

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: P561500

Luminaire Tested: FSR-12-4-LD4-2HI-50-UNV-82-96-EDD-90

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P561500
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-82-96-EDD-90
Description: 1X4 FSR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .250 CLEAR TEMPERED GLASS ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 5000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 6712.0 lumens
Efficiency: N/A
Efficacy: 77.7 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

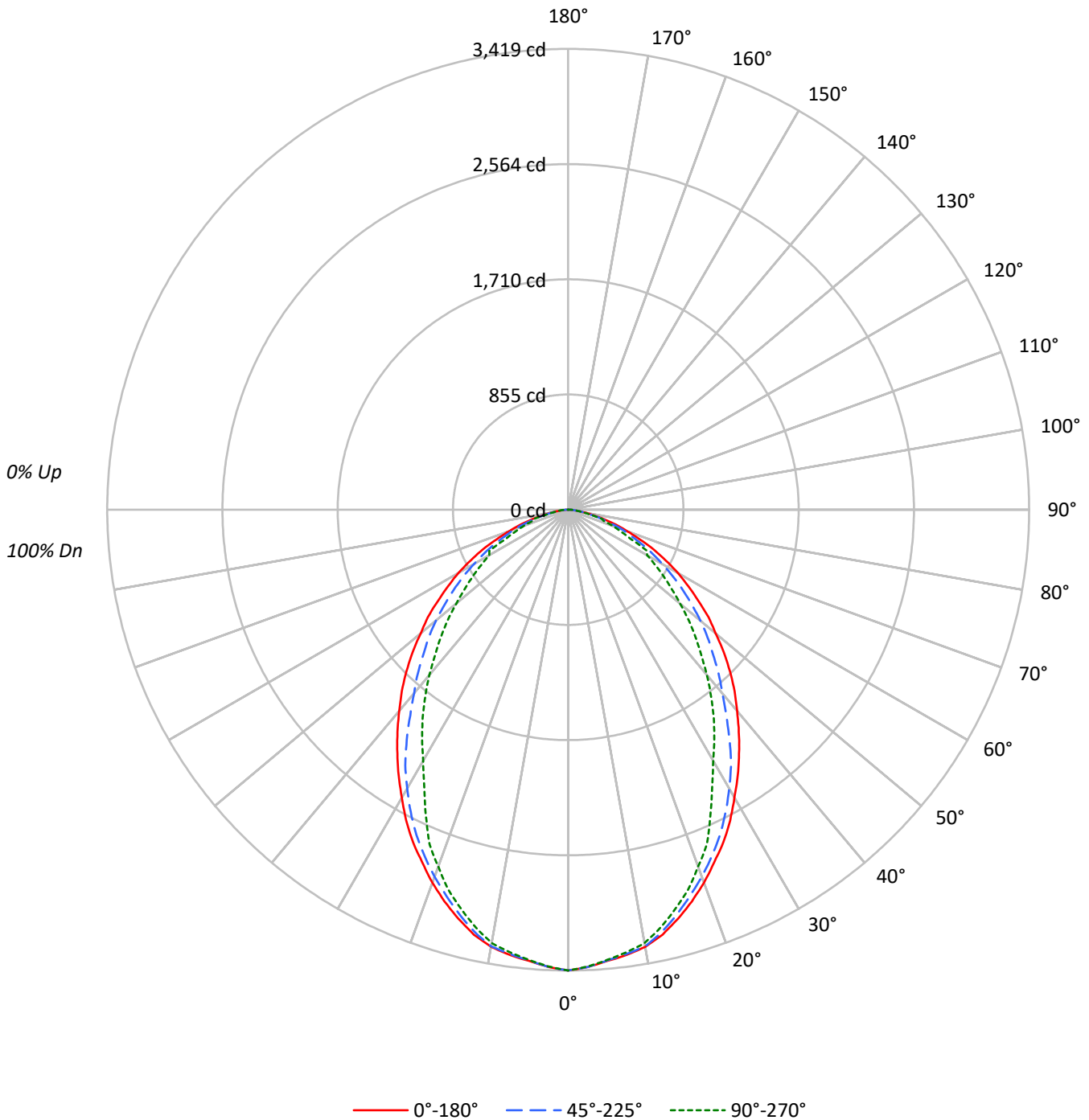
Input Watts (W): 86.4
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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	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°	9200	9200	9200
5°	9075	9065	9054
10°	8997	8986	8921
15°	8754	8666	8545
20°	8433	8297	8070
25°	8086	7910	7417
30°	7664	7418	6681
35°	7258	6856	6181
40°	6845	6248	5623
45°	6453	5776	5084
50°	5974	5361	4534
55°	5526	4859	4061
60°	5063	4339	3638
65°	4455	3800	3221
70°	3670	3327	2736
75°	2917	2548	2671
80°	1960	1838	1715
85°	1220	1463	1707

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 6453 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	318.3	4.7
10°-20°	873.4	13.0
20°-30°	1209.2	18.0
30°-40°	1289.4	19.2
40°-50°	1176.3	17.5
50°-60°	921.5	13.7
60°-70°	600.6	8.9
70°-80°	266.1	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°	2400.9	35.8
0°-40°	3690.3	55.0
0°-60°	5788.2	86.2
0°-90°	6712.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	6712.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	3419	3419	3419	3419	3419	
5°	3360	3356	3356	3352	3352	319
15°	3142	3142	3111	3079	3067	883
25°	2723	2708	2664	2569	2498	1250
35°	2210	2194	2087	1929	1881	1381
45°	1696	1660	1518	1391	1336	1306
55°	1178	1142	1036	913	866	1056
65°	700	660	597	609	506	689
75°	281	261	245	233	257	301
85°	40	44	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°	3419.0	3419.0	3419.0	3419.0	3419.0
2.5°	3395.3	3395.3	3395.3	3391.3	3391.3
5°	3359.7	3355.8	3355.8	3351.8	3351.8
7.5°	3332.0	3328.1	3324.1	3320.2	3312.3
10°	3292.5	3292.5	3288.6	3268.8	3264.9
12.5°	3229.3	3225.3	3209.5	3181.8	3173.9
15°	3142.3	3142.3	3110.7	3079.1	3067.2
17.5°	3047.5	3043.5	3004.0	2972.4	2956.5
20°	2944.7	2936.8	2897.3	2845.9	2818.2
22.5°	2830.1	2830.1	2782.6	2715.4	2687.8
25°	2723.3	2707.5	2664.1	2569.2	2498.0
27.5°	2600.8	2577.1	2529.7	2395.3	2312.3
30°	2466.4	2454.6	2387.4	2213.5	2150.2
32.5°	2339.9	2320.2	2249.0	2067.2	2015.8
35°	2209.5	2193.7	2087.0	1928.9	1881.4
37.5°	2079.1	2059.3	1924.9	1798.4	1739.1
40°	1948.6	1924.9	1778.7	1664.0	1600.8
42.5°	1826.1	1794.5	1652.2	1529.7	1458.5
45°	1695.7	1660.1	1517.8	1391.3	1336.0
47.5°	1565.2	1533.6	1403.2	1272.7	1209.5
50°	1426.9	1399.2	1280.6	1150.2	1083.0
52.5°	1312.3	1268.8	1154.2	1023.7	968.4
55°	1177.9	1142.3	1035.6	913.1	865.6
57.5°	1055.3	1019.8	921.0	806.3	766.8
60°	940.7	889.3	806.3	707.5	675.9
62.5°	814.2	774.7	703.6	620.6	660.1
65°	699.6	660.1	596.8	608.7	505.9
67.5°	573.1	553.4	498.0	442.7	426.9
70°	466.4	442.7	422.9	363.6	347.8
72.5°	371.5	347.8	320.2	288.5	276.7
75°	280.6	260.9	245.1	233.2	256.9
77.5°	193.7	185.8	173.9	162.1	158.1
80°	126.5	122.5	118.6	114.6	110.7
82.5°	75.1	75.1	75.1	75.1	75.1
85°	39.5	43.5	47.4	51.4	55.3
87.5°	23.7	23.7	27.7	31.6	35.6
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)