

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: P561314

Luminaire Tested: FSR-12-4-LD4-1STD-50-UNV-93-85-EDD-90

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P561314
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-LD4-1STD-50-UNV-93-85-EDD-90
Description: 1X4 FSR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .187 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 5000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 2915.0 lumens
Efficiency: N/A
Efficacy: 87.5 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

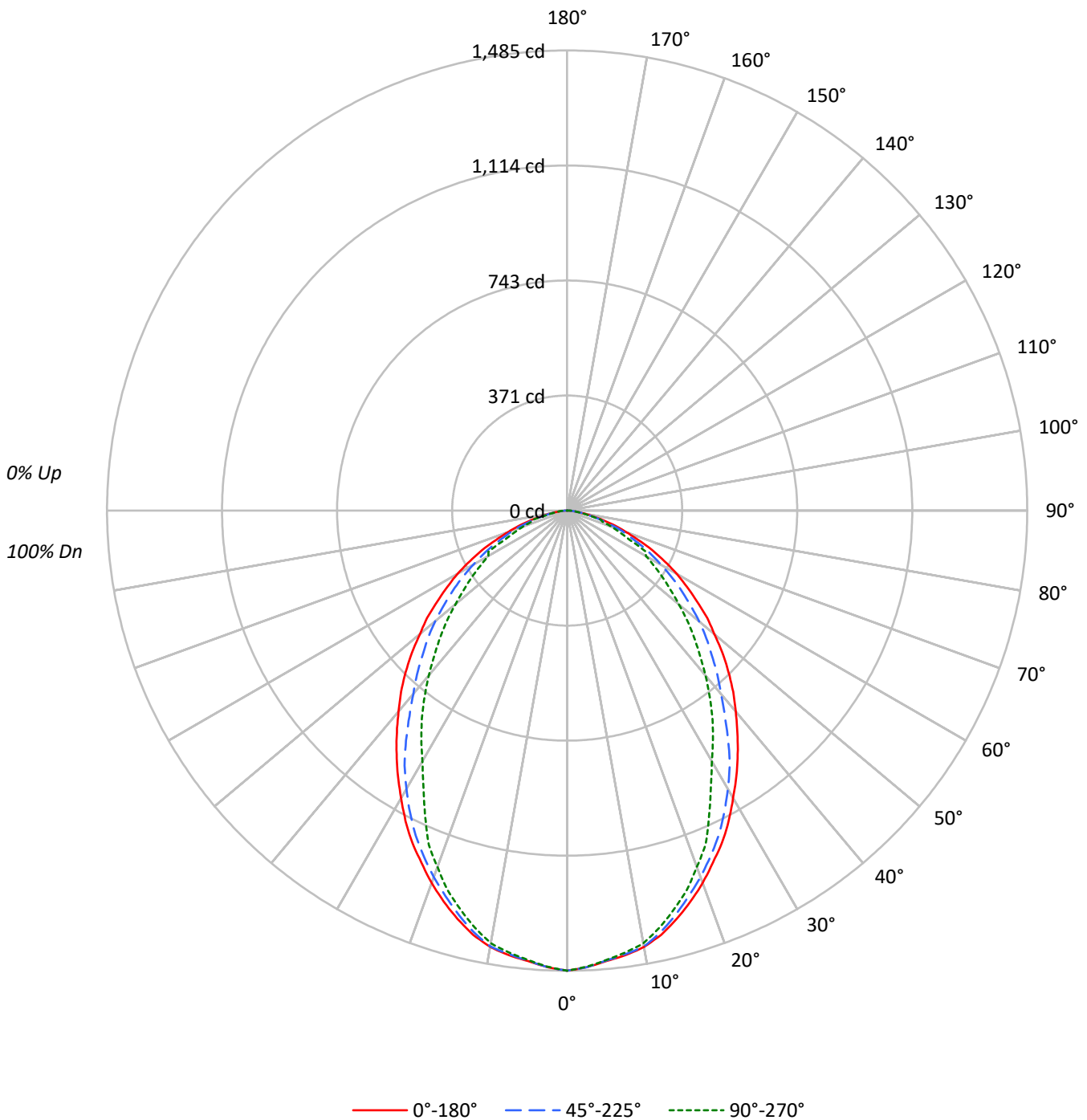
Input Watts (W): 33.3
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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	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°	3996	3996	3996
5°	3941	3937	3932
10°	3907	3903	3874
15°	3802	3764	3711
20°	3662	3603	3505
25°	3512	3435	3221
30°	3329	3222	2902
35°	3152	2978	2684
40°	2973	2714	2442
45°	2802	2509	2208
50°	2594	2328	1969
55°	2400	2110	1764
60°	2199	1885	1580
65°	1934	1650	1399
70°	1594	1445	1189
75°	1267	1106	1160
80°	851	798	745
85°	531	636	741

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 2802 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	138.2	4.7
10°-20°	379.3	13.0
20°-30°	525.2	18.0
30°-40°	560.0	19.2
40°-50°	510.9	17.5
50°-60°	400.2	13.7
60°-70°	260.9	8.9
70°-80°	115.6	4.0
80°-90°	24.8	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°	1042.7	35.8
0°-40°	1602.7	55.0
0°-60°	2513.8	86.2
0°-90°	2915.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2915.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1485	1485	1485	1485	1485	
5°	1459	1457	1457	1456	1456	139
15°	1365	1365	1351	1337	1332	384
25°	1183	1176	1157	1116	1085	543
35°	960	953	906	838	817	600
45°	736	721	659	604	580	567
55°	512	496	450	396	376	459
65°	304	287	259	264	220	299
75°	122	113	106	101	112	131
85°	17	19	21	22	24	24
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1484.9	1484.9	1484.9	1484.9	1484.9
2.5°	1474.6	1474.6	1474.6	1472.8	1472.8
5°	1459.1	1457.4	1457.4	1455.7	1455.7
7.5°	1447.1	1445.4	1443.7	1441.9	1438.5
10°	1429.9	1429.9	1428.2	1419.6	1417.9
12.5°	1402.5	1400.7	1393.9	1381.9	1378.4
15°	1364.7	1364.7	1351.0	1337.2	1332.1
17.5°	1323.5	1321.8	1304.6	1290.9	1284.0
20°	1278.9	1275.4	1258.3	1236.0	1223.9
22.5°	1229.1	1229.1	1208.5	1179.3	1167.3
25°	1182.7	1175.9	1157.0	1115.8	1084.9
27.5°	1129.5	1119.2	1098.6	1040.3	1004.2
30°	1071.2	1066.0	1036.8	961.3	933.8
32.5°	1016.2	1007.6	976.7	897.8	875.5
35°	959.6	952.7	906.4	837.7	817.1
37.5°	902.9	894.4	836.0	781.1	755.3
40°	846.3	836.0	772.5	722.7	695.2
42.5°	793.1	779.3	717.5	664.3	633.4
45°	736.4	721.0	659.2	604.2	580.2
47.5°	679.8	666.0	609.4	552.7	525.3
50°	619.7	607.7	556.2	499.5	470.3
52.5°	569.9	551.0	501.2	444.6	420.6
55°	511.5	496.1	449.8	396.5	375.9
57.5°	458.3	442.9	400.0	350.2	333.0
60°	408.6	386.2	350.2	307.3	293.5
62.5°	353.6	336.5	305.6	269.5	286.7
65°	303.8	286.7	259.2	264.4	219.7
67.5°	248.9	240.3	216.3	192.3	185.4
70°	202.6	192.3	183.7	157.9	151.1
72.5°	161.4	151.1	139.0	125.3	120.2
75°	121.9	113.3	106.4	101.3	111.6
77.5°	84.1	80.7	75.5	70.4	68.7
80°	54.9	53.2	51.5	49.8	48.1
82.5°	32.6	32.6	32.6	32.6	32.6
85°	17.2	18.9	20.6	22.3	24.0
87.5°	10.3	10.3	12.0	13.7	15.4
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)