

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: P561504

Luminaire Tested: FSR-12-4-LD4-2HI-50-UNV-93-84-EDD-90

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P561504
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-LD4-2HI-50-UNV-93-84-EDD-90
Description: 1X4 FSR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .125 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 5000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 7296.0 lumens
Efficiency: N/A
Efficacy: 84.4 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

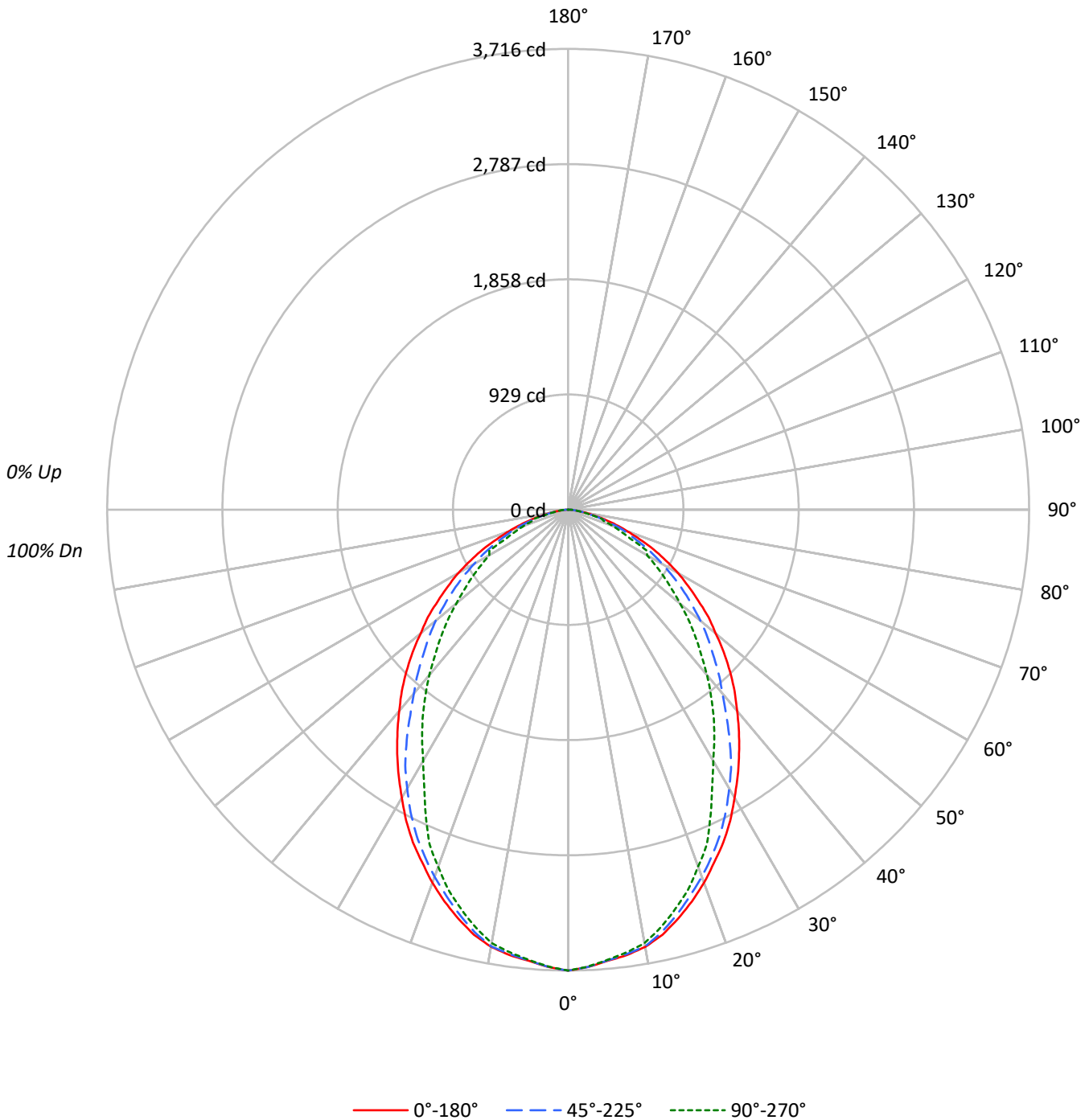
Input Watts (W): 86.4
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



TEST NUMBER: P561504

CATALOG NUMBER: FSR-12-4-LD4-2HI-50-UNV-93-84-EDD-90

Luminous Intensity Polar Plot





TEST NUMBER: P561504

CATALOG NUMBER: FSR-12-4-LD4-2HI-50-UNV-93-84-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	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°	10001	10001	10001
5°	9865	9853	9842
10°	9780	9768	9697
15°	9516	9420	9288
20°	9166	9019	8773
25°	8790	8598	8062
30°	8331	8064	7263
35°	7890	7453	6718
40°	7441	6792	6113
45°	7015	6279	5527
50°	6493	5828	4928
55°	6007	5281	4414
60°	5504	4717	3954
65°	4842	4131	3502
70°	3989	3617	2975
75°	3172	2770	2904
80°	2131	1998	1864
85°	1328	1593	1859

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 7015 cd/sqm



TEST NUMBER: P561504

CATALOG NUMBER: FSR-12-4-LD4-2HI-50-UNV-93-84-EDD-90

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	346.0	4.7
10°-20°	949.4	13.0
20°-30°	1314.4	18.0
30°-40°	1401.6	19.2
40°-50°	1278.6	17.5
50°-60°	1001.7	13.7
60°-70°	652.9	8.9
70°-80°	289.3	4.0
80°-90°	62.1	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°	2609.8	35.8
0°-40°	4011.4	55.0
0°-60°	6291.8	86.2
0°-90°	7296.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	7296.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	3716	3716	3716	3716	3716	
5°	3652	3648	3648	3643	3643	347
15°	3416	3416	3381	3347	3334	960
25°	2960	2943	2896	2793	2715	1359
35°	2402	2385	2269	2097	2045	1502
45°	1843	1804	1650	1512	1452	1420
55°	1280	1242	1126	992	941	1148
65°	760	718	649	662	550	749
75°	305	284	266	254	279	327
85°	43	47	52	56	60	60
90°	0	0	0	0	0	



TEST NUMBER: P561504

CATALOG NUMBER: FSR-12-4-LD4-2HI-50-UNV-93-84-EDD-90

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	3716.5	3716.5	3716.5	3716.5	3716.5
2.5°	3690.7	3690.7	3690.7	3686.4	3686.4
5°	3652.0	3647.7	3647.7	3643.4	3643.4
7.5°	3622.0	3617.7	3613.4	3609.1	3600.5
10°	3579.0	3579.0	3574.7	3553.2	3548.9
12.5°	3510.3	3506.0	3488.8	3458.7	3450.1
15°	3415.7	3415.7	3381.4	3347.0	3334.1
17.5°	3312.6	3308.3	3265.4	3231.0	3213.8
20°	3200.9	3192.3	3149.3	3093.5	3063.4
22.5°	3076.3	3076.3	3024.7	2951.7	2921.6
25°	2960.3	2943.1	2895.9	2792.7	2715.4
27.5°	2827.1	2801.3	2749.8	2603.7	2513.5
30°	2681.0	2668.1	2595.1	2406.0	2337.3
32.5°	2543.5	2522.1	2444.7	2247.1	2191.2
35°	2401.8	2384.6	2268.6	2096.7	2045.1
37.5°	2260.0	2238.5	2092.4	1954.9	1890.5
40°	2118.2	2092.4	1933.4	1808.8	1740.1
42.5°	1985.0	1950.6	1795.9	1662.8	1585.4
45°	1843.2	1804.5	1649.9	1512.4	1452.2
47.5°	1701.4	1667.0	1525.3	1383.5	1314.7
50°	1551.0	1521.0	1392.1	1250.3	1177.2
52.5°	1426.4	1379.2	1254.6	1112.8	1052.6
55°	1280.4	1241.7	1125.7	992.5	940.9
57.5°	1147.2	1108.5	1001.1	876.5	833.5
60°	1022.6	966.7	876.5	769.1	734.7
62.5°	885.1	842.1	764.8	674.6	717.5
65°	760.5	717.5	648.8	661.7	550.0
67.5°	623.0	601.5	541.4	481.2	464.0
70°	507.0	481.2	459.7	395.3	378.1
72.5°	403.9	378.1	348.0	313.6	300.8
75°	305.1	283.6	266.4	253.5	279.3
77.5°	210.5	201.9	189.0	176.2	171.9
80°	137.5	133.2	128.9	124.6	120.3
82.5°	81.6	81.6	81.6	81.6	81.6
85°	43.0	47.3	51.6	55.9	60.2
87.5°	25.8	25.8	30.1	34.4	38.7
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)