

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: P561888

Luminaire Tested: FSR-12-4-LD4-2STD-50-UNV-93-84-EDD-90

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P561888
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-50-UNV-93-84-EDD-90
Description: 1X4 FSR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .125 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 5000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 5948.0 lumens
Efficiency: N/A
Efficacy: 89.3 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

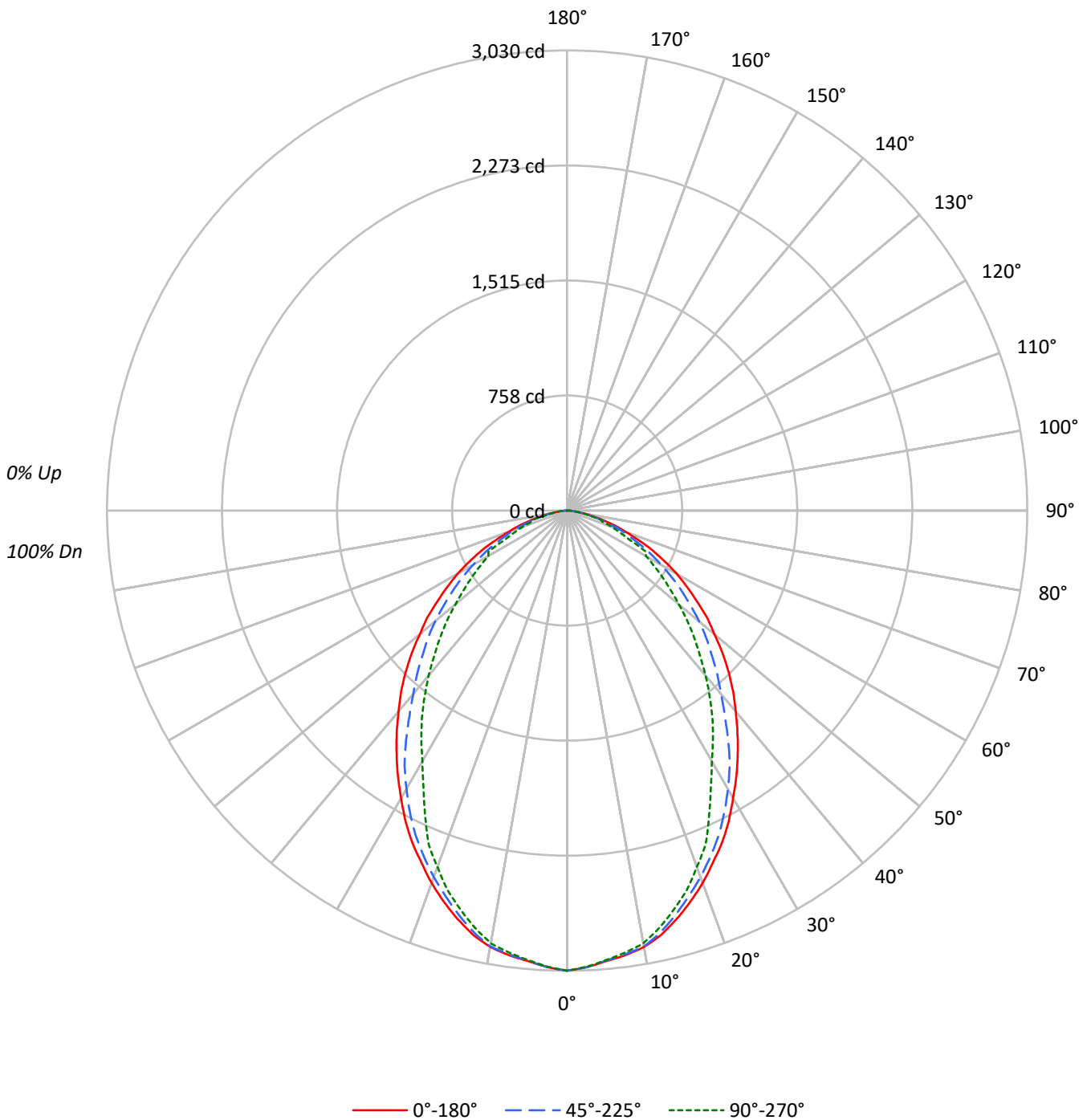
Input Watts (W): 66.6
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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°	8153	8153	8153
5°	8042	8033	8024
10°	7973	7963	7906
15°	7758	7680	7572
20°	7473	7352	7152
25°	7166	7010	6573
30°	6792	6574	5921
35°	6432	6075	5477
40°	6066	5537	4983
45°	5719	5119	4505
50°	5294	4751	4018
55°	4897	4305	3599
60°	4486	3845	3224
65°	3948	3368	2855
70°	3252	2949	2425
75°	2586	2258	2367
80°	1737	1629	1520
85°	1081	1297	1513

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 5719 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	282.0	4.7
10°-20°	774.0	13.0
20°-30°	1071.6	18.0
30°-40°	1142.6	19.2
40°-50°	1042.4	17.5
50°-60°	816.6	13.7
60°-70°	532.2	8.9
70°-80°	235.8	4.0
80°-90°	50.6	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°	2127.6	35.8
0°-40°	3270.3	55.0
0°-60°	5129.3	86.2
0°-90°	5948.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	5948.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	3030	3030	3030	3030	3030	
5°	2977	2974	2974	2970	2970	283
15°	2785	2785	2757	2729	2718	783
25°	2413	2399	2361	2277	2214	1108
35°	1958	1944	1849	1709	1667	1224
45°	1503	1471	1345	1233	1184	1157
55°	1044	1012	918	809	767	936
65°	620	585	529	539	448	611
75°	249	231	217	207	228	267
85°	35	38	42	46	49	49
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	3029.8	3029.8	3029.8	3029.8	3029.8
2.5°	3008.8	3008.8	3008.8	3005.3	3005.3
5°	2977.3	2973.8	2973.8	2970.3	2970.3
7.5°	2952.8	2949.3	2945.8	2942.3	2935.3
10°	2917.7	2917.7	2914.2	2896.7	2893.2
12.5°	2861.7	2858.2	2844.2	2819.7	2812.7
15°	2784.6	2784.6	2756.6	2728.6	2718.1
17.5°	2700.6	2697.1	2662.0	2634.0	2620.0
20°	2609.5	2602.5	2567.5	2521.9	2497.4
22.5°	2507.9	2507.9	2465.9	2406.4	2381.8
25°	2413.4	2399.3	2360.8	2276.8	2213.7
27.5°	2304.8	2283.8	2241.7	2122.6	2049.1
30°	2185.7	2175.2	2115.6	1961.5	1905.5
32.5°	2073.6	2056.1	1993.0	1831.9	1786.4
35°	1958.0	1944.0	1849.4	1709.3	1667.3
37.5°	1842.4	1824.9	1705.8	1593.7	1541.2
40°	1726.8	1705.8	1576.2	1474.6	1418.6
42.5°	1618.2	1590.2	1464.1	1355.5	1292.5
45°	1502.7	1471.1	1345.0	1232.9	1183.9
47.5°	1387.1	1359.0	1243.5	1127.9	1071.8
50°	1264.5	1240.0	1134.9	1019.3	959.7
52.5°	1162.9	1124.4	1022.8	907.2	858.2
55°	1043.8	1012.3	917.7	809.1	767.1
57.5°	935.2	903.7	816.1	714.5	679.5
60°	833.6	788.1	714.5	627.0	599.0
62.5°	721.6	686.5	623.5	549.9	585.0
65°	620.0	585.0	528.9	539.4	448.3
67.5°	507.9	490.4	441.3	392.3	378.3
70°	413.3	392.3	374.8	322.2	308.2
72.5°	329.3	308.2	283.7	255.7	245.2
75°	248.7	231.2	217.2	206.7	227.7
77.5°	171.6	164.6	154.1	143.6	140.1
80°	112.1	108.6	105.1	101.6	98.1
82.5°	66.6	66.6	66.6	66.6	66.6
85°	35.0	38.5	42.0	45.5	49.0
87.5°	21.0	21.0	24.5	28.0	31.5
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)