

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: P564014

Luminaire Tested: FSR-24-4-LD4-4LO-50-UNV-93-97-EDD-90

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P564014
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-LD4-4LO-50-UNV-93-97-EDD-90
Description: 2X4 FSR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .375 CLEAR TEMPER
GLASS ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 5000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 9974.0 lumens
Efficiency: N/A
Efficacy: 106.6 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

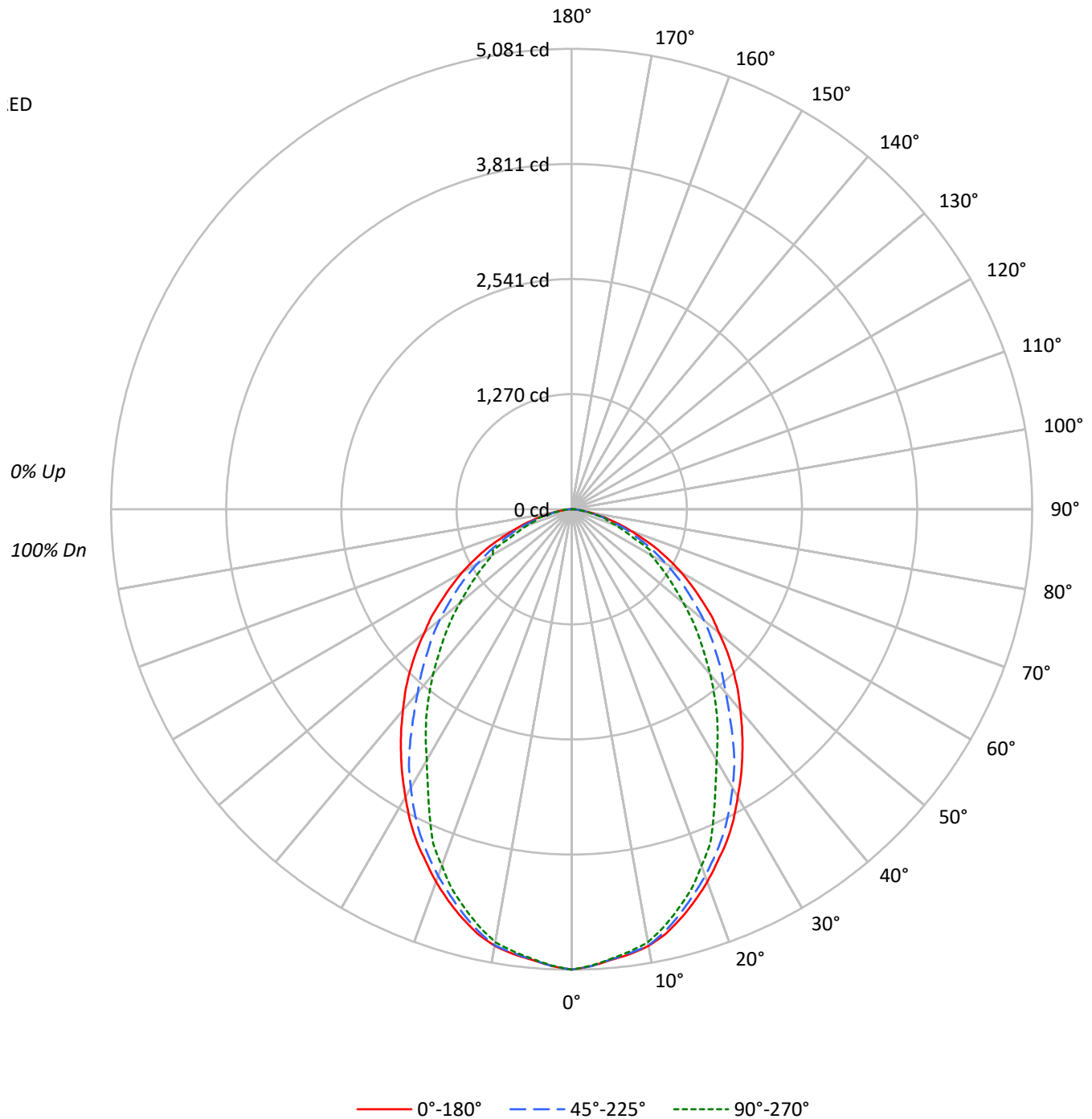
Input Watts (W): 93.6
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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	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°	6836	6836	6836
5°	6743	6735	6727
10°	6685	6677	6628
15°	6504	6439	6349
20°	6265	6165	5996
25°	6008	5877	5511
30°	5694	5512	4964
35°	5393	5094	4592
40°	5086	4642	4178
45°	4795	4292	3778
50°	4438	3983	3369
55°	4106	3610	3017
60°	3762	3224	2703
65°	3310	2824	2394
70°	2727	2472	2033
75°	2168	1893	1985
80°	1457	1365	1275
85°	906	1088	1269

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 4795 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	472.9	4.7
10°-20°	1297.9	13.0
20°-30°	1796.9	18.0
30°-40°	1916.0	19.2
40°-50°	1748.0	17.5
50°-60°	1369.4	13.7
60°-70°	892.5	8.9
70°-80°	395.4	4.0
80°-90°	84.9	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°	3567.8	35.8
0°-40°	5483.8	55.0
0°-60°	8601.2	86.2
0°-90°	9974.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	9974.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	5081	5081	5081	5081	5081	
5°	4992	4987	4987	4981	4981	474
15°	4670	4670	4622	4576	4558	1313
25°	4047	4023	3959	3818	3712	1858
35°	3283	3260	3101	2866	2796	2053
45°	2520	2467	2255	2068	1985	1941
55°	1750	1698	1539	1357	1286	1570
65°	1040	981	887	904	752	1025
75°	417	388	364	346	382	447
85°	59	65	70	76	82	81
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	5080.6	5080.6	5080.6	5080.6	5080.6
2.5°	5045.4	5045.4	5045.4	5039.5	5039.5
5°	4992.5	4986.6	4986.6	4980.8	4980.8
7.5°	4951.4	4945.5	4939.7	4933.8	4922.0
10°	4892.7	4892.7	4886.8	4857.4	4851.6
12.5°	4798.7	4792.8	4769.3	4728.2	4716.5
15°	4669.5	4669.5	4622.5	4575.5	4557.9
17.5°	4528.5	4522.6	4463.9	4416.9	4393.4
20°	4375.8	4364.0	4305.3	4229.0	4187.8
22.5°	4205.5	4205.5	4135.0	4035.1	3994.0
25°	4046.9	4023.4	3958.8	3817.8	3712.1
27.5°	3864.8	3829.6	3759.1	3559.4	3436.0
30°	3665.1	3647.5	3547.6	3289.2	3195.2
32.5°	3477.1	3447.8	3342.1	3071.9	2995.5
35°	3283.3	3259.8	3101.2	2866.3	2795.8
37.5°	3089.5	3060.1	2860.4	2672.5	2584.4
40°	2895.7	2860.4	2643.1	2472.8	2378.8
42.5°	2713.6	2666.6	2455.1	2273.1	2167.3
45°	2519.8	2466.9	2255.4	2067.5	1985.3
47.5°	2325.9	2278.9	2085.1	1891.3	1797.3
50°	2120.4	2079.2	1903.0	1709.2	1609.4
52.5°	1950.0	1885.4	1715.1	1521.2	1439.0
55°	1750.3	1697.5	1538.9	1356.8	1286.3
57.5°	1568.2	1515.4	1368.5	1198.2	1139.5
60°	1397.9	1321.5	1198.2	1051.4	1004.4
62.5°	1210.0	1151.2	1045.5	922.1	980.9
65°	1039.6	980.9	886.9	904.5	751.8
67.5°	851.7	822.3	740.1	657.8	634.3
70°	693.1	657.8	628.5	540.4	516.9
72.5°	552.1	516.9	475.8	428.8	411.1
75°	417.0	387.7	364.2	346.5	381.8
77.5°	287.8	276.1	258.4	240.8	234.9
80°	188.0	182.1	176.2	170.3	164.5
82.5°	111.6	111.6	111.6	111.6	111.6
85°	58.7	64.6	70.5	76.4	82.2
87.5°	35.2	35.2	41.1	47.0	52.9
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)