

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: P564204

Luminaire Tested: FSR-24-4-LD4-4STD-50-UNV-93-96-EDD-90

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P564204
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-LD4-4STD-50-UNV-93-96-EDD-90
Description: 2X4 FSR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .250 CLEAR TEMPER
GLASS ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 5000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 13854.0 lumens
Efficiency: N/A
Efficacy: 104.0 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

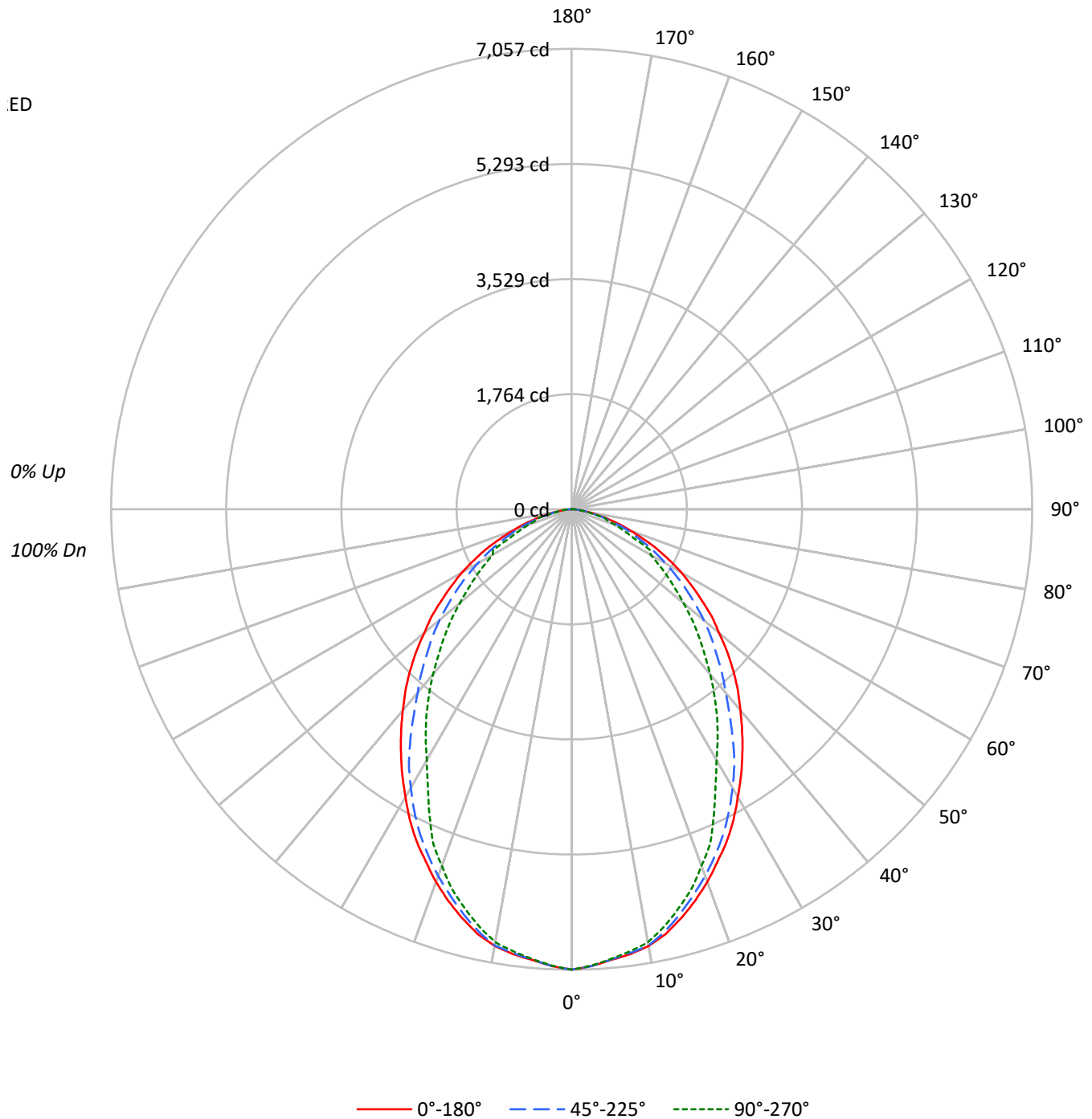
Input Watts (W): 133.2
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



TEST NUMBER: P564204

CATALOG NUMBER: FSR-24-4-LD4-4STD-50-UNV-93-96-EDD-90

Luminous Intensity Polar Plot





TEST NUMBER: P564204

CATALOG NUMBER: FSR-24-4-LD4-4STD-50-UNV-93-96-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	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°	9495	9495	9495
5°	9366	9355	9344
10°	9285	9274	9207
15°	9035	8944	8819
20°	8703	8563	8329
25°	8345	8163	7655
30°	7909	7656	6895
35°	7491	7076	6379
40°	7064	6448	5804
45°	6660	5961	5247
50°	6165	5533	4679
55°	5703	5014	4191
60°	5225	4479	3754
65°	4597	3922	3325
70°	3787	3434	2824
75°	3011	2629	2757
80°	2023	1897	1770
85°	1260	1511	1763

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 6660 cd/sqm



TEST NUMBER: P564204

CATALOG NUMBER: FSR-24-4-LD4-4STD-50-UNV-93-96-EDD-90

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	656.9	4.7
10°-20°	1802.8	13.0
20°-30°	2495.9	18.0
30°-40°	2661.4	19.2
40°-50°	2427.9	17.5
50°-60°	1902.1	13.7
60°-70°	1239.7	8.9
70°-80°	549.2	4.0
80°-90°	117.9	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°	4955.7	35.8
0°-40°	7617.1	55.0
0°-60°	11947.1	86.2
0°-90°	13854.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	13854.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	7057	7057	7057	7057	7057	
5°	6935	6926	6926	6918	6918	658
15°	6486	6486	6421	6355	6331	1823
25°	5621	5588	5499	5303	5156	2581
35°	4561	4528	4308	3981	3883	2851
45°	3500	3426	3133	2872	2758	2696
55°	2431	2358	2138	1885	1787	2181
65°	1444	1362	1232	1256	1044	1423
75°	579	538	506	481	530	621
85°	82	90	98	106	114	113
90°	0	0	0	0	0	

TEST NUMBER: P564204

CATALOG NUMBER: FSR-24-4-LD4-4STD-50-UNV-93-96-EDD-90

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	7057.0	7057.0	7057.0	7057.0	7057.0
2.5°	7008.1	7008.1	7008.1	6999.9	6999.9
5°	6934.7	6926.5	6926.5	6918.3	6918.3
7.5°	6877.6	6869.4	6861.2	6853.1	6836.8
10°	6796.0	6796.0	6787.8	6747.0	6738.9
12.5°	6665.4	6657.3	6624.6	6567.5	6551.2
15°	6486.0	6486.0	6420.7	6355.4	6330.9
17.5°	6290.2	6282.0	6200.4	6135.1	6102.5
20°	6078.0	6061.7	5980.1	5874.1	5817.0
22.5°	5841.4	5841.4	5743.5	5604.8	5547.7
25°	5621.2	5588.5	5498.8	5303.0	5156.1
27.5°	5368.2	5319.3	5221.4	4944.0	4772.7
30°	5090.9	5066.4	4927.7	4568.7	4438.2
32.5°	4829.8	4789.0	4642.1	4266.9	4160.8
35°	4560.6	4527.9	4307.7	3981.3	3883.4
37.5°	4291.3	4250.5	3973.2	3712.1	3589.7
40°	4022.1	3973.2	3671.3	3434.7	3304.2
42.5°	3769.2	3703.9	3410.2	3157.3	3010.5
45°	3500.0	3426.5	3132.8	2871.8	2757.5
47.5°	3230.7	3165.5	2896.2	2627.0	2496.5
50°	2945.2	2888.1	2643.3	2374.1	2235.4
52.5°	2708.6	2618.9	2382.3	2113.0	1998.8
55°	2431.2	2357.8	2137.5	1884.6	1786.7
57.5°	2178.3	2104.9	1900.9	1664.3	1582.7
60°	1941.7	1835.6	1664.3	1460.4	1395.1
62.5°	1680.6	1599.1	1452.2	1280.9	1362.5
65°	1444.0	1362.5	1231.9	1256.4	1044.3
67.5°	1183.0	1142.2	1028.0	913.7	881.1
70°	962.7	913.7	873.0	750.6	717.9
72.5°	766.9	717.9	660.8	595.6	571.1
75°	579.2	538.5	505.8	481.3	530.3
77.5°	399.8	383.4	359.0	334.5	326.3
80°	261.1	252.9	244.8	236.6	228.4
82.5°	155.0	155.0	155.0	155.0	155.0
85°	81.6	89.7	97.9	106.1	114.2
87.5°	49.0	49.0	57.1	65.3	73.4
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)