

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: P561513

Luminaire Tested: FSR-12-4-LD4-2HI-50-UNV-93-88-EDD

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P561513
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-LD4-2HI-50-UNV-93-88-EDD
Description: 1X4 FSR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .500 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 5000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

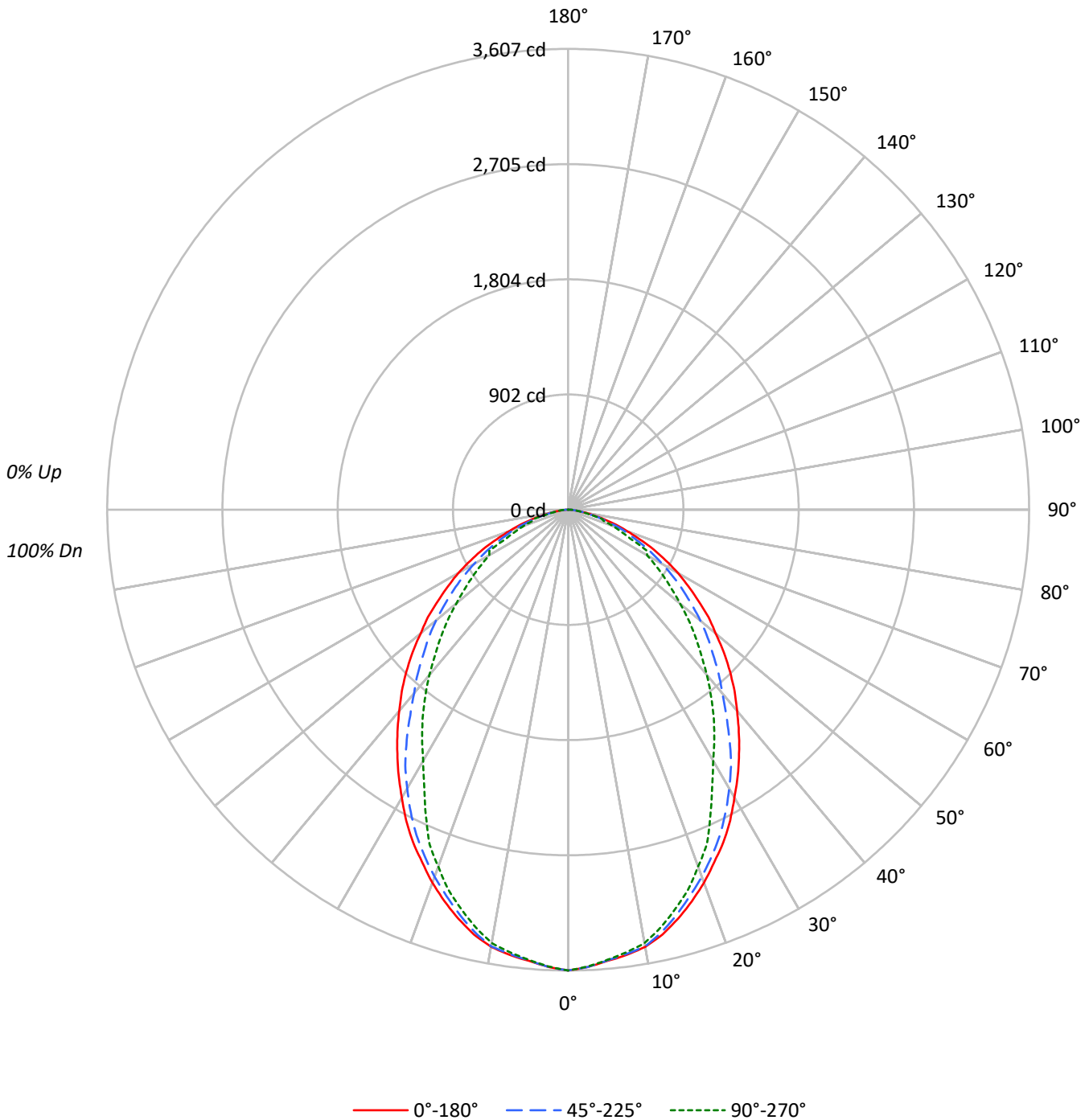
Lumens per Lamp: N/A
Luminaire Lumens: 7081.0 lumens
Efficiency: N/A
Efficacy: 82.0 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 86.4
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																		
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°	9706	9706	9706
5°	9574	9563	9552
10°	9491	9480	9412
15°	9236	9143	9015
20°	8896	8753	8514
25°	8531	8345	7825
30°	8085	7826	7049
35°	7658	7233	6521
40°	7222	6592	5932
45°	6808	6094	5364
50°	6302	5656	4783
55°	5830	5126	4284
60°	5341	4578	3838
65°	4700	4010	3398
70°	3871	3511	2888
75°	3079	2688	2818
80°	2067	1939	1810
85°	1288	1544	1803

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 6808 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	335.8	4.7
10°-20°	921.5	13.0
20°-30°	1275.7	18.0
30°-40°	1360.3	19.2
40°-50°	1241.0	17.5
50°-60°	972.2	13.7
60°-70°	633.6	8.9
70°-80°	280.7	4.0
80°-90°	60.3	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°	2532.9	35.8
0°-40°	3893.2	55.0
0°-60°	6106.4	86.2
0°-90°	7081.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	7081.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	3607	3607	3607	3607	3607	
5°	3544	3540	3540	3536	3536	336
15°	3315	3315	3282	3248	3236	932
25°	2873	2856	2810	2710	2635	1319
35°	2331	2314	2202	2035	1985	1457
45°	1789	1751	1601	1468	1409	1378
55°	1243	1205	1092	963	913	1115
65°	738	696	630	642	534	727
75°	296	275	258	246	271	317
85°	42	46	50	54	58	58
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	3607.0	3607.0	3607.0	3607.0	3607.0
2.5°	3581.9	3581.9	3581.9	3577.8	3577.8
5°	3544.4	3540.2	3540.2	3536.1	3536.1
7.5°	3515.2	3511.1	3506.9	3502.7	3494.4
10°	3473.5	3473.5	3469.4	3448.5	3444.3
12.5°	3406.8	3402.6	3386.0	3356.8	3348.4
15°	3315.1	3315.1	3281.7	3248.4	3235.8
17.5°	3215.0	3210.8	3169.1	3135.8	3119.1
20°	3106.6	3098.2	3056.5	3002.3	2973.1
22.5°	2985.7	2985.7	2935.6	2864.7	2835.5
25°	2873.1	2856.4	2810.5	2710.4	2635.4
27.5°	2743.8	2718.8	2668.7	2527.0	2439.4
30°	2602.0	2589.5	2518.6	2335.1	2268.4
32.5°	2468.6	2447.7	2372.7	2180.9	2126.7
35°	2331.0	2314.3	2201.7	2034.9	1984.9
37.5°	2193.4	2172.5	2030.7	1897.3	1834.8
40°	2055.8	2030.7	1876.5	1755.5	1688.8
42.5°	1926.5	1893.1	1743.0	1613.8	1538.7
45°	1788.9	1751.4	1601.2	1467.8	1409.4
47.5°	1651.3	1617.9	1480.3	1342.7	1276.0
50°	1505.3	1476.1	1351.0	1213.4	1142.6
52.5°	1384.4	1338.5	1217.6	1080.0	1021.6
55°	1242.6	1205.1	1092.5	963.2	913.2
57.5°	1113.4	1075.8	971.6	850.7	809.0
60°	992.4	938.2	850.7	746.4	713.1
62.5°	859.0	817.3	742.2	654.7	696.4
65°	738.1	696.4	629.7	642.2	533.7
67.5°	604.6	583.8	525.4	467.0	450.3
70°	492.0	467.0	446.2	383.6	367.0
72.5°	392.0	367.0	337.8	304.4	291.9
75°	296.1	275.2	258.5	246.0	271.0
77.5°	204.3	196.0	183.5	171.0	166.8
80°	133.4	129.3	125.1	120.9	116.8
82.5°	79.2	79.2	79.2	79.2	79.2
85°	41.7	45.9	50.0	54.2	58.4
87.5°	25.0	25.0	29.2	33.4	37.5
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)