

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: P561476

Luminaire Tested: FSR-12-4-LD4-2HI-50-UNV-81-86-EDD-90

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P561476
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-LD4-2HI-50-UNV-81-86-EDD-90
Description: 1X4 FSR TROFFER WITH .156 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: 6703.0 lumens
Efficiency: N/A
Efficacy: 77.6 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

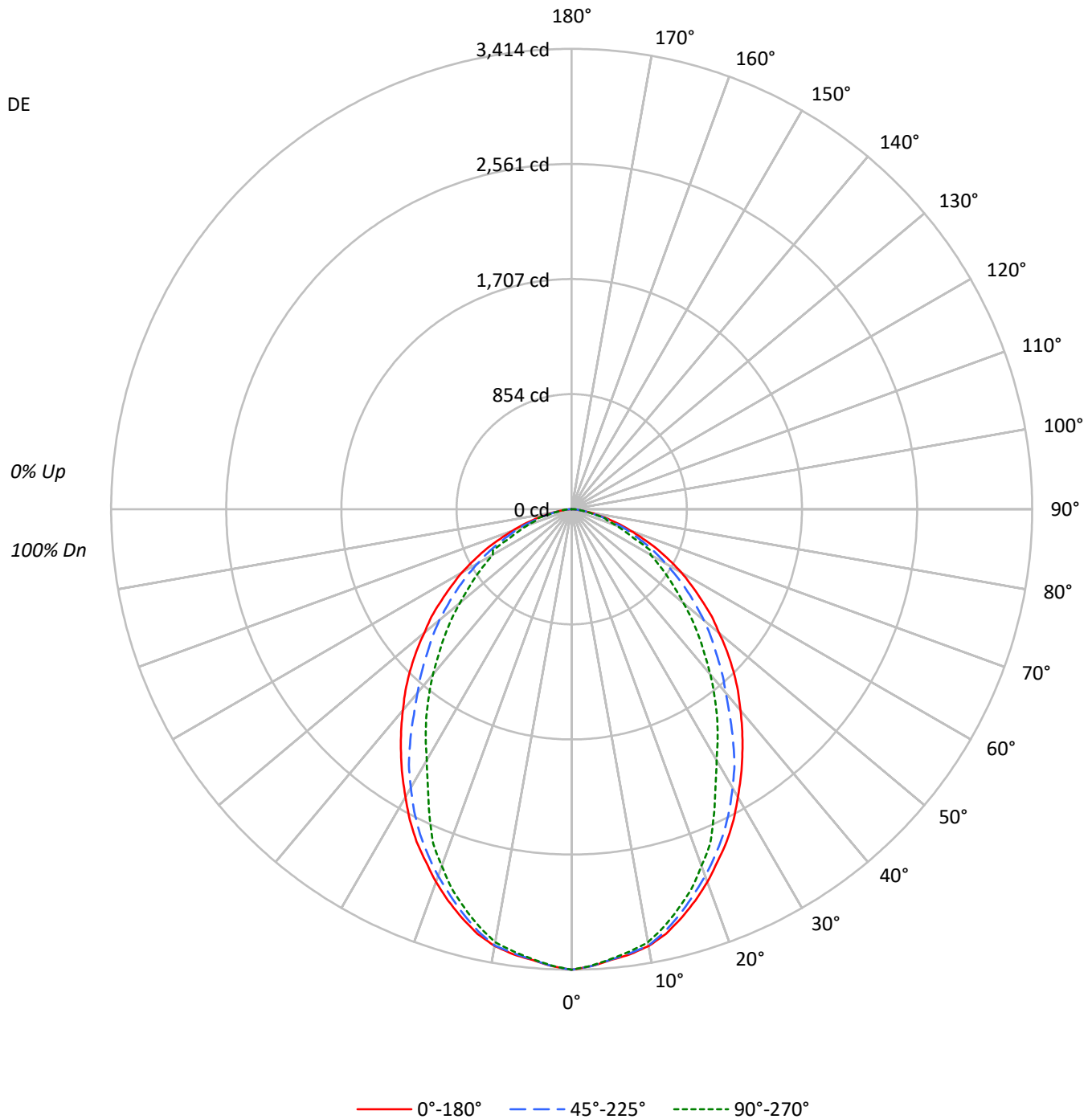
Input Watts (W): 86.4
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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	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°	9188	9188	9188
5°	9063	9053	9042
10°	8985	8974	8909
15°	8742	8654	8534
20°	8421	8286	8060
25°	8075	7899	7407
30°	7654	7408	6672
35°	7249	6847	6172
40°	6836	6240	5616
45°	6444	5769	5077
50°	5966	5354	4528
55°	5519	4852	4056
60°	5056	4334	3633
65°	4449	3795	3217
70°	3665	3323	2733
75°	2914	2544	2668
80°	1957	1835	1712
85°	1220	1463	1707

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 6444 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	317.8	4.7
10°-20°	872.3	13.0
20°-30°	1207.6	18.0
30°-40°	1287.7	19.2
40°-50°	1174.7	17.5
50°-60°	920.3	13.7
60°-70°	599.8	8.9
70°-80°	265.7	4.0
80°-90°	57.1	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°	2397.7	35.8
0°-40°	3685.4	55.0
0°-60°	5780.4	86.2
0°-90°	6703.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	6703.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	3414	3414	3414	3414	3414	
5°	3355	3351	3351	3347	3347	318
15°	3138	3138	3106	3075	3063	882
25°	2720	2704	2660	2566	2495	1249
35°	2206	2191	2084	1926	1879	1379
45°	1693	1658	1516	1390	1334	1304
55°	1176	1141	1034	912	864	1055
65°	699	659	596	608	505	689
75°	280	260	245	233	257	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°	3414.4	3414.4	3414.4	3414.4	3414.4
2.5°	3390.7	3390.7	3390.7	3386.8	3386.8
5°	3355.2	3351.3	3351.3	3347.3	3347.3
7.5°	3327.6	3323.6	3319.7	3315.7	3307.8
10°	3288.1	3288.1	3284.2	3264.4	3260.5
12.5°	3224.9	3221.0	3205.2	3177.6	3169.7
15°	3138.1	3138.1	3106.5	3075.0	3063.1
17.5°	3043.4	3039.4	3000.0	2968.4	2952.6
20°	2940.7	2932.8	2893.4	2842.1	2814.4
22.5°	2826.3	2826.3	2778.9	2711.8	2684.2
25°	2719.7	2703.9	2660.5	2565.7	2494.7
27.5°	2597.3	2573.6	2526.3	2392.1	2309.2
30°	2463.1	2451.3	2384.2	2210.5	2147.3
32.5°	2336.8	2317.1	2246.0	2064.4	2013.1
35°	2206.5	2190.8	2084.2	1926.3	1878.9
37.5°	2076.3	2056.5	1922.3	1796.0	1736.8
40°	1946.0	1922.3	1776.3	1661.8	1598.7
42.5°	1823.7	1792.1	1650.0	1527.6	1456.6
45°	1693.4	1657.9	1515.8	1389.5	1334.2
47.5°	1563.1	1531.6	1401.3	1271.0	1207.9
50°	1425.0	1397.3	1278.9	1148.7	1081.6
52.5°	1310.5	1267.1	1152.6	1022.4	967.1
55°	1176.3	1140.8	1034.2	911.8	864.5
57.5°	1053.9	1018.4	919.7	805.3	765.8
60°	939.5	888.1	805.3	706.6	675.0
62.5°	813.1	773.7	702.6	619.7	659.2
65°	698.7	659.2	596.0	607.9	505.3
67.5°	572.4	552.6	497.4	442.1	426.3
70°	465.8	442.1	422.4	363.2	347.4
72.5°	371.0	347.4	319.7	288.2	276.3
75°	280.3	260.5	244.7	232.9	256.6
77.5°	193.4	185.5	173.7	161.8	157.9
80°	126.3	122.4	118.4	114.5	110.5
82.5°	75.0	75.0	75.0	75.0	75.0
85°	39.5	43.4	47.4	51.3	55.3
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)