

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: P563988

Luminaire Tested: FSR-24-4-LD4-4LO-50-UNV-82-86-EDD-90

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P563988
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-82-86-EDD-90
Description: 2X4 FSR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .250 CLEAR PC ENVIRONMENTAL SI
LENSES WITH, 90 CRI AND 5000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 9387.0 lumens
Efficiency: N/A
Efficacy: 100.3 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

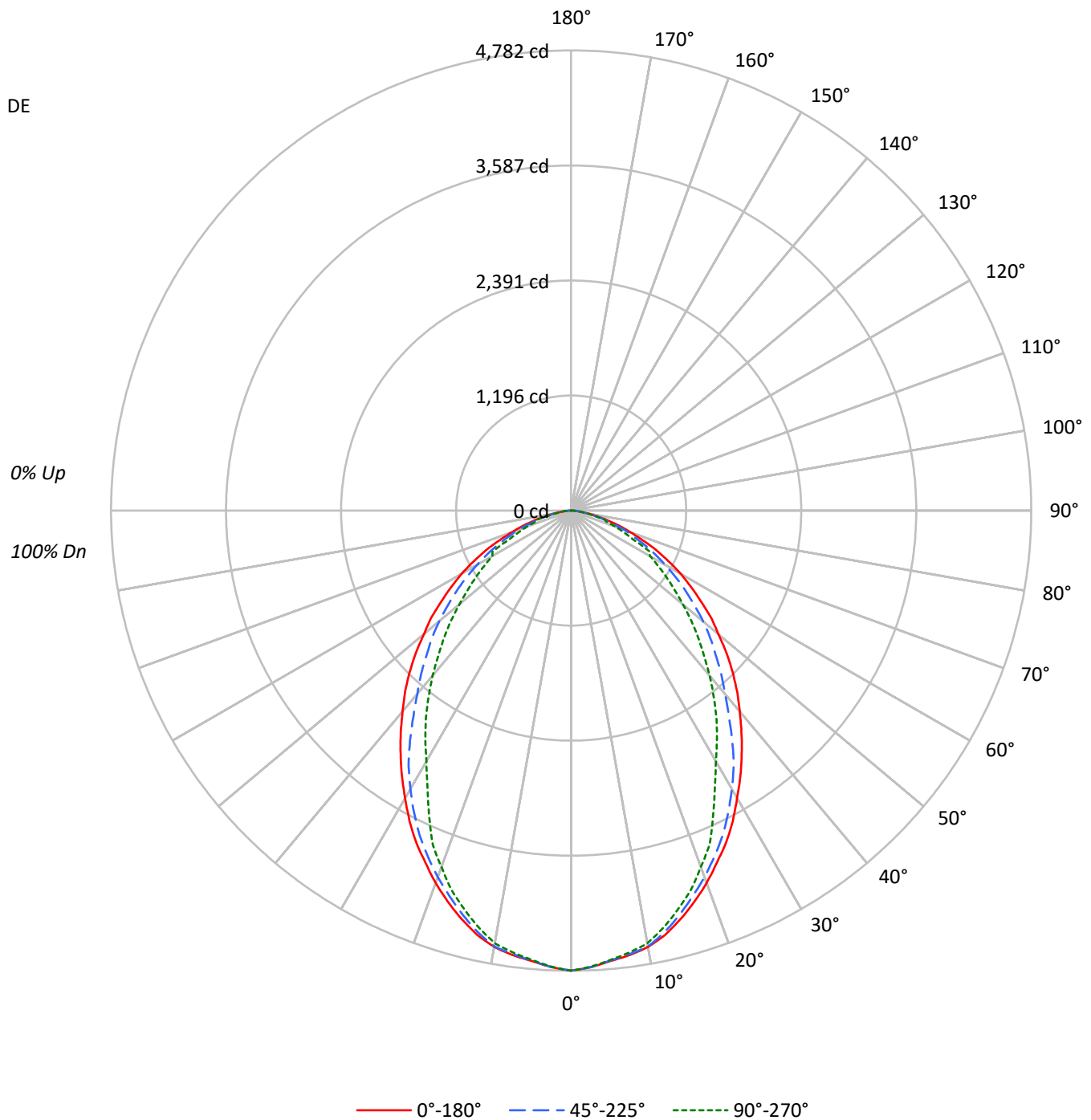
Input Watts (W): 93.6
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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°	6434	6434	6434
5°	6346	6339	6331
10°	6291	6284	6238
15°	6122	6060	5975
20°	5897	5802	5643
25°	5654	5531	5187
30°	5359	5187	4672
35°	5076	4794	4322
40°	4787	4369	3932
45°	4513	4039	3555
50°	4177	3749	3170
55°	3864	3397	2840
60°	3540	3035	2544
65°	3115	2657	2253
70°	2566	2327	1914
75°	2040	1782	1868
80°	1371	1285	1199
85°	854	1024	1195

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 4513 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	445.1	4.7
10°-20°	1221.6	13.0
20°-30°	1691.2	18.0
30°-40°	1803.3	19.2
40°-50°	1645.1	17.5
50°-60°	1288.8	13.7
60°-70°	840.0	8.9
70°-80°	372.1	4.0
80°-90°	79.9	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°	3357.8	35.8
0°-40°	5161.1	55.0
0°-60°	8095.0	86.2
0°-90°	9387.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	9387.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	4782	4782	4782	4782	4782	
5°	4699	4693	4693	4688	4688	446
15°	4395	4395	4350	4306	4290	1235
25°	3809	3787	3726	3593	3494	1749
35°	3090	3068	2919	2698	2631	1932
45°	2372	2322	2123	1946	1868	1827
55°	1647	1598	1448	1277	1211	1478
65°	978	923	835	851	708	964
75°	392	365	343	326	359	421
85°	55	61	66	72	77	77
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	4781.6	4781.6	4781.6	4781.6	4781.6
2.5°	4748.4	4748.4	4748.4	4742.9	4742.9
5°	4698.7	4693.2	4693.2	4687.6	4687.6
7.5°	4660.0	4654.5	4648.9	4643.4	4632.4
10°	4604.7	4604.7	4599.2	4571.6	4566.0
12.5°	4516.3	4510.7	4488.6	4449.9	4438.9
15°	4394.7	4394.7	4350.4	4306.2	4289.6
17.5°	4262.0	4256.5	4201.2	4157.0	4134.9
20°	4118.3	4107.2	4051.9	3980.1	3941.4
22.5°	3958.0	3958.0	3891.6	3797.7	3759.0
25°	3808.7	3786.6	3725.8	3593.1	3493.6
27.5°	3637.3	3604.2	3537.8	3349.9	3233.8
30°	3449.4	3432.8	3338.8	3095.6	3007.2
32.5°	3272.5	3244.9	3145.4	2891.1	2819.2
35°	3090.1	3068.0	2918.7	2697.6	2631.3
37.5°	2907.7	2880.0	2692.1	2515.2	2432.3
40°	2725.2	2692.1	2487.5	2327.2	2238.8
42.5°	2553.9	2509.7	2310.7	2139.3	2039.8
45°	2371.5	2321.7	2122.7	1945.8	1868.4
47.5°	2189.0	2144.8	1962.4	1780.0	1691.5
50°	1995.6	1956.9	1791.0	1608.6	1514.6
52.5°	1835.3	1774.4	1614.1	1431.7	1354.3
55°	1647.3	1597.6	1448.3	1276.9	1210.6
57.5°	1475.9	1426.2	1288.0	1127.7	1072.4
60°	1315.6	1243.8	1127.7	989.5	945.3
62.5°	1138.7	1083.5	984.0	867.9	923.2
65°	978.4	923.2	834.7	851.3	707.6
67.5°	801.5	773.9	696.5	619.1	597.0
70°	652.3	619.1	591.5	508.6	486.5
72.5°	519.6	486.5	447.8	403.5	387.0
75°	392.5	364.8	342.7	326.1	359.3
77.5°	270.9	259.8	243.2	226.6	221.1
80°	176.9	171.4	165.8	160.3	154.8
82.5°	105.0	105.0	105.0	105.0	105.0
85°	55.3	60.8	66.3	71.9	77.4
87.5°	33.2	33.2	38.7	44.2	49.8
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)