

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: P561449

Luminaire Tested: FSR-12-4-LD4-2HI-40-UNV-93-88-EDD

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P561449
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-40-UNV-93-88-EDD
Description: 1X4 FSR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .500 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 6963.0 lumens
Efficiency: N/A
Efficacy: 80.6 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

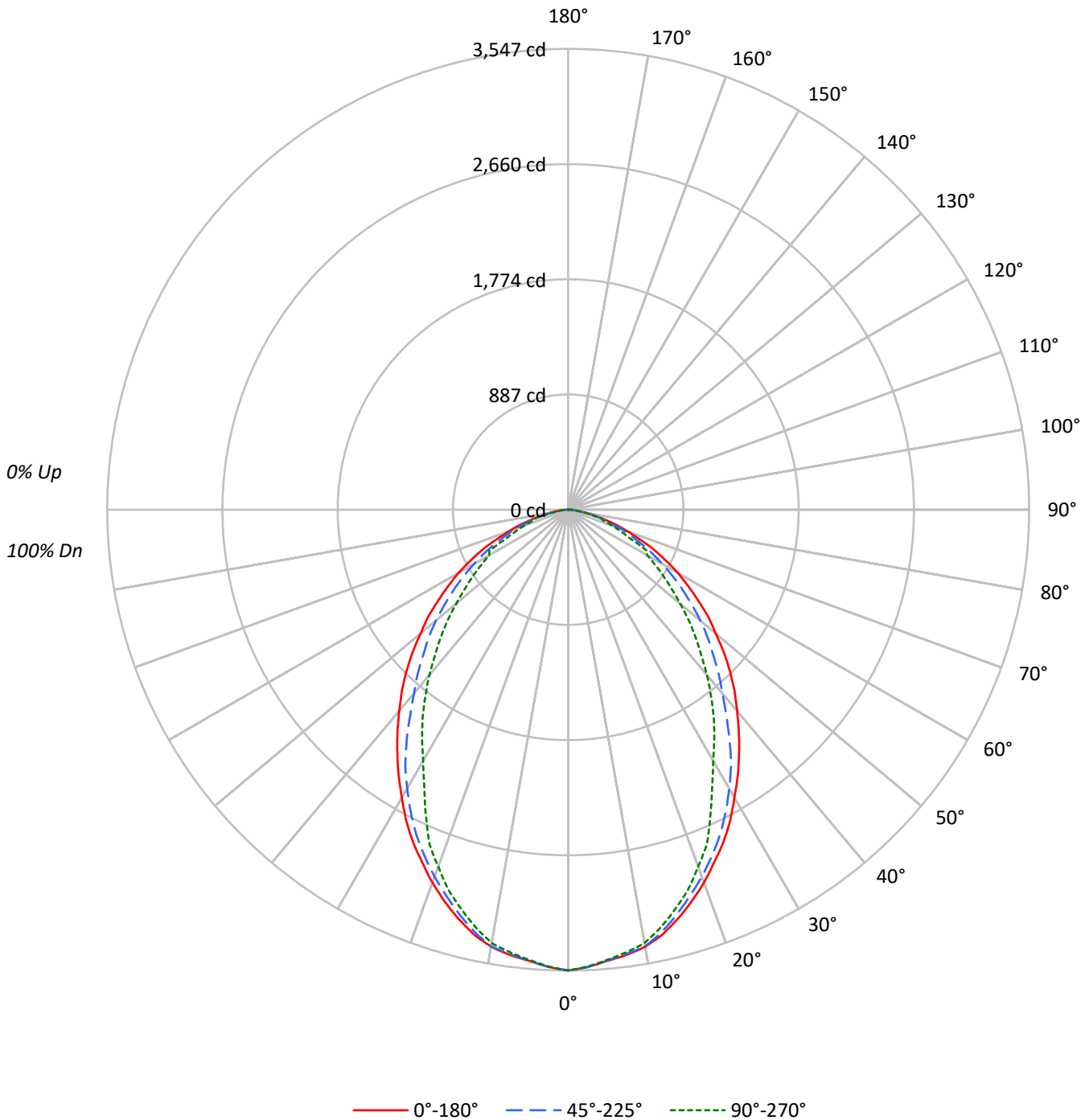
Input Watts (W): 86.4
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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Luminous Intensity Polar Plot





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COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	20									20									20									20																		
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°	9545	9545	9545
5°	9415	9404	9393
10°	9333	9322	9255
15°	9081	8990	8864
20°	8748	8607	8372
25°	8388	8206	7695
30°	7951	7696	6931
35°	7530	7112	6412
40°	7101	6482	5834
45°	6694	5992	5274
50°	6197	5562	4703
55°	5733	5040	4213
60°	5252	4502	3774
65°	4621	3943	3342
70°	3806	3452	2839
75°	3027	2643	2771
80°	2033	1906	1779
85°	1266	1519	1772

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 6694 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	330.2	4.7
10°-20°	906.1	13.0
20°-30°	1254.5	18.0
30°-40°	1337.6	19.2
40°-50°	1220.3	17.5
50°-60°	956.0	13.7
60°-70°	623.1	8.9
70°-80°	276.0	4.0
80°-90°	59.3	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°	2490.7	35.8
0°-40°	3828.3	55.0
0°-60°	6004.6	86.2
0°-90°	6963.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	6963.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	3547	3547	3547	3547	3547	
5°	3485	3481	3481	3477	3477	331
15°	3260	3260	3227	3194	3182	916
25°	2825	2809	2764	2665	2592	1297
35°	2292	2276	2165	2001	1952	1433
45°	1759	1722	1575	1443	1386	1355
55°	1222	1185	1074	947	898	1096
65°	726	685	619	632	525	715
75°	291	271	254	242	266	312
85°	41	45	49	53	57	57
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	3546.9	3546.9	3546.9	3546.9	3546.9
2.5°	3522.3	3522.3	3522.3	3518.2	3518.2
5°	3485.4	3481.3	3481.3	3477.2	3477.2
7.5°	3456.7	3452.5	3448.4	3444.3	3436.1
10°	3415.6	3415.6	3411.5	3391.0	3386.9
12.5°	3350.0	3345.9	3329.5	3300.8	3292.6
15°	3259.8	3259.8	3227.0	3194.2	3181.9
17.5°	3161.4	3157.3	3116.3	3083.5	3067.1
20°	3054.8	3046.6	3005.6	2952.3	2923.6
22.5°	2935.9	2935.9	2886.7	2817.0	2788.3
25°	2825.2	2808.8	2763.7	2665.3	2591.5
27.5°	2698.1	2673.5	2624.3	2484.9	2398.7
30°	2558.7	2546.4	2476.7	2296.2	2230.6
32.5°	2427.4	2406.9	2333.1	2144.5	2091.2
35°	2292.1	2275.7	2165.0	2001.0	1951.8
37.5°	2156.8	2136.3	1996.9	1865.7	1804.2
40°	2021.5	1996.9	1845.2	1726.3	1660.7
42.5°	1894.4	1861.6	1714.0	1586.9	1513.1
45°	1759.1	1722.2	1574.6	1443.3	1385.9
47.5°	1623.8	1591.0	1455.6	1320.3	1254.7
50°	1480.2	1451.5	1328.5	1193.2	1123.5
52.5°	1361.3	1316.2	1197.3	1062.0	1004.6
55°	1221.9	1185.0	1074.3	947.2	898.0
57.5°	1094.8	1057.9	955.4	836.5	795.5
60°	975.9	922.6	836.5	734.0	701.2
62.5°	844.7	803.7	729.9	643.8	684.8
65°	725.8	684.8	619.2	631.5	524.9
67.5°	594.6	574.1	516.7	459.2	442.8
70°	483.8	459.2	438.7	377.2	360.8
72.5°	385.4	360.8	332.1	299.3	287.0
75°	291.1	270.6	254.2	241.9	266.5
77.5°	200.9	192.7	180.4	168.1	164.0
80°	131.2	127.1	123.0	118.9	114.8
82.5°	77.9	77.9	77.9	77.9	77.9
85°	41.0	45.1	49.2	53.3	57.4
87.5°	24.6	24.6	28.7	32.8	36.9
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)