

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: P563920

Luminaire Tested: FSR-24-4-LD4-4LO-40-UNV-82-84-EDD-90

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P563920
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-82-84-EDD-90
Description: 2X4 FSR TROFFER WITH .187 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: 9199.0 lumens
Efficiency: N/A
Efficacy: 98.3 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

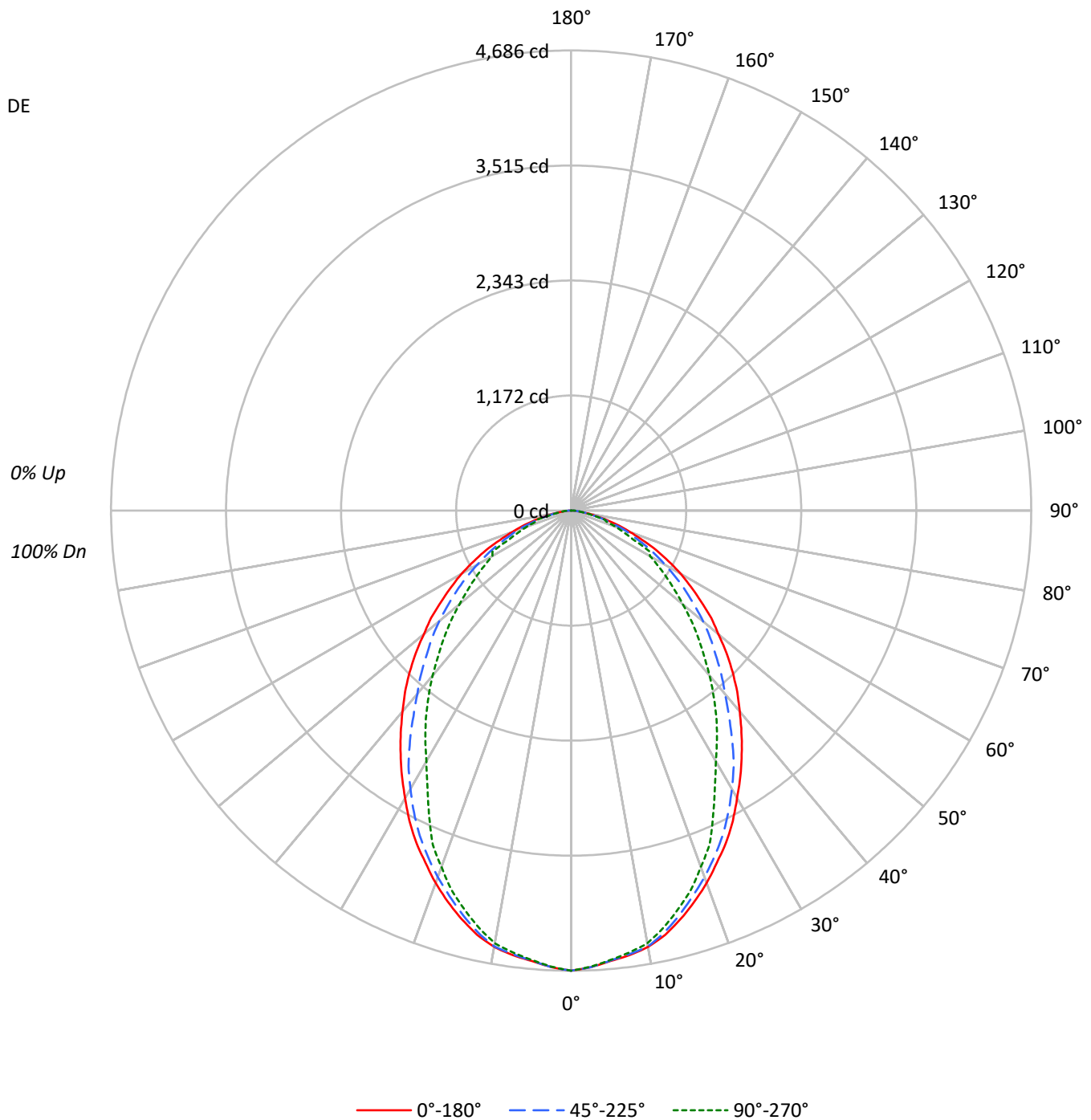
Input Watts (W): 93.6
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



TEST NUMBER: P563920

CATALOG NUMBER: FSR-24-4-LD4-4LO-40-UNV-82-84-EDD-90

Luminous Intensity Polar Plot





TEST NUMBER: P563920

CATALOG NUMBER: FSR-24-4-LD4-4LO-40-UNV-82-84-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°	6305	6305	6305
5°	6219	6212	6205
10°	6165	6158	6113
15°	5999	5939	5856
20°	5779	5686	5530
25°	5541	5421	5083
30°	5252	5084	4578
35°	4974	4698	4235
40°	4691	4282	3854
45°	4422	3958	3484
50°	4093	3674	3107
55°	3787	3329	2783
60°	3469	2974	2493
65°	3053	2604	2208
70°	2515	2280	1875
75°	1999	1746	1830
80°	1343	1259	1175
85°	837	1003	1170

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 4422 cd/sqm



TEST NUMBER: P563920

CATALOG NUMBER: FSR-24-4-LD4-4LO-40-UNV-82-84-EDD-90

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	436.2	4.7
10°-20°	1197.1	13.0
20°-30°	1657.3	18.0
30°-40°	1767.2	19.2
40°-50°	1612.2	17.5
50°-60°	1263.0	13.7
60°-70°	823.2	8.9
70°-80°	364.7	4.0
80°-90°	78.3	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°	3290.6	35.8
0°-40°	5057.7	55.0
0°-60°	7932.9	86.2
0°-90°	9199.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	9199.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	4686	4686	4686	4686	4686	
5°	4605	4599	4599	4594	4594	437
15°	4307	4307	4263	4220	4204	1211
25°	3732	3711	3651	3521	3424	1714
35°	3028	3006	2860	2644	2579	1893
45°	2324	2275	2080	1907	1831	1790
55°	1614	1566	1419	1251	1186	1448
65°	959	905	818	834	693	945
75°	385	358	336	320	352	412
85°	54	60	65	70	76	75
90°	0	0	0	0	0	



TEST NUMBER: P563920

CATALOG NUMBER: FSR-24-4-LD4-4LO-40-UNV-82-84-EDD-90

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	4685.8	4685.8	4685.8	4685.8	4685.8
2.5°	4653.3	4653.3	4653.3	4647.9	4647.9
5°	4604.6	4599.2	4599.2	4593.8	4593.8
7.5°	4566.7	4561.3	4555.8	4550.4	4539.6
10°	4512.5	4512.5	4507.1	4480.0	4474.6
12.5°	4425.8	4420.4	4398.7	4360.8	4350.0
15°	4306.6	4306.6	4263.3	4220.0	4203.7
17.5°	4176.6	4171.2	4117.0	4073.7	4052.0
20°	4035.8	4025.0	3970.8	3900.4	3862.4
22.5°	3878.7	3878.7	3813.7	3721.6	3683.7
25°	3732.4	3710.8	3651.2	3521.2	3423.6
27.5°	3564.5	3532.0	3467.0	3282.8	3169.0
30°	3380.3	3364.1	3272.0	3033.6	2946.9
32.5°	3207.0	3179.9	3082.4	2833.2	2762.8
35°	3028.2	3006.5	2860.3	2643.6	2578.6
37.5°	2849.4	2822.3	2638.2	2464.8	2383.6
40°	2670.7	2638.2	2437.7	2280.6	2194.0
42.5°	2502.7	2459.4	2264.4	2096.4	1998.9
45°	2324.0	2275.2	2080.2	1906.8	1831.0
47.5°	2145.2	2101.9	1923.1	1744.3	1657.7
50°	1955.6	1917.7	1755.2	1576.4	1484.3
52.5°	1798.5	1738.9	1581.8	1403.0	1327.2
55°	1614.3	1565.6	1419.3	1251.4	1186.4
57.5°	1446.4	1397.6	1262.2	1105.1	1050.9
60°	1289.3	1218.9	1105.1	969.7	926.3
62.5°	1115.9	1061.8	964.3	850.5	904.7
65°	958.8	904.7	818.0	834.2	693.4
67.5°	785.5	758.4	682.6	606.7	585.1
70°	639.2	606.7	579.6	498.4	476.7
72.5°	509.2	476.7	438.8	395.5	379.2
75°	384.6	357.5	335.9	319.6	352.1
77.5°	265.4	254.6	238.4	222.1	216.7
80°	173.3	167.9	162.5	157.1	151.7
82.5°	102.9	102.9	102.9	102.9	102.9
85°	54.2	59.6	65.0	70.4	75.8
87.5°	32.5	32.5	37.9	43.3	48.8
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)