

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: P562670

Luminaire Tested: FSR-24-4-LD4-2HI-50-UNV-93-97-EDD-90

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P562670
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-LD4-2HI-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: 8192.0 lumens
Efficiency: N/A
Efficacy: 94.8 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

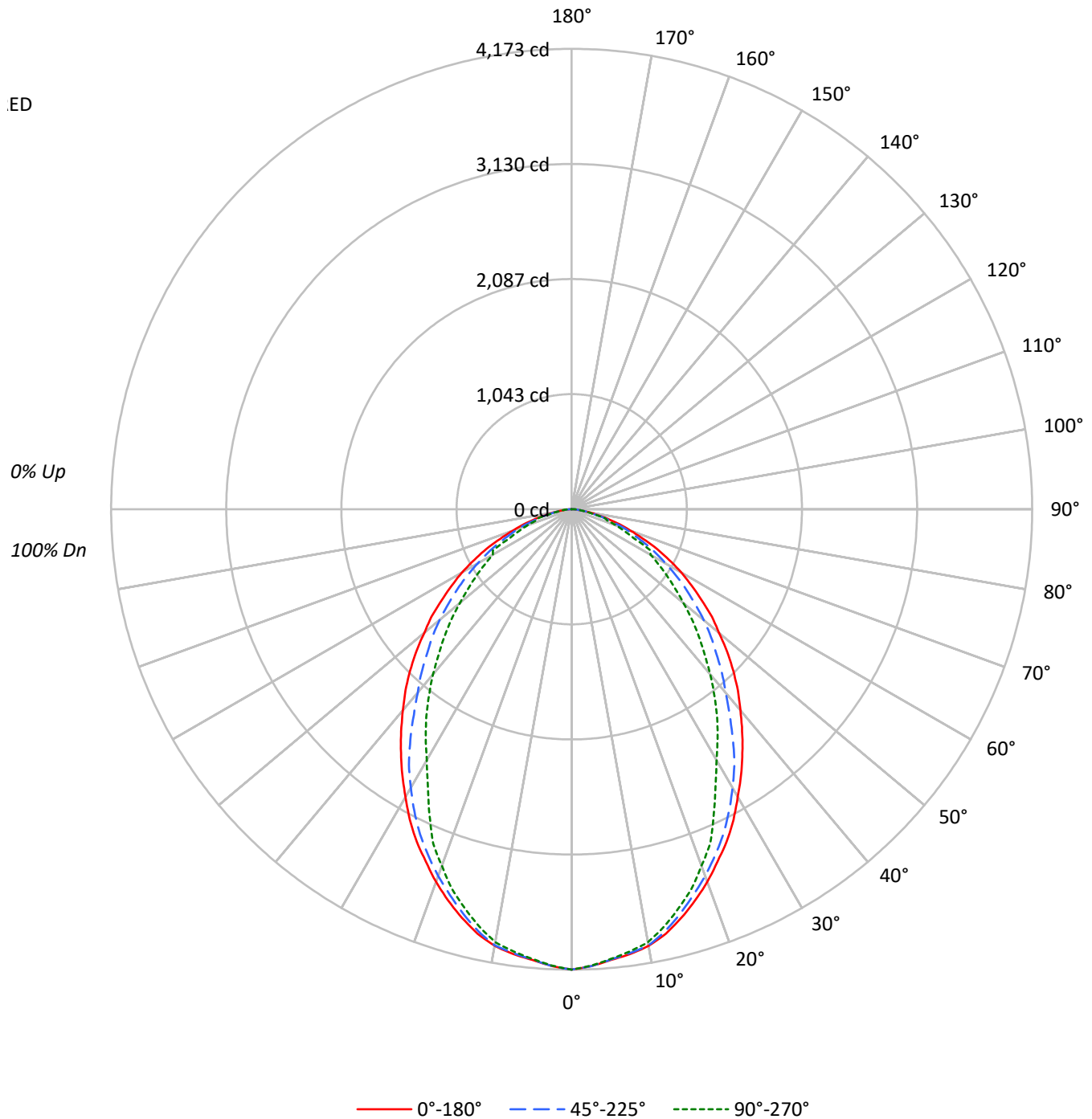
Input Watts (W): 86.4
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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Luminous Intensity Polar Plot





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COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	20									20									20									20									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°	5615	5615	5615
5°	5538	5532	5525
10°	5490	5484	5444
15°	5342	5288	5215
20°	5146	5063	4925
25°	4934	4827	4526
30°	4677	4527	4077
35°	4429	4184	3772
40°	4177	3813	3432
45°	3938	3525	3103
50°	3645	3272	2767
55°	3372	2965	2478
60°	3090	2648	2220
65°	2719	2319	1966
70°	2240	2031	1670
75°	1781	1555	1630
80°	1196	1121	1047
85°	744	894	1042

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 3938 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	388.4	4.7
10°-20°	1066.0	13.0
20°-30°	1475.9	18.0
30°-40°	1573.7	19.2
40°-50°	1435.7	17.5
50°-60°	1124.7	13.7
60°-70°	733.0	8.9
70°-80°	324.8	4.0
80°-90°	69.7	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°	2930.3	35.8
0°-40°	4504.0	55.0
0°-60°	7064.5	86.2
0°-90°	8192.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	8192.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	4173	4173	4173	4173	4173	
5°	4100	4096	4096	4091	4091	389
15°	3835	3835	3797	3758	3744	1078
25°	3324	3304	3252	3136	3049	1526
35°	2697	2677	2547	2354	2296	1686
45°	2070	2026	1852	1698	1631	1594
55°	1438	1394	1264	1114	1056	1289
65°	854	806	728	743	618	842
75°	342	318	299	285	314	367
85°	48	53	58	63	68	67
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	4172.9	4172.9	4172.9	4172.9	4172.9
2.5°	4144.0	4144.0	4144.0	4139.1	4139.1
5°	4100.5	4095.7	4095.7	4090.9	4090.9
7.5°	4066.8	4061.9	4057.1	4052.3	4042.6
10°	4018.5	4018.5	4013.7	3989.6	3984.8
12.5°	3941.3	3936.5	3917.2	3883.4	3873.8
15°	3835.2	3835.2	3796.6	3758.0	3743.5
17.5°	3719.4	3714.6	3666.4	3627.8	3608.5
20°	3594.0	3584.3	3536.1	3473.4	3439.6
22.5°	3454.1	3454.1	3396.2	3314.2	3280.4
25°	3323.8	3304.5	3251.5	3135.7	3048.9
27.5°	3174.3	3145.4	3087.5	2923.4	2822.1
30°	3010.3	2995.8	2913.8	2701.5	2624.3
32.5°	2855.9	2831.8	2744.9	2523.0	2460.3
35°	2696.7	2677.4	2547.2	2354.2	2296.3
37.5°	2537.5	2513.4	2349.4	2195.0	2122.6
40°	2378.3	2349.4	2170.9	2031.0	1953.8
42.5°	2228.8	2190.2	2016.5	1866.9	1780.1
45°	2069.6	2026.1	1852.5	1698.1	1630.6
47.5°	1910.4	1871.8	1712.6	1553.4	1476.2
50°	1741.5	1707.8	1563.0	1403.8	1321.8
52.5°	1601.6	1548.6	1408.7	1249.5	1181.9
55°	1437.6	1394.2	1263.9	1114.4	1056.5
57.5°	1288.0	1244.6	1124.0	984.1	935.9
60°	1148.1	1085.4	984.1	863.5	824.9
62.5°	993.8	945.5	858.7	757.4	805.6
65°	853.9	805.6	728.4	742.9	617.5
67.5°	699.5	675.4	607.8	540.3	521.0
70°	569.3	540.3	516.2	443.8	424.5
72.5°	453.5	424.5	390.8	352.2	337.7
75°	342.5	318.4	299.1	284.6	313.6
77.5°	236.4	226.7	212.3	197.8	193.0
80°	154.4	149.5	144.7	139.9	135.1
82.5°	91.7	91.7	91.7	91.7	91.7
85°	48.2	53.1	57.9	62.7	67.5
87.5°	28.9	28.9	33.8	38.6	43.4
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)