

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: P563210

Luminaire Tested: FSR-24-4-LD4-3HI-50-UNV-81-94-EDD-90

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P563210
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-LD4-3HI-50-UNV-81-94-EDD-90
Description: 2X4 FSR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .187 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: 12219.0 lumens
Efficiency: N/A
Efficacy: 94.3 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

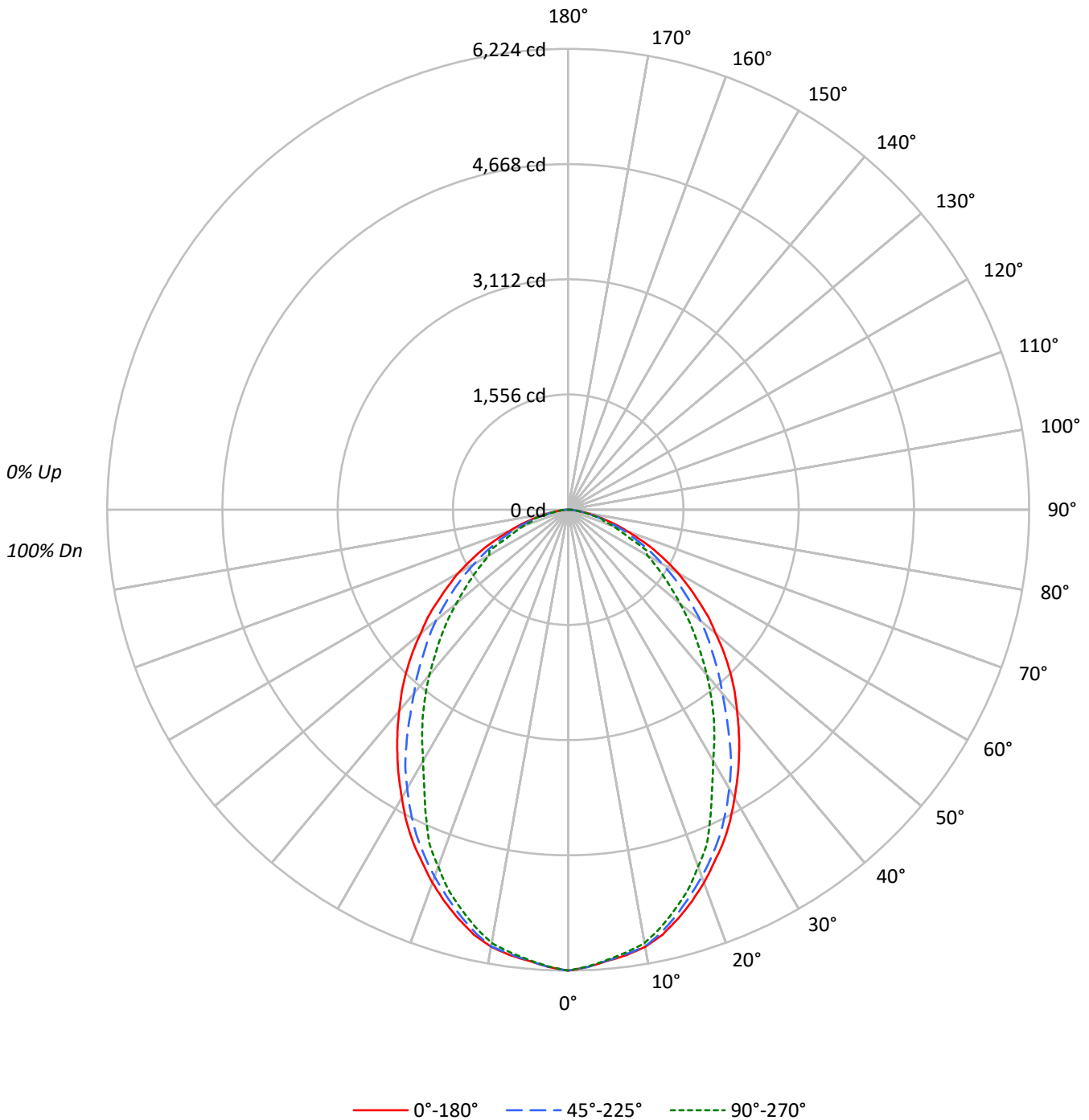
Input Watts (W): 129.6
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



TEST NUMBER: P563210

CATALOG NUMBER: FSR-24-4-LD4-3HI-50-UNV-81-94-EDD-90

Luminous Intensity Polar Plot





TEST NUMBER: P563210

CATALOG NUMBER: FSR-24-4-LD4-3HI-50-UNV-81-94-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°	8375	8375	8375
5°	8261	8251	8241
10°	8189	8179	8120
15°	7968	7888	7778
20°	7676	7552	7346
25°	7360	7200	6751
30°	6976	6752	6082
35°	6607	6240	5626
40°	6231	5687	5119
45°	5874	5258	4628
50°	5437	4880	4127
55°	5030	4422	3696
60°	4609	3950	3311
65°	4055	3459	2932
70°	3340	3029	2491
75°	2656	2319	2431
80°	1784	1673	1561
85°	1112	1332	1555

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 5874 cd/sqm



TEST NUMBER: P563210

CATALOG NUMBER: FSR-24-4-LD4-3HI-50-UNV-81-94-EDD-90

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	579.4	4.7
10°-20°	1590.1	13.0
20°-30°	2201.4	18.0
30°-40°	2347.3	19.2
40°-50°	2141.4	17.5
50°-60°	1677.6	13.7
60°-70°	1093.4	8.9
70°-80°	484.4	4.0
80°-90°	104.0	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°	4370.8	35.8
0°-40°	6718.1	55.0
0°-60°	10537.2	86.2
0°-90°	12219.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	12219.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	6224	6224	6224	6224	6224	
5°	6116	6109	6109	6102	6102	581
15°	5720	5720	5663	5605	5584	1608
25°	4958	4929	4850	4677	4548	2276
35°	4022	3994	3799	3512	3425	2515
45°	3087	3022	2763	2533	2432	2378
55°	2144	2080	1885	1662	1576	1923
65°	1274	1202	1086	1108	921	1255
75°	511	475	446	424	468	548
85°	72	79	86	94	101	100
90°	0	0	0	0	0	



TEST NUMBER: P563210

CATALOG NUMBER: FSR-24-4-LD4-3HI-50-UNV-81-94-EDD-90

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	6224.2	6224.2	6224.2	6224.2	6224.2
2.5°	6181.0	6181.0	6181.0	6173.8	6173.8
5°	6116.3	6109.1	6109.1	6101.9	6101.9
7.5°	6065.9	6058.7	6051.5	6044.3	6029.9
10°	5993.9	5993.9	5986.7	5950.8	5943.6
12.5°	5878.8	5871.6	5842.8	5792.5	5778.1
15°	5720.5	5720.5	5662.9	5605.4	5583.8
17.5°	5547.8	5540.6	5468.7	5411.1	5382.3
20°	5360.7	5346.3	5274.4	5180.8	5130.5
22.5°	5152.1	5152.1	5065.7	4943.4	4893.0
25°	4957.8	4929.0	4849.8	4677.1	4547.6
27.5°	4734.7	4691.5	4605.2	4360.5	4209.4
30°	4490.1	4468.5	4346.1	4029.5	3914.4
32.5°	4259.8	4223.8	4094.3	3763.3	3669.8
35°	4022.3	3993.6	3799.3	3511.5	3425.1
37.5°	3784.9	3748.9	3504.3	3274.0	3166.1
40°	3547.4	3504.3	3238.0	3029.3	2914.2
42.5°	3324.4	3266.8	3007.8	2784.7	2655.2
45°	3086.9	3022.2	2763.1	2532.9	2432.1
47.5°	2849.5	2791.9	2554.4	2317.0	2201.9
50°	2597.6	2547.2	2331.4	2093.9	1971.6
52.5°	2388.9	2309.8	2101.1	1863.7	1762.9
55°	2144.3	2079.5	1885.2	1662.2	1575.8
57.5°	1921.2	1856.5	1676.6	1467.9	1395.9
60°	1712.6	1619.0	1467.9	1288.0	1230.4
62.5°	1482.3	1410.3	1280.8	1129.7	1201.7
65°	1273.6	1201.7	1086.5	1108.1	921.0
67.5°	1043.4	1007.4	906.6	805.9	777.1
70°	849.1	805.9	769.9	662.0	633.2
72.5°	676.4	633.2	582.8	525.3	503.7
75°	510.9	474.9	446.1	424.5	467.7
77.5°	352.6	338.2	316.6	295.0	287.8
80°	230.3	223.1	215.9	208.7	201.5
82.5°	136.7	136.7	136.7	136.7	136.7
85°	72.0	79.2	86.3	93.5	100.7
87.5°	43.2	43.2	50.4	57.6	64.8
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)