

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: P562861

Luminaire Tested: FSR-24-4-LD4-2LO-50-UNV-93-96-EDD

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P562861
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-LD4-2LO-50-UNV-93-96-EDD
Description: 2X4 FSR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .250 CLEAR TEMPER
GLASS ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 5000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 5946.0 lumens
Efficiency: N/A
Efficacy: 127.1 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

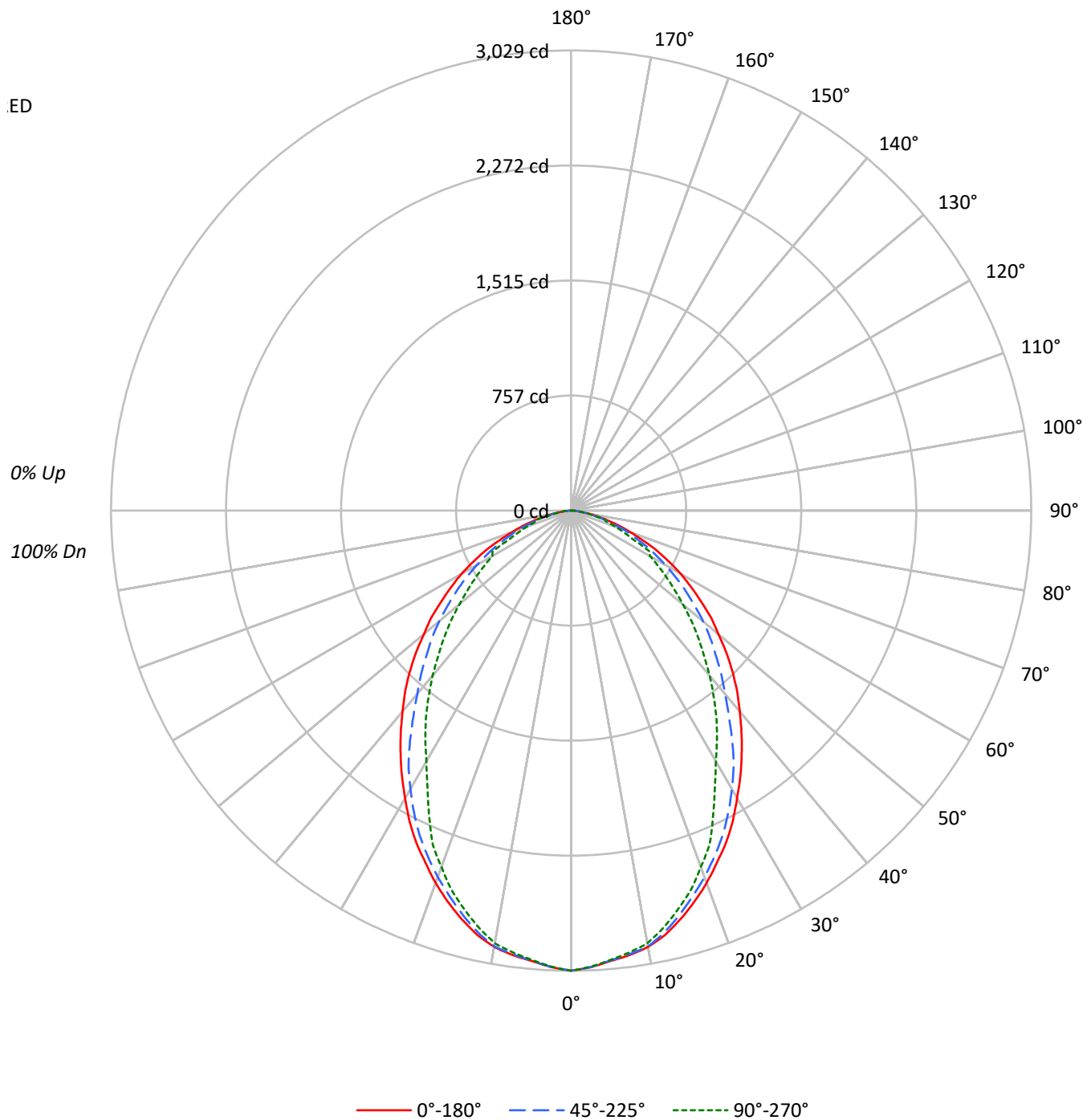
Input Watts (W): 46.8
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	4075	4075	4075
5°	4020	4015	4010
10°	3985	3980	3952
15°	3878	3839	3785
20°	3735	3675	3575
25°	3582	3504	3285
30°	3395	3286	2959
35°	3215	3037	2738
40°	3032	2768	2491
45°	2858	2559	2252
50°	2646	2375	2008
55°	2448	2152	1799
60°	2243	1922	1611
65°	1973	1683	1427
70°	1626	1474	1212
75°	1292	1129	1183
80°	868	814	759
85°	540	648	756

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 2858 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	281.9	4.7
10°-20°	773.8	13.0
20°-30°	1071.2	18.0
30°-40°	1142.2	19.2
40°-50°	1042.0	17.5
50°-60°	816.4	13.7
60°-70°	532.1	8.9
70°-80°	235.7	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°	2126.9	35.8
0°-40°	3269.2	55.0
0°-60°	5127.6	86.2
0°-90°	5946.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	5946.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	3029	3029	3029	3029	3029	
5°	2976	2973	2973	2969	2969	283
15°	2784	2784	2756	2728	2717	783
25°	2412	2398	2360	2276	2213	1108
35°	1957	1943	1849	1709	1667	1224
45°	1502	1471	1345	1232	1184	1157
55°	1044	1012	917	809	767	936
65°	620	585	529	539	448	611
75°	249	231	217	207	228	266
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°	3028.8	3028.8	3028.8	3028.8	3028.8
2.5°	3007.8	3007.8	3007.8	3004.3	3004.3
5°	2976.3	2972.8	2972.8	2969.3	2969.3
7.5°	2951.8	2948.3	2944.8	2941.3	2934.3
10°	2916.8	2916.8	2913.3	2895.8	2892.3
12.5°	2860.7	2857.2	2843.2	2818.7	2811.7
15°	2783.7	2783.7	2755.7	2727.7	2717.2
17.5°	2699.7	2696.2	2661.2	2633.1	2619.1
20°	2608.6	2601.6	2566.6	2521.1	2496.6
22.5°	2507.1	2507.1	2465.1	2405.5	2381.0
25°	2412.5	2398.5	2360.0	2276.0	2213.0
27.5°	2304.0	2283.0	2241.0	2121.9	2048.4
30°	2184.9	2174.4	2114.9	1960.9	1904.8
32.5°	2072.9	2055.4	1992.4	1831.3	1785.8
35°	1957.3	1943.3	1848.8	1708.7	1666.7
37.5°	1841.8	1824.3	1705.2	1593.2	1540.7
40°	1726.2	1705.2	1575.7	1474.1	1418.1
42.5°	1617.7	1589.7	1463.6	1355.1	1292.1
45°	1502.2	1470.6	1344.6	1232.5	1183.5
47.5°	1386.6	1358.6	1243.0	1127.5	1071.5
50°	1264.0	1239.5	1134.5	1018.9	959.4
52.5°	1162.5	1124.0	1022.4	906.9	857.9
55°	1043.5	1011.9	917.4	808.9	766.8
57.5°	934.9	903.4	815.9	714.3	679.3
60°	833.4	787.8	714.3	626.8	598.8
62.5°	721.3	686.3	623.3	549.7	584.8
65°	619.8	584.8	528.7	539.2	448.2
67.5°	507.7	490.2	441.2	392.2	378.2
70°	413.2	392.2	374.7	322.1	308.1
72.5°	329.1	308.1	283.6	255.6	245.1
75°	248.6	231.1	217.1	206.6	227.6
77.5°	171.6	164.6	154.1	143.6	140.1
80°	112.0	108.5	105.0	101.5	98.0
82.5°	66.5	66.5	66.5	66.5	66.5
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)