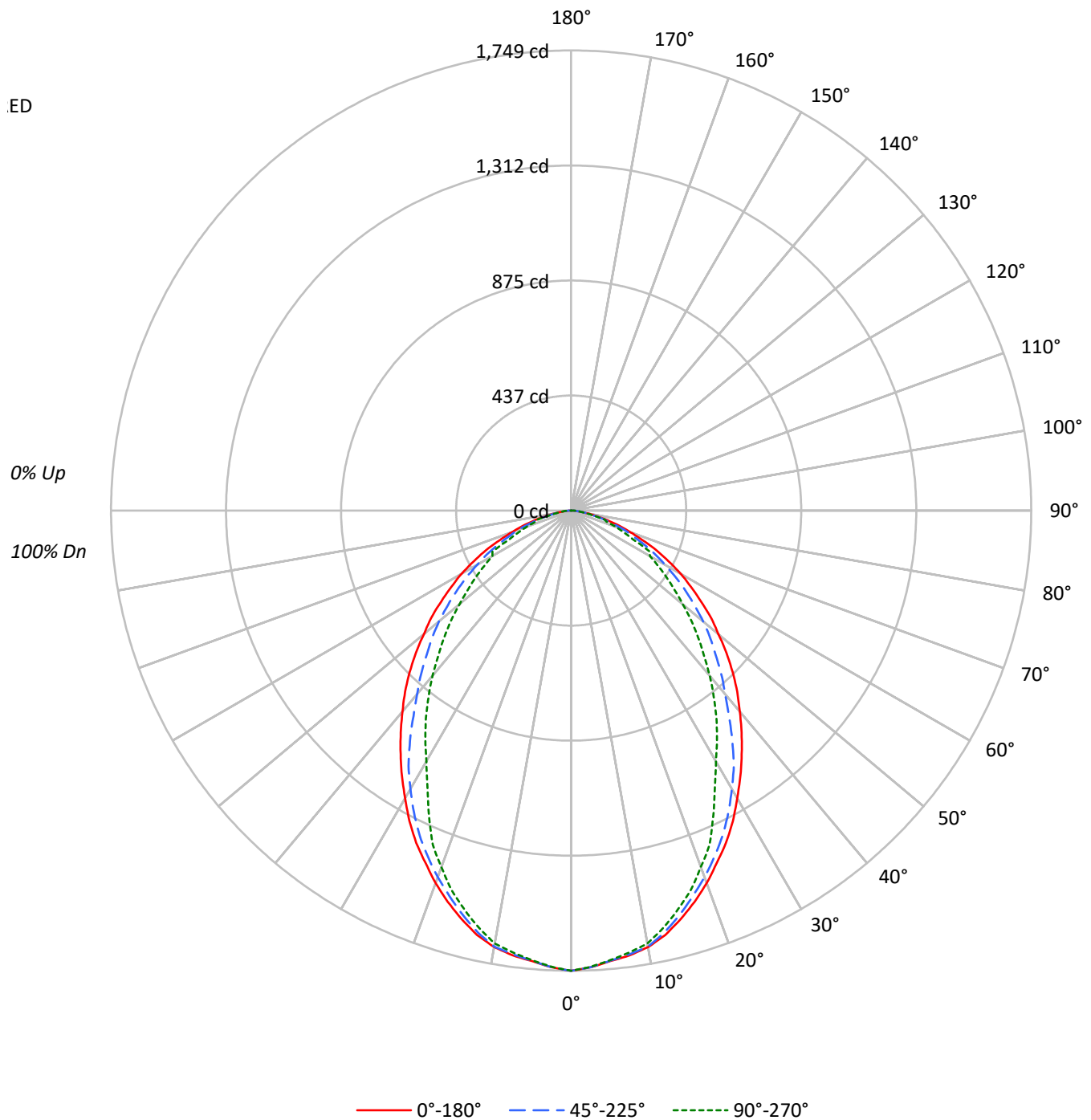
Input Watts (W): 43.2
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



TEST NUMBER: P560876

CATALOG NUMBER: FSR-12-4-LD4-1HI-40-UNV-93-96-EDD-90

Luminous Intensity Polar Plot





TEST NUMBER: P560876

CATALOG NUMBER: FSR-12-4-LD4-1HI-40-UNV-93-96-EDD-90

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°	4707	4707	4707
5°	4643	4638	4632
10°	4603	4597	4564
15°	4479	4434	4372
20°	4314	4245	4129
25°	4137	4047	3795
30°	3921	3795	3418
35°	3713	3507	3162
40°	3502	3197	2877
45°	3301	2955	2601
50°	3056	2743	2320
55°	2827	2486	2078
60°	2590	2220	1861
65°	2279	1945	1648
70°	1877	1703	1400
75°	1493	1304	1366
80°	1003	941	877
85°	624	750	874

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 3301 cd/sqm

TEST NUMBER: P560876

CATALOG NUMBER: FSR-12-4-LD4-1HI-40-UNV-93-96-EDD-90

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	162.8	4.7
10°-20°	446.9	13.0
20°-30°	618.7	18.0
30°-40°	659.7	19.2
40°-50°	601.8	17.5
50°-60°	471.5	13.7
60°-70°	307.3	8.9
70°-80°	136.1	4.0
80°-90°	29.2	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°	1228.4	35.8
0°-40°	1888.1	55.0
0°-60°	2961.3	86.2
0°-90°	3434.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3434.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1749	1749	1749	1749	1749	
5°	1719	1717	1717	1715	1715	163
15°	1608	1608	1592	1575	1569	452
25°	1393	1385	1363	1314	1278	640
35°	1130	1122	1068	987	963	707
45°	868	849	776	712	684	668
55°	603	584	530	467	443	541
65°	358	338	305	311	259	353
75°	144	134	125	119	131	154
85°	20	22	24	26	28	28
90°	0	0	0	0	0	



TEST NUMBER: P560876

CATALOG NUMBER: FSR-12-4-LD4-1HI-40-UNV-93-96-EDD-90

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1749.2	1749.2	1749.2	1749.2	1749.2
2.5°	1737.1	1737.1	1737.1	1735.1	1735.1
5°	1718.9	1716.9	1716.9	1714.9	1714.9
7.5°	1704.7	1702.7	1700.7	1698.7	1694.6
10°	1684.5	1684.5	1682.5	1672.4	1670.4
12.5°	1652.2	1650.1	1642.1	1627.9	1623.9
15°	1607.7	1607.7	1591.5	1575.3	1569.3
17.5°	1559.1	1557.1	1536.9	1520.7	1512.6
20°	1506.6	1502.5	1482.3	1456.0	1441.9
22.5°	1447.9	1447.9	1423.7	1389.3	1375.1
25°	1393.3	1385.2	1363.0	1314.5	1278.1
27.5°	1330.6	1318.5	1294.2	1225.5	1183.0
30°	1261.9	1255.8	1221.4	1132.5	1100.1
32.5°	1197.2	1187.1	1150.7	1057.6	1031.3
35°	1130.4	1122.3	1067.7	986.9	962.6
37.5°	1063.7	1053.6	984.8	920.1	889.8
40°	997.0	984.8	910.0	851.4	819.0
42.5°	934.3	918.1	845.3	782.6	746.2
45°	867.5	849.3	776.5	711.8	683.5
47.5°	800.8	784.6	717.9	651.2	618.8
50°	730.0	715.9	655.2	588.5	554.1
52.5°	671.4	649.1	590.5	523.8	495.4
55°	602.6	584.4	529.8	467.1	442.9
57.5°	539.9	521.7	471.2	412.5	392.3
60°	481.3	455.0	412.5	362.0	345.8
62.5°	416.6	396.4	360.0	317.5	337.7
65°	357.9	337.7	305.4	311.4	258.8
67.5°	293.2	283.1	254.8	226.5	218.4
70°	238.6	226.5	216.4	186.0	178.0
72.5°	190.1	178.0	163.8	147.6	141.6
75°	143.6	133.5	125.4	119.3	131.4
77.5°	99.1	95.0	89.0	82.9	80.9
80°	64.7	62.7	60.7	58.6	56.6
82.5°	38.4	38.4	38.4	38.4	38.4
85°	20.2	22.2	24.3	26.3	28.3
87.5°	12.1	12.1	14.2	16.2	18.2
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)