

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: P563904

Luminaire Tested: FSR-24-4-LD4-4LO-40-UNV-81-84-EDD-90

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P563904
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-24-4-LD4-4LO-40-UNV-81-84-EDD-90
Description: 2X4 FSR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .125 CLEAR PC ENVIRONMENTAL SI
LENSES WITH, 90 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 9397.0 lumens
Efficiency: N/A
Efficacy: 100.4 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

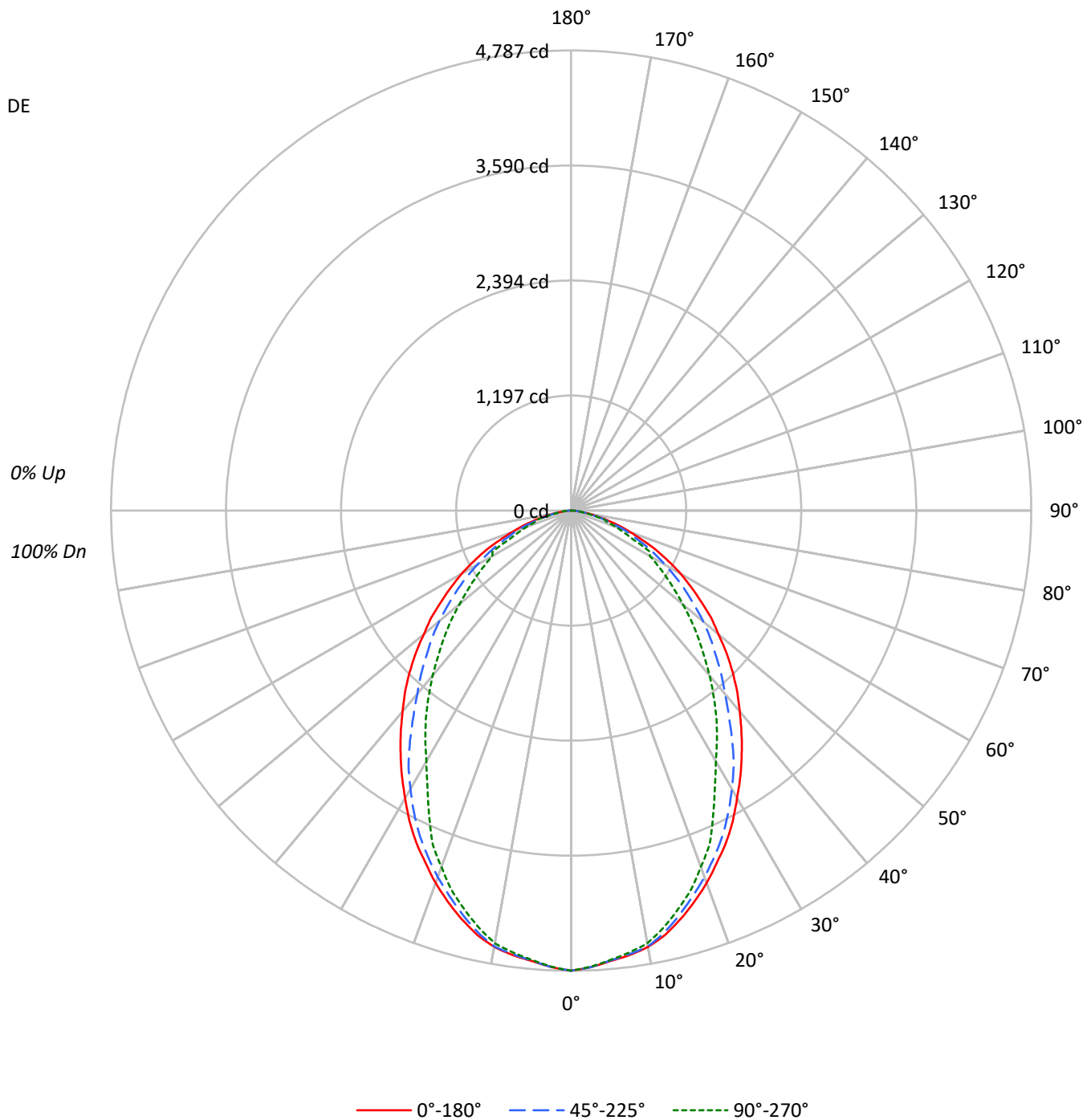
Input Watts (W): 93.6
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



TEST NUMBER: P563904

CATALOG NUMBER: FSR-24-4-LD4-4LO-40-UNV-81-84-EDD-90

Luminous Intensity Polar Plot





TEST NUMBER: P563904

CATALOG NUMBER: FSR-24-4-LD4-4LO-40-UNV-81-84-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°	6440	6440	6440
5°	6353	6346	6338
10°	6298	6290	6245
15°	6128	6066	5982
20°	5903	5808	5649
25°	5660	5537	5192
30°	5365	5193	4677
35°	5081	4799	4327
40°	4792	4374	3936
45°	4517	4043	3559
50°	4182	3753	3174
55°	3868	3401	2843
60°	3544	3038	2546
65°	3118	2660	2255
70°	2569	2329	1916
75°	2043	1784	1870
80°	1372	1286	1200
85°	854	1025	1196

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 4517 cd/sqm



TEST NUMBER: P563904

CATALOG NUMBER: FSR-24-4-LD4-4LO-40-UNV-81-84-EDD-90

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	445.6	4.7
10°-20°	1222.9	13.0
20°-30°	1693.0	18.0
30°-40°	1805.2	19.2
40°-50°	1646.9	17.5
50°-60°	1290.2	13.7
60°-70°	840.9	8.9
70°-80°	372.6	4.0
80°-90°	80.0	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°	3361.4	35.8
0°-40°	5166.6	55.0
0°-60°	8103.6	86.2
0°-90°	9397.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	9397.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	4787	4787	4787	4787	4787	
5°	4704	4698	4698	4693	4693	446
15°	4399	4399	4355	4311	4294	1237
25°	3813	3791	3730	3597	3497	1750
35°	3093	3071	2922	2700	2634	1934
45°	2374	2324	2125	1948	1870	1829
55°	1649	1599	1450	1278	1212	1479
65°	980	924	836	852	708	965
75°	393	365	343	326	360	421
85°	55	61	66	72	78	77
90°	0	0	0	0	0	



TEST NUMBER: P563904

CATALOG NUMBER: FSR-24-4-LD4-4LO-40-UNV-81-84-EDD-90

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	4786.7	4786.7	4786.7	4786.7	4786.7
2.5°	4753.5	4753.5	4753.5	4748.0	4748.0
5°	4703.7	4698.2	4698.2	4692.6	4692.6
7.5°	4665.0	4659.4	4653.9	4648.4	4637.3
10°	4609.6	4609.6	4604.1	4576.4	4570.9
12.5°	4521.1	4515.6	4493.4	4454.7	4443.6
15°	4399.3	4399.3	4355.1	4310.8	4294.2
17.5°	4266.5	4261.0	4205.7	4161.4	4139.3
20°	4122.7	4111.6	4056.2	3984.3	3945.6
22.5°	3962.2	3962.2	3895.8	3801.7	3763.0
25°	3812.8	3790.6	3729.8	3596.9	3497.3
27.5°	3641.2	3608.0	3541.6	3353.5	3237.3
30°	3453.1	3436.5	3342.4	3098.9	3010.4
32.5°	3276.0	3248.3	3148.7	2894.2	2822.2
35°	3093.4	3071.2	2921.8	2700.5	2634.1
37.5°	2910.8	2883.1	2694.9	2517.9	2434.9
40°	2728.1	2694.9	2490.2	2329.7	2241.2
42.5°	2556.6	2512.3	2313.1	2141.6	2042.0
45°	2374.0	2324.2	2125.0	1947.9	1870.4
47.5°	2191.4	2147.1	1964.5	1781.9	1693.3
50°	1997.7	1959.0	1792.9	1610.3	1516.3
52.5°	1837.2	1776.3	1615.9	1433.2	1355.8
55°	1649.1	1599.3	1449.8	1278.3	1211.9
57.5°	1477.5	1427.7	1289.4	1128.9	1073.6
60°	1317.0	1245.1	1128.9	990.5	946.3
62.5°	1140.0	1084.6	985.0	868.8	924.1
65°	979.5	924.1	835.6	852.2	708.3
67.5°	802.4	774.7	697.3	619.8	597.6
70°	653.0	619.8	592.1	509.1	487.0
72.5°	520.2	487.0	448.2	404.0	387.4
75°	392.9	365.2	343.1	326.5	359.7
77.5°	271.2	260.1	243.5	226.9	221.4
80°	177.1	171.5	166.0	160.5	154.9
82.5°	105.1	105.1	105.1	105.1	105.1
85°	55.3	60.9	66.4	71.9	77.5
87.5°	33.2	33.2	38.7	44.3	49.8
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)