

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: P563596

Luminaire Tested: FSR-24-4-LD4-3STD-50-UNV-81-96-EDD-90

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P563596
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-50-UNV-81-96-EDD-90
Description: 2X4 FSR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .250 CLEAR TEMPERED GLASS ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 5000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 9851.0 lumens
Efficiency: N/A
Efficacy: 98.6 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

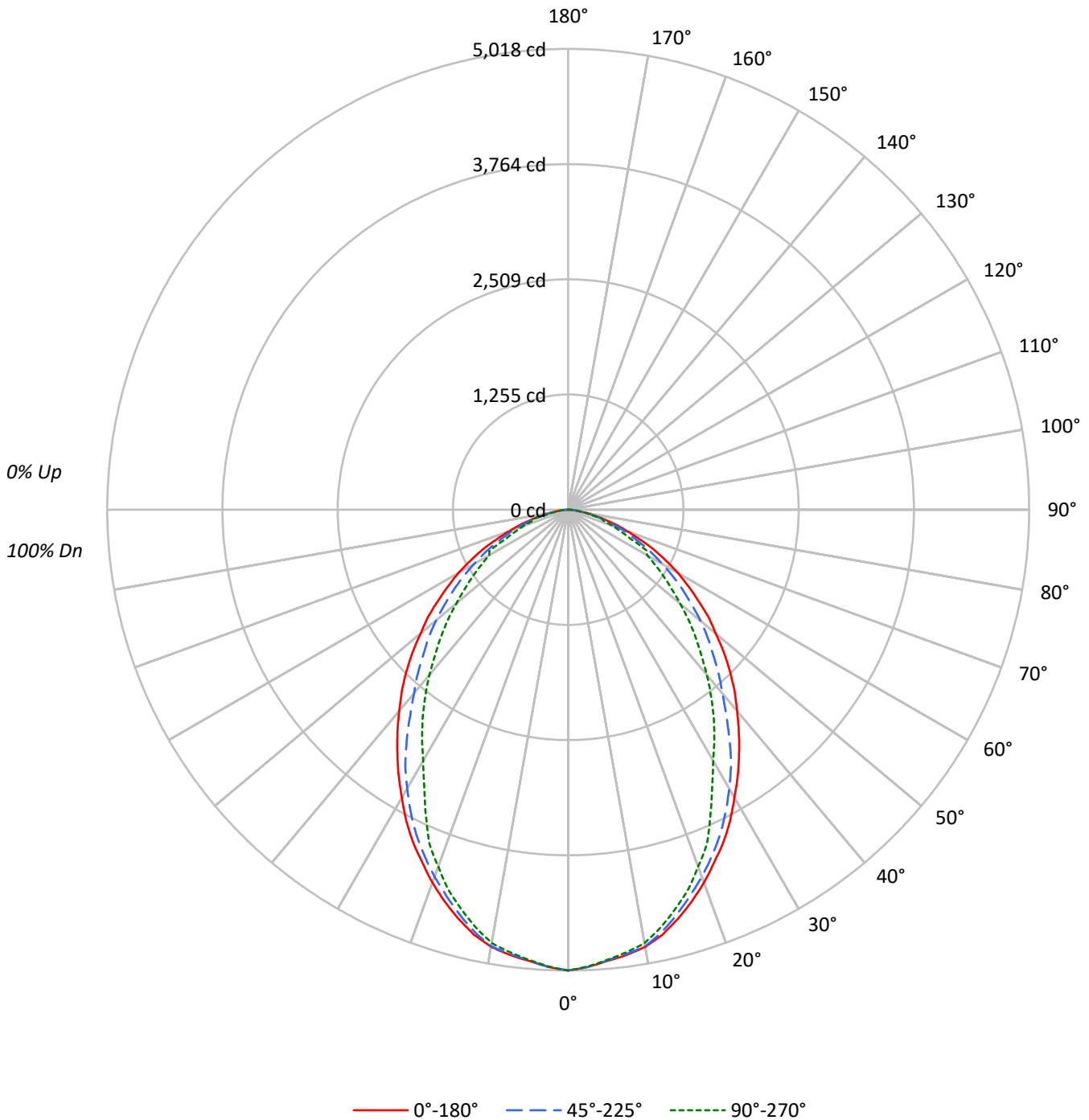
Input Watts (W): 99.9
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



TEST NUMBER: P563596

CATALOG NUMBER: FSR-24-4-LD4-3STD-50-UNV-81-96-EDD-90

Luminous Intensity Polar Plot





TEST NUMBER: P563596

CATALOG NUMBER: FSR-24-4-LD4-3STD-50-UNV-81-96-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	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°	6752	6752	6752
5°	6660	6652	6644
10°	6602	6594	6547
15°	6424	6360	6271
20°	6188	6088	5922
25°	5934	5805	5443
30°	5624	5444	4903
35°	5326	5031	4536
40°	5023	4585	4127
45°	4736	4239	3731
50°	4384	3934	3327
55°	4055	3565	2980
60°	3715	3185	2669
65°	3269	2789	2364
70°	2693	2442	2008
75°	2141	1870	1960
80°	1438	1348	1258
85°	895	1074	1254

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 4736 cd/sqm



TEST NUMBER: P563596

CATALOG NUMBER: FSR-24-4-LD4-3STD-50-UNV-81-96-EDD-90

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	467.1	4.7
10°-20°	1281.9	13.0
20°-30°	1774.7	18.0
30°-40°	1892.4	19.2
40°-50°	1726.4	17.5
50°-60°	1352.5	13.7
60°-70°	881.5	8.9
70°-80°	390.5	4.0
80°-90°	83.8	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°	3523.8	35.8
0°-40°	5416.2	55.0
0°-60°	8495.1	86.2
0°-90°	9851.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	9851.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	5018	5018	5018	5018	5018	
5°	4931	4925	4925	4919	4919	468
15°	4612	4612	4566	4519	4502	1297
25°	3997	3974	3910	3771	3666	1835
35°	3243	3220	3063	2831	2761	2027
45°	2489	2436	2228	2042	1961	1917
55°	1729	1676	1520	1340	1270	1551
65°	1027	969	876	893	742	1012
75°	412	383	360	342	377	441
85°	58	64	70	75	81	80
90°	0	0	0	0	0	



TEST NUMBER: P563596

CATALOG NUMBER: FSR-24-4-LD4-3STD-50-UNV-81-96-EDD-90

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	5018.0	5018.0	5018.0	5018.0	5018.0
2.5°	4983.2	4983.2	4983.2	4977.4	4977.4
5°	4931.0	4925.1	4925.1	4919.3	4919.3
7.5°	4890.3	4884.5	4878.7	4872.9	4861.3
10°	4832.3	4832.3	4826.5	4797.5	4791.7
12.5°	4739.5	4733.7	4710.5	4669.9	4658.3
15°	4611.9	4611.9	4565.5	4519.1	4501.7
17.5°	4472.7	4466.9	4408.9	4362.4	4339.2
20°	4321.8	4310.2	4252.2	4176.8	4136.2
22.5°	4153.6	4153.6	4084.0	3985.4	3944.8
25°	3997.0	3973.8	3910.0	3770.7	3666.3
27.5°	3817.1	3782.3	3712.7	3515.5	3393.7
30°	3619.9	3602.5	3503.9	3248.6	3155.8
32.5°	3434.3	3405.3	3300.8	3034.0	2958.6
35°	3242.8	3219.6	3063.0	2830.9	2761.3
37.5°	3051.4	3022.4	2825.1	2639.5	2552.5
40°	2860.0	2825.1	2610.5	2442.3	2349.5
42.5°	2680.1	2633.7	2424.9	2245.0	2140.6
45°	2488.7	2436.5	2227.6	2042.0	1960.8
47.5°	2297.2	2250.8	2059.4	1868.0	1775.1
50°	2094.2	2053.6	1879.6	1688.1	1589.5
52.5°	1926.0	1862.2	1693.9	1502.5	1421.3
55°	1728.7	1676.5	1519.9	1340.1	1270.4
57.5°	1548.9	1496.7	1351.7	1183.4	1125.4
60°	1380.7	1305.3	1183.4	1038.4	992.0
62.5°	1195.0	1137.0	1032.6	910.8	968.8
65°	1026.8	968.8	876.0	893.4	742.5
67.5°	841.2	812.2	730.9	649.7	626.5
70°	684.5	649.7	620.7	533.7	510.5
72.5°	545.3	510.5	469.9	423.5	406.1
75°	411.9	382.9	359.7	342.3	377.1
77.5°	284.3	272.7	255.2	237.8	232.0
80°	185.6	179.8	174.0	168.2	162.4
82.5°	110.2	110.2	110.2	110.2	110.2
85°	58.0	63.8	69.6	75.4	81.2
87.5°	34.8	34.8	40.6	46.4	52.2
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)