

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: P563789

Luminaire Tested: FSR-24-4-LD4-4HI-50-UNV-81-96-EDD

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P563789
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-LD4-4HI-50-UNV-81-96-EDD
Description: 2X4 FSR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .250 CLEAR TEMPERED GLASS ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 5000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 18519.0 lumens
Efficiency: N/A
Efficacy: 107.2 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

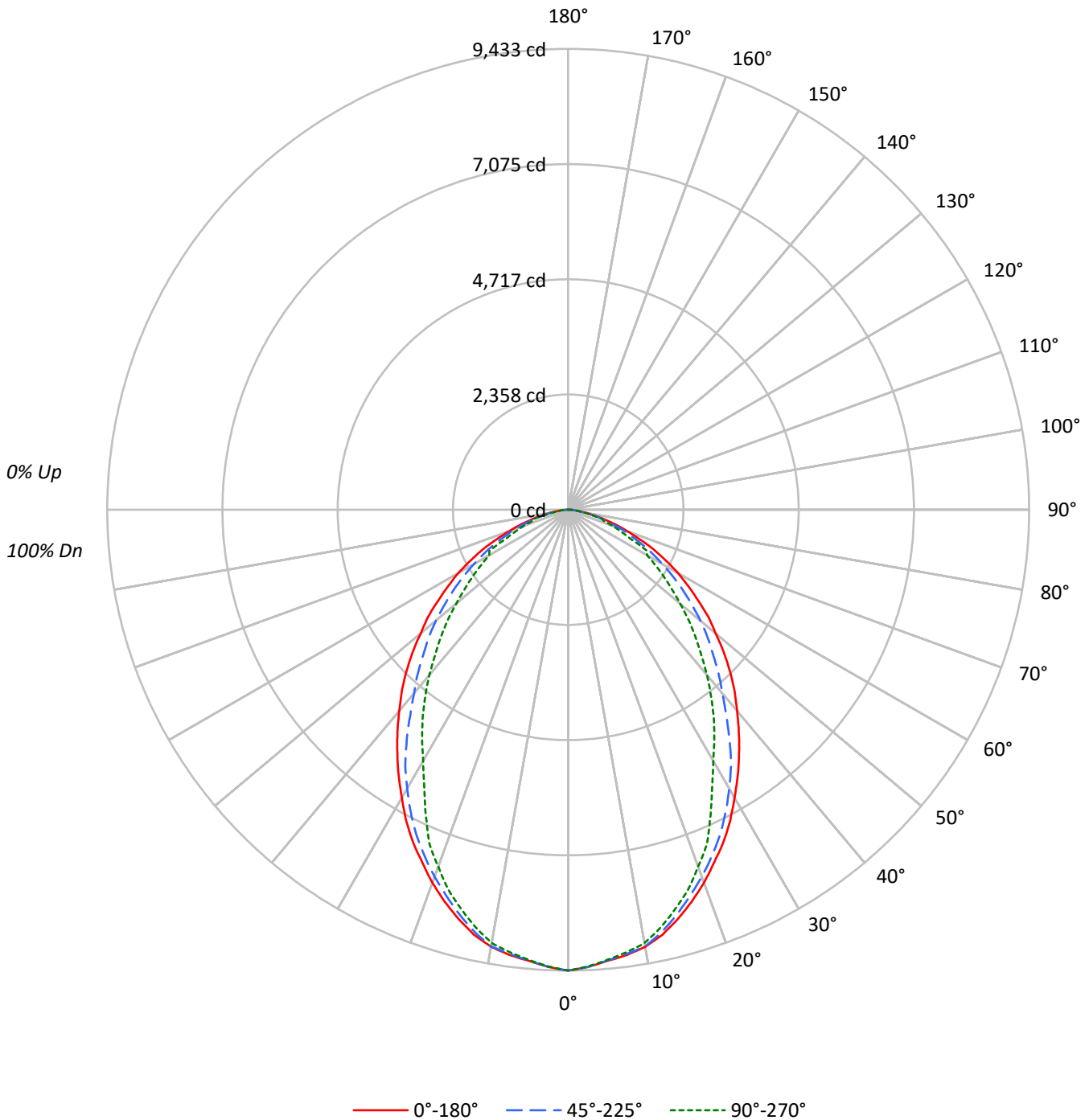
Input Watts (W): 172.8
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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	50	30	10	0																
RCR																																														
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100									100																			
1	110	106	102	99	108	104	100	97	100	97	94	96	94	91	92	90	89	87									87																			
2	101	94	88	83	99	92	87	82	89	84	80	86	82	78	83	79	77	75									75																			
3	93	84	77	71	91	82	76	70	79	74	69	77	72	68	74	70	67	65									65																			
4	86	75	67	61	84	74	66	61	72	65	60	69	64	59	67	62	58	56									56																			
5	80	68	60	54	78	67	59	53	65	58	53	63	57	52	61	56	52	50									50																			
6	74	62	53	48	72	61	53	47	59	52	47	57	51	47	56	50	46	44									44																			
7	69	56	48	43	67	56	48	42	54	47	42	53	46	42	51	46	42	40									40																			
8	65	52	44	38	63	51	44	38	50	43	38	49	42	38	48	42	38	36									36																			
9	61	48	40	35	59	47	40	35	46	39	35	45	39	34	44	38	34	33									33																			
10	57	44	37	32	56	44	37	32	43	36	32	42	36	32	41	36	32	30									30																			

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	12692	12692	12692
5°	12520	12505	12490
10°	12412	12396	12307
15°	12077	11955	11788
20°	11633	11446	11134
25°	11155	10912	10232
30°	10573	10234	9217
35°	10013	9458	8527
40°	9443	8620	7758
45°	8902	7968	7014
50°	8241	7396	6255
55°	7624	6703	5602
60°	6984	5987	5018
65°	6145	5243	4444
70°	5063	4591	3775
75°	4025	3515	3685
80°	2704	2535	2366
85°	1684	2021	2357

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 8902 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	878.1	4.7
10°-20°	2409.9	13.0
20°-30°	3336.4	18.0
30°-40°	3557.5	19.2
40°-50°	3245.5	17.5
50°-60°	2542.6	13.7
60°-70°	1657.1	8.9
70°-80°	734.2	4.0
80°-90°	157.6	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°	6624.4	35.8
0°-40°	10181.9	55.0
0°-60°	15970.0	86.2
0°-90°	18519.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	18519.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	9433	9433	9433	9433	9433	
5°	9270	9259	9259	9248	9248	880
15°	8670	8670	8583	8496	8463	2437
25°	7514	7470	7350	7089	6892	3450
35°	6096	6053	5758	5322	5191	3811
45°	4678	4580	4188	3839	3686	3604
55°	3250	3152	2857	2519	2388	2915
65°	1930	1821	1647	1680	1396	1902
75°	774	720	676	643	709	830
85°	109	120	131	142	153	151
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	9433.3	9433.3	9433.3	9433.3	9433.3
2.5°	9367.9	9367.9	9367.9	9357.0	9357.0
5°	9269.7	9258.8	9258.8	9247.9	9247.9
7.5°	9193.4	9182.5	9171.6	9160.7	9138.9
10°	9084.4	9084.4	9073.4	9018.9	9008.0
12.5°	8909.9	8899.0	8855.3	8779.0	8757.2
15°	8669.9	8669.9	8582.7	8495.5	8462.7
17.5°	8408.2	8397.3	8288.2	8201.0	8157.4
20°	8124.7	8102.8	7993.8	7852.0	7775.7
22.5°	7808.4	7808.4	7677.5	7492.1	7415.8
25°	7513.9	7470.3	7350.4	7088.6	6892.3
27.5°	7175.9	7110.4	6979.6	6608.8	6379.8
30°	6805.1	6772.4	6587.0	6107.1	5932.6
32.5°	6456.1	6401.6	6205.3	5703.6	5561.8
35°	6096.2	6052.6	5758.1	5321.9	5191.1
37.5°	5736.3	5681.8	5311.0	4962.0	4798.5
40°	5376.5	5311.0	4907.5	4591.3	4416.8
42.5°	5038.4	4951.1	4558.5	4220.5	4024.2
45°	4678.5	4580.3	4187.7	3838.8	3686.1
47.5°	4318.6	4231.4	3871.5	3511.6	3337.1
50°	3936.9	3860.6	3533.4	3173.5	2988.1
52.5°	3620.7	3500.7	3184.4	2824.5	2671.9
55°	3249.9	3151.7	2857.3	2519.2	2388.3
57.5°	2911.8	2813.6	2541.0	2224.7	2115.7
60°	2595.5	2453.8	2224.7	1952.1	1864.9
62.5°	2246.6	2137.5	1941.2	1712.2	1821.2
65°	1930.3	1821.2	1646.7	1679.5	1395.9
67.5°	1581.3	1526.8	1374.1	1221.4	1177.8
70°	1286.9	1221.4	1166.9	1003.3	959.7
72.5°	1025.1	959.7	883.4	796.1	763.4
75°	774.3	719.8	676.1	643.4	708.9
77.5°	534.4	512.6	479.8	447.1	436.2
80°	349.0	338.1	327.2	316.3	305.4
82.5°	207.2	207.2	207.2	207.2	207.2
85°	109.1	120.0	130.9	141.8	152.7
87.5°	65.4	65.4	76.3	87.2	98.2
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)