

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: P561802

Luminaire Tested: FSR-12-4-LD4-2STD-40-UNV-81-94-EDD-90

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P561802
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-12-4-LD4-2STD-40-UNV-81-94-EDD-90
Description: 1X4 FSR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .187 CLEAR TEMPERED GLASS ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 5368.0 lumens
Efficiency: N/A
Efficacy: 80.6 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')
CIE Type: Direct

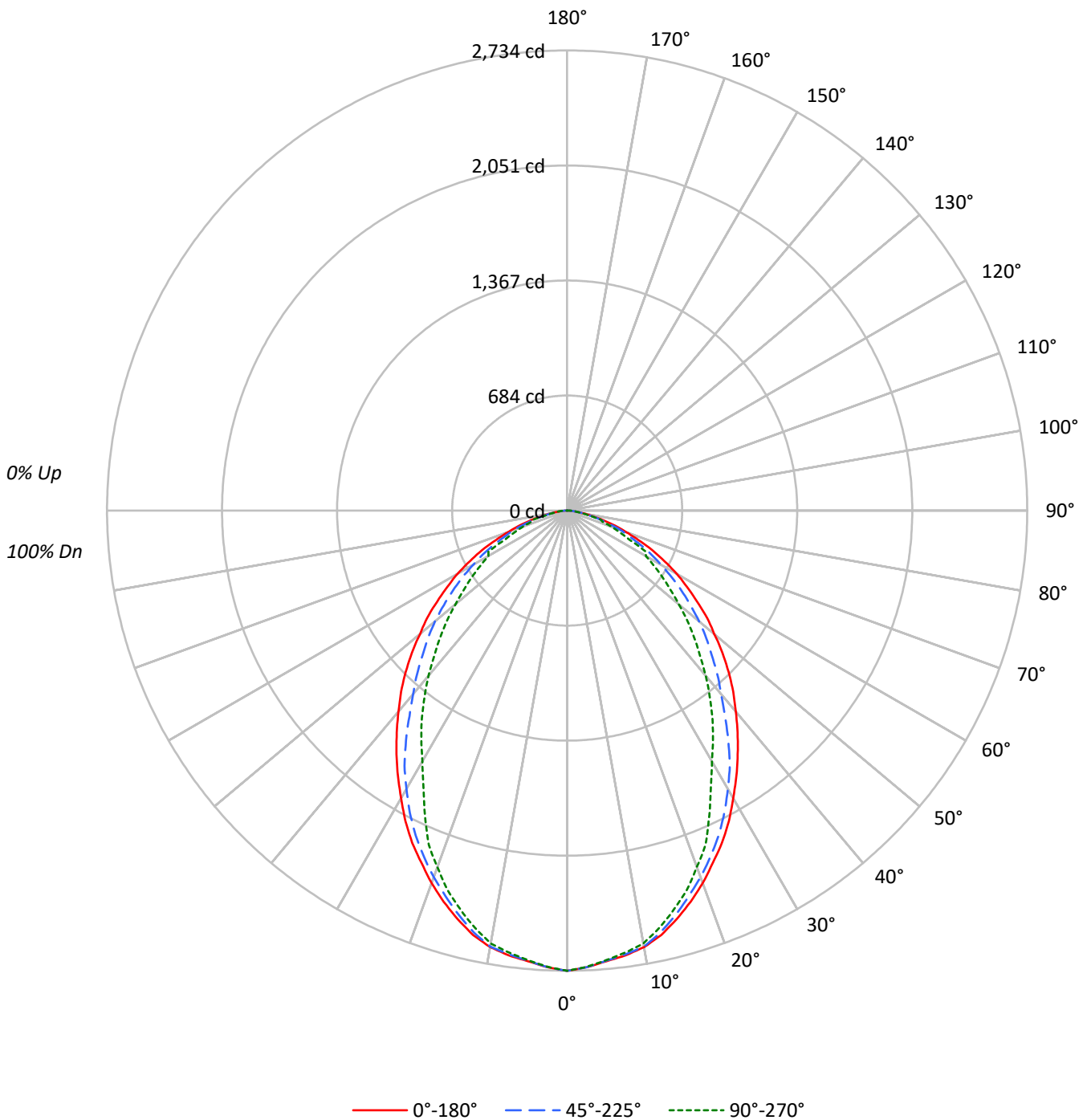
Input Watts (W): 66.6
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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°	7358	7358	7358
5°	7258	7250	7241
10°	7195	7187	7135
15°	7001	6931	6834
20°	6744	6635	6454
25°	6467	6326	5932
30°	6129	5933	5344
35°	5805	5483	4943
40°	5474	4997	4497
45°	5161	4620	4066
50°	4778	4288	3626
55°	4419	3886	3248
60°	4049	3471	2909
65°	3563	3039	2576
70°	2935	2661	2189
75°	2333	2038	2137
80°	1568	1469	1371
85°	976	1170	1368

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 5161 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	254.5	4.7
10°-20°	698.5	13.0
20°-30°	967.1	18.0
30°-40°	1031.2	19.2
40°-50°	940.8	17.5
50°-60°	737.0	13.7
60°-70°	480.3	8.9
70°-80°	212.8	4.0
80°-90°	45.7	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°	1920.2	35.8
0°-40°	2951.4	55.0
0°-60°	4629.2	86.2
0°-90°	5368.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	5368.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2734	2734	2734	2734	2734	
5°	2687	2684	2684	2681	2681	255
15°	2513	2513	2488	2462	2453	707
25°	2178	2165	2131	2055	1998	1000
35°	1767	1754	1669	1543	1505	1105
45°	1356	1328	1214	1113	1068	1045
55°	942	914	828	730	692	845
65°	560	528	477	487	405	551
75°	224	209	196	186	206	241
85°	32	35	38	41	44	44
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2734.4	2734.4	2734.4	2734.4	2734.4
2.5°	2715.4	2715.4	2715.4	2712.3	2712.3
5°	2687.0	2683.8	2683.8	2680.6	2680.6
7.5°	2664.8	2661.7	2658.5	2655.4	2649.0
10°	2633.2	2633.2	2630.1	2614.3	2611.1
12.5°	2582.7	2579.5	2566.8	2544.7	2538.4
15°	2513.1	2513.1	2487.8	2462.5	2453.0
17.5°	2437.2	2434.1	2402.5	2377.2	2364.5
20°	2355.1	2348.7	2317.1	2276.0	2253.9
22.5°	2263.4	2263.4	2225.4	2171.7	2149.6
25°	2178.0	2165.4	2130.6	2054.7	1997.8
27.5°	2080.0	2061.1	2023.1	1915.7	1849.3
30°	1972.6	1963.1	1909.3	1770.2	1719.7
32.5°	1871.4	1855.6	1798.7	1653.3	1612.2
35°	1767.1	1754.4	1669.1	1542.6	1504.7
37.5°	1662.8	1647.0	1539.5	1438.3	1390.9
40°	1558.4	1539.5	1422.5	1330.8	1280.3
42.5°	1460.4	1435.2	1321.4	1223.4	1166.5
45°	1356.1	1327.7	1213.9	1112.7	1068.5
47.5°	1251.8	1226.5	1122.2	1017.9	967.3
50°	1141.2	1119.0	1024.2	919.9	866.2
52.5°	1049.5	1014.7	923.1	818.7	774.5
55°	942.0	913.6	828.2	730.2	692.3
57.5°	844.0	815.6	736.5	644.9	613.3
60°	752.4	711.3	644.9	565.8	540.6
62.5°	651.2	619.6	562.7	496.3	527.9
65°	559.5	527.9	477.3	486.8	404.6
67.5°	458.4	442.6	398.3	354.0	341.4
70°	373.0	354.0	338.2	290.8	278.2
72.5°	297.1	278.2	256.1	230.8	221.3
75°	224.4	208.6	196.0	186.5	205.5
77.5°	154.9	148.6	139.1	129.6	126.4
80°	101.2	98.0	94.8	91.7	88.5
82.5°	60.1	60.1	60.1	60.1	60.1
85°	31.6	34.8	37.9	41.1	44.3
87.5°	19.0	19.0	22.1	25.3	28.5
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)