

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: P560924

Luminaire Tested: FSR-12-4-LD4-1HI-50-UNV-82-96-EDD-90

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P560924
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-50-UNV-82-96-EDD-90
Description: 1X4 FSR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .250 CLEAR TEMPERED GLASS ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 5000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 3356.0 lumens
Efficiency: N/A
Efficacy: 77.7 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

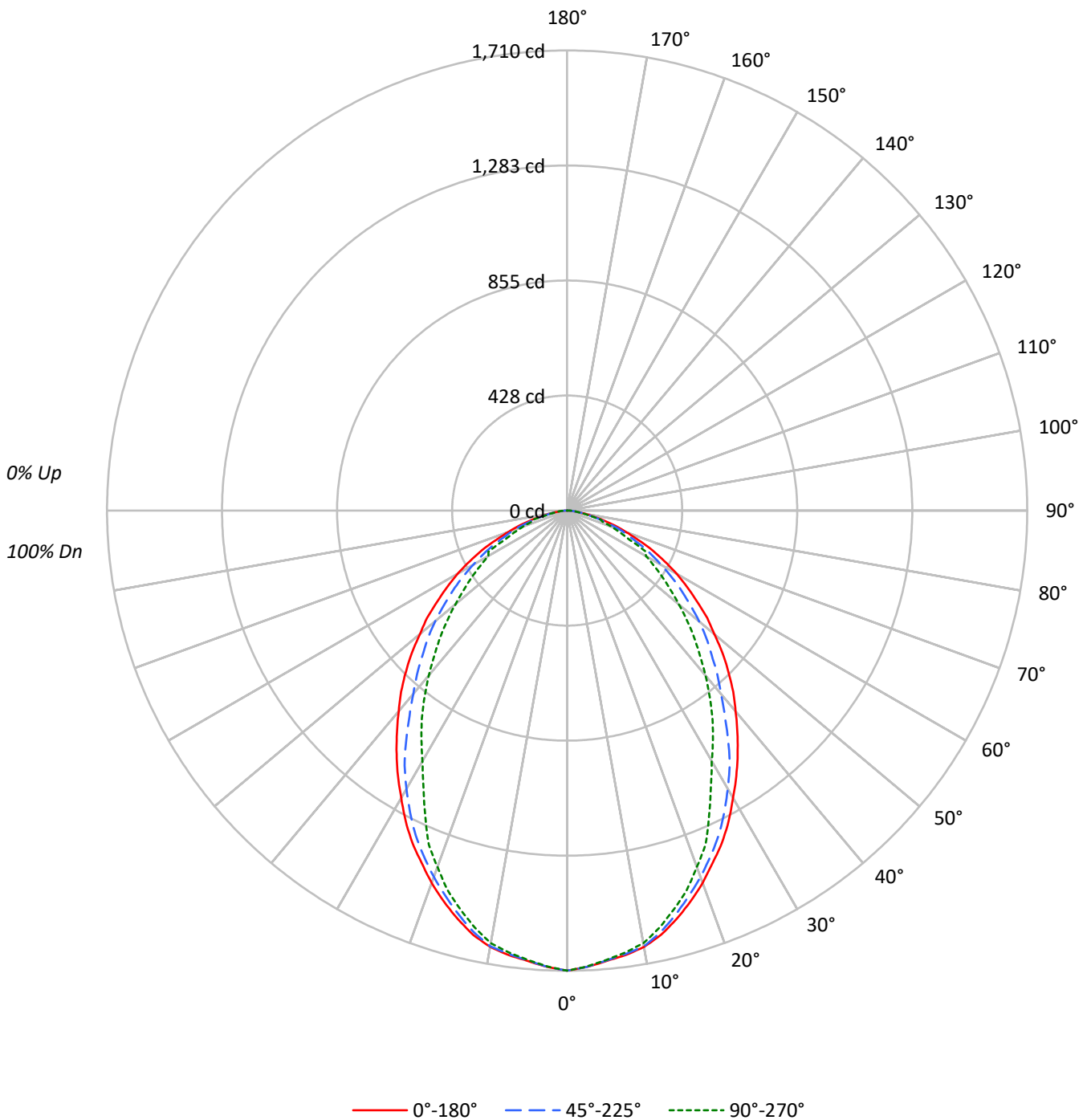
Input Watts (W): 43.2
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



TEST NUMBER: P560924

CATALOG NUMBER: FSR-12-4-LD4-1HI-50-UNV-82-96-EDD-90

Luminous Intensity Polar Plot





TEST NUMBER: P560924

CATALOG NUMBER: FSR-12-4-LD4-1HI-50-UNV-82-96-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°	4600	4600	4600
5°	4538	4532	4527
10°	4499	4493	4461
15°	4377	4333	4272
20°	4216	4148	4035
25°	4043	3955	3708
30°	3832	3709	3341
35°	3629	3428	3090
40°	3423	3124	2812
45°	3226	2888	2542
50°	2987	2681	2267
55°	2763	2429	2031
60°	2532	2170	1819
65°	2227	1900	1611
70°	1835	1664	1368
75°	1459	1274	1336
80°	979	919	857
85°	611	732	855

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 3226 cd/sqm



TEST NUMBER: P560924

CATALOG NUMBER: FSR-12-4-LD4-1HI-50-UNV-82-96-EDD-90

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	159.1	4.7
10°-20°	436.7	13.0
20°-30°	604.6	18.0
30°-40°	644.7	19.2
40°-50°	588.1	17.5
50°-60°	460.8	13.7
60°-70°	300.3	8.9
70°-80°	133.0	4.0
80°-90°	28.6	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°	1200.5	35.8
0°-40°	1845.2	55.0
0°-60°	2894.1	86.2
0°-90°	3356.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3356.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1710	1710	1710	1710	1710	
5°	1680	1678	1678	1676	1676	159
15°	1571	1571	1555	1540	1534	442
25°	1362	1354	1332	1285	1249	625
35°	1105	1097	1044	964	941	691
45°	848	830	759	696	668	653
55°	589	571	518	456	433	528
65°	350	330	298	304	253	345
75°	140	130	122	117	128	150
85°	20	22	24	26	28	27
90°	0	0	0	0	0	



TEST NUMBER: P560924

CATALOG NUMBER: FSR-12-4-LD4-1HI-50-UNV-82-96-EDD-90

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1709.5	1709.5	1709.5	1709.5	1709.5
2.5°	1697.6	1697.6	1697.6	1695.7	1695.7
5°	1679.9	1677.9	1677.9	1675.9	1675.9
7.5°	1666.0	1664.0	1662.1	1660.1	1656.1
10°	1646.3	1646.3	1644.3	1634.4	1632.4
12.5°	1614.6	1612.7	1604.8	1590.9	1587.0
15°	1571.2	1571.2	1555.3	1539.5	1533.6
17.5°	1523.7	1521.8	1502.0	1486.2	1478.3
20°	1472.3	1468.4	1448.6	1422.9	1409.1
22.5°	1415.0	1415.0	1391.3	1357.7	1343.9
25°	1361.7	1353.8	1332.0	1284.6	1249.0
27.5°	1300.4	1288.5	1264.8	1197.6	1156.1
30°	1233.2	1227.3	1193.7	1106.7	1075.1
32.5°	1170.0	1160.1	1124.5	1033.6	1007.9
35°	1104.8	1096.8	1043.5	964.4	940.7
37.5°	1039.5	1029.7	962.5	899.2	869.6
40°	974.3	962.5	889.3	832.0	800.4
42.5°	913.1	897.2	826.1	764.8	729.3
45°	847.8	830.0	758.9	695.7	668.0
47.5°	782.6	766.8	701.6	636.4	604.7
50°	713.4	699.6	640.3	575.1	541.5
52.5°	656.1	634.4	577.1	511.9	484.2
55°	588.9	571.2	517.8	456.5	432.8
57.5°	527.7	509.9	460.5	403.2	383.4
60°	470.4	444.7	403.2	353.8	337.9
62.5°	407.1	387.4	351.8	310.3	330.0
65°	349.8	330.0	298.4	304.4	253.0
67.5°	286.6	276.7	249.0	221.3	213.4
70°	233.2	221.3	211.5	181.8	173.9
72.5°	185.8	173.9	160.1	144.3	138.3
75°	140.3	130.4	122.5	116.6	128.5
77.5°	96.8	92.9	87.0	81.0	79.1
80°	63.2	61.3	59.3	57.3	55.3
82.5°	37.5	37.5	37.5	37.5	37.5
85°	19.8	21.7	23.7	25.7	27.7
87.5°	11.9	11.9	13.8	15.8	17.8
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)