

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: P563556

Luminaire Tested: FSR-24-4-LD4-3STD-40-UNV-93-86-EDD-90

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P563556
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-LD4-3STD-40-UNV-93-86-EDD-90
Description: 2X4 FSR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .250 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 9647.0 lumens
Efficiency: N/A
Efficacy: 96.6 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

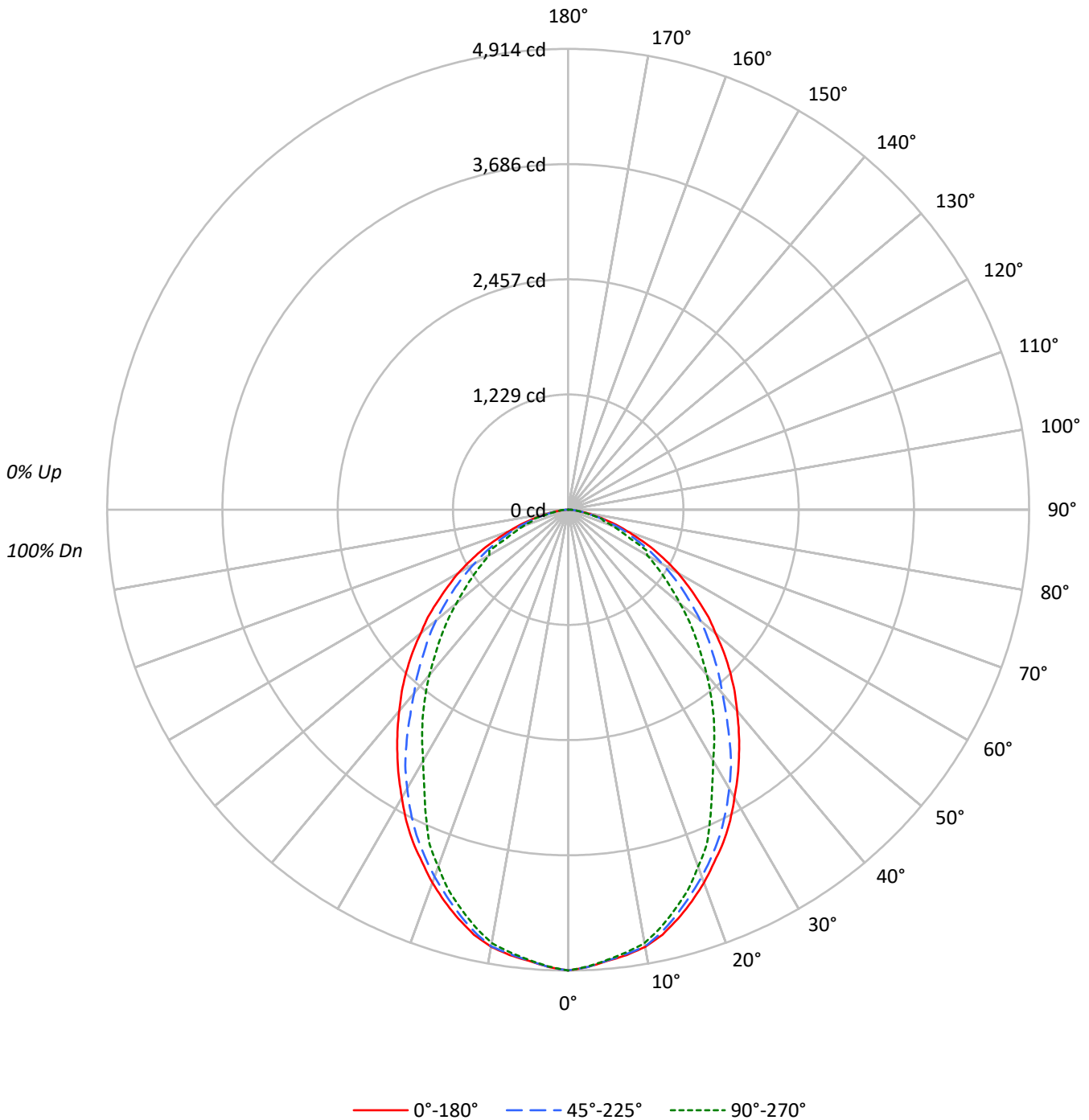
Input Watts (W): 99.9
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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Luminous Intensity Polar Plot





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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°	6612	6612	6612
5°	6522	6514	6507
10°	6465	6458	6411
15°	6291	6228	6141
20°	6060	5962	5800
25°	5811	5684	5330
30°	5507	5331	4802
35°	5216	4927	4442
40°	4919	4490	4041
45°	4637	4151	3654
50°	4293	3853	3258
55°	3971	3491	2918
60°	3638	3119	2614
65°	3201	2731	2315
70°	2637	2391	1967
75°	2097	1831	1920
80°	1409	1320	1233
85°	877	1053	1227

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 4637 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	457.4	4.7
10°-20°	1255.4	13.0
20°-30°	1738.0	18.0
30°-40°	1853.2	19.2
40°-50°	1690.7	17.5
50°-60°	1324.5	13.7
60°-70°	863.2	8.9
70°-80°	382.5	4.0
80°-90°	82.1	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°	3450.8	35.8
0°-40°	5304.0	55.0
0°-60°	8319.2	86.2
0°-90°	9647.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	9647.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	4914	4914	4914	4914	4914	
5°	4829	4823	4823	4818	4818	458
15°	4516	4516	4471	4426	4408	1270
25°	3914	3892	3829	3693	3590	1797
35°	3176	3153	3000	2772	2704	1985
45°	2437	2386	2182	2000	1920	1877
55°	1693	1642	1488	1312	1244	1518
65°	1006	949	858	875	727	991
75°	403	375	352	335	369	432
85°	57	62	68	74	80	79
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	4914.1	4914.1	4914.1	4914.1	4914.1
2.5°	4880.0	4880.0	4880.0	4874.3	4874.3
5°	4828.8	4823.2	4823.2	4817.5	4817.5
7.5°	4789.1	4783.4	4777.7	4772.0	4760.7
10°	4732.3	4732.3	4726.6	4698.2	4692.5
12.5°	4641.4	4635.7	4613.0	4573.2	4561.8
15°	4516.4	4516.4	4470.9	4425.5	4408.4
17.5°	4380.0	4374.4	4317.5	4272.1	4249.4
20°	4232.3	4221.0	4164.2	4090.3	4050.5
22.5°	4067.6	4067.6	3999.4	3902.8	3863.1
25°	3914.2	3891.5	3829.0	3692.6	3590.4
27.5°	3738.1	3704.0	3635.8	3442.7	3323.4
30°	3544.9	3527.9	3431.3	3181.4	3090.5
32.5°	3363.1	3334.7	3232.5	2971.2	2897.3
35°	3175.7	3152.9	2999.6	2772.3	2704.1
37.5°	2988.2	2959.8	2766.6	2584.8	2499.6
40°	2800.7	2766.6	2556.4	2391.7	2300.8
42.5°	2624.6	2579.2	2374.7	2198.5	2096.3
45°	2437.1	2386.0	2181.5	1999.7	1920.2
47.5°	2249.7	2204.2	2016.8	1829.3	1738.4
50°	2050.8	2011.1	1840.6	1653.2	1556.6
52.5°	1886.1	1823.6	1658.8	1471.4	1391.8
55°	1692.9	1641.8	1488.4	1312.3	1244.1
57.5°	1516.8	1465.7	1323.7	1158.9	1102.1
60°	1352.1	1278.2	1158.9	1016.9	971.4
62.5°	1170.3	1113.5	1011.2	891.9	948.7
65°	1005.5	948.7	857.8	874.9	727.2
67.5°	823.7	795.3	715.8	636.3	613.5
70°	670.4	636.3	607.9	522.7	499.9
72.5°	534.0	499.9	460.2	414.7	397.7
75°	403.4	374.9	352.2	335.2	369.3
77.5°	278.4	267.0	250.0	232.9	227.2
80°	181.8	176.1	170.4	164.7	159.1
82.5°	107.9	107.9	107.9	107.9	107.9
85°	56.8	62.5	68.2	73.9	79.5
87.5°	34.1	34.1	39.8	45.4	51.1
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)