

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: P561891

Luminaire Tested: FSR-12-4-LD4-2STD-50-UNV-93-85-EDD

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P561891
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-93-85-EDD
Description: 1X4 FSR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .187 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 5000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 6701.0 lumens
Efficiency: N/A
Efficacy: 100.6 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

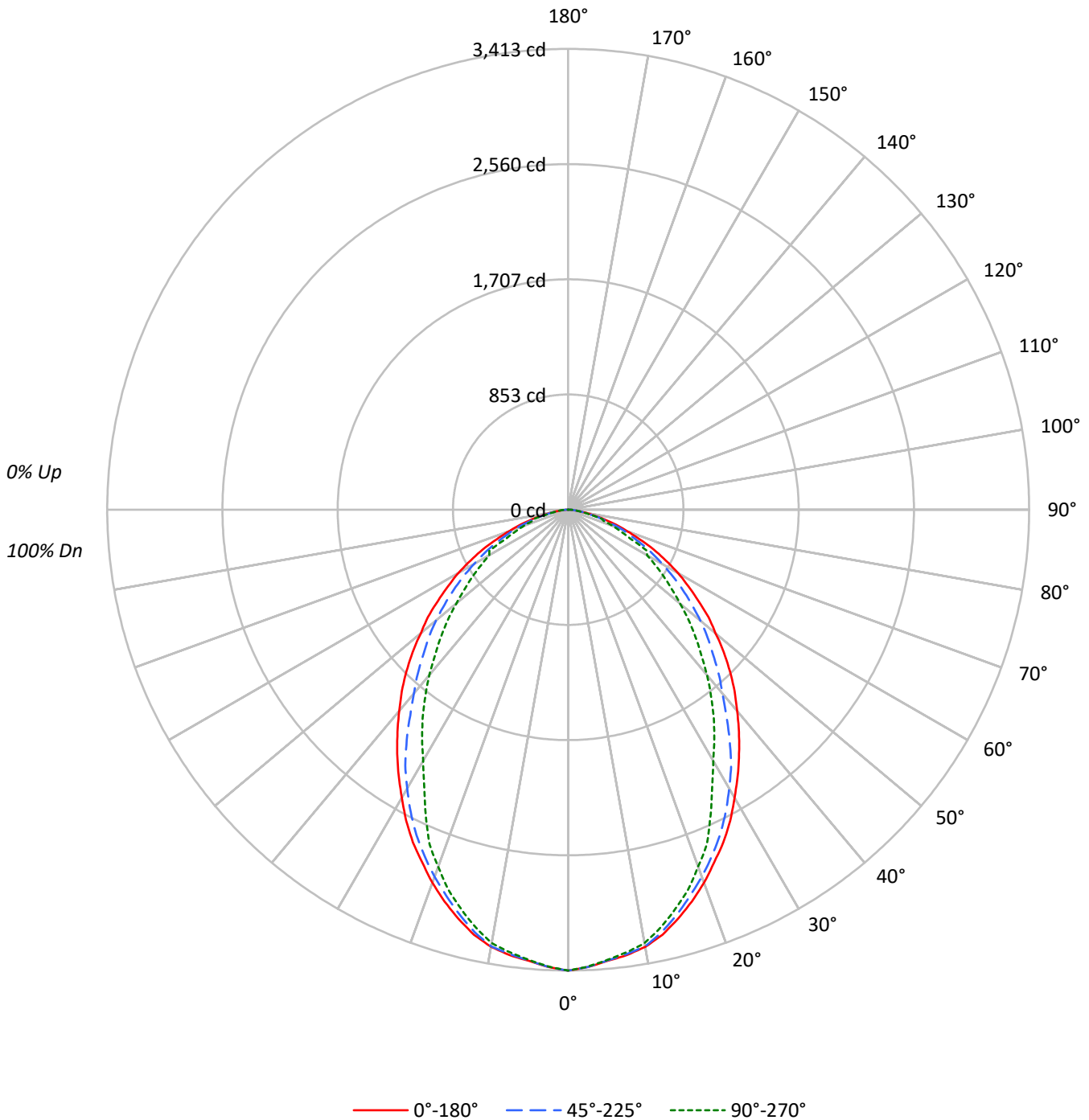
Input Watts (W): 66.6
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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°	9185	9185	9185
5°	9061	9050	9039
10°	8982	8971	8907
15°	8740	8652	8531
20°	8419	8283	8057
25°	8073	7897	7405
30°	7651	7406	6670
35°	7247	6845	6171
40°	6834	6238	5614
45°	6443	5767	5076
50°	5964	5352	4526
55°	5517	4851	4054
60°	5055	4332	3632
65°	4448	3794	3216
70°	3663	3322	2733
75°	2913	2544	2667
80°	1957	1835	1712
85°	1220	1463	1704

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 6443 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	317.7	4.7
10°-20°	872.0	13.0
20°-30°	1207.3	18.0
30°-40°	1287.3	19.2
40°-50°	1174.4	17.5
50°-60°	920.0	13.7
60°-70°	599.6	8.9
70°-80°	265.7	4.0
80°-90°	57.0	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°	2397.0	35.8
0°-40°	3684.3	55.0
0°-60°	5778.7	86.2
0°-90°	6701.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	6701.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	3413	3413	3413	3413	3413	
5°	3354	3350	3350	3346	3346	318
15°	3137	3137	3106	3074	3062	882
25°	2719	2703	2660	2565	2494	1248
35°	2206	2190	2084	1926	1878	1379
45°	1693	1657	1515	1389	1334	1304
55°	1176	1140	1034	912	864	1055
65°	698	659	596	608	505	688
75°	280	260	245	233	256	300
85°	40	43	47	51	55	55
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	3413.4	3413.4	3413.4	3413.4	3413.4
2.5°	3389.7	3389.7	3389.7	3385.8	3385.8
5°	3354.2	3350.3	3350.3	3346.3	3346.3
7.5°	3326.6	3322.6	3318.7	3314.7	3306.9
10°	3287.1	3287.1	3283.2	3263.4	3259.5
12.5°	3224.0	3220.0	3204.3	3176.6	3168.7
15°	3137.2	3137.2	3105.6	3074.0	3062.2
17.5°	3042.5	3038.5	2999.1	2967.5	2951.7
20°	2939.9	2932.0	2892.5	2841.2	2813.6
22.5°	2825.4	2825.4	2778.1	2711.0	2683.4
25°	2718.9	2703.1	2659.7	2565.0	2494.0
27.5°	2596.6	2572.9	2525.5	2391.4	2308.5
30°	2462.4	2450.5	2383.5	2209.8	2146.7
32.5°	2336.1	2316.4	2245.3	2063.8	2012.5
35°	2205.9	2190.1	2083.6	1925.7	1878.4
37.5°	2075.7	2055.9	1921.8	1795.5	1736.3
40°	1945.4	1921.8	1775.8	1661.3	1598.2
42.5°	1823.1	1791.5	1649.5	1527.2	1456.1
45°	1692.9	1657.4	1515.3	1389.0	1333.8
47.5°	1562.7	1531.1	1400.9	1270.7	1207.5
50°	1424.6	1396.9	1278.5	1148.3	1081.2
52.5°	1310.1	1266.7	1152.3	1022.0	966.8
55°	1175.9	1140.4	1033.9	911.6	864.2
57.5°	1053.6	1018.1	919.4	805.0	765.5
60°	939.2	887.9	805.0	706.4	674.8
62.5°	812.9	773.4	702.4	619.5	659.0
65°	698.5	659.0	595.9	607.7	505.1
67.5°	572.2	552.5	497.2	442.0	426.2
70°	465.6	442.0	422.2	363.0	347.3
72.5°	370.9	347.3	319.6	288.1	276.2
75°	280.2	260.4	244.7	232.8	256.5
77.5°	193.4	185.5	173.6	161.8	157.8
80°	126.3	122.3	118.4	114.4	110.5
82.5°	75.0	75.0	75.0	75.0	75.0
85°	39.5	43.4	47.4	51.3	55.2
87.5°	23.7	23.7	27.6	31.6	35.5
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)